

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: P332129-935

Luminaire Tested: **S123DIW-S560D755U935-4F0-1E-UDD-D1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332129-935
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-S560D755U935-4F0-1E-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: 4291.0 lumens
Efficiency: N/A
Efficacy: 114.1 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

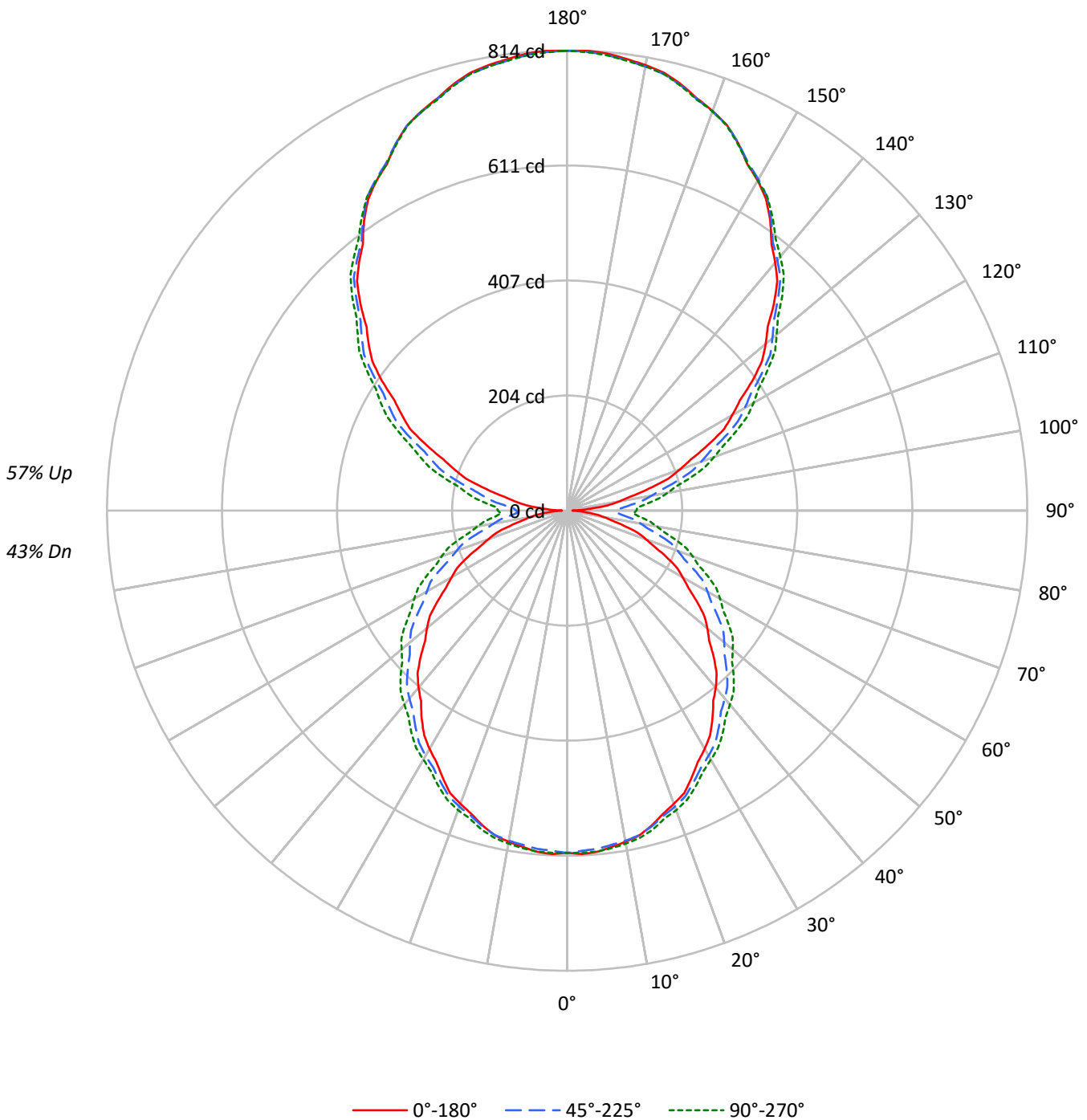
Input Watts (W): 37.6
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	6518	6518	6518
5°	6537	6352	6357
10°	6480	6207	6175
15°	6395	6040	5978
20°	6277	5850	5760
25°	6129	5632	5532
30°	5977	5436	5300
35°	5809	5228	5116
40°	5647	5038	4917
45°	5468	4857	4759
50°	5291	4678	4584
55°	5097	4494	4428
60°	4906	4308	4266
65°	4710	4109	4076
70°	4418	3885	3878
75°	4048	3629	3679
80°	3620	3378	3451
85°	3222	3204	3317



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	57.4	1.3
10°-20°	163.6	3.8
20°-30°	244.7	5.7
30°-40°	292.2	6.8
40°-50°	305.8	7.1
50°-60°	286.9	6.7
60°-70°	239.6	5.6
70°-80°	171.5	4.0
80°-90°	104.6	2.4
90°-100°	117.2	2.7
100°-110°	205.8	4.8
110°-120°	301.3	7.0
120°-130°	372.9	8.7
130°-140°	406.9	9.5
140°-150°	393.8	9.2
150°-160°	330.1	7.7
160°-170°	219.7	5.1
170°-180°	76.9	1.8
0°-30°	465.7	10.9
0°-40°	758.0	17.7
0°-60°	1350.7	31.5
0°-90°	1866.4	43.5
90°-120°	624.2	14.5
90°-150°	1797.8	41.9
90°-180°	2425.0	56.5
0°-180°	4291.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	606	606	606	606	606	
5°	606	605	601	606	606	57
15°	577	579	578	585	584	162
25°	521	527	530	538	538	240
35°	448	459	468	477	480	280
45°	367	383	399	411	417	283
55°	280	302	325	342	348	250
65°	193	219	248	267	274	191
75°	105	136	169	190	198	112
85°	32	65	100	122	129	34
90°	9	48	90	114	123	8
95°	45	76	113	135	142	48
105°	149	167	200	218	226	159
115°	275	285	307	323	328	272
125°	400	402	419	430	433	356
135°	517	520	527	536	538	398
145°	626	627	629	633	634	391
155°	716	716	717	719	715	330
165°	780	778	778	782	778	220
175°	812	809	809	812	808	77
180°	814	814	814	814	814	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	605.5	605.5	605.5	605.5	605.5	605.5	605.5	605.5	605.5	605.5	605.5
2.5°	608.1	607.8	607.4	607.0	606.7	606.1	605.1	604.2	603.2	602.3	603.2
5°	606.1	605.8	605.5	605.3	604.9	604.3	603.5	602.6	601.8	600.8	602.0
