

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: P332718-927

Luminaire Tested: **S124DIW-S350D470U927-4F0-1E-UDD-D1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332718-927
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-10,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S124DIW-S350D470U927-4F0-1E-UDD-D1
Description: DEFINE 4 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 350 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 470 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2430.6 lumens
Efficiency: N/A
Efficacy: 105.7 lumens/watt
Spacing Criteria (0/90/45): 1.23 / 1.28 / 1.39
Luminous Opening: Rectangular w/ Sides (W: 0.33' x L: 4' x H: 0.08')
CIE Type: General Diffuse

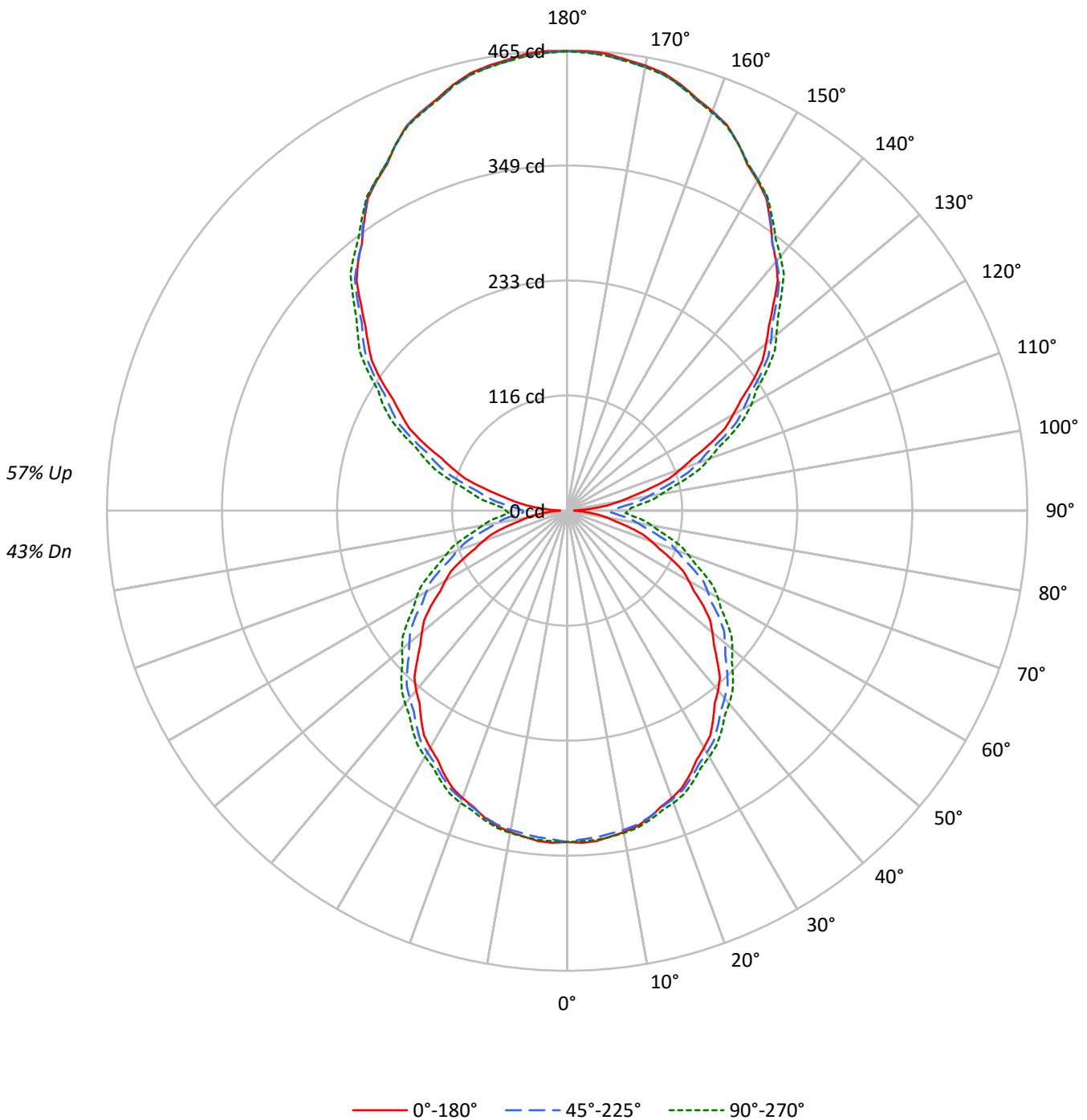
Input Watts (W): 23
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	106	106	106	106	97	97	97	97	80	80	80	64	64	64	50	50	50	43
1	95	91	87	83	87	83	79	76	69	66	64	55	53	52	43	42	41	35
2	87	79	72	67	79	72	66	62	59	55	52	48	45	42	37	35	33	28
3	79	69	61	55	71	63	56	51	52	47	43	42	38	35	33	30	28	24
4	72	61	53	46	65	56	49	43	46	41	36	37	33	30	29	26	24	20
5	66	54	46	39	60	49	42	37	41	35	31	33	29	26	26	23	21	17
6	60	48	40	34	55	44	37	32	37	31	27	30	26	22	23	20	18	15
7	56	43	35	30	51	40	33	28	33	28	24	27	23	20	21	18	16	13
8	52	39	31	26	47	36	29	24	30	25	21	25	21	18	20	16	14	12
9	48	36	28	23	44	33	26	22	28	22	19	23	19	16	18	15	13	11
10	45	33	25	21	41	30	24	19	25	20	17	21	17	14	17	14	12	10

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2704	2704	2704
5°	2712	2641	2650
10°	2694	2599	2596
15°	2670	2549	2535
20°	2635	2494	2475
25°	2594	2432	2408
30°	2549	2370	2340
35°	2498	2307	2280
40°	2458	2247	2218
45°	2398	2191	2164
50°	2348	2128	2108
55°	2296	2068	2042
60°	2214	1991	1982
65°	2125	1909	1908
70°	2018	1816	1820
75°	1867	1712	1743
80°	1701	1613	1665
85°	1489	1525	1621



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	31.7	1.3
10°-20°	90.8	3.7
20°-30°	137.4	5.7
30°-40°	166.2	6.8
40°-50°	175.7	7.2
50°-60°	165.4	6.8
60°-70°	137.2	5.6
