

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: P332551-930

Luminaire Tested: **S124DIP-S575D590U930-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P332551-930  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-10,  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: S124DIP-S575D590U930-4F0-1E-UDD-F1  
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 575 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
UPLIGHT 590 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3701.7 lumens  
Efficiency: N/A  
Efficacy: 112.9 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.17 / 1.3  
Luminous Opening: Rectangular (W 0.33' x L: 4' x H: 0')  
CIE Type: General Diffuse

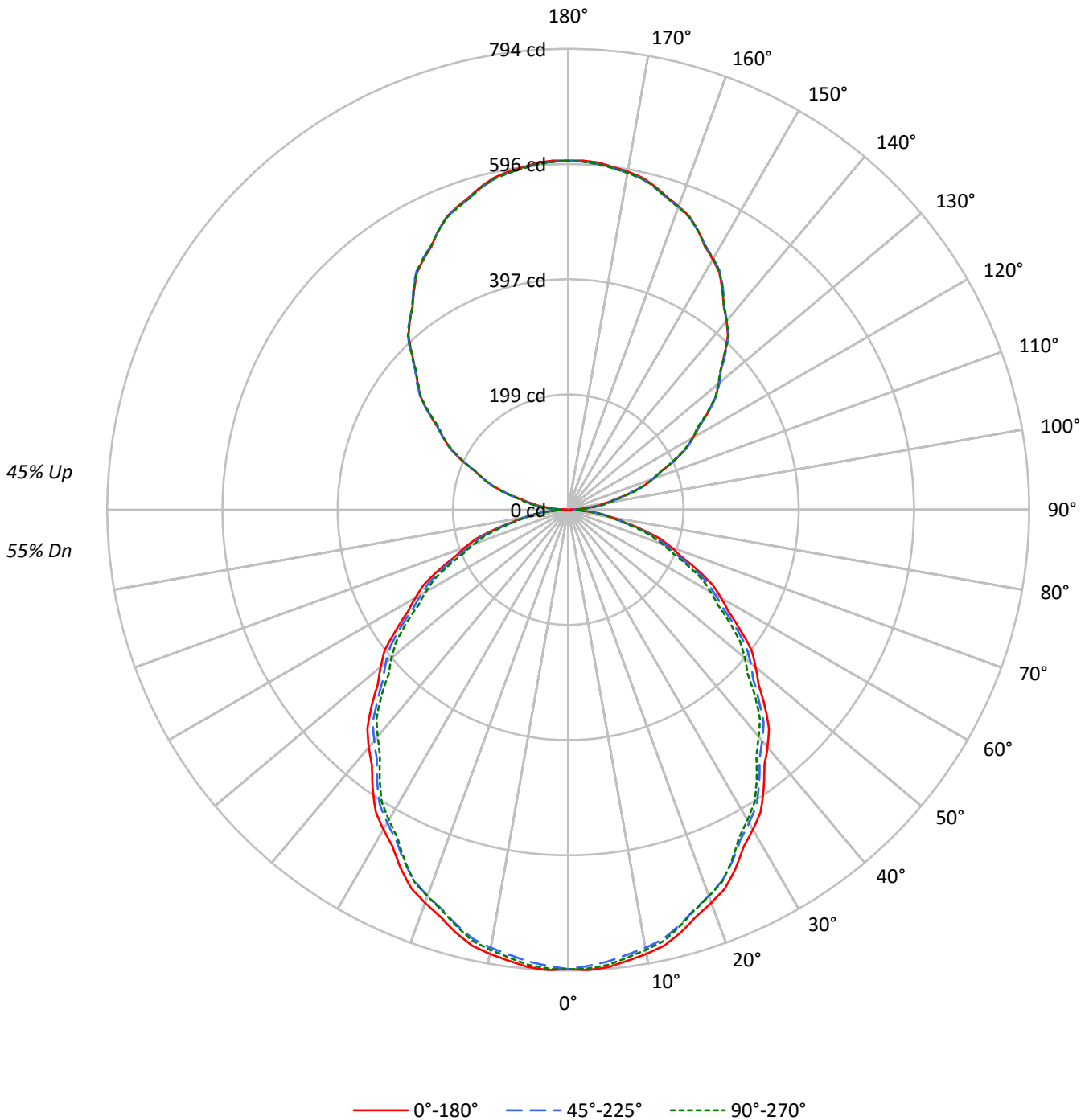
Input Watts (W): 32.8  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	108	108	108	108	101	101	101	101	86	86	86	73	73	73	61	61	61	55
1	99	94	91	87	92	88	84	81	75	73	71	64	62	61	54	52	51	46
2	90	82	76	71	83	77	71	67	66	62	58	56	53	51	47	45	43	39
3	82	73	65	59	76	68	61	56	58	53	49	50	46	43	42	39	37	33
4	75	64	56	50	69	60	53	47	52	46	42	44	40	37	37	34	32	28
5	69	57	49	43	64	53	46	41	46	41	36	40	35	32	34	30	28	24
6	64	51	43	37	59	48	41	35	42	36	32	36	31	28	31	27	24	21
7	59	46	38	33	54	43	36	31	38	32	28	33	28	25	28	24	22	19
8	55	42	34	29	51	40	32	28	35	29	25	30	25	22	26	22	19	17
9	51	39	31	26	47	36	29	25	32	26	22	28	23	20	24	20	17	15
10	48	35	28	23	44	33	27	22	29	24	20	26	21	18	22	18	16	14

