

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: P331871-935

Luminaire Tested: **S123DIP-S340D365U935-4F0-1E-UDD-F**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331871-935
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: S123DIP-S340D365U935-4F0-1E-UDD-F
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 340 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
UPLIGHT 365 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2464.1 lumens
Efficiency: N/A
Efficacy: 121.4 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

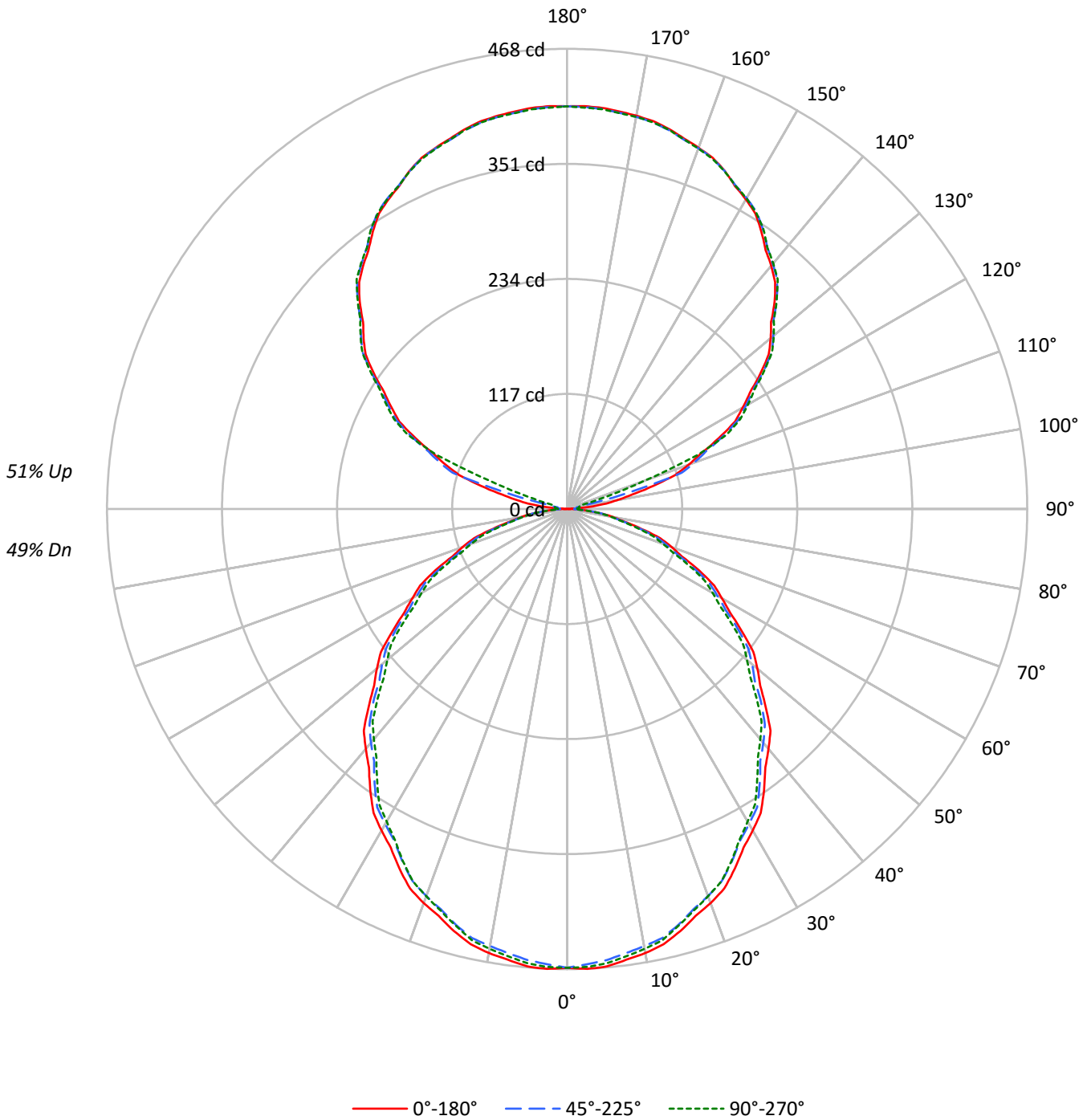
Input Watts (W): 20.3
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	69	69	69	55	55	55	49
1	98	93	89	86	90	86	83	80	73	70	68	60	59	57	49	48	47	41
2	89	81	75	70	82	75	70	65	64	60	56	53	50	48	43	41	39	35
3	81	71	64	58	74	66	60	55	56	51	47	47	43	40	38	36	33	29
4	74	63	55	49	68	59	52	46	50	44	40	42	38	34	34	31	29	25
5	68	56	48	42	62	52	45	40	45	39	35	37	33	30	31	28	25	22
6	63	51	42	37	57	47	40	34	40	34	30	34	29	26	28	25	22	19
7	58	46	38	32	53	42	35	30	36	31	27	31	26	23	25	22	20	17
8	54	41	34	28	49	39	32	27	33	28	24	28	24	21	23	20	18	15
9	50	38	30	25	46	35	28	24	30	25	21	26	22	18	22	18	16	14
10	47	35	27	23	43	32	26	21	28	23	19	24	20	17	20	17	14	12

