

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: P332095-927

Luminaire Tested: **S123DIW-S340D460U927-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332095-927
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-9,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S123DIW-S340D460U927-4F0-1E-UDD-F1
Description: DEFINE 3 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 340 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
UPLIGHT 460 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2384.6 lumens
Efficiency: N/A
Efficacy: 103.7 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: General Diffuse

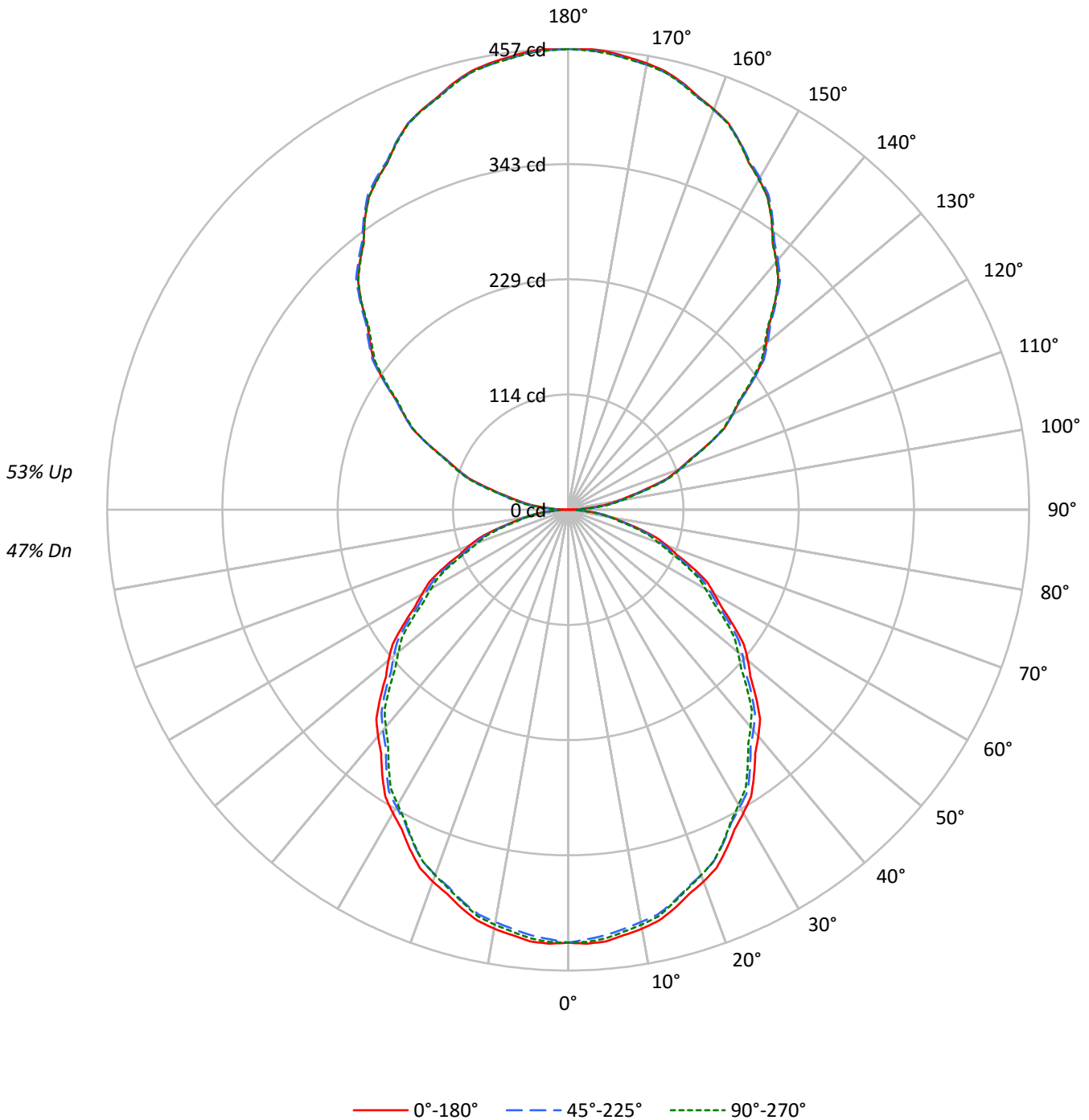
Input Watts (W): 23
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	106	106	106	106	98	98	98	98	82	82	82	67	67	67	53	53	53	47
1	97	93	89	85	89	85	82	79	71	69	67	59	57	56	47	46	45	39
2	88	81	75	70	81	75	69	65	63	59	55	52	49	46	41	39	38	33
3	81	71	64	58	74	66	59	54	55	50	46	46	42	39	37	34	32	28
4	74	63	55	49	67	58	51	46	49	44	40	41	37	33	33	30	28	24
5	68	56	48	42	62	52	45	39	44	38	34	36	32	29	29	26	24	21
6	62	50	42	36	57	46	39	34	39	34	30	33	29	25	27	24	21	18
7	58	45	37	32	53	42	35	30	36	30	26	30	26	22	24	21	19	16
8	53	41	33	28	49	38	31	26	33	27	23	27	23	20	22	19	17	14
9	50	37	30	25	46	35	28	24	30	24	21	25	21	18	21	17	15	13
10	46	34	27	22	43	32	25	21	27	22	19	23	19	16	19	16	14	12

