

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: P331880-840

Luminaire Tested: **S123DIP-S340D585U840-4F0-1E-UDD-F**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P331880-840  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-5,  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: S123DIP-S340D585U840-4F0-1E-UDD-F  
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 340 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
UPLIGHT 585 LUMENS PER FOOT, NO LENS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3790.3 lumens  
Efficiency: N/A  
Efficacy: 148.1 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.18 / 1.31  
Luminous Opening: Rectangular (W 0.25' x L: 4' x H: 0')  
CIE Type: Semi-Indirect

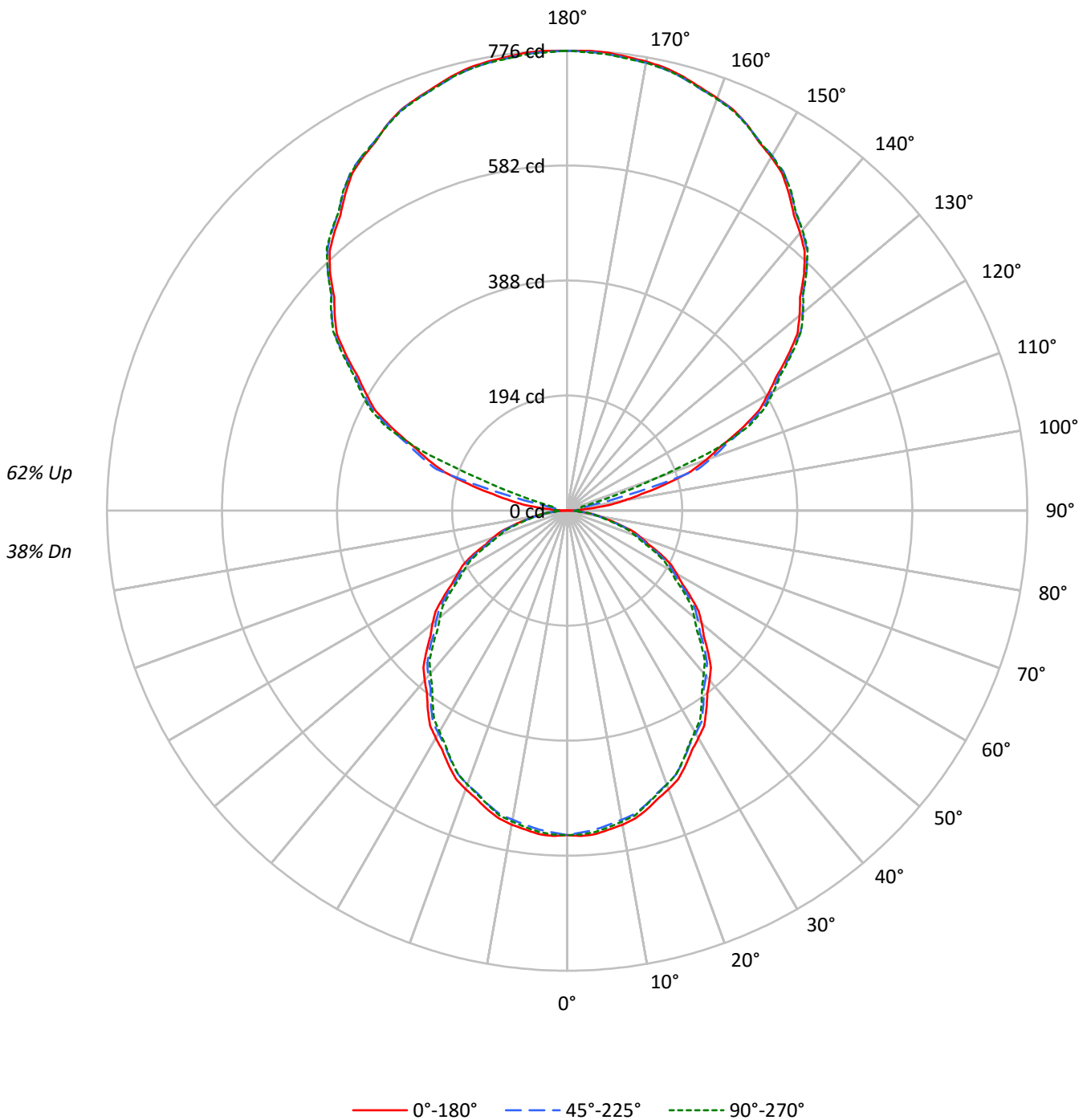
Input Watts (W): 25.6  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	76	76	76		60	60	60		45	45	45	38
1	95	91	87	83	86	82	79	76	67	65	63		53	51	50		39	39	38	32
2	86	79	73	68	78	72	67	62	59	55	52		46	44	41		35	33	32	26
3	79	69	62	57	71	63	57	52	52	47	43		41	38	35		31	29	27	22
4	72	61	54	48	65	56	49	44	46	41	37		36	33	30		27	25	23	19
5	66	55	47	41	60	50	43	38	41	36	32		32	29	26		25	22	20	17
6	61	49	41	35	55	45	38	33	37	32	28		29	26	23		22	20	18	15
7	56	44	36	31	51	40	33	29	33	28	24		27	23	20		20	18	16	13
8	52	40	32	27	47	37	30	25	30	25	21		24	21	18		19	16	14	12
9	48	36	29	24	44	33	27	22	28	23	19		22	19	16		17	15	13	10
10	45	33	26	21	41	31	24	20	25	21	17		21	17	14		16	13	11	9

