

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: P332521-940

Luminaire Tested: **S124DIP-S350D1035U940-4F0-1E-UDD-D1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332521-940
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: S124DIP-S350D1035U940-4F0-1E-UDD-D1
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 350 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 1035 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4481.2 lumens
Efficiency: N/A
Efficacy: 120.1 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

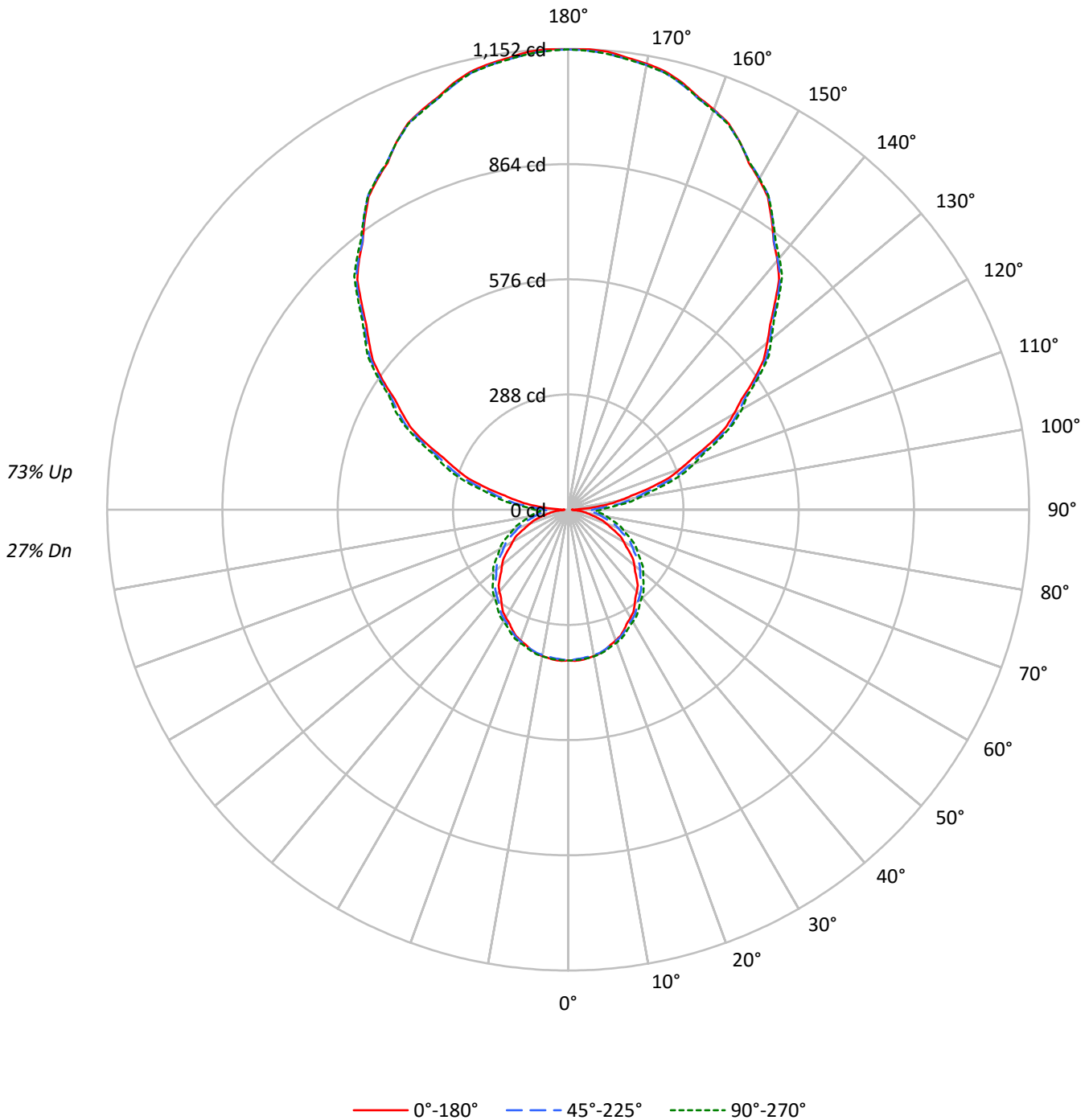
Input Watts (W): 37.3
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	102	102	102	102	91	91	91	91	70	70	70	52	52	52	35	35	35	27
1	92	88	84	80	82	78	75	72	61	58	56	45	43	42	30	29	28	21
2	83	76	70	65	74	68	63	58	53	49	46	39	36	34	26	24	23	17
3	76	67	59	54	67	60	53	48	46	42	38	34	31	29	23	21	19	14
4	69	59	51	45	61	53	46	41	41	36	32	30	27	24	20	18	17	12
5	63	52	44	38	56	47	40	35	36	32	28	27	24	21	18	16	14	10
6	58	46	39	33	52	42	35	30	33	28	24	24	21	18	16	14	12	9
7	54	42	34	29	48	38	31	26	29	24	21	22	18	16	15	13	11	8
8	50	38	30	25	44	34	27	23	27	22	18	20	17	14	14	11	10	7
9	46	34	27	22	41	31	24	20	24	20	16	18	15	12	12	10	9	6
10	43	31	24	20	38	28	22	18	22	18	15	17	13	11	11	9	8	6