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	4621	4621	4621
5°	4643	4578	4611
10°	4611	4539	4568
15°	4558	4488	4496
20°	4495	4415	4418
25°	4410	4327	4318
30°	4318	4230	4197
35°	4221	4127	4075
40°	4118	4014	3953
45°	4007	3911	3815
50°	3893	3783	3677
55°	3748	3652	3539
60°	3599	3496	3384
65°	3469	3326	3224
70°	3276	3138	2996
75°	2994	2886	2766
80°	2703	2585	2566
85°	2371	2285	2186



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	40.4	1.7
10°-20°	114.2	4.8
20°-30°	168.7	7.1
30°-40°	197.0	8.3
40°-50°	198.1	8.3
50°-60°	174.0	7.3
60°-70°	129.6	5.4
70°-80°	73.8	3.1
80°-90°	22.6	0.9
90°-100°	29.8	1.2
100°-110°	89.1	3.7
110°-120°	151.6	6.4
120°-130°	199.4	8.4
130°-140°	224.1	9.4
140°-150°	220.3	9.2
150°-160°	185.4	7.8
160°-170°	123.4	5.2
170°-180°	43.2	1.8
0°-30°	323.3	13.6
0°-40°	520.3	21.8
0°-60°	892.4	37.4
0°-90°	1118.4	46.9
90°-120°	270.4	11.3
90°-150°	914.1	38.3
90°-180°	1266.0	53.1
0°-180°	2384.6	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	429	429	429	429	429	
5°	430	428	424	427	427	41
15°	409	407	403	405	404	115
25°	371	369	364	365	364	171
35°	321	319	314	312	310	201
45°	263	262	257	253	251	203
55°	200	199	195	191	189	179
65°	136	134	131	128	127	134
75°	72	70	69	68	66	77
85°	19	18	18	18	18	21
90°	0	4	9	10	11	2
95°	21	24	26	28	28	24
105°	81	82	85	85	86	87
115°	153	154	153	153	153	151
125°	223	224	224	222	221	199
135°	290	292	292	290	289	223
145°	352	352	353	353	352	219
155°	402	402	403	404	402	185
165°	438	437	437	439	437	124
175°	456	455	454	456	454	43
180°	457	457	457	457	457	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	429.3	429.3	429.3	429.3	429.3	429.3	429.3	429.3	429.3	429.3	429.3
2.5°	430.8	430.5	430.2	430.0	429.7	429.2	428.5	427.8	427.1	426.4	427.0
5°	429.7	429.2	428.8	428.4	428.0	427.4	426.4	425.6	424.6	423.7	424.5
7.5°	425.5	425.0	424.6	424.2	423.8	423.1	422.2	421.3	420.3	419.4	420.1
10°	421.9	421.5	421.0	420.6	420.3	419.5	418.4	417.4	416.3	415.3	416.0
12.5°	417.2	416.8	416.5	416.1	415.8	415.1	414.2	413.1	412.1	411.1	411.7
15°	409.0	408.7	408.3	408.0	407.7	406.9	405.9	404.8	403.8	402.7	403.4
17.5°	399.4	399.0	398.6	398.2	397.8	397.0	395.9	394.9	393.8	392.8	393.2
20°	392.4	391.9	391.4	390.9	390.4	389.6	388.6	387.5	386.4	385.4	385.7
22.5°	384.4	383.9	383.4	382.9	382.5	381.7	380.6	379.5	378.4	377.4	377.6
