

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: P332129-830

Luminaire Tested: **S123DIW-S560D755U830-4F0-1E-UDD-D1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332129-830
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-S560D755U830-4F0-1E-UDD-D1
Description: DEFINE 3 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 560 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 755 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4697.4 lumens
Efficiency: N/A
Efficacy: 124.9 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

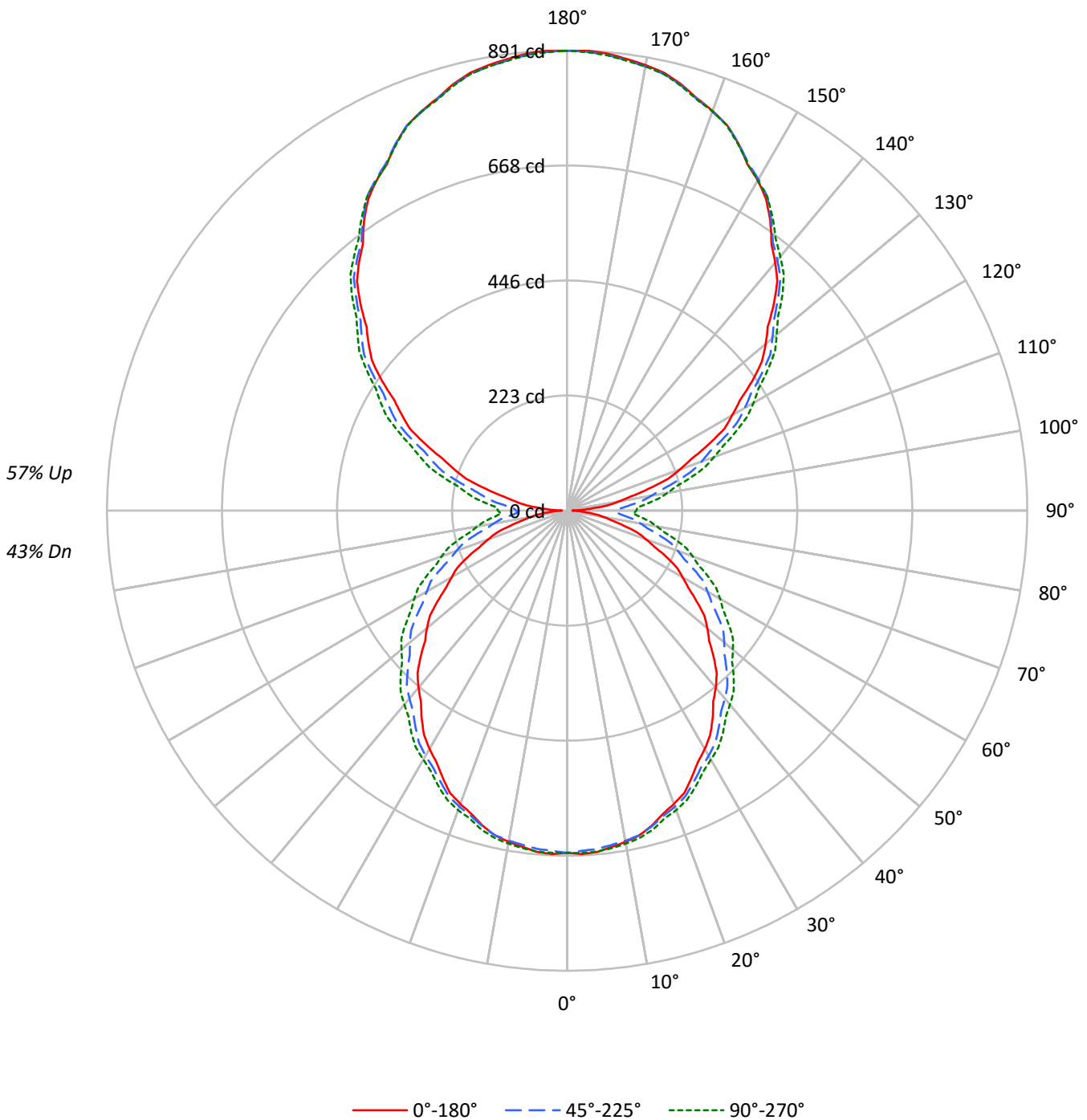
Input Watts (W): 37.6
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	36	31	33	29	26	26	23	21	17
6	60	48	40	34	55	44	37	32	37	31	27	30	26	23	24	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°	7134	7134	7134
5°	7156	6954	6959
10°	7093	6795	6761
15°	7001	6612	6544
20°	6871	6405	6306
25°	6709	6166	6056
30°	6544	5951	5803
35°	6359	5723	5601
40°	6181	5515	5382
45°	5986	5318	5210
50°	5793	5121	5019
55°	5578	4919	4848
60°	5369	4716	4670
65°	5156	4499	4462
70°	4837	4254	4245
75°	4430	3973	4029
80°	3958	3698	3779
85°	3521	3508	3633



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	62.8	1.3
10°-20°	179.1	3.8
20°-30°	267.9	5.7
30°-40°	319.9	6.8
40°-50°	334.7	7.1
50°-60°	314.1	6.7
60°-70°	262.3	5.6
70°-80°	187.7	4.0
80°-90°	114.6	2.4
90°-100°	128.3	2.7
100°-110°	225.3	4.8
110°-120°	329.8	7.0
120°-130°	408.2	8.7
130°-140°	445.5	9.5
140°-150°	431.1	9.2
150°-160°	361.4	7.7
160°-170°	240.5	5.1
170°-180°	84.2	1.8
0°-30°	509.8	10.9
0°-40°	829.7	17.7
0°-60°	1478.6	31.5
0°-90°	2043.2	43.5
90°-120°	683.3	14.5
90°-150°	1968.1	41.9
90°-180°	2654.0	56.5
0°-180°	4697.4	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	663	663	663	663	663	
5°	664	662	658	663	663	63
15°	632	634	633	640	640	178
25°	570	577	580	589	589	263
35°	491	502	512	522	526	307
45°	401	419	437	450	456	310
55°	306	330	356	375	381	274
65°	212	240	272	292	300	209
75°	115	149	185	208	217	123
85°	35	72	110	133	142	37
