

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: P332093-830

Luminaire Tested: **S123DIW-S340D460U830-4F0-1E-UDD-D1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332093-830
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: S123DIW-S340D460U830-4F0-1E-UDD-D1
Description: DEFINE 3 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 340 LUMENS PER FOOT, DROP 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: 2863.0 lumens
Efficiency: N/A
Efficacy: 124.5 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.26 / 1.37
Luminous Opening: Rectangular w/ Sides (W: 0.25' x L: 4' x H: 0.08')
CIE Type: General Diffuse

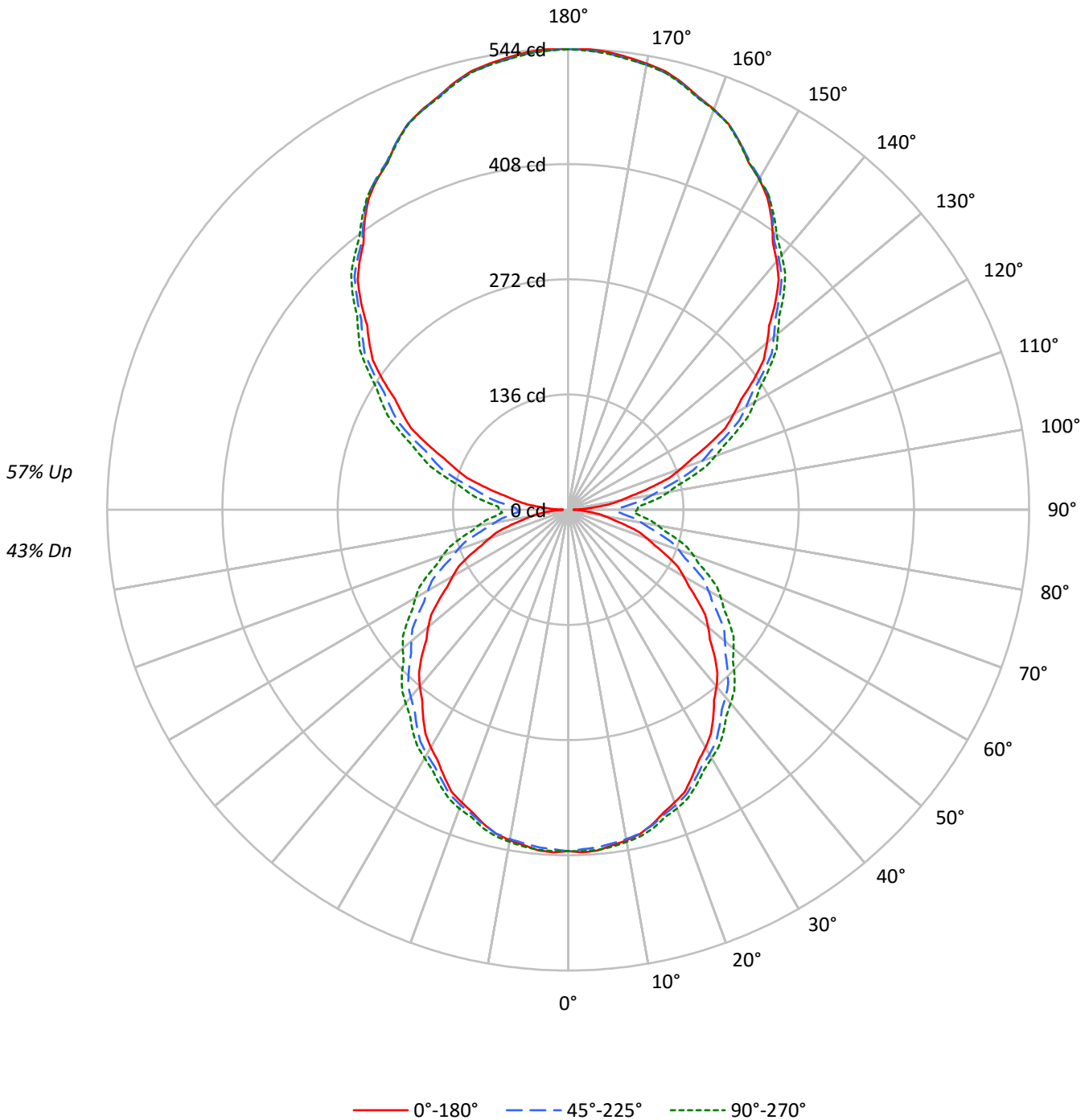
Input Watts (W): 23
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	106	106	106	106	97	97	97	97	80	80	80	64	64	64	50	50	50	43
1	95	91	86	83	87	83	79	76	68	66	63	55	53	52	43	42	40	35
2	86	79	72	67	79	72	66	62	59	55	52	48	45	42	37	35	33	28
3	79	69	61	55	71	63	56	51	52	47	43	42	38	35	33	30	28	24
4	72	61	53	46	65	56	49	43	46	41	36	37	33	30	29	26	24	20
5	66	54	46	39	60	49	42	37	41	35	31	33	29	26	26	23	21	17
6	60	48	40	34	55	44	37	32	37	31	27	30	26	23	23	20	18	15
7	56	43	35	30	51	40	33	28	33	28	24	27	23	20	21	18	16	13
8	52	39	32	26	47	36	29	24	30	25	21	25	21	18	20	17	14	12
9	48	36	28	23	44	33	26	22	28	22	19	23	19	16	18	15	13	11
10	45	33	26	21	41	30	24	19	26	20	17	21	17	14	17	14	12	10

