

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: P331880-930

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

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P331880-930  
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-S340D585U930-4F0-1E-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: 3060.1 lumens  
Efficiency: N/A  
Efficacy: 119.5 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

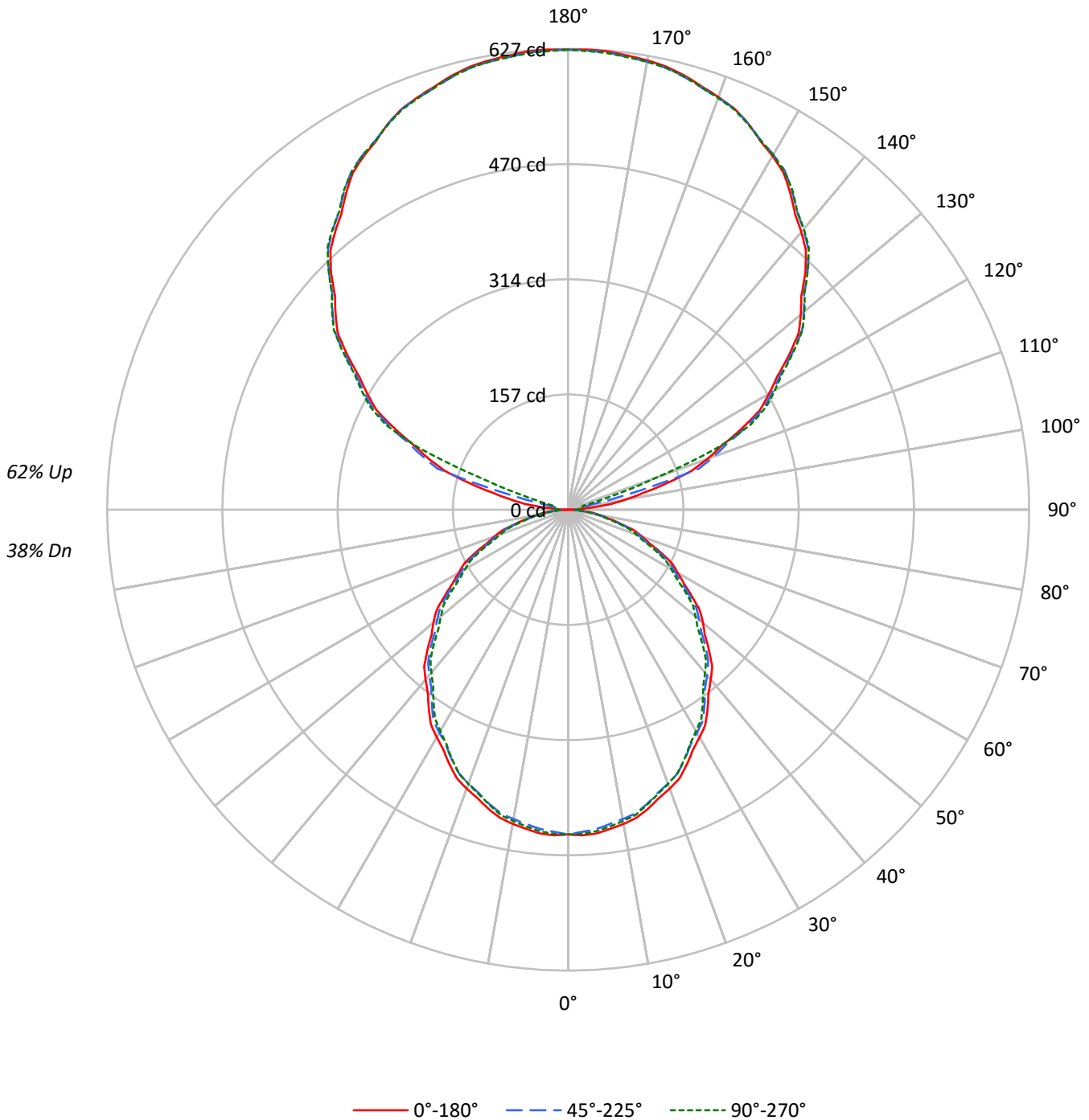
Input Watts (W): 25.6  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	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°	4755	4755	4755
5°	4778	4712	4744
10°	4746	4671	4701
15°	4690	4619	4627
20°	4625	4543	4548
25°	4538	4454	4444
30°	4443	4354	4320
35°	4343	4248	4193
40°	4239	4131	4068
45°	4122	4025	3927
50°	4007	3893	3785
55°	3856	3757	3643
60°	3705	3597	3483
65°	3568	3423	3319
70°	3371	3229	3084
75°	3082	2969	2845
80°	2777	2665	2641
85°	2433	2347	2260



