

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: P331869-935

Luminaire Tested: **S123DIP-S340D365U935-4F0-1E-UDD-D1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331869-935
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-S340D365U935-4F0-1E-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: 2311.9 lumens
Efficiency: N/A
Efficacy: 113.9 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

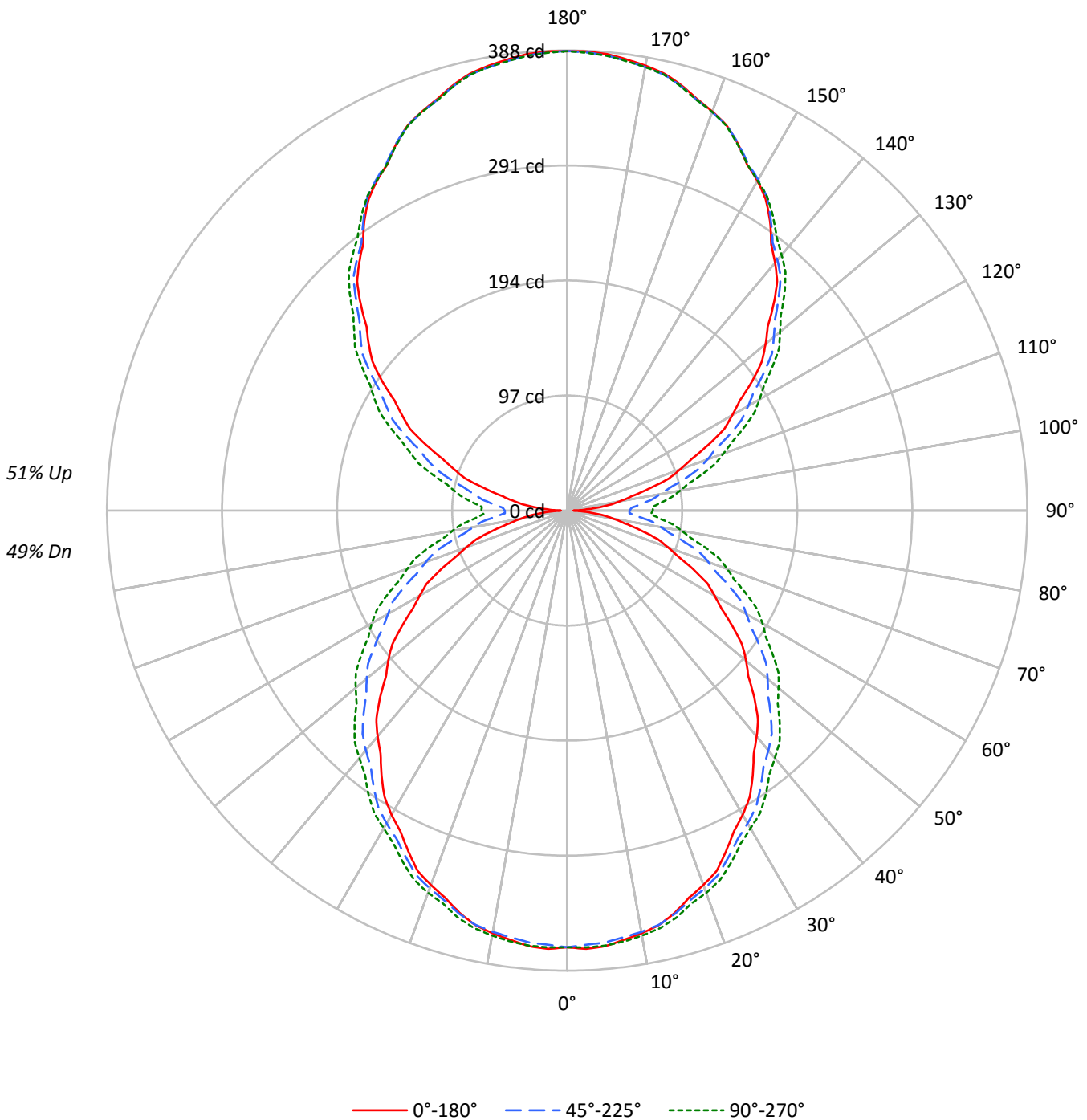
Input Watts (W): 20.3
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	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°	3963	3963	3963
5°	3977	3865	3866
10°	3941	3776	3757
15°	3890	3674	3636
20°	3818	3559	3504
25°	3728	3427	3365
30°	3637	3307	3224
35°	3533	3181	3112
40°	3435	3065	2991
45°	3327	2955	2895
50°	3219	2846	2789
55°	3100	2734	2693
60°	2984	2620	2596
65°	2865	2499	2479
70°	2685	2362	2359
75°	2462	2208	2239
80°	2201	2054	2100
85°	1955	1950	2018



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	34.9	1.5
10°-20°	99.5	4.3
20°-30°	148.9	6.4
30°-40°	177.8	7.7
40°-50°	186.0	8.0
50°-60°	174.5	7.5
60°-70°	145.8	6.3
70°-80°	104.3	4.5
80°-90°	63.3	2.7
90°-100°	64.3	2.8
100°-110°	104.2	4.5
110°-120°	147.6	6.4
120°-130°	179.9	7.8
130°-140°	194.8	8.4
140°-150°	187.7	8.1
150°-160°	157.2	6.8
160°-170°	104.6	4.5
170°-180°	36.6	1.6
0°-30°	283.3	12.3
0°-40°	461.0	19.9
0°-60°	821.6	35.5
0°-90°	1135.0	49.1
90°-120°	316.1	13.7
90°-150°	878.5	38.0
90°-180°	1177.0	50.9
0°-180°	2311.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	368	368	368	368	368	
5°	369	368	366	368	368	35
15°	351	352	352	356	355	99
25°	317	321	322	327	327	146
35°	273	279	284	290	292	171
45°	223	233	243	250	254	172
55°	170	183	198	208	212	152
65°	118	133	151	162	167	116
75°	64	83	103	116	121	68
85°	20	40	61	74	79	21
90°	6	28	53	67	72	5
95°	22	40	62	75	80	24
105°	72	82	102	113	117	77
115°	131	138	151	160	164	130
125°	190	192	202	209	211	170
135°	246	248	252	258	259	190
145°	298	298	299	302	303	186
155°	341	341	341	342	340	157
165°	372	371	371	372	370	105
175°	386	385	385	387	385	37
180°	387	387	387	387	387	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	368.2	368.2	368.2	368.2	368.2	368.2	368.2	368.2	368.2	368.2	368.2
2.5°	369.9	369.7	369.5	369.3	369.0	368.7	368.1	367.5	367.0	366.4	367.0
