

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: P332513-930

Luminaire Tested: **S124DIP-S350D810U930-4F0-1E-UDD-D4**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332513-930
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-18,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S124DIP-S350D810U930-4F0-1E-UDD-D4
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 350 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 810 LUMENS PER FOOT, BATWING OPTIC
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3536.5 lumens
Efficiency: N/A
Efficacy: 113.3 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

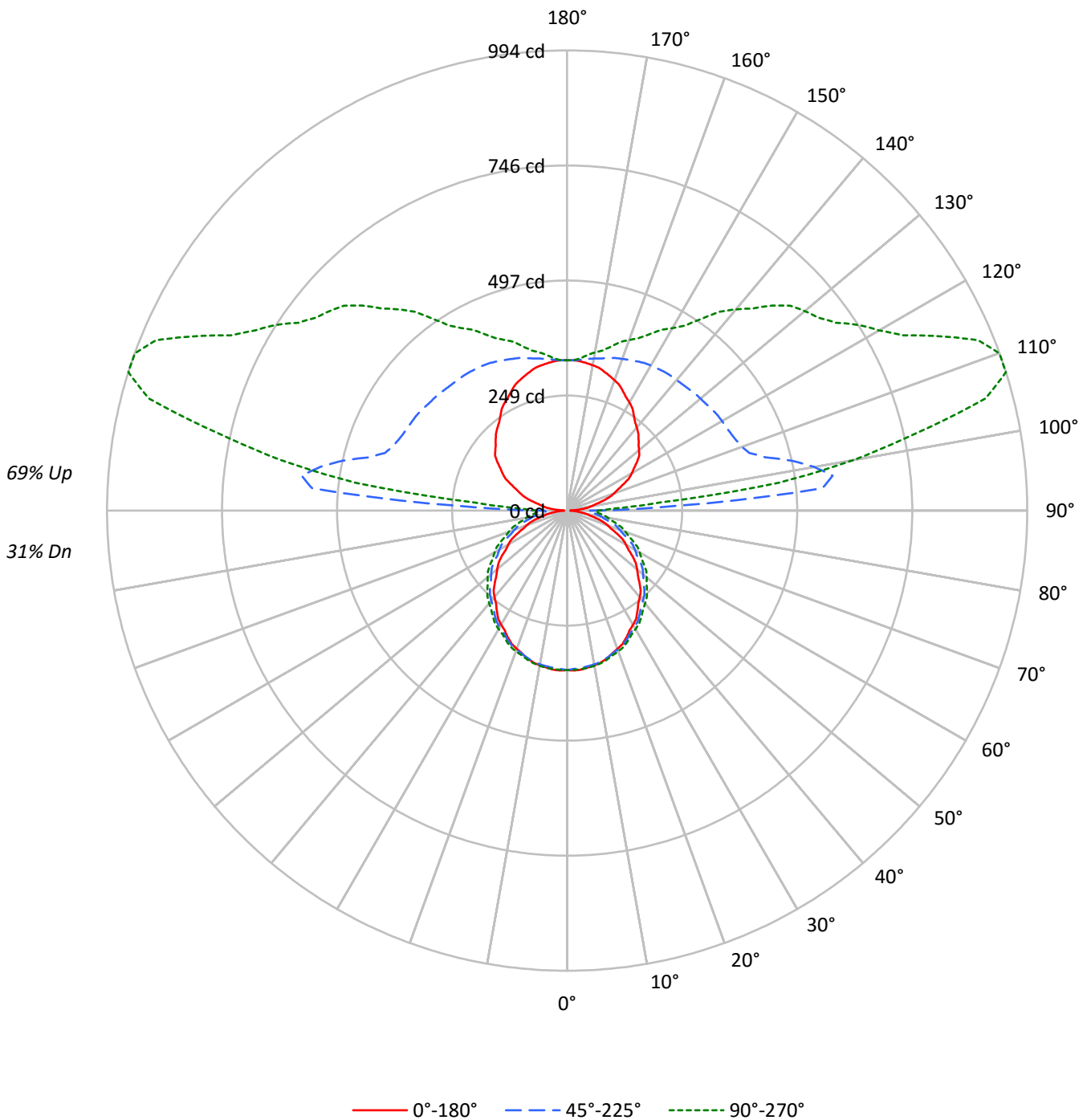
Input Watts (W): 31.2
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	92	92	92	92	73	73	73	55	55	55	38	38	38	31
1	93	88	84	81	83	79	76	73	63	60	58	47	46	44	33	32	31	25
2	84	77	71	65	75	69	64	59	54	51	48	41	39	36	29	27	26	20
3	77	67	60	54	68	60	54	49	48	43	40	36	33	30	25	23	22	17
4	70	59	51	45	62	53	47	41	42	37	33	32	29	26	22	20	18	14
5	64	53	44	39	57	47	40	35	38	32	29	28	25	22	20	18	16	12
6	59	47	39	33	53	42	35	30	34	29	25	26	22	19	18	16	14	11
7	54	42	34	29	48	38	31	26	30	25	22	23	20	17	16	14	12	9
8	50	38	30	25	45	34	28	23	28	23	19	21	18	15	15	13	11	8
9	47	35	27	22	42	31	25	20	25	20	17	19	16	13	14	11	10	7
10	43	32	25	20	39	29	22	18	23	18	15	18	14	12	13	10	9	7

