

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: P331906-940

Luminaire Tested: **S123DIP-S340D1195U940-4F0-1E-UDD-D4**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331906-940
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-17,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S123DIP-S340D1195U940-4F0-1E-UDD-D4
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 340 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 1195 LUMENS PER FOOT, BATWING OPTIC
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5136.2 lumens
Efficiency: N/A
Efficacy: 121.7 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.26 / 1.37
Luminous Opening: Rectangular w/ Sides (W: 0.25' x L: 4' x H: 0.08')
CIE Type: Semi-Indirect

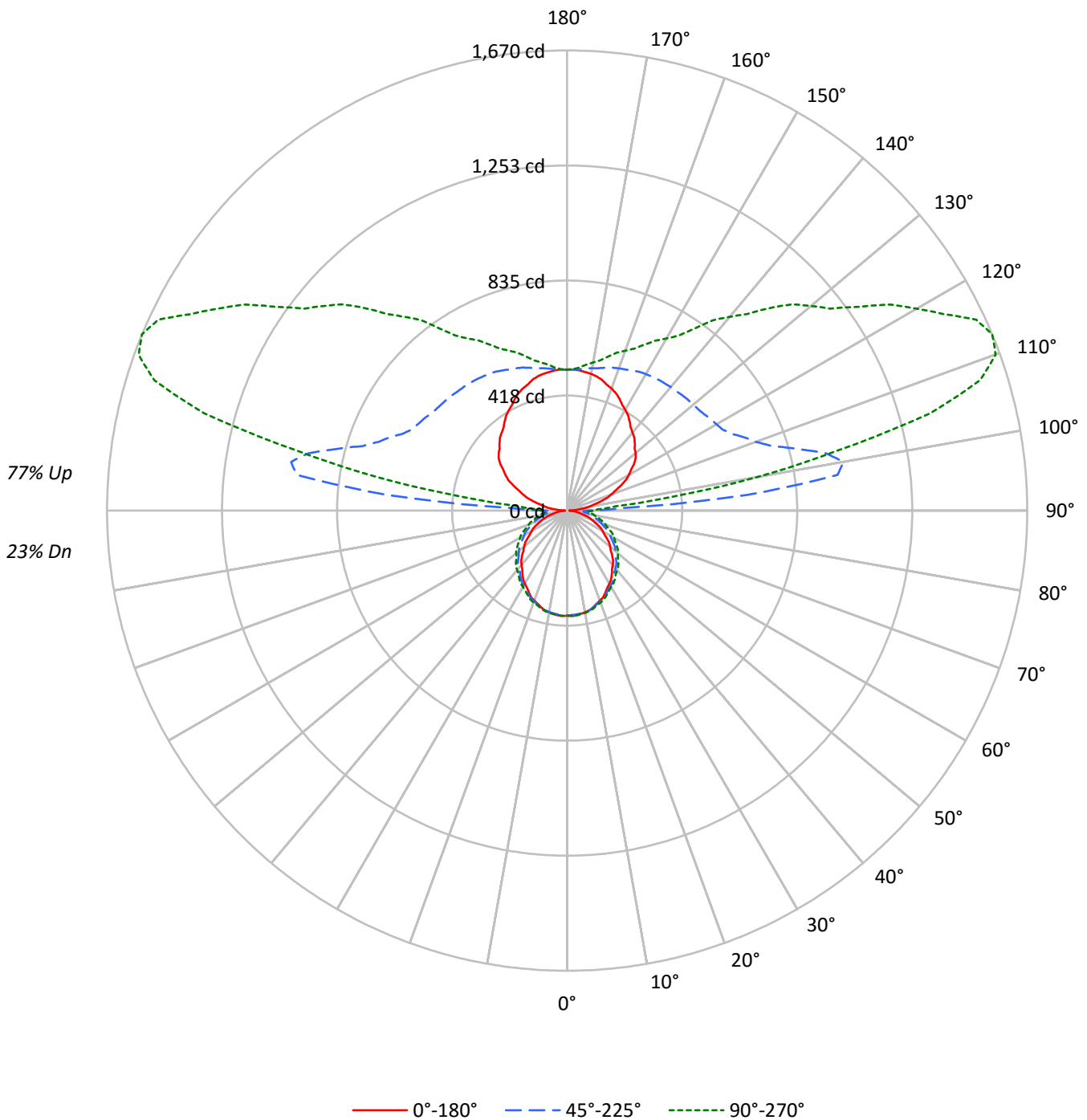
Input Watts (W): 42.2
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	101	101	101	101	89	89	89	89	68	68	68	49	49	49	31	31	31	23
1	91	87	83	79	81	77	74	71	59	57	55	42	41	40	27	26	25	18
2	83	76	69	64	73	67	62	58	51	48	45	37	35	33	23	22	21	15
3	75	66	59	53	67	59	53	48	45	41	37	32	30	27	20	19	18	12
4	69	58	51	45	61	52	45	40	40	35	32	29	26	23	18	16	15	11
5	63	52	44	38	56	46	39	34	35	31	27	26	22	20	16	14	13	9
6	58	46	38	33	51	41	34	30	32	27	23	23	20	17	15	13	11	8
7	53	41	34	28	47	37	30	26	29	24	20	21	18	15	13	11	10	7
8	49	37	30	25	44	33	27	22	26	21	18	19	16	13	12	10	9	6
9	46	34	27	22	40	30	24	20	24	19	16	17	14	12	11	9	8	6
10	43	31	24	19	38	28	22	18	22	17	14	16	13	11	10	9	7	5

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	4105	4105	4105
5°	4118	4002	4004
10°	4082	3910	3890
15°	4029	3805	3766
20°	3954	3686	3630
25°	3860	3549	3485
30°	3767	3425	3339
35°	3659	3294	3223
40°	3557	3175	3098
45°	3445	3060	2998
50°	3333	2947	2888
55°	3211	2831	2789
60°	3090	2713	2689
65°	2967	2588	2567
70°	2783	2448	2443
75°	2551	2287	2318
80°	2278	2128	2175
85°	2025	2018	2090



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	36.2	0.7
10°-20°	103.1	2.0
20°-30°	154.2	3.0
30°-40°	184.1	3.6
40°-50°	192.6	3.8
50°-60°	180.7	3.5
60°-70°	151.0	2.9
70°-80°	108.0	2.1
