

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: P332392-830

Luminaire Tested: **S123RDIW-S340D460U830-4F0-1E-UDD-F**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332392-830
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-5,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S123RDIW-S340D460U830-4F0-1E-UDD-F
Description: DEFINE 3 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 340 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 460 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2963.0 lumens
Efficiency: N/A
Efficacy: 128.8 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.06 / 1.22
Luminous Opening: Rectangular (W 0.25' x L: 4' x H: 0')
CIE Type: General Diffuse

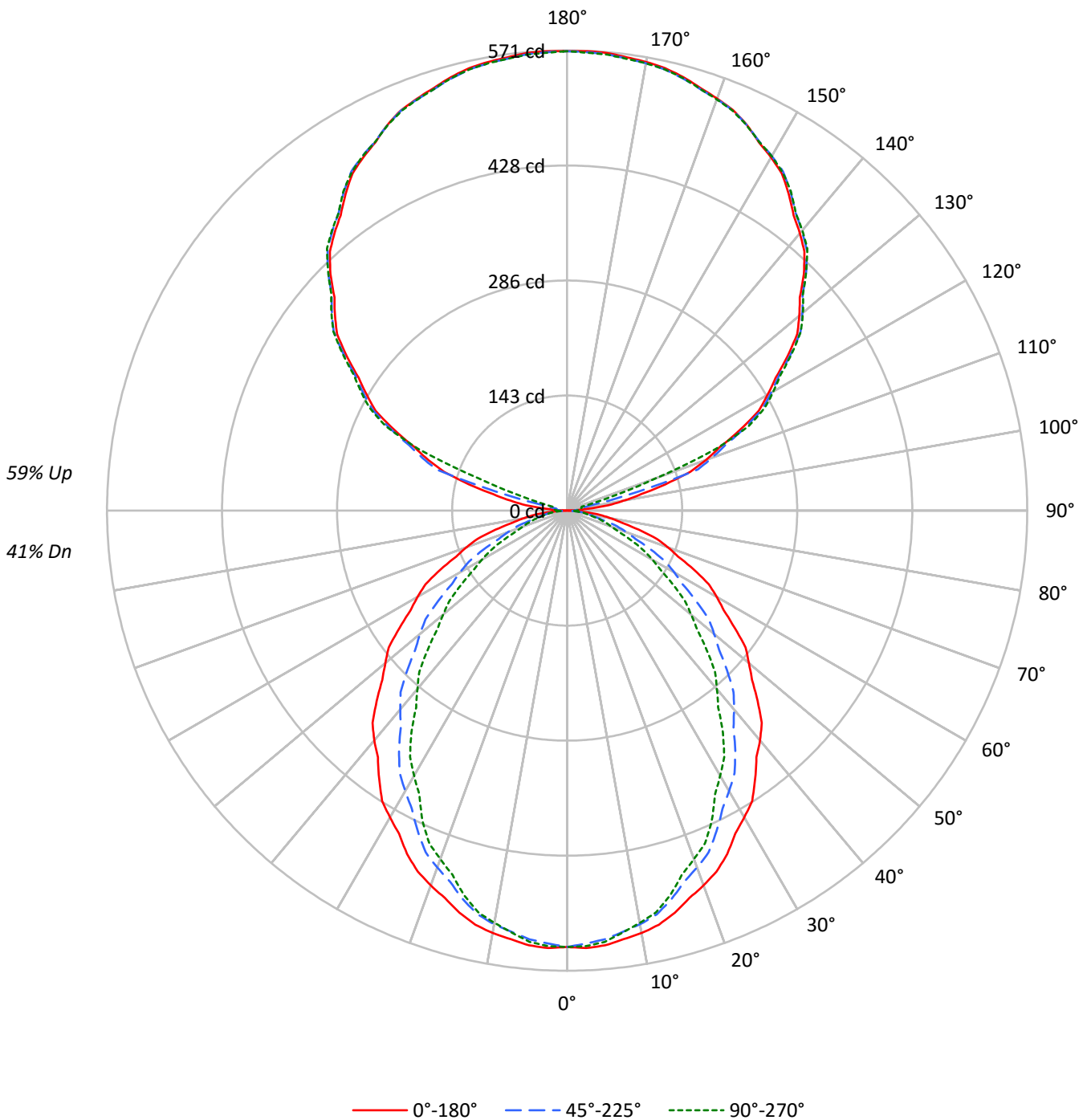
Input Watts (W): 23
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	79	79	79	63	63	63	48	48	48	41
1	96	92	88	85	88	84	81	78	69	67	65	56	54	53	43	42	41	35
2	88	81	75	70	80	74	69	64	61	57	54	49	47	44	38	37	35	30
3	80	71	64	58	73	65	59	54	54	49	46	44	40	38	34	32	30	26
4	73	63	55	49	67	58	51	46	48	43	39	39	35	33	31	28	26	22
5	67	56	48	42	61	52	45	40	43	38	34	35	31	28	28	25	23	20
6	62	50	43	37	57	46	39	34	39	34	30	32	28	25	25	22	20	17
7	57	46	38	32	52	42	35	30	35	30	26	29	25	22	23	20	18	15
8	53	41	34	29	49	38	31	27	32	27	23	26	23	20	21	18	16	14
9	50	38	30	25	45	35	28	24	29	24	21	24	21	18	20	17	15	13
10	46	35	28	23	42	32	26	21	27	22	19	23	19	16	18	15	13	11

