

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: P331768-930

Luminaire Tested: **S122RDIW-S290D435U930-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331768-930
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: S122RDIW-S290D435U930-4F0-1E-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: 2067.4 lumens
Efficiency: N/A
Efficacy: 89.9 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

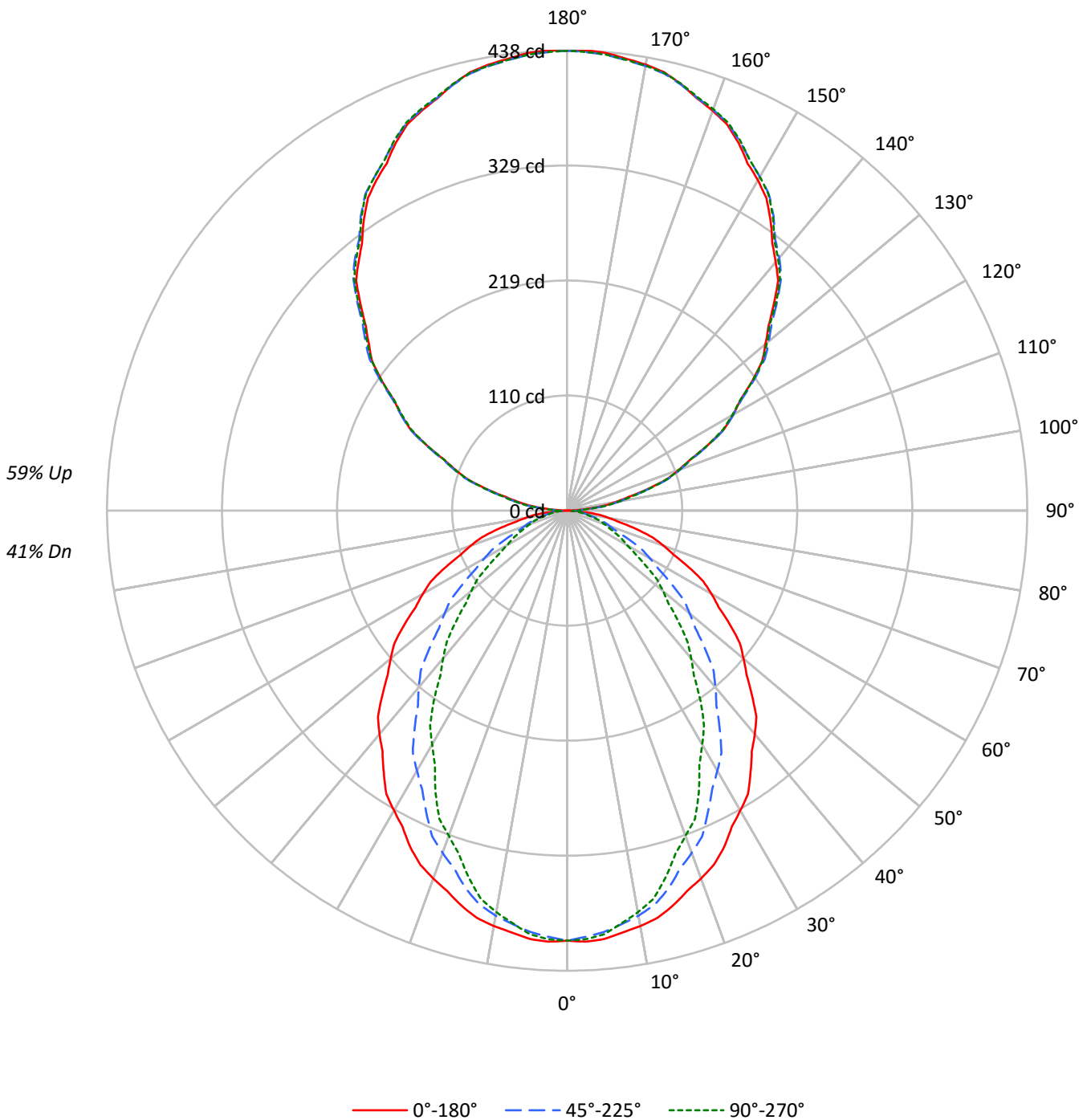
Input Watts (W): 23
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	6608	6608	6608
5°	6634	6525	6561
10°	6583	6419	6365
15°	6506	6228	6048
20°	6402	5957	5658
25°	6296	5649	5279
30°	6145	5330	4793
35°	6000	4987	4366
40°	5855	4628	3872
45°	5683	4229	3425
50°	5506	3823	2987
55°	5326	3386	2567
60°	5118	2929	2131
65°	4883	2460	1937
70°	4598	2030	1780
75°	4255	1847	1666
80°	3756	1655	1516
85°	2946	1297	1297



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	38.3	1.9
10°-20°	105.2	5.1
20°-30°	147.7	7.1
30°-40°	161.1	7.8
40°-50°	148.1	7.2
50°-60°	116.3	5.6
60°-70°	75.8	3.7
70°-80°	39.1	1.9
80°-90°	11.9	0.6
90°-100°	27.7	1.3
100°-110°	86.1	4.2
110°-120°	147.2	7.1
120°-130°	193.6	9.4
130°-140°	217.3	10.5
140°-150°	213.1	10.3
150°-160°	178.7	8.6
160°-170°	118.6	5.7
170°-180°	41.4	2.0
0°-30°	291.2	14.1
0°-40°	452.3	21.9
0°-60°	716.7	34.7
0°-90°	843.5	40.8
90°-120°	261.1	12.6
90°-150°	885.2	42.8
90°-180°	1224.0	59.2
0°-180°	2067.4	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	409	409	409	409	409	
5°	409	407	403	406	405	39
15°	389	385	373	366	362	110
25°	353	341	317	302	296	162
35°	304	285	253	230	222	190
45°	249	223	185	160	150	192
55°	189	160	120	99	91	169
65°	128	98	64	52	51	127
75°	68	43	30	27	27	72
85°	16	8	7	7	7	19
90°	0	5	13	12	13	2
95°	19	23	24	24	23	22
105°	79	80	81	82	82	84
115°	148	150	149	149	148	146
125°	215	218	217	216	216	192
135°	278	282	283	282	281	215
145°	338	340	342	343	341	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°	409.3	409.3	409.3	409.3	409.3	409.3	409.3	409.3	409.3	409.3	409.3
2.5°	410.7	410.4	410.1	409.8	409.4	408.9	408.1	407.5	406.8	406.0	406.7
5°	409.3	408.9	408.5	408.1	407.6	406.8	405.8	404.7	403.7	402.6	403.3
7.5°	405.0	404.6	404.0	403.5	403.0	402.1	400.9	399.6	398.4	397.1	397.3
10°	401.5	400.9	400.3	399.7	399.2	398.0	396.4	394.8	393.1	391.5	391.3
12.5°	397.1	396.3	395.6	394.9	394.2	392.8	390.7	388.6	386.5	384.3	383.9