7.5°	600.2	600.2	600.3	600.4	600.5	600.0	599.2	598.3	597.4	596.6	598.1
10°	595.0	595.2	595.5	595.8	596.1	595.9	595.1	594.4	593.7	593.0	594.4
12.5°	588.6	589.0	589.4	589.8	590.2	590.2	589.7	589.2	588.7	588.1	589.5
15°	577.1	577.6	578.0	578.4	578.9	579.0	578.9	578.7	578.6	578.4	579.9
17.5°	562.6	563.4	564.4	565.2	566.1	566.5	566.5	566.4	566.4	566.3	567.6
20°	552.1	552.9	553.8	554.7	555.5	556.1	556.5	556.7	557.0	557.3	558.6
22.5°	541.0	541.8	542.7	543.6	544.5	545.1	545.5	546.0	546.4	546.7	548.5
25°	521.1	522.5	524.0	525.5	526.9	527.9	528.3	528.7	529.2	529.6	531.5
27.5°	501.0	502.7	504.4	506.0	507.6	508.9	509.9	510.8	511.8	512.7	514.4
30°	486.7	488.6	490.5	492.5	494.4	495.9	497.1	498.3	499.4	500.6	502.4
32.5°	470.9	473.0	475.2	477.3	479.5	481.3	482.8	484.3	485.9	487.4	489.3
35°	448.5	450.8	453.1	455.6	457.9	460.0	461.9	463.8	465.7	467.6	469.8
37.5°	424.7	427.4	430.0	432.7	435.3	437.8	440.1	442.5	444.8	447.2	449.7
40°	408.9	411.6	414.2	416.8	419.5	422.2	425.2	428.1	431.0	433.9	436.4
42.5°	391.5	394.8	398.0	401.1	404.4	407.5	410.6	413.6	416.7	419.7	422.5
45°	366.7	370.2	373.8	377.3	380.7	384.4	388.1	391.7	395.4	399.0	401.8
47.5°	340.7	344.7	348.7	352.7	356.6	360.8	365.0	369.1	373.3	377.5	380.6
50°	323.8	328.0	332.0	336.1	340.3	344.6	349.1	353.7	358.2	362.7	366.1
52.5°	305.9	310.2	314.6	318.9	323.2	328.0	332.9	337.9	342.9	348.0	351.5
55°	279.7	284.5	289.3	294.1	299.0	304.0	309.4	314.6	319.9	325.1	329.1
57.5°	254.1	259.1	264.2	269.1	274.2	279.7	285.4	291.2	297.0	302.7	306.7
60°	236.1	241.4	246.7	251.9	257.2	262.9	268.9	274.9	280.9	286.9	291.0
62.5°	219.2	224.6	230.1	235.4	240.8	246.7	253.0	259.4	265.8	272.2	276.2
65°	193.2	199.0	204.7	210.4	216.1	222.2	228.7	235.1	241.5	248.0	252.4
67.5°	166.9	173.0	179.0	185.0	191.1	197.4	204.1	210.6	217.1	223.7	228.5
70°	148.4	154.7	161.0	167.3	173.6	180.3	187.3	194.3	201.4	208.4	213.1
72.5°	131.5	137.8	144.1	150.4	156.7	163.5	170.7	178.1	185.3	192.6	197.4
75°	104.9	111.8	118.6	125.5	132.4	139.6	146.9	154.2	161.5	168.8	173.7
77.5°	81.6	88.6	95.6	102.5	109.4	116.6	124.0	131.4	138.8	146.2	151.3
80°	65.3	72.5	79.6	86.9	94.0	101.4	109.0	116.7	124.3	131.9	136.9
82.5°	51.1	58.4	65.6	72.9	80.2	87.7	95.5	103.2	111.0	118.7	123.7
85°	32.3	39.6	47.0	54.3	61.6	69.1	77.0	84.7	92.5	100.2	105.2