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2782	2782	2782
5°	2791	2719	2726
10°	2774	2675	2673
15°	2749	2623	2608
20°	2711	2566	2547
25°	2669	2503	2478
30°	2623	2439	2408
35°	2571	2374	2347
40°	2530	2313	2282
45°	2468	2256	2228
50°	2417	2190	2169
55°	2363	2129	2101
60°	2280	2049	2039
65°	2187	1965	1962
70°	2076	1868	1874
75°	1922	1763	1793
80°	1750	1660	1713
85°	1534	1571	1669



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	32.6	0.9
10°-20°	93.5	2.6
20°-30°	141.4	4.0
30°-40°	171.1	4.8
40°-50°	180.8	5.1
50°-60°	170.2	4.8
60°-70°	141.2	4.0
70°-80°	99.2	2.8
80°-90°	57.9	1.6
90°-100°	267.7	7.6
100°-110°	512.4	14.5
110°-120°	453.4	12.8
120°-130°	376.9	10.7
130°-140°	310.5	8.8
140°-150°	234.9	6.6
150°-160°	164.6	4.7
160°-170°	96.8	2.7
170°-180°	31.5	0.9
0°-30°	267.5	7.6
0°-40°	438.6	12.4
0°-60°	789.6	22.3
0°-90°	1087.9	30.8
90°-120°	1233.6	34.9
90°-150°	2155.8	61.0
90°-180°	2449.0	69.2
0°-180°	3536.5	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	345	345	345	345	345	
5°	345	344	341	344	344	33
15°	331	331	330	333	333	93
25°	303	305	306	310	311	139
35°	265	269	273	278	280	166
45°	221	228	235	242	244	171
55°	173	181	193	200	203	154
65°	120	132	145	154	158	119
75°	66	81	97	107	111	71
85°	20	37	54	65	70	22
90°	7	27	50	62	66	5
95°	26	84	553	301	203	28
105°	78	120	444	935	935	83
115°	134	171	391	743	891	133
125°	184	219	382	628	708	164
135°	218	260	371	551	626	169
145°	251	287	366	459	506	157
155°	285	308	356	403	420	131
165°	310	320	341	361	367	88
175°	324	324	327	332	330	31
180°	324	324	324	324	324	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	344.6	344.6	344.6	344.6	344.6	344.6	344.6	344.6	344.6	344.6	344.6
2.5°	345.8	345.6	345.4	345.2	345.0	344.6	344.1	343.6	343.0	342.4	342.9
5°	345.0	344.7	344.5	344.2	344.0	343.6	342.9	342.3	341.8	341.1	341.9
7.5°	342.1	341.9	341.8	341.6	341.4	341.1	340.6	340.1	339.7	339.2	339.9
10°	339.6	339.5	339.4	339.3	339.2	339.0	338.6	338.1	337.7	337.3	338.0
12.5°	336.2	336.1	336.1	336.1	336.1	336.0	335.7	335.4	335.1	334.8	335.5
15°	330.7	330.8	330.9	331.0	331.1	331.0	330.7	330.4	330.2	330.0	330.7
17.5°	323.3	323.5	323.8	324.0	324.2	324.4	324.3	324.2	324.2	324.2	325.0
20°	318.0	318.2	318.5	318.8	319.0	319.2	319.3	319.4	319.4	319.5	320.4
22.5°	312.1	312.4	312.7	313.1	313.4	313.6	313.8	314.0	314.1	314.3	315.1
25°	302.6	303.0	303.6	304.1	304.6	305.0	305.2	305.5	305.7	306.1	307.0
