

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: P332494-840

Luminaire Tested: **SA4XXDIP-C350D365U840-4F0-1E-UDD-D1**

Issue Date: 10/7/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P332494-840  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-10,  
Test Lab: INNOVATION CENTER  
Issue Date: 10/7/2019  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: SA4XXDIP-C350D365U840-4F0-1E-UDD-D1  
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 350 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: 2736.6 lumens  
Efficiency: N/A  
Efficacy: 134.8 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

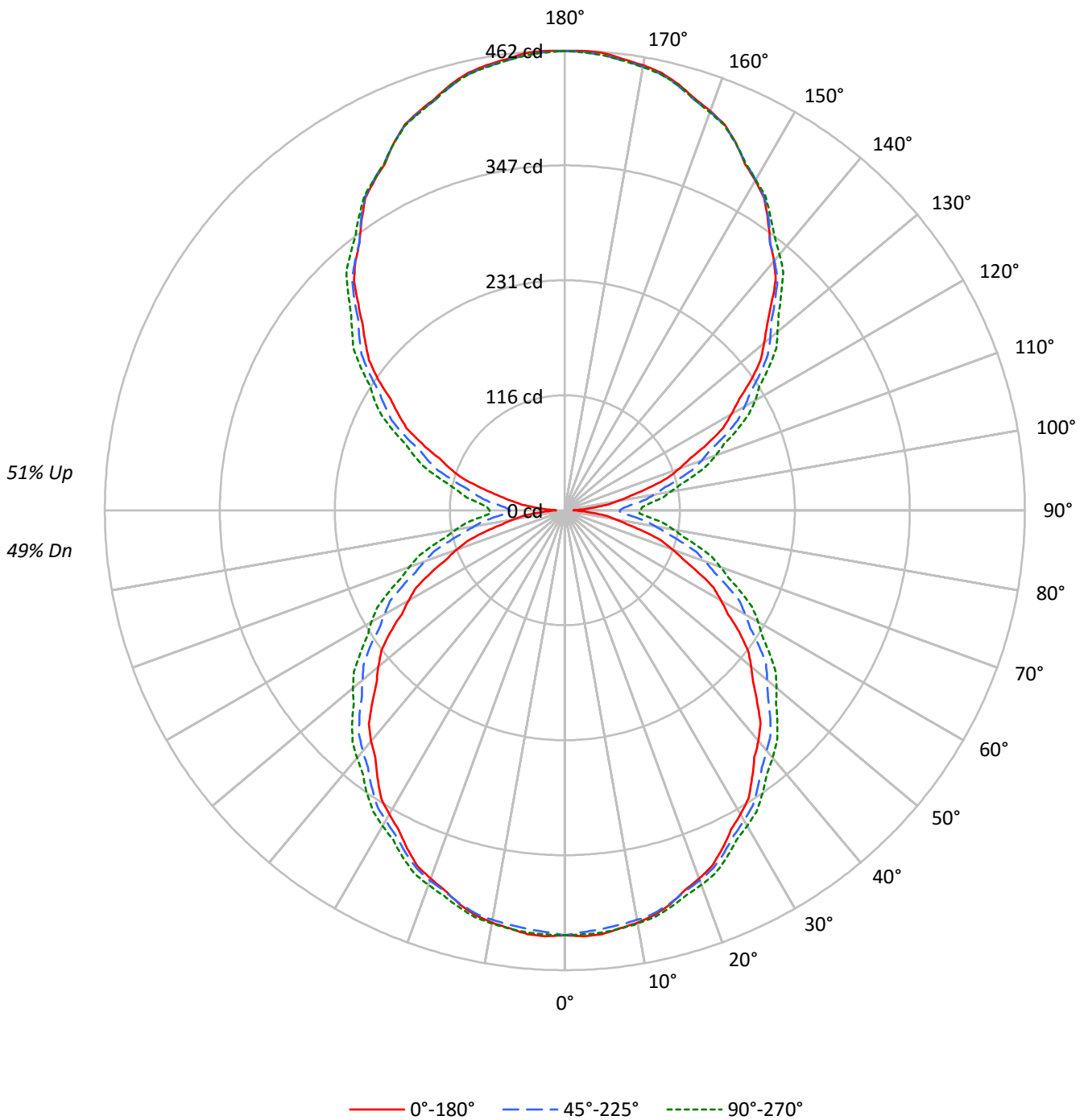
Input Watts (W): 20.3  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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			
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10
RCR																				
0	107	107	107	107	99	99	99	99	83	83	83	69	69	69	55	55	55	49		
1	97	92	88	84	89	85	81	78	71	68	66	59	57	55	47	46	45	39		
2	88	80	73	68	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	26	48	37	30	25	32	26	22	26	22	19	22	18	16	13		
9	49	36	29	23	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	18	15	13	11		

