

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: P332724-940

Luminaire Tested: **S124DIW-S350D770U940-4F0-1E-UDD-D1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332724-940
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-S350D770U940-4F0-1E-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: 3661.6 lumens
Efficiency: N/A
Efficacy: 120.4 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

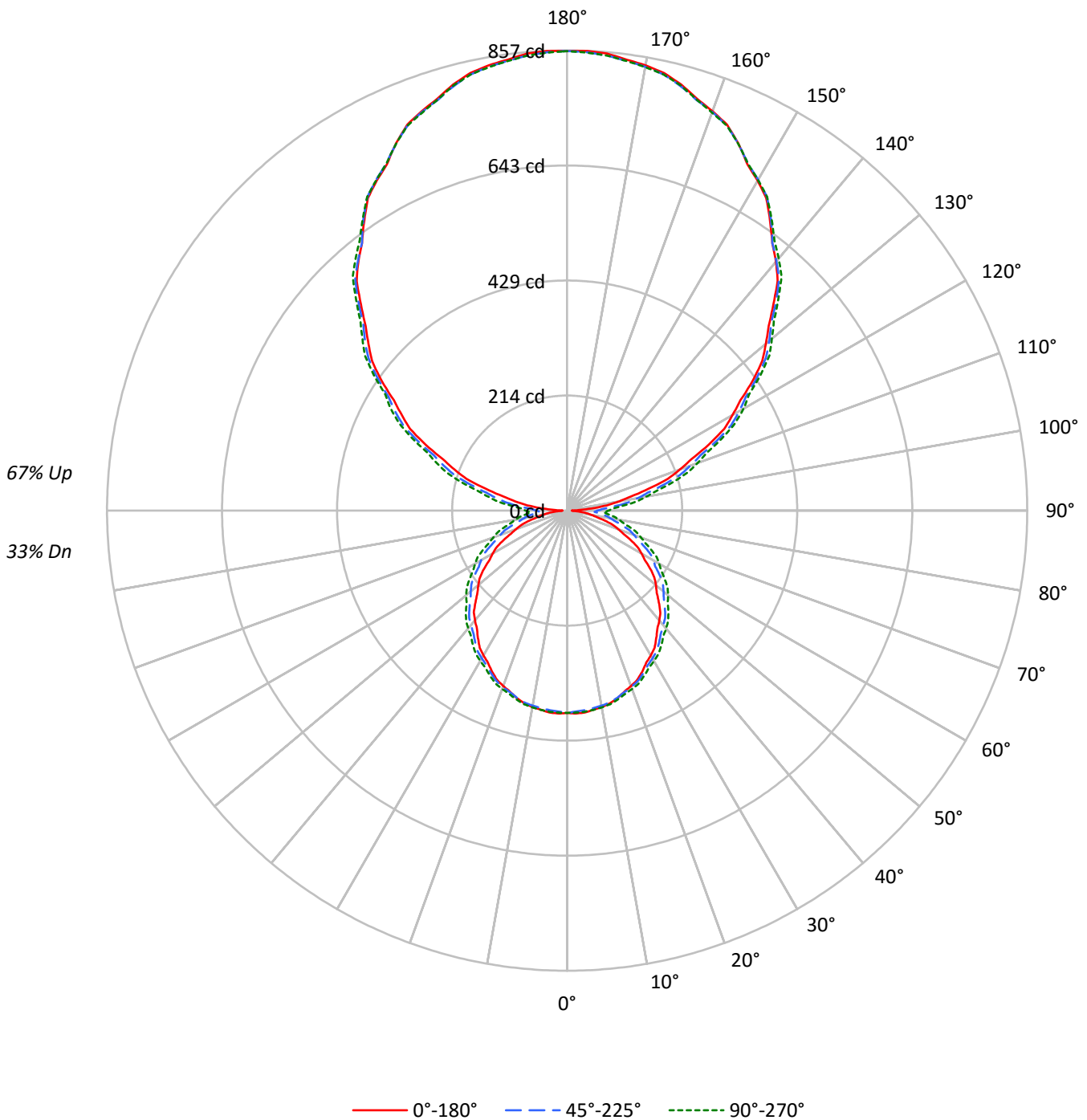
Input Watts (W): 30.4
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	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°	3043	3043	3043
5°	3053	2974	2982
10°	3033	2925	2923
15°	3006	2869	2854
20°	2965	2807	2785
25°	2919	2737	2710
30°	2869	2668	2634
35°	2812	2597	2566
40°	2768	2530	2497
45°	2700	2466	2436
50°	2643	2396	2373
55°	2585	2328	2298
60°	2493	2242	2231
65°	2392	2149	2146
70°	2271	2045	2049
75°	2101	1926	1961
80°	1913	1816	1875
85°	1676	1717	1825



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	35.7	1.0
10°-20°	102.3	2.8
20°-30°	154.6	4.2
30°-40°	187.1	5.1
40°-50°	197.8	5.4
50°-60°	186.2	5.1
60°-70°	154.4	4.2
70°-80°	108.5	3.0
80°-90°	63.9	1.7
90°-100°	92.9	2.5
100°-110°	194.2	5.3
110°-120°	301.9	8.2
120°-130°	384.4	10.5
130°-140°	424.7	11.6
140°-150°	413.9	11.3
150°-160°	347.3	9.5
160°-170°	231.1	6.3
170°-180°	80.9	2.2
0°-30°	292.6	8.0
0°-40°	479.7	13.1
0°-60°	863.6	23.6
0°-90°	1190.4	32.5
90°-120°	588.9	16.1
90°-150°	1811.8	49.5
90°-180°	2471.0	67.5
0°-180°	3661.6	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	377	377	377	377	377	
5°	377	376	373	376	376	36
15°	362	362	361	364	364	102
25°	331	333	335	339	340	152
35°	290	295	299	304	306	181
45°	241	249	257	264	267	187
55°	189	198	211	219	222	168
65°	131	144	159	169	173	130
75°	73	88	106	117	122	77
85°	22	40	59	71	76	24
90°	9	33	56	72	77	7
95°	45	65	87	100	104	49
105°	158	168	185	198	203	168
115°	291	295	307	315	318	287
125°	422	422	431	438	439	376
135°	543	547	550	555	556	420
145°	659	661	662	664	663	412
155°	754	754	754	756	754	347
165°	821	819	818	822	819	231
175°	854	851	850	854	850	81
180°	856	856	856	856	856	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	376.9	376.9	376.9	376.9	376.9	376.9	376.9	376.9	376.9	376.9	376.9
2.5°	378.3	378.0	377.8	377.6	377.4	376.9	376.4	375.8	375.1	374.5	375.1
