

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: P331909-930

Luminaire Tested: **S123DIP-S340D1195U930-4F0-1E-UDD-F4**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331909-930
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-S340D1195U930-4F0-1E-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: 4673.8 lumens
Efficiency: N/A
Efficacy: 110.8 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

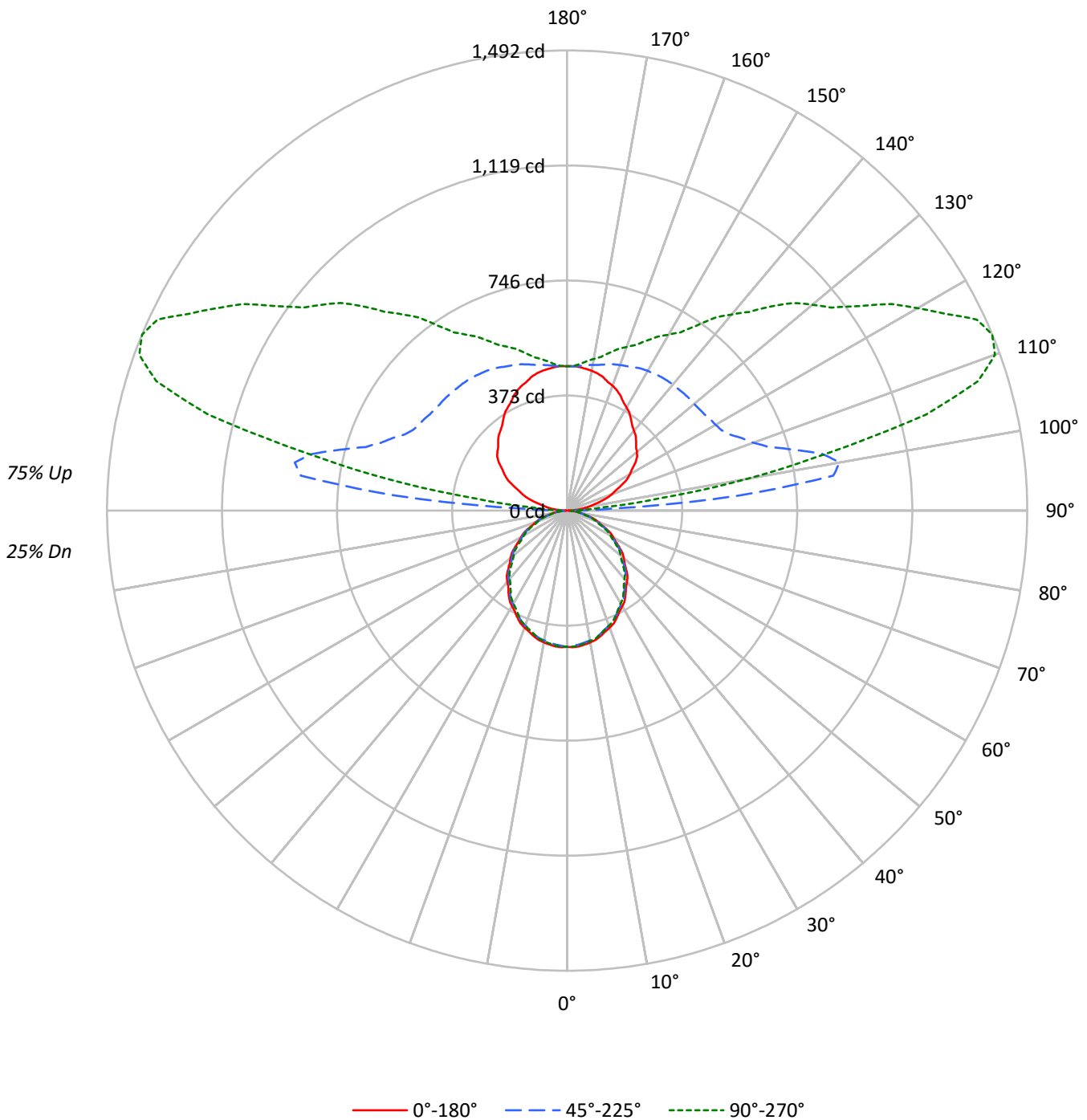
Input Watts (W): 42.2
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	4755	4755	4755
5°	4778	4712	4744
10°	4746	4671	4701
15°	4690	4619	4627
20°	4625	4543	4548
25°	4538	4454	4444
30°	4443	4354	4320
35°	4343	4248	4193
40°	4239	4131	4068
45°	4122	4025	3927
50°	4007	3893	3785
55°	3856	3757	3643
60°	3705	3597	3483
65°	3568	3423	3319
70°	3371	3229	3084
75°	3082	2969	2845
80°	2777	2665	2641
85°	2433	2347	2260



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	41.6	0.9
10°-20°	117.5	2.5
20°-30°	173.6	3.7
30°-40°	202.8	4.3
40°-50°	203.9	4.4
50°-60°	179.1	3.8
60°-70°	133.4	2.9
70°-80°	76.0	1.6
80°-90°	25.4	0.5
90°-100°	260.4	5.6
100°-110°	737.4	15.8
110°-120°	725.4	15.5
120°-130°	578.6	12.4
130°-140°	456.2	9.8
140°-150°	340.5	7.3
150°-160°	237.3	5.1
160°-170°	139.4	3.0
170°-180°	45.4	1.0
0°-30°	332.7	7.1
0°-40°	535.5	11.5
0°-60°	918.4	19.6
0°-90°	1153.3	24.7
90°-120°	1723.2	36.9
90°-150°	3098.5	66.3
90°-180°	3521.0	75.3
0°-180°	4673.8	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	442	442	442	442	442	
5°	442	440	436	440	439	42
15°	421	419	414	417	415	119
25°	382	380	375	375	374	176
35°	330	328	323	321	319	207
45°	271	269	264	260	258	209
55°	206	205	200	196	194	184
65°	140	138	134	132	130	138
75°	74	73	71	70	68	79
85°	20	19	19	18	18	22
90°	2	11	24	27	28	3
95°	32	105	562	164	110	35
105°	110	162	762	1332	1205	117
115°	194	242	582	1277	1465	192
125°	270	319	544	985	1156	239
135°	316	378	536	811	937	244
145°	361	414	530	665	732	226
155°	410	442	512	583	607	189
165°	448	461	491	520	530	126
175°	467	468	471	477	476	44
180°	468	468	468	468	468	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	441.8	441.8	441.8	441.8	441.8	441.8	441.8	441.8	441.8	441.8	441.8
2.5°	443.4	443.0	442.8	442.5	442.2	441.7	441.0	440.3	439.5	438.8	439.4