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	1.8
10°-20°	124.1	5.0
20°-30°	183.3	7.4
30°-40°	214.1	8.7
40°-50°	215.3	8.7
50°-60°	189.1	7.7
60°-70°	140.9	5.7
70°-80°	80.3	3.3
80°-90°	24.2	1.0
90°-100°	14.9	0.6
100°-110°	71.0	2.9
110°-120°	170.4	6.9
120°-130°	217.0	8.8
130°-140°	231.9	9.4
140°-150°	216.9	8.8
150°-160°	174.9	7.1
160°-170°	112.9	4.6
170°-180°	38.9	1.6
0°-30°	351.4	14.3
0°-40°	565.5	22.9
0°-60°	969.9	39.4
0°-90°	1215.2	49.3
90°-120°	256.3	10.4
90°-150°	922.1	37.4
90°-180°	1249.0	50.7
0°-180°	2464.1	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°	0	3	7	8	9	2
95°	19	7	10	11	12	23
105°	91	92	67	16	13	96
115°	170	172	175	178	179	168
125°	240	242	243	244	245	214
135°	298	300	302	302	302	230
145°	344	346	347	348	348	216
155°	379	379	379	380	379	175
165°	400	399	399	401	399	113
175°	410	408	408	410	408	39
180°	410	410	410	410	410	



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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°	8.4	8.4	8.3	8.2	8.1	8.1	8.2	8.4	8.4	8.5	8.5
90°	0.3	0.9	1.6	2.3	3.0	3.8	4.6	5.5	6.5	7.3	7.6
92.5°	5.7	5.5	5.3	5.1	4.9	5.2	5.8	6.5	7.1	7.7	8.2
95°	18.6	15.8	13.0	10.2	7.5	6.5	7.2	7.9	8.7	9.5	9.9
97.5°	37.3	36.1	34.8	33.6	32.3	29.3	24.4	19.5	14.6	9.8	10.3
100°	51.4	52.8	54.2	55.4	56.8	52.3	41.7	31.2	20.6	10.1	10.6
102.5°	67.5	68.4	69.4	70.4	71.4	66.1	54.6	43.0	31.5	20.1	18.3
105°	90.7	91.4	92.1	92.9	93.7	91.0	84.9	78.8	72.8	66.6	54.7
107.5°	115.1	115.7	116.3	116.9	117.5	118.3	119.2	120.2	121.1	122.1	113.3
110°	131.5	132.0	132.5	133.0	133.6	134.2	135.0	135.7	136.5	137.2	135.0



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	147.0	147.5	148.0	148.4	149.0	149.6	150.3	151.1	151.8	152.6	152.6
115°	170.0	170.5	170.9	171.3	171.7	172.2	172.8	173.4	174.0	174.6	175.3
117.5°	192.4	193.0	193.4	193.9	194.4	194.8	195.1	195.4	195.8	196.0	196.6
120°	206.3	206.9	207.5	208.1	208.7	209.1	209.3	209.6	209.7	209.9	210.5
122.5°	220.4	220.9	221.4	221.9	222.4	222.7	223.0	223.3	223.5	223.8	224.2
125°	239.8	240.3	240.8	241.3	241.9	242.3	242.6	242.9	243.1	243.4	243.6
127.5°	258.5	259.1	259.6	260.1	260.6	261.1	261.4	261.7	262.1	262.3	262.6
130°	270.2	270.7	271.2	271.8	272.3	272.8	273.0	273.3	273.5	273.8	274.1
132.5°	281.4	281.9	282.5	283.0	283.5	283.9	284.1	284.4	284.6	284.8	285.1
135°	298.5	298.9	299.3	299.7	300.1	300.4	300.7	301.0	301.3	301.5	301.7
137.5°	313.1	313.6	314.1	314.6	315.1	315.5	315.6	315.7	315.9	316.1	316.4
140°	322.8	323.2	323.6	324.0	324.4	324.8	324.9	325.1	325.4	325.5	325.8
142.5°	331.8	332.3	332.6	333.0	333.5	333.7	334.0	334.2	334.3	334.6	334.8
145°	344.4	344.9	345.3	345.9	346.3	346.6	346.7	346.9	347.0	347.2	347.3
147.5°	356.3	356.6	356.9	357.2	357.5	357.7	357.9	358.0	358.2	358.3	358.4
150°	363.6	363.8	363.9	364.2	364.4	364.5	364.7	364.8	365.0	365.1	365.2
152.5°	370.1	370.2	370.3	370.4	370.5	370.7	370.7	370.7	370.8	370.9	371.2
155°	379.4	379.3	379.1	379.0	378.8	378.8	378.9	378.9	379.0	379.1	379.4
157.5°	386.6	386.6	386.6	386.5	386.5	386.5	386.4	386.3	386.2	386.2	386.6
160°	391.0	390.9	390.8	390.7	390.7	390.6	390.5	390.5	390.5	390.4	390.7
162.5°	395.1	394.9	394.8	394.6	394.4	394.3	394.2	394.2	394.1	394.0	394.4
165°	400.1	399.8	399.7	399.5	399.2	399.2	399.1	399.0	398.9	398.9	399.4
167.5°	404.0	403.7	403.5	403.2	402.9	402.8	402.8	402.8	402.8	402.8	403.3
170°	406.1	405.9	405.6	405.4	405.1	404.9	404.9	404.9	404.9	404.9	405.5
172.5°	407.6	407.3	407.0	406.7	406.3	406.2	406.2	406.3	406.4	406.4	407.0
175°	409.5	409.1	408.8	408.5	408.2	408.0	408.1	408.2	408.2	408.3	408.8
177.5°	410.0	409.7	409.5	409.2	408.9	408.8	408.9	408.9	409.0	409.1	409.5
180°	409.5	409.5	409.5	409.5	409.5	409.5	409.5	409.5	409.5	409.5	409.5



