

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: P332717-940

Luminaire Tested: **S124DIW-S350D470U940-4F0-1E-UDD-D**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332717-940
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-6,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S124DIW-S350D470U940-4F0-1E-UDD-D
Description: DEFINE 4 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 350 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 470 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2957.8 lumens
Efficiency: N/A
Efficacy: 128.6 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: General Diffuse

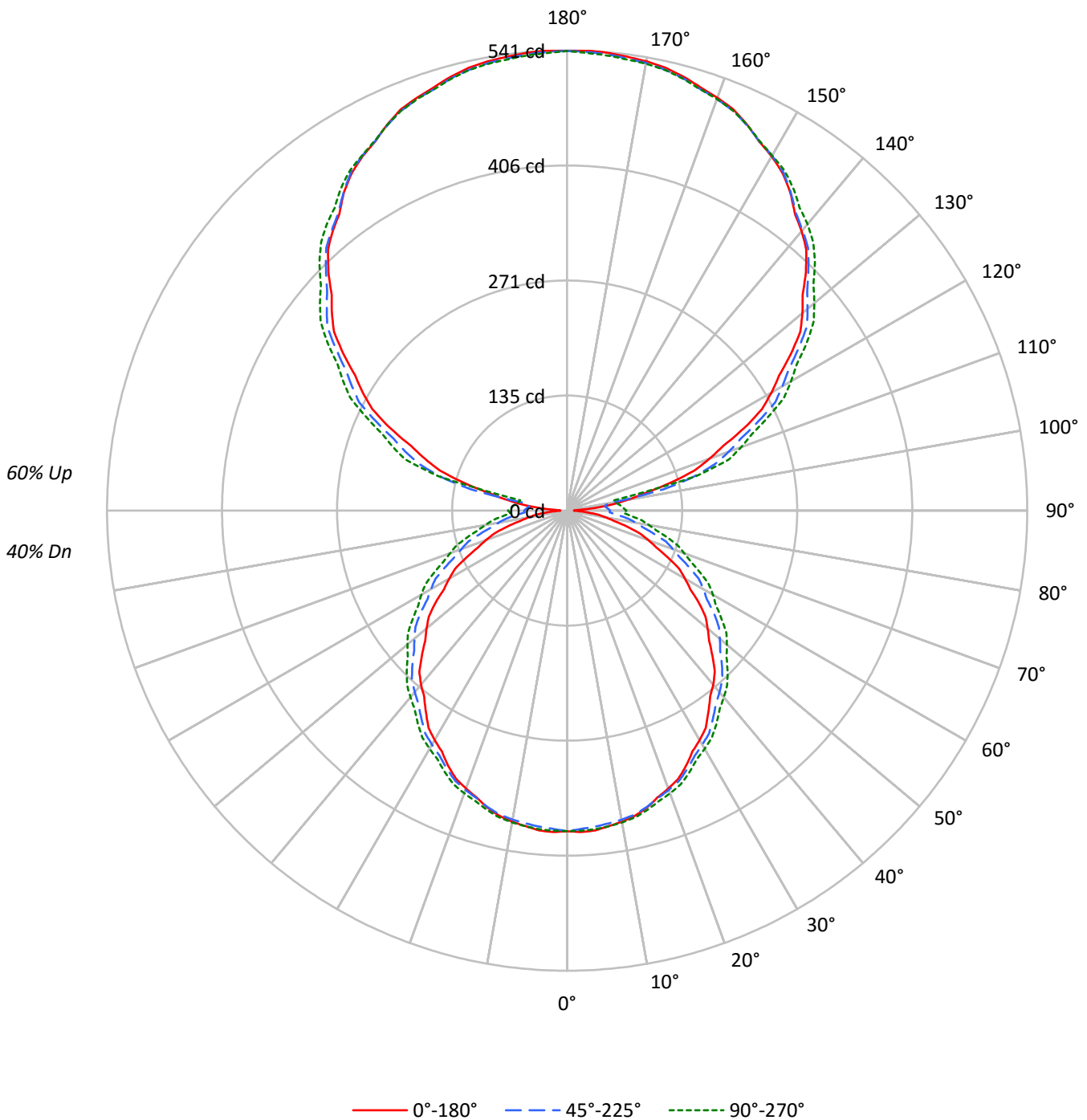
Input Watts (W): 23
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





TEST NUMBER: P332717-940

CATALOG NUMBER: S124DIW-S350D470U940-4F0-1E-UDD-D

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	105	105	105	105	95	95	95	95	78	78	78	62	62	62	47	47	47	40
1	95	90	86	82	86	82	79	75	67	64	62	53	51	50	40	39	38	32
2	86	78	72	66	78	71	66	61	58	54	51	46	43	41	35	33	31	26
3	78	68	61	55	71	62	56	51	51	46	42	40	37	34	31	28	26	22
4	71	60	52	46	64	55	48	43	45	40	36	36	32	29	27	25	22	18
5	65	54	45	39	59	49	42	36	40	35	31	32	28	25	24	22	19	16
6	60	48	40	34	54	44	37	31	36	31	26	29	25	22	22	19	17	14
7	55	43	35	29	50	39	32	27	33	27	23	26	22	19	20	17	15	12
8	51	39	31	26	47	36	29	24	30	24	20	24	20	17	18	16	13	11
9	48	35	28	23	43	33	26	21	27	22	18	22	18	15	17	14	12	10
10	45	32	25	20	40	30	23	19	25	20	16	20	16	14	16	13	11	9

