

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: P331878-930

Luminaire Tested: **S123DIP-S340D585U930-4F0-1E-UDD-D1**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P331878-930  
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-S340D585U930-4F0-1E-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: 2813.9 lumens  
Efficiency: N/A  
Efficacy: 109.9 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: Semi-Indirect

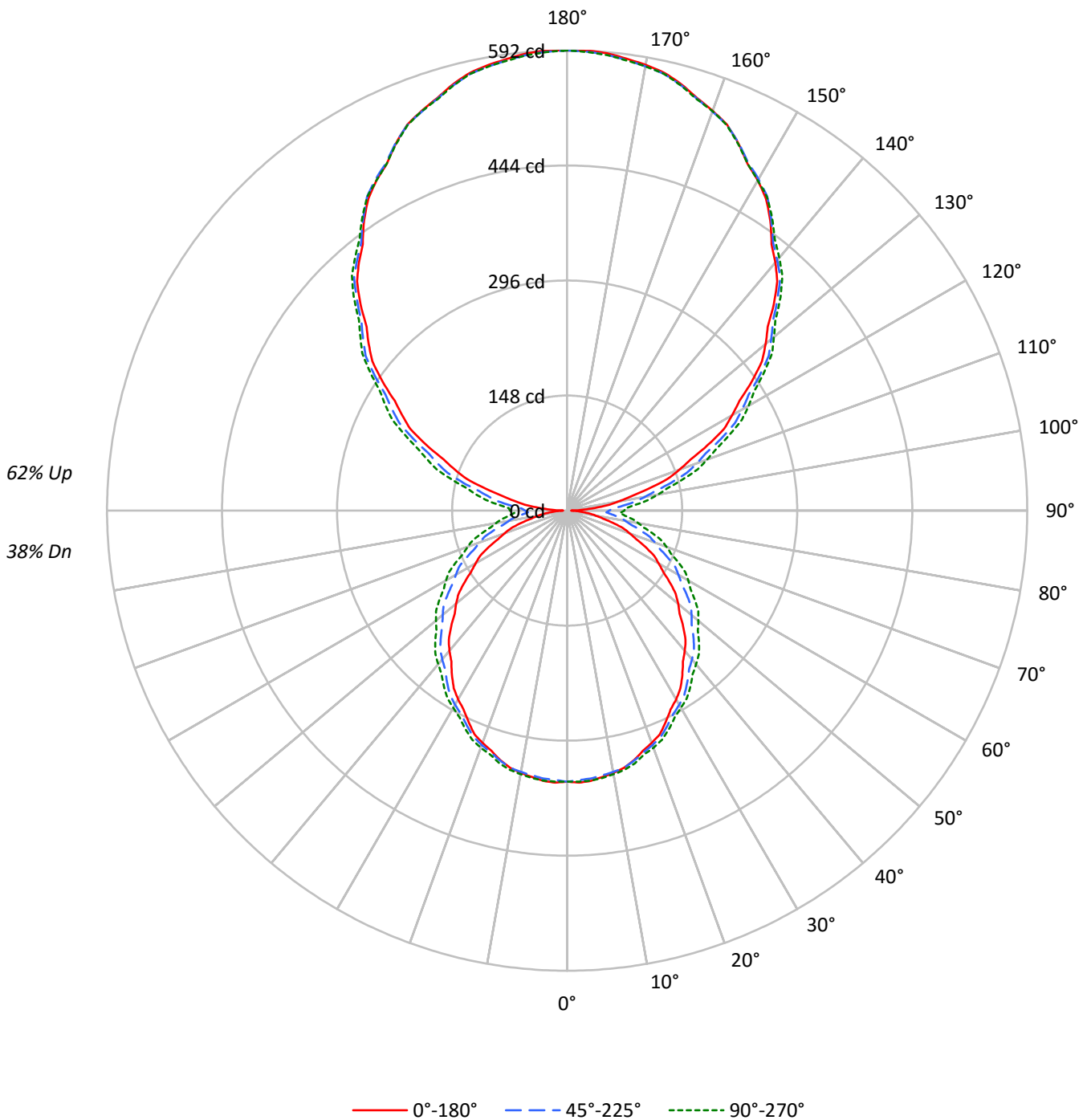
Input Watts (W): 25.6  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	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°	3753	3753	3753
5°	3765	3659	3661
10°	3732	3575	3556
15°	3684	3479	3443
20°	3615	3370	3318
25°	3530	3245	3186
30°	3444	3132	3053
35°	3345	3012	2946
40°	3252	2903	2833
45°	3149	2798	2741
50°	3047	2695	2641
55°	2936	2589	2550
60°	2826	2482	2458
65°	2714	2366	2347
70°	2542	2237	2234
75°	2331	2092	2120
80°	2084	1946	1988
85°	1855	1845	1910



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	33.1	1.2
10°-20°	94.2	3.3
20°-30°	141.0	5.0
30°-40°	168.3	6.0
40°-50°	176.1	6.3
50°-60°	165.3	5.9
60°-70°	138.0	4.9
70°-80°	98.8	3.5
80°-90°	60.6	2.2
90°-100°	75.5	2.7
100°-110°	142.6	5.1
110°-120°	214.5	7.6
120°-130°	268.6	9.5
130°-140°	294.9	10.5
140°-150°	286.3	10.2
150°-160°	240.2	8.5
160°-170°	159.9	5.7
170°-180°	56.0	2.0
0°-30°	268.3	9.5
0°-40°	436.6	15.5
0°-60°	778.0	27.6
0°-90°	1075.4	38.2
90°-120°	432.6	15.4
90°-150°	1282.4	45.6
90°-180°	1738.0	61.8
0°-180°	2813.9	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	349	349	349	349	349	
5°	349	348	346	349	349	33
15°	332	333	333	337	337	94
25°	300	304	305	310	310	138
35°	258	264	269	275	276	162
45°	211	220	230	237	240	163
55°	161	174	187	197	201	144
65°	111	126	143	154	158	110
75°	60	78	97	109	114	64
85°	19	38	58	70	74	20
90°	5	29	54	68	74	5
95°	32	50	72	85	89	34
105°	108	118	138	149	153	115
115°	200	206	218	227	230	197
125°	290	292	302	308	309	259
135°	376	379	382	387	388	290
145°	456	456	458	460	460	284
155°	521	521	522	523	520	240
165°	568	566	566	569	566	160
175°	591	589	589	591	588	56
180°	592	592	592	592	592	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	348.7	348.7	348.7	348.7	348.7	348.7	348.7	348.7	348.7	348.7	348.7
2.5°	350.3	350.1	349.8	349.7	349.4	349.1	348.5	348.0	347.5	346.9	347.5