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	0.8
10°-20°	102.3	2.3
20°-30°	154.6	3.5
30°-40°	187.1	4.2
40°-50°	197.8	4.4
50°-60°	186.2	4.2
60°-70°	154.4	3.4
70°-80°	108.5	2.4
80°-90°	64.8	1.4
90°-100°	112.3	2.5
100°-110°	251.8	5.6
110°-120°	399.7	8.9
120°-130°	513.4	11.5
130°-140°	569.6	12.7
140°-150°	556.3	12.4
150°-160°	467.1	10.4
160°-170°	310.8	6.9
170°-180°	108.8	2.4
0°-30°	292.6	6.5
0°-40°	479.7	10.7
0°-60°	863.6	19.3
0°-90°	1191.3	26.6
90°-120°	763.9	17.0
90°-150°	2403.2	53.6
90°-180°	3290.0	73.4
0°-180°	4481.2	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°	10	36	61	78	84	8
95°	59	81	104	118	122	64
105°	211	221	240	253	259	224
115°	391	395	406	414	417	385
125°	567	567	576	582	583	505
135°	730	735	738	743	743	565
145°	886	889	890	892	891	554
155°	1015	1015	1014	1017	1014	467
165°	1105	1102	1100	1105	1102	311
175°	1149	1145	1144	1149	1144	109
180°	1151	1151	1151	1151	1151	



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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°	13.0	17.3	21.6	25.8	30.1	34.4	38.9	43.2	47.7	52.1	55.1
90°	9.5	15.3	21.3	27.2	33.2	38.9	44.5	50.1	55.7	61.3	65.3
92.5°	25.5	31.3	37.2	43.1	49.0	54.5	59.6	64.7	69.8	75.0	78.4
95°	58.9	63.8	68.7	73.5	78.4	83.5	88.6	93.9	99.2	104.3	107.5
97.5°	98.3	102.4	106.5	110.5	114.6	119.4	124.8	130.2	135.6	141.1	144.3
100°	129.2	132.5	135.7	138.9	142.1	146.5	151.9	157.4	162.8	168.3	171.2
102.5°	162.0	164.4	166.9	169.3	171.8	175.7	180.8	186.1	191.3	196.4	199.5
105°	211.2	213.3	215.3	217.4	219.5	222.7	226.9	231.1	235.4	239.7	242.6
107.5°	263.6	265.4	267.2	268.9	270.7	273.3	276.7	280.1	283.5	286.9	289.8
110°	298.9	300.6	302.3	304.0	305.7	308.1	311.2	314.2	317.4	320.5	322.2



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	335.6	336.8	338.0	339.3	340.5	342.5	345.4	348.1	350.9	353.7	355.6
115°	390.6	391.5	392.3	393.2	394.0	395.7	398.3	400.9	403.5	406.1	408.0
117.5°	442.8	443.5	444.2	444.9	445.5	447.1	449.6	452.1	454.7	457.2	458.4
120°	477.4	478.5	479.6	480.6	481.7	483.3	485.4	487.5	489.6	491.8	492.7
122.5°	513.7	514.1	514.4	514.8	515.2	516.6	518.8	521.1	523.4	525.7	526.9
125°	566.9	566.8	566.7	566.6	566.5	567.5	569.6	571.9	574.0	576.1	577.5
127.5°	615.4	615.9	616.4	616.9	617.4	618.4	619.8	621.3	622.9	624.3	625.6
130°	649.3	649.7	650.2	650.7	651.2	652.2	653.7	655.2	656.7	658.3	659.5
132.5°	684.1	684.5	684.8	685.1	685.5	686.2	687.2	688.2	689.3	690.4	691.5
135°	729.8	731.0	732.2	733.3	734.5	735.5	736.1	736.7	737.4	738.1	739.2
137.5°	780.0	780.4	780.9	781.4	781.9	782.4	783.0	783.6	784.3	784.9	785.8
140°	813.4	813.8	814.0	814.4	814.7	814.8	814.9	815.0	815.1	815.2	816.3
142.5°	843.7	844.1	844.5	844.9	845.3	845.3	845.1	844.9	844.7	844.5	845.5
145°	886.0	886.7	887.4	888.1	888.8	889.2	889.5	889.7	889.8	890.0	890.4
147.5°	928.0	928.9	929.8	930.6	931.5	931.8	931.7	931.5	931.3	931.2	931.1
150°	953.7	954.4	955.0	955.7	956.4	956.8	956.8	956.8	956.8	956.8	956.8
152.5°	977.5	978.0	978.5	978.9	979.4	979.6	979.8	980.0	980.2	980.3	980.8
155°	1014.7	1014.7	1014.7	1014.7	1014.7	1014.6	1014.3	1014.1	1014.0	1013.8	1014.6
157.5°	1046.0	1045.6	1045.3	1044.9	1044.6	1044.4	1044.3	1044.3	1044.3	1044.2	1044.8
160°	1064.5	1064.3	1064.1	1063.9	1063.7	1063.5	1063.3	1063.1	1062.9	1062.7	1063.3
162.5°	1081.6	1081.1	1080.6	1080.0	1079.5	1079.1	1079.0	1078.8	1078.6	1078.3	1079.4
165°	1104.6	1103.9	1103.4	1102.8	1102.2	1101.7	1101.3	1100.9	1100.5	1100.1	1101.3
167.5°	1122.2	1121.3	1120.5	1119.7	1118.8	1118.5	1118.5	1118.6	1118.6	1118.7	1119.8
170°	1132.1	1131.1	1130.2	1129.2	1128.2	1127.7	1128.0	1128.2	1128.4	1128.5	1129.8
172.5°	1139.2	1138.4	1137.6	1136.8	1136.0	1135.5	1135.6	1135.6	1135.7	1135.7	1137.0
175°	1149.1	1148.1	1147.1	1146.1	1145.1	1144.5	1144.3	1144.1	1143.9	1143.7	1145.1
177.5°	1152.3	1151.5	1150.7	1149.9	1149.1	1148.7	1148.7	1148.7	1148.7	1148.7	1149.8
180°	1150.8	1150.8	1150.8	1150.8	1150.8	1150.8	1150.8	1150.8	1150.8	1150.8	1150.8