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	1.2
10°-20°	102.3	3.5
20°-30°	154.6	5.2
30°-40°	187.1	6.3
40°-50°	197.8	6.7
50°-60°	186.2	6.3
60°-70°	154.4	5.2
70°-80°	108.5	3.7
80°-90°	62.9	2.1
90°-100°	54.9	1.9
100°-110°	144.8	4.9
110°-120°	243.5	8.2
120°-130°	296.3	10.0
130°-140°	310.6	10.5
140°-150°	287.2	9.7
150°-160°	230.9	7.8
160°-170°	148.9	5.0
170°-180°	51.3	1.7
0°-30°	292.6	9.9
0°-40°	479.7	16.2
0°-60°	863.6	29.2
0°-90°	1189.4	40.2
90°-120°	443.2	15.0
90°-150°	1337.2	45.2
90°-180°	1768.0	59.8
0°-180°	2957.8	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°	8	29	51	65	70	5
95°	28	29	46	59	64	33
105°	126	137	154	167	157	132
115°	230	235	248	257	261	226
125°	321	323	332	341	344	287
135°	397	397	401	408	412	306
145°	457	458	458	461	463	286
155°	501	501	500	501	500	231
165°	528	526	526	529	526	149
175°	540	538	538	541	537	51
180°	540	540	540	540	540	



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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°	12.8	16.8	20.8	24.8	28.8	33.0	37.2	41.5	45.7	49.9	52.8
90°	7.9	12.7	17.5	22.2	26.9	31.7	36.4	41.2	45.9	50.6	53.9
92.5°	11.5	15.0	18.4	21.8	25.2	29.3	34.1	38.8	43.6	48.3	51.5
95°	27.7	27.7	27.8	27.8	27.9	29.9	33.8	37.7	41.6	45.7	48.7
97.5°	52.2	56.7	61.3	65.9	70.4	69.6	63.4	57.2	51.0	44.8	47.3
100°	70.9	75.0	79.0	83.1	87.1	84.8	76.1	67.3	58.6	49.8	50.8
102.5°	92.3	95.6	98.9	102.2	105.6	108.2	110.1	112.1	114.1	116.1	102.0
105°	125.5	127.9	130.3	132.7	135.1	138.3	142.2	146.1	150.0	153.9	157.1
107.5°	156.9	158.7	160.6	162.4	164.2	167.0	170.9	174.9	178.7	182.6	185.3
110°	178.0	179.5	181.1	182.7	184.3	187.0	190.8	194.7	198.5	202.2	204.6



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	198.3	199.9	201.6	203.2	204.9	207.4	210.8	214.2	217.6	221.0	223.0
115°	229.6	230.8	231.8	233.0	234.1	236.1	239.1	241.9	244.9	247.8	250.0
117.5°	258.2	259.1	260.0	260.8	261.7	263.7	266.6	269.7	272.6	275.6	277.5
120°	277.3	277.9	278.6	279.3	279.9	281.5	284.2	286.8	289.4	292.0	294.1
122.5°	295.4	295.7	296.0	296.2	296.5	298.0	300.7	303.4	306.1	308.8	310.8
125°	320.9	321.2	321.5	321.7	322.0	323.2	325.4	327.5	329.8	331.9	333.9
127.5°	345.4	345.4	345.4	345.4	345.4	346.5	348.7	351.0	353.2	355.3	357.0
130°	361.0	361.0	361.0	361.0	361.0	361.8	363.6	365.3	367.1	368.9	370.7
132.5°	375.5	375.6	375.6	375.7	375.8	376.6	378.1	379.6	381.2	382.7	384.4
135°	396.9	396.8	396.7	396.6	396.5	397.0	398.0	399.0	400.0	401.1	402.7
137.5°	416.2	416.2	416.1	416.1	416.0	416.3	417.1	417.8	418.5	419.2	420.7
140°	428.8	428.9	429.0	429.1	429.2	429.4	429.6	429.9	430.2	430.4	431.9
142.5°	439.8	440.1	440.4	440.7	441.0	441.2	441.2	441.3	441.3	441.4	442.6
145°	457.1	457.3	457.4	457.6	457.8	457.9	457.9	457.9	457.9	457.9	458.5
147.5°	470.9	471.3	471.7	472.2	472.5	472.7	472.6	472.5	472.4	472.3	472.5
150°	480.9	481.2	481.4	481.7	482.0	482.1	482.0	481.9	481.8	481.7	481.7
152.5°	489.0	489.3	489.5	489.8	490.1	490.1	490.0	489.8	489.6	489.5	489.6
155°	500.7	500.8	500.9	501.0	501.1	501.0	500.7	500.4	500.2	499.9	500.2
157.5°	510.7	510.6	510.5	510.5	510.4	510.2	510.0	509.6	509.3	509.1	509.5
160°	516.5	516.2	515.9	515.7	515.4	515.2	515.1	515.1	515.0	514.9	515.4
162.5°	521.7	521.3	520.9	520.6	520.3	520.0	520.0	519.9	519.8	519.7	520.2
165°	528.2	527.7	527.3	526.8	526.4	526.2	526.2	526.2	526.2	526.2	526.9
167.5°	533.3	532.9	532.4	532.0	531.5	531.2	531.2	531.1	531.1	531.0	531.8
170°	536.3	535.7	535.2	534.7	534.1	533.9	534.0	534.0	534.1	534.2	534.9
172.5°	538.2	537.7	537.2	536.6	536.1	535.8	535.9	536.0	536.1	536.2	536.9
175°	540.3	539.8	539.2	538.7	538.1	538.0	538.1	538.1	538.2	538.3	539.1
177.5°	541.3	540.8	540.3	539.8	539.3	539.1	539.2	539.4	539.5	539.7	540.2
180°	540.3	540.3	540.3	540.3	540.3	540.3	540.3	540.3	540.3	540.3	540.3