15°	389.2	388.3	387.4	386.5	385.6	383.8	381.0	378.2	375.4	372.6	371.0
17.5°	379.7	378.3	376.9	375.5	374.1	371.7	368.1	364.5	360.9	357.3	355.5
20°	372.6	371.0	369.3	367.6	366.0	363.1	359.0	354.9	350.8	346.7	344.6
22.5°	364.9	363.1	361.2	359.4	357.5	354.2	349.6	345.0	340.4	335.7	333.0
25°	353.4	350.7	348.1	345.4	342.8	338.8	333.3	327.9	322.5	317.1	313.6
27.5°	339.4	336.6	333.7	330.8	327.9	323.4	317.3	311.2	305.1	299.0	295.1
30°	329.6	326.5	323.3	320.2	317.2	312.3	305.7	299.1	292.5	285.9	281.8
32.5°	320.2	316.5	312.8	309.2	305.5	300.4	293.7	286.9	280.2	273.5	268.7
35°	304.4	300.3	296.0	291.9	287.6	281.9	274.7	267.4	260.2	253.0	247.8
37.5°	288.8	284.1	279.5	274.9	270.3	264.2	256.4	248.7	241.0	233.3	227.6
40°	277.8	272.9	267.9	262.9	258.0	251.6	243.6	235.6	227.6	219.6	213.8
42.5°	266.5	261.3	256.1	250.9	245.7	239.0	230.7	222.5	214.3	206.0	200.0
45°	248.9	243.4	237.8	232.4	226.8	219.7	211.1	202.4	193.8	185.2	179.4
47.5°	231.7	225.8	220.0	214.2	208.3	201.0	192.0	183.1	174.1	165.3	159.5
50°	219.2	213.4	207.6	201.7	195.9	188.4	179.4	170.3	161.3	152.2	146.5
52.5°	207.1	201.0	194.9	188.8	182.7	175.2	166.3	157.5	148.6	139.7	134.3
55°	189.2	182.9	176.4	170.0	163.5	156.0	147.0	138.1	129.2	120.3	115.4
57.5°	171.0	164.4	157.8	151.2	144.6	137.1	128.5	120.0	111.5	102.9	98.3
60°	158.5	152.0	145.4	138.8	132.2	124.7	116.2	107.7	99.2	90.7	86.5
62.5°	146.3	139.8	133.2	126.6	120.0	112.7	104.6	96.5	88.5	80.4	76.4
65°	127.8	121.1	114.5	107.8	101.1	94.1	86.7	79.2	71.8	64.4	61.6
67.5°	109.8	103.2	96.6	90.0	83.4	76.7	70.0	63.4	56.7	50.1	48.8
70°	97.4	91.0	84.5	78.2	71.7	65.7	60.0	54.3	48.7	43.0	42.2
72.5°	85.5	79.4	73.2	67.1	60.9	55.6	51.0	46.5	41.9	37.3	36.6
75°	68.2	62.4	56.7	50.9	45.1	40.8	38.0	35.2	32.4	29.6	29.0
77.5°	51.0	46.0	40.9	35.9	30.8	27.6	26.3	24.9	23.6	22.3	21.9
80°	40.4	36.2	32.0	27.8	23.6	21.0	20.2	19.4	18.6	17.8	17.4
82.5°	30.6	27.3	24.1	20.8	17.5	15.6	15.0	14.4	13.9	13.4	13.1
85°	15.9	14.2	12.5	10.8	9.0	8.0	7.7	7.5	7.3	7.0	7.0
87.5°	4.8	4.5	4.2	3.8	3.5	3.5	3.8	4.2	4.6	5.0	4.9
90°	0.4	1.4	2.4	3.3	4.3	5.7	7.5	9.3	11.1	13.0	12.8
92.5°	6.6	7.3	8.0	8.7	9.5	10.0	10.4	10.9	11.3	11.7	11.7
95°	19.2	20.1	20.9	21.7	22.5	23.0	23.2	23.3	23.5	23.6	23.6
97.5°	35.1	35.8	36.5	37.3	38.0	38.5	38.8	39.1	39.5	39.7	39.7
100°	46.9	47.5	48.2	48.9	49.6	50.0	50.2	50.5	50.7	51.0	51.0
