

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: P331925-930

Luminaire Tested: **S123DIP-S560D585U930-4F0-1E-UDD-F**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P331925-930  
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-S560D585U930-4F0-1E-UDD-F  
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 560 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: 3800.4 lumens  
Efficiency: N/A  
Efficacy: 115.9 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: General Diffuse

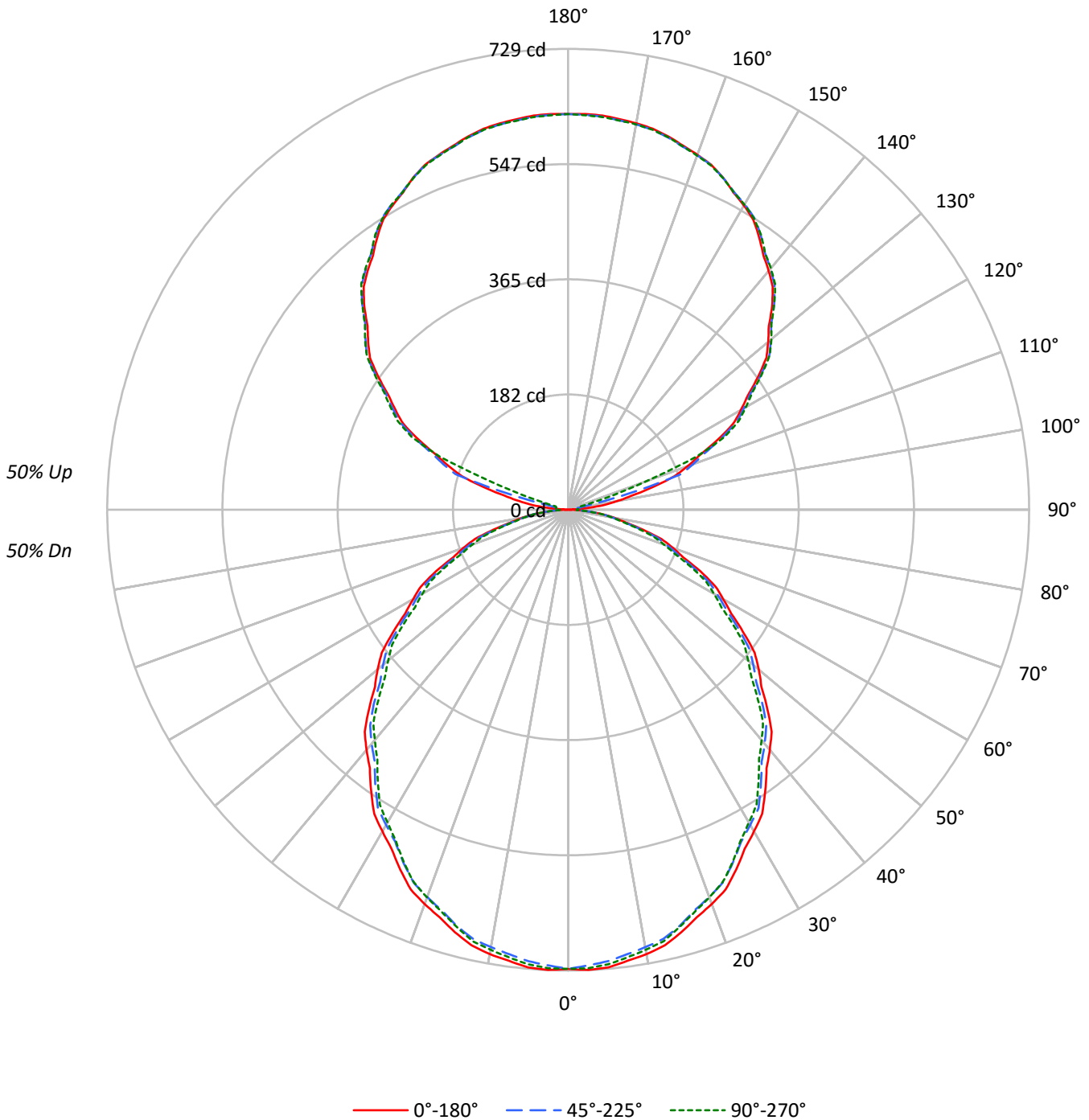
Input Watts (W): 32.8  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	56	56	56	50
1	98	93	89	86	90	86	83	80	73	70	68	61	59	57	49	48	47	42
2	89	81	75	70	82	75	70	65	64	60	56	53	50	48	43	41	40	35
3	81	72	64	58	74	66	60	55	56	51	47	47	43	40	38	36	34	30
4	74	63	55	49	68	59	52	46	50	45	40	42	38	35	34	31	29	25
5	68	56	48	42	62	52	45	40	45	39	35	38	33	30	31	28	25	22
6	63	51	42	37	58	47	40	34	40	35	30	34	30	26	28	25	22	19
7	58	46	38	32	53	42	35	30	36	31	27	31	26	23	26	22	20	17
8	54	41	34	28	49	39	32	27	33	28	24	28	24	21	23	20	18	15
9	50	38	30	25	46	35	29	24	30	25	21	26	22	19	22	18	16	14
10	47	35	27	23	43	32	26	21	28	23	19	24	20	17	20	17	15	13