5°	349.1	348.9	348.8	348.6	348.5	348.1	347.6	347.1	346.6	346.1	346.7
7.5°	345.7	345.8	345.8	345.8	345.8	345.6	345.1	344.6	344.1	343.6	344.5
10°	342.7	342.8	343.0	343.2	343.3	343.2	342.8	342.3	341.9	341.5	342.3
12.5°	339.0	339.2	339.5	339.7	340.0	339.9	339.7	339.3	339.1	338.8	339.6
15°	332.4	332.6	332.9	333.1	333.4	333.5	333.4	333.3	333.2	333.1	334.0
17.5°	324.1	324.6	325.1	325.5	326.0	326.3	326.3	326.2	326.2	326.2	326.9
20°	318.0	318.5	318.9	319.5	320.0	320.3	320.5	320.7	320.8	321.0	321.8
22.5°	311.6	312.1	312.6	313.1	313.6	314.0	314.2	314.5	314.7	315.0	315.9
25°	300.1	300.9	301.8	302.6	303.5	304.0	304.3	304.5	304.8	305.1	306.1
27.5°	288.5	289.5	290.5	291.5	292.4	293.2	293.7	294.2	294.8	295.3	296.3
30°	280.4	281.4	282.6	283.6	284.8	285.6	286.3	287.0	287.6	288.4	289.3
32.5°	271.3	272.5	273.7	274.9	276.1	277.2	278.1	279.0	279.9	280.7	281.8
35°	258.3	259.7	261.1	262.4	263.7	265.0	266.0	267.2	268.2	269.4	270.6
37.5°	244.7	246.1	247.7	249.2	250.7	252.2	253.5	254.9	256.2	257.6	259.0
40°	235.5	237.1	238.6	240.1	241.6	243.2	244.9	246.6	248.3	250.0	251.4
42.5°	225.5	227.4	229.2	231.1	232.9	234.7	236.5	238.2	240.0	241.7	243.4
45°	211.2	213.3	215.2	217.3	219.3	221.4	223.5	225.6	227.7	229.8	231.5
47.5°	196.2	198.5	200.8	203.2	205.5	207.8	210.2	212.6	215.0	217.4	219.2
50°	186.5	188.9	191.3	193.6	196.0	198.4	201.1	203.7	206.4	209.0	210.9
52.5°	176.2	178.7	181.2	183.7	186.2	188.9	191.8	194.7	197.5	200.4	202.4
55°	161.1	163.9	166.6	169.4	172.2	175.1	178.1	181.2	184.3	187.3	189.6
57.5°	146.3	149.2	152.1	155.1	157.9	161.1	164.4	167.7	171.0	174.4	176.7
60°	136.0	139.0	142.1	145.1	148.1	151.4	154.9	158.3	161.8	165.3	167.6
62.5°	126.3	129.4	132.5	135.6	138.7	142.1	145.8	149.4	153.1	156.8	159.1
65°	111.3	114.6	117.9	121.2	124.5	128.0	131.7	135.4	139.1	142.8	145.4
67.5°	96.1	99.6	103.1	106.6	110.1	113.7	117.5	121.3	125.1	128.9	131.6
70°	85.4	89.1	92.7	96.4	100.0	103.9	107.9	111.9	116.0	120.0	122.8
72.5°	75.7	79.4	83.0	86.7	90.3	94.2	98.3	102.6	106.7	111.0	113.7
75°	60.4	64.4	68.3	72.3	76.3	80.4	84.6	88.8	93.0	97.3	100.0
77.5°	47.0	51.0	55.0	59.0	63.0	67.2	71.4	75.7	79.9	84.2	87.2
80°	37.6	41.7	45.9	50.1	54.1	58.5	62.8	67.2	71.6	76.0	78.8
82.5°	29.4	33.6	37.8	42.0	46.2	50.5	55.0	59.4	63.9	68.4	71.3
