

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: P332095-940

Luminaire Tested: **S123DIW-S340D460U940-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332095-940
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: S123DIW-S340D460U940-4F0-1E-UDD-F1
Description: DEFINE 3 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 340 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
UPLIGHT 460 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2684.2 lumens
Efficiency: N/A
Efficacy: 116.7 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.18 / 1.31
Luminous Opening: Rectangular (W 0.25' x L: 4' x H: 0')
CIE Type: General Diffuse

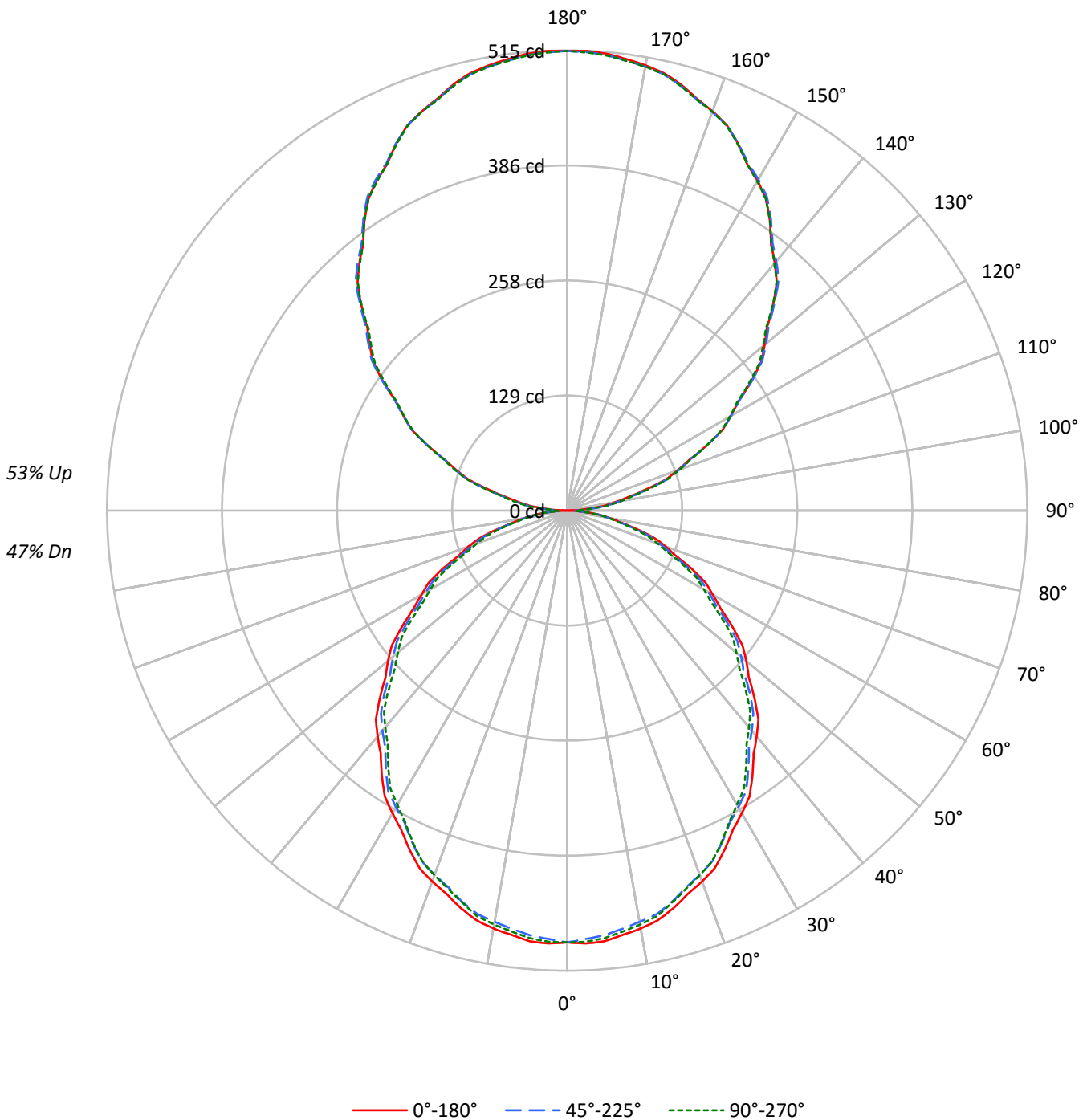
Input Watts (W): 23
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	106	106	106	106	98	98	98	98	82	82	82	67	67	67	53	53	53	47
1	97	93	89	85	89	85	82	79	71	69	67	59	57	56	47	46	45	39
2	88	81	75	70	81	75	69	65	63	59	55	52	49	46	41	39	38	33
3	81	71	64	58	74	66	59	54	55	50	46	46	42	39	37	34	32	28
4	74	63	55	49	67	58	51	46	49	44	40	41	37	33	33	30	28	24
5	68	56	48	42	62	52	45	39	44	38	34	36	32	29	29	26	24	21
6	62	50	42	36	57	46	39	34	39	34	30	33	29	25	27	24	21	18
7	58	45	37	32	53	42	35	30	36	30	26	30	26	22	24	21	19	16
8	53	41	33	28	49	38	31	26	33	27	23	27	23	20	22	19	17	14
9	50	37	30	25	46	35	28	24	30	24	21	25	21	18	21	17	15	13
10	46	34	27	22	43	32	25	21	27	22	19	23	19	16	19	16	14	12

