

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: P331909-935

Luminaire Tested: **S123DIP-S340D1195U935-4F0-1E-UDD-F4**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331909-935
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-F4
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 340 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
UPLIGHT 1195 LUMENS PER FOOT, BATWING OPTIC
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4935.8 lumens
Efficiency: N/A
Efficacy: 117.0 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.18 / 1.31
Luminous Opening: Rectangular (W 0.25' x L: 4' x H: 0')
CIE Type: Semi-Indirect

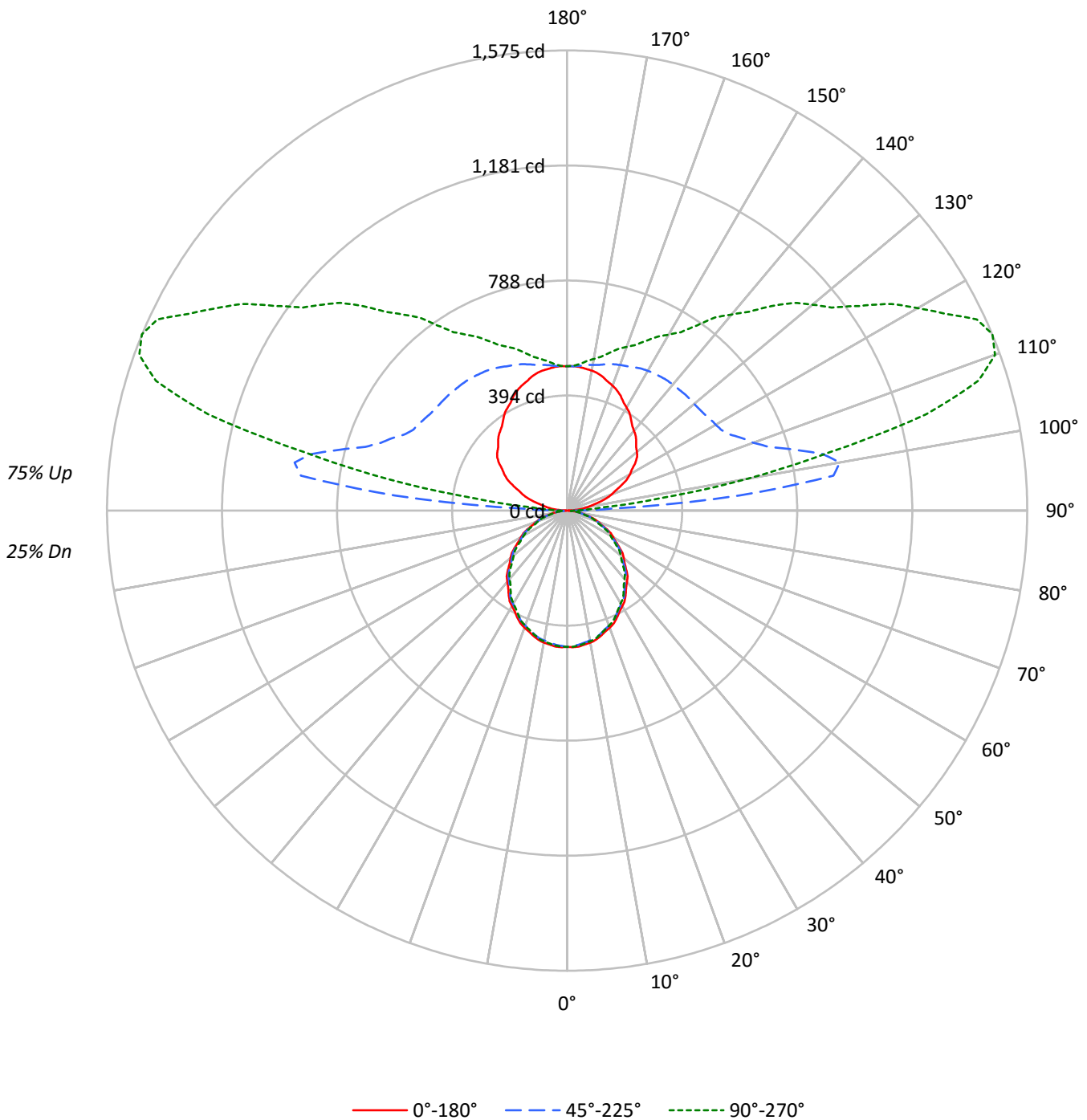
Input Watts (W): 42.2
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	90	90	90	90	69	69	69	50	50	50	33	33	33	25
1	92	88	84	81	82	78	75	72	60	58	57	44	43	42	29	28	28	21
2	84	77	71	66	74	68	63	59	53	50	47	39	37	35	25	24	23	17
3	76	67	60	55	68	60	54	49	47	43	39	34	31	29	22	21	20	15
4	70	59	52	46	62	53	47	42	41	37	33	30	27	25	20	18	17	13
5	64	53	45	39	57	47	41	36	37	32	28	27	24	22	18	16	15	11
6	59	47	39	34	52	42	36	31	33	28	25	24	21	19	16	14	13	10
7	54	42	35	29	48	38	31	27	30	25	22	22	19	16	15	13	11	8
8	50	38	31	26	44	34	28	24	27	22	19	20	17	15	14	12	10	8
9	47	35	28	23	41	31	25	21	25	20	17	18	15	13	13	11	9	7
10	43	32	25	20	39	29	23	19	23	18	15	17	14	12	12	10	8	6

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	5022	5022	5022
5°	5046	4976	5010
10°	5012	4933	4964
15°	4953	4878	4886
20°	4885	4798	4802
25°	4793	4703	4694
30°	4692	4598	4561
35°	4586	4486	4428
40°	4477	4363	4295
45°	4354	4250	4147
50°	4232	4113	3997
55°	4074	3969	3847
60°	3914	3800	3679
65°	3769	3617	3505
70°	3559	3408	3257
75°	3256	3136	3003
80°	2938	2814	2783
85°	2569	2482	2384



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	44.0	0.9
10°-20°	124.1	2.5
20°-30°	183.3	3.7
30°-40°	214.1	4.3
40°-50°	215.3	4.4
50°-60°	189.1	3.8
60°-70°	140.9	2.9
70°-80°	80.3	1.6
80°-90°	26.9	0.5
90°-100°	275.0	5.6
100°-110°	778.7	15.8
110°-120°	766.1	15.5
120°-130°	611.0	12.4
130°-140°	481.8	9.8
140°-150°	359.6	7.3
150°-160°	250.6	5.1
160°-170°	147.2	3.0