27.5°	291.9	292.7	293.4	294.2	294.9	295.5	295.9	296.3	296.7	297.1	297.9
30°	284.8	285.5	286.2	286.8	287.6	288.2	288.8	289.3	290.0	290.6	291.6
32.5°	277.1	277.9	278.8	279.6	280.4	281.1	281.8	282.4	283.2	283.8	284.9
35°	264.7	265.8	266.8	267.8	268.9	269.8	270.7	271.5	272.4	273.2	274.4
37.5°	252.3	253.5	254.7	255.8	257.1	258.1	259.3	260.3	261.4	262.4	263.7
40°	244.3	245.4	246.5	247.6	248.7	249.9	251.1	252.3	253.5	254.7	256.0
42.5°	235.1	236.3	237.5	238.8	240.0	241.3	242.8	244.2	245.6	247.0	248.4
45°	220.7	222.3	224.0	225.6	227.2	228.9	230.5	232.1	233.7	235.4	236.8
47.5°	207.1	208.8	210.4	212.1	213.8	215.6	217.4	219.4	221.3	223.1	224.6
50°	197.2	199.1	201.0	202.8	204.7	206.6	208.6	210.4	212.3	214.2	215.9
52.5°	187.4	189.2	191.1	193.0	194.9	196.9	199.0	201.2	203.3	205.5	207.2
55°	172.9	174.7	176.5	178.3	180.1	182.3	184.8	187.4	190.0	192.6	194.3
57.5°	156.8	159.0	161.2	163.5	165.7	168.0	170.6	173.2	175.7	178.3	180.3
60°	146.3	148.5	150.7	153.0	155.2	157.7	160.5	163.4	166.2	169.0	171.0
62.5°	136.1	138.5	141.0	143.4	145.8	148.5	151.2	154.1	156.9	159.8	161.8
65°	119.6	122.4	125.1	127.8	130.6	133.5	136.3	139.3	142.2	145.1	147.2
67.5°	103.8	106.7	109.7	112.6	115.4	118.5	121.6	124.7	127.8	130.9	133.1
70°	93.0	95.9	98.8	101.7	104.7	107.8	111.0	114.3	117.6	120.8	123.1
72.5°	82.5	85.5	88.5	91.5	94.4	97.7	101.1	104.6	108.0	111.5	113.7
75°	66.4	69.5	72.7	75.9	79.1	82.4	86.1	89.7	93.3	96.9	99.3
77.5°	51.4	54.7	58.0	61.4	64.7	68.3	72.1	75.9	79.7	83.4	85.9
80°	42.1	45.5	48.9	52.3	55.8	59.4	63.2	66.9	70.7	74.5	77.0
82.5°	32.8	36.4	39.9	43.5	47.0	50.7	54.5	58.3	62.0	65.9	68.5
85°	20.5	24.1	27.6	31.2	34.9	38.6	42.5	46.3	50.1	54.1	56.6
87.5°	11.6	15.3	19.2	22.8	26.4	30.1	34.6	38.3	42.3	46.4	48.8
90°	6.8	11.5	16.9	21.0	25.0	28.5	36.0	39.8	44.7	49.7	51.5
92.5°	13.1	19.6	28.6	39.5	51.9	68.5	104.6	157.8	209.6	238.6	207.2
95°	26.1	30.8	40.0	51.1	69.2	99.2	158.2	266.3	422.1	553.1	570.1
97.5°	42.3	44.8	52.7	62.7	78.3	103.7	149.9	239.7	394.6	578.4	704.6
100°	52.7	55.0	61.6	71.5	85.9	109.0	150.0	225.3	358.7	541.8	707.4
102.5°	62.9	65.9	71.7	80.9	94.4	116.4	153.8	220.4	334.4	497.0	667.6
105°	78.0	81.7	86.6	96.0	109.2	130.0	163.9	220.0	312.3	443.7	595.7
107.5°	95.6	98.2	102.9	112.4	124.8	145.2	176.3	227.5	306.7	412.9	537.3
110°	107.0	109.5	113.9	122.7	135.4	154.7	185.7	233.4	306.5	401.9	507.8