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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°	8.5	8.4	8.4	8.4	8.5	8.5	8.5	8.5
90°	7.8	8.1	8.4	8.6	8.7	8.9	9.0	9.1
92.5°	8.7	9.1	9.6	9.8	9.8	9.9	10.0	10.1
95°	10.4	10.8	11.4	11.5	11.5	11.5	11.5	11.5
97.5°	10.8	11.5	12.0	12.2	12.3	12.4	12.5	12.6
100°	11.1	11.6	12.2	12.5	12.6	12.7	12.7	12.7
102.5°	16.7	15.0	13.3	12.6	12.7	12.7	12.9	13.0
105°	42.7	30.7	18.8	12.8	13.0	13.1	13.3	13.3
107.5°	104.6	95.8	87.0	78.1	69.1	60.1	51.1	42.0
110°	132.8	130.5	128.3	122.3	112.7	103.0	93.3	83.7



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	152.7	152.7	152.7	151.7	149.6	147.7	145.6	143.5
115°	176.0	176.7	177.4	177.8	178.1	178.4	178.7	178.9
117.5°	197.2	197.7	198.2	198.5	198.5	198.6	198.7	198.7
120°	211.0	211.5	212.1	212.4	212.4	212.4	212.4	212.4
122.5°	224.5	225.0	225.3	225.5	225.6	225.7	225.7	225.8
125°	243.7	243.8	243.9	244.1	244.2	244.4	244.5	244.6
127.5°	262.8	263.0	263.3	263.3	263.1	263.0	262.9	262.8
130°	274.4	274.7	274.9	275.0	274.8	274.7	274.6	274.4
132.5°	285.3	285.6	285.9	285.9	285.7	285.5	285.3	285.2
135°	302.0	302.1	302.3	302.3	302.1	302.0	301.7	301.5
137.5°	316.7	317.0	317.4	317.5	317.3	317.2	317.0	316.9
140°	326.1	326.3	326.7	326.7	326.6	326.4	326.3	326.1
142.5°	335.0	335.2	335.4	335.4	335.3	335.0	334.8	334.7
145°	347.4	347.6	347.7	347.8	347.8	347.8	347.8	347.8
147.5°	358.5	358.7	358.9	358.8	358.4	358.1	357.8	357.5
150°	365.4	365.5	365.7	365.6	365.4	365.2	365.0	364.8
152.5°	371.4	371.7	372.0	371.9	371.6	371.3	370.9	370.7
155°	379.8	380.1	380.5	380.4	380.0	379.6	379.2	378.8
157.5°	387.0	387.4	387.9	387.8	387.3	386.8	386.2	385.6
160°	391.2	391.6	392.0	391.9	391.5	391.0	390.5	390.0
162.5°	394.9	395.4	395.8	395.9	395.5	395.0	394.6	394.2
165°	399.9	400.5	401.1	401.1	400.6	400.1	399.7	399.2
167.5°	403.8	404.4	404.9	404.9	404.4	403.8	403.3	402.8
170°	406.0	406.6	407.1	407.1	406.6	406.0	405.5	404.9
172.5°	407.5	408.0	408.5	408.5	407.9	407.3	406.7	406.1
175°	409.2	409.7	410.2	410.2	409.7	409.1	408.5	408.0
177.5°	409.9	410.4	410.8	410.7	410.2	409.7	409.1	408.5
180°	409.5	409.5	409.5	409.5	409.5	409.5	409.5	409.5

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