

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: P332732-927

Luminaire Tested: **S124DIW-S350D1050U927-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332732-927
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: S124DIW-S350D1050U927-4F0-1E-UDD-F1
Description: DEFINE 4 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 350 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
UPLIGHT 1050 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4082.9 lumens
Efficiency: N/A
Efficacy: 107.4 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: Semi-Indirect

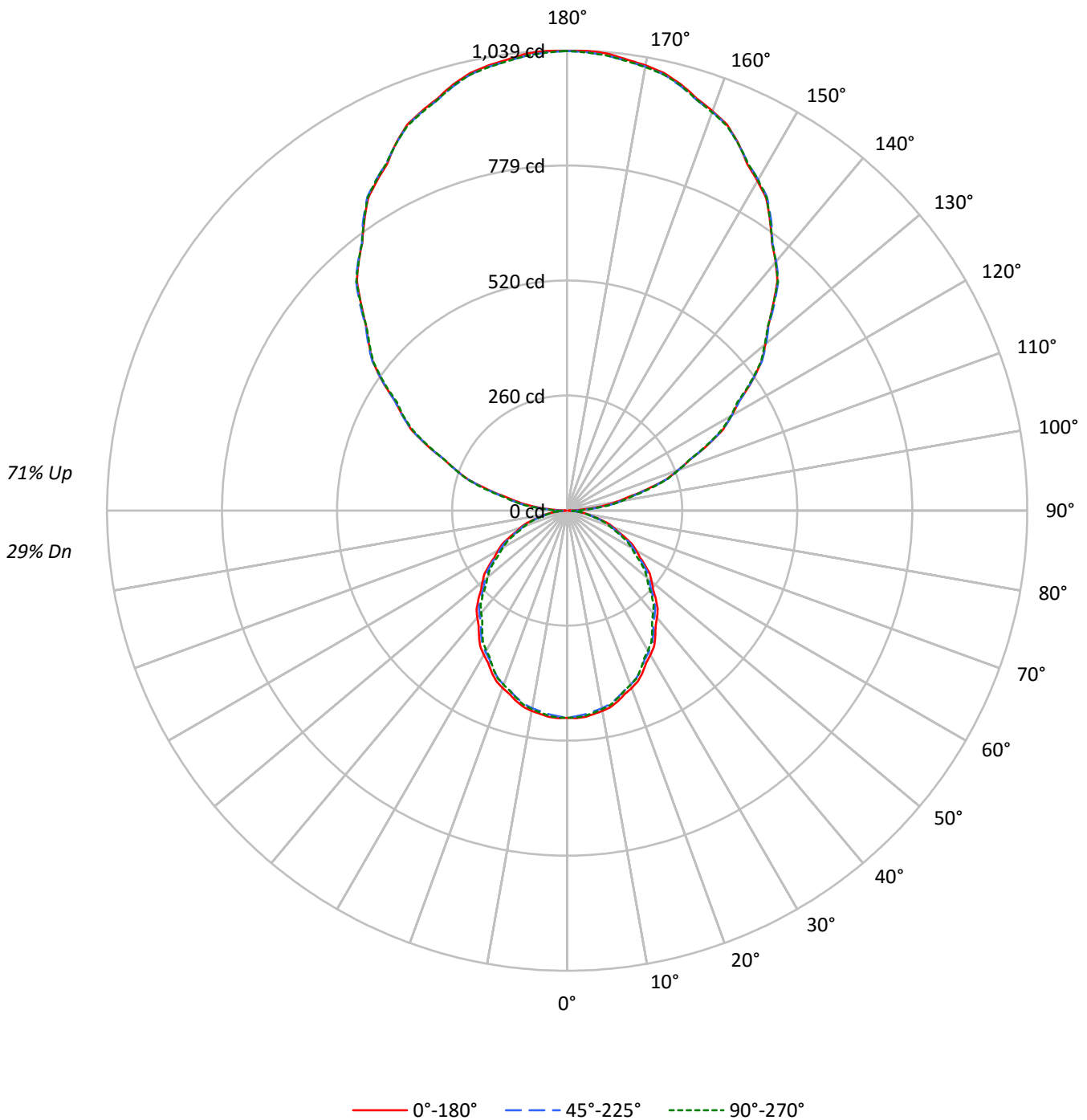
Input Watts (W): 38
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	50	30	10	0	
RCR																						
0	102	102	102	102	92	92	92	92	72	72	72	54	54	54	37	37	37	29				
1	93	89	85	82	83	80	77	74	63	61	59	47	46	45	33	32	31	25				
2	85	78	72	67	76	70	65	61	55	52	49	41	39	37	29	28	26	21				
3	77	68	61	55	69	61	55	50	48	44	41	37	34	31	26	24	22	18				
4	71	60	53	47	63	54	48	43	43	38	35	33	29	27	23	21	19	15				
5	65	53	46	40	58	48	42	36	38	33	30	29	26	23	21	18	17	13				
6	59	48	40	34	53	43	36	32	34	30	26	26	23	20	19	16	15	11				
7	55	43	35	30	49	39	32	28	31	26	23	24	20	18	17	15	13	10				
8	51	39	31	26	45	35	29	24	28	23	20	22	18	16	16	13	12	9				
9	47	35	28	23	42	32	26	21	26	21	18	20	17	14	14	12	11	8				
10	44	32	25	21	39	29	23	19	24	19	16	18	15	13	13	11	10	7				

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	3777	3777	3777
5°	3789	3743	3771
10°	3765	3713	3731
15°	3719	3661	3670
20°	3660	3594	3598
25°	3591	3520	3510
30°	3506	3432	3402
35°	3418	3341	3297
40°	3327	3236	3177
45°	3232	3134	3075
50°	3127	3042	2948
55°	3013	2923	2829
60°	2900	2792	2706
65°	2772	2665	2558
70°	2629	2497	2398
75°	2408	2293	2233
80°	2143	2060	2004
85°	1880	1806	1769



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	44.1	1.1
10°-20°	124.2	3.0
20°-30°	182.8	4.5
30°-40°	212.5	5.2
40°-50°	212.5	5.2
50°-60°	185.9	4.6
60°-70°	138.0	3.4
70°-80°	78.4	1.9
80°-90°	25.7	0.6
90°-100°	68.4	1.7
100°-110°	202.7	5.0
