

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: P332099

Luminaire Tested: **S123DIW-S340D755U835-4F0-1E-UDD-D1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332099
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-S340D755U835-4F0-1E-UDD-D1
Description: DEFINE 3 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 340 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: 4058.1 lumens
Efficiency: N/A
Efficacy: 133.5 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: Semi-Indirect

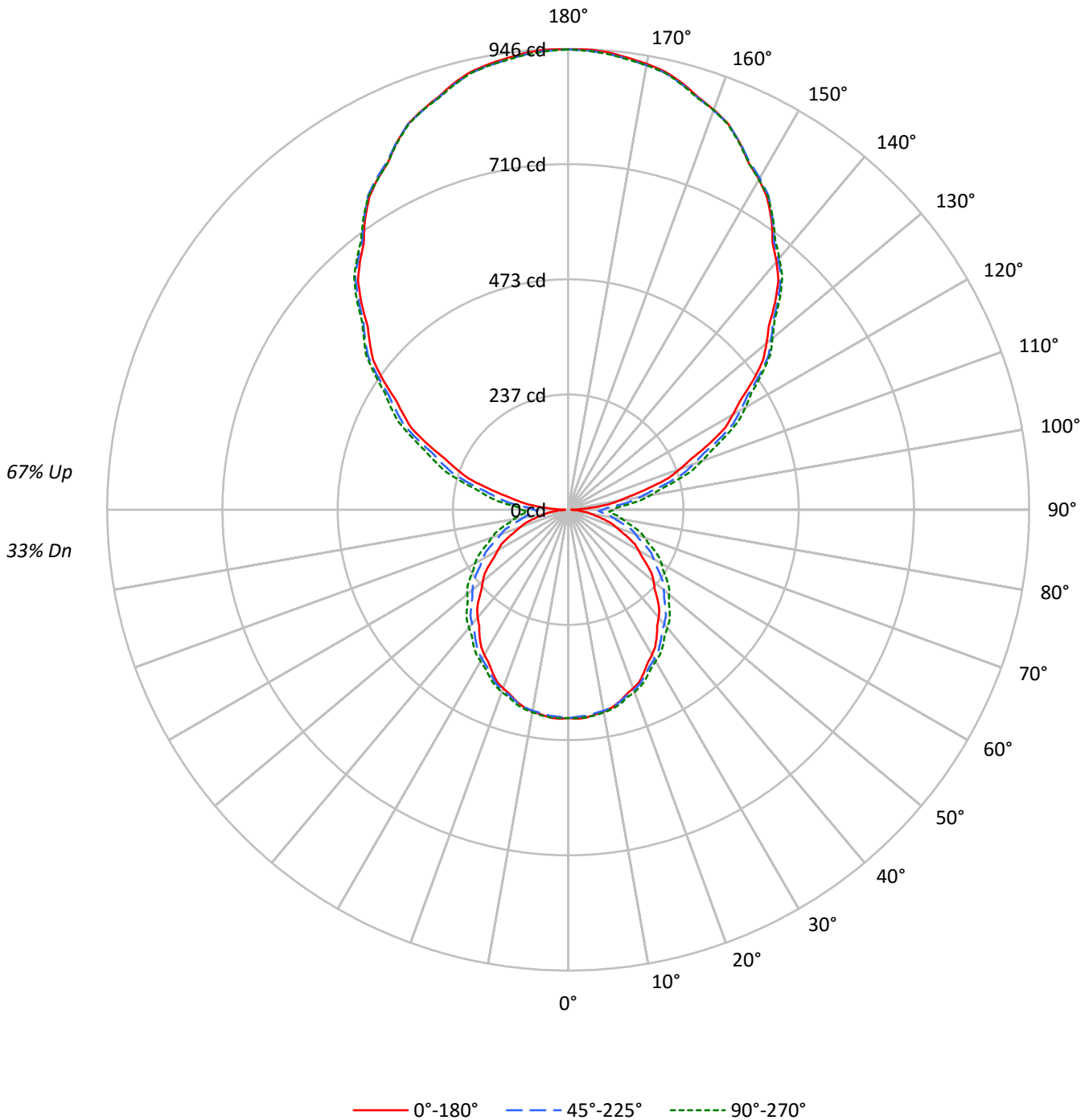
Input Watts (W): 30.4
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	103	103	103	103	93	93	93	93	74	74	74	56	56	56	40	40	40	33
1	93	89	85	81	84	80	76	73	63	61	59	48	47	45	34	33	32	26
2	85	77	71	65	76	69	64	60	55	51	48	42	39	37	30	28	27	21
3	77	67	60	54	69	61	54	49	48	44	40	37	34	31	26	24	22	18
4	70	59	52	45	63	54	47	42	43	38	34	33	29	26	23	21	19	15
5	64	53	45	39	57	48	41	35	38	33	29	29	26	23	21	18	17	13
6	59	47	39	33	53	43	36	31	34	29	25	26	23	20	19	16	14	11
7	54	42	34	29	49	38	32	27	31	26	22	24	20	17	17	15	13	10
8	50	38	31	25	45	35	28	23	28	23	19	22	18	15	16	13	11	9
9	47	35	27	22	42	32	25	21	26	21	17	20	16	14	14	12	10	8
10	44	32	25	20	39	29	23	18	23	19	15	18	15	12	13	11	9	7

