

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: P332280-935

Luminaire Tested: **S123RDIP-S560D585U935-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P332280-935  
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: S123RDIP-S560D585U935-4F0-1E-UDD-F1  
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 560 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED  
HOUSING  
UPLIGHT 585 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3571.1 lumens  
Efficiency: N/A  
Efficacy: 108.9 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.06 / 1.23  
Luminous Opening: Rectangular (W 0.25' x L: 4' x H: 0')  
CIE Type: General Diffuse

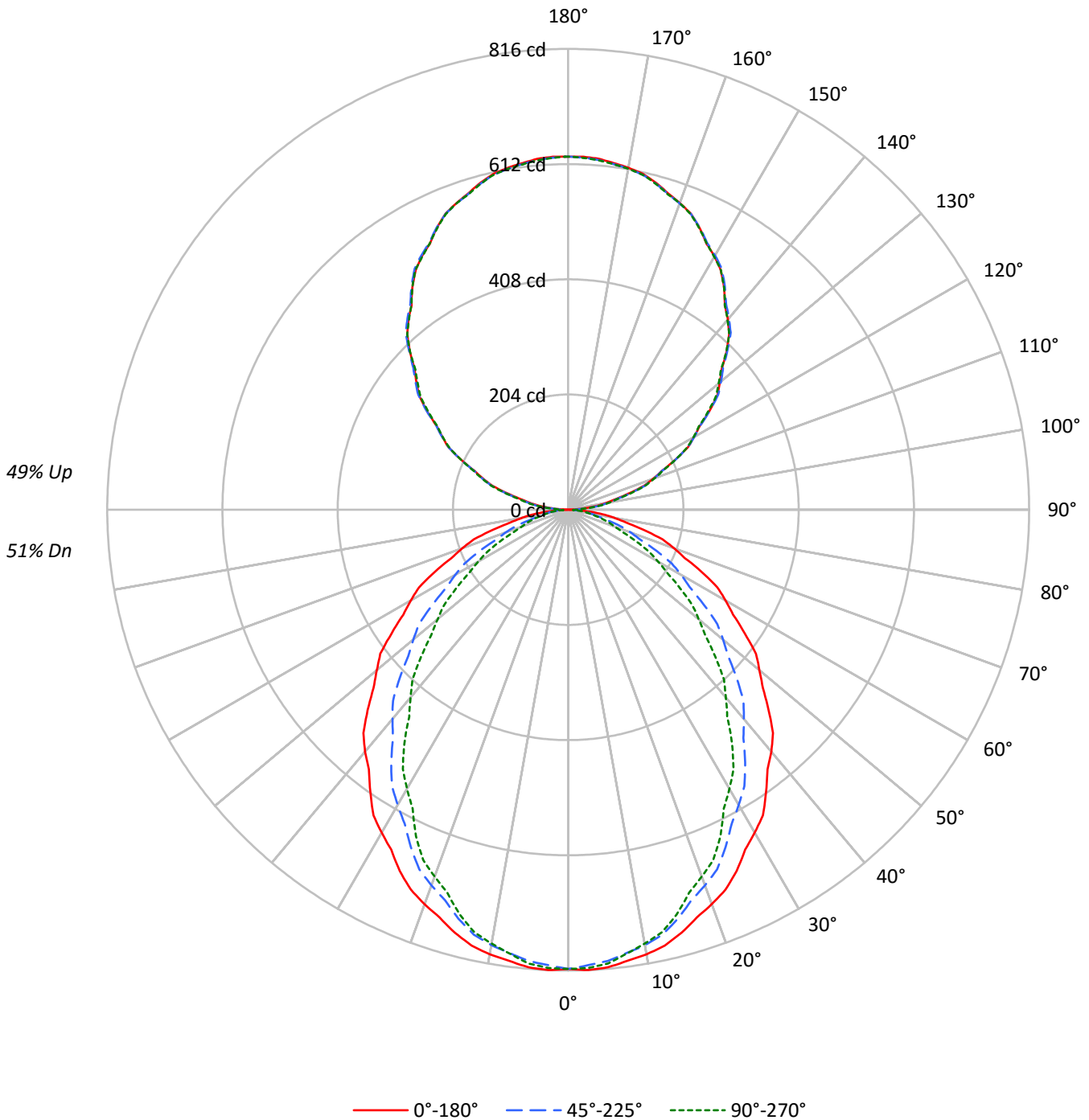
Input Watts (W): 32.8  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	107	107	107	107	99	99	99	99	84	84	84	70	70	70	57	57	57	51
1	98	94	90	87	91	87	84	81	74	72	70	62	61	59	51	50	49	44
2	90	83	77	72	83	77	72	67	65	62	58	55	52	50	46	44	42	37
3	82	73	66	60	76	68	61	56	58	53	49	49	46	43	41	38	36	32
4	75	65	57	51	69	60	53	48	52	47	42	44	40	37	37	34	31	28
5	69	58	50	44	64	54	47	42	46	41	37	40	35	32	33	30	27	24
6	64	52	44	38	59	49	41	36	42	36	32	36	32	28	30	27	24	21
7	59	47	39	34	55	44	37	32	38	33	28	33	28	25	28	24	22	19
8	55	43	35	30	51	40	33	28	35	29	25	30	26	22	25	22	20	17
9	51	39	32	27	47	37	30	25	32	27	23	28	23	20	23	20	18	16
10	48	36	29	24	44	34	27	23	30	24	21	26	21	18	22	19	16	14

