

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: P331906-935

Luminaire Tested: **S123DIP-S340D1195U935-4F0-1E-UDD-D4**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331906-935
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-S340D1195U935-4F0-1E-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: 4959.3 lumens
Efficiency: N/A
Efficacy: 117.5 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

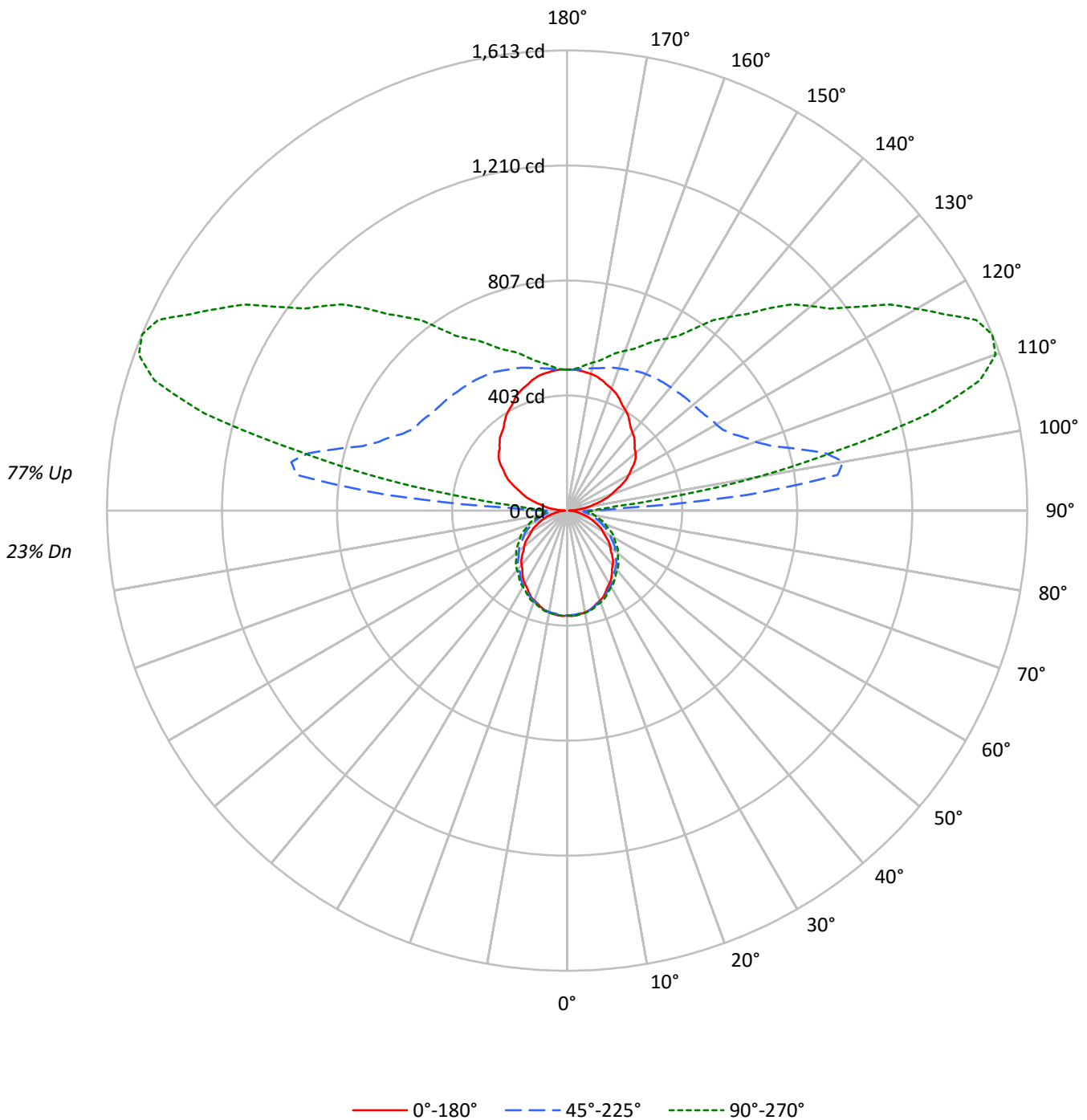
Input Watts (W): 42.2
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	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°	3963	3963	3963
5°	3977	3865	3866
10°	3941	3776	3757
15°	3890	3674	3636
20°	3818	3559	3504
25°	3728	3427	3365
30°	3637	3307	3224
35°	3533	3181	3112
40°	3435	3065	2991
45°	3327	2955	2895
50°	3219	2846	2789
55°	3100	2734	2693
60°	2984	2620	2596
65°	2865	2499	2479
70°	2685	2362	2359
75°	2462	2208	2239
80°	2201	2054	2100
85°	1955	1950	2018



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	34.9	0.7
10°-20°	99.5	2.0
20°-30°	148.9	3.0
30°-40°	177.8	3.6
40°-50°	186.0	3.8
50°-60°	174.5	3.5
60°-70°	145.8	2.9
70°-80°	104.3	2.1
80°-90°	66.0	1.3
90°-100°	314.0	6.3
100°-110°	807.4	16.3
110°-120°	785.2	15.8
120°-130°	622.0	12.5
130°-140°	486.7	9.8
140°-150°	360.6	7.3
150°-160°	250.6	5.1
160°-170°	147.2	3.0
170°-180°	47.9	1.0
0°-30°	283.3	5.7
0°-40°	461.0	9.3
0°-60°	821.6	16.6
0°-90°	1137.7	22.9
90°-120°	1906.6	38.4
90°-150°	3375.9	68.1
90°-180°	3822.0	77.1
0°-180°	4959.3	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	368	368	368	368	368	
5°	369	368	366	368	368	35
15°	351	352	352	356	355	99
25°	317	321	322	327	327	146
35°	273	279	284	290	292	171
45°	223	233	243	250	254	172
55°	170	183	198	208	212	152
65°	118	133	151	162	167	116
75°	64	83	103	116	121	68
85°	20	40	61	74	79	21
90°	7	37	70	86	92	6
95°	38	131	633	225	172	40
105°	119	185	834	1447	1317	127
115°	207	263	636	1380	1582	205
125°	286	338	587	1061	1244	254
135°	335	399	571	869	1003	259
145°	382	437	559	706	778	239
155°	433	467	541	615	641	199
165°	473	487	518	550	559	133
175°	493	494	497	504	503	47
180°	494	494	494	494	494	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	368.2	368.2	368.2	368.2	368.2	368.2	368.2	368.2	368.2	368.2	368.2
2.5°	369.9	369.7	369.5	369.3	369.0	368.7	368.1	367.5	367.0	366.4	367.0
