

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: P332397-830

Luminaire Tested: **S123RDIW-S340D755U830-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332397-830
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-9,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S123RDIW-S340D755U830-4F0-1E-UDD-F1
Description: DEFINE 3 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 340 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 755 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3693.4 lumens
Efficiency: N/A
Efficacy: 121.5 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: Semi-Indirect

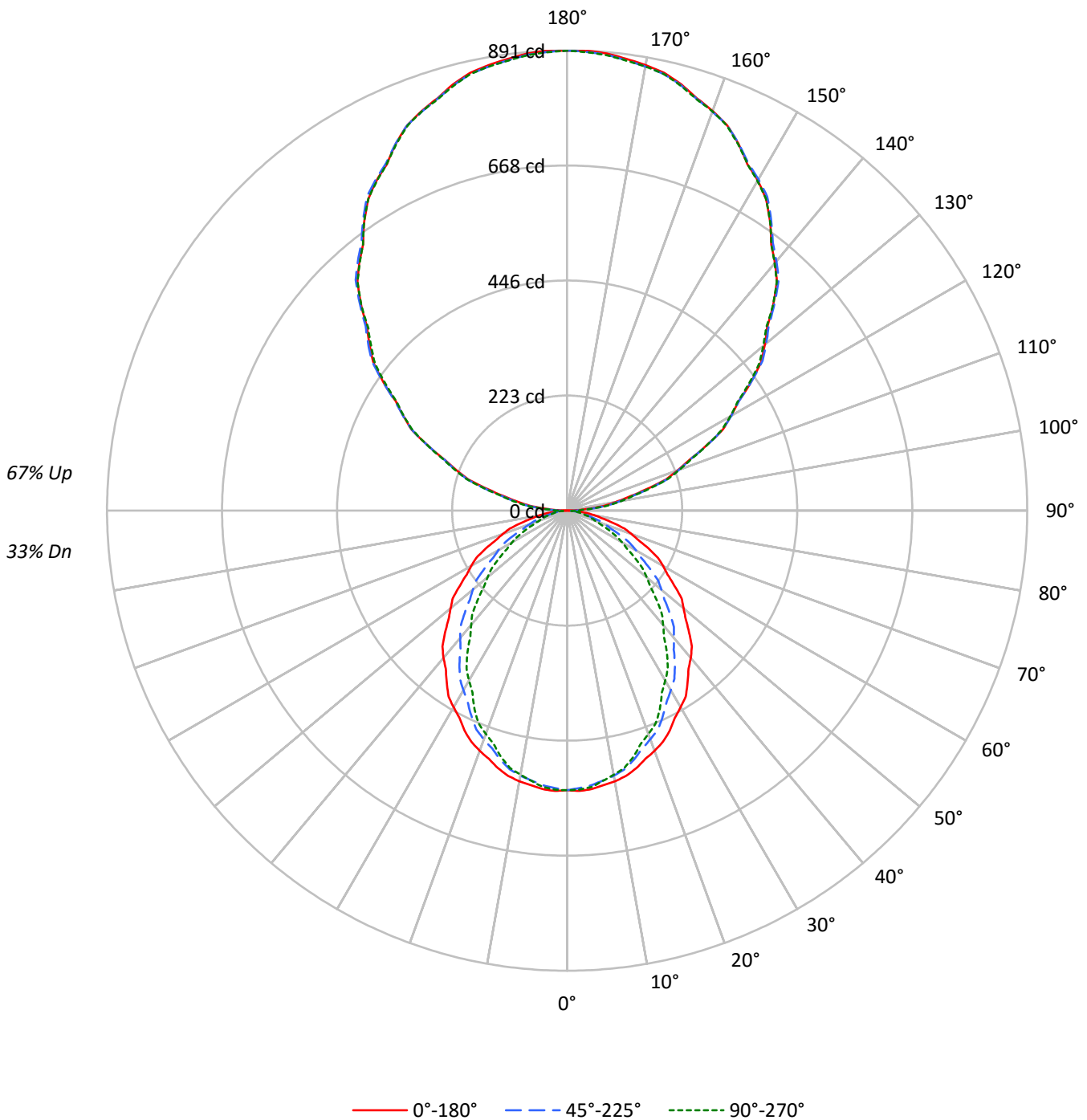
Input Watts (W): 30.4
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	103	103	103	103	93	93	93	93	74	74	74	57	57	57	41	41	41	33
1	94	90	86	83	85	81	78	75	65	63	61	50	49	47	36	35	35	28
2	86	79	73	68	77	71	66	62	57	54	51	44	42	40	32	31	30	24
3	78	69	62	57	71	63	57	52	51	46	43	39	36	34	29	27	25	21
4	72	61	54	48	65	56	49	44	45	40	37	35	32	29	26	24	22	18
5	66	55	47	41	59	50	43	38	40	35	32	31	28	25	23	21	19	16
6	61	49	41	36	55	45	38	33	36	31	28	28	25	22	21	19	17	14
7	56	44	37	31	50	40	34	29	33	28	24	26	22	20	19	17	15	12
8	52	40	33	28	47	37	30	26	30	25	21	24	20	18	18	15	14	11
9	48	37	29	24	44	33	27	23	27	23	19	22	18	16	16	14	12	10
10	45	33	26	22	41	31	24	20	25	20	17	20	17	14	15	13	11	9