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

	0°	45°	90°
0°	8753	8753	8753
5°	8787	8666	8715
10°	8737	8557	8528
15°	8643	8357	8269
20°	8514	8107	7918
25°	8381	7826	7574
30°	8206	7501	7091
35°	8025	7176	6646
40°	7859	6794	6097
45°	7640	6416	5602
50°	7400	5987	5047
55°	7156	5495	4530
60°	6928	4969	3961
65°	6635	4401	3393
70°	6266	3695	2738
75°	5731	2907	2578
80°	5114	2579	2368
85°	4323	2272	2112



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	76.4	2.1
10°-20°	212.5	5.9
20°-30°	305.9	8.6
30°-40°	344.6	9.7
40°-50°	329.7	9.2
50°-60°	270.0	7.6
60°-70°	182.2	5.1
70°-80°	91.6	2.6
80°-90°	26.1	0.7
90°-100°	40.7	1.1
100°-110°	121.9	3.4
110°-120°	207.3	5.8
120°-130°	272.7	7.6
130°-140°	306.5	8.6
140°-150°	301.3	8.4
150°-160°	253.7	7.1
160°-170°	168.9	4.7
170°-180°	59.1	1.7
0°-30°	594.8	16.7
0°-40°	939.4	26.3
0°-60°	1539.1	43.1
0°-90°	1839.0	51.5
90°-120°	370.0	10.4
90°-150°	1250.5	35.0
90°-180°	1732.0	48.5
0°-180°	3571.1	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	813	813	813	813	813	
5°	813	810	802	808	807	77
15°	776	768	750	747	742	218
25°	706	688	659	645	638	324
35°	611	586	546	519	506	382
45°	502	471	422	385	368	387
55°	381	348	293	256	241	342
65°	260	223	173	142	133	258
75°	138	106	70	64	62	147
85°	35	21	18	17	17	39
90°	0	5	12	14	15	4
95°	29	32	36	38	38	33
105°	110	112	116	116	117	118
115°	209	210	209	210	209	206
125°	306	307	306	304	302	272
135°	396	399	399	397	396	305
145°	481	482	483	483	481	300
155°	550	551	551	553	550	253
165°	600	598	598	601	598	169
175°	624	622	622	624	621	59
180°	625	625	625	625	625	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	813.2	813.2	813.2	813.2	813.2	813.2	813.2	813.2	813.2	813.2	813.2
2.5°	815.9	815.4	814.9	814.4	814.0	813.0	811.7	810.2	808.8	807.4	808.7
5°	813.2	812.5	811.8	811.1	810.3	809.1	807.3	805.6	803.7	802.0	803.3
7.5°	805.7	804.9	804.1	803.3	802.5	801.0	798.7	796.4	794.1	791.9	792.6
10°	799.4	798.3	797.3	796.3	795.3	793.4	790.8	788.2	785.5	782.9	783.0
12.5°	790.4	789.3	788.1	787.0	785.8	783.7	780.4	777.2	774.0	770.8	770.7
15°	775.6	774.0	772.4	770.8	769.2	766.3	762.2	758.1	754.0	749.9	749.2
17.5°	757.0	755.2	753.3	751.4	749.5	746.0	740.7	735.6	730.3	725.1	723.6
20°	743.3	741.0	738.7	736.2	733.9	730.0	724.4	718.8	713.3	707.7	705.8
22.5°	728.0	725.3	722.6	719.9	717.2	712.9	707.0	701.0	695.2	689.2	686.8