70°-80°	96.4	4.0
80°-90°	55.9	2.3
90°-100°	63.0	2.6
100°-110°	114.6	4.7
110°-120°	170.0	7.0
120°-130°	212.0	8.7
130°-140°	231.9	9.5
140°-150°	224.8	9.2
150°-160°	188.4	7.8
160°-170°	125.3	5.2
170°-180°	43.9	1.8
0°-30°	259.9	10.7
0°-40°	426.1	17.5
0°-60°	767.2	31.6
0°-90°	1056.7	43.5
90°-120°	347.6	14.3
90°-150°	1016.3	41.8
90°-180°	1374.0	56.5
0°-180°	2430.6	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	335	335	335	335	335	
5°	335	334	331	334	334	32
15°	321	322	321	324	324	90
25°	294	296	297	301	302	135
35°	257	262	266	270	272	161
45°	214	222	229	235	237	166
55°	168	176	187	194	197	150
65°	116	128	141	150	153	115
75°	64	78	94	104	108	69
85°	20	36	52	63	68	21
90°	7	26	45	58	62	5
95°	26	42	60	71	74	28
105°	87	95	110	120	125	93
115°	159	163	173	181	184	157
125°	229	230	238	244	246	204
135°	295	297	300	305	306	228
145°	358	359	359	361	361	224
155°	409	409	409	410	409	188
165°	445	444	444	446	444	126
175°	463	462	461	464	461	44
180°	464	464	464	464	464	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	334.9	334.9	334.9	334.9	334.9	334.9	334.9	334.9	334.9	334.9	334.9
2.5°	336.0	335.8	335.6	335.4	335.3	334.9	334.4	333.8	333.3	332.7	333.2
5°	335.3	334.9	334.7	334.5	334.2	333.8	333.2	332.6	332.1	331.4	332.2
7.5°	332.4	332.2	332.1	331.9	331.8	331.4	331.0	330.5	330.0	329.5	330.3
10°	329.9	329.9	329.8	329.7	329.6	329.4	329.0	328.5	328.1	327.7	328.4
12.5°	326.7	326.6	326.6	326.6	326.6	326.5	326.1	325.9	325.6	325.3	326.0
15°	321.3	321.5	321.5	321.6	321.7	321.6	321.3	321.1	320.8	320.6	321.3
17.5°	314.1	314.3	314.6	314.8	315.1	315.2	315.1	315.1	315.1	315.0	315.8
20°	309.0	309.2	309.5	309.7	310.0	310.1	310.2	310.3	310.4	310.5	311.3
22.5°	303.2	303.6	303.9	304.2	304.5	304.8	304.9	305.1	305.2	305.4	306.2
25°	294.0	294.5	295.0	295.5	296.0	296.4	296.6	296.8	297.1	297.4	298.3
27.5°	283.6	284.4	285.1	285.8	286.5	287.1	287.5	287.9	288.3	288.7	289.5
30°	276.7	277.4	278.1	278.7	279.4	280.0	280.6	281.1	281.8	282.3	283.3
32.5°	269.3	270.1	270.8	271.6	272.4	273.1	273.8	274.4	275.1	275.8	276.8
