

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: P332732-930

Luminaire Tested: **S124DIW-S350D1050U930-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332732-930
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: S124DIW-S350D1050U930-4F0-1E-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: 4202.0 lumens
Efficiency: N/A
Efficacy: 110.6 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

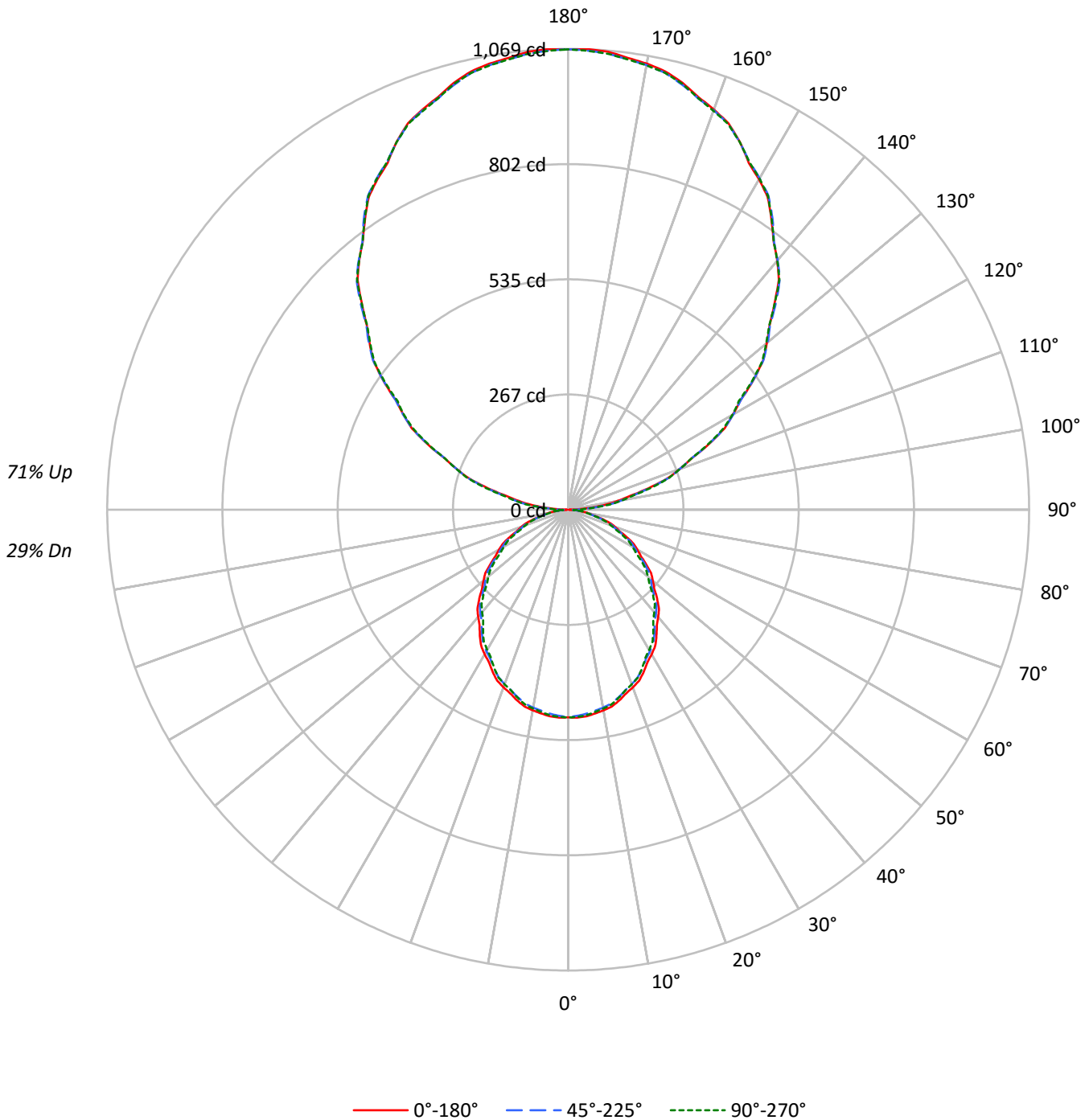
Input Watts (W): 38
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	3888	3888	3888
5°	3900	3853	3881
10°	3875	3822	3841
15°	3828	3768	3777
20°	3766	3699	3703
25°	3695	3624	3613
30°	3608	3533	3500
35°	3517	3438	3392
40°	3424	3331	3270
45°	3327	3225	3164
50°	3218	3131	3034
55°	3102	3009	2911
60°	2984	2872	2785
65°	2854	2743	2632
70°	2705	2568	2469
75°	2480	2361	2299
80°	2208	2120	2064
85°	1936	1862	1815



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	45.4	1.1
10°-20°	127.8	3.0
20°-30°	188.1	4.5
30°-40°	218.7	5.2
40°-50°	218.7	5.2
50°-60°	191.3	4.6
60°-70°	142.1	3.4
70°-80°	80.7	1.9
80°-90°	26.5	0.6
90°-100°	70.4	1.7
100°-110°	208.7	5.0
110°-120°	354.2	8.4
120°-130°	467.0	11.1
130°-140°	524.5	12.5
140°-150°	515.4	12.3
150°-160°	433.5	10.3
160°-170°	288.4	6.9
170°-180°	101.0	2.4
0°-30°	361.2	8.6
0°-40°	579.9	13.8
0°-60°	989.8	23.6
0°-90°	1239.1	29.5
90°-120°	633.2	15.1
90°-150°	2140.1	50.9
90°-180°	2963.0	70.5
0°-180°	4202.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	482	482	482	482	482	
5°	481	480	475	479	479	46
15°	458	456	451	453	452	129
25°	415	412	407	407	406	191
35°	357	354	349	346	344	223
45°	291	288	282	278	277	225
55°	220	219	214	209	207	197
65°	149	147	144	140	138	148
75°	80	78	76	74	74	84
85°	21	21	20	20	20	23
90°	2	11	18	23	25	4
95°	50	57	63	65	65	55
105°	192	193	197	199	202	204
115°	360	360	358	358	357	355
125°	524	524	524	522	520	467
135°	676	681	681	680	677	523
145°	822	825	826	825	823	514
155°	942	942	941	944	941	433
165°	1025	1023	1021	1025	1022	289
175°	1066	1062	1061	1066	1061	101
180°	1068	1068	1068	1068	1068	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	481.6	481.6	481.6	481.6	481.6	481.6	481.6	481.6	481.6	481.6	481.6
2.5°	482.8	482.7	482.4	482.2	482.0	481.5	480.8	480.0	479.3	478.5	479.2
5°	481.2	480.9	480.5	480.2	479.9	479.2	478.3	477.4	476.4	475.4	476.4