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	3446	3446	3446
5°	3457	3367	3378
10°	3435	3313	3310
15°	3404	3249	3231
20°	3358	3179	3155
25°	3306	3100	3070
30°	3249	3021	2983
35°	3185	2941	2907
40°	3134	2865	2828
45°	3058	2793	2759
50°	2994	2713	2687
55°	2928	2636	2603
60°	2824	2538	2526
65°	2708	2435	2431
70°	2572	2315	2320
75°	2379	2183	2220
80°	2166	2057	2123
85°	1893	1946	2065



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	40.4	1.5
10°-20°	115.8	4.2
20°-30°	175.1	6.4
30°-40°	211.9	7.7
40°-50°	224.0	8.2
50°-60°	210.8	7.7
60°-70°	174.9	6.4
70°-80°	122.9	4.5
80°-90°	70.8	2.6
90°-100°	71.7	2.6
100°-110°	120.7	4.4
110°-120°	173.5	6.3
120°-130°	213.3	7.8
130°-140°	231.6	8.5
140°-150°	223.7	8.2
150°-160°	187.3	6.8
160°-170°	124.6	4.6
170°-180°	43.6	1.6
0°-30°	331.4	12.1
0°-40°	543.2	19.9
0°-60°	978.1	35.7
0°-90°	1346.7	49.2
90°-120°	365.8	13.4
90°-150°	1034.4	37.8
90°-180°	1390.0	50.8
0°-180°	2736.6	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	427	427	427	427	427	
5°	427	426	422	426	426	41
15°	410	410	409	413	412	115
25°	375	378	379	384	385	173
35°	328	334	338	345	347	205
45°	273	282	292	299	302	211
55°	214	224	238	248	251	191
65°	148	164	180	191	196	147
75°	82	100	120	133	138	87
85°	25	46	67	81	86	27
90°	9	32	55	71	76	6
95°	28	47	69	82	87	29
105°	88	98	116	129	134	93
115°	158	163	177	187	190	156
125°	228	229	240	248	250	204
135°	293	295	299	305	307	227
145°	356	356	357	359	360	222
155°	407	407	406	408	406	187
165°	443	442	441	443	442	125
175°	461	459	459	461	459	44
180°	461	461	461	461	461	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	426.9	426.9	426.9	426.9	426.9	426.9	426.9	426.9	426.9	426.9	426.9
2.5°	428.4	428.1	427.9	427.6	427.4	426.9	426.3	425.6	424.9	424.1	424.7
5°	427.4	427.0	426.7	426.4	426.1	425.6	424.7	424.0	423.3	422.5	423.4
7.5°	423.7	423.5	423.3	423.1	422.9	422.5	421.9	421.3	420.7	420.1	421.0
10°	420.6	420.5	420.4	420.3	420.2	419.9	419.4	418.8	418.3	417.8	418.7
12.5°	416.5	416.4	416.4	416.4	416.4	416.2	415.8	415.5	415.1	414.8	415.6
15°	409.6	409.8	409.9	410.0	410.1	410.0	409.6	409.3	409.0	408.7	409.6
17.5°	400.4	400.7	401.0	401.3	401.6	401.8	401.7	401.6	401.6	401.5	402.5
20°	393.8	394.2	394.6	394.9	395.2	395.4	395.5	395.6	395.7	395.8	396.9
22.5°	386.6	387.0	387.4	387.8	388.2	388.5	388.7	388.9	389.1	389.3	390.3
25°	374.8	375.4	376.1	376.7	377.3	377.8	378.1	378.4	378.7	379.1	380.2
27.5°	361.5	362.5	363.5	364.4	365.3	366.0	366.5	367.0	367.5	368.0	369.0
30°	352.7	353.7	354.5	355.3	356.2	357.0	357.7	358.4	359.2	359.9	361.1
32.5°	343.3	344.3	345.3	346.3	347.3	348.2	349.0	349.8	350.7	351.5	352.8
35°	327.9	329.2	330.4	331.7	333.1	334.2	335.3	336.3	337.4	338.4	339.9
37.5°	312.6	314.0	315.5	316.9	318.4	319.7	321.1	322.4	323.8	325.1	326.6
40°	302.6	304.0	305.4	306.7	308.1	309.5	311.0	312.6	314.0	315.5	317.1
42.5°	291.1	292.7	294.2	295.8	297.3	298.9	300.7	302.5	304.2	305.9	307.7
45°	273.4	275.4	277.4	279.4	281.4	283.5	285.5	287.5	289.5	291.5	293.4
47.5°	256.5	258.6	260.6	262.8	264.8	267.0	269.3	271.8	274.1	276.4	278.2
50°	244.3	246.6	248.9	251.3	253.6	255.9	258.3	260.6	263.0	265.3	267.4
52.5°	232.1	234.4	236.7	239.0	241.4	243.9	246.5	249.2	251.9	254.6	256.7
55°	214.2	216.4	218.6	220.9	223.1	225.8	228.9	232.2	235.3	238.5	240.7
57.5°	194.2	196.9	199.7	202.5	205.2	208.1	211.4	214.5	217.6	220.9	223.4
60°	181.2	183.9	186.7	189.5	192.2	195.3	198.8	202.4	205.8	209.3	211.8
62.5°	168.5	171.6	174.6	177.6	180.6	183.9	187.3	190.9	194.4	197.9	200.4
65°	148.1	151.6	155.0	158.3	161.8	165.3	168.8	172.5	176.1	179.8	182.4
67.5°	128.6	132.2	135.8	139.5	143.0	146.7	150.7	154.5	158.3	162.2	164.9
70°	115.2	118.8	122.4	126.0	129.7	133.5	137.5	141.6	145.6	149.7	152.5
72.5°	102.2	105.9	109.6	113.3	116.9	121.0	125.2	129.6	133.8	138.1	140.9
75°	82.2	86.1	90.1	94.0	98.0	102.1	106.6	111.1	115.5	120.0	123.0
77.5°	63.6	67.8	71.9	76.0	80.2	84.6	89.3	94.0	98.7	103.3	106.3
80°	52.1	56.4	60.6	64.8	69.1	73.5	78.3	82.9	87.6	92.3	95.4
82.5°	40.6	45.0	49.5	53.9	58.3	62.8	67.6	72.2	76.9	81.6	84.8
85°	25.3	29.8	34.2	38.7	43.2	47.8	52.6	57.4	62.1	67.0	70.1
87.5°	14.3	18.9	23.4	27.9	32.4	37.1	41.8	46.6	51.4	56.1	59.4
90°	8.7	13.8	19.0	24.0	29.2	34.3	39.6	44.7	50.0	55.1	58.8
92.5°	14.9	19.7	24.5	29.4	34.2	39.1	44.1	49.2	54.1	59.2	62.4
95°	27.7	31.8	36.1	40.3	44.5	49.1	53.9	58.9	63.8	68.7	71.8
97.5°	43.0	46.7	50.2	53.8	57.4	61.7	66.7	71.6	76.5	81.5	84.6
100°	55.2	58.3	61.4	64.4	67.6	71.5	76.3	81.2	86.0	90.9	93.9
102.5°	68.4	70.9	73.4	76.0	78.6	82.2	86.8	91.6	96.3	101.0	104.0
105°	87.5	89.7	91.9	94.0	96.2	99.5	103.7	108.0	112.2	116.4	119.4
107.5°	108.4	110.3	112.1	113.9	115.7	118.6	122.3	126.1	129.9	133.6	136.4
110°	122.3	123.9	125.6	127.2	128.9	131.5	135.1	138.8	142.4	146.1	148.3