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	5201	5201	5201
5°	5226	5154	5190
10°	5191	5109	5141
15°	5131	5051	5060
20°	5060	4969	4974
25°	4963	4871	4861
30°	4860	4762	4724
35°	4750	4646	4586
40°	4636	4519	4449
45°	4509	4402	4294
50°	4382	4258	4140
55°	4219	4110	3984
60°	4052	3935	3810
65°	3904	3744	3629
70°	3688	3531	3374
75°	3373	3248	3111
80°	3037	2913	2882
85°	2668	2569	2470



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	45.5	1.7
10°-20°	128.5	4.8
20°-30°	189.9	7.1
30°-40°	221.8	8.3
40°-50°	223.0	8.3
50°-60°	195.8	7.3
60°-70°	145.9	5.4
70°-80°	83.1	3.1
80°-90°	25.4	0.9
90°-100°	33.5	1.2
100°-110°	100.3	3.7
110°-120°	170.6	6.4
120°-130°	224.4	8.4
130°-140°	252.2	9.4
140°-150°	247.9	9.2
150°-160°	208.7	7.8
160°-170°	138.9	5.2
170°-180°	48.7	1.8
0°-30°	363.9	13.6
0°-40°	585.7	21.8
0°-60°	1004.5	37.4
0°-90°	1258.9	46.9
90°-120°	304.4	11.3
90°-150°	1029.0	38.3
90°-180°	1425.0	53.1
0°-180°	2684.2	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	483	483	483	483	483	
5°	484	481	477	481	480	46
15°	460	458	453	456	454	130
25°	418	415	410	410	409	192
35°	362	359	354	351	349	226
45°	296	294	289	284	282	229
55°	225	224	219	215	212	201
65°	153	151	147	144	142	151
75°	81	79	78	76	75	87
85°	22	21	21	20	20	24
90°	0	4	10	11	12	3
95°	24	27	30	31	32	27
105°	91	92	95	95	96	97
115°	172	173	172	172	172	170
125°	251	252	252	250	248	224
135°	326	328	328	327	326	251
145°	396	396	398	397	396	247
155°	453	453	453	455	452	208
165°	493	492	492	494	492	139
175°	513	512	512	514	511	49
180°	514	514	514	514	514	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	483.2	483.2	483.2	483.2	483.2	483.2	483.2	483.2	483.2	483.2	483.2
2.5°	484.9	484.6	484.3	484.0	483.7	483.1	482.3	481.5	480.7	479.9	480.6
5°	483.7	483.1	482.7	482.2	481.8	481.1	480.0	479.0	478.0	477.0	477.9
7.5°	478.9	478.4	478.0	477.5	477.1	476.3	475.3	474.2	473.1	472.1	472.9
10°	474.9	474.5	473.9	473.5	473.1	472.3	471.0	469.8	468.6	467.4	468.2
12.5°	469.6	469.2	468.8	468.4	468.1	467.3	466.2	465.0	463.9	462.8	463.4
15°	460.4	460.0	459.6	459.2	458.9	458.1	456.9	455.7	454.5	453.3	454.1
17.5°	449.6	449.2	448.7	448.2	447.7	446.9	445.7	444.5	443.3	442.1	442.6
20°	441.7	441.1	440.6	440.0	439.4	438.5	437.4	436.1	435.0	433.8	434.2
22.5°	432.7	432.1	431.6	431.1	430.5	429.6	428.4	427.2	426.0	424.8	425.1
