

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: P331504-840

Luminaire Tested: **S122DIW-S485D710U840-4F0-1E-UDD-D1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331504-840
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-8,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S122DIW-S485D710U840-4F0-1E-UDD-D1
Description: DEFINE 2 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 485 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 710 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4472.0 lumens
Efficiency: N/A
Efficacy: 118.9 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.32 / 1.42
Luminous Opening: Rectangular w/ Sides (W: 0.17' x L: 4' x H: 0.08')
CIE Type: Semi-Indirect

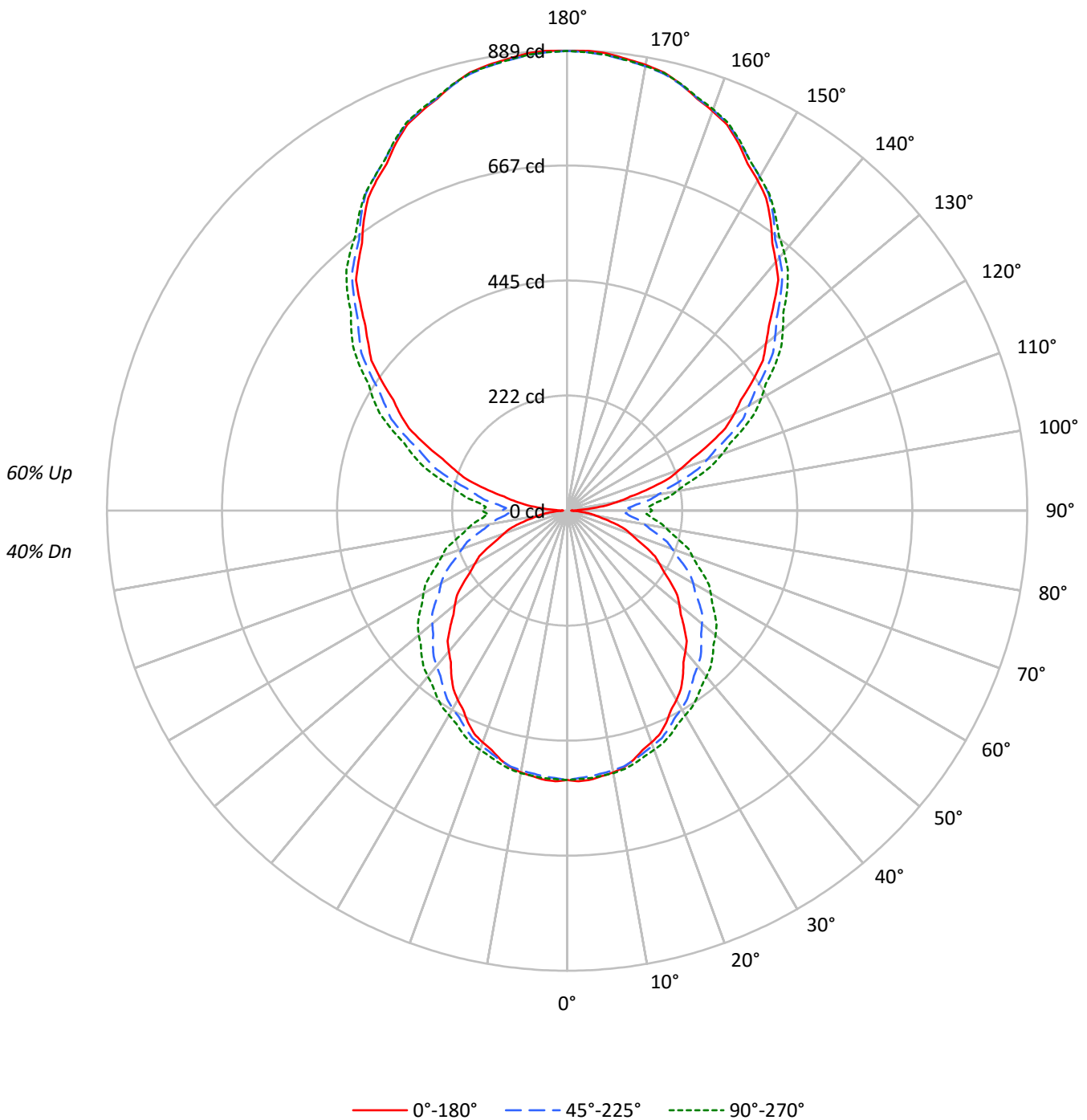
Input Watts (W): 37.6
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	105	105	105	105	95	95	95	95	78	78	78	61	61	61	46	46	46	40
1	94	89	85	81	85	81	78	74	66	63	61	52	50	49	39	38	37	31
2	85	77	71	65	77	70	65	60	57	53	50	45	42	40	34	32	30	25
3	77	68	60	54	70	62	55	50	50	45	41	39	36	33	30	27	25	21
4	71	60	51	45	64	54	47	42	44	39	35	35	31	28	26	23	21	17
5	65	53	44	38	58	48	41	35	39	34	30	31	27	24	23	21	18	15
6	59	47	39	33	54	43	36	30	35	30	26	28	24	21	21	18	16	13
7	55	42	34	29	50	39	32	27	32	26	22	25	21	18	19	16	14	11
8	51	38	31	25	46	35	28	23	29	24	20	23	19	16	18	15	13	10
9	47	35	27	22	43	32	25	21	26	21	17	21	17	14	16	13	11	9
10	44	32	25	20	40	29	23	18	24	19	16	20	16	13	15	12	10	8