170°-180°	47.9	1.0
0°-30°	351.4	7.1
0°-40°	565.5	11.5
0°-60°	969.9	19.6
0°-90°	1217.9	24.7
90°-120°	1819.8	36.9
90°-150°	3272.2	66.3
90°-180°	3718.0	75.3
0°-180°	4935.8	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	467	467	467	467	467	
5°	467	465	460	464	464	44
15°	444	443	438	441	438	125
25°	404	401	396	396	395	186
35°	349	346	341	339	337	218
45°	286	284	279	275	272	221
55°	217	216	212	207	205	194
65°	148	146	142	139	138	146
75°	78	77	75	73	72	84
85°	21	20	20	19	19	23
90°	2	12	25	28	29	3
95°	34	110	593	173	116	37
105°	116	172	804	1406	1272	123
115°	205	256	615	1349	1548	203
125°	285	337	574	1040	1220	253
135°	334	399	566	857	989	258
145°	381	437	559	703	773	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°	466.6	466.6	466.6	466.6	466.6	466.6	466.6	466.6	466.6	466.6	466.6
2.5°	468.2	467.9	467.6	467.4	467.0	466.5	465.7	464.9	464.2	463.4	464.1
5°	467.0	466.5	466.1	465.6	465.2	464.5	463.5	462.5	461.5	460.5	461.4
7.5°	462.4	461.9	461.5	461.1	460.6	459.9	458.9	457.9	456.8	455.8	456.6
10°	458.6	458.1	457.6	457.2	456.8	456.0	454.8	453.7	452.5	451.3	452.1
12.5°	453.4	453.1	452.6	452.3	451.9	451.2	450.1	449.0	447.9	446.9	447.5
15°	444.5	444.2	443.8	443.4	443.1	442.3	441.2	440.0	438.9	437.7	438.4
17.5°	434.1	433.7	433.3	432.7	432.3	431.5	430.3	429.2	428.0	426.9	427.3
20°	426.5	425.9	425.4	424.8	424.3	423.4	422.3	421.1	420.0	418.9	419.2
22.5°	417.8	417.2	416.7	416.2	415.7	414.8	413.6	412.5	411.3	410.2	410.4
25°	403.6	403.0	402.5	402.0	401.5	400.6	399.4	398.3	397.1	396.0	396.1
27.5°	388.4	387.9	387.4	386.8	386.3	385.5	384.3	383.0	381.8	380.5	380.6
30°	377.5	377.0	376.6	376.2	375.7	374.9	373.7	372.4	371.2	369.9	369.9
32.5°	366.6	366.0	365.4	364.8	364.3	363.4	362.5	361.5	360.6	359.6	359.1
35°	349.0	348.5	347.9	347.4	346.9	346.0	344.9	343.7	342.6	341.4	340.9
37.5°	331.1	330.4	329.7	329.0	328.4	327.4	326.2	325.0	323.9	322.7	322.1
40°	318.6	318.0	317.5	316.9	316.4	315.5	314.3	313.0	311.8	310.5	309.8
42.5°	306.0	305.4	304.8	304.2	303.6	302.6	301.4	300.1	298.9	297.6	297.0
45°	286.0	285.7	285.3	285.0	284.6	283.9	282.7	281.5	280.3	279.2	278.2
47.5°	266.2	265.7	265.2	264.7	264.2	263.4	262.3	261.1	260.1	259.0	258.0