25°	371.3	370.8	370.3	369.9	369.4	368.6	367.5	366.5	365.4	364.3	364.4
27.5°	357.4	356.9	356.4	355.9	355.5	354.7	353.6	352.4	351.3	350.1	350.1
30°	347.4	346.9	346.5	346.1	345.7	344.9	343.8	342.6	341.5	340.3	340.3
32.5°	337.3	336.8	336.2	335.6	335.2	334.4	333.5	332.6	331.8	330.9	330.4
35°	321.2	320.7	320.1	319.6	319.2	318.4	317.3	316.2	315.2	314.1	313.6
37.5°	304.6	304.0	303.3	302.7	302.1	301.3	300.2	299.0	298.0	296.9	296.4
40°	293.1	292.6	292.1	291.6	291.1	290.3	289.1	288.0	286.8	285.7	285.0
42.5°	281.5	281.0	280.4	279.9	279.3	278.5	277.3	276.2	275.0	273.9	273.2
45°	263.2	262.8	262.5	262.2	261.9	261.2	260.1	259.0	257.9	256.9	256.0
47.5°	244.9	244.5	244.0	243.5	243.0	242.3	241.3	240.3	239.3	238.3	237.3
50°	232.5	232.1	231.7	231.3	230.9	230.1	229.1	228.1	227.0	225.9	225.0
52.5°	219.5	219.3	219.0	218.7	218.4	217.7	216.6	215.5	214.4	213.2	212.5
55°	199.7	199.6	199.6	199.5	199.4	198.8	197.7	196.6	195.6	194.6	193.6
57.5°	180.8	180.5	180.2	180.0	179.7	179.1	178.2	177.4	176.6	175.7	174.9
60°	167.2	167.2	167.1	167.0	166.9	166.4	165.3	164.4	163.4	162.4	161.7
62.5°	155.1	154.9	154.7	154.5	154.2	153.7	152.7	151.7	150.7	149.7	149.0
65°	136.2	135.8	135.4	135.0	134.6	134.0	133.2	132.3	131.5	130.6	130.0
67.5°	116.2	115.8	115.5	115.1	114.8	114.2	113.7	113.0	112.4	111.8	111.2
70°	104.1	103.6	103.1	102.6	102.1	101.6	101.2	100.6	100.1	99.7	99.1
72.5°	91.4	91.0	90.7	90.3	89.9	89.5	89.0	88.4	87.9	87.3	86.7
75°	72.0	71.6	71.3	71.0	70.7	70.3	70.1	69.9	69.6	69.4	69.0
77.5°	54.7	54.6	54.4	54.3	54.0	53.8	53.6	53.2	52.9	52.6	52.4
80°	43.6	43.3	43.1	42.9	42.5	42.4	42.2	42.1	41.9	41.7	41.6
82.5°	32.6	32.6	32.6	32.5	32.4	32.4	32.3	32.3	32.3	32.2	32.1
85°	19.2	19.0	18.9	18.7	18.5	18.5	18.5	18.5	18.5	18.5	18.3
87.5°	7.8	7.7	7.7	7.6	7.6	7.7	7.8	7.9	8.1	8.2	8.2
90°	0.4	1.2	2.0	2.8	3.6	4.4	5.5	6.6	7.6	8.6	9.0
92.5°	8.7	9.3	9.7	10.3	10.9	11.4	12.0	12.6	13.2	13.8	14.0
95°	21.2	21.7	22.3	22.9	23.4	24.0	24.6	25.3	25.9	26.5	26.9
97.5°	37.6	38.0	38.4	38.9	39.3	39.7	40.2	40.6	41.1	41.6	41.9
100°	48.8	49.3	49.7	50.2	50.7	51.2	51.6	52.0	52.4	52.8	53.0
102.5°	61.7	62.0	62.3	62.6	62.9	63.3	63.8	64.3	64.9	65.4	65.7
105°	80.8	81.0	81.1	81.3	81.4	81.8	82.5	83.3	84.0	84.7	84.7
107.5°	102.9	103.0	103.1	103.1	103.3	103.5	103.8	104.0	104.3	104.6	104.9
110°	116.7	116.8	117.0	117.2	117.3	117.5	117.6	117.8	118.0	118.1	118.4



