

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: P331869-840

Luminaire Tested: **S123DIP-S340D365U840-4F0-1E-UDD-D1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331869-840
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: S123DIP-S340D365U840-4F0-1E-UDD-D1
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 340 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 365 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2711.7 lumens
Efficiency: N/A
Efficacy: 133.6 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: General Diffuse

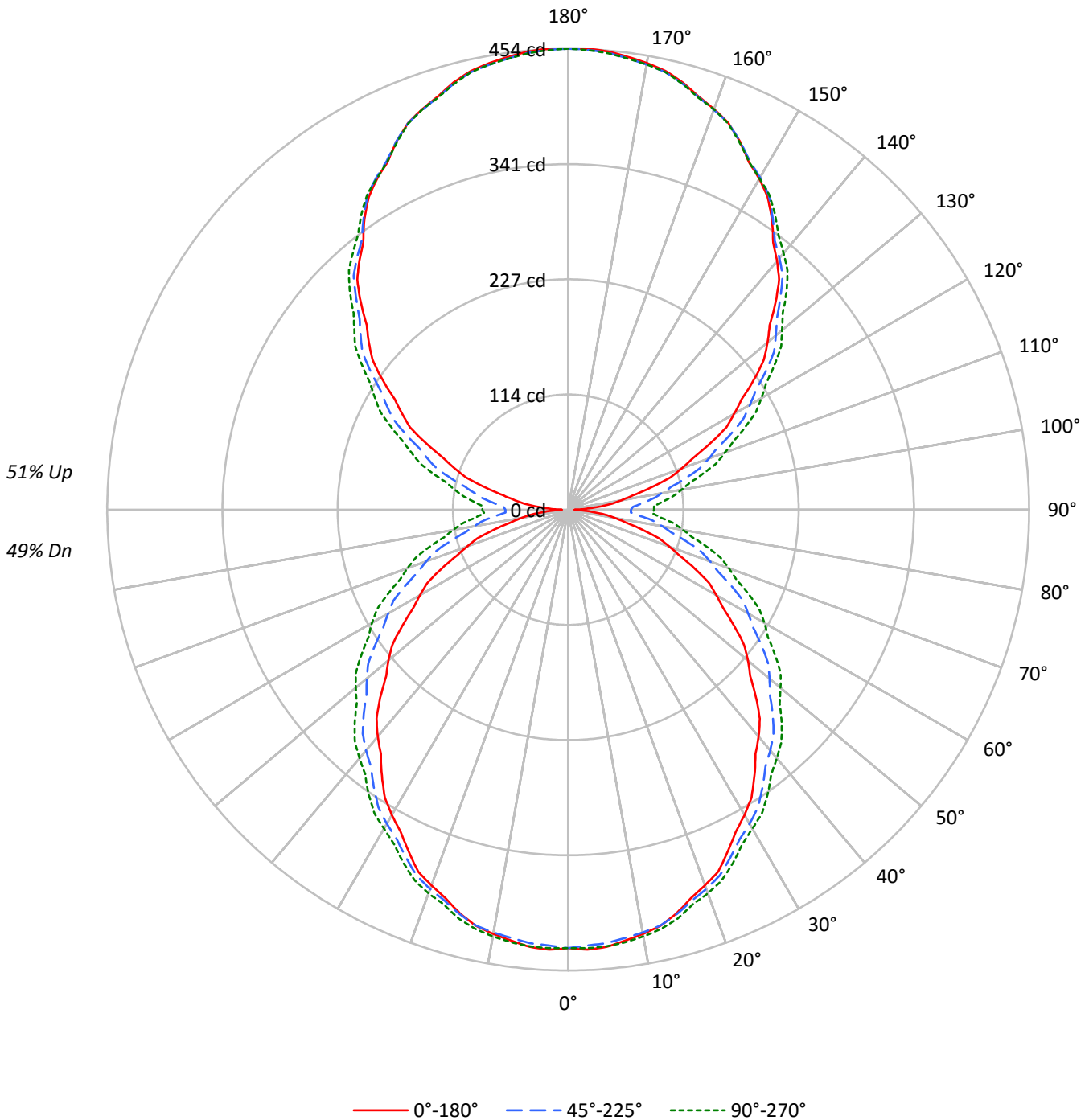
Input Watts (W): 20.3
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	107	107	107	107	99	99	99	99	83	83	83	68	68	68	55	55	55	49
1	97	92	87	84	89	85	81	77	71	68	66	59	57	55	47	46	45	39
2	87	80	73	67	80	73	68	63	62	57	54	51	48	45	41	39	37	32
3	80	70	62	56	73	64	57	52	54	49	45	45	41	38	36	33	31	27
4	73	61	53	47	66	57	49	44	48	42	38	40	35	32	32	29	26	23
5	67	55	46	40	61	50	43	37	43	37	32	35	31	28	29	25	23	19
6	61	49	40	34	56	45	38	32	38	32	28	32	27	24	26	23	20	17
7	57	44	36	30	52	41	33	28	35	29	25	29	24	21	24	20	18	15
8	52	40	32	27	48	37	30	25	32	26	22	26	22	19	22	18	16	13
9	49	36	29	24	45	34	27	22	29	23	19	24	20	17	20	17	14	12
10	46	33	26	21	42	31	24	20	27	21	17	22	18	15	19	15	13	11