50°	252.7	252.3	251.8	251.4	251.0	250.1	249.0	247.9	246.7	245.6	244.5
52.5°	238.6	238.3	238.0	237.7	237.4	236.6	235.4	234.2	233.0	231.7	230.9
55°	217.1	217.0	216.9	216.8	216.7	216.0	214.9	213.7	212.6	211.5	210.4
57.5°	196.5	196.2	195.9	195.6	195.3	194.7	193.7	192.8	191.9	191.0	190.1
60°	181.8	181.7	181.6	181.5	181.4	180.8	179.7	178.7	177.6	176.5	175.7
62.5°	168.6	168.3	168.2	167.9	167.6	167.0	165.9	164.9	163.8	162.7	162.0
65°	148.0	147.6	147.1	146.7	146.3	145.6	144.7	143.8	142.9	142.0	141.3
67.5°	126.3	125.9	125.5	125.1	124.8	124.2	123.6	122.9	122.2	121.5	120.9
70°	113.1	112.6	112.1	111.5	111.0	110.5	109.9	109.3	108.8	108.3	107.7
72.5°	99.4	98.9	98.6	98.2	97.7	97.3	96.7	96.1	95.5	94.9	94.3
75°	78.3	77.8	77.5	77.1	76.8	76.5	76.2	75.9	75.7	75.4	75.0
77.5°	59.5	59.3	59.2	59.0	58.7	58.5	58.2	57.9	57.5	57.2	56.9
80°	47.4	47.1	46.8	46.6	46.2	46.1	45.9	45.7	45.5	45.4	45.2
82.5°	35.5	35.4	35.4	35.3	35.2	35.2	35.1	35.1	35.1	35.0	34.9
85°	20.8	20.7	20.5	20.3	20.1	20.1	20.1	20.1	20.1	20.1	19.9
87.5°	8.8	9.0	9.1	9.5	9.7	10.0	10.5	11.0	11.5	12.1	11.8
90°	2.0	4.0	6.0	9.0	11.0	13.0	16.0	19.0	22.0	25.0	24.0
92.5°	12.4	18.4	26.8	34.6	43.0	57.9	84.0	127.1	169.3	153.9	116.1
95°	34.0	37.0	48.0	65.0	91.0	130.0	215.1	364.1	528.2	593.2	481.1
97.5°	58.0	59.0	67.6	82.4	108.1	150.2	231.5	399.5	673.0	919.3	983.5
100°	74.0	75.0	82.1	96.0	120.0	159.0	229.1	377.1	640.2	947.4	1144.4
102.5°	90.8	92.6	98.8	112.0	133.6	169.4	232.3	357.9	592.2	895.4	1152.4
105°	116.1	119.1	125.0	137.1	156.0	187.1	241.1	344.1	533.2	804.3	1091.4
107.5°	142.8	145.9	151.6	163.4	181.2	210.1	257.5	343.1	495.6	723.8	984.6
110°	162.0	165.1	170.0	181.1	198.0	226.1	271.1	347.2	481.1	678.2	917.3



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	179.7	182.7	187.7	198.6	215.7	242.9	284.7	355.2	473.2	647.8	858.9
115°	205.1	209.1	215.1	225.1	242.1	269.1	307.1	368.2	470.2	615.2	788.2
117.5°	230.5	235.1	240.0	249.3	268.3	293.3	330.9	385.3	472.0	596.0	745.6
120°	248.1	251.1	256.1	266.1	285.1	310.1	346.1	398.1	475.2	587.2	723.2
122.5°	263.3	266.3	271.3	282.1	300.3	326.9	362.1	410.2	480.8	581.6	704.8