35°	257.2	258.3	259.2	260.2	261.3	262.1	263.0	263.8	264.7	265.5	266.6
37.5°	245.2	246.3	247.5	248.6	249.8	250.8	251.9	252.9	254.0	255.0	256.2
40°	237.3	238.4	239.6	240.6	241.7	242.8	244.0	245.2	246.3	247.5	248.7
42.5°	228.4	229.6	230.8	232.0	233.2	234.5	235.9	237.3	238.6	240.0	241.4
45°	214.4	216.0	217.6	219.2	220.8	222.4	223.9	225.5	227.1	228.7	230.1
47.5°	201.2	202.9	204.5	206.1	207.7	209.5	211.3	213.2	215.0	216.8	218.2
50°	191.6	193.5	195.3	197.1	198.9	200.7	202.6	204.5	206.3	208.1	209.8
52.5°	182.0	183.9	185.7	187.5	189.3	191.3	193.4	195.5	197.6	199.7	201.4
55°	168.0	169.8	171.5	173.3	175.0	177.1	179.6	182.1	184.6	187.1	188.8
57.5°	152.3	154.5	156.6	158.8	161.0	163.3	165.8	168.3	170.7	173.3	175.2
60°	142.1	144.3	146.5	148.6	150.8	153.2	156.0	158.8	161.4	164.2	166.1
62.5°	132.2	134.6	137.0	139.3	141.6	144.3	146.9	149.7	152.5	155.3	157.2
65°	116.2	118.9	121.6	124.2	126.9	129.7	132.5	135.3	138.2	141.0	143.1
67.5°	100.8	103.7	106.5	109.4	112.2	115.1	118.2	121.2	124.2	127.2	129.4
70°	90.4	93.2	96.0	98.9	101.7	104.7	107.9	111.1	114.2	117.4	119.6
72.5°	80.2	83.1	86.0	88.9	91.7	94.9	98.2	101.6	105.0	108.4	110.5
75°	64.5	67.6	70.7	73.8	76.8	80.1	83.7	87.1	90.6	94.1	96.5
77.5°	49.9	53.2	56.4	59.7	62.9	66.4	70.0	73.8	77.4	81.0	83.4
80°	40.9	44.2	47.5	50.9	54.2	57.7	61.4	65.0	68.7	72.4	74.9
82.5°	31.8	35.3	38.8	42.3	45.7	49.3	53.0	56.6	60.3	64.0	66.5
85°	19.9	23.4	26.9	30.3	33.9	37.5	41.3	45.0	48.7	52.5	55.0
87.5°	11.3	14.9	18.5	22.0	25.6	29.3	33.0	36.8	40.6	44.4	46.9
90°	7.1	11.2	15.5	19.7	23.9	28.1	32.3	36.6	40.8	45.0	47.9
92.5°	13.4	17.3	21.4	25.4	29.4	33.4	37.5	41.5	45.5	49.5	52.2
95°	26.4	29.9	33.4	36.8	40.3	44.0	48.0	52.0	55.9	59.9	62.4
97.5°	42.1	45.0	47.9	50.9	53.8	57.3	61.3	65.4	69.4	73.4	75.9
100°	54.3	56.9	59.3	61.9	64.3	67.6	71.5	75.5	79.5	83.4	85.8
102.5°	67.6	69.6	71.6	73.7	75.7	78.7	82.5	86.3	90.2	94.0	96.4
105°	87.0	88.7	90.5	92.3	94.0	96.6	100.0	103.4	106.8	110.2	112.5
107.5°	108.1	109.6	111.1	112.5	114.0	116.2	119.1	122.1	125.1	128.0	130.3
110°	122.2	123.5	124.8	126.2	127.5	129.6	132.4	135.2	138.1	140.9	142.7