7.5°	476.8	476.4	476.1	475.7	475.4	474.7	473.6	472.6	471.6	470.5	471.2
10°	472.7	472.4	472.1	471.7	471.4	470.7	469.5	468.4	467.3	466.2	466.8
12.5°	467.5	467.2	466.8	466.4	466.1	465.4	464.1	463.0	461.8	460.6	461.4
15°	458.0	457.7	457.4	457.1	456.7	455.9	454.6	453.3	452.0	450.8	451.3
17.5°	446.7	446.3	445.9	445.5	445.0	444.2	443.0	441.7	440.5	439.3	439.6
20°	438.4	438.0	437.6	437.1	436.7	435.9	434.6	433.3	431.9	430.6	431.0
22.5°	429.4	428.8	428.3	427.7	427.1	426.2	424.9	423.7	422.4	421.1	421.6
25°	414.8	414.3	413.7	413.0	412.5	411.6	410.3	409.1	408.0	406.8	406.8
27.5°	398.2	397.5	397.0	396.3	395.7	394.8	393.7	392.6	391.5	390.4	390.2
30°	387.1	386.4	385.7	385.0	384.3	383.4	382.3	381.2	380.1	379.0	378.6
32.5°	375.4	374.7	374.1	373.5	372.8	371.9	370.8	369.6	368.4	367.2	366.8
35°	356.9	356.4	355.8	355.1	354.6	353.7	352.5	351.2	350.1	348.9	348.3
37.5°	337.6	337.0	336.5	336.0	335.4	334.5	333.2	331.9	330.6	329.3	328.6
40°	324.9	324.2	323.6	322.9	322.2	321.2	319.9	318.6	317.3	316.1	315.2
42.5°	311.4	311.0	310.5	310.1	309.7	308.8	307.4	305.9	304.5	303.1	302.1
45°	291.4	290.7	290.2	289.6	288.9	288.0	286.6	285.2	283.9	282.5	281.5
47.5°	270.4	270.0	269.6	269.2	268.8	268.0	266.7	265.4	264.2	262.9	261.8
50°	256.2	255.9	255.6	255.2	254.9	254.1	252.9	251.7	250.5	249.3	248.1
52.5°	242.4	241.9	241.5	241.1	240.7	239.9	238.6	237.3	236.0	234.8	233.7
55°	220.4	220.1	219.8	219.6	219.3	218.6	217.4	216.2	215.0	213.8	212.8
57.5°	199.3	199.1	198.8	198.5	198.2	197.5	196.2	195.1	193.9	192.7	191.8
60°	184.8	184.4	184.0	183.5	183.1	182.4	181.2	180.1	179.0	177.9	177.2
62.5°	170.6	170.3	169.9	169.6	169.2	168.4	167.2	166.1	164.9	163.7	163.0
65°	149.4	149.0	148.5	148.1	147.7	147.0	146.1	145.3	144.4	143.6	142.7
67.5°	127.9	127.5	127.1	126.7	126.3	125.7	124.9	124.1	123.3	122.4	121.6
70°	114.6	114.0	113.4	112.8	112.2	111.5	110.9	110.2	109.5	108.8	108.1
72.5°	100.4	99.8	99.2	98.7	98.0	97.4	96.9	96.4	95.8	95.2	94.7
75°	79.5	79.1	78.7	78.2	77.8	77.4	77.0	76.5	76.1	75.7	75.3
77.5°	59.5	59.4	59.1	58.9	58.8	58.5	58.1	57.7	57.3	57.0	56.8
80°	47.5	47.2	47.0	46.7	46.5	46.2	46.1	45.9	45.7	45.6	45.3
82.5°	35.7	35.6	35.5	35.4	35.2	35.1	35.1	35.1	35.1	35.1	35.0
85°	20.9	20.9	20.9	20.9	20.9	20.8	20.5	20.4	20.2	20.1	20.1
87.5°	8.6	8.9	9.2	9.5	9.9	10.1	10.4	10.6	10.8	11.0	11.3