90°	10	53	98	125	134	9
95°	49	83	123	147	156	53
105°	163	183	219	239	247	174
115°	301	312	336	354	359	298
125°	437	440	459	471	474	390
135°	566	570	577	586	589	436
145°	686	686	688	693	694	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°	662.8	662.8	662.8	662.8	662.8	662.8	662.8	662.8	662.8	662.8	662.8
2.5°	665.7	665.3	665.0	664.5	664.1	663.5	662.4	661.4	660.3	659.3	660.3
5°	663.5	663.2	662.9	662.6	662.2	661.6	660.6	659.7	658.7	657.7	659.0
7.5°	657.0	657.0	657.1	657.2	657.3	656.9	655.9	655.0	654.0	653.1	654.7
10°	651.3	651.6	651.9	652.2	652.5	652.3	651.5	650.7	649.9	649.1	650.7
12.5°	644.3	644.8	645.3	645.6	646.1	646.1	645.5	645.0	644.4	643.9	645.4
15°	631.8	632.3	632.7	633.2	633.7	633.9	633.7	633.5	633.4	633.2	634.8
17.5°	615.9	616.8	617.8	618.8	619.7	620.2	620.1	620.0	620.0	619.9	621.3
20°	604.4	605.3	606.2	607.2	608.1	608.8	609.2	609.4	609.7	610.1	611.5
22.5°	592.2	593.1	594.1	595.1	596.1	596.7	597.2	597.7	598.1	598.5	600.4
25°	570.4	572.0	573.6	575.2	576.8	577.9	578.3	578.8	579.3	579.8	581.8
27.5°	548.5	550.3	552.1	553.9	555.7	557.1	558.2	559.2	560.2	561.3	563.1
30°	532.8	534.9	537.0	539.1	541.2	542.9	544.1	545.4	546.7	548.0	550.0
32.5°	515.5	517.8	520.2	522.5	524.9	526.9	528.6	530.2	531.9	533.6	535.6
35°	491.0	493.5	496.1	498.7	501.2	503.6	505.7	507.7	509.8	511.9	514.3
37.5°	465.0	467.9	470.7	473.6	476.5	479.3	481.8	484.4	486.9	489.6	492.3
40°	447.6	450.5	453.5	456.3	459.2	462.2	465.4	468.6	471.8	475.0	477.8
42.5°	428.6	432.2	435.6	439.1	442.7	446.1	449.5	452.8	456.2	459.5	462.5
45°	401.4	405.3	409.2	413.0	416.8	420.8	424.8	428.8	432.8	436.8	439.9
47.5°	373.0	377.4	381.7	386.1	390.4	394.9	399.5	404.1	408.7	413.3	416.7
50°	354.5	359.0	363.4	368.0	372.5	377.2	382.2	387.2	392.1	397.1	400.8
52.5°	334.9	339.6	344.4	349.1	353.8	359.0	364.5	369.9	375.4	381.0	384.7
55°	306.1	311.4	316.7	322.0	327.3	332.8	338.7	344.4	350.2	355.9	360.2
57.5°	278.1	283.6	289.2	294.6	300.2	306.1	312.5	318.8	325.1	331.4	335.7
60°	258.4	264.3	270.0	275.8	281.5	287.8	294.4	301.0	307.5	314.1	318.6