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	5829	5829	5829
5°	5851	5770	5804
10°	5818	5698	5678
15°	5756	5565	5506
20°	5669	5399	5271
25°	5582	5211	5044
30°	5464	4994	4721
35°	5344	4778	4427
40°	5233	4523	4061
45°	5087	4271	3731
50°	4928	3985	3361
55°	4763	3659	3016
60°	4613	3309	2637
65°	4419	2932	2259
70°	4173	2458	1825
75°	3818	1938	1718
80°	3403	1717	1574
85°	2878	1519	1408



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	50.9	1.7
10°-20°	141.5	4.8
20°-30°	203.7	6.9
30°-40°	229.5	7.7
40°-50°	219.5	7.4
50°-60°	179.8	6.1
60°-70°	121.3	4.1
70°-80°	61.0	2.1
80°-90°	17.7	0.6
90°-100°	20.7	0.7
100°-110°	98.8	3.3
110°-120°	237.2	8.0
120°-130°	302.1	10.2
130°-140°	322.8	10.9
140°-150°	301.8	10.2
150°-160°	243.5	8.2
160°-170°	157.1	5.3
170°-180°	54.2	1.8
0°-30°	396.1	13.4
0°-40°	625.5	21.1
0°-60°	1024.8	34.6
0°-90°	1224.9	41.3
90°-120°	356.7	12.0
90°-150°	1283.4	43.3
90°-180°	1738.0	58.7
0°-180°	2963.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	542	542	542	542	542	
5°	542	539	534	538	537	51
15°	516	511	499	497	494	145
25°	470	458	439	430	425	216
35°	407	390	364	345	337	254
45°	334	314	281	256	245	258
55°	254	231	195	170	161	228
65°	174	149	115	94	89	172
75°	92	71	47	42	41	98
85°	23	14	12	11	11	26
90°	0	5	10	12	13	2
95°	26	10	13	16	16	32
105°	126	128	93	22	19	134
115°	237	239	243	247	249	234
125°	334	337	339	340	340	298
135°	415	418	420	421	420	320
145°	479	482	483	484	484	300
155°	528	527	528	529	527	243
165°	557	556	555	558	556	157
175°	570	568	568	571	568	54
180°	570	570	570	570	570	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	541.5	541.5	541.5	541.5	541.5	541.5	541.5	541.5	541.5	541.5	541.5
2.5°	543.3	542.9	542.6	542.3	542.1	541.4	540.5	539.5	538.6	537.6	538.5
5°	541.5	541.0	540.5	540.1	539.5	538.8	537.5	536.4	535.2	534.0	534.9
7.5°	536.5	535.9	535.5	534.9	534.4	533.4	531.9	530.4	528.8	527.3	527.7
10°	532.3	531.6	530.9	530.3	529.5	528.3	526.6	524.8	523.0	521.3	521.4
12.5°	526.3	525.6	524.8	524.1	523.3	521.8	519.6	517.6	515.4	513.2	513.1
15°	516.5	515.4	514.3	513.2	512.2	510.3	507.6	504.8	502.1	499.4	498.9
17.5°	504.1	502.8	501.6	500.3	499.1	496.7	493.2	489.7	486.4	482.9	481.8
20°	494.9	493.4	491.8	490.3	488.7	486.1	482.4	478.6	474.9	471.3	470.0
22.5°	484.7	483.0	481.2	479.4	477.6	474.8	470.8	466.8	462.9	458.9	457.3