5°	377.4	377.0	376.7	376.5	376.2	375.8	375.1	374.4	373.8	373.1	373.9
7.5°	374.2	374.0	373.8	373.6	373.4	373.1	372.6	372.0	371.5	371.0	371.8
10°	371.4	371.3	371.2	371.1	371.0	370.8	370.3	369.8	369.3	368.9	369.7
12.5°	367.7	367.7	367.7	367.7	367.7	367.5	367.1	366.8	366.5	366.2	366.9
15°	361.7	361.9	361.9	362.0	362.1	362.0	361.7	361.4	361.1	360.9	361.7
17.5°	353.6	353.8	354.1	354.4	354.6	354.8	354.7	354.6	354.6	354.5	355.4
20°	347.8	348.0	348.4	348.7	348.9	349.1	349.2	349.3	349.4	349.5	350.4
22.5°	341.3	341.7	342.1	342.4	342.8	343.0	343.2	343.4	343.6	343.8	344.6
25°	330.9	331.4	332.1	332.6	333.1	333.6	333.9	334.1	334.4	334.7	335.7
27.5°	319.2	320.1	320.9	321.7	322.5	323.2	323.6	324.0	324.5	324.9	325.8
30°	311.5	312.3	313.0	313.7	314.5	315.2	315.8	316.5	317.2	317.8	318.9
32.5°	303.1	304.0	304.9	305.8	306.7	307.5	308.2	308.9	309.7	310.4	311.6
35°	289.5	290.7	291.8	292.9	294.1	295.1	296.0	296.9	297.9	298.8	300.1
37.5°	276.0	277.2	278.6	279.8	281.2	282.3	283.6	284.7	285.9	287.0	288.4
40°	267.2	268.4	269.7	270.8	272.1	273.3	274.6	276.0	277.2	278.6	280.0
42.5°	257.1	258.4	259.8	261.2	262.5	263.9	265.6	267.1	268.6	270.1	271.7
45°	241.4	243.2	245.0	246.7	248.5	250.3	252.1	253.9	255.7	257.4	259.0
47.5°	226.5	228.4	230.2	232.0	233.8	235.8	237.8	240.0	242.0	244.1	245.7
50°	215.7	217.8	219.8	221.9	223.9	226.0	228.1	230.2	232.2	234.3	236.1
52.5°	204.9	207.0	209.0	211.1	213.1	215.3	217.7	220.1	222.4	224.8	226.7
55°	189.1	191.1	193.1	195.0	197.0	199.4	202.2	205.0	207.8	210.6	212.5
57.5°	171.5	173.9	176.3	178.8	181.2	183.8	186.6	189.4	192.2	195.0	197.2
60°	160.0	162.4	164.9	167.3	169.7	172.5	175.6	178.7	181.7	184.9	187.0
62.5°	148.8	151.5	154.2	156.9	159.4	162.4	165.4	168.5	171.7	174.8	176.9
65°	130.8	133.8	136.9	139.8	142.9	146.0	149.1	152.3	155.5	158.7	161.0
67.5°	113.5	116.7	119.9	123.1	126.3	129.6	133.0	136.4	139.8	143.2	145.6
70°	101.7	104.9	108.1	111.3	114.5	117.9	121.5	125.0	128.6	132.2	134.6
72.5°	90.2	93.5	96.8	100.0	103.3	106.8	110.6	114.4	118.2	122.0	124.4
75°	72.6	76.1	79.5	83.0	86.5	90.2	94.2	98.1	102.0	105.9	108.6
77.5°	56.2	59.8	63.5	67.1	70.8	74.7	78.8	83.0	87.1	91.2	93.9
80°	46.0	49.8	53.5	57.2	61.0	64.9	69.1	73.2	77.3	81.5	84.3
82.5°	35.8	39.8	43.7	47.6	51.5	55.5	59.7	63.8	67.9	72.1	74.9
