

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: P332098-927

Luminaire Tested: **S123DIW-S340D755U927-4F0-1E-UDD-D**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332098-927
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-5,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S123DIW-S340D755U927-4F0-1E-UDD-D
Description: DEFINE 3 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 340 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 755 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3533.6 lumens
Efficiency: N/A
Efficacy: 116.2 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: Semi-Indirect

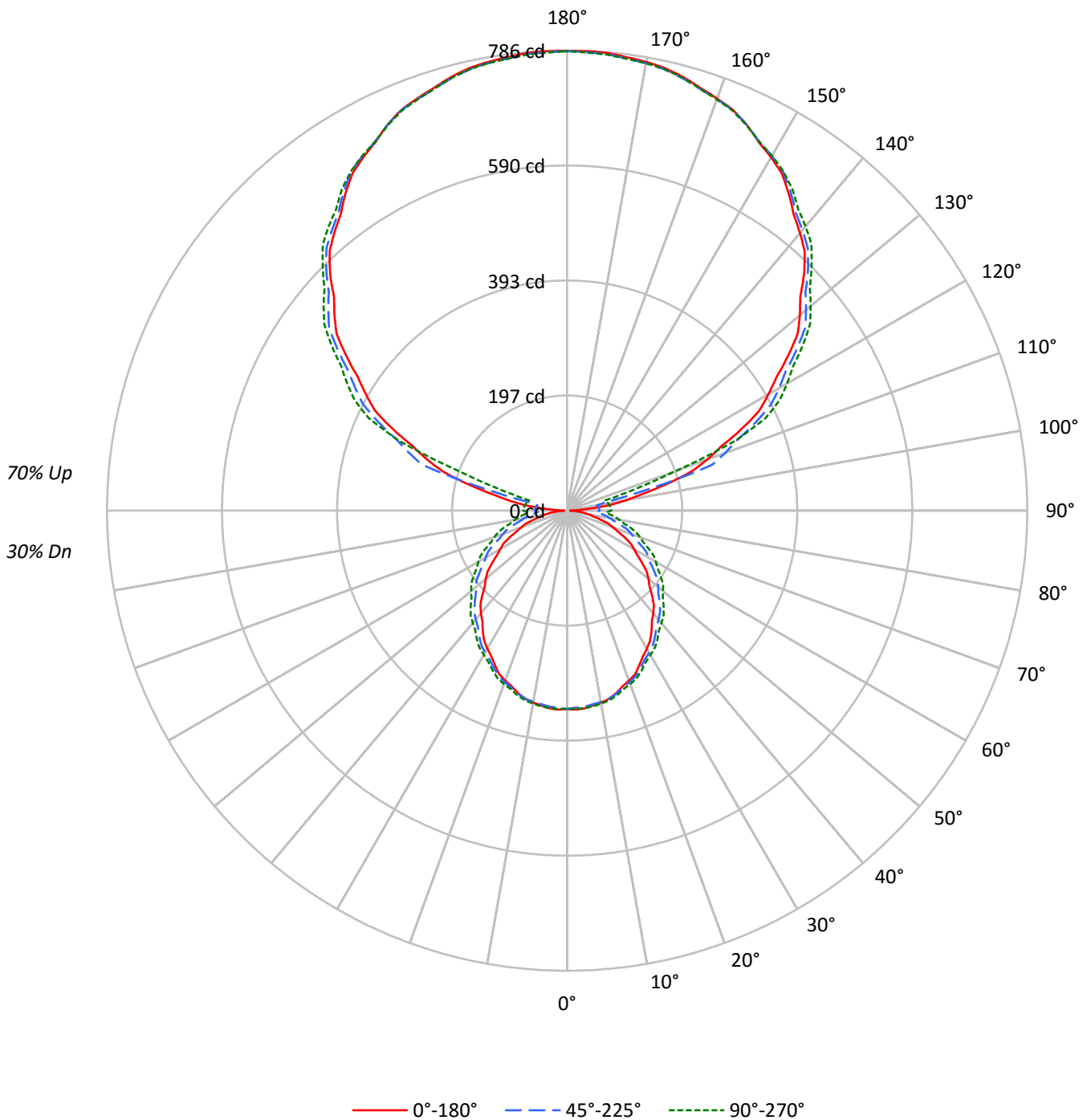
Input Watts (W): 30.4
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





