

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: P332094-927

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

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332094-927
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-5,
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-F
Description: DEFINE 3 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 340 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
UPLIGHT 460 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2579.2 lumens
Efficiency: N/A
Efficacy: 112.1 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

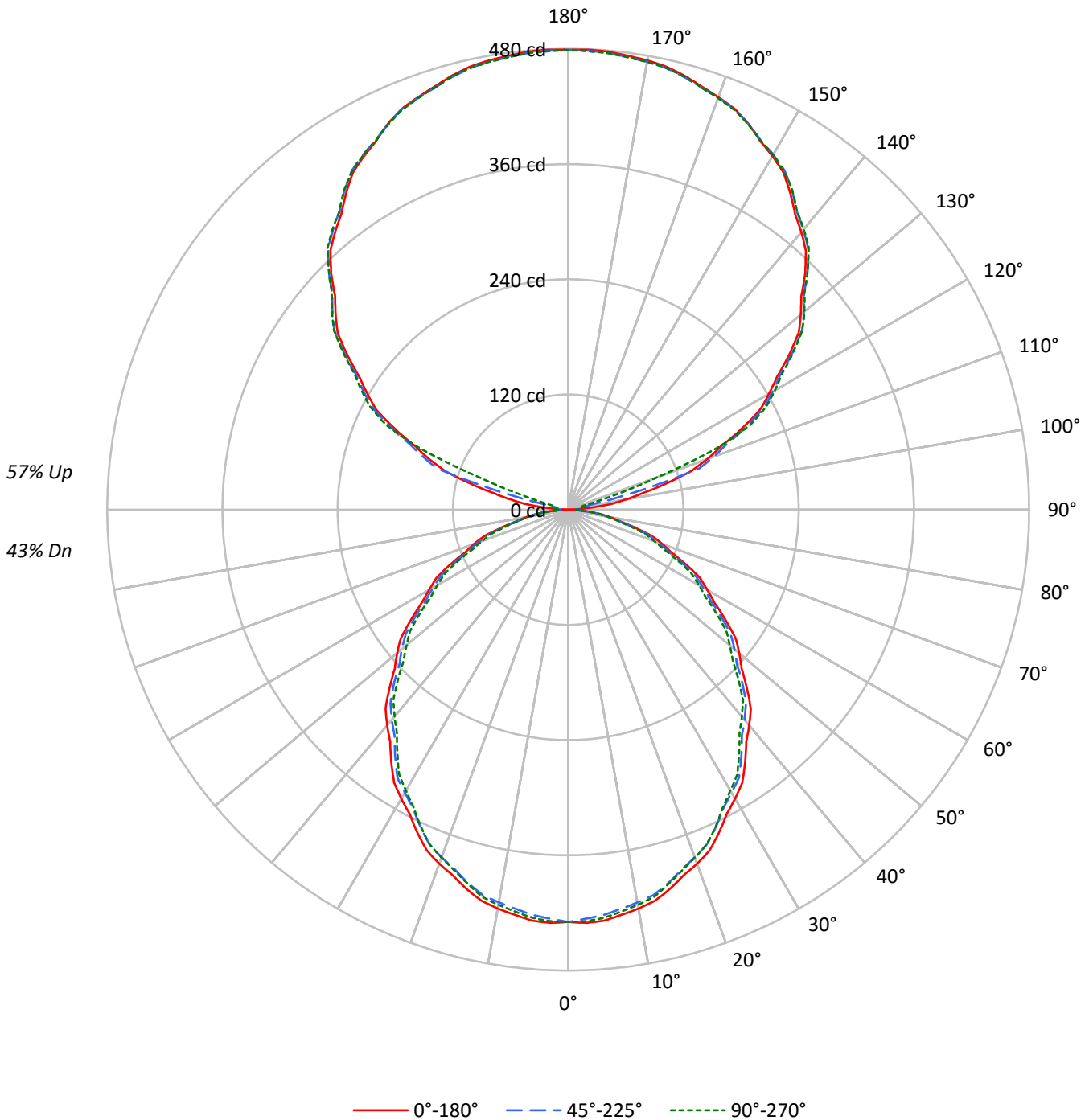
Input Watts (W): 23
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	97	97	97	97	80	80	80	64	64	64	50	50	50	43
1	96	92	88	85	88	84	81	78	70	67	65	56	55	53	44	43	42	36
2	88	80	74	69	80	74	68	64	61	57	54	49	47	44	39	37	35	30
3	80	70	63	57	73	65	58	53	54	49	45	44	40	38	34	32	30	26
4	73	62	54	48	66	57	50	45	48	43	39	39	35	32	31	28	26	22
5	67	55	47	41	61	51	44	39	43	37	33	35	31	28	28	25	23	19
6	62	50	42	36	56	46	39	34	38	33	29	31	27	24	25	22	20	17
7	57	45	37	31	52	41	34	29	35	29	25	29	25	21	23	20	18	15
8	53	41	33	28	48	38	31	26	32	26	23	26	22	19	21	18	16	13
9	49	37	30	25	45	34	28	23	29	24	20	24	20	17	19	16	14	12
10	46	34	27	22	42	31	25	21	27	22	18	22	18	15	18	15	13	11

