

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: P332724

Luminaire Tested: **S124DIW-S350D770U835-4F0-1E-UDD-D1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332724
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-10,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S124DIW-S350D770U835-4F0-1E-UDD-D1
Description: DEFINE 4 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 350 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 770 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4106.2 lumens
Efficiency: N/A
Efficacy: 135.1 lumens/watt
Spacing Criteria (0/90/45): 1.23 / 1.28 / 1.39
Luminous Opening: Rectangular w/ Sides (W: 0.33' x L: 4' x H: 0.08')
CIE Type: Semi-Indirect

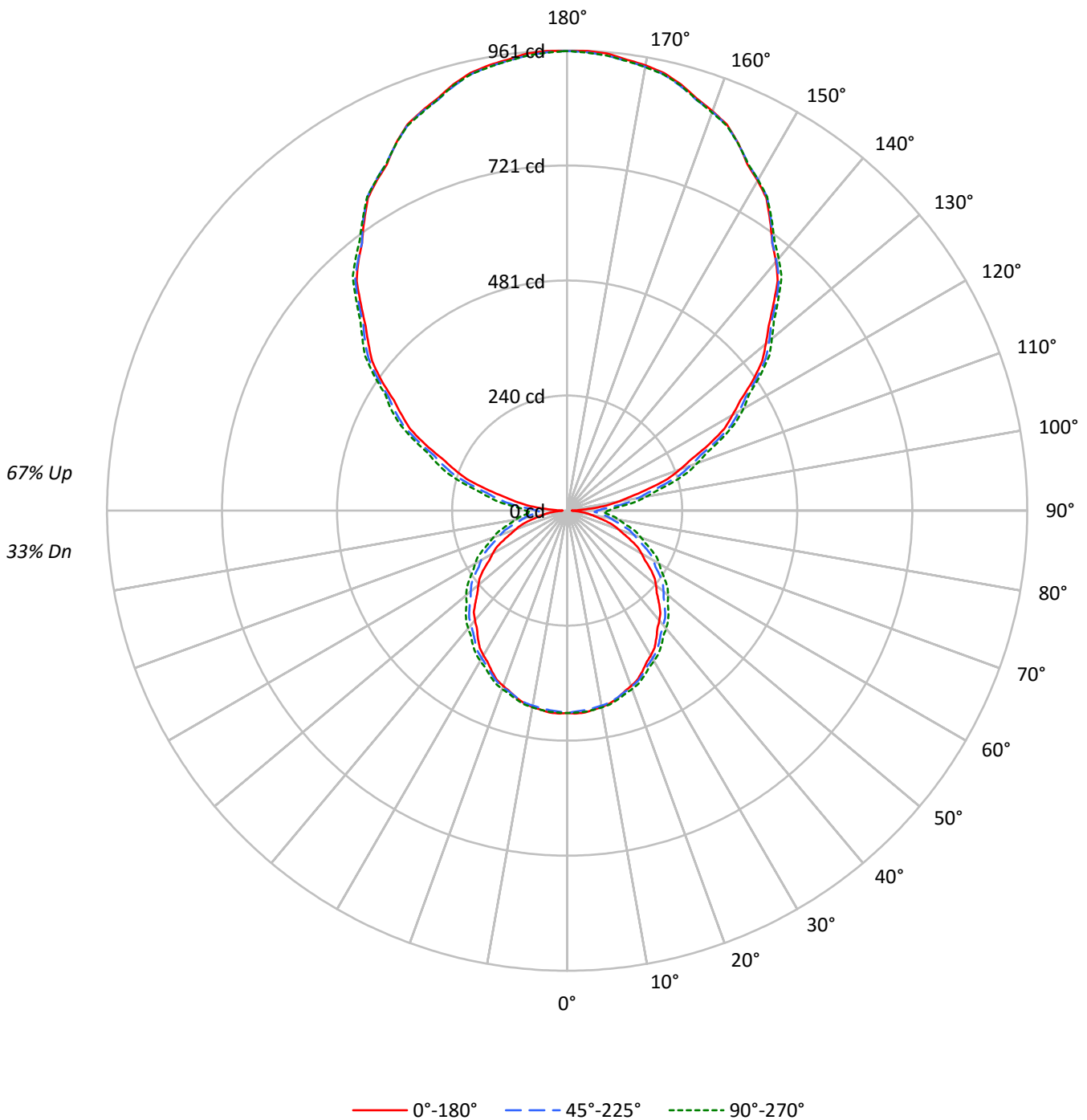
Input Watts (W): 30.4
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	66	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	31	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°	3412	3412	3412
5°	3423	3335	3344
10°	3402	3281	3278
15°	3371	3217	3200
20°	3325	3147	3124
25°	3274	3070	3039
30°	3217	2992	2954
35°	3154	2912	2878
40°	3103	2836	2800
45°	3027	2766	2732
50°	2964	2686	2661
55°	2899	2610	2577
60°	2796	2513	2501
65°	2682	2410	2407
70°	2547	2292	2298
75°	2356	2161	2199
80°	2145	2037	2102
85°	1878	1926	2046



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	40.0	1.0
10°-20°	114.7	2.8
20°-30°	173.4	4.2
30°-40°	209.8	5.1
40°-50°	221.8	5.4
50°-60°	208.8	5.1
60°-70°	173.2	4.2
70°-80°	121.7	3.0
80°-90°	71.6	1.7
90°-100°	104.1	2.5
100°-110°	217.7	5.3
110°-120°	338.5	8.2
120°-130°	431.1	10.5
130°-140°	476.2	11.6
140°-150°	464.1	11.3
150°-160°	389.5	9.5
160°-170°	259.1	6.3
170°-180°	90.7	2.2
0°-30°	328.1	8.0
0°-40°	537.9	13.1
0°-60°	968.5	23.6
0°-90°	1335.0	32.5
90°-120°	660.4	16.1
90°-150°	2031.8	49.5
90°-180°	2771.0	67.5
0°-180°	4106.2	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	423	423	423	423	423	
5°	423	422	418	422	422	40
15°	406	406	405	409	408	114
25°	371	374	375	380	381	171
35°	325	330	335	341	343	203
45°	271	280	289	296	299	209
55°	212	222	236	245	248	189
65°	147	162	178	189	194	145
75°	81	99	119	132	136	87
85°	25	45	66	80	85	27
90°	10	37	63	81	87	8
95°	51	73	98	112	117	54
105°	177	188	208	222	228	188
115°	326	331	344	354	357	322
125°	473	473	484	491	493	422
135°	609	613	617	622	623	471
145°	739	741	742	744	744	462