TEST NUMBER: P332098-927

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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	102	102	102	102	92	92	92	92	72	72	72	54	54	54	37	37	37	30
1	93	88	84	80	83	79	76	73	62	60	58	46	45	43	32	31	30	24
2	84	77	70	65	75	69	63	59	54	50	47	40	38	36	28	26	25	19
3	76	67	60	54	68	60	54	49	47	43	39	35	32	30	24	23	21	16
4	70	59	51	45	62	53	46	41	42	37	33	31	28	25	22	20	18	14
5	64	52	44	38	57	47	40	35	37	32	28	28	25	22	19	17	15	12
6	59	47	39	33	52	42	35	30	33	28	25	25	22	19	18	15	13	10
7	54	42	34	29	48	38	31	26	30	25	21	23	19	17	16	14	12	9
8	50	38	30	25	45	34	28	23	27	22	19	21	17	15	15	12	11	8
9	47	35	27	22	42	31	25	20	25	20	17	19	16	13	13	11	10	7
10	43	32	25	20	39	29	22	18	23	18	15	18	14	12	12	10	9	7

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	3647	3647	3647
5°	3658	3556	3557
10°	3626	3473	3456
15°	3579	3380	3345
20°	3513	3274	3224
25°	3430	3152	3096
30°	3345	3043	2966
35°	3251	2926	2863
40°	3161	2820	2752
45°	3061	2718	2664
50°	2962	2618	2566
55°	2852	2516	2478
60°	2745	2411	2388
65°	2636	2300	2280
70°	2471	2174	2170
75°	2265	2031	2059
80°	2023	1890	1932
85°	1805	1794	1856