90°	2.4	4.5	6.5	8.6	10.5	12.3	13.8	15.2	16.7	18.2	19.2
92.5°	17.7	20.0	22.3	24.6	26.9	28.6	29.6	30.7	31.7	32.7	33.3
95°	49.6	51.2	52.8	54.5	56.2	57.6	58.9	60.2	61.5	62.8	63.3
97.5°	86.6	87.9	89.2	90.5	91.9	93.3	94.7	96.3	97.8	99.3	100.0
100°	115.6	116.3	117.1	117.8	118.5	119.8	121.4	123.0	124.7	126.4	126.7
102.5°	146.0	146.3	146.6	146.9	147.2	148.1	149.6	151.1	152.6	154.1	154.7
105°	192.4	192.7	192.8	193.0	193.1	193.6	194.4	195.1	195.8	196.6	197.1
107.5°	241.2	241.4	241.6	241.8	242.1	242.2	242.3	242.5	242.6	242.6	243.2
110°	274.2	274.6	274.9	275.3	275.7	275.7	275.6	275.4	275.2	275.0	274.7



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	308.6	308.7	308.8	308.8	308.8	308.8	308.4	308.1	307.8	307.4	307.4
115°	360.1	360.1	360.1	360.1	360.1	360.0	359.5	359.2	358.8	358.5	358.2
117.5°	408.7	408.8	409.0	409.1	409.3	409.2	409.0	408.7	408.5	408.1	407.6
120°	441.1	441.8	442.5	443.3	444.0	444.1	443.5	443.0	442.5	441.9	441.0
122.5°	474.7	475.1	475.3	475.6	475.9	476.0	475.6	475.4	475.2	474.9	474.3
125°	524.5	524.5	524.5	524.5	524.5	524.4	524.2	524.0	523.8	523.7	523.3
127.5°	569.6	570.1	570.6	571.2	571.8	571.9	571.6	571.3	571.0	570.7	570.4
130°	601.3	601.9	602.3	602.9	603.5	603.7	603.7	603.7	603.7	603.7	603.4
132.5°	633.7	634.1	634.5	634.9	635.3	635.4	635.3	635.1	635.0	634.8	634.5
135°	676.5	677.5	678.7	679.7	680.9	681.4	681.4	681.4	681.4	681.4	681.0
137.5°	723.0	723.5	724.1	724.6	725.0	725.5	725.8	726.1	726.4	726.7	726.2
140°	754.1	754.5	754.8	755.2	755.5	755.7	755.7	755.7	755.7	755.7	755.5
142.5°	782.5	782.9	783.3	783.6	784.0	784.1	783.9	783.7	783.7	783.5	783.4
145°	821.8	822.6	823.3	824.0	824.8	825.2	825.4	825.6	825.7	825.9	825.7
147.5°	860.8	861.7	862.6	863.4	864.3	864.7	864.5	864.4	864.2	864.1	864.0
150°	884.6	885.3	886.1	886.8	887.5	887.9	887.9	887.9	887.9	887.9	887.9
152.5°	907.0	907.5	907.9	908.3	908.8	909.1	909.2	909.4	909.5	909.7	910.1
155°	941.6	941.6	941.6	941.6	941.6	941.5	941.3	941.1	940.9	940.8	941.5
157.5°	970.6	970.3	970.0	969.6	969.3	969.1	969.1	969.1	969.0	969.0	969.6
160°	987.8	987.7	987.4	987.2	987.1	986.9	986.7	986.5	986.3	986.2	986.7
162.5°	1003.6	1003.2	1002.7	1002.2	1001.8	1001.4	1001.3	1001.1	1000.9	1000.7	1001.7
165°	1025.0	1024.4	1023.9	1023.4	1022.8	1022.3	1022.0	1021.6	1021.2	1020.8	1022.0
