

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: P332494-930

Luminaire Tested: **S124DIP-S350D365U930-4F0-1E-UDD-D1**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P332494-930  
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: S124DIP-S350D365U930-4F0-1E-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: 2209.3 lumens  
Efficiency: N/A  
Efficacy: 108.8 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

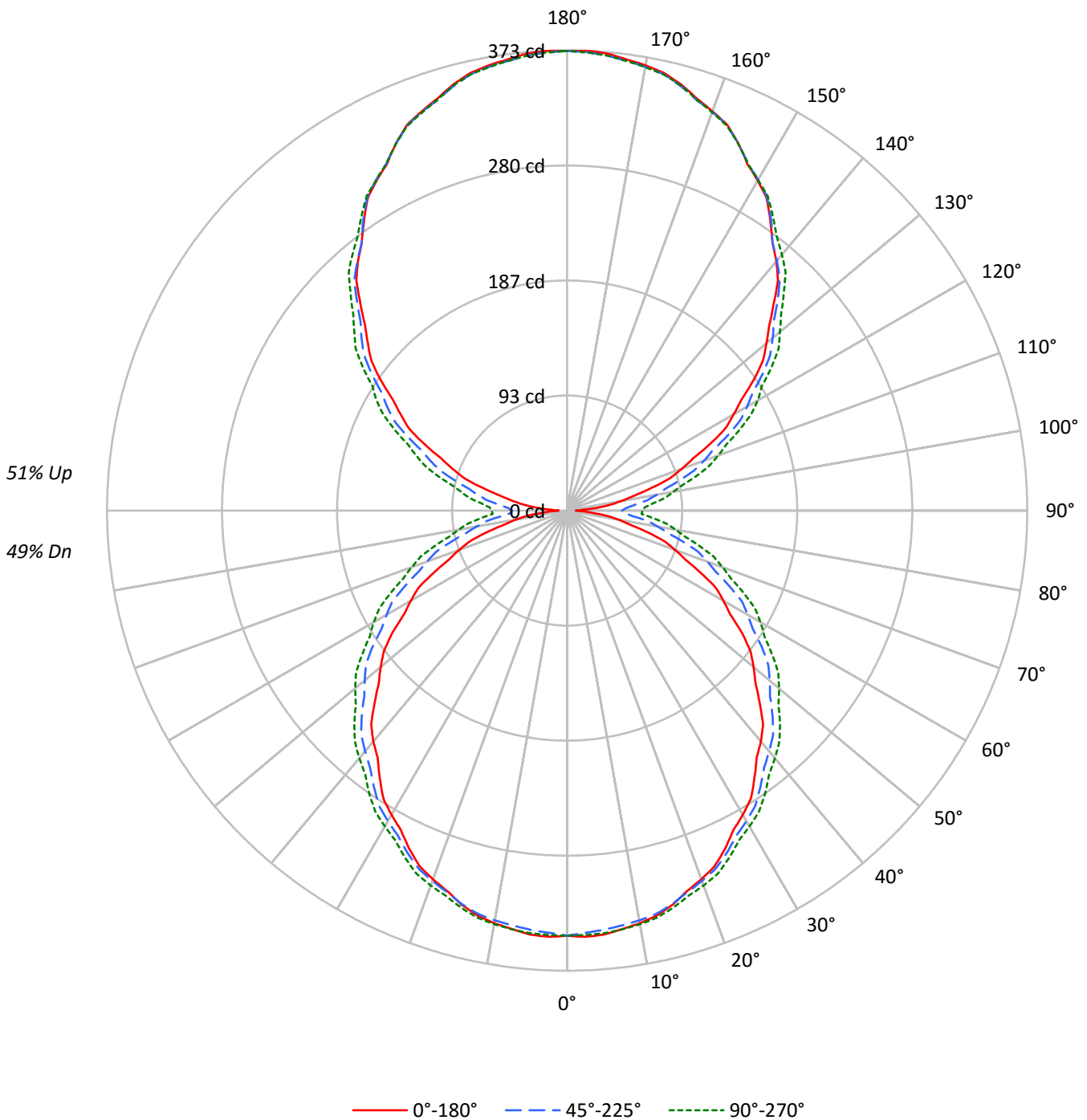
Input Watts (W): 20.3  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	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	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°	2782	2782	2782
5°	2791	2719	2726
10°	2774	2675	2673
15°	2749	2623	2608
20°	2711	2566	2547
25°	2669	2503	2478
30°	2623	2439	2408
35°	2571	2374	2347
40°	2530	2313	2282
45°	2468	2256	2228
50°	2417	2190	2169
55°	2363	2129	2101
60°	2280	2049	2039
65°	2187	1965	1962
70°	2076	1868	1874
75°	1922	1763	1793
80°	1750	1660	1713
85°	1534	1571	1669



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	32.6	1.5
10°-20°	93.5	4.2
20°-30°	141.4	6.4
30°-40°	171.1	7.7
40°-50°	180.8	8.2
50°-60°	170.2	7.7
60°-70°	141.2	6.4
70°-80°	99.2	4.5
80°-90°	57.2	2.6
90°-100°	57.9	2.6
100°-110°	97.4	4.4
110°-120°	140.1	6.3
120°-130°	172.2	7.8
130°-140°	187.0	8.5
140°-150°	180.6	8.2
150°-160°	151.2	6.8
160°-170°	100.6	4.6
170°-180°	35.2	1.6
0°-30°	267.5	12.1
0°-40°	438.6	19.9
0°-60°	789.6	35.7
0°-90°	1087.2	49.2
90°-120°	295.4	13.4
90°-150°	835.1	37.8
90°-180°	1122.0	50.8
0°-180°	2209.3	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	345	345	345	345	345	
5°	345	344	341	344	344	33
15°	331	331	330	333	333	93
25°	303	305	306	310	311	139
35°	265	269	273	278	280	166
45°	221	228	235	242	244	171
55°	173	181	193	200	203	154
65°	120	132	145	154	158	119
75°	66	81	97	107	111	71
85°	20	37	54	65	70	22
90°	7	26	44	57	61	5
95°	22	38	55	66	70	23
105°	71	79	94	104	108	75
115°	128	132	143	151	154	126
125°	184	185	194	200	202	164
135°	237	238	241	247	248	183
145°	287	288	288	290	291	180
155°	328	328	328	329	328	151
165°	358	357	356	358	357	101
175°	372	371	370	372	370	35
180°	372	372	372	372	372	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	344.6	344.6	344.6	344.6	344.6	344.6	344.6	344.6	344.6	344.6	344.6