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	4339	4339	4339
5°	4353	4230	4232
10°	4315	4133	4112
15°	4259	4022	3980
20°	4179	3896	3836
25°	4080	3751	3684
30°	3980	3620	3529
35°	3867	3481	3406
40°	3760	3356	3274
45°	3641	3235	3169
50°	3525	3116	3054
55°	3393	2993	2948
60°	3266	2869	2842
65°	3138	2736	2714
70°	2941	2586	2582
75°	2693	2416	2450
80°	2412	2249	2299
85°	2145	2133	2211



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	38.2	1.3
10°-20°	108.9	3.8
20°-30°	163.0	5.7
30°-40°	194.6	6.8
40°-50°	203.6	7.1
50°-60°	191.1	6.7
60°-70°	159.6	5.6
70°-80°	114.2	4.0
80°-90°	69.7	2.4
90°-100°	78.1	2.7
100°-110°	137.4	4.8
110°-120°	201.3	7.0
120°-130°	249.2	8.7
130°-140°	272.0	9.5
140°-150°	263.2	9.2
150°-160°	220.6	7.7
160°-170°	146.9	5.1
170°-180°	51.4	1.8
0°-30°	310.1	10.8
0°-40°	504.7	17.6
0°-60°	899.4	31.4
0°-90°	1242.8	43.4
90°-120°	416.9	14.6
90°-150°	1201.2	42.0
90°-180°	1620.0	56.6
0°-180°	2863.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	403	403	403	403	403	
5°	404	403	400	403	403	38
15°	384	386	385	389	389	108
25°	347	351	353	358	358	160
35°	299	306	311	318	320	187
45°	244	255	266	274	278	188
55°	186	201	216	228	232	167
65°	129	146	165	178	183	127
75°	70	91	112	126	132	75
85°	22	44	67	81	86	23
90°	6	32	60	76	82	5
95°	30	50	75	90	95	32
105°	100	112	134	146	151	106
115°	184	191	205	216	219	182
125°	267	269	280	287	289	238
135°	346	348	352	358	360	266
145°	419	419	420	423	423	261
155°	479	479	479	481	478	220
165°	522	520	520	522	520	147
175°	542	541	541	543	540	52
180°	544	544	544	544	544	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	403.1	403.1	403.1	403.1	403.1	403.1	403.1	403.1	403.1	403.1	403.1
2.5°	404.9	404.7	404.4	404.3	404.0	403.6	402.9	402.3	401.7	401.1	401.7
5°	403.6	403.4	403.2	403.0	402.8	402.5	401.8	401.2	400.7	400.1	400.9
7.5°	399.6	399.7	399.7	399.7	399.8	399.5	399.0	398.4	397.8	397.3	398.2
10°	396.2	396.3	396.5	396.7	396.9	396.8	396.2	395.8	395.3	394.8	395.8
12.5°	391.9	392.2	392.5	392.8	393.0	392.9	392.7	392.3	392.0	391.6	392.6
15°	384.3	384.6	384.8	385.1	385.4	385.6	385.4	385.3	385.2	385.1	386.2
17.5°	374.7	375.2	375.8	376.4	376.9	377.2	377.2	377.1	377.1	377.1	378.0
20°	367.6	368.2	368.7	369.4	369.9	370.3	370.5	370.7	370.9	371.1	372.0
22.5°	360.2	360.8	361.4	361.9	362.6	363.0	363.3	363.5	363.8	364.1	365.2