25°	470.0	467.5	465.1	462.6	460.1	456.7	452.2	447.7	443.2	438.8	436.7
27.5°	451.9	449.2	446.5	443.8	441.1	437.3	432.3	427.3	422.3	417.3	414.4
30°	439.6	436.7	433.8	430.8	427.9	423.7	418.2	412.7	407.3	401.8	398.5
32.5°	427.3	424.0	420.7	417.4	414.1	409.5	403.7	397.9	392.2	386.3	382.8
35°	406.7	403.1	399.6	396.2	392.7	387.9	381.8	375.7	369.7	363.6	359.5
37.5°	385.8	381.8	378.0	374.1	370.1	365.0	358.5	352.0	345.6	339.1	334.4
40°	372.4	368.2	363.8	359.6	355.2	349.6	342.7	335.7	328.9	321.9	316.9
42.5°	357.3	353.0	348.7	344.4	340.2	334.4	327.3	320.1	312.9	305.8	300.2
45°	334.2	329.8	325.5	321.0	316.6	310.7	303.2	295.7	288.1	280.6	275.0
47.5°	311.1	306.3	301.4	296.6	291.8	285.7	278.1	270.6	263.2	255.6	249.6
50°	294.3	289.6	285.1	280.5	275.9	269.7	261.7	253.8	245.9	238.0	232.0
52.5°	279.2	274.2	269.2	264.2	259.2	252.8	245.0	237.1	229.3	221.5	215.3
55°	253.8	249.0	244.3	239.5	234.7	228.2	219.9	211.6	203.3	195.0	189.4
57.5°	230.5	225.3	220.1	214.8	209.6	202.8	194.5	186.2	177.9	169.6	164.2
60°	214.3	209.0	203.6	198.2	192.8	186.2	178.0	169.9	161.8	153.7	148.5
62.5°	198.1	192.7	187.4	182.1	176.7	169.9	161.8	153.7	145.6	137.5	132.6
65°	173.5	168.1	162.8	157.4	152.0	145.5	137.9	130.3	122.7	115.1	110.3
67.5°	148.8	143.4	137.9	132.5	127.1	120.7	113.4	106.1	98.8	91.5	87.9
70°	132.6	127.3	122.1	116.8	111.6	105.5	98.7	91.8	85.0	78.1	74.7
72.5°	116.5	111.3	106.1	100.9	95.7	90.0	83.8	77.6	71.4	65.1	62.4
75°	91.8	87.1	82.4	77.8	73.0	68.1	62.7	57.3	51.9	46.6	45.6
77.5°	69.3	65.0	60.8	56.6	52.4	48.5	45.1	41.6	38.2	34.7	34.2
80°	54.9	50.9	46.9	42.9	38.9	35.9	33.8	31.8	29.7	27.7	27.3
82.5°	41.2	37.7	34.3	30.8	27.3	25.2	24.2	23.3	22.3	21.3	21.0
85°	23.3	21.1	18.9	16.9	14.7	13.5	13.2	12.9	12.6	12.3	12.1
87.5°	8.5	7.8	7.2	6.5	5.8	5.7	5.8	6.1	6.3	6.6	6.6
90°	0.4	1.3	2.3	3.2	4.1	5.3	6.5	7.7	9.0	10.2	10.6
92.5°	7.9	7.6	7.4	7.1	6.8	7.2	8.1	9.0	9.9	10.8	11.4
95°	25.8	22.0	18.1	14.2	10.4	9.0	10.0	11.0	12.1	13.1	13.8
97.5°	51.9	50.1	48.4	46.8	45.0	40.7	33.9	27.1	20.5	13.7	14.4
100°	71.5	73.4	75.3	77.2	79.1	72.7	58.1	43.4	28.7	13.9	14.7
102.5°	93.9	95.3	96.6	98.0	99.3	92.0	76.0	59.9	43.9	27.9	25.5
105°	126.2	127.2	128.3	129.3	130.4	126.6	118.1	109.7	101.2	92.7	76.1
107.5°	160.2	161.1	161.9	162.7	163.5	164.7	166.0	167.3	168.6	169.9	157.8
110°	182.9	183.7	184.5	185.2	186.0	186.8	187.8	188.9	189.9	191.0	187.8