85°	22.4	26.3	30.2	34.2	38.2	42.2	46.5	50.6	54.8	59.1	61.9
87.5°	12.9	17.0	21.2	25.3	29.5	33.7	38.1	42.4	46.7	51.1	54.0
90°	8.7	14.1	19.4	24.9	30.2	35.5	40.8	45.9	51.1	56.4	59.9
92.5°	20.6	25.8	31.0	36.3	41.5	46.5	51.4	56.3	61.1	66.0	69.1
95°	45.2	49.6	54.0	58.5	62.9	67.5	72.4	77.3	82.1	87.0	90.0
97.5°	74.4	78.0	81.8	85.5	89.3	93.6	98.6	103.6	108.6	113.7	116.6
100°	97.3	100.3	103.3	106.4	109.4	113.4	118.4	123.4	128.3	133.3	136.2
102.5°	121.6	124.0	126.4	128.8	131.2	134.7	139.6	144.3	149.1	153.9	156.8
105°	158.0	160.1	162.0	164.1	166.1	169.2	173.2	177.3	181.3	185.4	188.2
107.5°	197.0	198.7	200.4	202.2	203.8	206.3	209.7	213.1	216.5	219.8	222.6
110°	223.1	224.7	226.3	227.9	229.5	231.9	235.1	238.2	241.3	244.4	246.3



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	250.3	251.6	252.7	254.0	255.2	257.3	260.1	263.0	265.8	268.7	270.7
115°	291.1	291.9	292.7	293.6	294.4	296.2	298.9	301.7	304.3	307.1	309.0
117.5°	329.9	330.6	331.2	331.8	332.4	334.0	336.6	339.2	341.8	344.4	345.8
120°	355.5	356.4	357.2	358.1	359.0	360.6	362.8	365.2	367.4	369.7	370.9
122.5°	382.5	382.8	383.1	383.4	383.7	385.0	387.4	389.8	392.1	394.5	395.8
125°	422.0	421.9	421.8	421.7	421.6	422.6	424.8	427.0	429.2	431.4	432.9
127.5°	458.0	458.3	458.7	459.1	459.4	460.3	461.9	463.5	465.0	466.6	468.0
130°	483.0	483.4	483.8	484.1	484.5	485.4	486.9	488.4	489.9	491.4	492.8
132.5°	509.0	509.3	509.4	509.7	510.0	510.6	511.7	512.7	513.8	515.0	516.2
135°	542.9	543.8	544.7	545.5	546.4	547.2	547.9	548.5	549.1	549.8	551.0
137.5°	580.2	580.5	580.9	581.1	581.5	581.9	582.5	583.0	583.5	584.2	585.1
140°	605.1	605.3	605.5	605.6	605.9	606.0	606.1	606.2	606.3	606.4	607.5
142.5°	627.5	627.8	628.0	628.3	628.7	628.7	628.5	628.3	628.1	627.9	629.0
145°	658.9	659.4	660.0	660.4	660.9	661.2	661.4	661.6	661.6	661.8	662.3
147.5°	690.2	690.8	691.4	692.0	692.6	692.9	692.8	692.6	692.5	692.4	692.3
150°	709.3	709.7	710.2	710.7	711.2	711.5	711.5	711.5	711.5	711.5	711.5
152.5°	726.9	727.2	727.5	727.9	728.3	728.4	728.5	728.7	728.8	728.9	729.2
155°	754.5	754.5	754.5	754.5	754.5	754.4	754.2	754.1	753.9	753.9	754.4
157.5°	777.8	777.5	777.2	776.9	776.7	776.6	776.5	776.5	776.5	776.4	776.9
160°	791.6	791.4	791.2	791.1	790.9	790.8	790.7	790.5	790.3	790.2	790.7
162.5°	804.2	803.9	803.4	803.1	802.7	802.5	802.3	802.2	802.0	801.8	802.6