5°	368.7	368.5	368.3	368.2	368.0	367.6	367.0	366.5	366.0	365.5	366.2
7.5°	365.1	365.2	365.2	365.2	365.2	365.0	364.5	363.9	363.4	362.9	363.8
10°	361.9	362.1	362.2	362.4	362.6	362.5	362.0	361.5	361.1	360.7	361.5
12.5°	358.0	358.3	358.5	358.8	359.0	359.0	358.7	358.3	358.1	357.7	358.6
15°	351.0	351.3	351.5	351.8	352.1	352.2	352.1	352.0	351.9	351.8	352.8
17.5°	342.2	342.8	343.3	343.8	344.3	344.6	344.6	344.5	344.5	344.5	345.3
20°	335.8	336.3	336.8	337.4	337.9	338.3	338.5	338.6	338.8	339.0	339.8
22.5°	329.1	329.6	330.1	330.6	331.2	331.6	331.8	332.1	332.3	332.6	333.6
25°	316.9	317.8	318.7	319.6	320.5	321.1	321.3	321.6	321.8	322.2	323.3
27.5°	304.7	305.7	306.8	307.8	308.8	309.6	310.1	310.7	311.3	311.9	312.9
30°	296.1	297.2	298.4	299.5	300.7	301.6	302.4	303.1	303.8	304.5	305.6
32.5°	286.5	287.7	289.0	290.3	291.6	292.7	293.7	294.6	295.6	296.4	297.6
35°	272.8	274.2	275.7	277.1	278.5	279.8	280.9	282.1	283.3	284.5	285.8
37.5°	258.4	259.9	261.6	263.2	264.8	266.3	267.7	269.1	270.6	272.0	273.5
40°	248.7	250.4	251.9	253.6	255.1	256.8	258.6	260.5	262.2	264.0	265.5
42.5°	238.2	240.1	242.0	244.0	246.0	247.9	249.8	251.6	253.5	255.3	257.0
45°	223.1	225.2	227.3	229.5	231.6	233.8	236.0	238.2	240.5	242.7	244.4
47.5°	207.2	209.7	212.1	214.6	217.0	219.5	222.0	224.5	227.0	229.6	231.5
50°	197.0	199.5	202.0	204.5	207.0	209.6	212.3	215.2	217.9	220.7	222.7
52.5°	186.1	188.7	191.3	194.0	196.7	199.5	202.5	205.6	208.6	211.6	213.8
55°	170.1	173.1	176.0	178.9	181.8	184.9	188.1	191.4	194.6	197.8	200.2
57.5°	154.5	157.6	160.7	163.8	166.8	170.1	173.6	177.1	180.6	184.2	186.6
60°	143.6	146.8	150.1	153.3	156.4	159.9	163.6	167.2	170.8	174.5	177.0
62.5°	133.4	136.6	139.9	143.2	146.5	150.1	153.9	157.8	161.7	165.6	168.0
65°	117.5	121.1	124.5	127.9	131.5	135.2	139.1	143.0	146.9	150.8	153.5
67.5°	101.5	105.2	108.9	112.5	116.2	120.1	124.1	128.1	132.1	136.1	139.0
70°	90.2	94.1	97.9	101.8	105.6	109.7	113.9	118.2	122.5	126.7	129.7
72.5°	80.0	83.9	87.6	91.5	95.3	99.4	103.8	108.3	112.7	117.2	120.1
75°	63.8	68.0	72.2	76.4	80.6	84.9	89.4	93.8	98.2	102.7	105.6
77.5°	49.7	53.9	58.1	62.3	66.6	70.9	75.4	79.9	84.4	88.9	92.0
80°	39.7	44.1	48.5	52.9	57.2	61.7	66.3	70.9	75.6	80.2	83.3
82.5°	31.1	35.5	40.0	44.3	48.8	53.4	58.1	62.8	67.5	72.2	75.3
85°	19.6	24.1	28.6	33.1	37.5	42.1	46.8	51.5	56.2	61.0	64.0