5°	442.2	441.7	441.3	440.9	440.5	439.9	438.9	438.0	437.0	436.1	436.9
7.5°	437.9	437.4	437.0	436.6	436.2	435.5	434.6	433.6	432.6	431.6	432.4
10°	434.2	433.8	433.3	432.9	432.5	431.8	430.6	429.6	428.4	427.4	428.1
12.5°	429.3	429.0	428.6	428.3	428.0	427.2	426.2	425.2	424.1	423.1	423.7
15°	420.9	420.6	420.2	419.9	419.6	418.8	417.8	416.6	415.6	414.5	415.2
17.5°	411.1	410.7	410.3	409.8	409.4	408.6	407.5	406.4	405.3	404.2	404.6
20°	403.8	403.3	402.8	402.3	401.8	401.0	399.9	398.8	397.7	396.6	397.0
22.5°	395.6	395.1	394.6	394.1	393.6	392.8	391.7	390.6	389.5	388.4	388.7
25°	382.1	381.6	381.2	380.7	380.2	379.4	378.2	377.2	376.0	375.0	375.0
27.5°	367.8	367.3	366.8	366.3	365.8	365.0	363.9	362.6	361.5	360.3	360.4
30°	357.5	357.0	356.6	356.2	355.8	355.0	353.8	352.6	351.5	350.3	350.3
32.5°	347.2	346.6	346.0	345.4	345.0	344.1	343.2	342.3	341.4	340.6	340.1
35°	330.5	330.0	329.5	329.0	328.5	327.7	326.6	325.5	324.4	323.3	322.8
37.5°	313.5	312.8	312.2	311.5	311.0	310.1	308.9	307.8	306.7	305.6	305.0
40°	301.7	301.1	300.6	300.1	299.6	298.7	297.6	296.4	295.2	294.0	293.3
42.5°	289.8	289.2	288.6	288.0	287.5	286.6	285.4	284.2	283.1	281.8	281.2
45°	270.8	270.5	270.2	269.9	269.5	268.8	267.7	266.6	265.5	264.4	263.4
47.5°	252.1	251.6	251.1	250.6	250.1	249.4	248.3	247.3	246.3	245.2	244.3
50°	239.3	238.9	238.5	238.1	237.7	236.8	235.8	234.7	233.6	232.5	231.5
52.5°	225.9	225.7	225.3	225.1	224.8	224.0	222.9	221.8	220.6	219.4	218.7
55°	205.5	205.5	205.4	205.3	205.2	204.6	203.5	202.4	201.3	200.2	199.3
57.5°	186.1	185.8	185.5	185.2	184.9	184.3	183.4	182.5	181.7	180.8	180.0
60°	172.1	172.0	171.9	171.9	171.8	171.2	170.2	169.2	168.2	167.1	166.4
62.5°	159.6	159.4	159.2	159.0	158.7	158.2	157.1	156.1	155.1	154.1	153.4
65°	140.1	139.7	139.3	138.9	138.5	137.9	137.1	136.2	135.3	134.4	133.8
67.5°	119.6	119.2	118.9	118.5	118.1	117.6	117.0	116.3	115.7	115.0	114.5
70°	107.1	106.6	106.2	105.6	105.1	104.6	104.1	103.5	103.1	102.6	102.0
72.5°	94.1	93.7	93.4	92.9	92.5	92.1	91.6	91.0	90.4	89.8	89.3
75°	74.1	73.7	73.4	73.1	72.7	72.4	72.2	71.9	71.7	71.4	71.0
77.5°	56.3	56.2	56.0	55.8	55.6	55.4	55.1	54.8	54.5	54.1	53.9
80°	44.8	44.6	44.4	44.1	43.8	43.6	43.5	43.3	43.1	43.0	42.8
82.5°	33.6	33.5	33.5	33.4	33.3	33.3	33.3	33.3	33.3	33.2	33.0
85°	19.7	19.6	19.4	19.2	19.1	19.0	19.0	19.0	19.0	19.0	18.8
