

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: P331878-927

Luminaire Tested: **S123DIP-S340D585U927-4F0-1E-UDD-D1**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P331878-927  
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-S340D585U927-4F0-1E-UDD-D1  
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 340 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER  
UPLIGHT 585 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2734.1 lumens  
Efficiency: N/A  
Efficacy: 106.8 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: Semi-Indirect

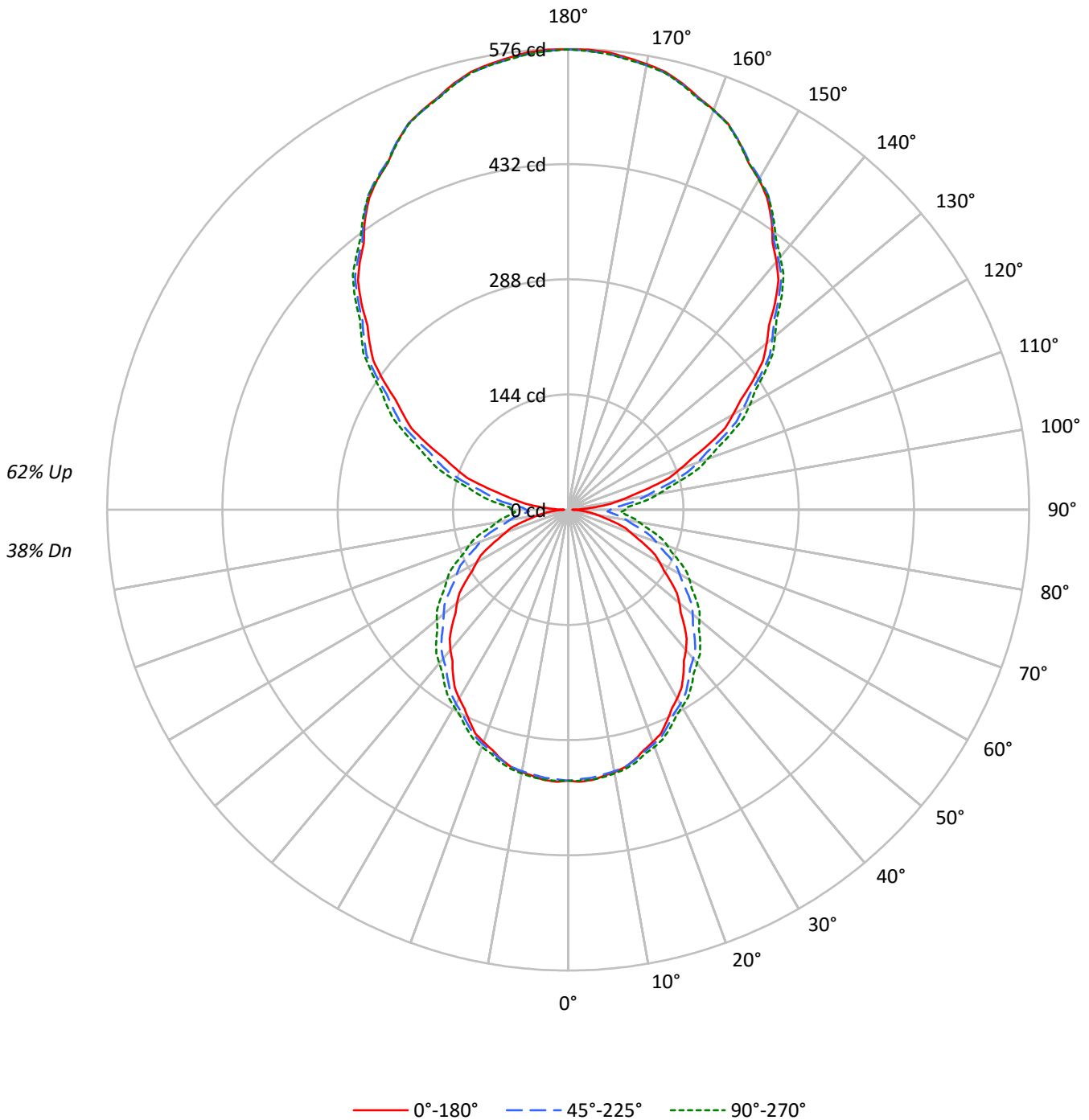
Input Watts (W): 25.6  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	104	104	104	104	95	95	95	95	77	77	77	60	60	60	45	45	45	38
1	94	90	86	82	85	81	78	75	66	64	61	52	50	49	39	38	37	30
2	86	78	72	66	77	71	65	61	57	53	50	45	42	40	34	32	30	25
3	78	68	61	55	70	62	55	50	50	46	42	40	36	33	30	27	25	21
4	71	60	52	46	64	55	48	42	44	39	35	35	31	28	26	24	22	18
5	65	53	45	39	59	49	41	36	40	34	30	31	27	24	24	21	19	15
6	60	48	40	34	54	44	36	31	36	30	26	28	24	21	21	18	16	13
7	55	43	35	29	50	39	32	27	32	27	23	26	22	19	19	17	14	12
8	51	39	31	26	46	36	29	24	29	24	20	23	19	16	18	15	13	10
9	48	35	28	23	43	32	26	21	27	22	18	21	18	15	16	14	12	9
10	44	32	25	20	40	30	23	19	25	20	16	20	16	13	15	12	10	8