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	41.6	1.4
10°-20°	117.5	3.8
20°-30°	173.6	5.7
30°-40°	202.8	6.6
40°-50°	203.9	6.7
50°-60°	179.1	5.9
60°-70°	133.4	4.4
70°-80°	76.0	2.5
80°-90°	23.6	0.8
90°-100°	22.8	0.7
100°-110°	108.4	3.5
110°-120°	260.5	8.5
120°-130°	331.7	10.8
130°-140°	354.4	11.6
140°-150°	331.4	10.8
150°-160°	267.4	8.7
160°-170°	172.6	5.6
170°-180°	59.5	1.9
0°-30°	332.7	10.9
0°-40°	535.5	17.5
0°-60°	918.4	30.0
0°-90°	1151.4	37.6
90°-120°	391.7	12.8
90°-150°	1409.3	46.1
90°-180°	1909.0	62.4
0°-180°	3060.1	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	442	442	442	442	442	
5°	442	440	436	440	439	42
15°	421	419	414	417	415	119
25°	382	380	375	375	374	176
35°	330	328	323	321	319	207
45°	271	269	264	260	258	209
55°	206	205	200	196	194	184
65°	140	138	134	132	130	138
75°	74	73	71	70	68	79
85°	20	19	19	18	18	22
90°	0	5	11	13	14	2
95°	28	11	14	18	18	35
105°	139	141	102	24	20	147
115°	260	263	267	271	274	257
125°	366	370	372	373	374	327
135°	456	459	461	462	461	351
145°	526	530	531	531	532	329
155°	580	579	579	581	579	267
165°	612	610	610	613	610	173
175°	626	624	624	627	624	60
180°	626	626	626	626	626	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	441.8	441.8	441.8	441.8	441.8	441.8	441.8	441.8	441.8	441.8	441.8
2.5°	443.4	443.0	442.8	442.5	442.2	441.7	441.0	440.3	439.5	438.8	439.4
5°	442.2	441.7	441.3	440.9	440.5	439.9	438.9	438.0	437.0	436.1	436.9
7.5°	437.9	437.4	437.0	436.6	436.2	435.5	434.6	433.6	432.6	431.6	432.4
10°	434.2	433.8	433.3	432.9	432.5	431.8	430.6	429.6	428.4	427.4	428.1
12.5°	429.3	429.0	428.6	428.3	428.0	427.2	426.2	425.2	424.1	423.1	423.7
15°	420.9	420.6	420.2	419.9	419.6	418.8	417.8	416.6	415.6	414.5	415.2
17.5°	411.1	410.7	410.3	409.8	409.4	408.6	407.5	406.4	405.3	404.2	404.6
20°	403.8	403.3	402.8	402.3	401.8	401.0	399.9	398.8	397.7	396.6	397.0
22.5°	395.6	395.1	394.6	394.1	393.6	392.8	391.7	390.6	389.5	388.4	388.7
25°	382.1	381.6	381.2	380.7	380.2	379.4	378.2	377.2	376.0	375.0	375.0
27.5°	367.8	367.3	366.8	366.3	365.8	365.0	363.9	362.6	361.5	360.3	360.4
30°	357.5	357.0	356.6	356.2	355.8	355.0	353.8	352.6	351.5	350.3	350.3
32.5°	347.2	346.6	346.0	345.4	345.0	344.1	343.2	342.3	341.4	340.6	340.1
35°	330.5	330.0	329.5	329.0	328.5	327.7	326.6	325.5	324.4	323.3	322.8
37.5°	313.5	312.8	312.2	311.5	311.0	310.1	308.9	307.8	306.7	305.6	305.0
40°	301.7	301.1	300.6	300.1	299.6	298.7	297.6	296.4	295.2	294.0	293.3
42.5°	289.8	289.2	288.6	288.0	287.5	286.6	285.4	284.2	283.1	281.8	281.2
45°	270.8	270.5	270.2	269.9	269.5	268.8	267.7	266.6	265.5	264.4	263.4
47.5°	252.1	251.6	251.1	250.6	250.1	249.4	248.3	247.3	246.3	245.2	244.3
50°	239.3	238.9	238.5	238.1	237.7	236.8	235.8	234.7	233.6	232.5	231.5
52.5°	225.9	225.7	225.3	225.1	224.8	224.0	222.9	221.8	220.6	219.4	218.7
55°	205.5	205.5	205.4	205.3	205.2	204.6	203.5	202.4	201.3	200.2	199.3
57.5°	186.1	185.8	185.5	185.2	184.9	184.3	183.4	182.5	181.7	180.8	180.0
60°	172.1	172.0	171.9	171.9	171.8	171.2	170.2	169.2	168.2	167.1	166.4
62.5°	159.6	159.4	159.2	159.0	158.7	158.2	157.1	156.1	155.1	154.1	153.4
65°	140.1	139.7	139.3	138.9	138.5	137.9	137.1	136.2	135.3	134.4	133.8
67.5°	119.6	119.2	118.9	118.5	118.1	117.6	117.0	116.3	115.7	115.0	114.5
70°	107.1	106.6	106.2	105.6	105.1	104.6	104.1	103.5	103.1	102.6	102.0
72.5°	94.1	93.7	93.4	92.9	92.5	92.1	91.6	91.0	90.4	89.8	89.3
75°	74.1	73.7	73.4	73.1	72.7	72.4	72.2	71.9	71.7	71.4	71.0
77.5°	56.3	56.2	56.0	55.8	55.6	55.4	55.1	54.8	54.5	54.1	53.9
80°	44.8	44.6	44.4	44.1	43.8	43.6	43.5	43.3	43.1	43.0	42.8
82.5°	33.6	33.5	33.5	33.4	33.3	33.3	33.3	33.3	33.3	33.2	33.0
85°	19.7	19.6	19.4	19.2	19.1	19.0	19.0	19.0	19.0	19.0	18.8
87.5°	8.0	8.0	8.0	8.0	8.0	8.2	8.3	8.5	8.7	8.9	9.0
90°	0.5	1.5	2.5	3.6	4.6	5.8	7.1	8.5	9.8	11.2	11.6
92.5°	8.6	8.4	8.1	7.7	7.5	7.8	8.9	9.9	10.9	11.9	12.6
95°	28.4	24.1	19.9	15.7	11.4	9.9	11.0	12.1	13.3	14.4	15.2
97.5°	57.0	55.1	53.2	51.3	49.4	44.8	37.3	29.8	22.4	15.0	15.8
100°	78.6	80.6	82.8	84.8	86.8	79.8	63.7	47.6	31.5	15.3	16.1
102.5°	103.1	104.6	106.2	107.6	109.1	101.0	83.4	65.8	48.2	30.6	28.0
105°	138.6	139.7	140.9	141.9	143.1	139.0	129.7	120.4	111.1	101.8	83.6
107.5°	175.9	176.8	177.8	178.7	179.6	180.8	182.2	183.7	185.2	186.6	173.3
110°	200.9	201.7	202.5	203.3	204.2	205.2	206.3	207.4	208.6	209.7	206.3