25°	417.9	417.4	416.9	416.3	415.8	414.9	413.7	412.5	411.3	410.1	410.2
27.5°	402.3	401.7	401.2	400.6	400.1	399.2	398.0	396.6	395.4	394.0	394.1
30°	391.0	390.5	390.0	389.6	389.1	388.3	387.0	385.7	384.4	383.1	383.1
32.5°	379.7	379.1	378.4	377.8	377.3	376.4	375.4	374.4	373.4	372.5	371.9
35°	361.5	361.0	360.3	359.8	359.3	358.4	357.2	356.0	354.8	353.6	353.0
37.5°	342.9	342.1	341.4	340.7	340.1	339.1	337.9	336.6	335.5	334.2	333.6
40°	329.9	329.3	328.8	328.2	327.7	326.7	325.5	324.1	322.9	321.6	320.8
42.5°	316.9	316.3	315.7	315.0	314.4	313.4	312.2	310.9	309.6	308.3	307.6
45°	296.2	295.9	295.5	295.2	294.8	294.0	292.7	291.6	290.3	289.2	288.1
47.5°	275.7	275.2	274.6	274.1	273.6	272.8	271.6	270.5	269.4	268.2	267.2
50°	261.7	261.3	260.8	260.4	259.9	259.0	257.9	256.7	255.5	254.3	253.2
52.5°	247.1	246.8	246.5	246.2	245.8	245.0	243.8	242.5	241.3	240.0	239.2
55°	224.8	224.7	224.6	224.5	224.4	223.7	222.6	221.3	220.2	219.0	217.9
57.5°	203.5	203.2	202.9	202.6	202.2	201.6	200.6	199.7	198.8	197.8	196.9
60°	188.2	188.2	188.1	188.0	187.9	187.3	186.1	185.0	184.0	182.8	182.0
62.5°	174.6	174.3	174.2	173.9	173.6	173.0	171.8	170.8	169.6	168.5	167.7
65°	153.3	152.8	152.4	151.9	151.5	150.8	149.9	148.9	148.0	147.0	146.3
67.5°	130.8	130.4	130.0	129.6	129.2	128.6	128.0	127.2	126.5	125.8	125.2
70°	117.2	116.6	116.1	115.5	114.9	114.4	113.9	113.2	112.7	112.2	111.6
72.5°	102.9	102.5	102.1	101.7	101.2	100.8	100.1	99.5	98.9	98.3	97.6
75°	81.1	80.6	80.3	79.9	79.5	79.2	78.9	78.6	78.4	78.1	77.7
77.5°	61.6	61.4	61.3	61.1	60.8	60.5	60.3	59.9	59.6	59.2	58.9
80°	49.0	48.8	48.5	48.2	47.9	47.7	47.5	47.3	47.2	47.0	46.8
82.5°	36.7	36.6	36.6	36.6	36.5	36.5	36.4	36.4	36.4	36.3	36.1
85°	21.6	21.4	21.2	21.0	20.9	20.8	20.8	20.8	20.8	20.8	20.6
87.5°	8.7	8.6	8.6	8.6	8.6	8.6	8.7	8.9	9.1	9.3	9.3
90°	0.4	1.3	2.2	3.1	4.0	5.0	6.2	7.4	8.6	9.7	10.1
92.5°	9.8	10.4	11.0	11.6	12.2	12.8	13.6	14.2	14.9	15.5	15.8
95°	23.8	24.4	25.1	25.8	26.4	27.0	27.7	28.4	29.2	29.9	30.2
97.5°	42.4	42.8	43.2	43.8	44.2	44.7	45.2	45.7	46.3	46.8	47.2
100°	54.9	55.5	56.0	56.5	57.1	57.6	58.1	58.5	58.9	59.4	59.7
102.5°	69.5	69.8	70.2	70.4	70.8	71.2	71.9	72.4	73.0	73.7	73.9
105°	91.0	91.1	91.3	91.5	91.7	92.1	92.9	93.7	94.5	95.3	95.3
107.5°	115.8	115.9	116.0	116.1	116.3	116.5	116.8	117.1	117.4	117.8	118.1
110°	131.3	131.5	131.7	131.9	132.1	132.2	132.4	132.6	132.8	133.0	133.3