87.5°	17.7	25.2	32.8	40.4	48.0	55.7	63.5	71.4	79.2	87.1	92.2
90°	9.2	17.8	26.4	35.0	43.7	52.6	61.9	71.2	80.5	89.9	95.4
92.5°	23.5	31.0	38.4	45.8	53.3	61.2	69.7	78.0	86.4	94.9	100.1
95°	44.9	51.7	58.4	65.1	71.8	79.3	87.6	95.9	104.3	112.6	117.7
97.5°	73.4	79.3	85.2	91.1	97.0	103.8	111.5	119.2	126.8	134.6	139.6
100°	92.8	98.4	103.9	109.4	115.0	121.5	129.0	136.4	143.9	151.4	156.0
102.5°	115.3	120.0	124.8	129.5	134.2	140.4	148.0	155.5	163.1	170.7	175.2
105°	149.0	152.8	156.7	160.5	164.3	170.0	177.5	185.1	192.7	200.3	204.4
107.5°	187.6	190.8	194.0	197.1	200.3	205.1	211.6	218.1	224.5	231.1	235.5
110°	211.6	214.6	217.5	220.4	223.3	227.9	234.0	240.1	246.3	252.4	256.8



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	237.2	239.5	241.9	244.3	246.6	250.6	256.2	261.9	267.7	273.4	277.7
115°	274.9	277.1	279.3	281.5	283.6	287.2	292.2	297.2	302.2	307.2	310.8
117.5°	313.4	314.8	316.1	317.5	318.8	321.8	326.4	331.0	335.6	340.2	343.6
120°	336.9	338.5	340.0	341.6	343.2	346.0	350.2	354.3	358.4	362.6	365.8
122.5°	362.0	362.9	363.9	365.0	365.9	368.6	372.8	377.0	381.3	385.5	388.4
125°	399.5	399.9	400.4	400.8	401.2	403.4	407.3	411.3	415.3	419.2	421.7
127.5°	434.7	435.5	436.3	437.0	437.8	439.8	443.0	446.2	449.4	452.6	454.7
130°	458.3	459.3	460.3	461.2	462.3	464.0	466.5	469.0	471.5	474.0	476.2
132.5°	481.3	482.3	483.5	484.6	485.7	487.2	489.3	491.3	493.4	495.4	497.4
135°	517.0	517.7	518.5	519.2	519.9	521.0	522.5	523.9	525.4	526.8	528.9
137.5°	550.2	550.8	551.3	551.9	552.5	553.5	554.7	556.0	557.3	558.5	560.3
140°	572.7	573.3	574.0	574.7	575.5	576.1	576.7	577.3	577.8	578.4	580.5
142.5°	593.6	594.2	594.8	595.4	596.0	596.4	596.8	597.1	597.4	597.8	599.6
145°	626.3	626.5	626.5	626.7	626.9	627.2	627.6	628.0	628.4	628.9	629.9
147.5°	654.3	654.8	655.3	655.8	656.3	656.8	657.2	657.5	658.0	658.4	658.8
150°	674.2	674.5	674.8	675.1	675.4	675.6	675.9	676.2	676.5	676.7	676.7
152.5°	690.6	691.0	691.4	691.8	692.2	692.4	692.6	692.8	692.9	693.1	693.4
155°	716.4	716.4	716.4	716.4	716.4	716.4	716.6	716.8	716.9	717.0	717.6
157.5°	738.4	738.2	738.0	737.9	737.7	737.7	737.8	737.9	738.0	738.1	738.7
160°	752.2	751.9	751.7	751.3	751.1	750.9	750.9	750.9	750.9	750.9	751.7
162.5°	764.5	764.1	763.6	763.3	762.8	762.8	762.8	762.9	763.1	763.2	763.9