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

	0°	45°	90°
0°	7819	7819	7819
5°	7854	7747	7800
10°	7803	7679	7726
15°	7710	7592	7608
20°	7605	7468	7475
25°	7462	7321	7305
30°	7305	7157	7102
35°	7139	6984	6893
40°	6968	6792	6687
45°	6779	6616	6454
50°	6589	6400	6223
55°	6341	6176	5988
60°	6090	5916	5726
65°	5871	5631	5456
70°	5542	5306	5070
75°	5065	4882	4675
80°	4568	4376	4339
85°	4001	3853	3705



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	68.4	1.8
10°-20°	193.2	5.1
20°-30°	285.4	7.5
30°-40°	333.3	8.8
40°-50°	335.1	8.8
50°-60°	294.4	7.7
60°-70°	219.3	5.8
70°-80°	124.9	3.3
80°-90°	37.6	1.0
90°-100°	22.8	0.6
100°-110°	108.4	2.9
110°-120°	260.5	6.9
120°-130°	331.7	8.7
130°-140°	354.4	9.3
140°-150°	331.4	8.7
150°-160°	267.4	7.0
160°-170°	172.6	4.5
170°-180°	59.5	1.6
0°-30°	547.0	14.4
0°-40°	880.3	23.2
0°-60°	1509.9	39.7
0°-90°	1891.7	49.8
90°-120°	391.7	10.3
90°-150°	1409.3	37.1
90°-180°	1909.0	50.2
0°-180°	3800.4	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	726	726	726	726	726	
5°	727	724	717	723	722	69
15°	692	689	681	686	683	195
25°	628	624	616	617	615	289
35°	543	539	532	528	525	340
45°	445	442	435	427	424	344
55°	338	337	329	322	319	303
65°	230	227	221	216	214	227
75°	122	119	117	114	112	130
85°	32	31	31	30	30	36
90°	0	5	11	13	14	3
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°	726.4	726.4	726.4	726.4	726.4	726.4	726.4	726.4	726.4	726.4	726.4
2.5°	728.8	728.4	728.0	727.5	727.1	726.2	725.0	723.7	722.6	721.4	722.4
5°	726.9	726.3	725.5	724.9	724.1	723.1	721.5	720.0	718.5	717.0	718.4
7.5°	719.8	719.2	718.4	717.8	717.1	715.9	714.4	712.7	711.2	709.6	710.9
10°	713.9	713.1	712.5	711.8	711.1	709.8	708.0	706.2	704.4	702.6	703.8
12.5°	705.9	705.2	704.7	704.1	703.5	702.4	700.7	699.0	697.3	695.6	696.5
15°	691.9	691.5	690.9	690.3	689.7	688.6	686.8	685.0	683.1	681.3	682.5
17.5°	675.9	675.1	674.4	673.7	672.9	671.7	669.9	668.1	666.3	664.5	665.3
20°	663.9	663.1	662.2	661.4	660.6	659.3	657.5	655.7	653.8	652.0	652.6
22.5°	650.4	649.5	648.7	647.9	647.0	645.7	643.9	642.1	640.3	638.5	639.0
25°	628.3	627.5	626.6	625.8	624.9	623.6	621.8	620.0	618.2	616.4	616.5
27.5°	604.7	603.9	603.1	602.3	601.4	600.1	598.1	596.2	594.3	592.3	592.4
30°	587.7	587.0	586.3	585.6	584.9	583.6	581.6	579.7	577.8	575.8	575.8
32.5°	570.7	569.8	568.8	567.9	567.0	565.8	564.4	562.8	561.3	559.9	559.1
35°	543.3	542.5	541.7	540.9	540.1	538.7	536.9	535.1	533.3	531.5	530.7
37.5°	515.4	514.3	513.2	512.2	511.1	509.7	507.8	506.1	504.2	502.4	501.4
40°	495.9	495.0	494.2	493.4	492.5	491.1	489.2	487.3	485.3	483.4	482.2
42.5°	476.4	475.5	474.5	473.5	472.6	471.2	469.2	467.3	465.4	463.4	462.3
45°	445.3	444.7	444.2	443.6	443.0	441.9	440.1	438.3	436.5	434.6	433.0
47.5°	414.4	413.6	412.9	412.1	411.2	409.9	408.3	406.6	404.9	403.2	401.5
50°	393.5	392.7	392.1	391.3	390.7	389.5	387.6	385.8	384.0	382.2	380.7
52.5°	371.5	371.0	370.6	370.1	369.6	368.4	366.5	364.6	362.6	360.8	359.5