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	131.0	131.1	131.3	131.3	131.4	131.5	131.5	131.6	131.6	131.6	132.0
115°	152.6	152.8	153.0	153.3	153.5	153.6	153.4	153.3	153.1	153.0	153.0
117.5°	174.3	174.4	174.6	174.8	174.9	174.8	174.7	174.4	174.3	174.0	174.0
120°	187.7	188.2	188.7	189.2	189.6	189.7	189.3	188.9	188.5	188.1	188.1
122.5°	201.8	202.2	202.6	202.9	203.2	203.3	203.1	202.9	202.7	202.5	202.2
125°	223.3	223.6	223.8	224.0	224.3	224.3	224.1	223.9	223.8	223.6	223.3
127.5°	243.1	243.6	244.2	244.6	245.2	245.3	245.2	244.9	244.8	244.6	244.2
130°	256.4	257.0	257.6	258.3	258.9	259.0	258.8	258.6	258.3	258.1	257.8
132.5°	269.5	270.1	270.8	271.5	272.1	272.4	272.1	272.0	271.8	271.6	271.2
135°	289.7	290.2	290.7	291.1	291.6	291.8	291.8	291.7	291.6	291.5	291.2
137.5°	308.4	308.8	309.2	309.6	310.0	310.3	310.5	310.7	310.9	311.1	310.8
140°	321.3	321.7	322.1	322.5	322.9	323.1	323.2	323.3	323.4	323.4	323.4
142.5°	333.1	333.5	333.9	334.3	334.7	334.9	335.1	335.3	335.4	335.5	335.4
145°	351.5	351.6	351.8	352.0	352.1	352.3	352.5	352.8	353.0	353.2	353.2
147.5°	367.6	367.8	368.1	368.4	368.7	368.9	369.2	369.4	369.6	369.9	369.9
150°	378.7	378.9	379.1	379.2	379.4	379.5	379.7	379.9	380.0	380.2	380.2
152.5°	387.9	388.2	388.4	388.6	388.8	389.0	389.0	389.2	389.3	389.4	389.5
155°	402.4	402.4	402.4	402.4	402.4	402.5	402.6	402.7	402.7	402.8	403.1
157.5°	414.8	414.7	414.6	414.5	414.4	414.4	414.5	414.5	414.5	414.6	414.9
160°	422.6	422.4	422.2	422.1	421.9	421.8	421.8	421.8	421.8	421.8	422.2
162.5°	429.4	429.2	429.0	428.7	428.6	428.5	428.5	428.6	428.6	428.7	429.1
165°	438.3	438.1	437.8	437.6	437.4	437.3	437.3	437.3	437.3	437.3	437.8
167.5°	445.4	445.1	444.8	444.5	444.2	444.0	444.1	444.2	444.3	444.3	444.8
170°	449.5	449.2	448.9	448.5	448.2	448.1	448.1	448.1	448.1	448.1	448.6
172.5°	452.7	452.3	452.0	451.7	451.3	451.1	451.1	451.1	451.1	451.1	451.7
175°	455.9	455.6	455.3	455.0	454.6	454.5	454.5	454.5	454.5	454.5	455.0
177.5°	457.3	457.0	456.8	456.5	456.3	456.1	456.1	456.1	456.1	456.1	456.5
180°	457.0	457.0	457.0	457.0	457.0	457.0	457.0	457.0	457.0	457.0	457.0