125°	285.1	287.1	293.1	304.1	323.1	350.1	385.1	429.1	489.1	574.2	681.2
127.5°	301.7	304.7	312.1	323.3	344.3	371.3	405.1	444.8	498.8	570.6	660.5
130°	312.1	315.1	324.1	336.1	357.1	384.1	417.2	455.1	505.1	568.2	649.2
132.5°	320.1	323.9	333.7	348.1	369.1	395.4	427.6	464.8	510.0	567.4	638.9
135°	334.2	338.1	349.1	364.1	385.1	412.2	443.2	477.2	517.2	566.2	625.3
137.5°	347.3	351.5	362.3	378.3	399.2	424.1	453.9	486.4	522.0	564.0	613.4
140°	356.1	361.1	371.1	387.1	407.2	432.1	461.2	491.2	525.2	563.2	606.2
142.5°	365.8	370.0	380.7	395.1	415.2	438.6	466.7	495.9	527.6	561.6	599.8
145°	381.2	384.1	393.1	408.1	425.2	448.2	474.2	501.2	529.2	559.2	591.2
147.5°	396.7	398.6	407.3	420.3	436.8	456.3	480.2	504.4	529.2	555.4	582.8
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°	466.6	466.6	466.6	466.6	466.6	466.6	466.6	466.6
2.5°	464.8	465.5	466.2	466.6	466.5	466.4	466.3	466.2
5°	462.4	463.2	464.2	464.5	464.3	464.2	463.9	463.7
7.5°	457.4	458.2	459.0	459.3	459.3	459.2	459.1	458.9
10°	453.0	453.7	454.5	454.9	454.7	454.5	454.3	454.2
12.5°	448.0	448.6	449.2	449.4	449.4	449.2	449.1	449.0
15°	439.1	439.8	440.6	440.7	440.1	439.5	439.0	438.5
17.5°	427.8	428.3	428.9	429.0	428.8	428.6	428.4	428.3
20°	419.6	419.9	420.3	420.3	420.0	419.7	419.5	419.2
22.5°	410.7	411.0	411.3	411.3	411.0	410.6	410.3	409.9
25°	396.1	396.2	396.3	396.2	396.0	395.7	395.5	395.2
27.5°	380.6	380.7	380.7	380.6	380.3	380.0	379.6	379.3
30°	369.9	369.9	369.9	369.5	368.9	368.3	367.7	367.0
32.5°	358.6	358.1	357.7	357.2	356.9	356.5	356.2	355.9
35°	340.4	339.8	339.2	338.8	338.4	337.9	337.4	337.0
37.5°	321.4	320.8	320.1	319.7	319.4	319.1	318.8	318.6
40°	309.1	308.4	307.6	307.1	306.8	306.4	306.1	305.7
42.5°	296.3	295.5	294.8	294.3	293.9	293.6	293.3	292.8
45°	277.1	276.0	274.9	274.2	273.7	273.3	272.9	272.4
47.5°	256.9	255.9	254.8	254.1	253.7	253.3	252.9	252.5
50°	243.6	242.5	241.6	240.8	240.3	239.8	239.3	238.7
52.5°	230.1	229.2	228.3	227.6	227.1	226.6	226.1	225.6
55°	209.5	208.4	207.5	206.8	206.4	205.9	205.4	205.0
57.5°	189.2	188.3	187.4	186.8	186.2	185.7	185.2	184.7
60°	175.0	174.1	173.3	172.7	172.2	171.8	171.3	170.9
62.5°	161.1	160.3	159.5	158.9	158.7	158.3	158.1	157.7