25°	705.7	702.1	698.4	694.7	691.0	685.9	679.1	672.4	665.6	658.9	655.8
27.5°	678.6	674.6	670.5	666.5	662.5	656.7	649.2	641.7	634.2	626.7	622.4
30°	660.2	655.8	651.4	647.0	642.7	636.3	628.1	619.9	611.7	603.5	598.5
32.5°	641.7	636.8	631.8	626.8	621.8	615.0	606.3	597.6	588.9	580.2	574.8
35°	610.7	605.5	600.2	595.0	589.6	582.5	573.3	564.3	555.2	546.1	539.8
37.5°	579.4	573.5	567.7	561.7	555.9	548.1	538.4	528.7	519.0	509.3	502.1
40°	559.3	552.8	546.4	539.9	533.5	525.0	514.7	504.3	493.9	483.5	475.8
42.5°	536.6	530.1	523.7	517.3	510.8	502.2	491.5	480.7	469.9	459.2	450.8
45°	501.9	495.3	488.7	482.2	475.5	466.6	455.3	444.0	432.7	421.5	413.1
47.5°	467.2	459.9	452.7	445.5	438.2	429.0	417.7	406.4	395.1	383.8	374.8
50°	441.9	435.0	428.1	421.2	414.3	404.9	393.0	381.3	369.4	357.5	348.4
52.5°	419.2	411.7	404.2	396.7	389.3	379.7	367.9	356.2	344.4	332.7	323.2
55°	381.3	374.0	366.9	359.6	352.5	342.7	330.2	317.8	305.3	292.8	284.3
57.5°	346.1	338.3	330.5	322.6	314.8	304.6	292.1	279.7	267.1	254.6	246.6
60°	321.8	313.8	305.7	297.6	289.6	279.5	267.3	255.2	243.0	230.8	222.9
62.5°	297.6	289.6	281.5	273.4	265.4	255.2	243.1	230.9	218.7	206.6	199.1
65°	260.5	252.4	244.4	236.3	228.3	218.5	207.1	195.7	184.3	172.8	165.7
67.5°	223.4	215.3	207.2	199.0	190.9	181.3	170.3	159.4	148.4	137.4	132.1
70°	199.1	191.2	183.4	175.5	167.6	158.4	148.2	137.9	127.7	117.4	112.3
72.5°	174.9	167.1	159.3	151.5	143.7	135.2	125.9	116.5	107.2	97.9	93.7
75°	137.8	130.8	123.8	116.8	109.7	102.1	94.1	86.0	78.0	69.9	68.4
77.5°	104.1	97.7	91.4	85.0	78.6	72.8	67.7	62.5	57.3	52.1	51.3
80°	82.5	76.5	70.4	64.4	58.4	53.9	50.8	47.7	44.6	41.6	41.1
82.5°	61.9	56.7	51.5	46.3	41.1	37.8	36.3	35.0	33.5	32.0	31.6
85°	35.0	31.8	28.5	25.3	22.0	20.2	19.8	19.4	18.9	18.4	18.2
87.5°	12.7	11.7	10.6	9.6	8.4	8.1	8.4	8.6	9.0	9.2	9.2
90°	0.5	1.5	2.7	3.8	4.8	6.1	7.5	9.0	10.3	11.8	12.2
92.5°	11.9	12.7	13.3	14.1	14.9	15.7	16.4	17.2	18.1	18.9	19.2
95°	29.0	29.7	30.5	31.3	32.0	32.9	33.8	34.6	35.5	36.3	36.8
97.5°	51.5	52.0	52.6	53.2	53.7	54.3	54.9	55.6	56.2	56.9	57.3
100°	66.8	67.4	68.1	68.8	69.4	70.0	70.5	71.1	71.6	72.2	72.5
102.5°	84.5	84.9	85.2	85.7	86.0	86.6	87.3	88.1	88.8	89.5	89.8
105°	110.5	110.7	110.9	111.2	111.4	111.9	113.0	113.9	114.9	115.9	115.9
107.5°	140.8	140.9	141.0	141.1	141.3	141.5	141.9	142.3	142.8	143.1	143.4
110°	159.6	159.8	160.1	160.2	160.5	160.7	160.9	161.2	161.4	161.6	162.0