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	224.7	225.4	226.2	226.9	227.6	228.6	229.8	230.9	232.0	233.2	233.3
115°	259.9	260.6	261.1	261.8	262.4	263.2	264.2	265.1	266.0	266.9	268.0
117.5°	294.1	294.8	295.6	296.4	297.1	297.7	298.2	298.7	299.2	299.6	300.5
120°	315.3	316.2	317.2	318.0	319.0	319.6	319.9	320.2	320.6	320.8	321.7
122.5°	336.9	337.6	338.3	339.2	339.9	340.5	340.9	341.3	341.7	342.1	342.7
125°	366.4	367.3	368.1	368.9	369.7	370.4	370.8	371.2	371.6	372.0	372.2
127.5°	395.1	395.9	396.7	397.5	398.4	399.0	399.5	400.1	400.6	401.0	401.4
130°	412.9	413.8	414.6	415.4	416.2	416.9	417.3	417.7	418.1	418.5	418.9
132.5°	430.1	430.9	431.7	432.5	433.3	433.9	434.2	434.6	434.9	435.3	435.7
135°	456.2	456.8	457.4	458.0	458.7	459.2	459.6	460.0	460.4	460.8	461.1
137.5°	478.5	479.3	480.0	480.9	481.6	482.2	482.3	482.6	482.8	483.1	483.6
140°	493.3	494.0	494.6	495.2	495.9	496.4	496.6	496.9	497.3	497.6	498.0
142.5°	507.1	507.8	508.4	509.0	509.6	510.1	510.4	510.7	511.0	511.4	511.7
145°	526.4	527.1	527.8	528.6	529.3	529.8	529.9	530.2	530.4	530.6	530.8
147.5°	544.5	545.0	545.5	545.9	546.4	546.7	547.0	547.1	547.4	547.6	547.8
150°	555.7	556.0	556.3	556.6	556.9	557.2	557.4	557.6	557.8	558.0	558.2
152.5°	565.7	565.9	566.0	566.1	566.3	566.5	566.6	566.7	566.8	567.0	567.3
155°	579.8	579.7	579.4	579.3	579.0	579.0	579.1	579.2	579.3	579.4	579.9
157.5°	590.8	590.8	590.8	590.8	590.8	590.7	590.6	590.5	590.4	590.3	590.9
160°	597.5	597.5	597.4	597.2	597.1	597.0	596.9	596.8	596.7	596.6	597.2
162.5°	603.9	603.6	603.3	603.1	602.8	602.6	602.5	602.4	602.3	602.2	602.9
165°	611.5	611.1	610.9	610.6	610.3	610.0	609.9	609.8	609.8	609.6	610.5
167.5°	617.4	617.0	616.6	616.2	615.8	615.6	615.6	615.6	615.6	615.6	616.4
170°	620.8	620.4	620.0	619.5	619.1	618.9	618.9	618.9	618.9	618.9	619.8
172.5°	623.1	622.6	622.0	621.5	621.0	620.9	620.9	621.0	621.1	621.2	622.0
175°	625.9	625.4	624.8	624.4	623.9	623.6	623.7	623.9	623.9	624.0	624.8
177.5°	626.6	626.2	625.8	625.4	625.0	624.8	624.9	625.0	625.1	625.2	625.8
180°	625.9	625.9	625.9	625.9	625.9	625.9	625.9	625.9	625.9	625.9	625.9