87.5°	11.1	15.9	20.8	25.8	30.7	35.6	40.6	45.8	51.0	56.1	59.0
90°	7.2	13.6	20.0	27.3	33.7	40.1	47.7	55.3	62.8	70.3	72.4
92.5°	17.3	27.2	39.6	51.3	63.7	82.7	113.4	160.8	207.6	196.7	161.8
95°	38.4	44.9	59.4	79.9	109.3	152.3	241.7	395.1	563.5	632.9	523.7
97.5°	62.0	66.1	77.8	95.7	124.5	170.4	255.8	428.0	705.7	956.1	1023.0
100°	77.7	81.5	91.4	108.2	135.1	177.5	251.7	403.8	671.1	982.2	1181.9
102.5°	94.1	98.5	107.3	123.0	147.2	186.3	253.1	382.8	621.1	928.3	1187.9
105°	119.2	124.4	132.5	146.7	167.8	201.8	259.7	366.5	559.5	834.4	1123.9
107.5°	145.6	150.4	158.0	171.7	191.2	222.8	273.9	363.1	519.2	751.1	1014.2
110°	164.5	169.1	175.6	188.3	206.9	237.5	286.1	365.7	503.3	704.0	945.3



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	182.1	186.4	192.7	205.0	223.3	253.0	298.2	372.0	493.5	671.6	884.9
115°	207.1	212.2	219.2	230.3	248.4	277.5	318.7	383.0	488.2	636.5	811.7
117.5°	232.4	237.6	243.3	253.2	272.9	299.7	340.4	397.8	487.4	614.5	766.2
120°	249.7	253.1	258.6	269.1	288.5	315.2	354.1	409.1	489.0	604.1	742.2
122.5°	264.9	268.1	273.4	284.4	302.8	331.0	368.9	419.8	493.2	596.8	722.0
125°	286.3	288.3	294.3	305.3	324.3	352.6	390.2	436.8	499.5	587.0	695.9
127.5°	302.9	305.8	313.1	324.3	345.2	373.2	409.1	450.9	507.0	581.0	672.6
130°	313.3	316.2	325.1	337.1	358.0	385.8	420.6	460.4	512.2	577.0	659.8
132.5°	321.0	324.8	334.6	349.0	370.0	396.8	430.5	469.2	515.7	574.6	647.6
135°	334.9	338.8	349.7	364.6	385.6	413.0	445.1	480.0	521.0	571.0	631.6
137.5°	348.0	352.1	362.9	378.8	399.6	424.8	455.2	488.2	524.3	566.9	617.7
140°	356.5	361.5	371.5	387.5	407.5	432.7	461.9	492.2	526.5	564.8	609.2
142.5°	366.1	370.2	381.0	395.3	415.3	438.7	466.9	496.2	527.9	561.9	601.3
145°	381.5	384.4	393.4	408.3	425.2	448.2	474.2	501.2	529.2	559.2	591.9
147.5°	396.7	398.6	407.3	420.3	436.8	456.3	480.2	504.4	529.2	555.4	583.0
150°	407.2	408.1	416.1	429.1	443.2	461.2	484.1	505.1	529.2	552.2	577.2
152.5°	417.6	417.8	425.8	437.1	449.5	466.7	486.6	506.8	526.8	548.2	570.8
155°	433.2	433.2	439.2	449.2	460.1	474.2	491.2	507.2	524.2	541.2	561.2
157.5°	445.6	446.3	451.2	459.9	469.3	480.2	493.8	508.2	520.8	535.0	550.4
160°	455.1	455.1	459.2	467.2	474.2	484.1	496.2	508.2	519.2	530.2	543.2
162.5°	462.4	462.4	465.5	472.0	478.2	486.6	497.0	507.4	516.0	525.4	536.0
165°	473.2	472.2	474.2	479.1	483.2	490.2	498.2	505.1	511.2	518.1	526.2