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	4649	4649	4649
5°	4664	4533	4534
10°	4622	4428	4406
15°	4562	4309	4265
20°	4477	4174	4110
25°	4372	4019	3947
30°	4265	3879	3780
35°	4143	3731	3649
40°	4030	3595	3508
45°	3902	3466	3395
50°	3776	3338	3272
55°	3636	3207	3158
60°	3499	3074	3045
65°	3360	2931	2907
70°	3149	2772	2766
75°	2886	2590	2626
80°	2583	2410	2462
85°	2294	2286	2367



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	40.9	1.5
10°-20°	116.7	4.3
20°-30°	174.6	6.4
30°-40°	208.5	7.7
40°-50°	218.1	8.0
50°-60°	204.7	7.5
60°-70°	171.0	6.3
70°-80°	122.3	4.5
80°-90°	74.3	2.7
90°-100°	75.4	2.8
100°-110°	122.2	4.5
110°-120°	173.1	6.4
120°-130°	211.0	7.8
130°-140°	228.5	8.4
140°-150°	220.2	8.1
150°-160°	184.3	6.8
160°-170°	122.7	4.5
170°-180°	43.0	1.6
0°-30°	332.3	12.3
0°-40°	540.8	19.9
0°-60°	963.6	35.5
0°-90°	1331.2	49.1
90°-120°	370.7	13.7
90°-150°	1030.4	38.0
90°-180°	1380.0	50.9
0°-180°	2711.7	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	432	432	432	432	432	
5°	432	431	429	432	432	41
15°	412	413	413	417	417	116
25°	372	376	378	384	384	171
35°	320	327	334	340	342	200
45°	262	273	285	293	297	202
55°	200	215	232	244	248	179
65°	138	156	177	191	196	136
75°	75	97	120	135	142	80
85°	23	47	72	87	92	24
90°	6	33	62	79	85	5
95°	26	47	73	88	94	28
105°	84	97	120	132	138	90
115°	154	161	177	188	192	152
125°	223	225	237	245	248	199
135°	289	291	295	302	304	223
145°	350	350	351	354	355	218
155°	400	400	400	402	399	184
165°	436	435	435	437	434	123
175°	453	452	452	454	451	43
180°	454	454	454	454	454	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	431.9	431.9	431.9	431.9	431.9	431.9	431.9	431.9	431.9	431.9	431.9
2.5°	433.8	433.6	433.3	433.1	432.8	432.4	431.7	431.0	430.4	429.7	430.4
5°	432.4	432.2	432.0	431.8	431.6	431.2	430.5	429.9	429.3	428.7	429.5
7.5°	428.2	428.3	428.3	428.3	428.4	428.1	427.5	426.9	426.3	425.7	426.7
10°	424.4	424.6	424.9	425.1	425.3	425.2	424.5	424.0	423.5	423.0	424.0
12.5°	419.9	420.2	420.5	420.8	421.1	421.0	420.7	420.3	420.0	419.6	420.6
15°	411.7	412.0	412.3	412.6	412.9	413.1	412.9	412.8	412.7	412.6	413.7
17.5°	401.4	402.0	402.6	403.2	403.8	404.1	404.1	404.0	404.0	404.0	405.0
20°	393.8	394.5	395.1	395.8	396.4	396.8	397.0	397.2	397.4	397.6	398.6
22.5°	386.0	386.6	387.2	387.8	388.5	388.9	389.2	389.5	389.8	390.1	391.3