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	204.6	205.3	205.9	206.6	207.4	208.2	209.2	210.3	211.3	212.4	212.4
115°	236.7	237.2	237.8	238.4	238.9	239.7	240.5	241.4	242.2	243.1	244.0
117.5°	267.8	268.5	269.2	269.8	270.6	271.2	271.5	272.0	272.5	272.9	273.6
120°	287.1	287.9	288.8	289.6	290.5	291.1	291.3	291.6	291.9	292.2	292.9
122.5°	306.8	307.5	308.1	308.9	309.5	310.1	310.5	310.8	311.1	311.5	312.0
125°	333.7	334.4	335.2	335.9	336.7	337.2	337.6	338.0	338.4	338.7	338.9
127.5°	359.8	360.5	361.3	362.0	362.8	363.4	363.8	364.3	364.8	365.2	365.5
130°	376.1	376.8	377.6	378.3	379.1	379.7	380.0	380.4	380.8	381.1	381.4
132.5°	391.6	392.4	393.1	393.9	394.6	395.1	395.5	395.8	396.1	396.3	396.7
135°	415.4	415.9	416.5	417.1	417.6	418.1	418.5	418.9	419.2	419.6	419.9
137.5°	435.7	436.5	437.2	437.9	438.6	439.0	439.3	439.5	439.7	439.9	440.4
140°	449.3	449.9	450.4	451.0	451.6	451.9	452.2	452.5	452.8	453.1	453.5
142.5°	461.8	462.4	463.0	463.5	464.1	464.5	464.8	465.1	465.3	465.6	465.9
145°	479.4	480.0	480.7	481.4	482.0	482.4	482.6	482.8	483.0	483.1	483.3
147.5°	495.9	496.3	496.7	497.2	497.6	497.9	498.1	498.3	498.5	498.7	498.9
150°	506.1	506.3	506.6	506.9	507.2	507.4	507.6	507.7	507.9	508.1	508.3
152.5°	515.2	515.3	515.5	515.6	515.8	515.9	515.9	516.0	516.1	516.3	516.6
155°	528.0	527.8	527.6	527.5	527.4	527.3	527.4	527.4	527.5	527.6	528.1
157.5°	538.1	538.0	538.0	538.0	538.0	537.9	537.8	537.7	537.6	537.5	538.1
160°	544.1	544.0	543.9	543.8	543.8	543.7	543.6	543.5	543.4	543.3	543.8
162.5°	549.9	549.7	549.4	549.2	548.9	548.7	548.7	548.6	548.5	548.4	549.0
165°	556.9	556.6	556.3	556.0	555.7	555.5	555.4	555.3	555.3	555.2	555.9
167.5°	562.3	561.9	561.6	561.2	560.8	560.6	560.6	560.6	560.6	560.6	561.4
170°	565.3	565.0	564.6	564.2	563.8	563.6	563.6	563.6	563.6	563.6	564.4
172.5°	567.3	566.9	566.5	566.0	565.5	565.3	565.4	565.5	565.6	565.6	566.4
175°	570.0	569.5	569.0	568.5	568.1	567.9	568.0	568.1	568.2	568.3	568.9
177.5°	570.6	570.2	569.9	569.5	569.1	569.0	569.1	569.1	569.2	569.3	569.9
180°	570.0	570.0	570.0	570.0	570.0	570.0	570.0	570.0	570.0	570.0	570.0