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	32.1	0.9
10°-20°	91.6	2.6
20°-30°	137.0	3.9
30°-40°	163.6	4.6
40°-50°	171.1	4.8
50°-60°	160.6	4.5
60°-70°	134.1	3.8
70°-80°	96.0	2.7
80°-90°	59.4	1.7
90°-100°	64.4	1.8
100°-110°	162.4	4.6
110°-120°	344.2	9.7
120°-130°	425.9	12.1
130°-140°	448.8	12.7
140°-150°	416.5	11.8
150°-160°	335.2	9.5
160°-170°	216.3	6.1
170°-180°	74.5	2.1
0°-30°	260.6	7.4
0°-40°	424.2	12.0
0°-60°	755.9	21.4
0°-90°	1045.4	29.6
90°-120°	571.0	16.2
90°-150°	1862.2	52.7
90°-180°	2488.0	70.4
0°-180°	3533.6	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	339	339	339	339	339	
5°	339	338	336	339	339	32
15°	323	324	324	327	327	91
25°	292	295	296	301	301	134
35°	251	257	262	267	269	157
45°	205	214	223	230	233	158
55°	156	169	182	192	195	140
65°	108	123	139	149	154	107
75°	59	76	94	106	111	63
85°	18	37	56	68	72	19
90°	5	29	56	70	75	5
95°	40	32	55	70	74	47
105°	177	189	155	68	67	187
115°	328	336	354	368	374	323
125°	460	466	478	487	491	411
135°	573	576	582	590	591	441
145°	660	664	665	669	671	413
155°	727	726	726	729	726	335
165°	767	765	764	768	765	216
175°	785	782	782	786	782	75
180°	785	785	785	785	785	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	338.8	338.8	338.8	338.8	338.8	338.8	338.8	338.8	338.8	338.8	338.8
2.5°	340.3	340.2	339.9	339.8	339.5	339.2	338.7	338.1	337.6	337.1	337.6
5°	339.2	339.1	338.9	338.7	338.6	338.3	337.7	337.2	336.8	336.3	336.9
7.5°	335.9	336.0	336.0	336.0	336.0	335.8	335.3	334.9	334.4	333.9	334.7
10°	333.0	333.1	333.3	333.4	333.6	333.5	333.0	332.6	332.2	331.8	332.6
12.5°	329.4	329.6	329.9	330.1	330.3	330.3	330.0	329.7	329.5	329.2	329.9
15°	323.0	323.2	323.4	323.7	323.9	324.1	323.9	323.8	323.8	323.7	324.6
17.5°	314.9	315.4	315.8	316.3	316.8	317.0	317.0	317.0	317.0	317.0	317.7
20°	309.0	309.4	309.9	310.5	310.9	311.2	311.4	311.6	311.7	311.9	312.7
22.5°	302.8	303.2	303.7	304.2	304.8	305.1	305.3	305.5	305.8	306.0	307.0
25°	291.6	292.4	293.3	294.1	294.9	295.4	295.6	295.9	296.1	296.4	297.5
27.5°	280.4	281.3	282.3	283.2	284.2	284.9	285.3	285.9	286.5	286.9	287.9
30°	272.4	273.5	274.6	275.6	276.7	277.5	278.2	278.8	279.5	280.2	281.1
32.5°	263.6	264.7	265.9	267.1	268.3	269.3	270.2	271.1	272.0	272.7	273.9
35°	251.0	252.3	253.7	254.9	256.3	257.5	258.5	259.6	260.6	261.7	262.9
37.5°	237.7	239.2	240.7	242.2	243.6	245.0	246.3	247.6	249.0	250.3	251.7
40°	228.9	230.4	231.8	233.3	234.7	236.3	238.0	239.6	241.2	242.9	244.3
42.5°	219.1	220.9	222.7	224.5	226.3	228.1	229.8	231.5	233.2	234.9	236.5
45°	205.3	207.2	209.1	211.1	213.1	215.1	217.1	219.2	221.3	223.3	224.9
47.5°	190.7	192.9	195.1	197.4	199.6	201.9	204.2	206.6	208.9	211.3	213.0
50°	181.3	183.5	185.8	188.1	190.4	192.8	195.4	198.0	200.5	203.0	204.9
52.5°	171.2	173.6	176.0	178.5	180.9	183.5	186.3	189.2	191.9	194.7	196.7
55°	156.5	159.2	161.9	164.6	167.3	170.2	173.1	176.1	179.0	182.0	184.2
57.5°	142.2	145.0	147.8	150.7	153.4	156.5	159.7	163.0	166.2	169.4	171.7
60°	132.1	135.1	138.1	141.0	143.9	147.1	150.5	153.8	157.2	160.6	162.9
62.5°	122.7	125.7	128.7	131.7	134.8	138.1	141.6	145.2	148.8	152.3	154.6
65°	108.1	111.4	114.5	117.7	121.0	124.4	127.9	131.6	135.1	138.8	141.2
67.5°	93.4	96.8	100.2	103.5	106.9	110.5	114.2	117.9	121.5	125.2	127.9
70°	83.0	86.6	90.1	93.6	97.1	100.9	104.8	108.8	112.7	116.6	119.3
72.5°	73.6	77.2	80.6	84.2	87.7	91.5	95.5	99.7	103.7	107.8	110.5
75°	58.7	62.6	66.4	70.3	74.1	78.1	82.2	86.3	90.4	94.5	97.2
77.5°	45.7	49.6	53.5	57.4	61.2	65.3	69.4	73.5	77.6	81.8	84.7
80°	36.5	40.6	44.6	48.6	52.6	56.8	61.0	65.3	69.6	73.8	76.6
82.5°	28.6	32.6	36.8	40.8	44.9	49.1	53.5	57.8	62.1	66.5	69.2
85°	18.1	22.2	26.3	30.4	34.5	38.7	43.1	47.4	51.7	56.1	58.9
87.5°	9.9	14.3	18.6	23.0	27.3	31.8	36.3	40.8	45.3	49.8	52.7
90°	5.4	10.7	16.0	21.3	26.6	32.2	38.1	44.0	49.8	55.7	59.0
92.5°	15.4	18.6	21.9	25.1	28.4	32.7	38.1	43.5	48.9	54.3	57.8
95°	39.6	37.5	35.4	33.3	31.1	32.9	38.3	43.7	49.2	54.6	58.1
97.5°	75.1	75.6	76.1	76.6	77.1	74.6	69.2	63.6	58.1	52.7	56.2
100°	101.9	107.0	112.3	117.5	122.7	117.1	100.7	84.2	67.8	51.3	54.7
102.5°	132.3	136.6	140.8	145.0	149.2	142.2	123.8	105.4	87.1	68.7	67.8
105°	176.7	180.1	183.5	186.9	190.2	187.9	179.7	171.6	163.5	155.3	134.8
107.5°	223.1	225.9	228.7	231.6	234.3	238.4	243.5	248.7	253.9	259.1	244.5
110°	254.1	256.6	259.0	261.6	264.1	267.7	272.4	277.1	281.9	286.5	284.4