80°-90°	68.4	1.3
90°-100°	325.2	6.3
100°-110°	836.2	16.3
110°-120°	813.2	15.8
120°-130°	644.2	12.5
130°-140°	504.0	9.8
140°-150°	373.5	7.3
150°-160°	259.6	5.1
160°-170°	152.5	3.0
170°-180°	49.6	1.0
0°-30°	293.4	5.7
0°-40°	477.5	9.3
0°-60°	850.9	16.6
0°-90°	1178.2	22.9
90°-120°	1974.7	38.4
90°-150°	3496.3	68.1
90°-180°	3958.0	77.1
0°-180°	5136.2	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	381	381	381	381	381	
5°	382	381	378	382	381	36
15°	364	365	364	368	368	102
25°	328	332	334	339	339	151
35°	282	289	295	301	302	177
45°	231	241	251	259	263	178
55°	176	190	205	216	219	158
65°	122	138	156	168	173	120
75°	66	86	106	120	125	71
85°	20	41	63	77	81	21
90°	8	38	73	90	95	6
95°	40	135	656	233	178	42
105°	124	191	864	1499	1364	131
115°	214	272	659	1429	1638	212
125°	296	351	608	1099	1289	263
135°	347	414	591	900	1039	268
145°	395	452	579	731	806	248
155°	449	484	560	637	664	206
165°	490	504	537	569	579	138
175°	511	511	515	522	521	48
180°	512	512	512	512	512	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	381.4	381.4	381.4	381.4	381.4	381.4	381.4	381.4	381.4	381.4	381.4
2.5°	383.1	382.9	382.6	382.5	382.2	381.8	381.2	380.6	380.0	379.4	380.0
5°	381.8	381.7	381.5	381.3	381.1	380.8	380.1	379.6	379.1	378.5	379.2
7.5°	378.1	378.2	378.2	378.2	378.3	378.0	377.5	376.9	376.4	375.9	376.7
10°	374.8	375.0	375.1	375.3	375.5	375.4	374.9	374.4	374.0	373.5	374.4
12.5°	370.8	371.0	371.3	371.6	371.8	371.8	371.5	371.1	370.9	370.5	371.4
15°	363.6	363.8	364.1	364.4	364.6	364.8	364.6	364.5	364.4	364.4	365.3
17.5°	354.5	355.0	355.5	356.1	356.6	356.9	356.9	356.8	356.8	356.8	357.6
20°	347.8	348.3	348.8	349.5	350.0	350.4	350.5	350.7	350.9	351.1	352.0
22.5°	340.8	341.3	341.9	342.4	343.0	343.4	343.7	343.9	344.2	344.5	345.5
25°	328.2	329.1	330.1	331.0	331.9	332.5	332.8	333.1	333.3	333.7	334.8
27.5°	315.6	316.6	317.7	318.8	319.9	320.7	321.2	321.8	322.4	323.0	324.0
30°	306.7	307.8	309.1	310.2	311.5	312.4	313.2	313.9	314.6	315.4	316.5
32.5°	296.7	298.0	299.3	300.7	302.0	303.2	304.2	305.1	306.1	307.0	308.3
35°	282.5	284.0	285.5	287.0	288.5	289.8	291.0	292.2	293.4	294.6	296.0