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	179.3	179.3	179.5	179.6	179.8	179.9	179.9	179.9	180.0	180.0	180.6
115°	208.7	209.1	209.4	209.7	210.0	210.1	209.8	209.7	209.4	209.2	209.3
117.5°	238.4	238.6	238.8	239.0	239.3	239.2	238.9	238.7	238.4	238.1	238.1
120°	256.8	257.5	258.1	258.8	259.5	259.5	259.0	258.5	257.9	257.4	257.3
122.5°	276.1	276.6	277.1	277.5	278.0	278.1	277.8	277.6	277.2	277.0	276.7
125°	305.5	305.8	306.1	306.4	306.8	306.9	306.6	306.4	306.2	306.0	305.5
127.5°	332.6	333.3	334.0	334.7	335.4	335.6	335.4	335.1	334.8	334.7	334.1
130°	350.7	351.5	352.4	353.3	354.1	354.4	354.1	353.8	353.4	353.1	352.7
132.5°	368.7	369.6	370.5	371.3	372.2	372.6	372.3	372.0	371.8	371.6	371.0
135°	396.3	397.0	397.6	398.3	398.9	399.2	399.1	399.0	398.9	398.8	398.4
137.5°	421.9	422.4	422.9	423.5	424.0	424.5	424.7	425.0	425.3	425.6	425.2
140°	439.5	440.1	440.7	441.2	441.7	442.0	442.1	442.3	442.4	442.5	442.4
142.5°	455.6	456.2	456.8	457.3	457.8	458.2	458.4	458.6	458.8	459.0	458.9
145°	480.8	481.0	481.2	481.5	481.6	481.9	482.2	482.6	482.9	483.3	483.1
147.5°	502.8	503.2	503.6	503.9	504.4	504.7	505.1	505.3	505.7	505.9	505.9
150°	518.1	518.3	518.6	518.8	519.0	519.2	519.4	519.6	519.9	520.0	520.0
152.5°	530.7	531.0	531.3	531.6	531.9	532.1	532.3	532.4	532.5	532.6	532.8
155°	550.5	550.5	550.5	550.5	550.5	550.6	550.7	550.8	551.0	551.0	551.5
157.5°	567.4	567.3	567.1	567.1	566.9	566.9	567.0	567.1	567.1	567.2	567.7
160°	578.0	577.8	577.6	577.4	577.1	577.0	577.0	577.0	577.0	577.0	577.6
162.5°	587.5	587.1	586.9	586.5	586.3	586.2	586.3	586.3	586.4	586.5	587.0
165°	599.6	599.3	599.0	598.7	598.3	598.1	598.1	598.1	598.1	598.1	598.8
167.5°	609.3	608.9	608.5	608.0	607.6	607.4	607.5	607.6	607.7	607.8	608.5
170°	614.8	614.4	614.0	613.5	613.1	612.9	612.9	612.9	612.9	612.9	613.6
172.5°	619.1	618.7	618.3	617.9	617.4	617.3	617.3	617.3	617.3	617.3	617.9
175°	623.7	623.3	622.8	622.4	622.0	621.7	621.7	621.7	621.7	621.7	622.4
177.5°	625.6	625.3	624.9	624.5	624.1	624.0	624.0	624.0	624.0	624.0	624.5
180°	625.2	625.2	625.2	625.2	625.2	625.2	625.2	625.2	625.2	625.2	625.2