25°	371.7	372.7	373.9	374.9	375.9	376.6	376.9	377.2	377.5	377.9	379.2
27.5°	357.4	358.6	359.8	361.0	362.2	363.1	363.8	364.5	365.2	365.8	367.0
30°	347.3	348.6	350.0	351.3	352.7	353.8	354.7	355.5	356.3	357.2	358.4
32.5°	336.0	337.5	339.0	340.5	342.0	343.4	344.5	345.6	346.7	347.7	349.1
35°	319.9	321.6	323.4	325.0	326.7	328.2	329.5	330.9	332.2	333.7	335.2
37.5°	303.1	304.9	306.8	308.7	310.5	312.4	314.0	315.7	317.4	319.0	320.8
40°	291.8	293.7	295.5	297.4	299.2	301.2	303.4	305.5	307.5	309.6	311.4
42.5°	279.3	281.7	283.9	286.2	288.5	290.7	293.0	295.1	297.3	299.4	301.4
45°	261.7	264.2	266.6	269.1	271.7	274.2	276.8	279.4	282.1	284.7	286.7
47.5°	243.1	245.9	248.7	251.7	254.5	257.4	260.3	263.4	266.3	269.3	271.6
50°	231.1	234.0	236.9	239.8	242.8	245.8	249.0	252.4	255.6	258.8	261.3
52.5°	218.2	221.4	224.4	227.5	230.7	234.0	237.5	241.2	244.7	248.2	250.7
55°	199.5	203.0	206.4	209.8	213.3	216.9	220.7	224.5	228.2	232.0	234.8
57.5°	181.3	184.8	188.4	192.1	195.6	199.5	203.6	207.7	211.9	216.0	218.8
60°	168.4	172.2	176.0	179.8	183.5	187.5	191.9	196.1	200.4	204.7	207.6
62.5°	156.4	160.3	164.1	167.9	171.8	176.0	180.6	185.1	189.7	194.2	197.0
65°	137.8	142.0	146.0	150.1	154.2	158.5	163.1	167.7	172.3	176.9	180.1
67.5°	119.1	123.4	127.7	132.0	136.3	140.9	145.5	150.3	154.9	159.7	163.0
70°	105.8	110.4	114.8	119.4	123.8	128.7	133.6	138.7	143.7	148.7	152.1
72.5°	93.8	98.4	102.8	107.3	111.8	116.6	121.8	127.0	132.2	137.4	140.9
75°	74.8	79.8	84.6	89.6	94.5	99.6	104.8	110.0	115.2	120.5	123.9
77.5°	58.3	63.2	68.2	73.1	78.1	83.2	88.5	93.7	99.0	104.3	108.0
80°	46.6	51.7	56.9	62.0	67.1	72.4	77.8	83.2	88.7	94.1	97.7
82.5°	36.5	41.6	46.9	52.0	57.3	62.6	68.2	73.6	79.2	84.7	88.3
85°	23.0	28.3	33.5	38.8	43.9	49.4	54.9	60.4	65.9	71.5	75.0
87.5°	12.6	18.0	23.3	28.7	34.0	39.5	45.0	50.6	56.1	61.7	65.2
90°	6.5	12.4	18.3	24.2	30.1	36.3	42.6	49.0	55.3	61.7	65.6
92.5°	14.3	19.5	24.7	29.9	35.0	40.5	46.4	52.2	58.1	63.8	67.6
95°	26.3	30.9	35.5	40.1	44.7	50.0	55.7	61.5	67.3	73.0	76.5
97.5°	42.0	46.2	50.2	54.3	58.4	63.1	68.5	73.8	79.2	84.5	88.0
100°	52.8	56.6	60.4	64.2	68.1	72.6	77.8	83.0	88.2	93.4	96.6
102.5°	65.2	68.6	71.8	75.1	78.5	82.7	88.0	93.2	98.5	103.7	106.8
105°	84.0	86.7	89.4	92.1	94.7	98.7	103.9	109.1	114.3	119.5	122.4
107.5°	105.5	107.8	110.0	112.2	114.4	117.8	122.3	126.8	131.5	136.0	139.1
110°	118.8	120.9	122.9	124.9	126.9	130.2	134.5	138.9	143.2	147.5	150.6