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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°	55.6	58.5	61.3	63.1	64.0	64.8	65.7	66.6
90°	57.2	60.5	63.7	65.8	66.7	67.7	68.6	69.6
92.5°	54.7	57.9	61.1	63.0	63.8	64.6	65.4	66.2
95°	51.7	54.8	57.9	59.9	60.8	61.8	62.7	63.7
97.5°	49.8	52.3	54.8	56.5	57.4	58.3	59.2	60.1
100°	51.9	52.9	53.9	54.8	55.5	56.3	57.0	57.8
102.5°	88.0	74.0	60.0	53.4	54.1	54.8	55.6	56.4
105°	160.2	163.4	166.6	166.9	164.4	161.9	159.4	156.9
107.5°	188.1	190.7	193.4	195.3	196.3	197.3	198.3	199.4
110°	207.0	209.3	211.6	213.3	214.4	215.3	216.3	217.4



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	225.1	227.1	229.2	230.7	231.8	232.9	234.0	235.1
115°	252.3	254.5	256.7	258.2	258.9	259.5	260.1	260.8
117.5°	279.5	281.3	283.3	284.6	285.3	286.1	286.8	287.5
120°	296.1	298.2	300.2	301.6	302.1	302.7	303.3	303.9
122.5°	312.7	314.7	316.7	318.0	318.4	319.0	319.4	319.9
125°	336.0	338.0	340.1	341.4	342.1	342.8	343.4	344.0
127.5°	358.6	360.3	361.9	363.0	363.6	364.2	364.7	365.2
130°	372.5	374.3	376.0	377.2	377.7	378.3	378.9	379.4
132.5°	386.1	387.8	389.5	390.7	391.1	391.6	392.1	392.6
135°	404.4	406.1	407.8	409.0	409.7	410.5	411.3	412.0
137.5°	422.3	423.8	425.4	426.4	426.9	427.2	427.7	428.1
140°	433.4	434.9	436.4	437.4	438.0	438.5	439.1	439.6
142.5°	443.9	445.2	446.5	447.3	447.7	448.1	448.5	449.0
145°	459.1	459.9	460.5	461.1	461.6	462.2	462.7	463.3
147.5°	472.6	472.8	473.0	473.2	473.6	473.9	474.4	474.7
150°	481.7	481.7	481.7	481.8	481.9	482.0	482.1	482.1
152.5°	489.7	489.9	490.1	490.1	490.1	490.0	489.9	489.9
155°	500.6	501.0	501.3	501.4	501.1	500.9	500.6	500.3
157.5°	510.0	510.4	510.9	510.9	510.4	510.0	509.5	509.1
160°	515.9	516.5	517.0	517.0	516.5	515.9	515.4	514.9
162.5°	520.8	521.3	521.8	521.8	521.2	520.6	520.0	519.4
165°	527.6	528.3	529.1	529.0	528.2	527.4	526.6	525.8
167.5°	532.6	533.4	534.2	534.1	533.2	532.4	531.5	530.6
170°	535.7	536.4	537.2	537.1	536.1	535.2	534.3	533.4
172.5°	537.6	538.3	539.0	539.0	538.0	537.0	536.0	535.0
175°	539.9	540.7	541.5	541.4	540.3	539.2	538.1	537.1
177.5°	540.8	541.4	542.0	541.8	541.0	540.1	539.2	538.4
180°	540.3	540.3	540.3	540.3	540.3	540.3	540.3	540.3

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