25°	346.9	347.9	348.9	349.9	350.8	351.5	351.8	352.0	352.3	352.7	353.9
27.5°	333.6	334.7	335.8	337.0	338.1	338.9	339.5	340.2	340.8	341.4	342.5
30°	324.1	325.4	326.7	327.9	329.2	330.2	331.0	331.8	332.5	333.4	334.5
32.5°	313.6	315.0	316.4	317.8	319.2	320.5	321.5	322.5	323.6	324.5	325.8
35°	298.6	300.2	301.8	303.3	304.9	306.3	307.6	308.9	310.1	311.4	312.8
37.5°	282.9	284.6	286.3	288.1	289.8	291.5	293.0	294.6	296.2	297.7	299.4
40°	272.3	274.1	275.8	277.6	279.3	281.2	283.1	285.1	287.0	289.0	290.7
42.5°	260.7	262.9	264.9	267.1	269.3	271.4	273.4	275.4	277.5	279.5	281.3
45°	244.2	246.6	248.8	251.2	253.5	255.9	258.4	260.8	263.3	265.7	267.6
47.5°	226.9	229.5	232.1	234.9	237.5	240.3	243.0	245.8	248.5	251.4	253.4
50°	215.7	218.4	221.1	223.9	226.6	229.4	232.4	235.5	238.6	241.6	243.8
52.5°	203.7	206.6	209.4	212.4	215.3	218.4	221.7	225.1	228.4	231.7	234.0
55°	186.2	189.5	192.7	195.9	199.1	202.5	205.9	209.5	213.0	216.5	219.1
57.5°	169.2	172.5	175.9	179.3	182.6	186.2	190.0	193.9	197.7	201.6	204.2
60°	157.2	160.7	164.3	167.8	171.3	175.0	179.1	183.0	187.0	191.1	193.8
62.5°	146.0	149.6	153.2	156.7	160.3	164.3	168.5	172.8	177.0	181.3	183.9
65°	128.7	132.5	136.3	140.1	143.9	148.0	152.2	156.6	160.8	165.1	168.1
67.5°	111.1	115.2	119.2	123.2	127.2	131.5	135.8	140.3	144.6	149.0	152.1
70°	98.8	103.0	107.2	111.4	115.6	120.1	124.7	129.4	134.1	138.7	141.9
72.5°	87.6	91.8	96.0	100.2	104.3	108.9	113.7	118.6	123.4	128.3	131.5
75°	69.8	74.5	79.0	83.6	88.2	92.9	97.8	102.6	107.5	112.4	115.6
77.5°	54.4	59.0	63.6	68.2	72.9	77.7	82.6	87.5	92.4	97.4	100.8
80°	43.5	48.3	53.1	57.9	62.6	67.6	72.6	77.7	82.8	87.8	91.1
82.5°	34.0	38.8	43.7	48.5	53.4	58.4	63.6	68.7	73.9	79.1	82.4
85°	21.5	26.4	31.3	36.2	41.0	46.1	51.3	56.4	61.5	66.7	70.0
87.5°	11.8	16.8	21.9	27.0	32.0	37.1	42.3	47.6	52.8	58.0	61.4
90°	6.1	11.9	17.6	23.4	29.0	35.1	41.3	47.4	53.6	59.9	63.6
92.5°	15.7	20.6	25.6	30.5	35.5	40.8	46.4	52.0	57.6	63.2	66.7
95°	30.1	34.5	38.9	43.5	47.9	52.9	58.4	64.0	69.6	75.1	78.5
97.5°	49.1	53.0	56.9	60.9	64.8	69.3	74.5	79.6	84.6	89.8	93.1
100°	62.0	65.7	69.5	73.1	76.8	81.2	86.1	91.0	96.0	101.0	104.2
102.5°	77.1	80.2	83.4	86.5	89.6	93.8	98.8	103.9	108.9	114.0	117.0
105°	99.6	102.2	104.7	107.3	109.7	113.6	118.6	123.7	128.7	133.7	136.5
107.5°	125.4	127.5	129.6	131.7	133.8	137.0	141.4	145.7	150.1	154.3	157.2
110°	141.5	143.4	145.3	147.3	149.2	152.2	156.4	160.4	164.6	168.6	171.5