155°	846	846	845	848	845	389
165°	921	919	917	921	919	260
175°	958	955	954	958	954	91
180°	960	960	960	960	960	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	422.7	422.7	422.7	422.7	422.7	422.7	422.7	422.7	422.7	422.7	422.7
2.5°	424.2	423.9	423.7	423.4	423.2	422.7	422.1	421.4	420.7	420.0	420.6
5°	423.2	422.8	422.5	422.2	421.9	421.4	420.6	419.9	419.2	418.4	419.3
7.5°	419.6	419.4	419.2	419.0	418.8	418.4	417.8	417.2	416.6	416.0	416.9
10°	416.5	416.4	416.3	416.2	416.1	415.8	415.3	414.7	414.2	413.7	414.6
12.5°	412.4	412.3	412.3	412.3	412.3	412.1	411.7	411.4	411.0	410.7	411.5
15°	405.6	405.8	405.9	406.0	406.1	406.0	405.6	405.3	405.0	404.7	405.6
17.5°	396.5	396.8	397.1	397.4	397.7	397.9	397.8	397.7	397.7	397.6	398.6
20°	390.0	390.3	390.7	391.0	391.3	391.5	391.6	391.7	391.8	391.9	393.0
22.5°	382.8	383.2	383.6	384.0	384.4	384.7	384.9	385.1	385.3	385.5	386.5
25°	371.1	371.7	372.4	373.0	373.6	374.1	374.4	374.7	375.0	375.4	376.5
27.5°	358.0	359.0	359.9	360.8	361.7	362.4	362.9	363.4	363.9	364.4	365.4
30°	349.3	350.2	351.0	351.8	352.7	353.5	354.2	354.9	355.7	356.4	357.6
32.5°	339.9	340.9	341.9	342.9	343.9	344.8	345.6	346.4	347.3	348.1	349.4
35°	324.7	326.0	327.2	328.5	329.8	330.9	332.0	333.0	334.1	335.1	336.6
37.5°	309.5	310.9	312.4	313.8	315.3	316.6	318.0	319.3	320.6	321.9	323.4
40°	299.6	301.0	302.4	303.7	305.1	306.5	308.0	309.5	310.9	312.4	314.0
42.5°	288.3	289.8	291.3	292.9	294.4	296.0	297.8	299.5	301.2	302.9	304.7
45°	270.7	272.7	274.7	276.7	278.7	280.7	282.7	284.7	286.7	288.7	290.5
47.5°	254.0	256.1	258.1	260.2	262.2	264.4	266.7	269.1	271.4	273.7	275.5
50°	241.9	244.2	246.5	248.8	251.1	253.4	255.8	258.1	260.4	262.7	264.8
52.5°	229.8	232.1	234.4	236.7	239.0	241.5	244.1	246.8	249.4	252.1	254.2
55°	212.1	214.3	216.5	218.7	220.9	223.6	226.7	229.9	233.0	236.2	238.3
57.5°	192.3	195.0	197.7	200.5	203.2	206.1	209.3	212.4	215.5	218.7	221.2
60°	179.4	182.1	184.9	187.6	190.3	193.4	196.9	200.4	203.8	207.3	209.7
62.5°	166.9	169.9	172.9	175.9	178.8	182.1	185.5	189.0	192.5	196.0	198.4
65°	146.7	150.1	153.5	156.8	160.2	163.7	167.2	170.8	174.4	178.0	180.6
67.5°	127.3	130.9	134.5	138.1	141.6	145.3	149.2	153.0	156.8	160.6	163.3
70°	114.1	117.6	121.2	124.8	128.4	132.2	136.2	140.2	144.2	148.2	151.0
72.5°	101.2	104.9	108.5	112.2	115.8	119.8	124.0	128.3	132.5	136.8	139.5
75°	81.4	85.3	89.2	93.1	97.0	101.1	105.6	110.0	114.4	118.8	121.8