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	133.1	134.7	136.3	138.0	139.7	142.5	146.5	150.6	154.6	158.6	161.7
115°	154.0	155.5	157.0	158.5	160.0	162.6	166.1	169.8	173.4	176.9	179.6
117.5°	175.5	176.4	177.3	178.2	179.3	181.4	184.7	188.0	191.4	194.7	197.1
120°	188.5	189.6	190.6	191.6	192.5	194.5	197.6	200.7	203.7	206.7	209.0
122.5°	202.5	203.2	203.8	204.4	205.0	206.8	210.0	213.0	216.1	219.1	221.3
125°	223.4	223.6	223.9	224.1	224.3	225.9	228.7	231.7	234.5	237.4	239.2
127.5°	243.1	243.5	243.9	244.3	244.7	246.1	248.4	250.7	253.1	255.4	257.0
130°	256.2	256.7	257.3	257.8	258.3	259.5	261.4	263.3	265.1	266.9	268.6
132.5°	269.0	269.6	270.2	270.8	271.5	272.5	274.0	275.5	277.0	278.5	280.0
135°	288.9	289.3	289.7	290.0	290.4	291.1	292.3	293.3	294.4	295.4	297.0
137.5°	307.4	307.7	308.0	308.3	308.6	309.2	310.1	310.9	311.8	312.7	314.0
140°	319.9	320.2	320.6	321.0	321.4	321.8	322.2	322.7	323.1	323.5	324.9
142.5°	331.5	331.9	332.2	332.5	332.9	333.1	333.3	333.5	333.7	334.0	335.3
145°	349.8	349.9	349.9	350.0	350.0	350.2	350.4	350.7	350.9	351.1	351.9
147.5°	365.4	365.7	366.0	366.3	366.5	366.8	367.0	367.2	367.4	367.7	367.9
150°	376.5	376.7	376.8	377.0	377.2	377.3	377.5	377.6	377.8	377.9	377.9
152.5°	385.7	385.9	386.1	386.3	386.6	386.7	386.8	386.9	387.0	387.1	387.2
155°	400.1	400.1	400.1	400.1	400.1	400.1	400.2	400.2	400.3	400.4	400.7
157.5°	412.3	412.2	412.1	412.0	411.9	411.9	412.0	412.0	412.1	412.2	412.5
160°	420.0	419.9	419.7	419.6	419.4	419.3	419.3	419.3	419.3	419.3	419.7
162.5°	426.9	426.7	426.5	426.3	426.0	426.0	426.0	426.1	426.2	426.2	426.6
165°	435.8	435.6	435.3	435.0	434.7	434.6	434.6	434.6	434.6	434.6	435.2
167.5°	442.8	442.5	442.2	441.8	441.5	441.4	441.5	441.5	441.6	441.7	442.1
170°	446.8	446.5	446.2	445.9	445.6	445.4	445.4	445.4	445.4	445.4	446.0
172.5°	450.0	449.6	449.3	449.0	448.7	448.5	448.5	448.5	448.5	448.5	449.0
175°	453.2	452.9	452.6	452.3	452.0	451.8	451.8	451.8	451.8	451.8	452.3
177.5°	454.5	454.3	454.0	453.8	453.5	453.4	453.4	453.4	453.4	453.4	453.8
180°	454.3	454.3	454.3	454.3	454.3	454.3	454.3	454.3	454.3	454.3	454.3