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

	0°	45°	90°
0°	6391	6391	6391
5°	6412	6334	6380
10°	6370	6283	6314
15°	6294	6193	6209
20°	6192	6082	6088
25°	6075	5956	5940
30°	5931	5808	5754
35°	5784	5653	5577
40°	5630	5476	5376
45°	5469	5302	5200
50°	5291	5148	4987
55°	5098	4947	4787
60°	4907	4721	4579
65°	4690	4508	4327
70°	4447	4223	4057
75°	4077	3877	3780
80°	3626	3477	3394
85°	3168	3057	3001



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	74.6	2.0
10°-20°	210.1	5.7
20°-30°	309.2	8.4
30°-40°	359.5	9.7
40°-50°	359.5	9.7
50°-60°	314.5	8.5
60°-70°	233.5	6.3
70°-80°	132.7	3.6
80°-90°	40.1	1.1
90°-100°	39.7	1.1
100°-110°	117.5	3.2
110°-120°	199.4	5.4
120°-130°	262.9	7.1
130°-140°	295.3	8.0
140°-150°	290.2	7.8
150°-160°	244.0	6.6
160°-170°	162.4	4.4
170°-180°	56.9	1.5
0°-30°	593.9	16.0
0°-40°	953.4	25.8
0°-60°	1627.3	44.0
0°-90°	2033.6	54.9
90°-120°	356.5	9.6
90°-150°	1204.9	32.5
90°-180°	1668.0	45.1
0°-180°	3701.7	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	792	792	792	792	792	
5°	791	788	782	788	787	75
15°	753	750	741	744	743	212
25°	682	677	669	669	667	314
35°	587	582	574	569	566	367
45°	479	474	464	458	456	369
55°	362	360	352	344	340	324
65°	246	242	236	230	226	243
75°	131	128	124	122	121	139
85°	34	34	33	33	32	38
90°	1	6	10	13	14	4
95°	28	32	35	37	37	31
105°	108	109	111	112	114	115
115°	203	203	202	201	201	200
125°	295	295	295	294	293	263
135°	381	384	384	383	381	295
145°	463	464	465	464	463	289
155°	530	530	530	531	530	244
165°	577	576	575	577	576	163
175°	600	598	598	600	598	57
180°	601	601	601	601	601	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	791.7	791.7	791.7	791.7	791.7	791.7	791.7	791.7	791.7	791.7	791.7
2.5°	793.8	793.4	793.1	792.8	792.5	791.7	790.4	789.2	787.9	786.7	787.8
5°	791.2	790.6	790.0	789.5	788.9	787.8	786.3	784.7	783.2	781.6	783.2
7.5°	783.7	783.2	782.7	782.1	781.5	780.4	778.7	777.0	775.2	773.5	774.8
10°	777.1	776.7	776.1	775.5	774.9	773.7	771.9	770.1	768.3	766.4	767.5
12.5°	768.6	768.0	767.4	766.9	766.3	765.1	763.1	761.2	759.2	757.2	758.5
15°	753.1	752.5	752.0	751.4	750.8	749.5	747.4	745.3	743.1	741.0	741.8
17.5°	734.4	733.7	733.0	732.3	731.6	730.3	728.2	726.3	724.2	722.3	722.8
20°	720.7	720.0	719.3	718.6	717.9	716.5	714.4	712.2	710.1	708.0	708.4
22.5°	706.0	705.1	704.2	703.2	702.3	700.7	698.6	696.5	694.4	692.3	693.1