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	147.5	147.6	147.8	147.8	147.9	148.0	148.0	148.1	148.1	148.1	148.6
115°	171.7	172.0	172.3	172.5	172.8	172.9	172.7	172.5	172.4	172.2	172.3
117.5°	196.2	196.4	196.5	196.7	196.9	196.8	196.6	196.4	196.2	195.9	195.9
120°	211.3	211.9	212.4	212.9	213.5	213.6	213.1	212.7	212.2	211.8	211.7
122.5°	227.2	227.6	228.0	228.4	228.7	228.8	228.6	228.4	228.2	227.9	227.7
125°	251.4	251.6	251.9	252.2	252.4	252.4	252.3	252.1	251.9	251.7	251.4
127.5°	273.7	274.2	274.8	275.4	276.0	276.2	276.0	275.7	275.5	275.4	274.8
130°	288.6	289.3	290.0	290.7	291.4	291.6	291.3	291.1	290.8	290.5	290.2
132.5°	303.4	304.1	304.9	305.6	306.3	306.6	306.3	306.1	305.9	305.8	305.3
135°	326.1	326.6	327.2	327.7	328.2	328.5	328.4	328.3	328.2	328.1	327.8
137.5°	347.1	347.6	348.0	348.5	348.9	349.3	349.5	349.7	350.0	350.2	349.8
140°	361.7	362.1	362.6	363.0	363.5	363.7	363.8	363.9	364.0	364.1	364.0
142.5°	375.0	375.4	375.9	376.3	376.7	377.0	377.2	377.4	377.6	377.6	377.6
145°	395.7	395.8	396.0	396.2	396.4	396.5	396.8	397.1	397.3	397.6	397.5
147.5°	413.8	414.0	414.4	414.6	415.0	415.3	415.5	415.8	416.1	416.3	416.3
150°	426.3	426.5	426.7	426.9	427.0	427.2	427.4	427.6	427.8	427.9	427.9
152.5°	436.7	436.9	437.2	437.4	437.7	437.8	437.9	438.1	438.2	438.3	438.5
155°	453.0	453.0	453.0	453.0	453.0	453.1	453.2	453.3	453.3	453.4	453.8
157.5°	466.9	466.8	466.7	466.5	466.5	466.5	466.5	466.6	466.6	466.7	467.1
160°	475.6	475.5	475.3	475.1	474.9	474.8	474.8	474.8	474.8	474.8	475.3
162.5°	483.4	483.1	482.9	482.6	482.4	482.3	482.3	482.4	482.5	482.6	483.0
165°	493.4	493.1	492.8	492.6	492.3	492.2	492.2	492.2	492.2	492.2	492.8
167.5°	501.4	501.1	500.7	500.3	500.0	499.8	499.9	500.0	500.1	500.1	500.7
170°	506.0	505.6	505.2	504.9	504.5	504.4	504.4	504.4	504.4	504.4	505.0
172.5°	509.5	509.2	508.8	508.5	508.0	507.8	507.8	507.8	507.8	507.8	508.5
175°	513.2	512.8	512.5	512.1	511.8	511.6	511.6	511.6	511.6	511.6	512.1
177.5°	514.8	514.4	514.2	513.9	513.6	513.4	513.4	513.4	513.4	513.4	513.9
180°	514.4	514.4	514.4	514.4	514.4	514.4	514.4	514.4	514.4	514.4	514.4