110°-120°	344.1	8.4
120°-130°	453.7	11.1
130°-140°	509.6	12.5
140°-150°	500.8	12.3
150°-160°	421.2	10.3
160°-170°	280.2	6.9
170°-180°	98.1	2.4
0°-30°	351.0	8.6
0°-40°	563.5	13.8
0°-60°	961.8	23.6
0°-90°	1204.0	29.5
90°-120°	615.3	15.1
90°-150°	2079.4	50.9
90°-180°	2879.0	70.5
0°-180°	4082.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	468	468	468	468	468	
5°	468	466	462	466	465	44
15°	445	443	438	440	439	125
25°	403	400	395	396	394	185
35°	347	344	339	336	334	217
45°	283	280	274	270	269	218
55°	214	213	208	203	201	192
65°	145	143	140	136	134	144
75°	77	75	74	72	72	82
85°	20	20	20	20	19	22
90°	2	11	18	22	24	4
95°	48	55	61	63	63	54
105°	187	188	191	193	196	198
115°	350	350	348	348	347	345
125°	510	510	509	507	506	454
135°	657	662	662	660	658	508
145°	798	802	802	802	799	500
155°	915	915	914	917	914	421
165°	996	994	992	996	994	281
175°	1036	1032	1031	1036	1031	98
180°	1038	1038	1038	1038	1038	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	467.9	467.9	467.9	467.9	467.9	467.9	467.9	467.9	467.9	467.9	467.9
2.5°	469.1	469.0	468.7	468.6	468.3	467.9	467.1	466.4	465.7	464.9	465.6
5°	467.5	467.2	466.9	466.6	466.3	465.6	464.7	463.8	462.9	461.9	462.9
7.5°	463.3	462.9	462.6	462.2	461.9	461.2	460.2	459.2	458.2	457.2	457.9
10°	459.3	459.0	458.7	458.4	458.0	457.3	456.2	455.1	454.1	453.0	453.6
12.5°	454.2	453.9	453.6	453.2	452.9	452.2	451.0	449.9	448.7	447.6	448.3
15°	445.0	444.7	444.4	444.1	443.8	443.0	441.7	440.5	439.2	438.0	438.5
17.5°	434.0	433.6	433.2	432.8	432.4	431.6	430.4	429.2	428.0	426.8	427.1
20°	426.0	425.6	425.2	424.7	424.3	423.5	422.2	421.0	419.7	418.4	418.7
22.5°	417.2	416.7	416.1	415.6	415.0	414.2	412.9	411.7	410.4	409.2	409.6
25°	403.1	402.5	402.0	401.3	400.8	399.9	398.7	397.5	396.4	395.2	395.3
27.5°	386.9	386.3	385.7	385.1	384.5	383.7	382.5	381.5	380.4	379.3	379.1
30°	376.1	375.4	374.8	374.1	373.4	372.6	371.5	370.3	369.3	368.2	367.9
32.5°	364.7	364.1	363.5	362.9	362.3	361.4	360.3	359.1	358.0	356.8	356.4
35°	346.8	346.3	345.7	345.1	344.5	343.6	342.5	341.3	340.2	339.0	338.4