2.5°	345.8	345.6	345.4	345.2	345.0	344.6	344.1	343.6	343.0	342.4	342.9
5°	345.0	344.7	344.5	344.2	344.0	343.6	342.9	342.3	341.8	341.1	341.9
7.5°	342.1	341.9	341.8	341.6	341.4	341.1	340.6	340.1	339.7	339.2	339.9
10°	339.6	339.5	339.4	339.3	339.2	339.0	338.6	338.1	337.7	337.3	338.0
12.5°	336.2	336.1	336.1	336.1	336.1	336.0	335.7	335.4	335.1	334.8	335.5
15°	330.7	330.8	330.9	331.0	331.1	331.0	330.7	330.4	330.2	330.0	330.7
17.5°	323.3	323.5	323.8	324.0	324.2	324.4	324.3	324.2	324.2	324.2	325.0
20°	318.0	318.2	318.5	318.8	319.0	319.2	319.3	319.4	319.4	319.5	320.4
22.5°	312.1	312.4	312.7	313.1	313.4	313.6	313.8	314.0	314.1	314.3	315.1
25°	302.6	303.0	303.6	304.1	304.6	305.0	305.2	305.5	305.7	306.1	307.0
27.5°	291.9	292.7	293.4	294.2	294.9	295.5	295.9	296.3	296.7	297.1	297.9
30°	284.8	285.5	286.2	286.8	287.6	288.2	288.8	289.3	290.0	290.6	291.6
32.5°	277.1	277.9	278.8	279.6	280.4	281.1	281.8	282.4	283.2	283.8	284.9
35°	264.7	265.8	266.8	267.8	268.9	269.8	270.7	271.5	272.4	273.2	274.4
37.5°	252.3	253.5	254.7	255.8	257.1	258.1	259.3	260.3	261.4	262.4	263.7
40°	244.3	245.4	246.5	247.6	248.7	249.9	251.1	252.3	253.5	254.7	256.0
42.5°	235.1	236.3	237.5	238.8	240.0	241.3	242.8	244.2	245.6	247.0	248.4
45°	220.7	222.3	224.0	225.6	227.2	228.9	230.5	232.1	233.7	235.4	236.8
47.5°	207.1	208.8	210.4	212.1	213.8	215.6	217.4	219.4	221.3	223.1	224.6
50°	197.2	199.1	201.0	202.8	204.7	206.6	208.6	210.4	212.3	214.2	215.9
52.5°	187.4	189.2	191.1	193.0	194.9	196.9	199.0	201.2	203.3	205.5	207.2
55°	172.9	174.7	176.5	178.3	180.1	182.3	184.8	187.4	190.0	192.6	194.3
57.5°	156.8	159.0	161.2	163.5	165.7	168.0	170.6	173.2	175.7	178.3	180.3
60°	146.3	148.5	150.7	153.0	155.2	157.7	160.5	163.4	166.2	169.0	171.0
62.5°	136.1	138.5	141.0	143.4	145.8	148.5	151.2	154.1	156.9	159.8	161.8
65°	119.6	122.4	125.1	127.8	130.6	133.5	136.3	139.3	142.2	145.1	147.2
67.5°	103.8	106.7	109.7	112.6	115.4	118.5	121.6	124.7	127.8	130.9	133.1
70°	93.0	95.9	98.8	101.7	104.7	107.8	111.0	114.3	117.6	120.8	123.1
72.5°	82.5	85.5	88.5	91.5	94.4	97.7	101.1	104.6	108.0	111.5	113.7
75°	66.4	69.5	72.7	75.9	79.1	82.4	86.1	89.7	93.3	96.9	99.3
77.5°	51.4	54.7	58.0	61.4	64.7	68.3	72.1	75.9	79.7	83.4	85.9
80°	42.1	45.5	48.9	52.3	55.8	59.4	63.2	66.9	70.7	74.5	77.0
82.5°	32.8	36.4	39.9	43.5	47.0	50.7	54.5	58.3	62.0	65.9	68.5