87.5°	8.3	8.5	8.6	9.0	9.2	9.5	9.9	10.4	10.9	11.4	11.2
90°	1.9	3.8	5.7	8.6	10.4	12.3	15.2	18.0	20.9	23.6	22.7
92.5°	11.7	17.4	25.4	32.8	40.8	54.8	79.6	120.3	160.3	145.7	109.9
95°	32.2	35.1	45.5	61.6	86.2	123.1	203.7	344.8	500.2	561.7	455.6
97.5°	55.0	55.8	64.0	78.0	102.3	142.3	219.2	378.3	637.3	870.5	931.3
100°	70.1	71.0	77.7	90.9	113.7	150.6	217.0	357.1	606.3	897.1	1083.7
102.5°	86.0	87.7	93.6	106.1	126.5	160.5	220.0	338.9	560.8	847.8	1091.2
105°	109.9	112.8	118.4	129.8	147.7	177.2	228.3	325.9	504.9	761.6	1033.5
107.5°	135.3	138.1	143.6	154.7	171.6	198.9	243.9	324.9	469.3	685.4	932.3
110°	153.4	156.3	161.0	171.5	187.5	214.1	256.7	328.7	455.6	642.2	868.6



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	170.2	173.0	177.7	188.1	204.2	230.0	269.6	336.3	448.1	613.4	813.3
115°	194.2	198.0	203.7	213.1	229.3	254.8	290.8	348.6	445.2	582.5	746.4
117.5°	218.3	222.6	227.3	236.0	254.0	277.8	313.3	364.8	446.9	564.4	706.0
120°	234.9	237.7	242.5	252.0	269.9	293.7	327.8	377.0	450.0	556.0	684.9
122.5°	249.3	252.2	256.9	267.1	284.4	309.6	342.9	388.4	455.3	550.7	667.4
125°	269.9	271.9	277.5	288.0	306.0	331.5	364.7	406.3	463.2	543.7	645.1
127.5°	285.7	288.5	295.5	306.1	326.0	351.6	383.6	421.2	472.3	540.3	625.4
130°	295.5	298.4	306.9	318.3	338.2	363.7	395.0	431.0	478.3	538.0	614.7
132.5°	303.1	306.7	316.0	329.6	349.5	374.4	404.9	440.1	482.9	537.3	605.0
135°	316.4	320.2	330.6	344.8	364.7	390.3	419.6	451.8	489.8	536.1	592.1
137.5°	328.9	332.9	343.1	358.2	378.0	401.6	429.8	460.6	494.3	534.0	580.8
140°	337.2	341.9	351.4	366.6	385.6	409.2	436.7	465.1	497.3	533.3	574.1
142.5°	346.3	350.3	360.5	374.1	393.1	415.3	442.0	469.6	499.6	531.8	567.9
145°	360.9	363.7	372.3	386.5	402.6	424.4	449.0	474.6	501.1	529.5	559.9
147.5°	375.7	377.4	385.7	398.0	413.6	432.1	454.7	477.6	501.1	525.9	551.9
150°	385.6	386.5	394.0	406.3	419.6	436.7	458.4	478.3	501.1	522.9	546.6
152.5°	395.4	395.6	403.2	413.9	425.7	442.0	460.7	479.9	498.8	519.1	540.5
155°	410.2	410.2	415.9	425.3	435.7	449.0	465.1	480.3	496.4	512.5	531.4
157.5°	421.9	422.7	427.2	435.5	444.4	454.7	467.6	481.2	493.2	506.6	521.1
160°	431.0	431.0	434.8	442.4	449.0	458.4	469.9	481.2	491.6	502.1	514.4
162.5°	437.8	437.8	440.8	446.9	452.8	460.7	470.6	480.5	488.6	497.5	507.5
165°	448.1	447.1	449.0	453.7	457.5	464.1	471.7	478.3	484.0	490.6	498.2