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	4604	4604	4604
5°	4618	4488	4490
10°	4577	4385	4363
15°	4518	4267	4223
20°	4434	4133	4070
25°	4330	3980	3908
30°	4224	3841	3744
35°	4103	3694	3614
40°	3990	3560	3474
45°	3864	3432	3362
50°	3739	3305	3239
55°	3601	3175	3128
60°	3466	3044	3015
65°	3328	2903	2878
70°	3120	2744	2740
75°	2859	2565	2600
80°	2556	2387	2438
85°	2274	2264	2344



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	40.5	1.0
10°-20°	115.6	2.8
20°-30°	172.9	4.3
30°-40°	206.5	5.1
40°-50°	216.0	5.3
50°-60°	202.7	5.0
60°-70°	169.3	4.2
70°-80°	121.1	3.0
80°-90°	75.0	1.8
90°-100°	106.9	2.6
100°-110°	217.5	5.4
110°-120°	335.6	8.3
120°-130°	424.9	10.5
130°-140°	469.0	11.6
140°-150°	456.6	11.3
150°-160°	383.4	9.4
160°-170°	255.2	6.3
170°-180°	89.4	2.2
0°-30°	329.0	8.1
0°-40°	535.5	13.2
0°-60°	954.2	23.5
0°-90°	1319.7	32.5
90°-120°	660.0	16.3
90°-150°	2010.5	49.5
90°-180°	2738.0	67.5
0°-180°	4058.1	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	428	428	428	428	428	
5°	428	427	424	428	428	41
15°	408	409	409	413	413	115
25°	368	373	374	380	380	170
35°	317	324	330	337	339	198
45°	259	270	282	290	294	200
55°	198	213	230	242	246	177
65°	136	155	175	189	194	135
75°	74	96	119	134	140	79
85°	23	46	71	86	91	24
90°	7	37	70	89	95	7
95°	49	73	101	118	123	53
105°	171	184	210	223	229	183
115°	318	326	341	352	356	314
125°	463	466	477	484	484	413
135°	600	604	608	613	615	462
145°	727	728	730	733	732	454
155°	832	832	833	835	831	383
165°	906	904	904	908	903	255
175°	943	940	940	944	939	89
180°	945	945	945	945	945	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	427.7	427.7	427.7	427.7	427.7	427.7	427.7	427.7	427.7	427.7	427.7
2.5°	429.6	429.4	429.1	428.9	428.6	428.2	427.5	426.8	426.2	425.5	426.2
5°	428.2	428.0	427.8	427.6	427.4	427.0	426.3	425.7	425.1	424.5	425.3
7.5°	424.0	424.1	424.1	424.1	424.2	423.9	423.3	422.7	422.1	421.5	422.5
10°	420.3	420.5	420.7	420.9	421.1	421.0	420.4	419.9	419.4	418.9	419.9
12.5°	415.8	416.1	416.4	416.7	417.0	416.9	416.6	416.2	415.9	415.5	416.5
15°	407.7	408.0	408.3	408.6	408.9	409.1	408.9	408.8	408.7	408.6	409.7
17.5°	397.5	398.1	398.7	399.3	399.9	400.2	400.2	400.1	400.1	400.1	401.0
20°	390.0	390.6	391.2	391.9	392.5	392.9	393.1	393.3	393.5	393.7	394.7
22.5°	382.2	382.8	383.4	384.0	384.7	385.1	385.4	385.7	386.0	386.3	387.5
25°	368.1	369.1	370.2	371.2	372.2	372.9	373.2	373.5	373.8	374.2	375.5