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	283.9	286.1	288.2	290.3	292.5	295.8	300.4	305.0	309.6	314.1	316.3
115°	327.7	329.5	331.2	333.0	334.8	337.7	341.8	345.9	350.1	354.2	357.4
117.5°	370.4	372.0	373.5	375.1	376.7	379.1	382.5	385.9	389.3	392.6	395.6
120°	396.7	398.3	399.9	401.4	403.0	405.4	408.4	411.5	414.6	417.7	420.6
122.5°	423.7	424.9	426.1	427.3	428.4	430.6	433.6	436.7	439.7	442.8	445.4
125°	460.5	461.5	462.6	463.6	464.6	466.6	469.4	472.4	475.2	478.2	480.1
127.5°	496.4	497.3	498.3	499.2	500.2	501.9	504.5	507.2	509.8	512.3	514.4
130°	518.7	519.7	520.7	521.7	522.6	524.1	526.2	528.5	530.6	532.7	534.8
132.5°	539.9	540.9	541.9	543.0	544.0	545.3	547.1	548.8	550.6	552.3	554.3
135°	572.6	573.3	574.0	574.6	575.4	576.5	577.8	579.2	580.7	582.1	584.0
137.5°	600.5	601.4	602.4	603.2	604.2	605.1	605.9	606.7	607.4	608.2	610.1
140°	618.9	619.6	620.4	621.2	621.9	622.7	623.3	623.9	624.6	625.2	626.9
142.5°	636.1	636.8	637.5	638.3	639.0	639.5	640.0	640.4	640.9	641.3	642.8
145°	660.3	661.1	661.9	662.7	663.5	664.1	664.3	664.6	664.9	665.1	666.1
147.5°	682.6	683.2	683.8	684.4	685.0	685.4	685.7	686.0	686.2	686.4	686.9
150°	696.6	697.0	697.4	697.8	698.2	698.5	698.8	699.0	699.3	699.5	699.8
152.5°	709.2	709.4	709.6	709.7	710.0	710.1	710.3	710.4	710.6	710.7	711.1
155°	726.9	726.7	726.4	726.1	725.9	725.8	726.0	726.1	726.2	726.4	727.0
157.5°	740.7	740.7	740.6	740.6	740.6	740.5	740.4	740.2	740.1	740.0	740.8
160°	749.1	748.9	748.8	748.7	748.5	748.5	748.3	748.1	748.1	747.9	748.7
162.5°	757.0	756.7	756.3	756.0	755.7	755.4	755.3	755.2	755.0	754.9	755.8
165°	766.6	766.2	765.8	765.4	765.0	764.8	764.6	764.5	764.4	764.2	765.2
167.5°	774.0	773.5	773.0	772.5	772.0	771.7	771.7	771.7	771.7	771.7	772.7
170°	778.2	777.7	777.2	776.7	776.2	775.9	775.9	775.9	775.9	775.9	776.9
172.5°	781.0	780.4	779.7	779.2	778.6	778.2	778.4	778.5	778.6	778.7	779.7
175°	784.7	783.9	783.3	782.7	782.0	781.8	781.9	782.0	782.2	782.3	783.2
177.5°	785.5	785.1	784.5	784.0	783.5	783.3	783.4	783.5	783.6	783.7	784.5
180°	784.7	784.7	784.7	784.7	784.7	784.7	784.7	784.7	784.7	784.7	784.7