37.5°	267.6	269.2	270.9	272.6	274.2	275.8	277.2	278.7	280.3	281.7	283.3
40°	257.6	259.3	260.9	262.6	264.2	266.0	267.9	269.7	271.5	273.4	275.0
42.5°	246.6	248.7	250.7	252.7	254.8	256.7	258.7	260.6	262.5	264.4	266.2
45°	231.0	233.3	235.4	237.6	239.9	242.1	244.4	246.7	249.1	251.4	253.2
47.5°	214.6	217.1	219.6	222.2	224.7	227.3	229.9	232.6	235.1	237.8	239.8
50°	204.0	206.6	209.2	211.8	214.4	217.0	219.9	222.8	225.7	228.5	230.7
52.5°	192.7	195.5	198.1	200.9	203.7	206.6	209.7	212.9	216.1	219.2	221.4
55°	176.2	179.2	182.3	185.3	188.3	191.5	194.8	198.2	201.5	204.8	207.3
57.5°	160.1	163.2	166.4	169.6	172.7	176.2	179.8	183.4	187.1	190.7	193.2
60°	148.7	152.0	155.4	158.7	162.0	165.6	169.4	173.2	176.9	180.7	183.3
62.5°	138.1	141.5	144.9	148.3	151.7	155.4	159.4	163.5	167.5	171.5	174.0
65°	121.7	125.4	128.9	132.5	136.2	140.0	144.0	148.1	152.1	156.2	159.0
67.5°	105.1	109.0	112.8	116.5	120.4	124.4	128.5	132.7	136.8	141.0	143.9
70°	93.5	97.5	101.4	105.4	109.3	113.6	118.0	122.4	126.9	131.3	134.3
72.5°	82.8	86.9	90.8	94.8	98.7	103.0	107.5	112.2	116.7	121.4	124.4
75°	66.1	70.4	74.7	79.1	83.5	87.9	92.6	97.1	101.7	106.4	109.4
77.5°	51.5	55.8	60.2	64.6	68.9	73.5	78.1	82.8	87.4	92.1	95.3
80°	41.1	45.7	50.2	54.8	59.2	63.9	68.7	73.5	78.3	83.1	86.2
82.5°	32.2	36.7	41.4	45.9	50.6	55.3	60.2	65.0	69.9	74.8	77.9
85°	20.3	25.0	29.6	34.2	38.8	43.6	48.5	53.3	58.2	63.1	66.3
87.5°	11.5	16.5	21.5	26.8	31.7	36.8	42.1	47.4	52.8	58.1	61.1
90°	7.5	14.1	20.7	28.3	34.9	41.6	49.4	57.2	65.0	72.9	75.0
92.5°	17.9	28.2	41.0	53.1	66.0	85.6	117.4	166.6	215.0	203.7	167.6
95°	39.8	46.5	61.5	82.8	113.2	157.7	250.3	409.2	583.6	655.5	542.3
97.5°	64.2	68.5	80.6	99.2	128.9	176.5	264.9	443.3	730.8	990.2	1059.5
100°	80.4	84.4	94.6	112.1	139.9	183.9	260.6	418.2	695.0	1017.3	1224.1
102.5°	97.5	102.0	111.1	127.4	152.5	193.0	262.2	396.5	643.3	961.4	1230.3
105°	123.5	128.9	137.2	151.9	173.8	209.0	268.9	379.6	579.4	864.2	1164.0
107.5°	150.8	155.8	163.6	177.8	198.0	230.8	283.7	376.0	537.7	777.9	1050.3
110°	170.3	175.1	181.9	195.0	214.3	245.9	296.3	378.7	521.2	729.1	979.0