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	8402	8402	8402
5°	8443	8088	8058
10°	8390	7850	7761
15°	8275	7596	7448
20°	8129	7324	7148
25°	7984	7062	6875
30°	7780	6794	6601
35°	7575	6536	6409
40°	7360	6315	6215
45°	7153	6118	6051
50°	6934	5937	5888
55°	6700	5744	5722
60°	6417	5546	5546
65°	6122	5313	5339
70°	5796	5061	5115
75°	5371	4816	4908
80°	4707	4564	4698
85°	4070	4346	4535



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	49.3	1.1
10°-20°	141.4	3.2
20°-30°	214.3	4.8
30°-40°	261.0	5.8
40°-50°	280.8	6.3
50°-60°	272.7	6.1
60°-70°	238.1	5.3
70°-80°	183.3	4.1
80°-90°	126.6	2.8
90°-100°	141.0	3.2
100°-110°	236.6	5.3
110°-120°	339.6	7.6
120°-130°	415.7	9.3
130°-140°	450.5	10.1
140°-150°	434.0	9.7
150°-160°	362.6	8.1
160°-170°	240.5	5.4
170°-180°	84.1	1.9
0°-30°	405.0	9.1
0°-40°	666.0	14.9
0°-60°	1219.4	27.3
0°-90°	1767.4	39.5
90°-120°	717.3	16.0
90°-150°	2017.4	45.1
90°-180°	2705.0	60.5
0°-180°	4472.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	520	520	520	520	520	
5°	522	520	515	519	519	49
15°	498	499	499	506	505	140
25°	452	458	464	473	476	208
35°	390	403	417	433	439	244
45°	320	340	367	389	398	247
55°	245	273	311	338	348	219
65°	167	205	249	279	290	166
75°	93	135	183	214	226	98
85°	27	74	122	153	164	29
90°	8	62	126	153	164	7
95°	45	88	135	162	171	49
105°	165	190	230	256	266	174
115°	303	317	348	369	376	299
125°	438	445	466	484	490	391
135°	565	573	582	597	601	437
145°	685	690	695	700	701	428
155°	783	785	788	791	789	360
165°	852	851	851	856	853	240
175°	886	884	883	888	884	84
180°	888	888	888	888	888	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	520.4	520.4	520.4	520.4	520.4	520.4	520.4	520.4	520.4	520.4	520.4
2.5°	523.4	523.0	522.6	522.2	521.8	521.1	520.2	519.3	518.4	517.4	518.1
5°	521.9	521.4	520.9	520.4	519.9	519.2	518.2	517.2	516.1	515.1	516.1
7.5°	517.3	516.8	516.5	516.2	515.9	515.3	514.5	513.8	513.0	512.2	513.4
10°	513.6	513.3	512.9	512.6	512.3	511.9	511.4	510.9	510.4	509.9	511.2
12.5°	507.6	507.7	507.8	507.8	507.9	507.7	507.4	507.0	506.5	506.2	507.6
15°	497.8	498.1	498.5	498.8	499.1	499.3	499.3	499.3	499.3	499.3	500.8
17.5°	485.1	485.8	486.6	487.3	488.0	488.6	489.1	489.6	490.2	490.7	492.2
20°	476.7	477.5	478.4	479.2	480.0	480.8	481.4	482.1	482.8	483.4	485.2
22.5°	467.6	468.6	469.6	470.5	471.5	472.4	473.4	474.3	475.2	476.3	478.1
25°	452.5	453.7	454.8	456.1	457.2	458.6	460.1	461.6	463.1	464.5	466.6