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	338.8	338.8	338.8	338.8	338.8	338.8	338.8	338.8
2.5°	338.1	338.7	339.2	339.4	339.4	339.3	339.2	339.1
5°	337.5	338.3	338.9	339.2	339.1	339.0	338.9	338.8
7.5°	335.6	336.4	337.2	337.5	337.5	337.3	337.2	337.2
10°	333.5	334.3	335.1	335.4	335.3	335.1	334.9	334.8
12.5°	330.7	331.4	332.2	332.5	332.3	332.2	332.0	331.8
15°	325.3	326.1	327.0	327.3	327.3	327.2	327.1	327.0
17.5°	318.4	319.2	319.9	320.2	320.0	320.0	319.9	319.7
20°	313.4	314.1	314.9	315.3	315.4	315.4	315.5	315.6
22.5°	307.8	308.8	309.7	310.2	310.1	310.1	310.1	310.0
25°	298.5	299.6	300.6	301.2	301.2	301.2	301.2	301.2
27.5°	288.8	289.7	290.7	291.1	291.2	291.3	291.3	291.4
30°	282.1	283.1	284.1	284.6	284.6	284.6	284.6	284.6
32.5°	274.9	275.9	276.9	277.6	277.8	278.0	278.2	278.4
35°	264.2	265.4	266.6	267.4	267.8	268.1	268.4	268.7
37.5°	253.0	254.4	255.9	256.7	256.9	257.2	257.5	257.7
40°	245.7	247.1	248.4	249.3	249.6	250.0	250.3	250.6
42.5°	238.0	239.5	241.0	242.0	242.5	242.9	243.4	243.8
45°	226.4	228.0	229.6	230.7	231.3	232.0	232.7	233.3
47.5°	214.8	216.6	218.3	219.4	219.9	220.5	220.9	221.5
50°	206.8	208.7	210.6	211.8	212.4	212.9	213.5	214.1
52.5°	198.7	200.6	202.6	203.9	204.6	205.3	206.0	206.7
55°	186.4	188.6	190.8	192.3	192.9	193.6	194.2	194.9
57.5°	173.9	176.1	178.3	179.8	180.6	181.4	182.2	182.9
60°	165.2	167.5	169.8	171.3	172.2	173.2	174.0	175.0
62.5°	156.9	159.1	161.4	163.0	163.9	164.7	165.6	166.4
65°	143.7	146.2	148.6	150.3	151.1	151.9	152.7	153.5
67.5°	130.6	133.2	135.9	137.7	138.3	139.0	139.7	140.4
70°	121.9	124.5	127.1	128.9	129.7	130.5	131.3	132.1
72.5°	113.1	115.8	118.5	120.3	121.1	121.9	122.8	123.6
75°	99.9	102.6	105.4	107.2	108.1	109.2	110.1	111.1
77.5°	87.5	90.4	93.2	95.0	95.8	96.6	97.3	98.1
80°	79.4	82.2	85.0	86.7	87.6	88.4	89.3	90.1
82.5°	72.0	74.8	77.6	79.4	80.2	81.0	81.8	82.7
85°	61.7	64.5	67.3	69.1	69.9	70.7	71.5	72.3
87.5°	55.6	58.5	61.4	63.3	64.2	65.0	65.9	66.8
90°	62.3	65.6	68.9	71.1	72.2	73.3	74.4	75.4
92.5°	61.4	65.0	68.4	70.7	71.6	72.6	73.4	74.4
95°	61.5	65.0	68.4	70.6	71.4	72.2	73.0	73.8
97.5°	59.7	63.1	66.5	68.8	69.7	70.7	71.6	72.6
100°	58.1	61.6	65.0	67.2	68.1	69.1	70.0	71.0
102.5°	66.9	66.0	65.1	65.2	66.2	67.3	68.4	69.4
105°	114.1	93.5	72.8	63.0	64.0	65.0	66.0	67.0
107.5°	229.9	215.2	200.7	185.1	168.5	151.9	135.4	118.8
110°	282.3	280.1	278.0	267.9	250.1	232.2	214.4	196.5



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	318.5	320.6	322.7	322.2	319.0	315.8	312.6	309.4
115°	360.7	363.9	367.3	369.5	370.6	371.8	373.0	374.1
117.5°	398.6	401.6	404.6	406.5	407.2	407.9	408.7	409.4
120°	423.6	426.5	429.4	431.2	431.7	432.3	432.9	433.5
122.5°	447.9	450.4	453.0	454.6	455.3	456.0	456.7	457.3
125°	482.1	484.1	486.1	487.5	488.3	489.2	490.0	490.8
127.5°	516.4	518.4	520.5	521.7	522.0	522.2	522.5	522.8
130°	536.9	539.0	541.1	542.2	542.5	542.7	543.0	543.1
132.5°	556.3	558.3	560.3	561.4	561.6	561.8	562.0	562.2
135°	585.8	587.7	589.5	590.5	590.6	590.6	590.6	590.6
137.5°	612.0	613.9	615.8	617.0	617.0	617.2	617.3	617.5
140°	628.7	630.5	632.2	633.2	633.3	633.4	633.6	633.7
142.5°	644.3	645.9	647.4	648.2	648.2	648.2	648.2	648.3
145°	666.9	667.9	668.8	669.4	669.7	670.1	670.4	670.7
147.5°	687.4	687.9	688.3	688.3	688.1	687.8	687.5	687.1
150°	700.1	700.3	700.5	700.6	700.4	700.1	699.9	699.7
152.5°	711.6	712.1	712.6	712.6	711.9	711.4	710.8	710.3
155°	727.6	728.3	729.0	728.9	728.1	727.3	726.5	725.7
157.5°	741.6	742.3	743.1	743.0	742.0	740.9	740.0	738.9
160°	749.5	750.3	751.0	751.0	750.0	749.2	748.2	747.3
162.5°	756.7	757.6	758.4	758.4	757.6	756.9	756.1	755.3
165°	766.3	767.3	768.3	768.4	767.5	766.6	765.7	764.8
167.5°	773.7	774.8	775.9	775.9	774.8	773.7	772.7	771.7
170°	777.9	779.0	780.1	780.1	779.0	777.9	776.9	775.9
172.5°	780.8	781.8	782.8	782.8	781.6	780.5	779.3	778.2
175°	784.1	785.1	785.9	785.8	784.8	783.8	782.8	781.7
177.5°	785.4	786.2	787.0	786.9	785.8	784.8	783.8	782.8
180°	784.7	784.7	784.7	784.7	784.7	784.7	784.7	784.7

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