25°	682.0	681.0	680.0	679.1	678.1	676.6	674.6	672.6	670.7	668.7	668.9
27.5°	654.6	653.6	652.6	651.6	650.5	649.1	647.3	645.5	643.6	641.8	641.5
30°	636.3	635.2	634.1	632.9	631.9	630.3	628.5	626.6	624.8	623.1	622.5
32.5°	617.0	616.0	615.0	614.0	613.0	611.5	609.6	607.6	605.7	603.7	603.1
35°	586.9	585.9	584.9	583.9	582.9	581.4	579.4	577.5	575.5	573.6	572.5
37.5°	555.0	554.1	553.2	552.3	551.4	549.9	547.8	545.7	543.6	541.4	540.4
40°	534.2	533.0	531.9	530.8	529.7	528.1	525.9	523.8	521.7	519.6	518.2
42.5°	511.8	511.2	510.5	509.8	509.2	507.6	505.3	503.0	500.6	498.3	496.7
45°	479.0	478.0	477.0	476.1	475.1	473.4	471.2	468.9	466.7	464.4	462.8
47.5°	444.6	443.9	443.3	442.5	441.9	440.5	438.5	436.3	434.2	432.2	430.4
50°	421.3	420.7	420.1	419.6	419.0	417.8	415.8	413.8	411.8	409.9	407.9
52.5°	398.4	397.8	397.1	396.4	395.7	394.4	392.2	390.2	388.1	386.0	384.3
55°	362.2	361.8	361.4	361.0	360.6	359.4	357.4	355.4	353.4	351.5	349.8
57.5°	327.8	327.3	326.8	326.3	325.8	324.7	322.7	320.7	318.8	316.8	315.2
60°	303.9	303.2	302.5	301.7	301.1	299.8	298.0	296.1	294.3	292.4	291.2
62.5°	280.5	280.0	279.3	278.8	278.2	276.9	275.0	273.0	271.1	269.1	268.0
65°	245.5	244.8	244.1	243.4	242.7	241.7	240.3	238.8	237.4	236.0	234.6
67.5°	210.3	209.6	209.0	208.3	207.7	206.7	205.3	204.0	202.6	201.2	199.9
70°	188.4	187.4	186.5	185.5	184.5	183.4	182.3	181.2	180.0	178.9	177.8
72.5°	165.1	164.1	163.1	162.1	161.1	160.2	159.3	158.4	157.5	156.5	155.6
75°	130.7	130.0	129.3	128.6	127.8	127.2	126.5	125.7	125.1	124.3	123.8
77.5°	97.8	97.5	97.2	96.9	96.6	96.1	95.5	94.9	94.2	93.7	93.4
80°	78.0	77.6	77.2	76.8	76.3	76.0	75.7	75.4	75.2	74.8	74.6
82.5°	58.8	58.5	58.4	58.1	58.0	57.8	57.8	57.7	57.6	57.6	57.4
85°	34.2	34.2	34.2	34.2	34.2	34.1	33.8	33.6	33.3	33.0	33.0
87.5°	13.5	13.6	13.7	13.8	13.9	14.0	14.1	14.1	14.2	14.3	14.3
90°	1.4	2.5	3.7	4.8	6.0	6.9	7.7	8.6	9.4	10.2	10.8
92.5°	9.9	11.3	12.6	13.9	15.2	16.1	16.7	17.3	17.9	18.4	18.8
95°	27.9	28.9	29.8	30.7	31.6	32.4	33.2	33.9	34.7	35.3	35.6
97.5°	48.8	49.5	50.2	51.0	51.7	52.5	53.3	54.2	55.0	55.9	56.3
100°	65.1	65.6	66.0	66.4	66.8	67.4	68.3	69.3	70.2	71.2	71.3
102.5°	82.2	82.3	82.5	82.7	82.8	83.4	84.2	85.0	85.9	86.7	87.1
105°	108.4	108.4	108.5	108.7	108.8	109.0	109.4	109.8	110.2	110.6	111.0
107.5°	135.7	135.9	136.0	136.2	136.3	136.4	136.4	136.5	136.6	136.6	136.9
110°	154.4	154.6	154.8	155.0	155.2	155.2	155.2	155.1	155.0	154.8	154.7