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	117.9	120.3	125.0	133.2	145.8	164.9	194.9	239.8	308.2	395.8	490.4
115°	133.6	136.3	141.5	148.7	161.6	180.6	208.8	249.8	311.9	391.1	473.3
117.5°	150.4	152.6	157.0	164.5	176.3	195.7	222.5	260.2	315.9	388.1	464.2
120°	161.3	162.8	167.5	174.8	185.9	205.1	231.9	267.5	319.0	386.6	459.1
122.5°	171.5	172.8	177.3	183.9	195.8	214.3	240.9	274.3	322.3	384.5	453.5
125°	184.5	186.9	190.7	197.6	209.7	228.5	253.6	285.1	327.4	381.8	444.7
127.5°	196.3	198.3	202.8	210.7	223.2	242.0	265.8	294.4	331.1	378.1	433.2
130°	202.6	205.0	210.1	219.6	231.6	250.7	273.8	300.0	333.9	376.1	426.1
132.5°	209.2	211.2	217.8	226.7	239.8	257.7	280.5	306.0	336.5	374.3	419.6
135°	218.2	220.7	227.1	237.9	251.3	268.2	289.8	313.4	340.1	371.3	409.7
137.5°	227.5	229.8	236.8	247.0	260.8	276.7	296.6	318.4	341.9	369.4	401.1
140°	234.1	235.9	242.9	253.6	266.9	282.2	301.4	321.9	343.6	367.9	396.5
142.5°	240.9	242.8	249.3	259.6	272.5	287.2	305.8	324.7	345.2	367.4	392.6
145°	250.9	252.7	259.0	267.9	279.9	293.9	310.5	327.7	346.2	365.9	386.9
147.5°	262.3	262.9	268.3	277.4	287.4	300.0	315.6	330.6	346.8	363.6	381.6
150°	269.4	269.9	275.0	282.5	292.0	304.1	318.1	332.2	346.8	362.1	378.1
152.5°	275.7	275.8	281.0	288.0	296.6	307.7	320.2	333.1	345.8	359.5	374.0
155°	284.9	285.6	289.4	295.8	302.8	312.3	323.2	334.0	344.2	355.7	367.9
157.5°	294.0	294.0	297.6	302.6	308.7	316.2	325.4	334.0	342.6	351.8	361.6
160°	299.6	299.6	302.1	306.6	311.8	318.8	326.4	334.0	341.0	348.7	357.0
162.5°	304.8	304.2	306.2	310.2	314.8	320.2	327.4	334.0	339.6	345.7	352.9
165°	310.5	310.5	311.8	315.0	318.1	322.0	327.7	332.8	336.6	341.0	346.2
167.5°	316.2	315.6	316.2	318.6	320.4	323.3	327.6	331.3	333.5	336.5	340.1
170°	318.8	318.1	318.8	320.7	322.0	323.8	327.0	330.2	331.5	333.4	336.0
172.5°	321.3	320.7	320.8	322.2	322.9	324.3	326.5	329.2	329.5	330.4	332.4
175°	323.8	323.2	323.2	323.8	324.5	324.5	325.8	327.7	327.0	327.0	328.3
177.5°	325.0	324.5	324.0	324.5	324.5	324.5	325.0	326.0	325.0	325.0	325.5
180°	324.5	324.5	324.5	324.5	324.5	324.5	324.5	324.5	324.5	324.5	324.5