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	136.7	138.1	139.5	140.8	142.2	144.5	147.9	151.4	154.7	158.1	160.5
115°	158.4	159.5	160.4	161.3	162.3	164.4	167.6	170.9	174.1	177.3	179.6
117.5°	179.4	180.0	180.7	181.3	181.9	183.7	186.8	189.9	192.9	195.9	197.9
120°	193.0	193.6	194.2	194.9	195.5	197.2	200.1	202.9	205.7	208.6	210.4
122.5°	207.5	207.7	207.9	208.0	208.2	209.7	212.6	215.4	218.1	221.0	222.8
125°	228.5	228.4	228.3	228.2	228.1	229.3	231.9	234.5	237.0	239.6	241.5
127.5°	247.9	248.0	248.1	248.3	248.4	249.4	251.4	253.3	255.2	257.1	258.8
130°	261.3	261.4	261.5	261.7	261.8	262.7	264.4	266.1	267.7	269.4	271.2
132.5°	275.2	275.3	275.4	275.4	275.5	276.2	277.5	278.7	280.0	281.3	283.1
135°	293.3	293.7	294.2	294.7	295.1	295.7	296.5	297.2	298.0	298.7	300.2
137.5°	313.4	313.5	313.6	313.7	313.8	314.1	314.6	315.1	315.6	316.1	317.4
140°	326.8	326.8	326.9	326.9	327.0	327.1	327.2	327.3	327.4	327.5	328.8
142.5°	338.6	338.8	338.9	339.1	339.2	339.2	339.1	338.9	338.8	338.7	339.9
145°	355.6	355.8	356.0	356.2	356.4	356.6	356.6	356.7	356.8	356.9	357.4
147.5°	372.4	372.6	372.9	373.2	373.4	373.5	373.5	373.4	373.4	373.3	373.3
150°	382.6	382.8	383.0	383.3	383.5	383.6	383.6	383.6	383.6	383.6	383.6
152.5°	392.0	392.1	392.3	392.5	392.6	392.7	392.8	392.9	392.9	393.0	393.2
155°	406.8	406.8	406.8	406.8	406.8	406.8	406.7	406.6	406.6	406.5	406.8
157.5°	419.4	419.2	419.1	419.0	418.8	418.7	418.7	418.7	418.7	418.7	418.9
160°	426.8	426.7	426.7	426.6	426.5	426.4	426.4	426.3	426.2	426.1	426.4
162.5°	433.6	433.4	433.2	433.0	432.8	432.7	432.6	432.5	432.4	432.3	432.8
165°	442.8	442.6	442.4	442.1	441.9	441.7	441.5	441.4	441.2	441.1	441.5
167.5°	449.9	449.6	449.3	448.9	448.6	448.4	448.5	448.5	448.5	448.5	449.0
170°	453.9	453.5	453.1	452.7	452.3	452.2	452.2	452.3	452.4	452.5	452.9
172.5°	456.8	456.5	456.1	455.8	455.4	455.2	455.2	455.3	455.3	455.3	455.9
175°	460.7	460.3	459.9	459.5	459.1	458.9	458.8	458.7	458.7	458.6	459.1
177.5°	462.0	461.7	461.3	461.0	460.7	460.6	460.6	460.6	460.6	460.6	461.0
180°	461.4	461.4	461.4	461.4	461.4	461.4	461.4	461.4	461.4	461.4	461.4