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	158.5	160.1	161.6	163.2	164.8	167.5	171.3	175.0	178.8	182.6	185.5
115°	183.7	185.2	186.6	188.1	189.5	191.9	195.3	198.6	201.9	205.2	207.6
117.5°	209.4	210.4	211.2	212.2	213.1	215.1	218.1	221.2	224.2	227.2	229.6
120°	225.2	226.2	227.2	228.3	229.4	231.3	234.0	236.8	239.5	242.2	244.4
122.5°	241.9	242.6	243.3	243.9	244.6	246.3	249.1	251.9	254.8	257.6	259.5
125°	267.0	267.3	267.6	267.9	268.2	269.6	272.2	274.8	277.5	280.1	281.8
127.5°	290.6	291.1	291.6	292.1	292.7	294.0	296.1	298.2	300.3	302.5	303.9
130°	306.3	307.0	307.6	308.3	309.0	310.1	311.8	313.4	315.1	316.8	318.2
132.5°	321.7	322.4	323.1	323.9	324.6	325.6	327.1	328.4	329.7	331.1	332.4
135°	345.5	346.0	346.5	346.9	347.4	348.2	349.2	350.2	351.1	352.1	353.5
137.5°	367.7	368.1	368.5	368.9	369.3	369.9	370.8	371.6	372.5	373.3	374.5
140°	382.8	383.2	383.7	384.2	384.7	385.0	385.4	385.9	386.3	386.6	388.0
142.5°	396.7	397.1	397.6	397.9	398.3	398.6	398.9	399.1	399.4	399.5	400.8
145°	418.6	418.7	418.8	418.9	419.0	419.1	419.4	419.7	420.0	420.3	421.0
147.5°	437.3	437.6	438.0	438.3	438.7	438.9	439.2	439.5	439.8	440.1	440.3
150°	450.6	450.8	451.0	451.2	451.4	451.6	451.8	451.9	452.1	452.3	452.3
152.5°	461.6	461.8	462.1	462.3	462.6	462.8	462.9	463.1	463.2	463.3	463.4
155°	478.8	478.8	478.8	478.8	478.8	478.9	479.0	479.1	479.2	479.3	479.7
157.5°	493.5	493.4	493.3	493.1	493.0	493.0	493.1	493.2	493.2	493.3	493.7
160°	502.8	502.6	502.4	502.2	502.0	501.9	501.9	501.9	501.9	501.9	502.4
162.5°	511.0	510.7	510.4	510.1	509.9	509.8	509.8	509.9	510.0	510.1	510.6
165°	521.5	521.2	520.9	520.7	520.4	520.3	520.3	520.3	520.3	520.3	520.8
167.5°	530.0	529.6	529.2	528.9	528.5	528.3	528.4	528.5	528.6	528.6	529.2
170°	534.8	534.4	534.0	533.7	533.3	533.1	533.1	533.1	533.1	533.1	533.8
172.5°	538.6	538.2	537.8	537.4	537.0	536.8	536.8	536.8	536.8	536.8	537.4
175°	542.4	542.1	541.7	541.3	540.9	540.7	540.7	540.7	540.7	540.7	541.3
177.5°	544.1	543.8	543.5	543.2	542.9	542.7	542.7	542.7	542.7	542.7	543.2
180°	543.8	543.8	543.8	543.8	543.8	543.8	543.8	543.8	543.8	543.8	543.8