167.5°	481.4	480.2	481.1	485.0	487.8	492.1	498.0	503.6	506.4	511.0	516.8
170°	486.2	484.1	485.2	488.2	490.2	492.1	497.1	501.2	503.2	506.2	511.2
172.5°	489.4	488.2	488.4	490.6	491.8	493.0	497.1	500.4	500.8	502.1	505.6
175°	493.2	492.1	491.2	493.2	493.2	494.2	496.2	498.2	497.1	497.1	499.2
177.5°	495.0	494.2	493.4	494.2	494.2	494.2	495.0	496.5	495.0	494.2	495.0
180°	494.2	494.2	494.2	494.2	494.2	494.2	494.2	494.2	494.2	494.2	494.2



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	368.2	368.2	368.2	368.2	368.2	368.2	368.2	368.2
2.5°	367.5	368.1	368.7	368.9	368.9	368.8	368.7	368.6
5°	366.9	367.6	368.3	368.7	368.6	368.4	368.3	368.2
7.5°	364.7	365.6	366.4	366.9	366.8	366.6	366.5	366.4
10°	362.5	363.3	364.2	364.5	364.4	364.2	364.0	363.9
12.5°	359.4	360.2	361.0	361.4	361.2	361.0	360.8	360.7
15°	353.6	354.5	355.4	355.8	355.7	355.6	355.5	355.4
17.5°	346.0	346.9	347.7	348.0	347.8	347.8	347.7	347.5
20°	340.6	341.4	342.2	342.7	342.8	342.9	342.9	343.0
22.5°	334.6	335.6	336.7	337.2	337.1	337.0	337.0	336.9
25°	324.4	325.6	326.7	327.4	327.4	327.4	327.4	327.4
27.5°	313.8	314.9	315.9	316.4	316.5	316.6	316.6	316.7
30°	306.6	307.7	308.8	309.3	309.3	309.3	309.3	309.3
32.5°	298.8	299.9	301.0	301.7	302.0	302.1	302.4	302.6
35°	287.1	288.4	289.8	290.7	291.0	291.4	291.7	292.1
37.5°	275.0	276.6	278.1	279.0	279.2	279.6	279.8	280.1
40°	267.0	268.5	270.0	271.0	271.3	271.7	272.1	272.4
42.5°	258.6	260.3	261.9	263.0	263.6	264.0	264.5	265.0
45°	246.1	247.8	249.5	250.7	251.4	252.1	252.9	253.6
47.5°	233.4	235.4	237.3	238.5	239.0	239.6	240.1	240.7
50°	224.7	226.8	228.9	230.2	230.8	231.4	232.0	232.7
52.5°	215.9	218.0	220.2	221.6	222.4	223.2	223.9	224.6
55°	202.6	205.0	207.4	209.0	209.7	210.4	211.1	211.8
57.5°	189.0	191.4	193.8	195.4	196.3	197.2	198.0	198.8
60°	179.5	182.0	184.5	186.2	187.2	188.2	189.2	190.2
62.5°	170.5	173.0	175.5	177.2	178.1	179.0	179.9	180.9
65°	156.2	158.9	161.5	163.3	164.2	165.1	166.0	166.9
67.5°	141.9	144.8	147.7	149.6	150.3	151.1	151.9	152.6
70°	132.5	135.3	138.2	140.1	140.9	141.8	142.8	143.6
72.5°	123.0	125.9	128.8	130.8	131.6	132.5	133.5	134.3
75°	108.6	111.5	114.5	116.5	117.5	118.6	119.7	120.8
77.5°	95.1	98.2	101.3	103.2	104.1	105.0	105.7	106.6
80°	86.3	89.4	92.4	94.3	95.2	96.1	97.0	97.9
82.5°	78.3	81.3	84.4	86.3	87.2	88.1	88.9	89.9