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	173.7	173.7	173.8	173.8	173.9	173.8	173.7	173.4	173.3	173.1	173.0
115°	202.8	202.8	202.8	202.8	202.8	202.6	202.4	202.2	202.0	201.8	201.7
117.5°	230.1	230.2	230.2	230.3	230.4	230.4	230.2	230.1	229.9	229.8	229.4
120°	248.3	248.7	249.2	249.6	250.0	250.1	249.7	249.4	249.1	248.7	248.3
122.5°	267.3	267.4	267.6	267.7	267.9	268.0	267.8	267.7	267.5	267.4	267.0
125°	295.3	295.3	295.3	295.3	295.3	295.2	295.1	295.1	294.9	294.8	294.6
127.5°	320.7	321.0	321.3	321.6	321.9	322.0	321.8	321.6	321.5	321.3	321.1
130°	338.5	338.8	339.2	339.5	339.7	339.9	339.9	339.9	339.9	339.9	339.7
132.5°	356.8	357.0	357.2	357.4	357.7	357.8	357.7	357.6	357.5	357.4	357.2
135°	380.8	381.5	382.0	382.7	383.4	383.6	383.6	383.6	383.6	383.6	383.4
137.5°	407.1	407.3	407.6	407.9	408.2	408.5	408.6	408.8	409.0	409.1	408.9
140°	424.5	424.8	424.9	425.2	425.3	425.5	425.5	425.5	425.5	425.5	425.3
142.5°	440.5	440.8	441.0	441.2	441.4	441.4	441.3	441.2	441.2	441.1	441.1
145°	462.7	463.1	463.5	463.9	464.3	464.6	464.7	464.8	464.9	465.0	464.9
147.5°	484.6	485.1	485.6	486.1	486.7	486.8	486.7	486.7	486.6	486.5	486.4
150°	498.0	498.5	498.9	499.3	499.7	499.9	499.9	499.9	499.9	499.9	499.9
152.5°	510.7	510.9	511.2	511.4	511.7	511.8	511.9	512.0	512.1	512.2	512.4
155°	530.1	530.1	530.1	530.1	530.1	530.0	529.9	529.9	529.8	529.6	530.0
157.5°	546.5	546.3	546.1	545.9	545.8	545.6	545.6	545.6	545.6	545.5	545.8
160°	556.1	556.0	556.0	555.9	555.7	555.6	555.5	555.5	555.3	555.2	555.5
162.5°	565.1	564.8	564.5	564.3	564.0	563.8	563.7	563.6	563.5	563.4	563.9
165°	577.1	576.7	576.4	576.2	575.8	575.6	575.4	575.2	574.9	574.8	575.4
167.5°	586.3	585.9	585.4	585.0	584.6	584.3	584.3	584.4	584.4	584.4	585.1
170°	591.5	591.0	590.4	590.0	589.4	589.2	589.3	589.4	589.5	589.6	590.3
172.5°	595.2	594.8	594.4	593.9	593.5	593.3	593.3	593.3	593.3	593.4	594.0
175°	600.3	599.8	599.3	598.8	598.3	597.9	597.9	597.8	597.6	597.5	598.3
177.5°	602.0	601.6	601.2	600.8	600.3	600.1	600.1	600.1	600.1	600.1	600.7
180°	601.3	601.3	601.3	601.3	601.3	601.3	601.3	601.3	601.3	601.3	601.3