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	441.8	441.8	441.8	441.8	441.8	441.8	441.8	441.8
2.5°	440.1	440.8	441.5	441.8	441.7	441.6	441.6	441.5
5°	437.8	438.6	439.5	439.9	439.7	439.5	439.3	439.1
7.5°	433.2	433.9	434.6	435.0	434.9	434.8	434.7	434.6
10°	428.9	429.7	430.4	430.7	430.6	430.4	430.2	430.1
12.5°	424.2	424.8	425.3	425.6	425.5	425.3	425.3	425.2
15°	415.8	416.5	417.2	417.3	416.7	416.2	415.7	415.2
17.5°	405.1	405.6	406.1	406.3	406.0	405.9	405.7	405.5
20°	397.3	397.6	397.9	398.0	397.7	397.5	397.2	397.0
22.5°	388.9	389.2	389.5	389.5	389.1	388.8	388.5	388.2
25°	375.1	375.2	375.3	375.2	375.0	374.7	374.5	374.2
27.5°	360.4	360.5	360.5	360.4	360.1	359.8	359.5	359.1
30°	350.3	350.3	350.3	349.9	349.4	348.8	348.2	347.6
32.5°	339.6	339.1	338.7	338.3	337.9	337.6	337.3	337.0
35°	322.3	321.8	321.2	320.8	320.4	319.9	319.5	319.1
37.5°	304.4	303.8	303.1	302.7	302.5	302.1	301.9	301.7
40°	292.7	292.0	291.3	290.8	290.5	290.2	289.8	289.5
42.5°	280.5	279.8	279.2	278.7	278.3	278.0	277.7	277.3
45°	262.4	261.4	260.3	259.7	259.2	258.8	258.4	258.0
47.5°	243.3	242.3	241.2	240.6	240.2	239.9	239.5	239.1
50°	230.6	229.7	228.8	228.0	227.6	227.1	226.6	226.0
52.5°	217.8	217.0	216.2	215.6	215.1	214.6	214.1	213.6
55°	198.4	197.4	196.5	195.8	195.4	194.9	194.5	194.1
57.5°	179.2	178.3	177.5	176.8	176.3	175.9	175.4	174.9
60°	165.7	164.9	164.1	163.5	163.1	162.7	162.2	161.8
62.5°	152.5	151.8	151.1	150.5	150.3	149.9	149.7	149.4
65°	133.1	132.5	131.8	131.3	131.1	130.8	130.5	130.3
67.5°	113.8	113.2	112.7	112.2	111.9	111.5	111.1	110.8
70°	101.4	100.8	100.2	99.7	99.3	98.9	98.4	98.0
72.5°	88.8	88.2	87.7	87.3	87.2	86.9	86.7	86.4
75°	70.6	70.1	69.7	69.4	69.1	68.9	68.6	68.4
77.5°	53.6	53.3	53.0	52.9	52.9	52.9	52.9	52.9
80°	42.7	42.6	42.6	42.6	42.6	42.6	42.6	42.6
82.5°	32.9	32.8	32.6	32.4	32.4	32.4	32.3	32.2
85°	18.7	18.5	18.3	18.3	18.3	18.3	18.3	18.3
87.5°	9.0	9.0	9.0	9.0	9.0	9.0	9.1	9.2
90°	12.0	12.4	12.8	13.1	13.4	13.5	13.8	13.9
92.5°	13.2	13.9	14.5	14.9	15.1	15.2	15.3	15.4
95°	15.9	16.6	17.3	17.7	17.7	17.7	17.7	17.7
97.5°	16.6	17.4	18.3	18.8	18.8	18.9	19.1	19.2
100°	17.0	17.9	18.7	19.1	19.2	19.3	19.4	19.6
102.5°	25.4	22.9	20.4	19.2	19.3	19.6	19.7	19.9
105°	65.2	47.0	28.7	19.6	19.8	20.1	20.2	20.5
107.5°	159.8	146.4	133.0	119.4	105.6	91.8	78.0	64.2
110°	202.9	199.5	196.1	186.9	172.2	157.4	142.7	127.8