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	136.8	137.8	138.9	140.0	141.1	142.9	145.5	148.2	150.8	153.4	155.3
115°	158.8	159.5	160.3	161.0	161.8	163.4	165.9	168.4	170.9	173.4	175.2
117.5°	179.8	180.3	180.9	181.3	181.9	183.3	185.7	188.1	190.4	192.7	194.2
120°	193.5	194.2	194.7	195.3	195.8	197.3	199.4	201.5	203.7	205.9	207.2
122.5°	208.2	208.4	208.6	208.7	208.9	210.1	212.3	214.4	216.6	218.8	220.1
125°	229.4	229.3	229.3	229.2	229.1	230.0	232.1	234.1	236.1	238.1	239.5
127.5°	249.0	249.1	249.3	249.5	249.6	250.4	251.9	253.3	254.8	256.3	257.6
130°	262.4	262.6	262.8	262.9	263.1	263.8	265.1	266.5	267.8	269.2	270.5
132.5°	276.6	276.6	276.7	276.8	276.9	277.4	278.5	279.5	280.4	281.5	282.7
135°	294.8	295.2	295.7	296.2	296.7	297.2	297.8	298.3	299.0	299.5	300.7
137.5°	315.0	315.1	315.3	315.4	315.5	315.8	316.2	316.6	317.0	317.5	318.5
140°	328.5	328.6	328.7	328.8	328.8	328.8	329.0	329.1	329.2	329.2	330.2
142.5°	340.6	340.7	340.8	341.0	341.1	341.1	341.0	340.9	340.8	340.6	341.6
145°	357.5	357.7	358.0	358.2	358.5	358.6	358.7	358.8	358.9	358.9	359.4
147.5°	374.5	374.8	375.1	375.4	375.7	375.8	375.7	375.7	375.7	375.6	375.6
150°	384.8	385.1	385.3	385.6	385.8	385.9	385.9	385.9	385.9	385.9	385.9
152.5°	394.3	394.5	394.7	394.8	395.0	395.1	395.1	395.2	395.3	395.4	395.5
155°	409.2	409.2	409.2	409.2	409.2	409.2	409.1	409.0	408.9	408.8	409.2
157.5°	421.8	421.7	421.6	421.4	421.3	421.2	421.2	421.2	421.1	421.1	421.4
160°	429.4	429.3	429.2	429.1	429.0	429.0	428.9	428.8	428.7	428.6	428.9
162.5°	436.3	436.0	435.8	435.6	435.4	435.2	435.1	435.1	435.0	434.9	435.4
165°	445.4	445.2	445.0	444.7	444.5	444.3	444.2	444.0	443.9	443.7	444.2
167.5°	452.6	452.3	451.9	451.6	451.2	451.1	451.1	451.1	451.1	451.1	451.6
170°	456.6	456.2	455.8	455.4	455.0	454.9	455.0	455.0	455.1	455.2	455.7
172.5°	459.5	459.1	458.8	458.5	458.1	458.0	458.0	458.0	458.0	458.0	458.6
175°	463.4	463.0	462.6	462.2	461.8	461.6	461.5	461.4	461.4	461.3	461.8
177.5°	464.7	464.4	464.1	463.7	463.4	463.3	463.3	463.3	463.3	463.3	463.7