62.5°	240.0	245.9	251.8	257.7	263.6	270.0	277.0	284.0	291.0	297.9	302.4
65°	211.5	217.8	224.0	230.4	236.6	243.3	250.3	257.3	264.4	271.5	276.3
67.5°	182.7	189.4	196.0	202.6	209.2	216.1	223.4	230.5	237.7	244.9	250.2
70°	162.5	169.4	176.3	183.1	190.0	197.4	205.0	212.7	220.5	228.2	233.3
72.5°	143.9	150.9	157.8	164.7	171.5	179.0	186.9	194.9	202.8	210.8	216.1
75°	114.8	122.3	129.9	137.4	145.0	152.8	160.8	168.8	176.8	184.8	190.1
77.5°	89.4	97.0	104.6	112.2	119.8	127.6	135.7	143.8	151.9	160.0	165.6
80°	71.4	79.4	87.2	95.1	102.9	111.0	119.3	127.7	136.1	144.4	149.9
82.5°	55.9	63.9	71.8	79.8	87.8	96.0	104.5	113.0	121.5	130.0	135.4
85°	35.3	43.4	51.5	59.5	67.5	75.7	84.3	92.7	101.2	109.7	115.2
87.5°	19.3	27.6	35.9	44.2	52.6	61.0	69.6	78.1	86.7	95.4	100.9
90°	10.1	19.5	28.9	38.4	47.8	57.6	67.8	77.9	88.1	98.4	104.4
92.5°	25.7	33.9	42.0	50.1	58.3	67.0	76.3	85.4	94.6	103.9	109.6
95°	49.2	56.6	63.9	71.3	78.6	86.8	96.0	105.0	114.1	123.3	128.8
97.5°	80.4	86.8	93.3	99.7	106.2	113.7	122.1	130.4	138.8	147.3	152.8
100°	101.6	107.7	113.8	119.8	125.9	133.0	141.2	149.3	157.5	165.7	170.8
102.5°	126.2	131.4	136.6	141.8	146.9	153.7	162.0	170.2	178.5	186.8	191.8
105°	163.2	167.3	171.5	175.7	179.8	186.1	194.4	202.6	210.9	219.2	223.8
107.5°	205.4	208.9	212.4	215.7	219.2	224.5	231.7	238.7	245.8	253.0	257.8
110°	231.7	234.9	238.1	241.3	244.5	249.5	256.2	262.9	269.7	276.4	281.2



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	259.7	262.2	264.8	267.4	269.9	274.3	280.5	286.7	293.0	299.3	304.0
115°	301.0	303.3	305.8	308.1	310.5	314.4	319.9	325.4	330.8	336.3	340.3
117.5°	343.1	344.6	346.0	347.5	349.0	352.3	357.3	362.3	367.4	372.4	376.2
120°	368.8	370.5	372.2	374.0	375.7	378.8	383.3	387.9	392.4	396.9	400.5
122.5°	396.2	397.3	398.4	399.5	400.6	403.5	408.1	412.7	417.4	422.0	425.2
125°	437.3	437.8	438.3	438.8	439.2	441.6	445.9	450.3	454.6	458.9	461.7
127.5°	475.9	476.7	477.6	478.4	479.3	481.5	484.9	488.4	492.0	495.5	497.8
130°	501.7	502.8	503.9	504.9	506.1	507.9	510.7	513.4	516.1	518.9	521.3