165°	821.4	820.9	820.5	820.0	819.6	819.2	818.9	818.6	818.3	818.0	818.9
167.5°	834.4	833.8	833.2	832.6	832.0	831.6	831.7	831.7	831.7	831.8	832.7
170°	841.9	841.1	840.3	839.6	838.9	838.6	838.7	838.9	839.0	839.2	840.1
172.5°	847.1	846.5	845.9	845.3	844.6	844.4	844.4	844.5	844.5	844.5	845.5
175°	854.4	853.6	852.9	852.2	851.5	851.0	850.9	850.7	850.6	850.4	851.5
177.5°	856.8	856.2	855.6	855.1	854.4	854.2	854.2	854.2	854.2	854.2	855.0
180°	855.7	855.7	855.7	855.7	855.7	855.7	855.7	855.7	855.7	855.7	855.7



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	376.9	376.9	376.9	376.9	376.9	376.9	376.9	376.9
2.5°	375.6	376.1	376.7	376.8	376.8	376.7	376.7	376.6
5°	374.6	375.3	376.1	376.5	376.4	376.2	376.1	376.0
7.5°	372.6	373.4	374.3	374.7	374.6	374.5	374.4	374.3
10°	370.6	371.4	372.3	372.6	372.6	372.5	372.4	372.3
12.5°	367.7	368.5	369.3	369.6	369.6	369.6	369.6	369.5
15°	362.6	363.4	364.3	364.6	364.5	364.4	364.4	364.3
17.5°	356.2	357.1	358.0	358.4	358.3	358.2	358.2	358.1
20°	351.3	352.3	353.2	353.7	353.7	353.7	353.7	353.7
22.5°	345.6	346.5	347.5	348.0	348.2	348.3	348.5	348.7
25°	336.8	337.8	338.9	339.4	339.5	339.6	339.7	339.7
27.5°	326.8	327.8	328.8	329.3	329.4	329.5	329.6	329.8
30°	319.9	320.9	321.9	322.5	322.7	323.0	323.2	323.3
32.5°	312.7	314.0	315.1	315.8	316.0	316.2	316.4	316.6
35°	301.5	302.7	304.1	304.9	305.1	305.4	305.8	306.0
37.5°	289.7	291.0	292.3	293.2	293.5	293.7	294.1	294.4
40°	281.4	282.8	284.2	285.1	285.4	285.9	286.2	286.6
42.5°	273.2	274.8	276.3	277.3	277.6	277.9	278.2	278.5
45°	260.6	262.3	263.9	264.8	265.4	265.8	266.3	266.7
47.5°	247.4	249.0	250.7	251.7	252.4	252.9	253.4	254.0
50°	238.0	239.9	241.7	243.0	243.5	244.1	244.7	245.2
52.5°	228.5	230.4	232.3	233.5	234.1	234.6	235.2	235.8
55°	214.4	216.2	218.1	219.4	219.9	220.4	221.1	221.6
57.5°	199.5	201.7	203.9	205.3	205.8	206.3	206.9	207.4
60°	189.2	191.4	193.5	194.9	195.7	196.4	197.2	198.0
62.5°	179.1	181.2	183.3	184.9	185.6	186.3	187.1	187.8
65°	163.4	165.8	168.1	169.6	170.4	171.1	171.9	172.6
67.5°	148.0	150.4	152.8	154.4	155.1	155.8	156.5	157.3
70°	137.1	139.7	142.2	143.8	144.5	145.2	145.8	146.4
72.5°	126.9	129.4	131.8	133.4	134.1	134.8	135.6	136.3
75°	111.2	113.8	116.5	118.2	119.0	119.8	120.7	121.5
77.5°	96.6	99.2	101.9	103.7	104.6	105.5	106.4	107.3