85°	20.5	24.1	27.6	31.2	34.9	38.6	42.5	46.3	50.1	54.1	56.6
87.5°	11.6	15.2	18.9	22.5	26.2	29.9	33.8	37.6	41.5	45.3	47.9
90°	7.0	11.2	15.3	19.4	23.6	27.7	32.0	36.1	40.4	44.5	47.5
92.5°	12.1	15.9	19.8	23.7	27.6	31.6	35.6	39.7	43.7	47.8	50.4
95°	22.3	25.7	29.1	32.5	36.0	39.6	43.5	47.5	51.5	55.4	58.0
97.5°	34.7	37.7	40.5	43.5	46.3	49.8	53.8	57.8	61.8	65.8	68.3
100°	44.6	47.0	49.6	52.0	54.5	57.7	61.6	65.6	69.5	73.4	75.8
102.5°	55.2	57.2	59.3	61.4	63.4	66.4	70.1	73.9	77.8	81.5	84.0
105°	70.6	72.4	74.2	75.9	77.7	80.3	83.7	87.2	90.6	94.0	96.4
107.5°	87.5	89.0	90.5	92.0	93.4	95.7	98.7	101.8	104.8	107.9	110.1
110°	98.7	100.0	101.4	102.7	104.0	106.2	109.1	112.0	115.0	118.0	119.8



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	110.4	111.5	112.6	113.7	114.8	116.7	119.4	122.2	124.9	127.7	129.6
115°	127.9	128.7	129.5	130.2	131.0	132.7	135.3	137.9	140.6	143.2	145.0
117.5°	144.8	145.3	145.9	146.3	146.8	148.3	150.8	153.3	155.7	158.2	159.8
120°	155.8	156.3	156.8	157.4	157.8	159.2	161.5	163.8	166.1	168.4	169.8
122.5°	167.5	167.7	167.9	168.0	168.1	169.3	171.6	173.9	176.1	178.4	179.9
125°	184.5	184.4	184.3	184.3	184.2	185.2	187.2	189.3	191.4	193.5	194.9
127.5°	200.2	200.2	200.3	200.5	200.6	201.4	202.9	204.5	206.0	207.6	209.0
130°	210.9	211.0	211.1	211.2	211.3	212.1	213.4	214.8	216.1	217.5	219.0
132.5°	222.2	222.3	222.3	222.3	222.4	223.0	224.0	225.0	226.1	227.1	228.5
135°	236.8	237.1	237.5	237.9	238.2	238.7	239.4	239.9	240.6	241.2	242.4
137.5°	253.0	253.1	253.2	253.2	253.3	253.6	254.0	254.4	254.8	255.2	256.2
140°	263.8	263.8	263.9	263.9	264.0	264.1	264.2	264.2	264.3	264.4	265.5
142.5°	273.4	273.5	273.6	273.8	273.9	273.9	273.8	273.6	273.5	273.5	274.4
145°	287.1	287.2	287.4	287.6	287.7	287.9	287.9	288.0	288.0	288.1	288.5
147.5°	300.7	300.8	301.1	301.3	301.5	301.6	301.6	301.5	301.5	301.4	301.4
150°	308.9	309.1	309.2	309.5	309.7	309.7	309.7	309.7	309.7	309.7	309.7
152.5°	316.5	316.6	316.7	316.9	317.0	317.1	317.2	317.2	317.2	317.3	317.5
155°	328.4	328.4	328.4	328.4	328.4	328.4	328.3	328.2	328.2	328.2	328.4
157.5°	338.6	338.4	338.3	338.3	338.1	338.0	338.0	338.0	338.0	338.0	338.2
160°	344.5	344.5	344.5	344.4	344.3	344.2	344.2	344.1	344.1	344.0	344.2
162.5°	350.1	349.9	349.8	349.6	349.4	349.4	349.3	349.2	349.1	349.0	349.4