37.5°	328.0	327.5	326.9	326.5	325.9	325.0	323.8	322.5	321.2	320.0	319.3
40°	315.7	315.1	314.4	313.7	313.1	312.1	310.9	309.6	308.3	307.1	306.3
42.5°	302.5	302.1	301.7	301.3	301.0	300.0	298.7	297.2	295.9	294.5	293.5
45°	283.1	282.5	281.9	281.4	280.7	279.8	278.5	277.1	275.8	274.5	273.5
47.5°	262.8	262.4	262.0	261.6	261.2	260.4	259.1	257.9	256.7	255.4	254.4
50°	249.0	248.7	248.3	248.0	247.6	246.9	245.7	244.5	243.4	242.2	241.1
52.5°	235.5	235.0	234.6	234.2	233.9	233.1	231.8	230.6	229.3	228.1	227.1
55°	214.1	213.9	213.6	213.3	213.1	212.4	211.2	210.1	208.9	207.7	206.8
57.5°	193.7	193.5	193.1	192.9	192.6	191.9	190.7	189.6	188.4	187.3	186.3
60°	179.6	179.2	178.8	178.3	177.9	177.2	176.1	175.0	174.0	172.9	172.1
62.5°	165.8	165.5	165.1	164.8	164.4	163.7	162.5	161.4	160.2	159.1	158.4
65°	145.1	144.7	144.3	143.9	143.5	142.8	142.0	141.2	140.3	139.5	138.6
67.5°	124.3	123.9	123.5	123.1	122.7	122.2	121.4	120.6	119.8	118.9	118.1
70°	111.4	110.7	110.2	109.6	109.0	108.4	107.7	107.1	106.4	105.8	105.0
72.5°	97.6	97.0	96.4	95.9	95.2	94.7	94.1	93.6	93.1	92.5	92.0
75°	77.2	76.8	76.4	76.0	75.6	75.2	74.8	74.3	73.9	73.5	73.2
77.5°	57.8	57.7	57.4	57.3	57.1	56.8	56.5	56.1	55.7	55.4	55.2
80°	46.1	45.9	45.6	45.4	45.2	44.9	44.8	44.6	44.4	44.3	44.0
82.5°	34.7	34.6	34.5	34.4	34.2	34.1	34.1	34.1	34.1	34.1	34.0
85°	20.3	20.3	20.3	20.3	20.3	20.2	20.0	19.8	19.6	19.5	19.5
87.5°	8.3	8.6	9.0	9.3	9.6	9.8	10.1	10.3	10.5	10.7	10.9
90°	2.4	4.4	6.3	8.3	10.2	12.0	13.4	14.8	16.2	17.7	18.7
92.5°	17.2	19.4	21.7	23.9	26.1	27.8	28.8	29.8	30.8	31.8	32.4
95°	48.2	49.7	51.3	53.0	54.6	56.0	57.3	58.5	59.7	61.0	61.6
97.5°	84.1	85.4	86.7	87.9	89.3	90.6	92.1	93.6	95.0	96.5	97.1
100°	112.3	113.0	113.8	114.5	115.2	116.4	118.0	119.5	121.2	122.8	123.1
102.5°	141.9	142.2	142.4	142.8	143.0	143.9	145.4	146.8	148.3	149.7	150.3
105°	187.0	187.2	187.4	187.5	187.7	188.1	188.9	189.6	190.3	191.0	191.5
107.5°	234.3	234.6	234.7	235.0	235.2	235.4	235.4	235.6	235.7	235.8	236.3
110°	266.4	266.8	267.1	267.5	267.8	267.9	267.8	267.6	267.4	267.2	266.9