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	403.1	403.1	403.1	403.1	403.1	403.1	403.1	403.1
2.5°	402.3	402.9	403.6	403.8	403.8	403.7	403.6	403.5
5°	401.6	402.5	403.2	403.6	403.5	403.3	403.2	403.1
7.5°	399.3	400.2	401.1	401.6	401.5	401.3	401.2	401.1
10°	396.8	397.8	398.7	399.1	398.9	398.7	398.5	398.3
12.5°	393.4	394.4	395.2	395.6	395.4	395.2	395.0	394.8
15°	387.1	388.0	389.1	389.5	389.4	389.3	389.2	389.1
17.5°	378.8	379.8	380.6	381.0	380.8	380.7	380.6	380.4
20°	372.9	373.7	374.7	375.1	375.2	375.3	375.4	375.5
22.5°	366.3	367.4	368.5	369.1	369.0	368.9	368.9	368.8
25°	355.2	356.5	357.7	358.4	358.4	358.4	358.4	358.4
27.5°	343.6	344.7	345.8	346.4	346.5	346.6	346.6	346.7
30°	335.6	336.9	338.0	338.6	338.6	338.6	338.6	338.6
32.5°	327.1	328.3	329.5	330.3	330.5	330.7	331.0	331.2
35°	314.3	315.8	317.3	318.2	318.6	319.0	319.3	319.7
37.5°	301.0	302.7	304.4	305.4	305.7	306.0	306.3	306.6
40°	292.3	294.0	295.6	296.6	297.0	297.5	297.8	298.2
42.5°	283.1	284.9	286.7	287.9	288.5	289.0	289.5	290.1
45°	269.4	271.3	273.1	274.5	275.2	276.0	276.8	277.6
47.5°	255.5	257.7	259.8	261.1	261.6	262.3	262.9	263.5
50°	246.0	248.3	250.5	252.0	252.7	253.4	254.0	254.8
52.5°	236.4	238.7	241.0	242.6	243.5	244.3	245.1	245.9
55°	221.8	224.4	227.1	228.8	229.5	230.4	231.1	231.9
57.5°	206.9	209.5	212.2	214.0	214.9	215.8	216.8	217.6
60°	196.5	199.3	202.0	203.9	204.9	206.0	207.1	208.2
62.5°	186.6	189.4	192.1	194.0	195.0	196.0	197.0	198.0
65°	171.0	173.9	176.8	178.8	179.7	180.8	181.7	182.7
67.5°	155.3	158.5	161.7	163.8	164.6	165.4	166.3	167.0
70°	145.1	148.2	151.3	153.4	154.3	155.2	156.3	157.2
72.5°	134.6	137.8	141.0	143.2	144.1	145.1	146.1	147.0
75°	118.9	122.1	125.4	127.5	128.7	129.9	131.0	132.2
77.5°	104.2	107.5	110.9	113.0	114.0	114.9	115.7	116.7
80°	94.4	97.8	101.1	103.2	104.2	105.2	106.2	107.2
82.5°	85.7	89.0	92.4	94.4	95.5	96.4	97.4	98.4
85°	73.4	76.7	80.0	82.2	83.1	84.2	85.1	86.1
87.5°	64.8	68.1	71.5	73.8	74.8	75.8	76.8	77.9
90°	67.3	71.0	74.6	77.1	78.2	79.5	80.6	81.7
92.5°	70.3	73.9	77.4	79.6	80.3	81.2	81.9	82.7
95°	81.9	85.3	88.7	90.9	91.9	92.8	93.8	94.8
97.5°	96.4	99.8	103.1	105.3	106.2	107.2	108.1	109.1
100°	107.3	110.4	113.5	115.6	116.8	117.9	119.1	120.3
102.5°	120.0	123.0	126.1	128.1	129.0	130.0	130.9	131.8
105°	139.2	141.9	144.7	146.6	147.6	148.7	149.8	150.8
107.5°	160.1	163.1	166.0	167.9	168.6	169.4	170.0	170.8
110°	174.5	177.4	180.3	182.1	182.7	183.2	183.8	184.5



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	188.4	191.3	194.3	196.1	196.9	197.7	198.6	199.4
115°	210.1	212.5	215.0	216.5	217.3	217.9	218.6	219.3
117.5°	231.9	234.2	236.5	237.9	238.4	238.8	239.4	239.9
120°	246.6	248.7	250.9	252.2	252.7	253.2	253.6	254.2
122.5°	261.5	263.3	265.2	266.5	266.8	267.3	267.7	268.2
125°	283.5	285.2	286.8	287.9	288.1	288.4	288.7	289.1
127.5°	305.3	306.7	308.1	308.9	309.2	309.3	309.5	309.8
130°	319.7	321.2	322.6	323.4	323.3	323.2	323.1	323.0
132.5°	333.8	335.1	336.4	337.1	337.2	337.4	337.5	337.7
135°	354.9	356.3	357.6	358.4	358.7	359.0	359.3	359.7
137.5°	375.6	376.7	377.9	378.5	378.6	378.8	378.9	379.0
140°	389.4	390.7	392.1	392.7	392.5	392.3	392.2	392.0
142.5°	402.0	403.2	404.4	405.0	405.0	404.9	404.9	404.9
145°	421.7	422.4	423.0	423.4	423.4	423.4	423.4	423.4
147.5°	440.5	440.7	441.0	441.0	440.7	440.5	440.4	440.1
150°	452.3	452.3	452.3	452.1	451.8	451.4	451.0	450.6
152.5°	463.5	463.7	463.9	463.7	463.3	462.8	462.3	461.9
155°	480.0	480.4	480.8	480.6	479.9	479.3	478.6	478.0
157.5°	494.2	494.6	494.9	494.8	494.4	493.8	493.2	492.8
160°	502.8	503.3	503.8	503.8	503.4	503.0	502.7	502.3
162.5°	511.0	511.5	512.0	511.9	511.3	510.7	510.1	509.4
165°	521.4	522.0	522.5	522.5	521.8	521.1	520.5	519.8
167.5°	529.8	530.4	530.9	530.9	530.4	529.8	529.2	528.6
170°	534.4	535.1	535.7	535.7	535.1	534.4	533.8	533.1
172.5°	538.0	538.6	539.1	539.1	538.5	537.8	537.2	536.5
175°	541.9	542.4	543.0	543.0	542.3	541.7	541.0	540.4
177.5°	543.7	544.1	544.5	544.5	543.9	543.5	542.9	542.3
180°	543.8	543.8	543.8	543.8	543.8	543.8	543.8	543.8

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