77.5°	63.0	67.1	71.2	75.3	79.4	83.8	88.4	93.1	97.7	102.3	105.3
80°	51.6	55.8	60.0	64.2	68.4	72.8	77.5	82.1	86.7	91.4	94.5
82.5°	40.2	44.6	49.0	53.4	57.7	62.2	66.9	71.5	76.1	80.8	84.0
85°	25.1	29.5	33.9	38.3	42.8	47.3	52.1	56.8	61.5	66.3	69.4
87.5°	14.5	19.1	23.8	28.4	33.1	37.8	42.7	47.6	52.4	57.3	60.6
90°	9.8	15.8	21.8	27.9	33.9	39.8	45.7	51.5	57.3	63.2	67.2
92.5°	23.1	28.9	34.8	40.7	46.5	52.2	57.6	63.1	68.5	74.0	77.5
95°	50.7	55.6	60.6	65.6	70.5	75.7	81.2	86.7	92.1	97.6	100.9
97.5°	83.4	87.5	91.7	95.9	100.1	105.0	110.6	116.2	121.8	127.5	130.8
100°	109.1	112.5	115.9	119.3	122.7	127.2	132.8	138.4	143.9	149.5	152.7
102.5°	136.4	139.1	141.7	144.4	147.1	151.1	156.5	161.8	167.2	172.6	175.8
105°	177.2	179.5	181.7	184.0	186.3	189.7	194.2	198.8	203.3	207.9	211.0
107.5°	220.9	222.8	224.7	226.7	228.6	231.4	235.2	239.0	242.8	246.5	249.6
110°	250.2	252.0	253.8	255.6	257.4	260.1	263.6	267.1	270.6	274.1	276.2



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	280.7	282.1	283.4	284.8	286.2	288.5	291.7	294.9	298.1	301.3	303.6
115°	326.4	327.4	328.3	329.3	330.2	332.2	335.2	338.3	341.3	344.4	346.5
117.5°	370.0	370.7	371.4	372.1	372.8	374.6	377.5	380.4	383.3	386.2	387.8
120°	398.7	399.7	400.6	401.6	402.6	404.4	406.9	409.5	412.0	414.6	415.9
122.5°	429.0	429.3	429.6	430.0	430.3	431.8	434.4	437.1	439.7	442.4	443.9
125°	473.2	473.1	473.0	472.9	472.8	473.9	476.4	478.9	481.3	483.8	485.5
127.5°	513.6	514.0	514.4	514.8	515.2	516.2	518.0	519.8	521.5	523.3	524.8
130°	541.7	542.1	542.5	542.9	543.3	544.3	546.0	547.7	549.4	551.1	552.6
132.5°	570.8	571.1	571.3	571.6	571.9	572.6	573.8	575.0	576.2	577.5	578.9
135°	608.8	609.8	610.8	611.8	612.8	613.6	614.4	615.1	615.8	616.6	617.9
137.5°	650.7	651.0	651.4	651.7	652.1	652.6	653.2	653.8	654.4	655.1	656.2
140°	678.6	678.8	679.0	679.2	679.5	679.6	679.7	679.8	679.9	680.0	681.3
142.5°	703.7	704.0	704.3	704.6	705.0	705.0	704.8	704.6	704.4	704.2	705.4
145°	738.9	739.5	740.1	740.6	741.2	741.5	741.7	741.9	742.0	742.2	742.7
147.5°	774.0	774.7	775.4	776.0	776.7	777.0	776.9	776.7	776.6	776.5	776.4
150°	795.4	795.9	796.5	797.0	797.6	797.9	797.9	797.9	797.9	797.9	797.9
152.5°	815.2	815.5	815.9	816.3	816.7	816.9	817.0	817.2	817.3	817.4	817.8
155°	846.1	846.1	846.1	846.1	846.1	846.0	845.8	845.7	845.5	845.4	846.0
157.5°	872.2	871.9	871.6	871.3	871.0	870.9	870.8	870.8	870.8	870.7	871.2