5°	368.7	368.5	368.3	368.2	368.0	367.6	367.0	366.5	366.0	365.5	366.2
7.5°	365.1	365.2	365.2	365.2	365.2	365.0	364.5	363.9	363.4	362.9	363.8
10°	361.9	362.1	362.2	362.4	362.6	362.5	362.0	361.5	361.1	360.7	361.5
12.5°	358.0	358.3	358.5	358.8	359.0	359.0	358.7	358.3	358.1	357.7	358.6
15°	351.0	351.3	351.5	351.8	352.1	352.2	352.1	352.0	351.9	351.8	352.8
17.5°	342.2	342.8	343.3	343.8	344.3	344.6	344.6	344.5	344.5	344.5	345.3
20°	335.8	336.3	336.8	337.4	337.9	338.3	338.5	338.6	338.8	339.0	339.8
22.5°	329.1	329.6	330.1	330.6	331.2	331.6	331.8	332.1	332.3	332.6	333.6
25°	316.9	317.8	318.7	319.6	320.5	321.1	321.3	321.6	321.8	322.2	323.3
27.5°	304.7	305.7	306.8	307.8	308.8	309.6	310.1	310.7	311.3	311.9	312.9
30°	296.1	297.2	298.4	299.5	300.7	301.6	302.4	303.1	303.8	304.5	305.6
32.5°	286.5	287.7	289.0	290.3	291.6	292.7	293.7	294.6	295.6	296.4	297.6
35°	272.8	274.2	275.7	277.1	278.5	279.8	280.9	282.1	283.3	284.5	285.8
37.5°	258.4	259.9	261.6	263.2	264.8	266.3	267.7	269.1	270.6	272.0	273.5
40°	248.7	250.4	251.9	253.6	255.1	256.8	258.6	260.5	262.2	264.0	265.5
42.5°	238.2	240.1	242.0	244.0	246.0	247.9	249.8	251.6	253.5	255.3	257.0
45°	223.1	225.2	227.3	229.5	231.6	233.8	236.0	238.2	240.5	242.7	244.4
47.5°	207.2	209.7	212.1	214.6	217.0	219.5	222.0	224.5	227.0	229.6	231.5
50°	197.0	199.5	202.0	204.5	207.0	209.6	212.3	215.2	217.9	220.7	222.7
52.5°	186.1	188.7	191.3	194.0	196.7	199.5	202.5	205.6	208.6	211.6	213.8
55°	170.1	173.1	176.0	178.9	181.8	184.9	188.1	191.4	194.6	197.8	200.2
57.5°	154.5	157.6	160.7	163.8	166.8	170.1	173.6	177.1	180.6	184.2	186.6
60°	143.6	146.8	150.1	153.3	156.4	159.9	163.6	167.2	170.8	174.5	177.0
62.5°	133.4	136.6	139.9	143.2	146.5	150.1	153.9	157.8	161.7	165.6	168.0
65°	117.5	121.1	124.5	127.9	131.5	135.2	139.1	143.0	146.9	150.8	153.5
67.5°	101.5	105.2	108.9	112.5	116.2	120.1	124.1	128.1	132.1	136.1	139.0
70°	90.2	94.1	97.9	101.8	105.6	109.7	113.9	118.2	122.5	126.7	129.7
72.5°	80.0	83.9	87.6	91.5	95.3	99.4	103.8	108.3	112.7	117.2	120.1
75°	63.8	68.0	72.2	76.4	80.6	84.9	89.4	93.8	98.2	102.7	105.6
77.5°	49.7	53.9	58.1	62.3	66.6	70.9	75.4	79.9	84.4	88.9	92.0
80°	39.7	44.1	48.5	52.9	57.2	61.7	66.3	70.9	75.6	80.2	83.3
82.5°	31.1	35.5	40.0	44.3	48.8	53.4	58.1	62.8	67.5	72.2	75.3