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	299.8	299.9	300.0	300.0	300.1	300.0	299.7	299.4	299.0	298.7	298.7
115°	349.9	349.9	349.9	349.9	349.9	349.7	349.4	349.0	348.6	348.3	348.1
117.5°	397.1	397.2	397.4	397.5	397.7	397.6	397.4	397.1	396.9	396.6	396.0
120°	428.6	429.3	430.0	430.7	431.4	431.5	430.9	430.4	429.9	429.4	428.5
122.5°	461.3	461.6	461.8	462.2	462.4	462.5	462.2	461.9	461.7	461.4	460.8
125°	509.6	509.6	509.6	509.6	509.6	509.5	509.3	509.1	509.0	508.8	508.4
127.5°	553.4	554.0	554.4	555.0	555.6	555.7	555.4	555.1	554.8	554.5	554.2
130°	584.2	584.8	585.3	585.8	586.4	586.6	586.6	586.6	586.6	586.6	586.3
132.5°	615.7	616.1	616.5	616.9	617.3	617.3	617.3	617.1	617.0	616.8	616.5
135°	657.3	658.3	659.4	660.4	661.6	662.1	662.1	662.1	662.1	662.1	661.7
137.5°	702.5	703.0	703.5	704.0	704.5	704.9	705.2	705.5	705.8	706.1	705.6
140°	732.7	733.1	733.4	733.8	734.1	734.3	734.3	734.3	734.3	734.3	734.1
142.5°	760.3	760.7	761.0	761.4	761.8	761.8	761.7	761.5	761.4	761.3	761.2
145°	798.5	799.2	799.9	800.7	801.4	801.8	802.0	802.2	802.3	802.5	802.3
147.5°	836.4	837.3	838.1	838.9	839.8	840.2	840.0	839.9	839.7	839.6	839.5
150°	859.5	860.2	860.9	861.7	862.4	862.7	862.7	862.7	862.7	862.7	862.7
152.5°	881.3	881.8	882.2	882.6	883.0	883.3	883.4	883.6	883.8	883.9	884.3
155°	914.9	914.9	914.9	914.9	914.9	914.8	914.6	914.4	914.3	914.1	914.8
157.5°	943.1	942.8	942.5	942.1	941.8	941.7	941.6	941.6	941.5	941.5	942.1
160°	959.8	959.6	959.4	959.3	959.1	958.9	958.7	958.5	958.4	958.2	958.7
162.5°	975.2	974.8	974.3	973.8	973.4	973.0	972.9	972.7	972.5	972.3	973.3
165°	995.9	995.4	994.8	994.3	993.8	993.3	993.0	992.6	992.3	991.9	993.0
167.5°	1011.8	1011.1	1010.3	1009.6	1008.8	1008.4	1008.5	1008.5	1008.5	1008.6	1009.6
170°	1020.8	1019.9	1019.0	1018.1	1017.2	1016.8	1017.1	1017.2	1017.4	1017.6	1018.7
172.5°	1027.2	1026.4	1025.7	1025.0	1024.2	1023.9	1023.9	1024.0	1024.0	1024.0	1025.2
175°	1036.0	1035.1	1034.3	1033.4	1032.5	1032.0	1031.7	1031.6	1031.4	1031.3	1032.5
177.5°	1038.9	1038.2	1037.5	1036.8	1036.1	1035.7	1035.7	1035.7	1035.7	1035.7	1036.7