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	431.9	431.9	431.9	431.9	431.9	431.9	431.9	431.9
2.5°	431.0	431.7	432.4	432.6	432.6	432.5	432.4	432.3
5°	430.3	431.2	432.0	432.4	432.3	432.1	432.0	431.9
7.5°	427.8	428.8	429.8	430.3	430.2	430.0	429.9	429.8
10°	425.2	426.2	427.2	427.6	427.4	427.2	427.0	426.8
12.5°	421.5	422.5	423.4	423.8	423.6	423.4	423.2	423.0
15°	414.8	415.8	416.9	417.3	417.2	417.1	417.0	416.9
17.5°	405.9	406.9	407.8	408.2	408.0	407.9	407.8	407.6
20°	399.5	400.4	401.4	401.9	402.0	402.1	402.2	402.3
22.5°	392.4	393.6	394.9	395.5	395.4	395.3	395.3	395.2
25°	380.5	381.9	383.2	384.0	384.0	384.0	384.0	384.0
27.5°	368.1	369.3	370.5	371.1	371.2	371.3	371.3	371.4
30°	359.6	360.9	362.1	362.7	362.7	362.7	362.7	362.7
32.5°	350.4	351.7	353.0	353.9	354.2	354.4	354.7	354.9
35°	336.8	338.3	339.9	340.9	341.3	341.7	342.1	342.5
37.5°	322.6	324.4	326.2	327.2	327.5	327.9	328.2	328.5
40°	313.2	315.0	316.7	317.8	318.2	318.7	319.1	319.5
42.5°	303.4	305.3	307.2	308.5	309.1	309.6	310.2	310.8
45°	288.6	290.6	292.7	294.1	294.9	295.7	296.6	297.4
47.5°	273.8	276.1	278.3	279.7	280.3	281.0	281.7	282.4
50°	263.6	266.0	268.4	270.0	270.7	271.5	272.2	273.0
52.5°	253.3	255.7	258.2	259.9	260.8	261.8	262.6	263.5
55°	237.6	240.4	243.3	245.1	245.9	246.8	247.6	248.4
57.5°	221.7	224.5	227.3	229.2	230.2	231.3	232.3	233.2
60°	210.6	213.5	216.4	218.4	219.5	220.8	221.9	223.1
62.5°	200.0	202.9	205.8	207.8	208.9	210.0	211.1	212.2
65°	183.2	186.3	189.5	191.6	192.6	193.7	194.7	195.7
67.5°	166.4	169.9	173.3	175.5	176.3	177.2	178.1	178.9
70°	155.4	158.8	162.1	164.3	165.3	166.3	167.4	168.4
72.5°	144.2	147.6	151.1	153.4	154.4	155.4	156.5	157.5
75°	127.3	130.8	134.3	136.6	137.8	139.2	140.4	141.7
77.5°	111.6	115.2	118.9	121.1	122.1	123.1	124.0	125.0
80°	101.2	104.8	108.4	110.6	111.7	112.7	113.8	114.8
82.5°	91.8	95.3	99.0	101.2	102.3	103.3	104.3	105.4
85°	78.7	82.2	85.7	88.1	89.1	90.2	91.2	92.2
87.5°	68.9	72.5	76.1	78.5	79.6	80.7	81.7	82.8
90°	69.5	73.3	77.3	79.8	81.0	82.2	83.4	84.6
92.5°	71.3	75.0	78.8	81.1	81.9	82.8	83.6	84.5
95°	80.1	83.7	87.3	89.6	90.6	91.6	92.7	93.7
97.5°	91.5	94.9	98.5	100.7	101.7	102.7	103.7	104.7
100°	100.0	103.2	106.4	108.8	109.9	111.1	112.3	113.5
102.5°	110.1	113.3	116.4	118.6	119.6	120.6	121.6	122.6
105°	125.3	128.3	131.2	133.2	134.3	135.4	136.5	137.6
107.5°	142.1	145.1	148.2	150.2	151.0	151.8	152.6	153.5
110°	153.6	156.6	159.7	161.6	162.2	162.9	163.6	164.2



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	164.7	167.7	170.8	172.7	173.6	174.5	175.4	176.2
115°	182.2	184.7	187.3	189.0	189.8	190.6	191.3	192.1
117.5°	199.7	202.1	204.6	206.1	206.7	207.2	207.8	208.4
120°	211.5	213.8	216.1	217.5	218.1	218.6	219.2	219.8
122.5°	223.4	225.5	227.6	228.9	229.4	229.9	230.5	231.0
125°	241.2	243.1	244.9	246.0	246.5	246.9	247.3	247.7
127.5°	258.6	260.2	262.0	262.9	263.3	263.6	264.0	264.3
130°	270.2	272.0	273.7	274.5	274.6	274.7	274.7	274.8
132.5°	281.6	283.1	284.6	285.5	285.8	286.0	286.3	286.6
135°	298.5	300.1	301.6	302.7	303.1	303.4	303.8	304.1
137.5°	315.3	316.6	317.9	318.7	318.9	319.1	319.3	319.6
140°	326.4	327.9	329.4	330.1	330.1	330.0	330.0	330.0
142.5°	336.6	337.9	339.2	339.9	340.0	340.1	340.2	340.3
145°	352.6	353.5	354.2	354.7	354.8	354.9	355.0	355.1
147.5°	368.2	368.4	368.7	368.7	368.6	368.5	368.4	368.3
150°	377.9	377.9	377.9	377.8	377.5	377.3	377.0	376.8
152.5°	387.3	387.5	387.6	387.5	387.1	386.7	386.4	386.0
155°	401.0	401.3	401.7	401.5	401.0	400.4	399.9	399.3
157.5°	412.8	413.2	413.5	413.4	413.0	412.6	412.1	411.7
160°	420.1	420.5	420.9	420.9	420.6	420.3	420.0	419.7
162.5°	427.0	427.4	427.8	427.7	427.2	426.7	426.2	425.7
165°	435.7	436.1	436.6	436.6	436.0	435.5	434.8	434.3
167.5°	442.6	443.1	443.6	443.6	443.1	442.6	442.1	441.7
170°	446.5	447.1	447.6	447.6	447.1	446.5	446.0	445.4
172.5°	449.5	450.0	450.5	450.5	449.9	449.4	448.8	448.3
175°	452.7	453.2	453.7	453.6	453.1	452.5	452.0	451.4
177.5°	454.2	454.5	454.9	454.9	454.5	454.0	453.6	453.1
180°	454.3	454.3	454.3	454.3	454.3	454.3	454.3	454.3

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