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

	0°	45°	90°
0°	3647	3647	3647
5°	3658	3556	3557
10°	3626	3473	3456
15°	3579	3380	3345
20°	3513	3274	3224
25°	3430	3152	3096
30°	3345	3043	2966
35°	3251	2926	2863
40°	3161	2820	2752
45°	3061	2718	2664
50°	2962	2618	2566
55°	2852	2516	2478
60°	2745	2411	2388
65°	2636	2300	2280
70°	2471	2174	2170
75°	2265	2031	2059
80°	2023	1890	1932
85°	1805	1794	1856



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	32.1	1.2
10°-20°	91.6	3.3
20°-30°	137.0	5.0
30°-40°	163.6	6.0
40°-50°	171.1	6.3
50°-60°	160.6	5.9
60°-70°	134.1	4.9
70°-80°	96.0	3.5
80°-90°	58.9	2.2
90°-100°	73.4	2.7
100°-110°	138.5	5.1
110°-120°	208.4	7.6
120°-130°	261.0	9.5
130°-140°	286.5	10.5
140°-150°	278.2	10.2
150°-160°	233.4	8.5
160°-170°	155.4	5.7
170°-180°	54.4	2.0
0°-30°	260.6	9.5
0°-40°	424.2	15.5
0°-60°	755.9	27.6
0°-90°	1044.9	38.2
90°-120°	420.3	15.4
90°-150°	1246.0	45.6
90°-180°	1689.0	61.8
0°-180°	2734.1	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	339	339	339	339	339	
5°	339	338	336	339	339	32
15°	323	324	324	327	327	91
25°	292	295	296	301	301	134
35°	251	257	262	267	269	157
45°	205	214	223	230	233	158
55°	156	169	182	192	195	140
65°	108	123	139	149	154	107
75°	59	76	94	106	111	63
85°	18	37	56	68	72	19
90°	5	28	52	66	72	5
95°	31	48	70	83	87	33
105°	105	115	134	144	149	112
115°	194	200	212	221	224	192
125°	282	284	293	299	300	252
135°	365	368	371	376	377	281
145°	443	443	445	447	447	276
155°	506	507	507	508	506	233
165°	552	550	550	553	550	155
175°	574	572	572	574	572	54
180°	575	575	575	575	575	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	338.8	338.8	338.8	338.8	338.8	338.8	338.8	338.8	338.8	338.8	338.8
2.5°	340.3	340.2	339.9	339.8	339.5	339.2	338.7	338.1	337.6	337.1	337.6
5°	339.2	339.1	338.9	338.7	338.6	338.3	337.7	337.2	336.8	336.3	336.9
7.5°	335.9	336.0	336.0	336.0	336.0	335.8	335.3	334.9	334.4	333.9	334.7
10°	333.0	333.1	333.3	333.4	333.6	333.5	333.0	332.6	332.2	331.8	332.6
12.5°	329.4	329.6	329.9	330.1	330.3	330.3	330.0	329.7	329.5	329.2	329.9
15°	323.0	323.2	323.4	323.7	323.9	324.1	323.9	323.8	323.8	323.7	324.6
17.5°	314.9	315.4	315.8	316.3	316.8	317.0	317.0	317.0	317.0	317.0	317.7
20°	309.0	309.4	309.9	310.5	310.9	311.2	311.4	311.6	311.7	311.9	312.7
22.5°	302.8	303.2	303.7	304.2	304.8	305.1	305.3	305.5	305.8	306.0	307.0