85°	67.1	70.1	73.1	75.1	75.9	76.9	77.7	78.6
87.5°	62.2	65.4	68.6	71.0	71.7	72.8	73.9	74.6
90°	76.4	80.4	84.5	88.4	88.3	90.2	92.1	92.0
92.5°	132.9	118.5	113.7	110.3	109.3	107.2	109.0	108.0
95°	405.4	292.1	241.9	207.7	189.5	181.4	175.3	172.2
97.5°	939.9	763.9	637.5	519.6	446.7	402.5	376.4	368.7
100°	1219.5	1141.1	1026.6	886.3	786.1	714.0	675.9	677.8
102.5°	1311.0	1311.0	1245.3	1156.9	1079.2	1022.3	990.6	968.5
105°	1335.5	1438.0	1459.6	1435.2	1390.0	1352.8	1321.5	1317.4
107.5°	1253.7	1418.5	1508.6	1545.8	1547.3	1535.3	1525.3	1516.9
110°	1176.7	1363.1	1491.4	1563.0	1591.7	1600.4	1599.1	1597.8



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	1100.2	1290.6	1434.0	1525.6	1577.6	1603.2	1611.5	1612.7
115°	998.8	1175.1	1324.3	1434.8	1510.5	1555.2	1575.9	1581.7
117.5°	924.6	1077.0	1211.2	1323.2	1402.1	1453.3	1482.7	1490.2
120°	885.3	1022.4	1144.4	1246.8	1326.5	1383.1	1407.7	1414.4
122.5°	853.9	978.1	1091.3	1186.5	1257.3	1308.4	1335.4	1343.6
125°	811.8	922.7	1020.7	1102.0	1166.6	1211.3	1236.9	1244.5
127.5°	774.8	873.8	962.3	1036.2	1093.9	1132.0	1155.3	1162.3
130°	751.5	843.2	925.9	995.1	1048.6	1085.1	1106.7	1115.3
132.5°	729.7	814.2	891.2	957.2	1007.5	1044.2	1063.4	1069.6
135°	700.3	772.9	839.6	897.6	947.0	977.5	995.9	1003.4
137.5°	673.3	733.0	790.4	840.8	882.4	913.3	928.9	933.9
140°	657.5	709.9	759.2	803.1	841.5	870.0	886.5	886.0
142.5°	642.3	687.3	730.1	768.4	801.2	826.5	841.4	840.8
145°	624.7	658.4	691.1	720.7	746.0	767.4	775.8	778.1
147.5°	610.3	636.6	662.7	683.5	702.9	717.4	725.3	726.4
150°	600.2	623.2	644.2	663.3	678.5	689.7	695.9	696.0
152.5°	591.4	611.2	629.8	645.7	657.5	667.7	671.3	671.4
155°	578.2	594.2	609.2	621.2	630.3	638.3	640.2	641.2
157.5°	564.2	577.6	589.2	598.6	606.4	612.4	614.0	613.8
160°	556.2	567.2	577.2	584.2	591.2	597.2	597.2	596.2
162.5°	546.6	556.0	565.2	571.4	576.0	581.2	581.2	580.2
165°	534.2	540.2	547.2	552.2	556.2	560.2	559.2	559.2
167.5°	523.4	528.0	532.0	535.6	537.4	540.2	539.2	539.2
170°	516.2	519.2	523.1	525.2	526.2	528.2	527.2	527.2
172.5°	509.8	512.0	515.2	516.3	516.6	518.6	516.8	516.0
175°	501.2	502.1	504.2	504.2	504.2	505.1	504.2	503.2
177.5°	495.8	496.5	497.4	497.4	496.5	497.4	495.8	495.8
180°	494.2	494.2	494.2	494.2	494.2	494.2	494.2	494.2

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