160°	887.7	887.5	887.3	887.2	887.0	886.8	886.7	886.5	886.3	886.2	886.7
162.5°	901.9	901.5	901.0	900.6	900.2	899.9	899.7	899.6	899.4	899.2	900.1
165°	921.1	920.6	920.1	919.6	919.1	918.7	918.3	918.0	917.7	917.3	918.3
167.5°	935.7	935.1	934.4	933.7	933.0	932.6	932.7	932.7	932.7	932.8	933.8
170°	944.1	943.2	942.4	941.6	940.8	940.4	940.6	940.8	940.9	941.1	942.1
172.5°	950.0	949.3	948.6	947.9	947.2	946.9	946.9	947.0	947.0	947.0	948.2
175°	958.2	957.3	956.5	955.7	954.9	954.4	954.2	954.0	953.9	953.7	954.9
177.5°	960.8	960.2	959.5	958.9	958.2	957.9	957.9	957.9	957.9	957.9	958.8
180°	959.6	959.6	959.6	959.6	959.6	959.6	959.6	959.6	959.6	959.6	959.6



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	422.7	422.7	422.7	422.7	422.7	422.7	422.7	422.7
2.5°	421.2	421.8	422.4	422.6	422.6	422.5	422.4	422.3
5°	420.1	420.9	421.8	422.2	422.1	421.9	421.8	421.7
7.5°	417.9	418.8	419.8	420.2	420.1	420.0	419.9	419.8
10°	415.6	416.5	417.5	417.9	417.8	417.7	417.6	417.5
12.5°	412.4	413.3	414.1	414.5	414.5	414.5	414.5	414.4
15°	406.6	407.5	408.5	408.9	408.8	408.7	408.6	408.5
17.5°	399.5	400.5	401.5	401.9	401.8	401.7	401.7	401.6
20°	394.0	395.1	396.1	396.7	396.7	396.7	396.7	396.7
22.5°	387.6	388.6	389.7	390.3	390.5	390.6	390.8	391.0
25°	377.7	378.8	380.0	380.6	380.7	380.8	380.9	381.0
27.5°	366.5	367.6	368.7	369.3	369.4	369.5	369.6	369.8
30°	358.7	359.9	361.0	361.7	361.9	362.2	362.4	362.6
32.5°	350.7	352.1	353.4	354.2	354.4	354.6	354.8	355.0
35°	338.1	339.5	341.0	341.9	342.2	342.5	342.9	343.2
37.5°	324.9	326.3	327.8	328.8	329.1	329.4	329.8	330.1
40°	315.6	317.1	318.7	319.7	320.1	320.6	321.0	321.4
42.5°	306.4	308.2	309.9	311.0	311.3	311.6	312.0	312.3
45°	292.3	294.1	295.9	297.0	297.6	298.1	298.6	299.1
47.5°	277.4	279.2	281.1	282.3	283.0	283.6	284.2	284.9
50°	266.9	269.0	271.1	272.5	273.1	273.7	274.4	275.0
52.5°	256.3	258.4	260.5	261.9	262.5	263.1	263.8	264.4
55°	240.4	242.5	244.6	246.0	246.6	247.2	247.9	248.5
57.5°	223.7	226.2	228.7	230.2	230.8	231.4	232.0	232.6
60°	212.2	214.6	217.0	218.6	219.5	220.3	221.2	222.0
62.5°	200.8	203.2	205.6	207.3	208.1	208.9	209.8	210.6
65°	183.2	185.9	188.5	190.2	191.1	191.9	192.8	193.6
67.5°	166.0	168.7	171.3	173.1	173.9	174.7	175.5	176.4
70°	153.8	156.7	159.5	161.3	162.0	162.8	163.5	164.2
72.5°	142.3	145.1	147.8	149.6	150.4	151.2	152.1	152.9
75°	124.7	127.6	130.6	132.5	133.5	134.4	135.4	136.3