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	1.4
10°-20°	141.5	3.8
20°-30°	203.7	5.5
30°-40°	229.5	6.2
40°-50°	219.5	5.9
50°-60°	179.8	4.9
60°-70°	121.3	3.3
70°-80°	61.0	1.7
80°-90°	18.8	0.5
90°-100°	58.0	1.6
100°-110°	173.6	4.7
110°-120°	295.3	8.0
120°-130°	388.5	10.5
130°-140°	436.7	11.8
140°-150°	429.2	11.6
150°-160°	361.3	9.8
160°-170°	240.5	6.5
170°-180°	84.2	2.3
0°-30°	396.1	10.7
0°-40°	625.5	16.9
0°-60°	1024.8	27.7
0°-90°	1225.9	33.2
90°-120°	527.0	14.3
90°-150°	1781.4	48.2
90°-180°	2468.0	66.8
0°-180°	3693.4	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°	1	8	17	20	21	4
95°	41	46	52	54	55	46
105°	157	159	165	165	166	169
115°	297	299	298	299	298	294
125°	435	437	436	433	430	388
135°	565	568	568	565	564	435
145°	685	686	688	688	685	428
155°	784	784	785	787	783	361
165°	854	852	852	856	851	241
175°	888	886	886	889	885	84
180°	891	891	891	891	891	



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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°	8.6	8.0	7.4	7.0	6.4	6.3	6.7	7.2	7.5	7.9	8.0
90°	0.7	2.3	3.8	5.4	6.9	8.7	10.7	12.7	14.8	16.8	17.4
92.5°	17.0	18.0	19.0	20.1	21.1	22.2	23.4	24.6	25.7	26.9	27.3
95°	41.3	42.3	43.5	44.6	45.6	46.8	48.1	49.3	50.5	51.7	52.4
97.5°	73.3	74.1	74.9	75.8	76.5	77.4	78.3	79.2	80.1	81.1	81.7
100°	95.1	96.0	97.0	97.9	98.9	99.7	100.5	101.3	102.1	102.8	103.3
102.5°	120.4	120.9	121.5	122.0	122.5	123.4	124.4	125.5	126.4	127.4	127.9
105°	157.4	157.7	158.1	158.3	158.6	159.5	160.9	162.3	163.7	165.1	165.1
107.5°	200.5	200.7	200.9	201.0	201.2	201.6	202.2	202.7	203.3	203.9	204.3
110°	227.3	227.7	228.0	228.3	228.6	228.9	229.2	229.5	229.9	230.2	230.8



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	255.3	255.5	255.7	255.9	256.1	256.2	256.3	256.4	256.4	256.5	257.2
115°	297.4	297.7	298.2	298.7	299.2	299.3	299.0	298.7	298.3	298.0	298.2
117.5°	339.6	339.9	340.2	340.5	340.8	340.8	340.4	340.0	339.6	339.1	339.1
120°	365.9	366.8	367.8	368.7	369.7	369.7	368.9	368.2	367.4	366.6	366.5
122.5°	393.3	394.0	394.6	395.4	396.1	396.2	395.8	395.4	395.0	394.5	394.2
125°	435.2	435.6	436.1	436.6	437.1	437.1	436.8	436.5	436.1	435.8	435.3
127.5°	473.7	474.8	475.8	476.7	477.8	478.1	477.8	477.4	477.0	476.7	475.8
130°	499.5	500.8	502.0	503.2	504.4	504.9	504.4	504.0	503.5	503.0	502.4
132.5°	525.3	526.5	527.7	529.0	530.3	530.7	530.4	530.0	529.6	529.3	528.6
135°	564.6	565.5	566.5	567.4	568.3	568.7	568.5	568.4	568.3	568.1	567.4
137.5°	601.0	601.7	602.5	603.3	604.1	604.6	605.0	605.5	605.9	606.2	605.6
140°	626.1	626.9	627.7	628.5	629.2	629.7	629.9	630.0	630.2	630.4	630.2
142.5°	649.1	649.9	650.6	651.4	652.1	652.7	653.0	653.3	653.6	653.8	653.7
145°	684.9	685.2	685.5	685.8	686.2	686.5	687.0	687.5	688.0	688.4	688.2
147.5°	716.2	716.8	717.4	717.9	718.5	719.0	719.4	719.8	720.3	720.8	720.8
150°	738.1	738.4	738.7	739.0	739.3	739.6	739.9	740.3	740.6	740.8	740.8
152.5°	756.0	756.4	756.9	757.3	757.7	758.0	758.2	758.4	758.6	758.7	759.0
155°	784.3	784.3	784.3	784.3	784.3	784.3	784.5	784.7	784.8	784.9	785.6
157.5°	808.3	808.1	807.9	807.8	807.6	807.6	807.7	807.8	807.9	808.0	808.7
160°	823.4	823.1	822.8	822.5	822.2	822.0	822.0	822.0	822.0	822.0	822.8
162.5°	836.9	836.4	835.9	835.6	835.1	835.0	835.1	835.2	835.4	835.5	836.2
165°	854.2	853.8	853.3	852.8	852.3	852.1	852.1	852.1	852.1	852.1	853.0
167.5°	868.1	867.4	866.9	866.2	865.5	865.3	865.4	865.5	865.7	865.8	866.8
170°	875.9	875.2	874.7	874.0	873.4	873.1	873.1	873.1	873.1	873.1	874.2
172.5°	882.0	881.5	880.8	880.1	879.6	879.2	879.2	879.2	879.2	879.2	880.2
175°	888.4	887.9	887.2	886.6	886.0	885.7	885.7	885.7	885.7	885.7	886.6
177.5°	891.2	890.6	890.1	889.7	889.2	888.9	888.9	888.9	888.9	888.9	889.7
180°	890.6	890.6	890.6	890.6	890.6	890.6	890.6	890.6	890.6	890.6	890.6