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	188.6	193.1	199.6	212.3	231.3	262.0	308.8	385.3	511.1	695.5	916.5
115°	214.5	219.7	227.0	238.5	257.3	287.4	330.1	396.6	505.6	659.2	840.6
117.5°	240.7	246.1	252.0	262.3	282.6	310.4	352.5	412.0	504.8	636.4	793.5
120°	258.6	262.2	267.8	278.7	298.8	326.5	366.8	423.7	506.5	625.6	768.7
122.5°	274.4	277.7	283.1	294.5	313.6	342.8	382.1	434.8	510.8	618.1	747.8
125°	296.5	298.5	304.8	316.2	335.9	365.2	404.1	452.4	517.3	608.0	720.8
127.5°	313.7	316.7	324.3	335.8	357.5	386.6	423.7	467.0	525.1	601.7	696.6
130°	324.5	327.5	336.7	349.1	370.8	399.6	435.6	476.8	530.5	597.6	683.3
132.5°	332.4	336.4	346.5	361.4	383.2	411.0	445.9	485.9	534.1	595.1	670.7
135°	346.9	350.9	362.2	377.6	399.3	427.8	460.9	497.1	539.6	591.4	654.2
137.5°	360.4	364.7	375.9	392.4	413.8	440.0	471.4	505.6	543.1	587.1	639.7
140°	369.3	374.4	384.8	401.4	422.0	448.1	478.4	509.8	545.3	585.0	630.9
142.5°	379.2	383.4	394.6	409.4	430.1	454.3	483.6	513.9	546.7	581.9	622.8
145°	395.1	398.1	407.4	422.8	440.3	464.1	491.1	519.1	548.0	579.2	613.1
147.5°	410.9	412.8	421.9	435.3	452.4	472.6	497.3	522.4	548.0	575.2	603.8
150°	421.7	422.7	431.0	444.4	459.0	477.6	501.4	523.2	548.0	571.9	597.8
152.5°	432.5	432.7	441.0	452.7	465.6	483.4	503.9	524.9	545.5	567.8	591.2
155°	448.6	448.6	454.9	465.2	476.5	491.1	508.7	525.3	542.9	560.5	581.2
157.5°	461.5	462.3	467.3	476.4	486.1	497.3	511.4	526.3	539.4	554.1	570.0
160°	471.4	471.4	475.5	483.8	491.1	501.4	513.9	526.3	537.7	549.1	562.6
162.5°	478.8	478.8	482.1	488.8	495.3	503.9	514.7	525.5	534.4	544.1	555.1
165°	490.1	489.0	491.1	496.2	500.4	507.7	515.9	523.2	529.4	536.6	544.9
167.5°	498.6	497.3	498.3	502.3	505.2	509.7	515.8	521.6	524.4	529.2	535.2
170°	503.5	501.4	502.5	505.6	507.7	509.7	514.9	519.1	521.1	524.2	529.4
172.5°	506.8	505.6	505.8	508.1	509.3	510.6	514.9	518.3	518.6	520.0	523.6
175°	510.8	509.7	508.7	510.8	510.8	511.8	513.9	515.9	514.9	514.9	517.0
177.5°	512.6	511.8	511.0	511.8	511.8	511.8	512.6	514.2	512.6	511.8	512.6
180°	511.8	511.8	511.8	511.8	511.8	511.8	511.8	511.8	511.8	511.8	511.8