102.5°	59.4	59.8	60.3	60.9	61.4	61.9	62.1	62.5	62.8	63.1	63.2
105°	79.4	79.7	79.9	80.1	80.4	80.6	80.8	81.0	81.1	81.3	81.4
107.5°	99.6	100.0	100.4	100.8	101.1	101.3	101.3	101.3	101.3	101.3	101.3
110°	112.7	113.2	113.7	114.1	114.6	114.9	114.9	114.9	114.9	114.9	114.9



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	126.9	127.3	127.8	128.3	128.8	129.1	129.0	128.9	128.8	128.7	128.6
115°	147.7	148.2	148.7	149.2	149.7	149.9	149.7	149.5	149.4	149.2	149.1
117.5°	168.6	169.3	169.9	170.6	171.2	171.3	170.9	170.4	169.9	169.5	169.3
120°	182.5	183.1	183.8	184.4	185.1	185.1	184.4	183.8	183.1	182.5	182.5
122.5°	195.2	196.0	196.7	197.5	198.4	198.5	198.0	197.5	197.1	196.7	196.5
125°	215.0	215.7	216.5	217.2	217.9	218.2	217.9	217.7	217.4	217.2	217.0
127.5°	234.2	235.2	236.1	237.1	238.0	238.3	238.1	237.7	237.4	237.2	236.8
130°	246.4	247.4	248.5	249.6	250.6	251.1	250.9	250.8	250.6	250.5	250.3
132.5°	260.0	260.8	261.7	262.6	263.4	263.9	263.9	264.0	264.0	264.0	263.7
135°	278.2	279.1	280.0	280.9	281.8	282.3	282.4	282.6	282.7	282.9	282.8
137.5°	297.3	298.0	298.7	299.5	300.2	300.7	300.9	301.2	301.3	301.6	301.5
140°	308.8	309.6	310.3	311.0	311.8	312.3	312.7	313.2	313.6	314.0	314.0
142.5°	320.7	321.4	322.1	322.9	323.6	324.1	324.3	324.7	324.9	325.2	325.3
145°	337.6	338.2	338.8	339.3	339.9	340.5	341.0	341.4	341.9	342.4	342.5
147.5°	352.8	353.4	354.2	354.8	355.6	356.0	356.4	356.7	357.0	357.3	357.5
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°	409.3	409.3	409.3	409.3	409.3	409.3	409.3	409.3
2.5°	407.3	408.0	408.6	408.9	408.8	408.6	408.5	408.4
5°	404.1	404.8	405.5	405.8	405.5	405.3	405.0	404.8
7.5°	397.5	397.8	397.9	397.9	397.5	397.0	396.6	396.2
10°	391.0	390.8	390.5	390.1	389.6	389.1	388.7	388.2
12.5°	383.5	383.0	382.6	382.0	381.2	380.3	379.5	378.7
15°	369.5	367.9	366.3	365.2	364.4	363.5	362.6	361.8
17.5°	353.6	351.7	349.9	348.3	346.8	345.4	344.0	342.6
20°	342.6	340.5	338.4	336.5	334.7	332.9	331.1	329.3
22.5°	330.4	327.8	325.1	323.1	321.7	320.4	319.0	317.7
25°	310.3	306.9	303.5	301.3	300.0	298.7	297.5	296.3
27.5°	291.1	287.1	283.2	280.3	278.3	276.4	274.4	272.5
30°	277.5	273.4	269.1	266.0	263.7	261.5	259.3	257.1
32.5°	263.9	259.1	254.3	250.9	248.8	246.7	244.6	242.6
35°	242.6	237.4	232.2	228.7	226.9	225.1	223.3	221.5
37.5°	221.8	216.1	210.4	206.5	204.5	202.4	200.3	198.2
40°	208.0	202.1	196.2	192.2	190.1	188.0	185.8	183.7