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	813.2	813.2	813.2	813.2	813.2	813.2	813.2	813.2
2.5°	810.0	811.3	812.6	813.1	812.9	812.6	812.4	812.2
5°	804.6	806.0	807.3	807.8	807.5	807.2	806.9	806.6
7.5°	793.3	794.0	794.8	794.9	794.4	793.9	793.4	792.9
10°	783.2	783.3	783.4	783.2	782.5	781.7	781.0	780.2
12.5°	770.6	770.5	770.4	769.9	769.0	768.2	767.4	766.5
15°	748.5	747.7	747.0	746.1	745.0	744.1	743.0	742.0
17.5°	722.0	720.5	718.8	717.4	715.8	714.3	712.7	711.3
20°	703.9	702.0	700.1	698.3	696.5	694.7	692.9	691.2
22.5°	684.5	682.1	679.8	677.7	676.1	674.4	672.8	671.1
25°	652.7	649.6	646.6	644.2	642.7	641.0	639.4	637.7
27.5°	618.1	613.9	609.6	606.2	603.7	601.3	598.8	596.3
30°	593.5	588.5	583.6	579.9	577.6	575.2	572.8	570.5
32.5°	569.4	563.9	558.4	554.5	552.1	549.6	547.1	544.7
35°	533.5	527.2	520.9	516.4	513.8	511.2	508.5	505.8
37.5°	495.0	487.8	480.7	475.5	472.3	469.0	465.7	462.4
40°	468.2	460.5	453.0	447.5	444.1	440.7	437.4	433.9
42.5°	442.6	434.2	425.9	420.2	417.2	414.1	411.1	408.1
45°	404.8	396.4	388.1	382.1	378.6	375.1	371.5	368.0
47.5°	365.7	356.6	347.5	341.4	338.3	335.1	332.0	328.8
50°	339.3	330.2	321.2	314.9	311.5	308.2	304.8	301.4
52.5°	313.8	304.4	294.9	288.7	285.7	282.7	279.7	276.6
55°	275.9	267.3	258.8	253.1	250.2	247.3	244.4	241.4
57.5°	238.5	230.5	222.5	217.2	214.7	212.2	209.7	207.2
60°	215.0	207.1	199.1	194.0	191.5	189.0	186.5	184.0
62.5°	191.7	184.3	176.8	171.8	169.2	166.5	163.9	161.4
65°	158.4	151.3	144.0	139.7	138.1	136.5	134.8	133.2
67.5°	126.7	121.3	116.0	112.4	110.7	109.0	107.3	105.6
70°	107.1	102.0	96.9	93.5	91.9	90.3	88.7	87.0
72.5°	89.5	85.3	81.1	78.7	78.0	77.3	76.6	75.9
75°	67.0	65.5	64.1	63.2	62.9	62.6	62.3	62.0
77.5°	50.5	49.8	48.9	48.4	48.1	47.8	47.5	47.2
80°	40.6	40.2	39.8	39.4	39.2	38.8	38.6	38.2
82.5°	31.2	30.7	30.3	30.0	30.0	30.0	29.9	29.8
85°	17.9	17.6	17.3	17.1	17.1	17.1	17.1	17.1
87.5°	9.1	9.1	9.1	9.0	9.0	8.9	8.8	8.8
90°	12.7	13.1	13.5	13.9	14.1	14.3	14.6	14.7
92.5°	19.5	19.9	20.2	20.4	20.2	20.1	20.0	19.8
95°	37.2	37.6	38.1	38.3	38.3	38.3	38.3	38.3
97.5°	57.9	58.4	58.9	59.1	59.1	59.0	59.0	58.9
100°	72.8	73.2	73.5	73.8	74.0	74.2	74.4	74.6
102.5°	90.1	90.5	90.7	90.9	90.9	90.8	90.8	90.7
105°	115.9	115.9	115.9	116.0	116.2	116.4	116.7	116.9
107.5°	143.8	144.1	144.5	144.6	144.5	144.4	144.2	144.1
110°	162.5	162.9	163.3	163.4	163.2	163.0	162.8	162.6





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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	181.1	181.6	182.1	182.4	182.4	182.3	182.3	182.2
115°	209.4	209.6	209.7	209.7	209.6	209.4	209.3	209.2
117.5°	238.1	238.0	238.0	237.8	237.5	237.2	236.9	236.6
120°	257.1	257.0	256.9	256.8	256.5	256.3	256.1	255.9
122.5°	276.4	276.1	275.9	275.5	275.3	274.9	274.7	274.3
125°	305.1	304.6	304.2	303.8	303.3	302.9	302.5	302.0
127.5°	333.4	332.8	332.2	331.7	331.1	330.6	330.1	329.6
130°	352.2	351.8	351.4	350.8	350.0	349.2	348.4	347.7
132.5°	370.5	370.0	369.5	368.9	368.3	367.7	367.1	366.5
135°	397.9	397.4	397.0	396.7	396.5	396.2	396.1	395.8
137.5°	424.6	424.2	423.8	423.4	422.9	422.5	422.1	421.6
140°	442.3	442.1	442.0	441.6	440.8	440.1	439.3	438.6
142.5°	458.7	458.7	458.6	458.2	457.6	457.0	456.4	455.8
145°	483.0	482.9	482.8	482.5	482.1	481.6	481.2	480.8
147.5°	505.9	505.9	505.9	505.6	505.0	504.3	503.7	503.0
150°	520.0	520.0	520.0	519.8	519.1	518.4	517.8	517.1
152.5°	533.0	533.2	533.4	533.1	532.6	532.0	531.5	530.9
155°	551.9	552.3	552.8	552.6	551.8	551.0	550.4	549.6
157.5°	568.2	568.6	569.0	568.9	568.3	567.7	567.1	566.5
160°	578.2	578.7	579.2	579.3	578.9	578.4	578.0	577.6
162.5°	587.5	588.1	588.7	588.6	587.9	587.2	586.5	585.8
165°	599.5	600.1	600.8	600.7	599.9	599.2	598.5	597.7
167.5°	609.2	609.8	610.5	610.5	609.8	609.2	608.5	607.8
170°	614.4	615.2	616.0	616.0	615.2	614.4	613.6	612.9
172.5°	618.5	619.2	619.9	619.9	619.1	618.4	617.6	616.8
175°	623.0	623.7	624.4	624.3	623.5	622.8	622.0	621.2
177.5°	625.1	625.6	626.1	626.0	625.4	624.8	624.2	623.6
180°	625.2	625.2	625.2	625.2	625.2	625.2	625.2	625.2

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