167.5°	455.8	454.7	455.6	459.3	461.9	466.0	471.6	476.9	479.5	483.9	489.3
170°	460.4	458.4	459.4	462.3	464.1	466.0	470.8	474.6	476.5	479.3	484.0
172.5°	463.4	462.3	462.4	464.6	465.7	466.8	470.8	473.9	474.2	475.5	478.7
175°	467.0	466.0	465.1	467.0	467.0	468.0	469.9	471.7	470.8	470.8	472.7
177.5°	468.7	468.0	467.2	468.0	468.0	468.0	468.7	470.2	468.7	468.0	468.7
180°	468.0	468.0	468.0	468.0	468.0	468.0	468.0	468.0	468.0	468.0	468.0



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	441.8	441.8	441.8	441.8	441.8	441.8	441.8	441.8
2.5°	440.1	440.8	441.5	441.8	441.7	441.6	441.6	441.5
5°	437.8	438.6	439.5	439.9	439.7	439.5	439.3	439.1
7.5°	433.2	433.9	434.6	435.0	434.9	434.8	434.7	434.6
10°	428.9	429.7	430.4	430.7	430.6	430.4	430.2	430.1
12.5°	424.2	424.8	425.3	425.6	425.5	425.3	425.3	425.2
15°	415.8	416.5	417.2	417.3	416.7	416.2	415.7	415.2
17.5°	405.1	405.6	406.1	406.3	406.0	405.9	405.7	405.5
20°	397.3	397.6	397.9	398.0	397.7	397.5	397.2	397.0
22.5°	388.9	389.2	389.5	389.5	389.1	388.8	388.5	388.2
25°	375.1	375.2	375.3	375.2	375.0	374.7	374.5	374.2
27.5°	360.4	360.5	360.5	360.4	360.1	359.8	359.5	359.1
30°	350.3	350.3	350.3	349.9	349.4	348.8	348.2	347.6
32.5°	339.6	339.1	338.7	338.3	337.9	337.6	337.3	337.0
35°	322.3	321.8	321.2	320.8	320.4	319.9	319.5	319.1
37.5°	304.4	303.8	303.1	302.7	302.5	302.1	301.9	301.7
40°	292.7	292.0	291.3	290.8	290.5	290.2	289.8	289.5
42.5°	280.5	279.8	279.2	278.7	278.3	278.0	277.7	277.3
45°	262.4	261.4	260.3	259.7	259.2	258.8	258.4	258.0
47.5°	243.3	242.3	241.2	240.6	240.2	239.9	239.5	239.1
50°	230.6	229.7	228.8	228.0	227.6	227.1	226.6	226.0
52.5°	217.8	217.0	216.2	215.6	215.1	214.6	214.1	213.6
55°	198.4	197.4	196.5	195.8	195.4	194.9	194.5	194.1
57.5°	179.2	178.3	177.5	176.8	176.3	175.9	175.4	174.9
60°	165.7	164.9	164.1	163.5	163.1	162.7	162.2	161.8
62.5°	152.5	151.8	151.1	150.5	150.3	149.9	149.7	149.4
65°	133.1	132.5	131.8	131.3	131.1	130.8	130.5	130.3
67.5°	113.8	113.2	112.7	112.2	111.9	111.5	111.1	110.8
70°	101.4	100.8	100.2	99.7	99.3	98.9	98.4	98.0
72.5°	88.8	88.2	87.7	87.3	87.2	86.9	86.7	86.4
75°	70.6	70.1	69.7	69.4	69.1	68.9	68.6	68.4
77.5°	53.6	53.3	53.0	52.9	52.9	52.9	52.9	52.9
80°	42.7	42.6	42.6	42.6	42.6	42.6	42.6	42.6
82.5°	32.9	32.8	32.6	32.4	32.4	32.4	32.3	32.2