85°	18.6	22.8	27.1	31.3	35.5	39.9	44.4	48.8	53.2	57.7	60.6
87.5°	10.2	14.6	19.0	23.4	27.8	32.4	36.9	41.5	46.1	50.6	53.6
90°	5.4	10.6	15.7	21.0	26.1	31.5	37.2	42.8	48.4	54.1	57.4
92.5°	15.9	20.3	24.8	29.2	33.6	38.3	43.4	48.3	53.3	58.4	61.5
95°	31.6	35.6	39.6	43.7	47.7	52.2	57.2	62.1	67.1	72.0	75.1
97.5°	52.4	55.9	59.5	63.0	66.5	70.5	75.1	79.7	84.1	88.7	91.7
100°	66.7	70.0	73.3	76.6	80.0	83.8	88.2	92.6	97.0	101.4	104.2
102.5°	83.1	85.9	88.7	91.5	94.3	98.0	102.5	107.0	111.5	115.9	118.6
105°	107.7	109.9	112.1	114.4	116.6	120.0	124.6	129.1	133.7	138.3	140.6
107.5°	135.8	137.7	139.6	141.4	143.2	146.1	149.9	153.7	157.5	161.3	164.0
110°	153.4	155.2	156.9	158.6	160.3	163.0	166.6	170.2	173.7	177.3	179.9



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	172.0	173.4	174.8	176.1	177.5	179.9	183.1	186.4	189.7	193.0	195.6
115°	199.5	200.9	202.2	203.5	204.8	206.9	209.8	212.5	215.4	218.3	220.4
117.5°	227.6	228.4	229.2	230.1	230.9	232.6	235.1	237.7	240.4	243.0	244.9
120°	244.8	245.8	246.8	247.9	248.9	250.5	252.8	255.1	257.4	259.7	261.5
122.5°	262.9	263.7	264.3	265.0	265.6	267.2	269.5	272.0	274.3	276.7	278.3
125°	290.4	290.7	291.0	291.3	291.6	292.9	295.1	297.4	299.6	301.9	303.2
127.5°	316.1	316.7	317.2	317.8	318.4	319.6	321.4	323.2	325.0	326.8	327.8
130°	333.2	333.9	334.7	335.4	336.1	337.2	338.6	340.0	341.4	342.8	343.9
132.5°	350.0	350.8	351.6	352.5	353.2	354.2	355.3	356.4	357.6	358.7	359.7
135°	376.0	376.6	377.2	377.6	378.2	378.9	379.7	380.5	381.3	382.1	383.3
137.5°	400.1	400.6	401.0	401.5	401.9	402.6	403.3	404.1	405.0	405.8	406.7
140°	416.6	417.1	417.6	418.2	418.7	419.1	419.5	419.8	420.1	420.5	421.7
142.5°	431.9	432.3	432.8	433.2	433.7	434.0	434.2	434.5	434.7	435.0	435.9
145°	455.7	455.8	455.9	456.0	456.2	456.3	456.6	457.0	457.3	457.6	458.2
147.5°	476.1	476.5	476.9	477.2	477.6	477.9	478.3	478.5	478.8	479.1	479.3
150°	490.6	490.8	491.1	491.2	491.5	491.6	491.9	492.0	492.3	492.4	492.4
152.5°	502.6	502.8	503.1	503.4	503.7	503.9	504.0	504.1	504.3	504.3	504.5
155°	521.3	521.3	521.3	521.3	521.3	521.4	521.5	521.5	521.7	521.8	522.2
157.5°	537.3	537.2	537.0	537.0	536.8	536.8	536.9	537.0	537.0	537.1	537.5
160°	547.3	547.1	546.9	546.7	546.5	546.4	546.4	546.4	546.4	546.4	546.9
162.5°	556.3	556.0	555.7	555.4	555.1	555.1	555.1	555.2	555.3	555.4	555.9