180°	1037.7	1037.7	1037.7	1037.7	1037.7	1037.7	1037.7	1037.7	1037.7	1037.7	1037.7



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	467.9	467.9	467.9	467.9	467.9	467.9	467.9	467.9
2.5°	466.3	467.0	467.6	467.9	467.9	467.8	467.7	467.6
5°	463.8	464.7	465.6	466.0	465.8	465.6	465.5	465.3
7.5°	458.6	459.4	460.1	460.4	460.3	460.2	460.1	460.0
10°	454.3	455.0	455.7	455.9	455.7	455.5	455.3	455.2
12.5°	449.0	449.7	450.5	450.8	450.5	450.3	450.0	449.8
15°	438.9	439.4	440.0	440.1	439.8	439.6	439.3	439.1
17.5°	427.5	427.8	428.1	428.2	428.0	427.9	427.7	427.5
20°	419.0	419.2	419.5	419.5	419.3	419.1	419.0	418.8
22.5°	410.0	410.5	411.0	411.1	410.7	410.4	410.1	409.9
25°	395.4	395.5	395.5	395.5	395.1	394.7	394.4	394.1
27.5°	378.9	378.7	378.5	378.2	377.8	377.4	376.9	376.5
30°	367.6	367.3	366.9	366.5	366.1	365.7	365.3	364.9
32.5°	356.0	355.6	355.2	354.8	354.4	353.9	353.6	353.2
35°	337.8	337.2	336.6	336.1	335.7	335.3	334.9	334.5
37.5°	318.7	318.1	317.4	316.9	316.3	315.8	315.2	314.7
40°	305.5	304.6	303.8	303.2	302.7	302.3	301.9	301.5
42.5°	292.6	291.6	290.7	290.0	289.7	289.5	289.1	288.9
45°	272.7	271.7	270.8	270.2	270.0	269.7	269.5	269.3
47.5°	253.3	252.3	251.3	250.5	249.9	249.2	248.6	248.0
50°	239.9	238.8	237.6	236.7	236.2	235.8	235.2	234.7
52.5°	226.1	225.1	224.0	223.2	222.5	221.9	221.3	220.6
55°	205.7	204.7	203.7	203.0	202.5	202.0	201.5	201.0
57.5°	185.4	184.4	183.5	182.8	182.3	181.8	181.3	180.8
60°	171.3	170.6	169.8	169.3	168.9	168.4	168.0	167.6
62.5°	157.7	157.0	156.3	155.7	155.3	155.0	154.6	154.1
65°	137.8	137.0	136.2	135.5	135.1	134.7	134.3	133.9
67.5°	117.3	116.5	115.7	115.3	115.2	115.0	114.9	114.8
70°	104.4	103.8	103.1	102.6	102.3	102.1	101.9	101.6
72.5°	91.5	90.9	90.4	90.0	89.8	89.5	89.3	89.0
75°	72.8	72.5	72.2	71.9	71.9	71.8	71.7	71.6
77.5°	55.1	55.1	55.0	54.8	54.6	54.3	54.1	53.9
80°	43.9	43.7	43.6	43.5	43.3	43.3	43.2	43.1
82.5°	33.8	33.7	33.7	33.6	33.5	33.4	33.3	33.2
85°	19.5	19.5	19.5	19.5	19.4	19.3	19.2	19.1
87.5°	11.2	11.4	11.6	11.7	11.8	11.9	12.0	12.0
90°	19.8	20.8	21.9	22.7	23.0	23.4	23.7	24.1
92.5°	33.0	33.7	34.4	34.8	35.0	35.2	35.4	35.6