180°	464.1	464.1	464.1	464.1	464.1	464.1	464.1	464.1	464.1	464.1	464.1



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	334.9	334.9	334.9	334.9	334.9	334.9	334.9	334.9
2.5°	333.7	334.1	334.6	334.8	334.8	334.7	334.6	334.5
5°	332.8	333.4	334.1	334.5	334.4	334.2	334.1	334.1
7.5°	331.1	331.8	332.6	332.9	332.8	332.7	332.6	332.6
10°	329.2	329.9	330.7	331.1	331.0	330.9	330.8	330.7
12.5°	326.7	327.4	328.0	328.4	328.4	328.4	328.4	328.3
15°	322.1	322.8	323.6	323.9	323.8	323.8	323.7	323.6
17.5°	316.5	317.3	318.1	318.4	318.3	318.2	318.2	318.1
20°	312.1	313.0	313.8	314.3	314.3	314.3	314.3	314.3
22.5°	307.0	307.8	308.7	309.2	309.3	309.4	309.6	309.7
25°	299.2	300.1	301.0	301.5	301.6	301.7	301.7	301.8
27.5°	290.3	291.2	292.1	292.6	292.6	292.7	292.8	292.9
30°	284.2	285.1	286.0	286.5	286.7	286.9	287.1	287.2
32.5°	277.8	278.9	280.0	280.6	280.7	280.9	281.1	281.2
35°	267.8	268.9	270.1	270.8	271.1	271.3	271.6	271.9
37.5°	257.4	258.5	259.7	260.5	260.7	260.9	261.3	261.5
40°	250.0	251.2	252.5	253.3	253.6	254.0	254.3	254.6
42.5°	242.7	244.2	245.5	246.4	246.6	246.8	247.2	247.4
45°	231.6	233.0	234.4	235.3	235.8	236.1	236.5	236.9
47.5°	219.8	221.2	222.7	223.6	224.2	224.7	225.1	225.7
50°	211.4	213.1	214.8	215.9	216.3	216.8	217.4	217.9
52.5°	203.0	204.7	206.4	207.5	207.9	208.4	209.0	209.5
55°	190.4	192.1	193.8	194.9	195.4	195.8	196.4	196.9
57.5°	177.2	179.2	181.2	182.4	182.8	183.3	183.8	184.3
60°	168.1	170.0	171.9	173.2	173.9	174.5	175.2	175.9
62.5°	159.1	161.0	162.9	164.2	164.9	165.5	166.2	166.8
65°	145.1	147.3	149.3	150.7	151.4	152.0	152.7	153.4
67.5°	131.5	133.6	135.7	137.1	137.8	138.4	139.0	139.7
70°	121.8	124.1	126.4	127.8	128.3	129.0	129.5	130.1
72.5°	112.7	114.9	117.1	118.5	119.1	119.8	120.5	121.1
75°	98.8	101.1	103.5	105.0	105.8	106.5	107.3	108.0
77.5°	85.8	88.2	90.5	92.1	92.9	93.7	94.5	95.3
80°	77.4	79.9	82.4	84.0	84.6	85.3	86.0	86.6
82.5°	69.1	71.7	74.2	75.9	76.6	77.3	78.1	78.8
85°	57.5	60.0	62.5	64.2	65.0	65.8	66.6	67.5
87.5°	49.4	52.0	54.4	56.1	56.9	57.6	58.4	59.2
90°	50.8	53.7	56.6	58.5	59.3	60.1	60.9	61.8