80°	87.1	89.9	92.7	94.5	95.2	96.0	96.8	97.5
82.5°	77.8	80.7	83.6	85.4	86.2	87.0	87.9	88.7
85°	64.7	67.5	70.4	72.2	73.1	74.1	75.0	76.0
87.5°	56.9	59.8	62.7	64.6	65.5	66.3	67.2	68.1
90°	63.6	67.1	70.7	73.1	74.1	75.2	76.2	77.2
92.5°	72.3	75.5	78.6	80.7	81.7	82.6	83.5	84.4
95°	93.0	95.9	98.9	100.9	101.7	102.5	103.3	104.2
97.5°	119.7	122.6	125.6	127.5	128.3	129.1	129.9	130.7
100°	139.0	141.8	144.6	146.4	147.0	147.7	148.4	149.0
102.5°	159.6	162.5	165.3	167.2	168.1	168.9	169.8	170.6
105°	190.9	193.8	196.5	198.5	199.7	200.9	202.1	203.3
107.5°	225.2	228.0	230.7	232.4	233.1	233.7	234.3	235.0
110°	248.2	250.0	251.9	253.4	254.6	255.8	257.0	258.2



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	272.8	274.7	276.8	278.2	279.1	279.9	280.7	281.6
115°	310.9	312.8	314.8	315.9	316.5	317.0	317.4	318.0
117.5°	347.2	348.7	350.2	351.2	351.6	352.0	352.5	352.9
120°	371.9	373.1	374.3	375.3	376.4	377.5	378.4	379.5
122.5°	397.3	398.6	399.9	400.7	400.9	401.0	401.2	401.4
125°	434.4	435.9	437.4	438.3	438.5	438.8	439.1	439.3
127.5°	469.4	470.8	472.2	473.1	473.5	473.9	474.3	474.7
130°	494.2	495.5	497.0	497.7	497.7	497.6	497.6	497.6
132.5°	517.5	518.9	520.2	521.0	521.4	521.7	522.0	522.4
135°	552.2	553.4	554.6	555.3	555.4	555.5	555.6	555.8
137.5°	586.1	587.1	588.1	588.9	589.4	590.0	590.5	591.1
140°	608.6	609.7	610.7	611.4	611.7	612.1	612.3	612.7
142.5°	630.1	631.1	632.1	632.8	633.2	633.6	633.9	634.3
145°	662.6	663.1	663.5	663.6	663.6	663.5	663.4	663.4
147.5°	692.3	692.2	692.2	692.2	692.4	692.6	692.8	692.9
150°	711.5	711.5	711.5	711.4	711.2	711.1	711.0	710.8
152.5°	729.6	730.0	730.3	730.3	730.0	729.6	729.2	728.8
155°	755.0	755.5	756.2	756.2	755.5	755.0	754.4	753.9
157.5°	777.3	777.8	778.2	778.2	777.7	777.2	776.7	776.1
160°	791.1	791.6	792.0	791.8	791.1	790.3	789.6	788.9
162.5°	803.4	804.2	805.0	805.0	804.3	803.6	802.9	802.1
165°	819.7	820.6	821.5	821.7	821.1	820.5	819.9	819.3
167.5°	833.6	834.4	835.3	835.3	834.4	833.5	832.6	831.6
170°	841.0	841.9	842.8	842.7	841.6	840.6	839.5	838.6
172.5°	846.5	847.5	848.5	848.5	847.4	846.4	845.3	844.4
175°	852.5	853.5	854.5	854.5	853.5	852.5	851.5	850.4
177.5°	855.8	856.6	857.5	857.4	856.4	855.5	854.5	853.6
180°	855.7	855.7	855.7	855.7	855.7	855.7	855.7	855.7

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