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	791.7	791.7	791.7	791.7	791.7	791.7	791.7	791.7
2.5°	789.0	790.1	791.2	791.7	791.6	791.5	791.4	791.2
5°	784.7	786.3	787.8	788.5	788.1	787.9	787.6	787.3
7.5°	776.0	777.2	778.4	779.0	778.9	778.7	778.5	778.3
10°	768.7	769.8	770.9	771.4	771.0	770.8	770.5	770.2
12.5°	759.8	761.0	762.2	762.6	762.2	761.8	761.5	761.1
15°	742.7	743.6	744.4	744.6	744.2	743.8	743.3	742.9
17.5°	723.3	723.8	724.4	724.5	724.2	723.9	723.7	723.4
20°	708.9	709.3	709.7	709.8	709.5	709.2	709.0	708.7
22.5°	693.8	694.6	695.4	695.5	695.0	694.5	694.0	693.4
25°	669.0	669.1	669.3	669.0	668.5	667.9	667.3	666.8
27.5°	641.2	640.7	640.4	639.9	639.2	638.5	637.8	637.1
30°	621.9	621.3	620.8	620.1	619.4	618.7	618.0	617.3
32.5°	602.3	601.7	601.0	600.3	599.7	598.9	598.2	597.5
35°	571.5	570.5	569.6	568.8	568.0	567.3	566.6	565.9
37.5°	539.3	538.2	537.1	536.1	535.2	534.3	533.4	532.4
40°	516.8	515.4	514.0	512.9	512.2	511.5	510.8	510.1
42.5°	495.0	493.3	491.7	490.6	490.2	489.8	489.3	488.8
45°	461.3	459.7	458.2	457.2	456.8	456.4	455.9	455.5
47.5°	428.7	426.9	425.2	423.8	422.7	421.6	420.5	419.5
50°	405.9	403.9	401.9	400.6	399.7	398.8	398.0	397.1
52.5°	382.5	380.7	379.0	377.6	376.5	375.4	374.4	373.3
55°	348.1	346.4	344.7	343.4	342.6	341.8	340.9	340.1
57.5°	313.6	312.0	310.4	309.2	308.3	307.5	306.7	305.9
60°	289.9	288.7	287.4	286.4	285.7	285.0	284.3	283.6
62.5°	266.8	265.6	264.5	263.6	262.9	262.2	261.5	260.7
65°	233.2	231.8	230.4	229.3	228.6	227.9	227.2	226.5
67.5°	198.5	197.2	195.8	195.0	194.9	194.7	194.4	194.3
70°	176.7	175.5	174.4	173.7	173.2	172.8	172.4	171.9
72.5°	154.7	153.8	153.0	152.3	151.9	151.5	151.1	150.6
75°	123.2	122.6	122.1	121.7	121.6	121.5	121.3	121.2
77.5°	93.3	93.1	92.9	92.7	92.3	92.0	91.6	91.2
80°	74.3	74.0	73.7	73.5	73.4	73.2	73.1	73.0
82.5°	57.2	57.1	56.9	56.7	56.7	56.5	56.3	56.2
85°	33.0	33.0	33.0	32.9	32.8	32.6	32.5	32.4
87.5°	14.5	14.6	14.8	14.8	14.8	14.9	14.9	15.0
90°	11.5	12.1	12.7	13.1	13.4	13.5	13.8	13.9
92.5°	19.2	19.6	19.9	20.1	20.3	20.4	20.5	20.6
95°	36.0	36.3	36.6	36.8	36.8	36.8	36.8	36.8
97.5°	56.7	57.0	57.4	57.6	57.6	57.6	57.6	57.6
100°	71.6	71.7	72.0	72.1	72.1	72.1	72.1	72.1
102.5°	87.3	87.6	87.9	88.1	88.2	88.3	88.4	88.5
105°	111.3	111.6	111.9	112.2	112.5	112.8	113.2	113.5
107.5°	137.2	137.5	137.8	137.9	137.9	137.9	137.9	137.9
110°	154.4	154.3	154.0	154.1	154.4	154.7	155.0	155.3





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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	173.0	172.9	172.9	172.9	173.0	173.0	173.1	173.2
115°	201.6	201.5	201.4	201.3	201.2	201.1	201.0	200.9
117.5°	229.1	228.8	228.4	228.1	227.9	227.7	227.5	227.3
120°	247.8	247.2	246.7	246.5	246.8	247.0	247.2	247.4
122.5°	266.7	266.4	266.0	265.6	265.2	264.9	264.5	264.2
125°	294.4	294.2	294.0	293.8	293.6	293.3	293.2	292.9
127.5°	320.9	320.7	320.5	320.3	320.2	320.0	319.8	319.7
130°	339.5	339.3	339.1	338.8	338.3	337.9	337.5	337.1
132.5°	357.0	356.8	356.6	356.4	356.2	356.0	355.9	355.7
135°	383.2	383.0	382.8	382.5	382.2	381.9	381.6	381.3
137.5°	408.5	408.3	408.1	407.9	408.0	408.1	408.1	408.2
140°	425.3	425.2	425.1	424.9	424.9	424.8	424.7	424.5
142.5°	441.1	441.1	441.0	441.0	441.0	441.0	440.9	440.9
145°	464.8	464.7	464.6	464.4	464.1	463.7	463.4	463.2
147.5°	486.3	486.2	486.2	486.1	486.0	485.8	485.8	485.7
150°	499.9	499.9	499.9	499.9	499.7	499.6	499.5	499.5
152.5°	512.7	512.9	513.1	513.1	512.9	512.6	512.3	512.1
155°	530.4	530.8	531.3	531.3	530.8	530.4	530.0	529.6
157.5°	546.2	546.5	546.8	546.7	546.4	546.1	545.7	545.4
160°	555.9	556.1	556.4	556.4	555.9	555.3	554.8	554.3
162.5°	564.5	565.1	565.7	565.7	565.2	564.6	564.1	563.6
165°	576.0	576.6	577.2	577.3	576.9	576.5	576.1	575.7
167.5°	585.6	586.3	586.9	586.9	586.3	585.6	585.0	584.3
170°	590.8	591.5	592.1	592.1	591.3	590.6	589.9	589.1
172.5°	594.8	595.5	596.1	596.1	595.4	594.7	593.9	593.3
175°	599.0	599.7	600.4	600.4	599.7	599.0	598.3	597.5
177.5°	601.3	601.9	602.4	602.4	601.8	601.1	600.4	599.7
180°	601.3	601.3	601.3	601.3	601.3	601.3	601.3	601.3

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