165°	780.3	779.9	779.5	779.0	778.6	778.3	778.3	778.3	778.3	778.3	779.2
167.5°	793.0	792.4	791.9	791.3	790.7	790.5	790.6	790.7	790.8	790.9	791.8
170°	800.1	799.5	799.0	798.4	797.8	797.5	797.5	797.5	797.5	797.5	798.6
172.5°	805.7	805.2	804.6	804.0	803.5	803.1	803.1	803.1	803.1	803.1	804.1
175°	811.6	811.1	810.5	809.9	809.3	809.1	809.1	809.1	809.1	809.1	809.9
177.5°	814.1	813.6	813.1	812.7	812.3	812.0	812.0	812.0	812.0	812.0	812.7
180°	813.6	813.6	813.6	813.6	813.6	813.6	813.6	813.6	813.6	813.6	813.6



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	605.5	605.5	605.5	605.5	605.5	605.5	605.5	605.5
2.5°	604.2	605.1	606.1	606.5	606.3	606.2	606.1	606.0
5°	603.2	604.3	605.5	606.1	605.9	605.7	605.6	605.5
7.5°	599.5	601.0	602.5	603.1	603.0	602.8	602.6	602.4
10°	595.9	597.4	598.8	599.3	599.1	598.8	598.5	598.2
12.5°	590.9	592.2	593.6	594.1	593.8	593.5	593.2	593.0
15°	581.3	582.8	584.3	585.0	584.8	584.6	584.5	584.4
17.5°	568.9	570.2	571.5	572.1	571.9	571.7	571.5	571.3
20°	560.0	561.3	562.6	563.4	563.4	563.6	563.8	563.9
22.5°	550.1	551.8	553.5	554.2	554.1	554.1	554.0	553.9
25°	533.4	535.4	537.3	538.2	538.2	538.2	538.2	538.2
27.5°	516.0	517.6	519.3	520.2	520.3	520.4	520.6	520.6
30°	504.1	505.8	507.6	508.5	508.5	508.5	508.5	508.5
32.5°	491.1	493.0	494.9	496.0	496.4	496.7	497.1	497.4
35°	472.0	474.2	476.4	477.8	478.4	479.0	479.6	480.2
37.5°	452.1	454.6	457.1	458.7	459.1	459.5	460.0	460.5
40°	438.9	441.4	443.9	445.5	446.1	446.7	447.2	447.8
42.5°	425.2	427.9	430.7	432.4	433.3	434.0	434.9	435.7
45°	404.6	407.3	410.2	412.2	413.3	414.5	415.7	416.8
47.5°	383.8	386.9	390.0	392.1	393.0	393.9	394.9	395.7
50°	369.5	372.9	376.3	378.4	379.4	380.5	381.5	382.5
52.5°	355.0	358.4	362.0	364.3	365.6	366.8	368.1	369.4
55°	333.0	337.0	341.0	343.5	344.7	345.9	347.1	348.3
57.5°	310.7	314.7	318.7	321.3	322.7	324.1	325.5	326.8
60°	295.2	299.2	303.3	306.2	307.8	309.4	311.0	312.6
62.5°	280.3	284.5	288.5	291.4	292.8	294.3	295.8	297.3
65°	256.8	261.1	265.6	268.5	270.0	271.5	272.9	274.4
67.5°	233.3	238.2	243.0	246.0	247.2	248.4	249.7	250.9
70°	217.8	222.5	227.2	230.2	231.7	233.2	234.6	236.1
72.5°	202.2	207.0	211.8	215.0	216.5	217.9	219.4	220.8
75°	178.5	183.4	188.2	191.5	193.2	195.0	196.7	198.5
77.5°	156.4	161.4	166.5	169.8	171.2	172.5	173.8	175.2
80°	141.9	146.9	151.9	155.1	156.5	158.0	159.5	160.9