165°	567.8	567.5	567.2	566.9	566.6	566.4	566.4	566.4	566.4	566.4	567.0
167.5°	577.0	576.6	576.2	575.8	575.4	575.2	575.3	575.4	575.4	575.5	576.2
170°	582.2	581.8	581.4	581.0	580.6	580.3	580.3	580.3	580.3	580.3	581.1
172.5°	586.3	585.9	585.5	585.1	584.7	584.5	584.5	584.5	584.5	584.5	585.1
175°	590.6	590.2	589.8	589.4	589.0	588.7	588.7	588.7	588.7	588.7	589.4
177.5°	592.4	592.1	591.7	591.3	591.0	590.8	590.8	590.8	590.8	590.8	591.3
180°	592.0	592.0	592.0	592.0	592.0	592.0	592.0	592.0	592.0	592.0	592.0



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	348.7	348.7	348.7	348.7	348.7	348.7	348.7	348.7
2.5°	348.0	348.5	349.1	349.3	349.3	349.2	349.1	349.0
5°	347.4	348.1	348.8	349.1	349.0	348.9	348.8	348.7
7.5°	345.4	346.2	347.0	347.4	347.3	347.2	347.1	347.0
10°	343.2	344.1	344.9	345.2	345.0	344.9	344.7	344.5
12.5°	340.3	341.1	341.9	342.2	342.0	341.9	341.7	341.5
15°	334.8	335.7	336.6	336.9	336.8	336.7	336.6	336.6
17.5°	327.7	328.5	329.2	329.5	329.4	329.3	329.2	329.1
20°	322.5	323.3	324.1	324.5	324.6	324.7	324.7	324.8
22.5°	316.8	317.8	318.8	319.3	319.2	319.1	319.1	319.0
25°	307.2	308.3	309.4	310.0	310.0	310.0	310.0	310.0
27.5°	297.2	298.2	299.1	299.6	299.7	299.8	299.8	299.9
30°	290.3	291.4	292.4	292.9	292.9	292.9	292.9	292.9
32.5°	282.9	284.0	285.0	285.7	285.9	286.1	286.3	286.5
35°	271.9	273.1	274.4	275.2	275.6	275.9	276.2	276.5
37.5°	260.4	261.9	263.3	264.2	264.4	264.7	265.0	265.2
40°	252.8	254.3	255.7	256.6	256.9	257.3	257.6	258.0
42.5°	244.9	246.5	248.0	249.1	249.6	250.0	250.5	250.9
45°	233.0	234.6	236.3	237.4	238.1	238.7	239.5	240.1
47.5°	221.0	222.9	224.7	225.8	226.3	226.9	227.4	228.0
50°	212.8	214.7	216.7	218.0	218.6	219.2	219.7	220.4
52.5°	204.5	206.4	208.5	209.9	210.6	211.3	212.0	212.7
55°	191.8	194.1	196.4	197.9	198.5	199.3	199.9	200.6
57.5°	179.0	181.2	183.5	185.1	185.9	186.7	187.5	188.3
60°	170.0	172.4	174.7	176.3	177.2	178.2	179.1	180.1
62.5°	161.4	163.8	166.2	167.8	168.7	169.5	170.4	171.3
65°	147.9	150.4	153.0	154.7	155.5	156.4	157.2	158.0
67.5°	134.4	137.1	139.9	141.7	142.4	143.1	143.8	144.5
70°	125.5	128.2	130.9	132.6	133.5	134.3	135.2	136.0
72.5°	116.4	119.2	122.0	123.8	124.7	125.5	126.4	127.2
75°	102.8	105.6	108.4	110.3	111.3	112.3	113.3	114.4
77.5°	90.1	93.0	96.0	97.8	98.6	99.4	100.1	100.9
80°	81.7	84.6	87.5	89.3	90.2	91.0	91.9	92.7