55°	337.9	337.7	337.6	337.5	337.3	336.3	334.5	332.7	330.9	329.1	327.6
57.5°	305.9	305.4	304.9	304.5	304.0	303.0	301.6	300.2	298.7	297.3	296.0
60°	282.9	282.7	282.7	282.5	282.3	281.4	279.8	278.1	276.5	274.8	273.5
62.5°	262.4	262.0	261.7	261.4	261.0	260.0	258.3	256.7	254.9	253.3	252.1
65°	230.5	229.8	229.1	228.4	227.7	226.7	225.3	223.9	222.5	221.1	220.0
67.5°	196.6	196.0	195.3	194.8	194.1	193.3	192.2	191.2	190.1	189.1	188.2
70°	176.1	175.3	174.5	173.7	172.8	171.9	171.1	170.3	169.4	168.6	167.6
72.5°	154.7	154.0	153.4	152.8	152.2	151.4	150.5	149.5	148.5	147.7	146.8
75°	121.8	121.2	120.7	120.1	119.6	119.1	118.6	118.2	117.8	117.4	116.8
77.5°	92.7	92.4	92.0	91.8	91.5	91.1	90.6	90.1	89.5	89.0	88.6
80°	73.7	73.3	72.9	72.5	72.0	71.7	71.4	71.1	70.8	70.6	70.4
82.5°	55.2	55.1	55.0	55.0	54.9	54.8	54.8	54.7	54.6	54.6	54.3
85°	32.4	32.2	32.0	31.6	31.4	31.2	31.2	31.2	31.2	31.2	31.0
87.5°	13.0	13.0	12.8	12.7	12.6	12.6	12.7	12.9	13.0	13.2	13.2
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°	726.4	726.4	726.4	726.4	726.4	726.4	726.4	726.4
2.5°	723.6	724.6	725.8	726.3	726.2	726.0	725.9	725.9
5°	719.7	721.1	722.5	723.1	722.8	722.5	722.3	721.9
7.5°	712.1	713.3	714.6	715.1	714.9	714.8	714.6	714.4
10°	705.1	706.4	707.6	708.1	707.8	707.5	707.3	706.9
12.5°	697.4	698.4	699.3	699.6	699.4	699.3	699.1	699.0
15°	683.6	684.7	685.8	685.9	685.1	684.3	683.5	682.7
17.5°	666.1	666.8	667.6	667.8	667.6	667.2	666.9	666.6
20°	653.1	653.7	654.2	654.3	653.9	653.5	653.1	652.6
22.5°	639.4	639.8	640.3	640.3	639.8	639.2	638.7	638.1
25°	616.7	616.9	616.9	616.9	616.4	616.0	615.6	615.1
27.5°	592.6	592.6	592.7	592.6	592.0	591.5	590.9	590.4
30°	575.8	575.8	575.8	575.4	574.4	573.4	572.4	571.4
32.5°	558.3	557.5	556.7	556.0	555.5	555.1	554.5	554.0
35°	529.8	529.0	528.2	527.4	526.7	526.0	525.3	524.6
37.5°	500.3	499.4	498.4	497.7	497.3	496.8	496.4	495.9
40°	481.2	480.0	479.0	478.1	477.5	477.0	476.5	475.9
42.5°	461.2	460.1	458.9	458.1	457.5	457.1	456.5	455.9
45°	431.4	429.7	428.0	426.8	426.2	425.4	424.8	424.0
47.5°	399.9	398.3	396.6	395.5	394.9	394.3	393.7	393.1
50°	379.2	377.6	376.1	375.0	374.1	373.2	372.4	371.6
52.5°	358.2	356.9	355.6	354.4	353.6	352.8	352.0	351.1
55°	326.0	324.6	323.0	321.9	321.2	320.5	319.8	319.1
57.5°	294.6	293.2	291.9	290.7	289.9	289.2	288.4	287.6
60°	272.3	271.1	269.8	268.8	268.2	267.4	266.8	266.0
62.5°	250.8	249.6	248.3	247.4	247.0	246.5	246.1	245.6
65°	218.8	217.8	216.6	215.9	215.5	215.1	214.7	214.2
67.5°	187.2	186.2	185.2	184.4	183.8	183.3	182.7	182.1
70°	166.6	165.8	164.8	163.9	163.2	162.5	161.8	161.1
72.5°	145.9	145.0	144.2	143.6	143.2	142.8	142.5	142.1
75°	116.0	115.4	114.6	114.1	113.7	113.2	112.8	112.4
77.5°	88.1	87.6	87.2	86.9	86.9	86.9	86.9	86.9
80°	70.3	70.1	70.0	70.0	70.0	70.0	70.0	70.0
82.5°	54.1	53.8	53.6	53.4	53.3	53.2	53.1	53.0
85°	30.7	30.4	30.1	30.0	30.0	30.0	30.0	30.0
87.5°	13.2	13.1	13.1	13.1	13.1	13.2	13.2	13.3
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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