27.5°	434.4	436.4	438.3	440.2	442.0	443.9	445.7	447.5	449.2	451.0	453.5
30°	422.3	424.5	426.7	428.9	431.1	433.2	435.5	437.6	439.8	441.9	444.6
32.5°	409.1	411.5	413.9	416.5	418.9	421.4	423.9	426.6	429.1	431.7	434.7
35°	389.9	392.7	395.7	398.5	401.3	404.3	407.5	410.7	413.8	417.1	420.7
37.5°	369.1	372.4	375.7	379.0	382.2	386.0	390.1	394.2	398.3	402.4	406.6
40°	355.3	358.9	362.6	366.3	370.0	374.1	378.6	383.1	387.7	392.2	396.6
42.5°	341.9	345.7	349.3	353.0	356.7	361.1	366.4	371.5	376.8	381.9	386.7
45°	319.8	324.3	328.8	333.4	337.9	343.1	348.9	354.8	360.7	366.6	371.7
47.5°	297.9	302.9	307.8	312.7	317.6	323.6	330.4	337.3	344.2	351.0	356.5
50°	282.9	288.0	293.3	298.4	303.6	309.9	317.5	325.1	332.6	340.1	345.9
52.5°	268.3	273.8	279.2	284.8	290.2	296.9	304.9	312.8	320.7	328.7	334.5
55°	245.1	251.2	257.2	263.2	269.2	276.6	285.4	294.1	302.8	311.4	317.5
57.5°	222.2	229.0	235.8	242.6	249.4	257.2	266.1	275.0	283.9	292.8	299.3
60°	205.9	213.1	220.4	227.5	234.7	243.1	252.7	262.2	271.8	281.3	287.7
62.5°	191.4	198.8	206.4	213.9	221.4	229.8	239.3	248.9	258.5	268.0	274.8
65°	167.4	175.6	183.9	192.1	200.3	209.3	219.2	229.1	239.0	248.9	255.8
67.5°	145.4	154.0	162.6	171.2	179.8	189.0	199.2	209.3	219.4	229.5	236.5
70°	129.8	138.5	147.1	155.8	164.6	174.1	184.5	194.9	205.3	215.7	222.9
72.5°	115.2	124.2	133.2	142.2	151.2	161.0	171.5	182.0	192.5	203.0	210.2
75°	92.8	102.2	111.5	120.9	130.3	140.4	151.1	161.8	172.6	183.3	190.5
77.5°	71.1	80.9	90.7	100.5	110.4	120.7	131.6	142.5	153.4	164.3	171.5
80°	56.6	66.8	77.1	87.3	97.5	108.1	119.0	129.8	140.7	151.6	158.6
82.5°	44.5	54.6	64.6	74.7	84.8	95.4	106.4	117.4	128.5	139.6	146.5
85°	27.2	37.6	48.0	58.4	68.7	79.3	90.0	100.7	111.5	122.2	129.3
87.5°	14.9	25.3	35.7	46.0	56.5	67.5	78.9	90.3	101.8	113.2	120.0
90°	8.3	20.0	31.7	43.4	55.1	68.3	82.6	97.0	111.4	125.8	132.2
92.5°	20.3	30.8	41.3	51.8	62.3	73.2	84.4	95.5	106.7	118.0	124.6
95°	45.0	54.5	64.1	73.6	83.2	93.1	103.5	113.9	124.3	134.7	141.1
97.5°	76.4	84.9	93.4	101.9	110.4	119.8	130.0	140.3	150.6	160.9	167.0
100°	100.5	108.0	115.5	123.0	130.6	139.3	149.2	159.1	169.0	178.8	185.0
102.5°	125.0	131.8	138.5	145.2	152.0	160.2	170.0	179.7	189.5	199.1	205.4
105°	164.9	170.3	175.6	181.0	186.3	193.5	202.6	211.7	220.7	229.7	235.9
107.5°	205.8	210.5	215.0	219.6	224.3	230.8	239.1	247.4	255.8	264.2	269.9
110°	231.6	235.9	240.2	244.6	248.9	255.3	263.5	271.7	279.9	288.1	293.5