77.5°	108.3	111.3	114.3	116.3	117.3	118.3	119.3	120.3
80°	97.7	100.8	104.0	106.0	106.8	107.7	108.5	109.3
82.5°	87.2	90.5	93.7	95.8	96.7	97.6	98.6	99.5
85°	72.6	75.7	78.9	81.0	82.0	83.1	84.1	85.2
87.5°	63.8	67.1	70.3	72.4	73.4	74.4	75.4	76.4
90°	71.3	75.3	79.3	82.0	83.1	84.3	85.5	86.6
92.5°	81.1	84.7	88.2	90.5	91.6	92.6	93.6	94.7
95°	104.3	107.6	110.9	113.1	114.0	115.0	115.9	116.9
97.5°	134.2	137.5	140.9	143.0	143.9	144.8	145.7	146.6
100°	155.9	159.0	162.2	164.2	164.9	165.6	166.4	167.1
102.5°	179.0	182.2	185.4	187.5	188.5	189.4	190.4	191.3
105°	214.1	217.3	220.4	222.6	223.9	225.3	226.6	228.0
107.5°	252.6	255.7	258.7	260.6	261.4	262.1	262.8	263.5
110°	278.3	280.4	282.5	284.2	285.5	286.9	288.2	289.5



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	305.9	308.1	310.4	312.0	313.0	313.9	314.8	315.8
115°	348.7	350.8	353.0	354.3	354.9	355.5	356.0	356.6
117.5°	389.4	391.1	392.7	393.8	394.3	394.8	395.3	395.8
120°	417.1	418.4	419.7	420.9	422.1	423.3	424.4	425.6
122.5°	445.5	447.0	448.5	449.4	449.6	449.7	449.9	450.1
125°	487.1	488.8	490.5	491.5	491.8	492.1	492.4	492.7
127.5°	526.4	528.0	529.5	530.5	531.0	531.4	531.9	532.3
130°	554.2	555.7	557.3	558.1	558.1	558.0	558.0	558.0
132.5°	580.4	581.9	583.4	584.3	584.7	585.0	585.4	585.8
135°	619.3	620.6	622.0	622.7	622.9	623.0	623.1	623.3
137.5°	657.3	658.4	659.5	660.4	661.0	661.6	662.2	662.9
140°	682.5	683.7	684.9	685.6	686.0	686.4	686.7	687.1
142.5°	706.6	707.7	708.9	709.7	710.1	710.5	710.9	711.3
145°	743.1	743.6	744.1	744.2	744.2	744.1	744.0	744.0
147.5°	776.4	776.3	776.3	776.3	776.5	776.7	776.9	777.0
150°	797.9	797.9	797.9	797.8	797.6	797.4	797.3	797.1
152.5°	818.2	818.6	819.0	819.0	818.6	818.2	817.7	817.3
155°	846.7	847.3	848.0	848.0	847.3	846.7	846.0	845.4
157.5°	871.7	872.2	872.7	872.7	872.1	871.6	871.0	870.4
160°	887.2	887.7	888.2	888.0	887.2	886.3	885.5	884.7
162.5°	901.0	901.9	902.8	902.8	902.0	901.2	900.4	899.5
165°	919.3	920.3	921.3	921.5	920.8	920.1	919.5	918.8
167.5°	934.8	935.7	936.7	936.7	935.7	934.7	933.7	932.6
170°	943.1	944.1	945.1	945.0	943.8	942.7	941.5	940.4
172.5°	949.3	950.4	951.5	951.5	950.3	949.2	948.0	946.9
175°	956.0	957.2	958.3	958.3	957.2	956.0	954.9	953.7
177.5°	959.7	960.6	961.6	961.5	960.4	959.4	958.3	957.3
180°	959.6	959.6	959.6	959.6	959.6	959.6	959.6	959.6

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