85°	18.7	18.5	18.3	18.3	18.3	18.3	18.3	18.3
87.5°	11.3	11.4	11.5	11.9	11.7	11.9	12.1	11.9
90°	23.6	24.6	25.6	27.5	26.5	27.5	28.5	27.5
92.5°	79.7	63.3	55.8	51.0	49.2	46.4	47.4	45.7
95°	341.0	231.1	180.9	146.8	128.8	120.3	113.7	109.9
97.5°	850.0	680.9	558.7	445.4	375.5	332.9	307.3	299.1
100°	1116.8	1040.1	929.3	794.8	699.0	629.9	593.0	593.9
102.5°	1205.5	1203.0	1138.4	1053.1	978.7	924.0	893.1	871.3
105°	1231.4	1326.2	1344.2	1319.6	1275.9	1240.0	1209.7	1204.9
107.5°	1156.7	1310.6	1393.6	1427.3	1428.1	1415.9	1405.7	1397.0
110°	1085.6	1259.9	1379.2	1445.5	1472.0	1479.6	1477.7	1475.9



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	1015.0	1193.2	1326.9	1412.2	1460.7	1484.2	1491.3	1491.8
115°	921.7	1086.5	1225.7	1329.0	1400.0	1441.7	1460.7	1465.4
117.5°	854.0	996.3	1121.4	1226.1	1300.2	1347.9	1375.2	1381.7
120°	818.4	946.3	1060.0	1155.7	1230.4	1283.5	1306.3	1312.0
122.5°	790.4	906.1	1011.5	1100.3	1166.9	1214.6	1239.6	1246.8
125°	753.1	856.3	947.2	1023.0	1083.7	1125.4	1149.0	1155.7
127.5°	720.5	812.5	894.5	963.5	1017.6	1053.1	1074.6	1080.6
130°	700.0	785.3	862.0	926.4	976.6	1010.7	1030.6	1038.2
132.5°	681.1	759.5	831.0	892.3	939.5	973.5	991.2	996.5
135°	655.5	722.8	784.3	838.3	884.8	913.1	930.2	936.9
137.5°	632.2	687.3	740.4	787.2	826.2	855.0	869.4	873.8
140°	618.6	666.8	712.3	753.1	789.0	815.6	830.7	829.8
142.5°	605.7	647.2	686.6	722.0	752.7	776.2	789.8	788.9
145°	590.1	621.4	651.8	679.1	702.9	722.8	730.3	732.2
147.5°	577.5	602.3	626.7	646.2	664.2	677.7	684.9	685.6
150°	568.3	590.1	610.0	628.0	642.2	652.6	658.4	658.4
152.5°	560.0	578.8	596.4	611.4	622.6	632.2	635.6	635.6
155°	547.5	562.6	576.9	588.2	596.8	604.4	606.3	607.2
157.5°	534.3	547.0	557.9	566.8	574.2	579.9	581.4	581.2
160°	526.7	537.1	546.6	553.2	559.9	565.5	565.5	564.6
162.5°	517.6	526.5	535.2	541.0	545.4	550.3	550.3	549.4
165°	505.8	511.5	518.1	522.9	526.7	530.4	529.5	529.5
167.5°	495.6	499.9	503.8	507.2	508.8	511.5	510.5	510.5
170°	488.8	491.6	495.4	497.3	498.2	500.2	499.2	499.2
172.5°	482.7	484.8	487.9	488.9	489.2	491.1	489.3	488.6
175°	474.6	475.5	477.4	477.4	477.4	478.3	477.4	476.5
177.5°	469.4	470.2	471.0	471.0	470.2	471.0	469.4	469.4
180°	468.0	468.0	468.0	468.0	468.0	468.0	468.0	468.0

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