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	381.4	381.4	381.4	381.4	381.4	381.4	381.4	381.4
2.5°	380.6	381.2	381.8	382.0	382.0	381.9	381.8	381.7
5°	380.0	380.8	381.5	381.8	381.7	381.6	381.5	381.4
7.5°	377.7	378.6	379.5	380.0	379.9	379.7	379.6	379.5
10°	375.4	376.3	377.2	377.6	377.4	377.2	377.0	376.8
12.5°	372.2	373.1	373.9	374.3	374.1	373.9	373.7	373.5
15°	366.2	367.1	368.1	368.5	368.4	368.3	368.2	368.1
17.5°	358.4	359.3	360.1	360.4	360.3	360.2	360.1	359.9
20°	352.8	353.6	354.5	354.9	355.0	355.1	355.2	355.3
22.5°	346.5	347.6	348.7	349.2	349.1	349.0	349.0	348.9
25°	336.0	337.2	338.4	339.0	339.0	339.0	339.0	339.0
27.5°	325.0	326.1	327.2	327.7	327.8	327.9	327.9	328.0
30°	317.5	318.7	319.8	320.3	320.3	320.3	320.3	320.3
32.5°	309.4	310.6	311.7	312.5	312.7	312.9	313.2	313.3
35°	297.4	298.7	300.1	301.0	301.4	301.8	302.1	302.5
37.5°	284.8	286.4	288.0	288.9	289.2	289.5	289.8	290.1
40°	276.5	278.1	279.6	280.6	281.0	281.4	281.8	282.1
42.5°	267.9	269.6	271.3	272.4	273.0	273.4	273.9	274.5
45°	254.9	256.6	258.4	259.7	260.4	261.1	261.9	262.6
47.5°	241.7	243.8	245.8	247.0	247.5	248.2	248.7	249.3
50°	232.7	234.9	237.0	238.4	239.1	239.7	240.3	241.0
52.5°	223.6	225.8	228.0	229.5	230.3	231.1	231.8	232.6
55°	209.8	212.3	214.8	216.4	217.1	217.9	218.6	219.4
57.5°	195.7	198.2	200.7	202.4	203.3	204.2	205.1	205.9
60°	185.9	188.5	191.1	192.9	193.9	194.9	195.9	197.0
62.5°	176.6	179.1	181.7	183.5	184.5	185.4	186.4	187.3
65°	161.8	164.5	167.3	169.2	170.0	171.0	171.9	172.8
67.5°	147.0	150.0	153.0	155.0	155.7	156.5	157.3	158.0
70°	137.2	140.2	143.1	145.1	146.0	146.9	147.8	148.7
72.5°	127.3	130.4	133.4	135.5	136.3	137.2	138.2	139.1
75°	112.4	115.5	118.6	120.6	121.7	122.9	123.9	125.1
77.5°	98.5	101.7	105.0	106.9	107.8	108.7	109.5	110.4
80°	89.3	92.6	95.7	97.6	98.6	99.5	100.5	101.4
82.5°	81.1	84.2	87.4	89.3	90.3	91.2	92.1	93.1
85°	69.5	72.6	75.7	77.8	78.6	79.6	80.5	81.4
87.5°	64.4	67.8	71.1	73.6	74.3	75.3	76.5	77.2
90°	79.1	83.3	87.5	91.6	91.5	93.5	95.4	95.2
92.5°	137.7	122.7	117.7	114.2	113.2	111.0	112.9	111.8
95°	419.8	302.5	250.5	215.1	196.3	187.9	181.6	178.3