132.5°	526.9	528.0	529.2	530.5	531.7	533.4	535.6	537.8	540.1	542.3	544.5
135°	566.0	566.8	567.6	568.4	569.1	570.3	571.9	573.5	575.1	576.7	579.0
137.5°	602.3	602.9	603.5	604.2	604.8	605.9	607.3	608.7	610.1	611.4	613.3
140°	626.9	627.6	628.4	629.1	630.0	630.7	631.3	632.0	632.5	633.2	635.5
142.5°	649.8	650.4	651.1	651.8	652.4	652.9	653.3	653.7	654.0	654.4	656.4
145°	685.6	685.8	685.9	686.1	686.3	686.5	687.0	687.5	688.0	688.4	689.6
147.5°	716.2	716.8	717.4	717.9	718.5	719.0	719.4	719.8	720.3	720.8	721.1
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°	662.8	662.8	662.8	662.8	662.8	662.8	662.8	662.8
2.5°	661.4	662.4	663.5	663.9	663.7	663.6	663.5	663.4
5°	660.3	661.6	662.9	663.5	663.3	663.1	663.0	662.8
7.5°	656.3	657.9	659.6	660.3	660.1	659.9	659.7	659.5
10°	652.3	653.9	655.5	656.1	655.8	655.5	655.2	654.9
12.5°	646.9	648.3	649.8	650.4	650.1	649.7	649.4	649.1
15°	636.4	638.0	639.6	640.4	640.2	640.0	639.9	639.7
17.5°	622.8	624.2	625.7	626.3	626.0	625.8	625.7	625.4
20°	613.0	614.4	615.9	616.7	616.8	617.0	617.2	617.3
22.5°	602.2	604.1	605.9	606.7	606.6	606.5	606.4	606.3
25°	583.9	586.1	588.1	589.2	589.2	589.2	589.2	589.2
27.5°	564.9	566.7	568.4	569.5	569.6	569.7	569.9	570.0
30°	551.9	553.7	555.7	556.7	556.7	556.7	556.7	556.7
32.5°	537.6	539.7	541.8	543.0	543.4	543.8	544.1	544.5
35°	516.7	519.2	521.5	523.0	523.7	524.3	525.0	525.7
37.5°	494.9	497.7	500.4	502.1	502.6	503.0	503.6	504.1
40°	480.5	483.2	486.0	487.7	488.3	489.0	489.6	490.2
42.5°	465.4	468.4	471.5	473.3	474.3	475.1	476.1	476.9
45°	442.9	445.9	449.0	451.2	452.4	453.7	455.1	456.3
47.5°	420.2	423.6	427.0	429.2	430.2	431.2	432.3	433.2
50°	404.4	408.2	411.9	414.2	415.4	416.5	417.6	418.8
52.5°	388.6	392.4	396.2	398.8	400.2	401.5	402.9	404.4
55°	364.6	368.9	373.2	376.1	377.4	378.6	379.9	381.3
57.5°	340.2	344.5	348.8	351.8	353.3	354.8	356.3	357.8
60°	323.1	327.5	332.1	335.2	337.0	338.7	340.4	342.2
62.5°	306.9	311.4	315.8	319.0	320.6	322.2	323.9	325.5
65°	281.1	285.9	290.8	294.0	295.6	297.2	298.8	300.4
67.5°	255.4	260.7	266.0	269.3	270.6	271.9	273.3	274.7