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

	0°	45°	90°
0°	5890	5890	5890
5°	5919	5837	5877
10°	5879	5786	5822
15°	5810	5721	5731
20°	5730	5628	5632
25°	5621	5516	5505
30°	5504	5392	5351
35°	5380	5261	5194
40°	5251	5117	5039
45°	5107	4985	4864
50°	4963	4823	4687
55°	4778	4654	4511
60°	4590	4456	4316
65°	4422	4241	4111
70°	4176	3997	3821
75°	3818	3681	3523
80°	3440	3298	3267
85°	3013	2902	2791



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	51.5	1.4
10°-20°	145.6	3.8
20°-30°	215.0	5.7
30°-40°	251.2	6.6
40°-50°	252.5	6.7
50°-60°	221.8	5.9
60°-70°	165.2	4.4
70°-80°	94.1	2.5
80°-90°	29.2	0.8
90°-100°	28.2	0.7
100°-110°	134.3	3.5
110°-120°	322.7	8.5
120°-130°	410.9	10.8
130°-140°	439.0	11.6
140°-150°	410.5	10.8
150°-160°	331.2	8.7
160°-170°	213.7	5.6
170°-180°	73.7	1.9
0°-30°	412.1	10.9
0°-40°	663.3	17.5
0°-60°	1137.6	30.0
0°-90°	1426.1	37.6
90°-120°	485.2	12.8
90°-150°	1745.7	46.1
90°-180°	2364.0	62.4
0°-180°	3790.3	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	547	547	547	547	547	
5°	548	545	540	545	544	52
15°	521	519	513	517	514	147
25°	473	470	464	465	464	218
35°	409	406	400	398	395	256
45°	336	333	328	322	320	259
55°	255	254	248	243	240	228
65°	174	171	166	163	161	171
75°	92	90	88	86	85	98
85°	24	24	24	23	23	27
90°	1	6	14	16	17	3
95°	35	13	18	22	22	43
105°	172	175	126	30	25	182
115°	322	326	331	336	339	318
125°	454	458	461	462	463	405
135°	565	568	571	572	571	435
145°	652	656	657	658	658	408
155°	718	717	718	720	717	331
165°	757	756	755	759	756	214
175°	775	773	773	777	772	74
180°	775	775	775	775	775	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	547.2	547.2	547.2	547.2	547.2	547.2	547.2	547.2	547.2	547.2	547.2
2.5°	549.2	548.8	548.5	548.2	547.8	547.1	546.2	545.3	544.4	543.5	544.3
5°	547.8	547.1	546.6	546.1	545.6	544.8	543.6	542.5	541.3	540.2	541.2
7.5°	542.4	541.8	541.3	540.8	540.3	539.4	538.3	537.0	535.8	534.6	535.5
10°	537.9	537.3	536.7	536.2	535.7	534.8	533.4	532.1	530.7	529.4	530.3
12.5°	531.8	531.4	530.9	530.5	530.1	529.2	528.0	526.6	525.3	524.1	524.8
15°	521.4	521.0	520.5	520.1	519.7	518.8	517.5	516.0	514.7	513.4	514.2
17.5°	509.2	508.7	508.2	507.6	507.1	506.1	504.7	503.4	502.0	500.7	501.2
20°	500.2	499.6	499.0	498.3	497.7	496.7	495.3	493.9	492.6	491.3	491.7
22.5°	490.0	489.4	488.8	488.2	487.6	486.6	485.1	483.8	482.4	481.1	481.4