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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°	8.0	8.1	8.1	8.1	8.1	8.1	8.1	8.1
90°	18.0	18.7	19.3	19.7	20.1	20.4	20.6	21.0
92.5°	27.9	28.4	28.8	29.0	28.8	28.7	28.5	28.3
95°	53.0	53.6	54.3	54.6	54.6	54.6	54.6	54.6
97.5°	82.5	83.1	83.9	84.2	84.2	84.1	84.0	84.0
100°	103.8	104.2	104.7	105.1	105.4	105.8	106.0	106.3
102.5°	128.4	128.8	129.3	129.5	129.5	129.4	129.3	129.3
105°	165.1	165.1	165.1	165.2	165.6	165.9	166.2	166.5
107.5°	204.8	205.4	205.9	206.0	205.9	205.7	205.5	205.3
110°	231.4	232.1	232.6	232.8	232.5	232.1	231.9	231.6



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	258.0	258.7	259.5	259.8	259.8	259.7	259.6	259.6
115°	298.3	298.5	298.7	298.7	298.5	298.3	298.2	298.0
117.5°	339.1	339.0	339.0	338.8	338.4	337.9	337.5	337.1
120°	366.3	366.1	366.0	365.7	365.4	365.1	364.8	364.5
122.5°	393.8	393.3	392.9	392.6	392.1	391.6	391.2	390.8
125°	434.6	433.9	433.4	432.7	432.2	431.5	430.8	430.3
127.5°	474.9	474.1	473.3	472.4	471.7	471.0	470.3	469.6
130°	501.8	501.1	500.5	499.6	498.6	497.5	496.4	495.3
132.5°	527.8	527.1	526.3	525.6	524.7	523.9	523.0	522.2
135°	566.8	566.2	565.6	565.1	564.8	564.5	564.2	563.8
137.5°	604.9	604.3	603.7	603.0	602.5	601.8	601.2	600.7
140°	630.0	629.9	629.7	629.1	628.0	626.9	625.8	624.7
142.5°	653.6	653.4	653.2	652.7	651.9	651.0	650.2	649.3
145°	688.1	688.0	687.8	687.4	686.7	686.2	685.5	684.9
147.5°	720.8	720.8	720.8	720.3	719.3	718.4	717.5	716.5
150°	740.8	740.8	740.8	740.4	739.4	738.6	737.6	736.7
152.5°	759.3	759.5	759.8	759.5	758.7	757.9	757.1	756.3
155°	786.2	786.8	787.4	787.2	786.1	785.0	783.9	782.9
157.5°	809.4	810.0	810.7	810.5	809.6	808.8	807.9	807.0
160°	823.6	824.3	825.1	825.2	824.6	824.0	823.3	822.7
162.5°	837.0	837.8	838.6	838.5	837.4	836.5	835.5	834.4
165°	853.9	854.9	855.8	855.7	854.7	853.6	852.5	851.4
167.5°	867.7	868.7	869.7	869.7	868.7	867.7	866.8	865.8
170°	875.2	876.4	877.4	877.4	876.4	875.2	874.2	873.1
172.5°	881.2	882.1	883.1	883.1	881.9	880.9	879.8	878.7
175°	887.6	888.4	889.4	889.4	888.3	887.1	886.1	885.0
177.5°	890.4	891.2	891.9	891.8	891.0	890.0	889.2	888.3
180°	890.6	890.6	890.6	890.6	890.6	890.6	890.6	890.6

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