95°	62.0	62.6	63.1	63.4	63.4	63.4	63.4	63.4
97.5°	97.8	98.4	99.0	99.3	99.3	99.3	99.3	99.3
100°	123.5	123.8	124.2	124.4	124.4	124.4	124.4	124.4
102.5°	150.8	151.2	151.8	152.1	152.2	152.3	152.5	152.7
105°	192.1	192.6	193.1	193.7	194.2	194.7	195.3	195.8
107.5°	236.8	237.3	237.8	238.0	238.0	238.0	237.9	237.9
110°	266.5	266.2	265.8	265.9	266.4	267.0	267.5	268.1



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	298.6	298.5	298.4	298.4	298.6	298.7	298.7	298.9
115°	347.9	347.8	347.6	347.4	347.2	347.1	346.9	346.7
117.5°	395.4	394.7	394.2	393.7	393.3	393.0	392.6	392.3
120°	427.5	426.7	425.8	425.5	425.9	426.2	426.6	426.9
122.5°	460.3	459.6	459.0	458.4	457.7	457.1	456.5	455.8
125°	508.1	507.7	507.4	507.0	506.7	506.3	506.0	505.6
127.5°	553.8	553.5	553.1	552.8	552.5	552.2	551.9	551.7
130°	585.9	585.6	585.2	584.7	584.0	583.3	582.6	581.9
132.5°	616.1	615.8	615.4	615.1	614.8	614.5	614.2	613.9
135°	661.4	661.0	660.7	660.2	659.7	659.1	658.6	658.1
137.5°	705.1	704.6	704.2	704.0	704.1	704.3	704.3	704.4
140°	734.0	733.8	733.6	733.4	733.2	733.1	732.8	732.7
142.5°	761.2	761.1	761.1	761.0	761.0	761.0	761.0	761.0
145°	802.2	802.0	801.8	801.5	800.9	800.3	799.9	799.3
147.5°	839.3	839.2	839.0	838.8	838.7	838.5	838.3	838.1
150°	862.7	862.7	862.7	862.6	862.4	862.3	862.1	861.9
152.5°	884.7	885.2	885.6	885.6	885.1	884.6	884.2	883.8
155°	915.5	916.2	917.0	917.0	916.2	915.5	914.8	914.1
157.5°	942.6	943.1	943.6	943.6	943.0	942.4	941.8	941.2
160°	959.3	959.8	960.4	960.1	959.3	958.4	957.5	956.6
162.5°	974.2	975.2	976.2	976.2	975.3	974.5	973.5	972.6
165°	994.0	995.1	996.2	996.3	995.6	994.9	994.2	993.5
167.5°	1010.7	1011.8	1012.9	1012.9	1011.8	1010.7	1009.6	1008.4
170°	1019.7	1020.8	1021.8	1021.8	1020.6	1019.3	1018.0	1016.8
172.5°	1026.4	1027.6	1028.9	1028.8	1027.6	1026.4	1025.1	1023.8
175°	1033.7	1035.0	1036.3	1036.3	1035.0	1033.7	1032.5	1031.3
177.5°	1037.8	1038.7	1039.7	1039.7	1038.5	1037.4	1036.3	1035.1
180°	1037.7	1037.7	1037.7	1037.7	1037.7	1037.7	1037.7	1037.7

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