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	344.6	344.6	344.6	344.6	344.6	344.6	344.6	344.6
2.5°	343.4	343.9	344.4	344.5	344.5	344.5	344.4	344.3
5°	342.5	343.2	343.9	344.2	344.1	344.0	343.9	343.8
7.5°	340.7	341.4	342.3	342.6	342.5	342.4	342.3	342.3
10°	338.8	339.6	340.4	340.7	340.6	340.6	340.5	340.4
12.5°	336.2	337.0	337.6	337.9	337.9	337.9	337.9	337.9
15°	331.5	332.2	333.0	333.4	333.3	333.2	333.1	333.0
17.5°	325.7	326.5	327.3	327.7	327.6	327.5	327.5	327.4
20°	321.2	322.1	322.9	323.4	323.4	323.4	323.4	323.4
22.5°	316.0	316.8	317.7	318.2	318.4	318.5	318.6	318.8
25°	307.9	308.8	309.8	310.3	310.4	310.5	310.5	310.6
27.5°	298.8	299.7	300.6	301.1	301.2	301.3	301.3	301.5
30°	292.4	293.4	294.3	294.9	295.1	295.3	295.5	295.6
32.5°	285.9	287.1	288.1	288.8	288.9	289.1	289.3	289.4
35°	275.7	276.8	278.0	278.8	279.0	279.2	279.6	279.8
37.5°	264.9	266.0	267.3	268.1	268.3	268.6	268.9	269.1
40°	257.3	258.5	259.8	260.7	261.0	261.4	261.7	262.0
42.5°	249.8	251.3	252.7	253.6	253.8	254.0	254.4	254.6
45°	238.3	239.8	241.2	242.1	242.6	243.0	243.4	243.9
47.5°	226.2	227.6	229.2	230.2	230.7	231.2	231.7	232.3
50°	217.6	219.3	221.0	222.2	222.7	223.1	223.7	224.2
52.5°	209.0	210.7	212.4	213.5	214.0	214.5	215.1	215.6
55°	196.0	197.7	199.4	200.6	201.1	201.5	202.1	202.6
57.5°	182.4	184.4	186.5	187.7	188.2	188.7	189.1	189.6
60°	173.0	175.0	176.9	178.2	179.0	179.6	180.3	181.0
62.5°	163.7	165.7	167.6	169.0	169.7	170.3	171.0	171.7
65°	149.4	151.6	153.7	155.1	155.8	156.5	157.2	157.8
67.5°	135.3	137.5	139.7	141.1	141.8	142.4	143.1	143.8
70°	125.4	127.8	130.0	131.5	132.1	132.7	133.3	133.9
72.5°	116.0	118.3	120.5	122.0	122.6	123.3	124.0	124.7
75°	101.7	104.0	106.5	108.0	108.8	109.6	110.4	111.1
77.5°	88.3	90.7	93.2	94.8	95.6	96.4	97.3	98.1
80°	79.7	82.2	84.8	86.4	87.1	87.8	88.5	89.1
82.5°	71.1	73.8	76.4	78.1	78.8	79.6	80.4	81.1
85°	59.2	61.7	64.3	66.0	66.9	67.8	68.6	69.5
87.5°	51.4	54.0	56.6	58.2	59.1	59.9	60.6	61.3
90°	54.6	57.8	60.9	62.5	63.8	65.1	65.2	65.9
92.5°	166.4	137.9	121.0	109.8	103.0	100.2	98.7	99.4
95°	510.6	414.1	331.0	270.7	240.2	221.3	210.5	203.0
97.5°	733.6	699.1	639.0	574.0	529.0	491.3	472.9	460.4
100°	802.8	817.8	789.0	743.2	688.4	650.0	631.5	627.0
102.5°	797.5	863.0	874.3	856.1	822.8	795.2	775.8	772.4
105°	743.8	856.2	921.5	949.0	951.0	946.6	938.3	935.1
107.5°	668.6	788.1	879.1	937.4	969.5	984.6	991.6	993.9
110°	623.3	735.6	830.0	901.4	947.4	974.9	987.0	993.4



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	589.5	688.9	778.1	849.5	901.6	934.7	951.5	961.5
115°	554.9	635.2	711.7	774.0	825.0	863.9	884.9	890.6
117.5°	536.5	603.2	663.7	716.8	760.4	793.2	814.6	819.2
120°	527.7	588.7	641.4	687.9	724.9	753.7	770.9	778.6
122.5°	520.1	579.0	627.1	668.0	699.3	723.9	738.5	746.2
125°	507.5	563.9	609.6	645.7	671.7	690.7	703.4	707.7
127.5°	492.3	546.2	591.6	625.9	652.2	669.2	680.0	684.4
130°	480.5	532.4	577.3	612.1	638.8	655.3	665.9	670.3
132.5°	468.4	517.2	561.0	595.8	621.9	640.4	650.6	654.9
135°	451.2	494.0	534.3	567.0	593.1	611.5	622.2	626.5
137.5°	435.8	472.1	506.1	535.8	560.0	578.0	586.9	591.9
140°	427.0	458.0	487.8	515.4	538.1	552.5	561.9	567.4
142.5°	418.9	446.3	471.9	495.7	515.8	529.2	537.5	541.4
145°	407.7	429.9	449.6	467.9	484.1	495.3	502.1	505.6
147.5°	398.6	415.9	431.2	445.4	457.5	467.0	472.1	473.5
150°	393.3	408.0	420.8	432.2	442.5	450.7	454.5	455.2
152.5°	387.8	400.3	412.1	421.5	430.2	436.9	439.2	439.9
155°	379.3	389.6	399.1	406.8	413.1	418.2	420.1	420.1
157.5°	370.2	378.8	386.9	393.0	397.8	401.6	402.8	402.8
160°	364.7	371.7	378.7	383.8	387.6	391.4	392.1	392.1
162.5°	359.1	365.0	370.6	375.1	377.9	381.7	382.4	381.9
165°	351.2	355.1	359.5	362.7	365.3	367.9	367.2	366.6
167.5°	343.7	346.7	350.3	352.1	353.4	355.1	355.0	354.4
170°	339.2	341.0	343.6	345.5	346.8	347.4	346.8	346.8
172.5°	335.1	336.5	338.0	339.4	340.1	340.8	340.1	339.2
175°	329.6	330.2	331.5	331.5	331.5	332.8	331.5	330.2
177.5°	326.0	326.5	326.5	327.0	326.5	327.0	326.0	325.0
180°	324.5	324.5	324.5	324.5	324.5	324.5	324.5	324.5

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