82.5°	74.1	77.0	79.9	81.7	82.6	83.4	84.2	85.1
85°	63.5	66.4	69.2	71.1	71.9	72.8	73.6	74.4
87.5°	56.5	59.5	62.5	64.3	65.2	66.1	67.0	67.9
90°	60.7	63.9	67.3	69.4	70.4	71.5	72.6	73.6
92.5°	64.7	67.8	70.8	72.8	73.5	74.1	74.8	75.4
95°	78.1	81.1	84.1	86.1	86.9	87.8	88.6	89.4
97.5°	94.7	97.7	100.7	102.6	103.4	104.2	105.0	105.8
100°	107.0	109.7	112.4	114.4	115.4	116.4	117.5	118.5
102.5°	121.3	124.0	126.7	128.5	129.3	130.0	130.9	131.7
105°	143.0	145.4	147.7	149.4	150.3	151.3	152.3	153.2
107.5°	166.6	169.1	171.7	173.3	173.9	174.6	175.2	175.8
110°	182.5	185.2	187.8	189.3	189.7	190.2	190.7	191.2





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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	198.2	200.8	203.5	205.1	205.9	206.5	207.2	207.9
115°	222.5	224.6	226.7	228.1	228.7	229.3	229.8	230.4
117.5°	246.9	248.9	250.9	252.1	252.4	252.8	253.2	253.6
120°	263.3	265.1	267.0	268.1	268.5	268.9	269.3	269.6
122.5°	279.9	281.5	283.2	284.1	284.4	284.7	285.0	285.3
125°	304.6	306.0	307.3	308.1	308.3	308.4	308.6	308.8
127.5°	329.0	330.0	331.1	331.7	331.8	331.9	332.0	332.2
130°	345.1	346.3	347.5	348.0	347.7	347.6	347.3	347.1
132.5°	360.8	361.8	362.8	363.4	363.4	363.4	363.5	363.5
135°	384.4	385.5	386.6	387.3	387.5	387.7	387.9	388.1
137.5°	407.6	408.5	409.4	409.8	409.9	409.9	409.9	409.9
140°	422.8	424.0	425.2	425.6	425.3	425.0	424.7	424.4
142.5°	437.0	438.0	439.0	439.4	439.4	439.2	439.0	439.0
145°	458.8	459.3	459.9	460.2	460.1	460.0	459.9	459.8
147.5°	479.5	479.7	479.9	479.8	479.6	479.2	478.9	478.6
150°	492.4	492.4	492.4	492.3	491.8	491.4	490.9	490.5
152.5°	504.8	504.9	505.1	504.8	504.3	503.9	503.4	502.9
155°	522.6	523.0	523.4	523.3	522.5	521.8	521.1	520.4
157.5°	538.0	538.4	538.8	538.7	538.2	537.6	537.0	536.5
160°	547.5	548.0	548.5	548.5	548.1	547.7	547.3	546.9
162.5°	556.4	556.9	557.4	557.3	556.7	556.0	555.4	554.7
165°	567.7	568.3	568.9	568.8	568.1	567.4	566.7	566.0
167.5°	576.8	577.5	578.1	578.1	577.5	576.8	576.2	575.5
170°	581.8	582.5	583.3	583.3	582.5	581.8	581.1	580.3
172.5°	585.7	586.4	587.0	587.0	586.3	585.5	584.8	584.1
175°	590.0	590.6	591.3	591.2	590.4	589.7	589.0	588.2
177.5°	591.9	592.4	592.9	592.8	592.2	591.7	591.1	590.5
180°	592.0	592.0	592.0	592.0	592.0	592.0	592.0	592.0

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