27.5°	353.9	355.1	356.3	357.5	358.7	359.6	360.2	360.9	361.6	362.2	363.4
30°	343.9	345.2	346.6	347.9	349.3	350.3	351.2	352.0	352.8	353.7	354.9
32.5°	332.7	334.2	335.7	337.2	338.7	340.0	341.1	342.2	343.3	344.3	345.7
35°	316.8	318.5	320.2	321.8	323.5	325.0	326.3	327.7	329.0	330.4	331.9
37.5°	300.1	301.9	303.8	305.7	307.5	309.3	310.9	312.6	314.3	315.9	317.7
40°	288.9	290.8	292.6	294.5	296.3	298.3	300.4	302.5	304.5	306.6	308.4
42.5°	276.6	278.9	281.1	283.4	285.7	287.9	290.1	292.2	294.4	296.5	298.5
45°	259.1	261.6	264.0	266.5	269.0	271.5	274.1	276.7	279.3	281.9	283.9
47.5°	240.7	243.5	246.3	249.2	252.0	254.9	257.8	260.8	263.7	266.7	268.9
50°	228.8	231.7	234.6	237.5	240.4	243.4	246.6	249.9	253.1	256.3	258.7
52.5°	216.1	219.2	222.2	225.3	228.4	231.7	235.2	238.8	242.3	245.8	248.3
55°	197.6	201.0	204.4	207.8	211.2	214.8	218.5	222.3	226.0	229.7	232.5
57.5°	179.5	183.0	186.6	190.2	193.7	197.6	201.6	205.7	209.8	213.9	216.7
60°	166.8	170.5	174.3	178.0	181.7	185.7	190.0	194.2	198.4	202.7	205.6
62.5°	154.9	158.7	162.5	166.3	170.1	174.3	178.8	183.3	187.8	192.3	195.1
65°	136.5	140.6	144.6	148.6	152.7	157.0	161.5	166.1	170.6	175.2	178.3
67.5°	117.9	122.2	126.5	130.7	135.0	139.5	144.1	148.8	153.4	158.1	161.4
70°	104.8	109.3	113.7	118.2	122.6	127.4	132.3	137.3	142.3	147.2	150.6
72.5°	92.9	97.4	101.8	106.3	110.7	115.5	120.6	125.8	130.9	136.1	139.5
75°	74.1	79.0	83.8	88.7	93.6	98.6	103.8	108.9	114.1	119.3	122.7
77.5°	57.7	62.6	67.5	72.4	77.3	82.4	87.6	92.8	98.0	103.3	106.9
80°	46.1	51.2	56.3	61.4	66.4	71.7	77.0	82.4	87.8	93.2	96.7
82.5°	36.1	41.2	46.4	51.5	56.7	62.0	67.5	72.9	78.4	83.9	87.4
85°	22.8	28.0	33.2	38.4	43.5	48.9	54.4	59.8	65.3	70.8	74.3
87.5°	12.5	18.0	23.5	29.0	34.5	40.1	45.8	51.5	57.2	62.9	66.6
90°	6.8	13.5	20.2	27.0	33.7	40.8	48.2	55.6	63.0	70.5	74.6
92.5°	23.6	29.3	35.0	40.7	46.4	52.5	58.9	65.3	71.8	78.2	82.1
95°	48.9	54.1	59.3	64.5	69.7	75.5	81.9	88.3	94.7	101.1	104.9
97.5°	82.4	86.9	91.4	95.9	100.4	105.5	111.3	117.1	122.9	128.7	132.6
100°	105.1	109.4	113.7	118.0	122.4	127.3	132.9	138.5	144.1	149.6	153.1
102.5°	131.5	135.1	138.6	142.2	145.8	150.5	156.2	162.0	167.8	173.5	177.0
105°	170.7	173.5	176.4	179.2	182.0	186.4	192.3	198.2	204.2	210.1	213.0
107.5°	215.9	218.2	220.5	222.8	225.1	228.7	233.5	238.3	243.2	248.0	251.3
110°	244.0	246.2	248.4	250.6	252.8	256.1	260.6	265.1	269.5	274.0	277.4