167.5°	1041.3	1040.6	1039.8	1039.0	1038.3	1037.9	1038.0	1038.0	1038.0	1038.0	1039.1
170°	1050.6	1049.7	1048.7	1047.8	1046.9	1046.5	1046.8	1046.9	1047.1	1047.3	1048.4
172.5°	1057.2	1056.4	1055.6	1054.9	1054.1	1053.8	1053.8	1053.9	1053.9	1053.9	1055.2
175°	1066.2	1065.4	1064.5	1063.6	1062.6	1062.1	1061.8	1061.7	1061.5	1061.4	1062.6
177.5°	1069.3	1068.5	1067.8	1067.1	1066.3	1065.9	1065.9	1065.9	1065.9	1065.9	1067.0
180°	1068.0	1068.0	1068.0	1068.0	1068.0	1068.0	1068.0	1068.0	1068.0	1068.0	1068.0



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	481.6	481.6	481.6	481.6	481.6	481.6	481.6	481.6
2.5°	479.9	480.6	481.3	481.6	481.5	481.4	481.4	481.3
5°	477.4	478.3	479.2	479.6	479.4	479.2	479.1	478.9
7.5°	472.0	472.8	473.5	473.9	473.8	473.6	473.5	473.4
10°	467.6	468.2	469.0	469.2	469.0	468.8	468.6	468.5
12.5°	462.1	462.8	463.7	463.9	463.7	463.4	463.2	462.9
15°	451.8	452.2	452.8	452.9	452.7	452.4	452.2	451.9
17.5°	439.9	440.3	440.6	440.7	440.5	440.3	440.2	440.0
20°	431.2	431.5	431.7	431.8	431.5	431.4	431.2	431.0
22.5°	422.0	422.5	423.0	423.1	422.7	422.4	422.1	421.8
25°	406.9	407.0	407.1	407.0	406.6	406.3	405.9	405.6
27.5°	390.0	389.8	389.6	389.2	388.8	388.4	387.9	387.5
30°	378.3	378.0	377.6	377.2	376.7	376.3	375.9	375.5
32.5°	366.4	366.0	365.6	365.2	364.8	364.3	363.9	363.5
35°	347.6	347.1	346.4	345.9	345.5	345.1	344.6	344.2
37.5°	328.0	327.3	326.7	326.1	325.5	325.0	324.4	323.8
40°	314.4	313.5	312.7	312.0	311.5	311.1	310.7	310.3
42.5°	301.1	300.1	299.1	298.5	298.2	297.9	297.6	297.3
45°	280.6	279.6	278.8	278.1	277.9	277.6	277.4	277.1
47.5°	260.7	259.7	258.6	257.8	257.1	256.5	255.8	255.2
50°	246.9	245.7	244.5	243.6	243.1	242.6	242.1	241.6
52.5°	232.7	231.6	230.6	229.7	229.0	228.4	227.7	227.1
55°	211.7	210.7	209.7	208.9	208.4	207.9	207.3	206.8
57.5°	190.8	189.8	188.8	188.1	187.6	187.1	186.6	186.1
60°	176.3	175.6	174.8	174.2	173.8	173.3	172.9	172.5
62.5°	162.3	161.6	160.9	160.3	159.9	159.5	159.1	158.6
65°	141.9	141.0	140.1	139.5	139.1	138.6	138.2	137.8
67.5°	120.7	119.9	119.1	118.6	118.5	118.4	118.3	118.1
70°	107.5	106.8	106.1	105.6	105.3	105.1	104.8	104.6
72.5°	94.2	93.6	93.0	92.6	92.4	92.1	91.9	91.6
75°	74.9	74.6	74.3	74.0	73.9	73.9	73.8	73.7
77.5°	56.7	56.7	56.6	56.4	56.2	55.9	55.7	55.5
80°	45.2	45.0	44.8	44.8	44.6	44.5	44.4	44.4