25°	473.3	472.7	472.1	471.5	470.9	469.9	468.5	467.2	465.7	464.4	464.5
27.5°	455.6	454.9	454.3	453.7	453.1	452.1	450.7	449.2	447.8	446.3	446.4
30°	442.8	442.2	441.7	441.2	440.7	439.7	438.3	436.8	435.4	433.8	433.8
32.5°	430.0	429.3	428.6	427.9	427.3	426.3	425.2	424.0	422.9	421.8	421.2
35°	409.4	408.8	408.1	407.5	406.9	405.9	404.6	403.1	401.8	400.4	399.8
37.5°	388.3	387.5	386.7	385.9	385.2	384.1	382.6	381.2	379.9	378.5	377.8
40°	373.7	372.9	372.3	371.7	371.1	370.0	368.6	367.1	365.7	364.2	363.3
42.5°	358.9	358.2	357.5	356.8	356.1	355.0	353.6	352.0	350.6	349.1	348.3
45°	335.5	335.1	334.7	334.3	333.9	333.0	331.5	330.2	328.8	327.5	326.3
47.5°	312.3	311.6	311.0	310.4	309.8	308.9	307.6	306.3	305.1	303.8	302.6
50°	296.4	295.9	295.4	294.9	294.4	293.4	292.1	290.7	289.3	288.0	286.8
52.5°	279.8	279.5	279.1	278.8	278.4	277.5	276.1	274.7	273.3	271.8	270.8
55°	254.6	254.5	254.4	254.3	254.2	253.4	252.1	250.6	249.3	248.0	246.8
57.5°	230.5	230.1	229.7	229.4	229.0	228.3	227.2	226.1	225.1	224.0	223.0
60°	213.2	213.1	213.0	212.9	212.8	212.1	210.8	209.5	208.3	207.0	206.1
62.5°	197.7	197.4	197.2	196.9	196.6	195.9	194.6	193.4	192.1	190.9	190.0
65°	173.6	173.1	172.6	172.1	171.6	170.8	169.8	168.6	167.6	166.5	165.7
67.5°	148.1	147.6	147.2	146.7	146.3	145.6	144.9	144.1	143.3	142.5	141.8
70°	132.7	132.1	131.5	130.8	130.2	129.6	129.0	128.3	127.6	127.0	126.3
72.5°	116.5	116.0	115.6	115.1	114.6	114.1	113.4	112.7	112.0	111.3	110.6
75°	91.8	91.3	90.9	90.5	90.1	89.7	89.4	89.1	88.8	88.5	88.0
77.5°	69.8	69.6	69.4	69.2	68.9	68.6	68.3	67.9	67.5	67.1	66.8
80°	55.5	55.2	54.9	54.6	54.2	54.0	53.8	53.6	53.4	53.2	53.0
82.5°	41.6	41.5	41.5	41.4	41.3	41.3	41.2	41.2	41.2	41.1	40.9
85°	24.4	24.2	24.0	23.8	23.6	23.5	23.5	23.5	23.5	23.5	23.3
87.5°	9.9	9.9	9.9	9.9	9.9	10.1	10.3	10.5	10.8	11.0	11.1
90°	0.6	1.8	3.1	4.4	5.7	7.2	8.8	10.5	12.1	13.8	14.3
92.5°	10.7	10.4	10.0	9.6	9.3	9.7	11.0	12.2	13.5	14.7	15.6
95°	35.1	29.9	24.6	19.4	14.1	12.2	13.6	15.0	16.5	17.9	18.8
97.5°	70.6	68.3	65.9	63.5	61.2	55.4	46.2	37.0	27.8	18.6	19.6
100°	97.4	99.9	102.5	105.0	107.6	98.9	78.9	59.0	39.0	19.0	20.0
102.5°	127.7	129.6	131.5	133.3	135.1	125.1	103.3	81.5	59.7	37.9	34.7
105°	171.7	173.1	174.5	175.8	177.2	172.2	160.7	149.2	137.6	126.1	103.5
107.5°	217.9	219.0	220.3	221.4	222.5	223.9	225.7	227.5	229.3	231.2	214.6
110°	248.8	249.8	250.9	251.9	252.9	254.2	255.5	256.9	258.3	259.7	255.5