25°	291.6	292.4	293.3	294.1	294.9	295.4	295.6	295.9	296.1	296.4	297.5
27.5°	280.4	281.3	282.3	283.2	284.2	284.9	285.3	285.9	286.5	286.9	287.9
30°	272.4	273.5	274.6	275.6	276.7	277.5	278.2	278.8	279.5	280.2	281.1
32.5°	263.6	264.7	265.9	267.1	268.3	269.3	270.2	271.1	272.0	272.7	273.9
35°	251.0	252.3	253.7	254.9	256.3	257.5	258.5	259.6	260.6	261.7	262.9
37.5°	237.7	239.2	240.7	242.2	243.6	245.0	246.3	247.6	249.0	250.3	251.7
40°	228.9	230.4	231.8	233.3	234.7	236.3	238.0	239.6	241.2	242.9	244.3
42.5°	219.1	220.9	222.7	224.5	226.3	228.1	229.8	231.5	233.2	234.9	236.5
45°	205.3	207.2	209.1	211.1	213.1	215.1	217.1	219.2	221.3	223.3	224.9
47.5°	190.7	192.9	195.1	197.4	199.6	201.9	204.2	206.6	208.9	211.3	213.0
50°	181.3	183.5	185.8	188.1	190.4	192.8	195.4	198.0	200.5	203.0	204.9
52.5°	171.2	173.6	176.0	178.5	180.9	183.5	186.3	189.2	191.9	194.7	196.7
55°	156.5	159.2	161.9	164.6	167.3	170.2	173.1	176.1	179.0	182.0	184.2
57.5°	142.2	145.0	147.8	150.7	153.4	156.5	159.7	163.0	166.2	169.4	171.7
60°	132.1	135.1	138.1	141.0	143.9	147.1	150.5	153.8	157.2	160.6	162.9
62.5°	122.7	125.7	128.7	131.7	134.8	138.1	141.6	145.2	148.8	152.3	154.6
65°	108.1	111.4	114.5	117.7	121.0	124.4	127.9	131.6	135.1	138.8	141.2
67.5°	93.4	96.8	100.2	103.5	106.9	110.5	114.2	117.9	121.5	125.2	127.9
70°	83.0	86.6	90.1	93.6	97.1	100.9	104.8	108.8	112.7	116.6	119.3
72.5°	73.6	77.2	80.6	84.2	87.7	91.5	95.5	99.7	103.7	107.8	110.5
75°	58.7	62.6	66.4	70.3	74.1	78.1	82.2	86.3	90.4	94.5	97.2
77.5°	45.7	49.6	53.5	57.4	61.2	65.3	69.4	73.5	77.6	81.8	84.7
80°	36.5	40.6	44.6	48.6	52.6	56.8	61.0	65.3	69.6	73.8	76.6
82.5°	28.6	32.6	36.8	40.8	44.9	49.1	53.5	57.8	62.1	66.5	69.2
85°	18.1	22.2	26.3	30.4	34.5	38.7	43.1	47.4	51.7	56.1	58.9
87.5°	9.9	14.2	18.5	22.7	27.0	31.4	35.9	40.3	44.8	49.2	52.0
90°	5.2	10.3	15.3	20.4	25.3	30.6	36.1	41.6	47.1	52.5	55.8
92.5°	15.4	19.7	24.1	28.4	32.6	37.2	42.1	47.0	51.8	56.7	59.7
95°	30.7	34.6	38.5	42.5	46.3	50.7	55.5	60.4	65.2	69.9	73.0
97.5°	50.9	54.3	57.8	61.2	64.6	68.5	73.0	77.4	81.8	86.2	89.1
100°	64.8	68.0	71.2	74.5	77.7	81.4	85.7	90.0	94.3	98.5	101.2
102.5°	80.7	83.5	86.2	88.9	91.7	95.2	99.6	103.9	108.3	112.6	115.3
105°	104.6	106.8	108.9	111.1	113.3	116.6	121.0	125.5	129.9	134.4	136.7
107.5°	132.0	133.8	135.6	137.4	139.2	142.0	145.7	149.3	153.0	156.8	159.3
110°	149.1	150.8	152.4	154.1	155.7	158.4	161.8	165.3	168.8	172.3	174.8