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	426.9	426.9	426.9	426.9	426.9	426.9	426.9	426.9
2.5°	425.4	426.0	426.6	426.8	426.8	426.7	426.6	426.5
5°	424.2	425.1	426.0	426.4	426.3	426.1	426.0	425.9
7.5°	422.0	422.9	423.9	424.3	424.2	424.1	424.0	423.9
10°	419.7	420.6	421.6	422.0	421.9	421.8	421.7	421.6
12.5°	416.5	417.4	418.2	418.6	418.6	418.6	418.6	418.5
15°	410.6	411.5	412.5	412.9	412.8	412.7	412.6	412.5
17.5°	403.4	404.5	405.5	405.9	405.8	405.7	405.7	405.6
20°	397.9	399.0	400.0	400.6	400.6	400.6	400.6	400.6
22.5°	391.4	392.4	393.5	394.2	394.4	394.5	394.7	394.9
25°	381.4	382.5	383.7	384.4	384.5	384.6	384.7	384.8
27.5°	370.1	371.2	372.3	372.9	373.0	373.1	373.2	373.4
30°	362.2	363.5	364.6	365.3	365.5	365.8	366.0	366.2
32.5°	354.2	355.6	356.9	357.7	357.9	358.1	358.3	358.5
35°	341.4	342.8	344.4	345.3	345.6	345.9	346.3	346.6
37.5°	328.1	329.5	331.0	332.0	332.3	332.6	333.1	333.4
40°	318.7	320.2	321.8	322.9	323.3	323.8	324.2	324.6
42.5°	309.4	311.2	313.0	314.1	314.4	314.7	315.1	315.4
45°	295.2	297.0	298.8	299.9	300.5	301.0	301.5	302.1
47.5°	280.1	282.0	283.9	285.1	285.8	286.4	287.0	287.7
50°	269.5	271.7	273.8	275.2	275.8	276.4	277.1	277.7
52.5°	258.8	260.9	263.1	264.5	265.1	265.7	266.4	267.0
55°	242.8	244.9	247.0	248.4	249.0	249.6	250.3	251.0
57.5°	225.9	228.4	231.0	232.5	233.1	233.7	234.3	234.9
60°	214.3	216.7	219.1	220.8	221.7	222.5	223.4	224.2
62.5°	202.8	205.2	207.6	209.3	210.2	211.0	211.9	212.7
65°	185.0	187.7	190.4	192.1	193.0	193.8	194.7	195.5
67.5°	167.6	170.4	173.0	174.8	175.6	176.4	177.2	178.1
70°	155.3	158.2	161.1	162.9	163.6	164.4	165.1	165.8
72.5°	143.7	146.5	149.3	151.1	151.9	152.7	153.6	154.4
75°	125.9	128.9	131.9	133.8	134.8	135.7	136.7	137.6
77.5°	109.4	112.4	115.4	117.4	118.5	119.5	120.5	121.5
80°	98.7	101.8	105.0	107.0	107.9	108.8	109.6	110.4
82.5°	88.1	91.4	94.6	96.7	97.7	98.6	99.6	100.5
85°	73.3	76.4	79.7	81.8	82.8	83.9	84.9	86.0
87.5°	62.5	65.6	68.9	70.9	71.9	72.9	73.8	74.8
90°	62.3	65.8	69.4	71.7	72.7	73.7	74.7	75.7
92.5°	65.7	69.0	72.3	74.4	75.3	76.2	77.3	78.2
95°	74.9	78.1	81.1	83.1	84.1	85.0	86.0	86.9
97.5°	87.7	90.7	93.8	95.7	96.7	97.7	98.6	99.5
100°	96.9	100.0	103.0	104.9	105.6	106.4	107.1	107.9
102.5°	107.0	110.0	113.0	115.0	115.8	116.7	117.6	118.6
105°	122.3	125.1	128.1	130.1	131.1	132.2	133.3	134.4
107.5°	139.3	142.1	144.9	146.7	147.5	148.2	149.0	149.8
110°	150.7	152.9	155.2	156.9	157.9	159.1	160.2	161.3