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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	233.3	233.3	233.4	231.9	228.8	225.6	222.5	219.4
115°	269.0	270.0	271.1	271.7	272.1	272.6	273.0	273.5
117.5°	301.3	302.1	303.0	303.5	303.5	303.6	303.7	303.8
120°	322.5	323.3	324.2	324.6	324.6	324.6	324.6	324.6
122.5°	343.2	343.8	344.4	344.7	344.8	344.9	345.0	345.0
125°	372.4	372.6	372.8	373.1	373.2	373.5	373.7	373.9
127.5°	401.7	402.0	402.4	402.4	402.2	402.0	401.8	401.6
130°	419.3	419.7	420.1	420.3	420.0	419.9	419.6	419.5
132.5°	436.1	436.5	436.9	437.0	436.7	436.3	436.1	435.8
135°	461.5	461.8	462.0	462.0	461.8	461.5	461.1	460.8
137.5°	484.0	484.5	485.0	485.2	484.9	484.8	484.5	484.4
140°	498.4	498.8	499.2	499.3	499.1	498.9	498.7	498.5
142.5°	512.0	512.3	512.7	512.7	512.4	512.1	511.8	511.5
145°	531.0	531.2	531.4	531.5	531.5	531.5	531.5	531.5
147.5°	548.0	548.2	548.5	548.3	547.8	547.3	546.9	546.4
150°	558.4	558.6	558.8	558.8	558.5	558.2	557.8	557.6
152.5°	567.7	568.0	568.4	568.3	567.9	567.4	567.0	566.5
155°	580.4	581.0	581.5	581.4	580.8	580.2	579.6	578.9
157.5°	591.5	592.2	592.8	592.6	591.8	591.1	590.3	589.5
160°	597.9	598.4	599.1	599.0	598.3	597.6	596.9	596.1
162.5°	603.6	604.3	605.0	605.0	604.4	603.7	603.1	602.5
165°	611.3	612.1	612.9	613.0	612.3	611.6	610.8	610.1
167.5°	617.3	618.1	618.9	618.9	618.1	617.3	616.4	615.6
170°	620.6	621.4	622.2	622.2	621.4	620.6	619.8	618.9
172.5°	622.8	623.6	624.4	624.4	623.5	622.6	621.7	620.8
175°	625.5	626.2	627.0	626.9	626.1	625.3	624.4	623.5
177.5°	626.5	627.1	627.8	627.7	626.9	626.1	625.3	624.4
180°	625.9	625.9	625.9	625.9	625.9	625.9	625.9	625.9

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