70°	238.5	243.6	248.7	252.0	253.6	255.2	256.8	258.4
72.5°	221.3	226.6	231.9	235.4	237.0	238.6	240.2	241.8
75°	195.4	200.8	206.0	209.6	211.5	213.5	215.4	217.4
77.5°	171.2	176.7	182.3	185.9	187.4	188.8	190.3	191.8
80°	155.3	160.8	166.3	169.8	171.4	173.0	174.6	176.2
82.5°	140.9	146.3	151.7	155.3	156.9	158.5	160.1	161.7
85°	120.6	126.1	131.6	135.1	136.7	138.3	139.9	141.5
87.5°	106.5	112.1	117.6	121.3	122.9	124.6	126.3	127.9
90°	110.6	116.6	122.7	126.7	128.6	130.5	132.4	134.3
92.5°	115.5	121.3	127.1	130.7	132.0	133.3	134.6	135.8
95°	134.4	140.1	145.6	149.2	150.8	152.4	154.0	155.6
97.5°	158.3	163.8	169.3	172.8	174.4	175.9	177.4	179.0
100°	175.9	181.0	186.2	189.6	191.5	193.5	195.4	197.3
102.5°	196.8	201.8	206.8	210.0	211.6	213.1	214.7	216.2
105°	228.3	232.7	237.2	240.3	242.1	243.8	245.6	247.3
107.5°	262.6	267.3	272.1	275.1	276.4	277.6	278.8	280.0
110°	286.0	290.8	295.6	298.4	299.4	300.4	301.3	302.4



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	308.8	313.6	318.4	321.4	322.8	324.1	325.5	326.9
115°	344.3	348.3	352.3	354.9	356.0	357.1	358.3	359.4
117.5°	379.9	383.7	387.5	389.8	390.7	391.4	392.3	393.1
120°	404.0	407.6	411.0	413.2	414.1	414.8	415.7	416.5
122.5°	428.3	431.5	434.6	436.6	437.2	437.9	438.7	439.3
125°	464.5	467.2	470.0	471.6	472.0	472.6	473.1	473.5
127.5°	500.1	502.4	504.7	506.1	506.4	506.8	507.2	507.6
130°	523.8	526.1	528.6	529.7	529.6	529.5	529.3	529.2
132.5°	546.7	548.8	551.0	552.2	552.4	552.7	553.0	553.2
135°	581.3	583.5	585.8	587.2	587.7	588.1	588.6	589.2
137.5°	615.2	617.1	619.0	620.0	620.3	620.5	620.7	620.9
140°	637.7	640.0	642.2	643.2	642.9	642.6	642.3	642.1
142.5°	658.4	660.4	662.4	663.4	663.4	663.3	663.3	663.3
145°	690.7	691.8	693.0	693.5	693.5	693.5	693.5	693.5
147.5°	721.5	721.9	722.3	722.3	721.9	721.6	721.2	720.9
150°	740.8	740.8	740.8	740.6	740.0	739.3	738.8	738.1
152.5°	759.3	759.5	759.8	759.5	758.7	758.0	757.3	756.6
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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