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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	162.8	165.1	167.4	169.1	170.0	170.9	171.8	172.7
115°	181.9	184.1	186.3	187.8	188.5	189.1	189.9	190.5
117.5°	199.9	201.8	203.7	205.0	205.7	206.4	207.1	207.8
120°	212.1	213.8	215.5	216.9	217.9	218.9	219.9	221.0
122.5°	224.7	226.5	228.4	229.5	230.0	230.6	231.0	231.5
125°	243.4	245.2	247.1	248.2	248.7	249.2	249.6	250.1
127.5°	260.6	262.4	264.1	265.3	265.9	266.5	267.1	267.7
130°	273.0	274.7	276.5	277.5	277.8	278.1	278.5	278.8
132.5°	284.7	286.4	288.0	289.1	289.6	290.1	290.6	291.1
135°	301.7	303.4	304.9	305.9	306.2	306.6	307.0	307.4
137.5°	318.7	320.1	321.4	322.4	323.0	323.6	324.2	324.7
140°	330.1	331.3	332.6	333.6	334.0	334.5	334.9	335.4
142.5°	341.1	342.2	343.5	344.3	344.8	345.2	345.6	346.0
145°	358.0	358.5	359.1	359.4	359.6	359.8	360.0	360.2
147.5°	373.3	373.4	373.4	373.5	373.9	374.1	374.4	374.6
150°	383.6	383.6	383.6	383.5	383.5	383.4	383.3	383.2
152.5°	393.4	393.6	393.8	393.7	393.5	393.3	393.1	392.9
155°	407.1	407.4	407.7	407.7	407.4	407.1	406.8	406.5
157.5°	419.1	419.4	419.6	419.6	419.3	419.1	418.8	418.5
160°	426.6	426.8	427.1	427.0	426.6	426.2	425.8	425.4
162.5°	433.2	433.6	434.0	434.0	433.7	433.3	432.9	432.5
165°	442.0	442.5	442.9	443.0	442.7	442.4	442.1	441.8
167.5°	449.5	449.9	450.4	450.4	449.9	449.4	448.9	448.4
170°	453.4	453.9	454.4	454.3	453.8	453.2	452.7	452.1
172.5°	456.5	457.0	457.5	457.5	457.0	456.4	455.9	455.2
175°	459.7	460.2	460.8	460.8	460.2	459.7	459.1	458.6
177.5°	461.4	461.9	462.3	462.3	461.8	461.3	460.8	460.3
180°	461.4	461.4	461.4	461.4	461.4	461.4	461.4	461.4

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