85°	19.6	24.1	28.6	33.1	37.5	42.1	46.8	51.5	56.2	61.0	64.0
87.5°	10.8	15.3	19.9	24.5	29.0	33.7	38.4	43.1	47.9	52.6	55.6
90°	5.5	10.6	15.6	20.7	25.7	30.9	36.3	41.8	47.2	52.6	56.0
92.5°	12.2	16.6	21.1	25.5	29.9	34.5	39.5	44.5	49.5	54.4	57.6
95°	22.4	26.3	30.3	34.2	38.1	42.6	47.5	52.4	57.3	62.3	65.3
97.5°	35.8	39.3	42.8	46.3	49.8	53.8	58.4	62.9	67.5	72.1	75.0
100°	45.0	48.2	51.5	54.8	58.0	61.9	66.3	70.8	75.2	79.6	82.4
102.5°	55.6	58.5	61.2	64.1	66.9	70.5	75.0	79.5	83.9	88.4	91.1
105°	71.6	74.0	76.2	78.5	80.8	84.1	88.6	93.0	97.5	101.9	104.4
107.5°	90.0	91.9	93.8	95.7	97.6	100.4	104.3	108.1	112.1	116.0	118.6
110°	101.3	103.1	104.8	106.5	108.2	111.0	114.7	118.4	122.1	125.8	128.4



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	113.5	114.9	116.2	117.7	119.1	121.5	124.9	128.4	131.8	135.3	137.8
115°	131.3	132.6	133.9	135.2	136.4	138.6	141.6	144.7	147.8	150.8	153.1
117.5°	149.6	150.4	151.2	152.0	152.8	154.6	157.5	160.3	163.2	166.0	168.1
120°	160.7	161.6	162.5	163.3	164.1	165.8	168.5	171.1	173.7	176.2	178.2
122.5°	172.6	173.2	173.7	174.3	174.8	176.3	179.0	181.6	184.3	186.8	188.6
125°	190.5	190.6	190.9	191.1	191.2	192.6	195.0	197.5	199.9	202.4	204.0
127.5°	207.2	207.6	207.9	208.3	208.6	209.8	211.8	213.8	215.8	217.7	219.1
130°	218.4	218.9	219.4	219.8	220.2	221.3	222.8	224.5	226.0	227.6	229.0
132.5°	229.4	229.9	230.4	230.9	231.4	232.3	233.6	234.9	236.2	237.5	238.8
135°	246.3	246.7	247.0	247.3	247.6	248.2	249.2	250.0	251.0	251.8	253.2
137.5°	262.1	262.3	262.6	262.9	263.1	263.6	264.4	265.1	265.9	266.6	267.7
140°	272.8	273.0	273.4	273.7	274.1	274.4	274.7	275.1	275.4	275.8	277.0
142.5°	282.7	283.0	283.3	283.5	283.8	284.0	284.1	284.3	284.5	284.7	285.9
145°	298.3	298.3	298.3	298.4	298.4	298.6	298.8	299.0	299.2	299.4	300.1
147.5°	311.5	311.8	312.0	312.3	312.5	312.7	312.9	313.1	313.2	313.5	313.7
150°	321.0	321.2	321.2	321.4	321.6	321.7	321.8	321.9	322.1	322.2	322.2
152.5°	328.8	329.0	329.2	329.3	329.6	329.7	329.8	329.8	329.9	330.0	330.1
155°	341.1	341.1	341.1	341.1	341.1	341.1	341.2	341.2	341.3	341.4	341.6
157.5°	351.5	351.5	351.4	351.3	351.2	351.2	351.3	351.3	351.4	351.5	351.7
160°	358.1	358.0	357.8	357.7	357.6	357.5	357.5	357.5	357.5	357.5	357.8
162.5°	363.9	363.8	363.6	363.4	363.2	363.2	363.2	363.3	363.3	363.3	363.7