42.5°	193.9	187.8	181.8	177.8	175.7	173.7	171.5	169.5
45°	173.5	167.6	161.8	157.9	156.0	153.9	152.0	150.0
47.5°	153.6	147.8	142.0	138.2	136.4	134.6	132.8	131.0
50°	140.9	135.2	129.5	125.8	124.1	122.4	120.6	118.9
52.5°	128.8	123.4	117.9	114.3	112.8	111.1	109.5	107.9
55°	110.5	105.6	100.6	97.3	95.8	94.2	92.7	91.2
57.5°	93.8	89.3	84.8	81.9	80.6	79.2	77.9	76.6
60°	82.3	78.2	73.9	71.2	69.9	68.6	67.3	66.0
62.5°	72.4	68.4	64.4	62.0	61.1	60.4	59.6	58.8
65°	58.9	56.0	53.2	51.7	51.4	51.2	51.0	50.7
67.5°	47.5	46.2	44.9	44.2	43.9	43.6	43.4	43.1
70°	41.3	40.5	39.7	39.1	38.7	38.4	38.1	37.7
72.5°	36.0	35.2	34.6	34.2	33.9	33.8	33.5	33.3
75°	28.5	27.9	27.3	27.0	26.9	26.8	26.7	26.7
77.5°	21.5	21.2	20.9	20.7	20.5	20.4	20.3	20.1
80°	17.1	16.8	16.5	16.3	16.3	16.3	16.3	16.3
82.5°	13.0	12.7	12.6	12.5	12.5	12.5	12.5	12.5
85°	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
87.5°	4.7	4.6	4.6	4.5	4.6	4.6	4.6	4.6
90°	12.6	12.5	12.3	12.2	12.3	12.4	12.5	12.6
92.5°	11.8	11.8	11.9	11.9	11.9	11.9	12.0	12.0
95°	23.6	23.6	23.6	23.6	23.4	23.2	23.1	22.9
97.5°	39.7	39.7	39.7	39.7	39.7	39.7	39.7	39.7
100°	51.0	51.0	51.0	51.0	50.9	50.8	50.7	50.6
102.5°	63.2	63.3	63.3	63.3	63.3	63.2	63.1	63.0
105°	81.6	81.8	81.9	82.0	82.0	82.0	82.0	82.0
107.5°	101.4	101.5	101.6	101.4	101.0	100.6	100.3	99.9
110°	114.9	114.9	114.9	114.7	114.5	114.2	114.0	113.7



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	128.4	128.2	128.0	127.8	127.6	127.4	127.3	127.1
115°	149.0	149.0	148.9	148.7	148.5	148.2	148.0	147.7
117.5°	169.1	168.8	168.7	168.4	168.2	168.0	167.7	167.5
120°	182.5	182.5	182.5	182.4	182.1	181.9	181.6	181.4
122.5°	196.2	196.1	195.8	195.7	195.5	195.3	195.1	194.9
125°	216.7	216.5	216.2	216.1	216.0	215.9	215.8	215.7
127.5°	236.5	236.3	235.9	235.7	235.4	235.1	234.9	234.6
130°	250.1	250.0	249.8	249.6	249.2	248.9	248.6	248.3
132.5°	263.3	262.9	262.6	262.3	262.0	261.7	261.5	261.2
135°	282.7	282.7	282.6	282.4	282.2	281.9	281.7	281.4
137.5°	301.4	301.3	301.3	301.1	300.8	300.4	300.1	299.8
140°	314.0	314.0	314.0	313.8	313.5	313.2	312.8	312.5
142.5°	325.3	325.4	325.5	325.3	325.0	324.7	324.3	324.0
145°	342.6	342.7	342.8	342.6	342.3	341.9	341.6	341.3
147.5°	357.7	357.9	358.1	358.0	357.7	357.3	357.0	356.8
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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