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	541.5	541.5	541.5	541.5	541.5	541.5	541.5	541.5
2.5°	539.3	540.2	541.1	541.4	541.3	541.1	540.9	540.8
5°	535.8	536.7	537.5	537.9	537.7	537.5	537.3	537.2
7.5°	528.3	528.8	529.2	529.3	529.0	528.7	528.3	528.0
10°	521.5	521.6	521.7	521.5	521.0	520.6	520.0	519.5
12.5°	513.1	513.0	513.0	512.6	512.1	511.5	511.0	510.4
15°	498.3	497.9	497.4	496.8	496.2	495.4	494.7	494.1
17.5°	480.8	479.8	478.7	477.7	476.6	475.6	474.7	473.6
20°	468.7	467.4	466.2	465.0	463.7	462.6	461.5	460.2
22.5°	455.8	454.2	452.6	451.3	450.2	449.1	448.0	447.0
25°	434.6	432.6	430.6	429.0	427.9	426.9	425.7	424.7
27.5°	411.6	408.8	406.0	403.7	402.0	400.4	398.8	397.1
30°	395.2	391.9	388.6	386.2	384.6	383.0	381.4	379.8
32.5°	379.1	375.5	371.8	369.2	367.6	366.0	364.3	362.7
35°	355.2	351.0	346.9	343.8	342.1	340.4	338.6	336.9
37.5°	329.6	324.8	320.1	316.6	314.4	312.3	310.1	307.9
40°	311.8	306.7	301.6	297.9	295.7	293.5	291.2	289.0
42.5°	294.6	289.2	283.6	279.8	277.8	275.8	273.8	271.7
45°	269.5	263.9	258.4	254.4	252.1	249.8	247.4	245.1
47.5°	243.5	237.4	231.4	227.3	225.3	223.2	221.0	219.0
50°	225.9	219.9	213.9	209.7	207.5	205.2	202.9	200.7
52.5°	209.0	202.6	196.4	192.3	190.2	188.2	186.2	184.2
55°	183.7	178.0	172.4	168.5	166.6	164.7	162.7	160.7
57.5°	158.8	153.4	148.2	144.6	143.0	141.3	139.7	138.0
60°	143.2	137.9	132.6	129.1	127.5	125.8	124.2	122.5
62.5°	127.6	122.7	117.7	114.3	112.6	110.9	109.1	107.4
65°	105.5	100.8	96.0	93.0	91.9	90.9	89.8	88.7
67.5°	84.4	80.8	77.2	74.8	73.7	72.6	71.4	70.3
70°	71.4	68.0	64.5	62.3	61.2	60.1	59.0	58.0
72.5°	59.6	56.8	54.0	52.4	51.9	51.5	51.1	50.6
75°	44.6	43.6	42.6	42.0	41.8	41.7	41.5	41.3
77.5°	33.6	33.1	32.6	32.2	32.0	31.9	31.7	31.5
80°	27.1	26.8	26.5	26.3	26.0	25.8	25.6	25.4
82.5°	20.7	20.5	20.2	20.0	20.0	19.9	19.9	19.9
85°	11.9	11.7	11.5	11.4	11.4	11.4	11.4	11.4
87.5°	6.6	6.6	6.6	6.6	6.5	6.5	6.4	6.4
90°	10.9	11.3	11.7	12.0	12.2	12.3	12.5	12.7
92.5°	12.1	12.6	13.3	13.6	13.8	13.9	13.9	14.0
95°	14.4	15.1	15.7	16.1	16.1	16.1	16.1	16.1
97.5°	15.2	15.9	16.7	17.1	17.2	17.2	17.3	17.4
100°	15.5	16.2	17.0	17.4	17.5	17.6	17.7	17.8
102.5°	23.2	20.8	18.6	17.4	17.6	17.8	17.9	18.1
105°	59.4	42.8	26.1	17.9	18.1	18.3	18.5	18.7
107.5°	145.5	133.4	121.1	108.8	96.1	83.6	71.1	58.5
110°	184.7	181.6	178.5	170.3	156.8	143.4	129.9	116.5



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	212.4	212.4	212.5	211.1	208.3	205.5	202.6	199.8
115°	245.0	245.9	246.9	247.5	247.9	248.3	248.6	249.0
117.5°	274.4	275.1	275.9	276.3	276.4	276.4	276.5	276.6
120°	293.7	294.5	295.2	295.6	295.6	295.6	295.6	295.6
122.5°	312.5	313.1	313.6	313.9	314.0	314.1	314.1	314.2
125°	339.1	339.3	339.5	339.7	339.9	340.1	340.3	340.4
127.5°	365.8	366.1	366.4	366.5	366.3	366.1	365.9	365.7
130°	381.8	382.2	382.6	382.7	382.5	382.3	382.1	381.9
132.5°	397.1	397.5	397.8	397.9	397.7	397.4	397.1	396.9
135°	420.2	420.5	420.8	420.8	420.5	420.2	419.9	419.6
137.5°	440.8	441.2	441.7	441.9	441.7	441.5	441.3	441.1
140°	453.8	454.2	454.6	454.7	454.5	454.3	454.1	453.9
142.5°	466.3	466.6	466.8	466.8	466.6	466.4	466.1	465.8
145°	483.5	483.7	483.9	484.0	484.0	484.0	484.0	484.0
147.5°	499.1	499.3	499.5	499.3	498.9	498.4	498.0	497.6
150°	508.5	508.7	508.9	508.9	508.6	508.3	508.0	507.7
152.5°	517.0	517.3	517.6	517.6	517.2	516.7	516.3	515.9
155°	528.6	529.0	529.5	529.4	528.9	528.3	527.7	527.3
157.5°	538.7	539.2	539.8	539.7	538.9	538.3	537.5	536.8
160°	544.4	545.0	545.5	545.5	544.9	544.2	543.6	542.9
162.5°	549.7	550.4	550.9	551.0	550.4	549.8	549.2	548.7
165°	556.7	557.4	558.2	558.2	557.5	556.9	556.3	555.6
167.5°	562.1	562.8	563.5	563.5	562.8	562.1	561.4	560.6
170°	565.1	565.9	566.7	566.7	565.9	565.1	564.4	563.6
172.5°	567.1	567.9	568.6	568.6	567.8	566.9	566.2	565.3
175°	569.6	570.2	570.9	570.9	570.1	569.4	568.6	567.9
177.5°	570.5	571.1	571.7	571.7	570.9	570.1	569.4	568.6
180°	570.0	570.0	570.0	570.0	570.0	570.0	570.0	570.0

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