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	167.2	168.5	169.8	171.1	172.5	174.8	177.9	181.1	184.3	187.5	190.0
115°	193.8	195.2	196.5	197.7	199.0	201.1	203.8	206.5	209.3	212.1	214.1
117.5°	221.1	221.9	222.7	223.6	224.3	226.0	228.5	231.0	233.5	236.1	238.0
120°	237.8	238.8	239.8	240.8	241.9	243.4	245.7	247.9	250.1	252.3	254.1
122.5°	255.5	256.2	256.8	257.5	258.1	259.6	261.9	264.3	266.6	268.9	270.5
125°	282.2	282.5	282.7	283.0	283.4	284.6	286.8	289.0	291.1	293.3	294.6
127.5°	307.1	307.7	308.2	308.8	309.3	310.5	312.3	314.0	315.8	317.5	318.5
130°	323.8	324.5	325.2	325.9	326.6	327.6	329.0	330.3	331.7	333.0	334.1
132.5°	340.1	340.9	341.7	342.5	343.2	344.1	345.2	346.3	347.5	348.5	349.5
135°	365.4	365.9	366.5	366.9	367.5	368.1	368.9	369.7	370.5	371.3	372.4
137.5°	388.8	389.3	389.7	390.1	390.5	391.2	391.9	392.7	393.5	394.3	395.1
140°	404.8	405.3	405.8	406.3	406.8	407.2	407.6	407.9	408.2	408.6	409.7
142.5°	419.6	420.0	420.5	420.9	421.4	421.7	421.9	422.2	422.4	422.6	423.6
145°	442.8	442.8	443.0	443.1	443.2	443.4	443.7	444.0	444.3	444.7	445.2
147.5°	462.6	463.0	463.3	463.7	464.1	464.4	464.7	464.9	465.2	465.5	465.7
150°	476.7	476.9	477.1	477.3	477.5	477.7	477.9	478.1	478.3	478.5	478.5
152.5°	488.3	488.5	488.9	489.1	489.4	489.6	489.7	489.8	490.0	490.0	490.2
155°	506.5	506.5	506.5	506.5	506.5	506.6	506.7	506.8	506.9	507.0	507.4
157.5°	522.0	522.0	521.8	521.7	521.6	521.6	521.7	521.7	521.8	521.9	522.3
160°	531.8	531.6	531.4	531.2	531.0	530.9	530.9	530.9	530.9	530.9	531.4
162.5°	540.5	540.2	540.0	539.6	539.4	539.3	539.4	539.5	539.6	539.6	540.1
165°	551.7	551.4	551.1	550.8	550.5	550.3	550.3	550.3	550.3	550.3	551.0
167.5°	560.6	560.2	559.8	559.4	559.0	558.9	559.0	559.0	559.1	559.2	559.8
170°	565.7	565.3	564.9	564.5	564.1	563.9	563.9	563.9	563.9	563.9	564.6
172.5°	569.7	569.3	568.9	568.5	568.1	567.9	567.9	567.9	567.9	567.9	568.5
175°	573.9	573.5	573.1	572.7	572.3	572.0	572.0	572.0	572.0	572.0	572.7
177.5°	575.6	575.3	575.0	574.6	574.3	574.1	574.1	574.1	574.1	574.1	574.6
180°	575.2	575.2	575.2	575.2	575.2	575.2	575.2	575.2	575.2	575.2	575.2