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	429.3	429.3	429.3	429.3	429.3	429.3	429.3	429.3
2.5°	427.6	428.3	429.0	429.3	429.2	429.1	429.0	429.0
5°	425.4	426.2	427.1	427.4	427.2	427.1	426.8	426.7
7.5°	420.9	421.6	422.3	422.6	422.6	422.5	422.4	422.2
10°	416.8	417.5	418.2	418.5	418.4	418.2	418.0	417.9
12.5°	412.2	412.7	413.3	413.5	413.4	413.3	413.2	413.1
15°	404.0	404.6	405.4	405.4	404.9	404.4	403.9	403.5
17.5°	393.6	394.1	394.6	394.7	394.5	394.3	394.2	394.0
20°	386.0	386.3	386.7	386.7	386.4	386.2	386.0	385.7
22.5°	377.9	378.2	378.4	378.4	378.1	377.8	377.5	377.2
25°	364.5	364.6	364.6	364.6	364.3	364.1	363.8	363.6
27.5°	350.2	350.3	350.3	350.2	349.9	349.6	349.3	349.0
30°	340.3	340.3	340.3	340.0	339.5	338.9	338.3	337.7
32.5°	329.9	329.5	329.1	328.7	328.4	328.0	327.7	327.4
35°	313.1	312.7	312.1	311.7	311.3	310.9	310.5	310.1
37.5°	295.7	295.2	294.5	294.1	293.9	293.6	293.3	293.1
40°	284.4	283.8	283.0	282.6	282.3	281.9	281.6	281.3
42.5°	272.6	271.9	271.2	270.8	270.5	270.1	269.8	269.4
45°	254.9	254.0	252.9	252.3	251.8	251.4	251.0	250.6
47.5°	236.4	235.4	234.4	233.8	233.4	233.1	232.7	232.3
50°	224.1	223.2	222.3	221.6	221.1	220.6	220.1	219.6
52.5°	211.7	210.9	210.1	209.5	209.0	208.5	208.0	207.6
55°	192.7	191.8	190.9	190.3	189.9	189.4	189.0	188.6
57.5°	174.1	173.3	172.5	171.8	171.3	170.9	170.4	169.9
60°	161.0	160.2	159.5	158.9	158.4	158.0	157.6	157.2
62.5°	148.2	147.5	146.8	146.2	146.0	145.7	145.4	145.1
65°	129.4	128.7	128.0	127.6	127.4	127.1	126.8	126.6
67.5°	110.6	110.0	109.5	109.0	108.7	108.3	108.0	107.7
70°	98.5	97.9	97.4	96.9	96.5	96.1	95.6	95.2
72.5°	86.3	85.7	85.2	84.8	84.7	84.4	84.2	84.0
75°	68.6	68.1	67.7	67.4	67.2	66.9	66.7	66.5
77.5°	52.0	51.8	51.5	51.4	51.4	51.4	51.4	51.4
80°	41.5	41.4	41.4	41.4	41.4	41.4	41.4	41.4
82.5°	32.0	31.8	31.7	31.5	31.5	31.4	31.4	31.3
85°	18.1	18.0	17.8	17.7	17.7	17.7	17.7	17.7
87.5°	8.2	8.2	8.2	8.2	8.2	8.3	8.3	8.3
90°	9.3	9.6	9.9	10.1	10.3	10.5	10.6	10.8
92.5°	14.3	14.6	14.8	14.9	14.8	14.7	14.6	14.5
95°	27.2	27.5	27.8	28.0	28.0	28.0	28.0	28.0
97.5°	42.3	42.7	43.0	43.2	43.2	43.2	43.1	43.1
100°	53.2	53.5	53.7	53.9	54.1	54.3	54.4	54.6
102.5°	65.9	66.1	66.4	66.5	66.5	66.4	66.4	66.3
105°	84.7	84.7	84.7	84.8	85.0	85.2	85.3	85.5
107.5°	105.1	105.4	105.6	105.7	105.6	105.5	105.4	105.4
110°	118.7	119.1	119.4	119.5	119.3	119.1	119.0	118.8



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	132.4	132.8	133.2	133.3	133.2	133.2	133.2	133.2
115°	153.1	153.2	153.3	153.3	153.2	153.1	153.0	153.0
117.5°	174.0	174.0	174.0	173.9	173.6	173.4	173.2	172.9
120°	188.0	187.9	187.8	187.7	187.5	187.4	187.2	187.0
122.5°	202.1	201.8	201.6	201.5	201.2	201.0	200.7	200.5
125°	223.0	222.7	222.4	222.0	221.7	221.4	221.1	220.8
127.5°	243.8	243.3	242.8	242.4	242.1	241.7	241.3	241.0
130°	257.5	257.1	256.8	256.4	255.9	255.3	254.8	254.1
132.5°	270.8	270.5	270.1	269.7	269.3	268.8	268.4	267.9
135°	290.9	290.6	290.3	290.0	289.9	289.7	289.5	289.4
137.5°	310.5	310.1	309.7	309.4	309.1	308.9	308.6	308.2
140°	323.3	323.2	323.1	322.8	322.3	321.7	321.2	320.6
142.5°	335.3	335.3	335.2	334.9	334.5	334.1	333.7	333.2
145°	353.1	353.0	352.9	352.8	352.4	352.1	351.8	351.5
147.5°	369.9	369.9	369.9	369.6	369.2	368.6	368.1	367.7
150°	380.2	380.2	380.2	379.9	379.5	379.0	378.5	378.0
152.5°	389.6	389.8	389.9	389.8	389.4	388.9	388.5	388.1
155°	403.5	403.8	404.1	403.9	403.4	402.8	402.3	401.7
157.5°	415.3	415.7	416.0	415.9	415.5	415.0	414.5	414.2
160°	422.6	423.0	423.4	423.4	423.1	422.8	422.5	422.2
162.5°	429.5	429.9	430.3	430.2	429.8	429.2	428.7	428.2
165°	438.2	438.7	439.2	439.1	438.6	438.0	437.4	436.9
167.5°	445.3	445.8	446.2	446.2	445.8	445.3	444.8	444.3
170°	449.2	449.7	450.3	450.3	449.7	449.2	448.6	448.1
172.5°	452.2	452.7	453.1	453.1	452.6	452.0	451.5	450.9
175°	455.4	455.9	456.4	456.4	455.8	455.3	454.7	454.2
177.5°	456.9	457.3	457.6	457.6	457.2	456.8	456.3	455.8
180°	457.0	457.0	457.0	457.0	457.0	457.0	457.0	457.0

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