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	278.3	279.2	280.1	281.0	282.0	283.2	284.6	286.0	287.4	288.8	288.9
115°	321.9	322.8	323.5	324.3	325.1	326.0	327.2	328.3	329.4	330.6	331.9
117.5°	364.3	365.2	366.2	367.1	368.0	368.8	369.4	370.0	370.6	371.1	372.2
120°	390.5	391.6	392.8	393.9	395.2	395.9	396.3	396.7	397.1	397.4	398.5
122.5°	417.3	418.2	419.1	420.1	421.0	421.7	422.2	422.7	423.2	423.7	424.4
125°	453.8	454.9	456.0	457.0	458.0	458.8	459.3	459.8	460.3	460.8	461.0
127.5°	489.4	490.4	491.4	492.4	493.4	494.2	494.8	495.5	496.1	496.8	497.2
130°	511.5	512.5	513.5	514.5	515.5	516.3	516.8	517.4	517.9	518.4	518.9
132.5°	532.7	533.7	534.7	535.7	536.7	537.5	537.9	538.3	538.7	539.2	539.7
135°	565.0	565.8	566.5	567.3	568.2	568.8	569.3	569.8	570.3	570.8	571.2
137.5°	592.7	593.7	594.6	595.6	596.5	597.2	597.4	597.7	598.0	598.3	599.0
140°	611.1	611.9	612.7	613.4	614.2	614.8	615.1	615.5	615.9	616.3	616.8
142.5°	628.1	628.9	629.8	630.5	631.3	631.8	632.2	632.6	633.0	633.4	633.8
145°	652.0	652.9	653.8	654.7	655.6	656.2	656.4	656.7	656.9	657.2	657.4
147.5°	674.5	675.1	675.7	676.2	676.8	677.2	677.5	677.7	678.0	678.3	678.5
150°	688.3	688.7	689.0	689.4	689.8	690.1	690.4	690.6	690.9	691.2	691.5
152.5°	700.7	700.9	701.0	701.3	701.5	701.7	701.8	702.0	702.1	702.3	702.7
155°	718.2	718.0	717.7	717.5	717.2	717.2	717.3	717.4	717.5	717.7	718.3
157.5°	731.8	731.8	731.7	731.7	731.7	731.6	731.5	731.4	731.2	731.1	732.0
160°	740.1	740.0	739.9	739.7	739.6	739.5	739.3	739.2	739.1	739.0	739.7
162.5°	748.0	747.6	747.3	747.0	746.6	746.4	746.3	746.2	746.0	745.9	746.8
165°	757.4	757.0	756.7	756.3	755.9	755.6	755.5	755.4	755.3	755.1	756.2
167.5°	764.8	764.3	763.8	763.3	762.8	762.4	762.4	762.4	762.4	762.4	763.6
170°	768.9	768.4	767.9	767.4	766.9	766.6	766.6	766.6	766.6	766.6	767.7
172.5°	771.7	771.1	770.4	769.8	769.2	769.0	769.1	769.2	769.3	769.4	770.4
175°	775.3	774.7	774.0	773.4	772.7	772.4	772.5	772.7	772.8	773.0	773.9
177.5°	776.2	775.7	775.2	774.7	774.2	774.0	774.1	774.2	774.3	774.4	775.2
180°	775.3	775.3	775.3	775.3	775.3	775.3	775.3	775.3	775.3	775.3	775.3