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	338.8	338.8	338.8	338.8	338.8	338.8	338.8	338.8
2.5°	338.1	338.7	339.2	339.4	339.4	339.3	339.2	339.1
5°	337.5	338.3	338.9	339.2	339.1	339.0	338.9	338.8
7.5°	335.6	336.4	337.2	337.5	337.5	337.3	337.2	337.2
10°	333.5	334.3	335.1	335.4	335.3	335.1	334.9	334.8
12.5°	330.7	331.4	332.2	332.5	332.3	332.2	332.0	331.8
15°	325.3	326.1	327.0	327.3	327.3	327.2	327.1	327.0
17.5°	318.4	319.2	319.9	320.2	320.0	320.0	319.9	319.7
20°	313.4	314.1	314.9	315.3	315.4	315.4	315.5	315.6
22.5°	307.8	308.8	309.7	310.2	310.1	310.1	310.1	310.0
25°	298.5	299.6	300.6	301.2	301.2	301.2	301.2	301.2
27.5°	288.8	289.7	290.7	291.1	291.2	291.3	291.3	291.4
30°	282.1	283.1	284.1	284.6	284.6	284.6	284.6	284.6
32.5°	274.9	275.9	276.9	277.6	277.8	278.0	278.2	278.4
35°	264.2	265.4	266.6	267.4	267.8	268.1	268.4	268.7
37.5°	253.0	254.4	255.9	256.7	256.9	257.2	257.5	257.7
40°	245.7	247.1	248.4	249.3	249.6	250.0	250.3	250.6
42.5°	238.0	239.5	241.0	242.0	242.5	242.9	243.4	243.8
45°	226.4	228.0	229.6	230.7	231.3	232.0	232.7	233.3
47.5°	214.8	216.6	218.3	219.4	219.9	220.5	220.9	221.5
50°	206.8	208.7	210.6	211.8	212.4	212.9	213.5	214.1
52.5°	198.7	200.6	202.6	203.9	204.6	205.3	206.0	206.7
55°	186.4	188.6	190.8	192.3	192.9	193.6	194.2	194.9
57.5°	173.9	176.1	178.3	179.8	180.6	181.4	182.2	182.9
60°	165.2	167.5	169.8	171.3	172.2	173.2	174.0	175.0
62.5°	156.9	159.1	161.4	163.0	163.9	164.7	165.6	166.4
65°	143.7	146.2	148.6	150.3	151.1	151.9	152.7	153.5
67.5°	130.6	133.2	135.9	137.7	138.3	139.0	139.7	140.4
70°	121.9	124.5	127.1	128.9	129.7	130.5	131.3	132.1
72.5°	113.1	115.8	118.5	120.3	121.1	121.9	122.8	123.6
75°	99.9	102.6	105.4	107.2	108.1	109.2	110.1	111.1
77.5°	87.5	90.4	93.2	95.0	95.8	96.6	97.3	98.1
80°	79.4	82.2	85.0	86.7	87.6	88.4	89.3	90.1
82.5°	72.0	74.8	77.6	79.4	80.2	81.0	81.8	82.7
85°	61.7	64.5	67.3	69.1	69.9	70.7	71.5	72.3
87.5°	54.9	57.8	60.7	62.5	63.4	64.2	65.1	66.0
90°	58.9	62.1	65.4	67.4	68.4	69.5	70.5	71.5
92.5°	62.8	65.8	68.8	70.7	71.4	72.0	72.6	73.3
95°	75.9	78.8	81.8	83.7	84.4	85.3	86.1	86.9
97.5°	92.1	94.9	97.8	99.7	100.4	101.2	102.0	102.8
100°	103.9	106.5	109.2	111.1	112.1	113.1	114.2	115.2
102.5°	117.9	120.5	123.1	124.8	125.6	126.4	127.1	127.9
105°	138.9	141.2	143.5	145.1	146.1	147.0	148.0	148.9
107.5°	161.8	164.3	166.8	168.4	169.0	169.6	170.2	170.8
110°	177.4	179.9	182.4	183.9	184.3	184.8	185.3	185.8





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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	192.6	195.1	197.7	199.3	200.0	200.7	201.4	202.0
115°	216.2	218.2	220.3	221.7	222.2	222.8	223.3	223.9
117.5°	239.9	241.9	243.8	244.9	245.3	245.7	246.0	246.4
120°	255.9	257.6	259.4	260.5	260.9	261.3	261.7	262.0
122.5°	272.0	273.5	275.1	276.1	276.3	276.6	276.9	277.2
125°	296.0	297.3	298.6	299.4	299.5	299.7	299.8	300.0
127.5°	319.6	320.7	321.7	322.3	322.4	322.5	322.6	322.7
130°	335.3	336.4	337.6	338.1	337.9	337.7	337.5	337.2
132.5°	350.5	351.6	352.5	353.1	353.1	353.1	353.2	353.2
135°	373.5	374.5	375.7	376.3	376.5	376.7	376.9	377.1
137.5°	396.0	396.9	397.8	398.2	398.2	398.2	398.2	398.3
140°	410.8	412.0	413.1	413.5	413.3	413.0	412.6	412.3
142.5°	424.6	425.6	426.6	427.0	426.9	426.7	426.6	426.5
145°	445.8	446.3	446.9	447.1	447.0	446.9	446.9	446.8
147.5°	465.9	466.1	466.3	466.2	466.0	465.6	465.3	465.0
150°	478.5	478.5	478.5	478.3	477.8	477.4	477.0	476.6
152.5°	490.4	490.6	490.8	490.5	490.0	489.6	489.1	488.6
155°	507.8	508.2	508.6	508.4	507.7	507.0	506.4	505.6
157.5°	522.8	523.2	523.6	523.5	522.9	522.4	521.8	521.3
160°	532.0	532.4	532.9	533.0	532.6	532.2	531.8	531.4
162.5°	540.6	541.1	541.6	541.5	540.9	540.3	539.6	539.0
165°	551.6	552.2	552.8	552.7	552.0	551.3	550.6	549.9
167.5°	560.5	561.1	561.7	561.7	561.1	560.5	559.8	559.2
170°	565.3	566.0	566.7	566.7	566.0	565.3	564.6	563.9
172.5°	569.1	569.7	570.4	570.4	569.7	568.9	568.2	567.5
175°	573.2	573.9	574.5	574.4	573.7	573.0	572.3	571.6
177.5°	575.1	575.6	576.1	576.0	575.4	574.9	574.3	573.8
180°	575.2	575.2	575.2	575.2	575.2	575.2	575.2	575.2

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