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	260.3	264.2	268.0	271.8	275.6	281.3	289.0	296.7	304.4	312.0	317.0
115°	302.8	305.6	308.4	311.3	314.2	319.1	326.4	333.6	340.8	348.0	352.8
117.5°	344.3	346.8	349.3	351.9	354.5	358.7	364.8	370.8	376.9	382.8	387.5
120°	372.4	374.5	376.5	378.5	380.4	384.2	389.5	394.9	400.3	405.7	410.3
122.5°	398.2	400.1	401.9	403.8	405.7	409.3	414.7	420.1	425.5	430.8	434.9
125°	437.7	439.2	440.6	442.1	443.6	446.9	451.7	456.6	461.4	466.3	470.3
127.5°	476.8	478.5	480.2	481.9	483.7	486.5	490.1	493.8	497.6	501.3	504.8
130°	501.3	503.3	505.3	507.4	509.4	511.9	515.1	518.3	521.5	524.6	528.4
132.5°	528.9	530.5	532.1	533.7	535.3	537.5	540.3	543.1	545.8	548.7	551.8
135°	565.0	566.8	568.7	570.6	572.4	574.3	576.3	578.2	580.3	582.3	585.6
137.5°	603.8	605.3	606.8	608.2	609.8	611.1	612.2	613.4	614.5	615.7	618.6
140°	627.2	628.5	629.9	631.3	632.6	633.8	635.0	636.1	637.3	638.4	641.2
142.5°	651.2	652.6	653.9	655.2	656.5	657.5	658.1	658.7	659.4	660.0	662.4
145°	684.9	686.1	687.2	688.4	689.6	690.6	691.7	692.7	693.7	694.7	695.8
147.5°	715.7	717.0	718.4	719.8	721.2	722.3	723.0	723.6	724.3	725.0	725.5
150°	736.6	737.6	738.6	739.6	740.6	741.4	742.1	742.8	743.5	744.2	744.7
152.5°	755.2	756.2	757.2	758.2	759.2	760.1	760.9	761.7	762.5	763.4	764.0
155°	783.0	783.6	784.1	784.6	785.1	785.6	786.1	786.6	787.1	787.6	788.4
157.5°	806.9	807.3	807.6	807.9	808.3	808.6	808.9	809.2	809.5	809.8	810.9
160°	821.3	821.6	821.9	822.3	822.6	822.9	823.0	823.2	823.3	823.5	824.6
162.5°	834.5	834.6	834.7	834.7	834.8	834.9	835.1	835.3	835.4	835.6	836.7
165°	852.0	851.8	851.7	851.5	851.4	851.3	851.3	851.3	851.3	851.3	852.4
167.5°	866.8	866.3	865.8	865.3	864.7	864.4	864.4	864.3	864.3	864.3	865.5
170°	874.5	874.0	873.5	873.0	872.5	872.2	872.0	871.8	871.7	871.5	872.7
172.5°	879.9	879.4	878.9	878.4	877.9	877.6	877.4	877.3	877.1	876.9	878.1
175°	886.5	886.1	885.6	885.0	884.5	884.1	883.7	883.4	883.1	882.7	883.9
177.5°	889.2	888.8	888.4	888.0	887.6	887.3	887.0	886.8	886.5	886.2	887.0
180°	888.0	888.0	888.0	888.0	888.0	888.0	888.0	888.0	888.0	888.0	888.0