82.5°	128.7	133.6	138.6	141.9	143.4	144.8	146.3	147.7
85°	110.2	115.2	120.2	123.4	124.8	126.3	127.8	129.2
87.5°	97.3	102.4	107.5	110.8	112.3	113.8	115.4	116.8
90°	101.0	106.5	112.1	115.7	117.4	119.2	121.0	122.7
92.5°	105.5	110.8	116.1	119.4	120.5	121.7	123.0	124.1
95°	122.8	127.9	133.0	136.3	137.8	139.2	140.7	142.2
97.5°	144.6	149.6	154.6	157.8	159.3	160.7	162.0	163.5
100°	160.7	165.3	170.0	173.2	175.0	176.8	178.5	180.2
102.5°	179.8	184.3	188.9	191.8	193.3	194.7	196.1	197.5
105°	208.5	212.6	216.7	219.6	221.2	222.7	224.4	225.9
107.5°	239.9	244.2	248.6	251.3	252.4	253.6	254.7	255.8
110°	261.2	265.6	270.0	272.6	273.5	274.4	275.3	276.2



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	282.1	286.5	290.8	293.6	294.9	296.1	297.3	298.6
115°	314.5	318.1	321.8	324.2	325.2	326.2	327.3	328.3
117.5°	347.1	350.5	354.0	356.1	356.9	357.6	358.3	359.1
120°	369.0	372.3	375.5	377.5	378.2	378.9	379.7	380.5
122.5°	391.2	394.2	397.0	398.8	399.4	400.0	400.7	401.3
125°	424.3	426.8	429.3	430.8	431.2	431.7	432.1	432.6
127.5°	456.8	458.9	461.1	462.3	462.6	463.0	463.3	463.6
130°	478.5	480.6	482.8	483.9	483.8	483.7	483.5	483.5
132.5°	499.4	501.4	503.3	504.5	504.6	504.9	505.1	505.3
135°	531.0	533.0	535.1	536.4	536.8	537.3	537.7	538.2
137.5°	562.0	563.7	565.4	566.4	566.6	566.8	567.0	567.1
140°	582.6	584.6	586.7	587.5	587.3	587.0	586.8	586.5
142.5°	601.4	603.3	605.1	606.0	606.0	605.9	605.9	605.9
145°	630.9	632.0	633.0	633.5	633.5	633.5	633.5	633.5
147.5°	659.1	659.4	659.8	659.8	659.4	659.2	658.8	658.5
150°	676.7	676.7	676.7	676.5	676.0	675.4	674.9	674.2
152.5°	693.6	693.8	694.1	693.8	693.1	692.4	691.8	691.1
155°	718.2	718.8	719.3	719.1	718.1	717.1	716.1	715.1
157.5°	739.3	739.9	740.5	740.4	739.6	738.8	738.0	737.2
160°	752.3	753.0	753.7	753.8	753.3	752.7	752.1	751.6
162.5°	764.6	765.3	766.0	765.9	765.0	764.1	763.2	762.2
165°	780.1	780.9	781.8	781.7	780.8	779.7	778.8	777.7
167.5°	792.6	793.6	794.4	794.4	793.6	792.6	791.8	790.9
170°	799.5	800.6	801.5	801.5	800.6	799.5	798.6	797.5
172.5°	804.9	805.8	806.7	806.7	805.6	804.7	803.7	802.7
175°	810.8	811.6	812.4	812.4	811.4	810.4	809.4	808.4
177.5°	813.4	814.1	814.8	814.7	813.9	813.0	812.3	811.5
180°	813.6	813.6	813.6	813.6	813.6	813.6	813.6	813.6

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