165°	357.5	357.3	357.2	356.9	356.8	356.6	356.4	356.4	356.2	356.1	356.4
167.5°	363.2	363.0	362.7	362.4	362.2	362.0	362.1	362.1	362.1	362.1	362.5
170°	366.5	366.2	365.8	365.5	365.2	365.1	365.1	365.2	365.3	365.3	365.7
172.5°	368.8	368.5	368.2	367.9	367.7	367.5	367.5	367.6	367.6	367.6	368.0
175°	371.9	371.6	371.3	371.0	370.6	370.5	370.4	370.3	370.3	370.2	370.6
177.5°	373.0	372.8	372.4	372.2	371.9	371.9	371.9	371.9	371.9	371.9	372.2
180°	372.5	372.5	372.5	372.5	372.5	372.5	372.5	372.5	372.5	372.5	372.5



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	344.6	344.6	344.6	344.6	344.6	344.6	344.6	344.6
2.5°	343.4	343.9	344.4	344.5	344.5	344.5	344.4	344.3
5°	342.5	343.2	343.9	344.2	344.1	344.0	343.9	343.8
7.5°	340.7	341.4	342.3	342.6	342.5	342.4	342.3	342.3
10°	338.8	339.6	340.4	340.7	340.6	340.6	340.5	340.4
12.5°	336.2	337.0	337.6	337.9	337.9	337.9	337.9	337.9
15°	331.5	332.2	333.0	333.4	333.3	333.2	333.1	333.0
17.5°	325.7	326.5	327.3	327.7	327.6	327.5	327.5	327.4
20°	321.2	322.1	322.9	323.4	323.4	323.4	323.4	323.4
22.5°	316.0	316.8	317.7	318.2	318.4	318.5	318.6	318.8
25°	307.9	308.8	309.8	310.3	310.4	310.5	310.5	310.6
27.5°	298.8	299.7	300.6	301.1	301.2	301.3	301.3	301.5
30°	292.4	293.4	294.3	294.9	295.1	295.3	295.5	295.6
32.5°	285.9	287.1	288.1	288.8	288.9	289.1	289.3	289.4
35°	275.7	276.8	278.0	278.8	279.0	279.2	279.6	279.8
37.5°	264.9	266.0	267.3	268.1	268.3	268.6	268.9	269.1
40°	257.3	258.5	259.8	260.7	261.0	261.4	261.7	262.0
42.5°	249.8	251.3	252.7	253.6	253.8	254.0	254.4	254.6
45°	238.3	239.8	241.2	242.1	242.6	243.0	243.4	243.9
47.5°	226.2	227.6	229.2	230.2	230.7	231.2	231.7	232.3
50°	217.6	219.3	221.0	222.2	222.7	223.1	223.7	224.2
52.5°	209.0	210.7	212.4	213.5	214.0	214.5	215.1	215.6
55°	196.0	197.7	199.4	200.6	201.1	201.5	202.1	202.6
57.5°	182.4	184.4	186.5	187.7	188.2	188.7	189.1	189.6
60°	173.0	175.0	176.9	178.2	179.0	179.6	180.3	181.0
62.5°	163.7	165.7	167.6	169.0	169.7	170.3	171.0	171.7
65°	149.4	151.6	153.7	155.1	155.8	156.5	157.2	157.8
67.5°	135.3	137.5	139.7	141.1	141.8	142.4	143.1	143.8
70°	125.4	127.8	130.0	131.5	132.1	132.7	133.3	133.9
72.5°	116.0	118.3	120.5	122.0	122.6	123.3	124.0	124.7
75°	101.7	104.0	106.5	108.0	108.8	109.6	110.4	111.1
77.5°	88.3	90.7	93.2	94.8	95.6	96.4	97.3	98.1