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	483.2	483.2	483.2	483.2	483.2	483.2	483.2	483.2
2.5°	481.3	482.1	482.9	483.2	483.1	483.0	483.0	482.9
5°	478.8	479.7	480.7	481.1	480.9	480.7	480.5	480.3
7.5°	473.8	474.6	475.4	475.7	475.6	475.5	475.5	475.3
10°	469.1	469.9	470.7	471.1	470.9	470.7	470.6	470.4
12.5°	464.0	464.6	465.2	465.5	465.4	465.2	465.1	465.0
15°	454.8	455.5	456.3	456.4	455.8	455.2	454.7	454.1
17.5°	443.1	443.6	444.2	444.3	444.1	443.9	443.7	443.5
20°	434.5	434.9	435.2	435.3	435.0	434.7	434.4	434.2
22.5°	425.3	425.7	426.0	426.0	425.6	425.3	424.9	424.5
25°	410.3	410.4	410.5	410.4	410.1	409.8	409.6	409.3
27.5°	394.2	394.3	394.3	394.2	393.9	393.5	393.2	392.8
30°	383.1	383.1	383.1	382.7	382.1	381.5	380.8	380.1
32.5°	371.4	370.9	370.4	370.0	369.6	369.3	368.9	368.5
35°	352.5	352.0	351.3	350.9	350.4	349.9	349.5	349.0
37.5°	332.9	332.3	331.5	331.1	330.8	330.5	330.2	329.9
40°	320.1	319.4	318.6	318.1	317.7	317.4	317.0	316.6
42.5°	306.8	306.0	305.3	304.8	304.4	304.1	303.7	303.3
45°	287.0	285.9	284.7	284.0	283.5	283.0	282.6	282.1
47.5°	266.1	265.0	263.9	263.1	262.7	262.3	261.9	261.5
50°	252.3	251.2	250.2	249.4	248.9	248.3	247.8	247.2
52.5°	238.3	237.4	236.5	235.8	235.2	234.7	234.2	233.6
55°	217.0	215.9	214.9	214.2	213.7	213.2	212.8	212.3
57.5°	196.0	195.0	194.1	193.4	192.9	192.3	191.8	191.3
60°	181.2	180.3	179.5	178.9	178.3	177.9	177.5	177.0
62.5°	166.8	166.0	165.2	164.6	164.3	164.0	163.7	163.4
65°	145.6	144.9	144.1	143.7	143.4	143.0	142.8	142.5
67.5°	124.5	123.9	123.2	122.7	122.3	121.9	121.5	121.2
70°	110.9	110.2	109.6	109.1	108.6	108.2	107.6	107.2
72.5°	97.1	96.5	95.9	95.5	95.3	95.1	94.8	94.5
75°	77.2	76.7	76.2	75.9	75.6	75.3	75.1	74.8
77.5°	58.6	58.3	58.0	57.9	57.9	57.9	57.9	57.9
80°	46.7	46.6	46.5	46.5	46.5	46.5	46.5	46.5
82.5°	36.0	35.8	35.7	35.5	35.5	35.4	35.3	35.2
85°	20.4	20.2	20.1	20.0	20.0	20.0	20.0	20.0
87.5°	9.3	9.3	9.3	9.3	9.3	9.4	9.4	9.4
90°	10.4	10.8	11.1	11.4	11.6	11.8	11.9	12.1
92.5°	16.1	16.4	16.7	16.8	16.7	16.5	16.4	16.3
95°	30.6	30.9	31.3	31.5	31.5	31.5	31.5	31.5
97.5°	47.6	48.1	48.4	48.6	48.6	48.6	48.5	48.5
100°	59.9	60.2	60.5	60.7	60.9	61.1	61.3	61.4
102.5°	74.2	74.5	74.7	74.8	74.8	74.7	74.7	74.6
105°	95.3	95.3	95.3	95.4	95.7	95.9	96.0	96.2
107.5°	118.3	118.6	118.9	119.0	118.9	118.8	118.7	118.6
110°	133.7	134.0	134.4	134.5	134.3	134.1	133.9	133.8



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	149.0	149.5	149.9	150.1	150.0	150.0	150.0	149.9
115°	172.4	172.5	172.5	172.5	172.5	172.4	172.3	172.2
117.5°	195.9	195.8	195.8	195.7	195.5	195.2	194.9	194.7
120°	211.6	211.5	211.4	211.2	211.1	210.9	210.7	210.5
122.5°	227.5	227.2	226.9	226.8	226.5	226.2	226.0	225.7
125°	251.0	250.7	250.3	249.9	249.6	249.2	248.9	248.5
127.5°	274.4	273.8	273.3	272.9	272.5	272.1	271.6	271.3
130°	289.8	289.4	289.1	288.6	288.0	287.4	286.8	286.1
132.5°	304.9	304.4	304.0	303.5	303.1	302.6	302.1	301.6
135°	327.4	327.1	326.7	326.5	326.3	326.1	325.9	325.7
137.5°	349.5	349.1	348.7	348.3	347.9	347.7	347.3	347.0
140°	363.9	363.8	363.7	363.4	362.7	362.1	361.5	360.9
142.5°	377.5	377.4	377.3	377.0	376.6	376.0	375.6	375.1
145°	397.4	397.3	397.3	397.1	396.7	396.4	396.0	395.7
147.5°	416.3	416.3	416.3	416.1	415.5	414.9	414.4	413.8
150°	427.9	427.9	427.9	427.7	427.1	426.6	426.1	425.5
152.5°	438.5	438.7	438.9	438.7	438.3	437.7	437.3	436.8
155°	454.1	454.5	454.9	454.7	454.1	453.4	452.8	452.2
157.5°	467.5	467.9	468.2	468.1	467.7	467.2	466.6	466.2
160°	475.7	476.2	476.6	476.6	476.3	475.9	475.5	475.2
162.5°	483.5	483.9	484.4	484.3	483.8	483.1	482.6	482.0
165°	493.3	493.8	494.4	494.3	493.7	493.0	492.4	491.8
167.5°	501.2	501.8	502.3	502.3	501.8	501.2	500.7	500.1
170°	505.6	506.2	506.8	506.8	506.2	505.6	505.0	504.4
172.5°	509.0	509.5	510.1	510.1	509.4	508.8	508.2	507.6
175°	512.6	513.2	513.7	513.7	513.1	512.5	511.8	511.2
177.5°	514.3	514.8	515.1	515.1	514.6	514.2	513.6	513.1
180°	514.4	514.4	514.4	514.4	514.4	514.4	514.4	514.4

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