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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°	58.1	61.0	63.9	65.9	66.8	67.7	68.6	69.5
90°	69.2	73.1	77.0	79.5	80.7	81.8	82.9	84.1
92.5°	81.7	85.1	88.5	90.6	91.6	92.6	93.5	94.5
95°	110.6	113.8	116.9	118.9	119.7	120.6	121.4	122.3
97.5°	147.4	150.6	153.7	155.8	156.6	157.4	158.2	159.0
100°	174.2	177.0	179.9	181.7	182.4	183.1	183.7	184.4
102.5°	202.5	205.5	208.5	210.4	211.3	212.2	213.1	214.0
105°	245.6	248.5	251.5	253.6	254.9	256.3	257.6	259.0
107.5°	292.7	295.5	298.4	300.1	300.8	301.4	302.0	302.6
110°	324.0	325.7	327.5	329.0	330.4	331.7	333.1	334.4



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	357.7	359.6	361.7	363.1	364.0	364.8	365.7	366.6
115°	409.8	411.7	413.6	414.7	415.2	415.6	416.2	416.6
117.5°	459.8	461.0	462.3	463.1	463.4	463.8	464.1	464.5
120°	493.6	494.5	495.3	496.3	497.5	498.6	499.8	501.0
122.5°	528.1	529.3	530.5	531.1	531.1	531.0	531.0	530.9
125°	578.9	580.2	581.7	582.5	582.6	582.7	582.9	583.1
127.5°	626.9	628.2	629.5	630.3	630.6	631.0	631.2	631.6
130°	660.8	662.1	663.4	664.0	663.7	663.4	663.3	663.0
132.5°	692.8	694.0	695.2	696.0	696.2	696.4	696.7	697.0
135°	740.3	741.4	742.5	743.1	743.0	743.0	743.0	742.9
137.5°	786.7	787.5	788.4	789.1	789.6	790.2	790.9	791.4
140°	817.3	818.3	819.3	819.9	820.3	820.6	820.8	821.1
142.5°	846.5	847.6	848.6	849.3	849.6	850.0	850.3	850.7
145°	890.8	891.2	891.5	891.6	891.4	891.2	890.9	890.7
147.5°	931.0	930.9	930.9	930.9	930.9	931.0	931.1	931.2
150°	956.8	956.8	956.8	956.7	956.5	956.3	956.1	955.9
152.5°	981.2	981.7	982.2	982.2	981.7	981.1	980.6	980.1
155°	1015.4	1016.1	1016.9	1016.9	1016.1	1015.4	1014.6	1013.8
157.5°	1045.4	1046.0	1046.6	1046.5	1045.9	1045.2	1044.6	1043.8
160°	1063.9	1064.5	1065.1	1064.9	1063.9	1062.9	1061.9	1061.0
162.5°	1080.5	1081.6	1082.6	1082.7	1081.7	1080.8	1079.8	1078.7
165°	1102.5	1103.7	1104.8	1105.0	1104.3	1103.5	1102.7	1101.9
167.5°	1121.0	1122.2	1123.4	1123.4	1122.1	1120.9	1119.6	1118.5
170°	1131.0	1132.1	1133.4	1133.2	1131.8	1130.4	1129.1	1127.7
172.5°	1138.4	1139.7	1141.1	1141.0	1139.7	1138.3	1136.9	1135.5
175°	1146.5	1147.9	1149.2	1149.2	1147.9	1146.5	1145.1	1143.7
177.5°	1150.9	1152.0	1153.2	1153.1	1151.8	1150.5	1149.2	1148.0
180°	1150.8	1150.8	1150.8	1150.8	1150.8	1150.8	1150.8	1150.8

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