80°	79.7	82.2	84.8	86.4	87.1	87.8	88.5	89.1
82.5°	71.1	73.8	76.4	78.1	78.8	79.6	80.4	81.1
85°	59.2	61.7	64.3	66.0	66.9	67.8	68.6	69.5
87.5°	50.5	53.0	55.6	57.2	58.0	58.9	59.6	60.4
90°	50.3	53.2	56.0	57.9	58.7	59.5	60.3	61.1
92.5°	53.1	55.7	58.4	60.1	60.8	61.6	62.4	63.1
95°	60.5	63.0	65.5	67.1	67.9	68.6	69.5	70.2
97.5°	70.8	73.2	75.7	77.3	78.1	78.8	79.6	80.3
100°	78.3	80.7	83.2	84.7	85.3	85.9	86.5	87.1
102.5°	86.4	88.8	91.2	92.9	93.5	94.2	95.0	95.7
105°	98.7	101.0	103.4	105.0	105.8	106.7	107.6	108.5
107.5°	112.4	114.7	117.0	118.5	119.1	119.7	120.3	120.9
110°	121.6	123.4	125.3	126.7	127.5	128.4	129.3	130.2





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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	131.4	133.3	135.2	136.5	137.2	137.9	138.7	139.4
115°	146.8	148.6	150.4	151.6	152.2	152.7	153.3	153.8
117.5°	161.3	162.9	164.4	165.5	166.1	166.6	167.2	167.8
120°	171.2	172.6	174.0	175.1	175.9	176.8	177.6	178.4
122.5°	181.4	182.9	184.4	185.3	185.7	186.1	186.5	186.9
125°	196.5	198.0	199.5	200.4	200.8	201.2	201.5	201.9
127.5°	210.4	211.8	213.2	214.2	214.7	215.2	215.6	216.1
130°	220.4	221.8	223.2	224.0	224.3	224.5	224.9	225.1
132.5°	229.8	231.2	232.5	233.4	233.8	234.2	234.6	235.1
135°	243.6	244.9	246.1	247.0	247.2	247.5	247.9	248.2
137.5°	257.3	258.4	259.5	260.3	260.7	261.2	261.7	262.1
140°	266.5	267.5	268.6	269.3	269.6	270.0	270.4	270.8
142.5°	275.4	276.3	277.3	277.9	278.3	278.7	279.0	279.3
145°	289.0	289.4	289.9	290.2	290.3	290.5	290.7	290.8
147.5°	301.4	301.5	301.5	301.6	301.8	302.0	302.2	302.4
150°	309.7	309.7	309.7	309.7	309.7	309.6	309.5	309.4
152.5°	317.6	317.8	318.0	317.9	317.7	317.6	317.4	317.2
155°	328.6	328.9	329.1	329.1	328.9	328.6	328.4	328.2
157.5°	338.3	338.6	338.8	338.8	338.5	338.3	338.1	337.9
160°	344.4	344.5	344.8	344.7	344.4	344.1	343.7	343.4
162.5°	349.8	350.1	350.4	350.4	350.2	349.8	349.5	349.2
165°	356.9	357.3	357.6	357.7	357.4	357.2	356.9	356.7
167.5°	362.9	363.2	363.6	363.6	363.2	362.8	362.4	362.0
170°	366.1	366.5	366.9	366.8	366.4	365.9	365.5	365.0
172.5°	368.5	368.9	369.3	369.3	368.9	368.4	368.0	367.5
175°	371.1	371.5	372.0	372.0	371.5	371.1	370.6	370.2
177.5°	372.5	372.9	373.2	373.2	372.8	372.4	372.0	371.6
180°	372.5	372.5	372.5	372.5	372.5	372.5	372.5	372.5

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