165°	371.5	371.3	371.1	370.9	370.7	370.6	370.6	370.6	370.6	370.6	371.0
167.5°	377.5	377.3	377.0	376.7	376.4	376.3	376.4	376.4	376.5	376.6	376.9
170°	380.9	380.6	380.4	380.1	379.9	379.7	379.7	379.7	379.7	379.7	380.2
172.5°	383.7	383.3	383.1	382.8	382.5	382.4	382.4	382.4	382.4	382.4	382.8
175°	386.4	386.2	385.9	385.6	385.4	385.2	385.2	385.2	385.2	385.2	385.6
177.5°	387.5	387.4	387.1	386.9	386.7	386.6	386.6	386.6	386.6	386.6	386.9
180°	387.4	387.4	387.4	387.4	387.4	387.4	387.4	387.4	387.4	387.4	387.4



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	368.2	368.2	368.2	368.2	368.2	368.2	368.2	368.2
2.5°	367.5	368.1	368.7	368.9	368.9	368.8	368.7	368.6
5°	366.9	367.6	368.3	368.7	368.6	368.4	368.3	368.2
7.5°	364.7	365.6	366.4	366.9	366.8	366.6	366.5	366.4
10°	362.5	363.3	364.2	364.5	364.4	364.2	364.0	363.9
12.5°	359.4	360.2	361.0	361.4	361.2	361.0	360.8	360.7
15°	353.6	354.5	355.4	355.8	355.7	355.6	355.5	355.4
17.5°	346.0	346.9	347.7	348.0	347.8	347.8	347.7	347.5
20°	340.6	341.4	342.2	342.7	342.8	342.9	342.9	343.0
22.5°	334.6	335.6	336.7	337.2	337.1	337.0	337.0	336.9
25°	324.4	325.6	326.7	327.4	327.4	327.4	327.4	327.4
27.5°	313.8	314.9	315.9	316.4	316.5	316.6	316.6	316.7
30°	306.6	307.7	308.8	309.3	309.3	309.3	309.3	309.3
32.5°	298.8	299.9	301.0	301.7	302.0	302.1	302.4	302.6
35°	287.1	288.4	289.8	290.7	291.0	291.4	291.7	292.1
37.5°	275.0	276.6	278.1	279.0	279.2	279.6	279.8	280.1
40°	267.0	268.5	270.0	271.0	271.3	271.7	272.1	272.4
42.5°	258.6	260.3	261.9	263.0	263.6	264.0	264.5	265.0
45°	246.1	247.8	249.5	250.7	251.4	252.1	252.9	253.6
47.5°	233.4	235.4	237.3	238.5	239.0	239.6	240.1	240.7
50°	224.7	226.8	228.9	230.2	230.8	231.4	232.0	232.7
52.5°	215.9	218.0	220.2	221.6	222.4	223.2	223.9	224.6
55°	202.6	205.0	207.4	209.0	209.7	210.4	211.1	211.8
57.5°	189.0	191.4	193.8	195.4	196.3	197.2	198.0	198.8
60°	179.5	182.0	184.5	186.2	187.2	188.2	189.2	190.2
62.5°	170.5	173.0	175.5	177.2	178.1	179.0	179.9	180.9
65°	156.2	158.9	161.5	163.3	164.2	165.1	166.0	166.9
67.5°	141.9	144.8	147.7	149.6	150.3	151.1	151.9	152.6
70°	132.5	135.3	138.2	140.1	140.9	141.8	142.8	143.6
72.5°	123.0	125.9	128.8	130.8	131.6	132.5	133.5	134.3
75°	108.6	111.5	114.5	116.5	117.5	118.6	119.7	120.8
77.5°	95.1	98.2	101.3	103.2	104.1	105.0	105.7	106.6