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	1.6
10°-20°	114.2	4.4
20°-30°	168.7	6.5
30°-40°	197.0	7.6
40°-50°	198.1	7.7
50°-60°	174.0	6.7
60°-70°	129.6	5.0
70°-80°	73.8	2.9
80°-90°	22.5	0.9
90°-100°	17.4	0.7
100°-110°	83.0	3.2
110°-120°	199.4	7.7
120°-130°	253.9	9.8
130°-140°	271.3	10.5
140°-150°	253.7	9.8
150°-160°	204.6	7.9
160°-170°	132.1	5.1
170°-180°	45.5	1.8
0°-30°	323.3	12.5
0°-40°	520.3	20.2
0°-60°	892.4	34.6
0°-90°	1118.4	43.4
90°-120°	299.8	11.6
90°-150°	1078.7	41.8
90°-180°	1461.0	56.6
0°-180°	2579.2	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°	22	8	11	13	14	27
105°	106	108	78	18	16	112
115°	199	201	204	208	209	196
125°	280	283	285	285	286	250
135°	349	351	353	354	353	269
145°	403	405	406	407	407	252
155°	444	443	444	445	443	204
165°	468	467	467	469	467	132
175°	479	477	478	480	477	46
180°	479	479	479	479	479	



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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°	0.3	1.1	1.9	2.7	3.5	4.4	5.5	6.5	7.5	8.6	8.9
92.5°	6.7	6.4	6.2	5.9	5.7	6.0	6.8	7.5	8.3	9.1	9.6
95°	21.7	18.5	15.2	12.0	8.7	7.5	8.4	9.3	10.1	11.0	11.6
97.5°	43.6	42.1	40.7	39.3	37.8	34.2	28.5	22.8	17.2	11.5	12.1
100°	60.1	61.7	63.3	64.9	66.5	61.1	48.8	36.4	24.1	11.7	12.4
102.5°	78.9	80.1	81.2	82.4	83.5	77.3	63.8	50.4	36.9	23.4	21.5
105°	106.1	106.9	107.8	108.7	109.6	106.4	99.3	92.2	85.1	78.0	63.9
107.5°	134.7	135.4	136.1	136.7	137.4	138.4	139.5	140.6	141.7	142.8	132.6
110°	153.8	154.4	155.0	155.7	156.3	157.0	157.9	158.8	159.6	160.5	157.9



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	172.0	172.5	173.1	173.6	174.3	175.0	175.9	176.7	177.6	178.5	178.5
115°	198.9	199.4	199.9	200.3	200.8	201.5	202.2	202.9	203.6	204.3	205.1
117.5°	225.1	225.7	226.2	226.8	227.4	227.9	228.2	228.6	229.0	229.3	230.0
120°	241.3	242.0	242.7	243.4	244.2	244.6	244.9	245.1	245.3	245.6	246.2
122.5°	257.9	258.4	259.0	259.6	260.2	260.6	260.9	261.2	261.5	261.8	262.2
125°	280.4	281.1	281.7	282.3	283.0	283.4	283.8	284.1	284.4	284.7	284.9
127.5°	302.4	303.0	303.6	304.3	304.9	305.4	305.8	306.2	306.6	307.0	307.2
130°	316.1	316.7	317.3	318.0	318.6	319.1	319.4	319.7	320.0	320.3	320.6
132.5°	329.2	329.8	330.4	331.1	331.7	332.1	332.4	332.6	332.9	333.1	333.4
135°	349.1	349.6	350.1	350.5	351.0	351.4	351.7	352.0	352.4	352.7	352.9
137.5°	366.2	366.9	367.4	368.0	368.6	369.0	369.2	369.4	369.6	369.7	370.1
140°	377.6	378.1	378.6	379.1	379.5	379.9	380.1	380.3	380.6	380.8	381.1
142.5°	388.2	388.6	389.1	389.6	390.1	390.4	390.6	390.9	391.1	391.3	391.6
145°	402.9	403.5	404.0	404.6	405.1	405.4	405.6	405.8	405.9	406.1	406.2
147.5°	416.8	417.2	417.5	417.9	418.2	418.5	418.7	418.8	419.0	419.1	419.3
150°	425.3	425.6	425.8	426.0	426.3	426.4	426.6	426.7	426.9	427.1	427.2
152.5°	433.0	433.1	433.2	433.3	433.5	433.6	433.6	433.7	433.8	434.0	434.2
155°	443.8	443.6	443.5	443.4	443.2	443.1	443.2	443.3	443.4	443.5	443.9
157.5°	452.3	452.2	452.2	452.2	452.2	452.1	452.0	451.9	451.9	451.8	452.3
160°	457.3	457.2	457.2	457.1	457.0	456.9	456.9	456.8	456.7	456.6	457.1
162.5°	462.2	462.0	461.8	461.6	461.4	461.2	461.1	461.1	461.0	460.9	461.4
165°	468.0	467.8	467.5	467.3	467.1	466.9	466.8	466.8	466.7	466.6	467.2
167.5°	472.6	472.3	472.0	471.7	471.3	471.2	471.2	471.2	471.2	471.2	471.8
170°	475.2	474.8	474.5	474.2	473.9	473.7	473.7	473.7	473.7	473.7	474.4
172.5°	476.8	476.5	476.1	475.7	475.3	475.2	475.2	475.3	475.4	475.4	476.0
175°	479.0	478.6	478.2	477.8	477.4	477.3	477.4	477.4	477.5	477.6	478.2
177.5°	479.6	479.3	479.0	478.6	478.3	478.2	478.3	478.3	478.4	478.5	479.0
180°	479.0	479.0	479.0	479.0	479.0	479.0	479.0	479.0	479.0	479.0	479.0