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	273.7	275.4	277.2	278.9	280.6	283.5	287.6	291.6	295.6	299.7	303.1
115°	317.8	319.5	321.3	323.0	324.7	327.3	330.7	334.1	337.5	340.9	343.5
117.5°	362.5	363.6	364.7	365.8	366.9	369.0	372.1	375.1	378.2	381.3	383.7
120°	390.1	391.6	393.1	394.6	396.1	398.1	400.7	403.3	405.9	408.5	410.7
122.5°	419.2	420.1	421.1	422.1	423.1	425.0	427.9	430.7	433.5	436.3	438.2
125°	463.1	463.6	464.1	464.6	465.1	466.6	469.3	472.0	474.7	477.3	478.8
127.5°	504.0	505.0	505.9	506.9	507.9	509.4	511.5	513.6	515.8	517.9	519.0
130°	531.4	532.6	533.8	535.0	536.2	537.6	539.2	540.8	542.3	543.9	545.2
132.5°	558.3	559.6	560.9	562.2	563.5	564.8	566.1	567.4	568.7	570.0	571.1
135°	599.9	600.8	601.7	602.6	603.5	604.4	605.4	606.3	607.3	608.3	609.5
137.5°	638.4	639.2	639.9	640.6	641.4	642.3	643.4	644.4	645.5	646.6	647.5
140°	664.8	665.6	666.4	667.2	668.1	668.7	669.2	669.7	670.1	670.6	672.0
142.5°	689.1	689.9	690.6	691.3	692.1	692.6	693.0	693.4	693.7	694.1	695.3
145°	727.1	727.3	727.6	727.8	728.0	728.4	728.9	729.4	729.9	730.4	731.0
147.5°	759.9	760.5	761.1	761.7	762.3	762.8	763.3	763.7	764.2	764.7	764.9
150°	783.1	783.4	783.7	784.1	784.4	784.7	785.0	785.4	785.7	786.0	786.0
152.5°	802.1	802.5	803.0	803.5	803.9	804.2	804.4	804.6	804.8	805.0	805.3
155°	832.1	832.1	832.1	832.1	832.1	832.1	832.3	832.5	832.6	832.8	833.5
157.5°	857.6	857.4	857.2	857.0	856.8	856.8	856.9	857.0	857.2	857.3	858.0
160°	873.6	873.3	873.0	872.6	872.3	872.1	872.1	872.1	872.1	872.1	873.0
162.5°	887.9	887.4	886.9	886.5	886.0	885.9	886.0	886.1	886.3	886.4	887.2
165°	906.3	905.8	905.3	904.8	904.3	904.0	904.0	904.0	904.0	904.0	905.0
167.5°	921.0	920.3	919.7	919.0	918.3	918.1	918.2	918.3	918.5	918.6	919.6
170°	929.3	928.6	928.0	927.3	926.6	926.3	926.3	926.3	926.3	926.3	927.5
172.5°	935.8	935.2	934.5	933.8	933.2	932.8	932.8	932.8	932.8	932.8	933.9
175°	942.6	942.0	941.3	940.7	940.0	939.7	939.7	939.7	939.7	939.7	940.7
177.5°	945.5	944.9	944.4	943.9	943.4	943.1	943.1	943.1	943.1	943.1	943.9
180°	944.9	944.9	944.9	944.9	944.9	944.9	944.9	944.9	944.9	944.9	944.9