82.5°	34.8	34.7	34.7	34.6	34.5	34.3	34.2	34.2
85°	20.1	20.1	20.1	20.1	20.0	19.9	19.7	19.6
87.5°	11.5	11.7	11.9	12.1	12.1	12.2	12.3	12.4
90°	20.4	21.4	22.6	23.3	23.6	24.1	24.4	24.8
92.5°	34.0	34.7	35.4	35.8	36.0	36.2	36.4	36.7
95°	63.8	64.4	65.0	65.2	65.2	65.2	65.2	65.2
97.5°	100.6	101.3	101.9	102.2	102.2	102.2	102.2	102.2
100°	127.1	127.4	127.8	128.0	128.0	128.0	128.0	128.0
102.5°	155.2	155.6	156.2	156.5	156.6	156.8	156.9	157.1
105°	197.7	198.2	198.8	199.3	199.9	200.4	201.0	201.5
107.5°	243.7	244.2	244.8	244.9	244.9	244.9	244.8	244.8
110°	274.3	273.9	273.5	273.7	274.2	274.8	275.3	275.9



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	307.3	307.2	307.1	307.1	307.3	307.4	307.4	307.6
115°	358.1	357.9	357.8	357.5	357.3	357.2	357.0	356.8
117.5°	406.9	406.3	405.7	405.2	404.8	404.5	404.1	403.7
120°	440.0	439.1	438.2	437.9	438.3	438.6	439.0	439.4
122.5°	473.7	473.0	472.4	471.7	471.1	470.4	469.8	469.1
125°	522.9	522.5	522.2	521.8	521.5	521.1	520.7	520.3
127.5°	570.0	569.6	569.2	568.9	568.6	568.3	568.0	567.8
130°	603.0	602.7	602.3	601.8	601.0	600.3	599.6	598.8
132.5°	634.1	633.7	633.3	633.0	632.8	632.4	632.1	631.9
135°	680.7	680.3	680.0	679.5	678.9	678.3	677.8	677.3
137.5°	725.7	725.2	724.7	724.6	724.6	724.8	724.9	725.0
140°	755.4	755.2	755.0	754.8	754.6	754.5	754.2	754.1
142.5°	783.4	783.3	783.3	783.3	783.3	783.3	783.2	783.2
145°	825.6	825.4	825.2	824.8	824.3	823.7	823.2	822.6
147.5°	863.8	863.6	863.5	863.3	863.2	863.0	862.7	862.6
150°	887.9	887.9	887.9	887.8	887.6	887.5	887.2	887.0
152.5°	910.5	911.0	911.4	911.4	910.9	910.4	910.0	909.5
155°	942.2	943.0	943.7	943.7	943.0	942.2	941.5	940.8
157.5°	970.1	970.6	971.2	971.2	970.5	969.9	969.3	968.7
160°	987.2	987.8	988.4	988.1	987.2	986.3	985.5	984.5
162.5°	1002.7	1003.6	1004.7	1004.7	1003.8	1002.9	1001.9	1001.0
165°	1023.0	1024.2	1025.2	1025.4	1024.7	1023.9	1023.2	1022.5
167.5°	1040.2	1041.3	1042.4	1042.4	1041.3	1040.2	1039.0	1037.9
170°	1049.5	1050.6	1051.7	1051.6	1050.4	1049.0	1047.7	1046.4
172.5°	1056.4	1057.6	1058.9	1058.8	1057.6	1056.3	1055.0	1053.7
175°	1063.9	1065.2	1066.5	1066.5	1065.2	1063.9	1062.6	1061.4
177.5°	1068.0	1069.0	1070.1	1070.0	1068.8	1067.6	1066.5	1065.3
180°	1068.0	1068.0	1068.0	1068.0	1068.0	1068.0	1068.0	1068.0

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