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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	8.2	8.3	8.3
90°	9.2	9.5	9.8	10.1	10.2	10.4	10.5	10.7
92.5°	10.1	10.6	11.2	11.4	11.6	11.6	11.7	11.8
95°	12.1	12.7	13.2	13.5	13.5	13.5	13.5	13.5
97.5°	12.8	13.4	14.0	14.3	14.4	14.5	14.6	14.7
100°	13.0	13.6	14.3	14.7	14.7	14.8	14.9	15.0
102.5°	19.5	17.5	15.6	14.7	14.8	15.0	15.1	15.2
105°	49.9	36.0	21.9	15.1	15.2	15.4	15.5	15.7
107.5°	122.3	112.1	101.8	91.4	80.8	70.3	59.7	49.2
110°	155.3	152.7	150.0	143.1	131.8	120.5	109.2	97.9



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	178.6	178.6	178.6	177.4	175.1	172.7	170.3	167.9
115°	205.9	206.7	207.5	208.0	208.3	208.7	209.0	209.3
117.5°	230.6	231.2	231.9	232.2	232.3	232.3	232.4	232.5
120°	246.8	247.5	248.1	248.4	248.4	248.4	248.4	248.4
122.5°	262.7	263.2	263.6	263.8	263.9	264.0	264.0	264.1
125°	285.0	285.2	285.3	285.5	285.7	285.8	286.0	286.1
127.5°	307.4	307.7	307.9	308.0	307.8	307.7	307.5	307.4
130°	320.9	321.2	321.5	321.6	321.5	321.3	321.2	321.0
132.5°	333.7	334.1	334.4	334.5	334.2	334.0	333.7	333.6
135°	353.2	353.4	353.6	353.6	353.4	353.2	352.9	352.7
137.5°	370.5	370.8	371.2	371.4	371.2	371.1	370.9	370.7
140°	381.4	381.8	382.1	382.1	382.0	381.8	381.7	381.5
142.5°	391.9	392.1	392.4	392.4	392.1	392.0	391.7	391.5
145°	406.4	406.5	406.7	406.8	406.8	406.8	406.8	406.8
147.5°	419.5	419.6	419.8	419.6	419.3	418.9	418.6	418.2
150°	427.4	427.5	427.7	427.7	427.5	427.2	427.0	426.7
152.5°	434.5	434.7	435.1	435.0	434.7	434.3	434.0	433.6
155°	444.3	444.7	445.0	445.0	444.5	444.0	443.5	443.1
157.5°	452.7	453.2	453.7	453.6	453.0	452.4	451.8	451.1
160°	457.6	458.0	458.5	458.5	458.0	457.4	456.9	456.3
162.5°	462.0	462.6	463.0	463.1	462.6	462.1	461.6	461.1
165°	467.9	468.5	469.1	469.1	468.6	468.1	467.5	467.0
167.5°	472.5	473.0	473.6	473.6	473.0	472.5	471.8	471.2
170°	475.0	475.6	476.3	476.3	475.6	475.0	474.4	473.7
172.5°	476.7	477.3	477.9	477.9	477.2	476.5	475.9	475.2
175°	478.7	479.3	479.8	479.8	479.2	478.6	477.9	477.3
177.5°	479.5	480.0	480.5	480.5	479.8	479.2	478.6	477.9
180°	479.0	479.0	479.0	479.0	479.0	479.0	479.0	479.0

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