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	547.2	547.2	547.2	547.2	547.2	547.2	547.2	547.2
2.5°	545.1	546.0	546.8	547.2	547.1	547.0	546.9	546.8
5°	542.3	543.3	544.4	544.8	544.6	544.4	544.1	543.9
7.5°	536.5	537.5	538.4	538.8	538.7	538.6	538.5	538.3
10°	531.3	532.2	533.1	533.5	533.3	533.1	532.9	532.7
12.5°	525.4	526.1	526.8	527.1	527.0	526.8	526.7	526.6
15°	515.0	515.8	516.7	516.8	516.1	515.5	514.9	514.3
17.5°	501.8	502.4	503.0	503.2	502.9	502.7	502.5	502.3
20°	492.1	492.5	492.9	493.0	492.6	492.3	492.0	491.7
22.5°	481.7	482.1	482.4	482.4	482.0	481.6	481.2	480.8
25°	464.6	464.7	464.8	464.7	464.4	464.1	463.8	463.5
27.5°	446.5	446.6	446.6	446.5	446.1	445.7	445.2	444.8
30°	433.8	433.8	433.8	433.4	432.7	432.0	431.3	430.5
32.5°	420.6	420.0	419.5	419.0	418.6	418.2	417.8	417.4
35°	399.2	398.6	397.9	397.4	396.9	396.3	395.8	395.3
37.5°	377.0	376.3	375.5	375.0	374.7	374.3	374.0	373.7
40°	362.5	361.7	360.8	360.2	359.8	359.4	359.0	358.6
42.5°	347.5	346.6	345.8	345.2	344.8	344.4	344.0	343.5
45°	325.0	323.8	322.4	321.6	321.0	320.5	320.0	319.5
47.5°	301.3	300.1	298.8	298.0	297.5	297.1	296.6	296.2
50°	285.7	284.5	283.4	282.5	281.9	281.2	280.6	279.9
52.5°	269.8	268.8	267.8	267.0	266.4	265.8	265.2	264.6
55°	245.7	244.5	243.4	242.6	242.1	241.5	241.0	240.4
57.5°	222.0	220.9	219.8	219.0	218.4	217.8	217.2	216.6
60°	205.2	204.2	203.3	202.6	202.0	201.5	201.0	200.5
62.5°	188.9	188.0	187.1	186.4	186.1	185.7	185.4	185.0
65°	164.9	164.1	163.2	162.7	162.4	162.0	161.7	161.4
67.5°	141.0	140.3	139.6	139.0	138.6	138.0	137.6	137.2
70°	125.6	124.8	124.1	123.5	123.0	122.5	121.9	121.4
72.5°	110.0	109.3	108.7	108.2	108.0	107.7	107.3	107.0
75°	87.5	86.8	86.3	85.9	85.6	85.3	85.0	84.7
77.5°	66.3	66.0	65.6	65.5	65.5	65.5	65.5	65.5
80°	52.9	52.8	52.7	52.7	52.7	52.7	52.7	52.7
82.5°	40.8	40.6	40.4	40.2	40.2	40.1	40.0	39.9
85°	23.1	22.9	22.7	22.6	22.6	22.6	22.6	22.6
87.5°	11.1	11.1	11.1	11.1	11.2	11.2	11.3	11.4
90°	14.8	15.3	15.9	16.3	16.6	16.8	17.1	17.3
92.5°	16.4	17.2	18.0	18.5	18.7	18.8	19.0	19.1
95°	19.7	20.5	21.4	21.9	21.9	21.9	21.9	21.9
97.5°	20.6	21.6	22.6	23.2	23.3	23.4	23.6	23.7
100°	21.0	22.1	23.1	23.6	23.8	23.9	24.0	24.2
102.5°	31.5	28.4	25.2	23.7	23.9	24.2	24.4	24.6
105°	80.8	58.2	35.5	24.3	24.5	24.8	25.0	25.3
107.5°	197.9	181.4	164.7	147.9	130.8	113.7	96.6	79.6
110°	251.4	247.1	242.9	231.6	213.3	195.0	176.7	158.3





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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	288.9	289.0	289.1	287.2	283.4	279.4	275.6	271.8
115°	333.2	334.5	335.8	336.6	337.1	337.7	338.2	338.7
117.5°	373.2	374.3	375.3	375.9	376.0	376.1	376.2	376.3
120°	399.5	400.5	401.5	402.0	402.0	402.0	402.0	402.0
122.5°	425.2	425.9	426.6	427.0	427.1	427.2	427.3	427.4
125°	461.3	461.5	461.8	462.1	462.3	462.6	462.8	463.1
127.5°	497.6	498.0	498.4	498.5	498.2	498.0	497.7	497.5
130°	519.4	519.9	520.4	520.6	520.3	520.1	519.8	519.6
132.5°	540.2	540.7	541.2	541.3	540.9	540.5	540.2	539.8
135°	571.6	572.0	572.3	572.3	572.0	571.6	571.2	570.8
137.5°	599.6	600.2	600.8	601.0	600.7	600.5	600.2	600.0
140°	617.3	617.8	618.3	618.4	618.2	617.9	617.7	617.4
142.5°	634.2	634.6	635.0	635.0	634.7	634.3	633.9	633.6
145°	657.7	657.9	658.2	658.3	658.3	658.3	658.3	658.3
147.5°	678.8	679.0	679.3	679.1	678.5	677.9	677.4	676.8
150°	691.7	692.0	692.2	692.2	691.8	691.4	690.9	690.6
152.5°	703.2	703.6	704.1	704.0	703.5	702.9	702.3	701.7
155°	718.9	719.6	720.2	720.1	719.4	718.6	717.9	717.1
157.5°	732.7	733.5	734.3	734.1	733.1	732.2	731.1	730.1
160°	740.5	741.2	742.0	741.9	741.1	740.2	739.3	738.4
162.5°	747.6	748.5	749.4	749.4	748.6	747.8	747.0	746.3
165°	757.2	758.2	759.2	759.3	758.4	757.5	756.6	755.7
167.5°	764.6	765.6	766.6	766.6	765.6	764.6	763.6	762.4
170°	768.7	769.7	770.7	770.7	769.7	768.7	767.7	766.6
172.5°	771.4	772.4	773.5	773.5	772.3	771.2	770.0	768.9
175°	774.8	775.7	776.6	776.5	775.5	774.5	773.5	772.3
177.5°	776.0	776.8	777.6	777.5	776.5	775.5	774.5	773.5
180°	775.3	775.3	775.3	775.3	775.3	775.3	775.3	775.3

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