92.5°	54.8	57.4	60.0	61.8	62.6	63.3	64.1	64.8
95°	64.9	67.3	69.9	71.5	72.2	73.0	73.8	74.5
97.5°	78.3	80.9	83.3	84.9	85.6	86.3	87.1	87.8
100°	88.2	90.6	93.1	94.6	95.1	95.7	96.3	96.9
102.5°	98.8	101.2	103.6	105.2	105.9	106.6	107.3	108.1
105°	114.9	117.2	119.5	121.1	122.0	122.9	123.8	124.7
107.5°	132.6	134.8	137.1	138.6	139.1	139.7	140.3	140.9
110°	144.4	146.2	147.9	149.2	150.2	151.1	152.0	152.9



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	157.1	158.9	160.7	162.0	162.7	163.4	164.1	164.9
115°	176.9	178.6	180.5	181.6	182.0	182.6	183.1	183.5
117.5°	195.7	197.2	198.6	199.6	200.1	200.7	201.1	201.6
120°	208.4	209.7	211.0	212.1	212.9	213.7	214.5	215.3
122.5°	221.6	223.0	224.3	225.2	225.5	225.9	226.2	226.5
125°	240.9	242.3	243.8	244.6	245.0	245.3	245.7	246.1
127.5°	259.0	260.3	261.7	262.5	263.0	263.4	263.9	264.3
130°	271.8	273.1	274.5	275.3	275.4	275.7	275.8	276.0
132.5°	284.0	285.3	286.5	287.4	287.7	288.1	288.5	288.8
135°	301.9	303.0	304.2	304.9	305.2	305.5	305.7	305.9
137.5°	319.5	320.5	321.5	322.3	322.7	323.2	323.6	324.1
140°	331.2	332.2	333.2	333.9	334.2	334.5	334.9	335.3
142.5°	342.5	343.5	344.4	345.1	345.4	345.7	346.0	346.3
145°	359.8	360.2	360.7	360.9	361.0	361.1	361.2	361.3
147.5°	375.6	375.6	375.6	375.7	375.8	376.0	376.2	376.4
150°	385.9	385.9	385.9	385.9	385.8	385.7	385.6	385.6
152.5°	395.8	395.9	396.2	396.1	395.9	395.7	395.5	395.3
155°	409.5	409.8	410.1	410.1	409.8	409.5	409.2	408.8
157.5°	421.6	421.8	422.1	422.1	421.8	421.5	421.3	421.0
160°	429.1	429.4	429.6	429.5	429.1	428.7	428.3	427.9
162.5°	435.8	436.3	436.7	436.7	436.3	435.9	435.5	435.1
165°	444.7	445.1	445.6	445.7	445.4	445.0	444.7	444.4
167.5°	452.1	452.6	453.0	453.0	452.6	452.1	451.5	451.1
170°	456.1	456.6	457.1	457.0	456.5	455.9	455.3	454.8
172.5°	459.1	459.7	460.2	460.2	459.6	459.1	458.5	458.0
175°	462.4	463.0	463.5	463.5	463.0	462.4	461.8	461.3
177.5°	464.2	464.6	465.1	465.0	464.5	464.1	463.5	463.0
180°	464.1	464.1	464.1	464.1	464.1	464.1	464.1	464.1

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