80°	86.3	89.4	92.4	94.3	95.2	96.1	97.0	97.9
82.5°	78.3	81.3	84.4	86.3	87.2	88.1	88.9	89.9
85°	67.1	70.1	73.1	75.1	75.9	76.9	77.7	78.6
87.5°	58.7	61.8	64.9	66.9	67.8	68.8	69.7	70.6
90°	59.2	62.5	65.9	68.0	69.1	70.1	71.1	72.2
92.5°	60.8	64.0	67.2	69.1	69.8	70.6	71.3	72.1
95°	68.3	71.4	74.4	76.4	77.2	78.1	79.0	79.9
97.5°	78.0	80.9	83.9	85.8	86.7	87.6	88.4	89.3
100°	85.2	88.0	90.7	92.7	93.7	94.7	95.7	96.8
102.5°	93.8	96.6	99.3	101.1	101.9	102.8	103.7	104.5
105°	106.9	109.3	111.8	113.6	114.5	115.5	116.4	117.4
107.5°	121.1	123.7	126.4	128.0	128.7	129.4	130.1	130.9
110°	131.0	133.5	136.1	137.8	138.3	138.9	139.5	140.0



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	140.4	143.0	145.6	147.2	148.0	148.8	149.6	150.2
115°	155.3	157.5	159.7	161.2	161.8	162.5	163.1	163.8
117.5°	170.2	172.3	174.4	175.7	176.2	176.7	177.2	177.7
120°	180.3	182.3	184.3	185.5	186.0	186.4	186.9	187.4
122.5°	190.5	192.3	194.1	195.2	195.6	196.0	196.5	196.9
125°	205.6	207.2	208.8	209.7	210.2	210.5	210.9	211.2
127.5°	220.5	221.9	223.3	224.1	224.5	224.7	225.1	225.3
130°	230.4	231.9	233.3	234.0	234.1	234.2	234.2	234.3
132.5°	240.0	241.3	242.6	243.4	243.7	243.8	244.1	244.4
135°	254.5	255.9	257.2	258.0	258.4	258.6	259.0	259.2
137.5°	268.8	269.9	271.0	271.7	271.9	272.1	272.2	272.5
140°	278.3	279.6	280.9	281.5	281.5	281.4	281.4	281.4
142.5°	287.0	288.1	289.2	289.8	289.9	290.0	290.1	290.2
145°	300.7	301.4	302.0	302.4	302.5	302.6	302.6	302.7
147.5°	313.9	314.1	314.4	314.4	314.3	314.2	314.1	314.0
150°	322.2	322.2	322.2	322.1	321.8	321.7	321.4	321.2
152.5°	330.2	330.4	330.5	330.4	330.0	329.7	329.4	329.1
155°	341.9	342.2	342.5	342.3	341.9	341.4	341.0	340.4
157.5°	352.0	352.3	352.6	352.5	352.1	351.8	351.4	351.0
160°	358.2	358.5	358.9	358.9	358.6	358.3	358.1	357.8
162.5°	364.0	364.4	364.7	364.6	364.2	363.8	363.3	362.9
165°	371.4	371.8	372.2	372.2	371.7	371.3	370.7	370.3
167.5°	377.4	377.8	378.2	378.2	377.8	377.4	376.9	376.6
170°	380.6	381.2	381.6	381.6	381.2	380.6	380.2	379.7
172.5°	383.2	383.7	384.1	384.1	383.6	383.1	382.6	382.2
175°	386.0	386.4	386.8	386.8	386.3	385.8	385.4	384.9
177.5°	387.3	387.5	387.9	387.9	387.5	387.1	386.8	386.3
180°	387.4	387.4	387.4	387.4	387.4	387.4	387.4	387.4

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