97.5°	973.4	791.1	660.2	538.1	462.6	416.9	389.9	381.8
100°	1263.0	1181.8	1063.2	917.9	814.1	739.5	700.0	702.0
102.5°	1357.8	1357.7	1289.7	1198.2	1117.7	1058.7	1025.9	1003.0
105°	1383.1	1489.3	1511.6	1486.4	1439.6	1401.1	1368.7	1364.4
107.5°	1298.4	1469.1	1562.4	1600.9	1602.5	1590.1	1579.7	1571.0
110°	1218.7	1411.8	1544.6	1618.7	1648.5	1657.5	1656.2	1654.8



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	1139.4	1336.6	1485.1	1580.0	1633.9	1660.4	1669.0	1670.3
115°	1034.5	1217.0	1371.5	1485.9	1564.3	1610.7	1632.1	1638.1
117.5°	957.6	1115.4	1254.4	1370.4	1452.2	1505.1	1535.6	1543.4
120°	916.9	1058.8	1185.3	1291.3	1373.8	1432.4	1457.9	1464.8
122.5°	884.3	1013.0	1130.2	1228.8	1302.2	1355.0	1383.0	1391.5
125°	840.8	955.6	1057.1	1141.3	1208.2	1254.5	1281.0	1288.9
127.5°	802.5	905.0	996.6	1073.2	1132.9	1172.4	1196.5	1203.7
130°	778.3	873.3	958.9	1030.6	1086.0	1123.8	1146.2	1155.0
132.5°	755.7	843.2	923.0	991.3	1043.5	1081.5	1101.4	1107.8
135°	725.2	800.5	869.5	929.6	980.8	1012.4	1031.4	1039.2
137.5°	697.3	759.1	818.6	870.8	913.9	945.8	962.1	967.2
140°	681.0	735.2	786.3	831.8	871.6	901.1	918.1	917.6
142.5°	665.2	711.9	756.2	795.8	829.8	856.0	871.4	870.8
145°	646.9	681.9	715.8	746.4	772.6	794.8	803.4	805.8
147.5°	632.0	659.3	686.3	707.9	728.0	743.0	751.2	752.3
150°	621.6	645.4	667.2	687.0	702.7	714.3	720.7	720.9
152.5°	612.5	633.0	652.3	668.7	680.9	691.5	695.3	695.4
155°	598.8	615.4	631.0	643.4	652.7	661.0	663.1	664.1
157.5°	584.3	598.2	610.2	619.9	628.0	634.3	635.9	635.7
160°	576.0	587.5	597.8	605.0	612.3	618.5	618.5	617.5
162.5°	566.1	575.9	585.3	591.7	596.6	601.9	601.9	600.9
165°	553.2	559.5	566.7	571.9	576.0	580.1	579.2	579.2
167.5°	542.1	546.8	551.0	554.7	556.5	559.5	558.4	558.4
170°	534.6	537.7	541.8	543.9	544.9	547.1	546.0	546.0
172.5°	528.0	530.2	533.6	534.8	535.0	537.1	535.2	534.4
175°	519.1	520.0	522.2	522.2	522.2	523.2	522.2	521.1
177.5°	513.4	514.2	515.1	515.1	514.2	515.1	513.4	513.4
180°	511.8	511.8	511.8	511.8	511.8	511.8	511.8	511.8

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