65°	140.6	139.9	139.1	138.7	138.4	138.1	137.8	137.6
67.5°	120.2	119.6	119.0	118.5	118.1	117.7	117.4	117.0
70°	107.1	106.4	105.8	105.3	104.9	104.4	103.9	103.5
72.5°	93.8	93.2	92.6	92.2	92.0	91.8	91.5	91.3
75°	74.6	74.0	73.6	73.3	73.0	72.8	72.5	72.2
77.5°	56.6	56.3	56.0	55.9	55.9	55.9	55.9	55.9
80°	45.1	45.0	44.9	44.9	44.9	44.9	44.9	44.9
82.5°	34.8	34.6	34.4	34.3	34.3	34.2	34.1	34.0
85°	19.7	19.5	19.4	19.3	19.3	19.3	19.3	19.3
87.5°	11.9	12.1	12.1	12.6	12.3	12.6	12.7	12.6
90°	25.0	26.0	27.0	29.0	28.0	29.0	30.0	29.0
92.5°	84.2	66.8	59.0	53.8	52.0	49.0	50.0	48.2
95°	360.2	244.1	191.1	155.1	136.0	127.1	120.0	116.1
97.5°	897.7	719.0	590.0	470.4	396.6	351.5	324.5	315.9
100°	1179.4	1098.4	981.4	839.3	738.2	665.2	626.2	627.2
102.5°	1273.1	1270.4	1202.2	1112.2	1033.5	975.8	943.1	920.2
105°	1300.5	1400.5	1419.5	1393.5	1347.5	1309.5	1277.5	1272.5
107.5°	1221.6	1384.1	1471.7	1507.4	1508.1	1495.3	1484.5	1475.3
110°	1146.4	1330.5	1456.6	1526.6	1554.5	1562.5	1560.6	1558.6



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	1071.9	1260.1	1401.3	1491.3	1542.6	1567.4	1574.9	1575.4
115°	973.4	1147.4	1294.4	1403.5	1478.5	1522.5	1542.6	1547.6
117.5°	901.9	1052.1	1184.2	1294.9	1373.1	1423.5	1452.3	1459.1
120°	864.3	999.4	1119.4	1220.5	1299.4	1355.5	1379.5	1385.5
122.5°	834.7	956.9	1068.2	1162.0	1232.3	1282.6	1309.1	1316.6
125°	795.3	904.3	1000.3	1080.4	1144.4	1188.4	1213.4	1220.5
127.5°	760.9	858.1	944.7	1017.5	1074.6	1112.2	1134.8	1141.2
130°	739.3	829.3	910.3	978.4	1031.4	1067.4	1088.4	1096.4
132.5°	719.3	802.1	877.5	942.4	992.1	1028.1	1046.8	1052.4
135°	692.2	763.3	828.3	885.3	934.4	964.3	982.3	989.4
137.5°	667.6	725.8	781.9	831.3	872.5	902.9	918.1	922.7
140°	653.2	704.2	752.3	795.3	833.3	861.3	877.3	876.3
142.5°	639.6	683.5	725.0	762.5	794.9	819.7	834.1	833.1
145°	623.2	656.3	688.3	717.2	742.3	763.3	771.3	773.3
147.5°	609.8	636.0	661.9	682.4	701.5	715.7	723.2	724.0
150°	600.2	623.2	644.2	663.2	678.2	689.2	695.3	695.3
152.5°	591.4	611.2	629.8	645.7	657.5	667.6	671.2	671.2
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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