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	520.4	520.4	520.4	520.4	520.4	520.4	520.4	520.4
2.5°	518.8	519.4	520.1	520.3	520.0	519.8	519.5	519.2
5°	517.2	518.2	519.2	519.6	519.4	519.3	519.1	518.9
7.5°	514.6	515.8	517.1	517.6	517.5	517.3	517.1	516.9
10°	512.5	513.8	515.2	515.8	515.6	515.4	515.3	515.1
12.5°	508.9	510.3	511.6	512.2	512.0	511.8	511.7	511.5
15°	502.3	503.8	505.3	505.9	505.8	505.6	505.4	505.3
17.5°	493.8	495.4	497.0	497.8	497.8	497.8	497.8	497.8
20°	487.2	489.0	490.8	491.7	491.7	491.7	491.7	491.7
22.5°	479.9	481.7	483.6	484.6	484.9	485.1	485.4	485.7
25°	468.6	470.6	472.6	473.9	474.4	474.9	475.4	475.9
27.5°	456.2	458.7	461.2	462.6	463.0	463.4	463.7	464.1
30°	447.4	450.0	452.7	454.2	454.7	455.2	455.8	456.3
32.5°	437.9	440.9	444.0	446.1	447.0	447.9	448.8	449.7
35°	424.4	428.2	431.8	434.2	435.5	436.6	437.8	439.0
37.5°	410.6	414.8	418.8	421.4	422.7	423.9	425.2	426.5
40°	400.9	405.3	409.6	412.5	414.0	415.6	417.1	418.6
42.5°	391.4	396.2	400.9	404.1	405.6	407.1	408.6	410.1
45°	377.0	382.1	387.3	390.7	392.4	394.2	395.8	397.5
47.5°	361.8	367.3	372.7	376.4	378.2	380.0	381.9	383.7
50°	351.5	357.2	362.9	366.7	368.6	370.4	372.2	374.1
52.5°	340.3	346.2	352.0	355.9	357.9	359.9	361.8	363.9
55°	323.6	329.6	335.6	339.7	341.9	344.1	346.3	348.4
57.5°	305.8	312.3	318.8	323.2	325.4	327.6	329.8	332.0
60°	294.1	300.4	306.8	311.1	313.5	315.9	318.2	320.5
62.5°	281.6	288.3	295.1	299.6	301.8	304.1	306.3	308.5
65°	262.7	269.5	276.4	280.9	283.1	285.3	287.4	289.6
67.5°	243.5	250.3	257.3	262.0	264.2	266.5	268.8	271.0
70°	230.1	237.3	244.5	249.1	251.2	253.2	255.2	257.2
72.5°	217.2	224.3	231.4	236.1	238.4	240.9	243.3	245.7
75°	197.7	204.9	212.1	216.8	218.9	221.2	223.3	225.5
77.5°	178.6	185.8	193.0	197.7	200.1	202.4	204.8	207.1
80°	165.7	172.7	179.8	184.4	186.8	189.1	191.5	193.8
82.5°	153.6	160.7	167.6	172.3	174.5	176.7	178.9	181.2
85°	136.2	143.3	150.4	155.0	157.3	159.8	162.1	164.4
87.5°	126.8	133.6	140.4	144.8	147.0	149.2	151.4	153.5
90°	138.6	144.9	151.3	155.5	157.7	159.9	162.1	164.2
92.5°	131.2	137.8	144.5	148.9	150.9	152.9	155.0	157.0
95°	147.4	153.8	160.2	164.2	165.8	167.5	169.3	170.9
97.5°	173.3	179.5	185.7	189.8	191.7	193.7	195.6	197.5
100°	191.3	197.4	203.6	207.5	209.2	211.0	212.6	214.3
102.5°	211.6	217.8	224.0	227.9	229.6	231.3	233.0	234.6
105°	242.2	248.3	254.5	258.5	260.3	262.3	264.1	265.9
107.5°	275.7	281.4	287.2	290.6	291.8	292.8	293.9	295.0
110°	298.8	304.2	309.5	313.0	314.3	315.6	317.0	318.3



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	321.9	327.0	331.9	335.2	336.6	338.1	339.6	341.0
115°	357.7	362.5	367.5	370.5	371.9	373.2	374.6	376.0
117.5°	392.0	396.6	401.1	404.0	405.3	406.5	407.7	408.9
120°	415.1	419.7	424.4	427.5	428.8	430.1	431.4	432.8
122.5°	439.1	443.2	447.5	450.1	451.3	452.5	453.7	454.9
125°	474.3	478.4	482.4	485.0	486.4	487.8	489.1	490.4
127.5°	508.5	512.0	515.5	517.8	518.8	519.7	520.6	521.6
130°	532.0	535.7	539.5	541.6	542.3	543.0	543.6	544.3
132.5°	554.9	558.1	561.3	563.2	564.0	564.8	565.6	566.4
135°	589.1	592.4	595.7	597.8	598.6	599.5	600.4	601.2
137.5°	621.6	624.6	627.5	629.2	629.7	630.2	630.7	631.2
140°	643.8	646.5	649.2	650.8	651.1	651.4	651.8	652.1
142.5°	664.6	666.9	669.1	670.4	670.7	670.9	671.1	671.3
145°	697.0	698.2	699.3	700.0	700.2	700.3	700.5	700.7
147.5°	726.0	726.4	726.9	727.1	726.8	726.6	726.4	726.2
150°	745.1	745.6	746.1	746.1	745.6	745.1	744.7	744.2
152.5°	764.6	765.2	765.9	765.9	765.2	764.6	764.0	763.4
155°	789.2	790.1	790.9	791.1	790.6	790.1	789.6	789.1
157.5°	812.0	813.1	814.3	814.5	813.6	812.8	812.0	811.2
160°	825.6	826.6	827.6	827.7	827.1	826.4	825.8	825.1
162.5°	837.8	839.0	840.1	840.2	839.4	838.7	837.9	837.1
165°	853.6	854.7	856.0	856.2	855.3	854.4	853.6	852.8
167.5°	866.7	867.8	869.0	869.1	868.3	867.4	866.6	865.7
170°	873.8	875.0	876.2	876.3	875.3	874.2	873.2	872.2
172.5°	879.3	880.4	881.6	881.6	880.7	879.7	878.7	877.7
175°	885.0	886.3	887.5	887.5	886.5	885.6	884.5	883.5
177.5°	887.8	888.6	889.4	889.4	888.6	887.8	887.0	886.2
180°	888.0	888.0	888.0	888.0	888.0	888.0	888.0	888.0

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