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	427.7	427.7	427.7	427.7	427.7	427.7	427.7	427.7
2.5°	426.8	427.5	428.2	428.4	428.4	428.3	428.2	428.1
5°	426.1	427.0	427.8	428.2	428.1	427.9	427.8	427.7
7.5°	423.6	424.6	425.6	426.1	426.0	425.8	425.7	425.6
10°	421.0	422.0	423.0	423.4	423.2	423.0	422.8	422.6
12.5°	417.4	418.4	419.3	419.7	419.5	419.3	419.1	418.9
15°	410.7	411.7	412.8	413.2	413.1	413.0	412.9	412.8
17.5°	401.9	402.9	403.8	404.2	404.0	403.9	403.8	403.6
20°	395.6	396.5	397.5	398.0	398.1	398.2	398.3	398.4
22.5°	388.6	389.8	391.0	391.6	391.5	391.4	391.4	391.3
25°	376.8	378.2	379.5	380.2	380.2	380.2	380.2	380.2
27.5°	364.5	365.7	366.9	367.5	367.6	367.7	367.7	367.8
30°	356.1	357.4	358.6	359.2	359.2	359.2	359.2	359.2
32.5°	347.0	348.3	349.6	350.4	350.7	350.9	351.2	351.4
35°	333.5	335.0	336.6	337.6	338.0	338.4	338.8	339.2
37.5°	319.4	321.2	323.0	324.0	324.3	324.7	325.0	325.3
40°	310.1	311.9	313.6	314.7	315.1	315.6	316.0	316.4
42.5°	300.4	302.3	304.2	305.5	306.1	306.6	307.2	307.8
45°	285.8	287.8	289.8	291.2	292.0	292.8	293.7	294.5
47.5°	271.1	273.4	275.6	277.0	277.6	278.3	278.9	279.6
50°	261.0	263.4	265.8	267.4	268.1	268.8	269.5	270.3
52.5°	250.8	253.2	255.7	257.4	258.3	259.2	260.0	260.9
55°	235.3	238.1	240.9	242.7	243.5	244.4	245.2	246.0
57.5°	219.5	222.3	225.1	227.0	228.0	229.0	230.0	230.9
60°	208.5	211.4	214.3	216.3	217.4	218.6	219.7	220.9
62.5°	198.0	200.9	203.8	205.8	206.9	207.9	209.0	210.1
65°	181.4	184.5	187.6	189.7	190.7	191.8	192.8	193.8
67.5°	164.8	168.2	171.6	173.8	174.6	175.5	176.4	177.2
70°	153.9	157.2	160.5	162.7	163.7	164.7	165.8	166.8
72.5°	142.8	146.2	149.6	151.9	152.9	153.9	155.0	156.0
75°	126.1	129.5	133.0	135.3	136.5	137.8	139.0	140.3
77.5°	110.5	114.1	117.7	119.9	120.9	121.9	122.8	123.8
80°	100.2	103.8	107.3	109.5	110.6	111.6	112.7	113.7
82.5°	90.9	94.4	98.0	100.2	101.3	102.3	103.3	104.4
85°	77.9	81.4	84.9	87.2	88.2	89.3	90.3	91.3
87.5°	70.2	73.9	77.5	79.9	81.0	82.1	83.2	84.3
90°	78.8	83.0	87.2	90.0	91.3	92.7	94.1	95.4
92.5°	86.1	90.1	94.0	96.4	97.1	97.9	98.7	99.4
95°	108.8	112.7	116.5	119.0	120.0	121.1	122.1	123.1
97.5°	136.4	140.3	144.1	146.5	147.5	148.4	149.4	150.4
100°	156.6	160.1	163.6	166.1	167.4	168.8	170.2	171.5
102.5°	180.4	183.8	187.2	189.4	190.4	191.3	192.3	193.3
105°	215.9	218.8	221.7	223.8	225.1	226.3	227.6	228.8
107.5°	254.6	257.9	261.2	263.2	263.9	264.6	265.3	266.0
110°	280.7	284.1	287.4	289.4	289.8	290.3	290.8	291.3



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	306.5	309.9	313.3	315.4	316.3	317.1	318.0	318.8
115°	346.2	348.8	351.5	353.1	353.8	354.5	355.1	355.8
117.5°	386.1	388.6	391.0	392.4	392.7	393.1	393.4	393.8
120°	412.9	415.2	417.4	418.7	419.1	419.5	419.9	420.3
122.5°	440.1	441.9	443.8	444.9	445.1	445.4	445.7	445.9
125°	480.4	481.9	483.4	484.2	484.2	484.3	484.4	484.4
127.5°	520.1	521.3	522.4	522.9	522.9	522.8	522.8	522.7
130°	546.5	547.8	549.2	549.5	549.0	548.5	547.9	547.4
132.5°	572.2	573.2	574.3	574.8	574.6	574.4	574.2	574.0
135°	610.7	611.9	613.1	613.8	614.0	614.2	614.4	614.6
137.5°	648.5	649.4	650.4	650.8	650.7	650.6	650.4	650.3
140°	673.4	674.8	676.2	676.6	675.9	675.3	674.6	674.0
142.5°	696.5	697.7	699.0	699.4	699.0	698.6	698.3	697.9
145°	731.7	732.4	733.0	733.2	733.0	732.7	732.5	732.2
147.5°	765.2	765.4	765.7	765.5	764.8	764.2	763.6	763.0
150°	786.0	786.0	786.0	785.6	784.9	784.1	783.3	782.5
152.5°	805.6	805.8	806.1	805.8	805.0	804.2	803.4	802.5
155°	834.1	834.8	835.4	835.2	834.0	832.9	831.7	830.6
157.5°	858.7	859.4	860.1	859.9	859.0	858.1	857.2	856.2
160°	873.8	874.6	875.4	875.5	874.9	874.2	873.5	872.9
162.5°	888.0	888.9	889.7	889.6	888.5	887.5	886.4	885.3
165°	906.0	907.0	908.0	907.9	906.8	905.6	904.5	903.3
167.5°	920.6	921.7	922.7	922.7	921.7	920.6	919.6	918.6
170°	928.6	929.8	930.9	930.9	929.8	928.6	927.5	926.3
172.5°	934.9	935.9	936.9	936.9	935.7	934.6	933.4	932.3
175°	941.7	942.6	943.6	943.6	942.4	941.2	940.1	938.9
177.5°	944.7	945.5	946.3	946.2	945.3	944.3	943.4	942.5
180°	944.9	944.9	944.9	944.9	944.9	944.9	944.9	944.9

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