

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: P331510-940

Luminaire Tested: **S122DIW-S485D970U940-4F0-1E-UDD-D1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331510-940
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-8,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S122DIW-S485D970U940-4F0-1E-UDD-D1
Description: DEFINE 2 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 485 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 970 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4750.0 lumens
Efficiency: N/A
Efficacy: 105.1 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.32 / 1.42
Luminous Opening: Rectangular w/ Sides (W: 0.17' x L: 4' x H: 0.08')
CIE Type: Semi-Indirect

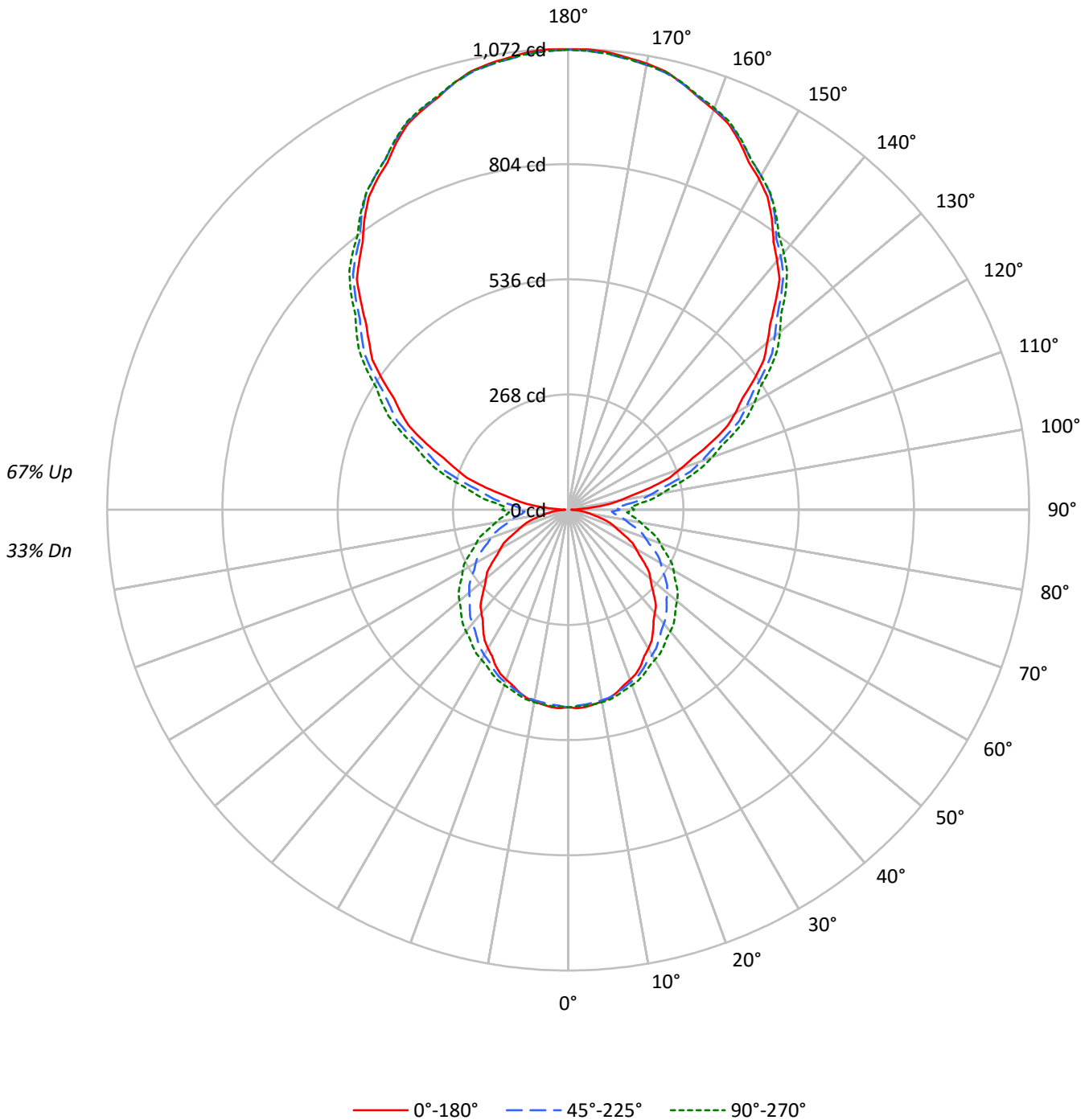
Input Watts (W): 45.2
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	0
RCR																		
0	103	103	103	103	93	93	93	93	74	74	74	56	56	56	40	40	40	33
1	93	88	84	80	83	80	76	73	63	61	58	48	46	45	34	33	32	26
2	84	76	70	65	75	69	63	59	55	51	47	42	39	37	29	28	26	21
3	77	67	59	53	68	60	54	49	48	43	39	36	33	30	26	24	22	17
4	70	59	51	45	62	53	46	41	42	37	33	32	29	26	23	20	19	14
5	64	52	44	38	57	47	40	35	38	32	28	29	25	22	20	18	16	12
6	59	47	38	33	52	42	35	30	34	28	24	26	22	19	18	16	14	11
7	54	42	34	28	48	38	31	26	30	25	21	23	20	17	17	14	12	9
8	50	38	30	25	45	34	28	23	28	22	19	21	18	15	15	13	11	8
9	47	34	27	22	42	31	25	20	25	20	17	19	16	13	14	12	10	7
10	43	31	24	20	39	29	22	18	23	18	15	18	14	12	13	11	9	7

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	7419	7419	7419
5°	7455	7143	7115
10°	7408	6931	6854
15°	7306	6708	6577
20°	7177	6468	6312
25°	7050	6237	6072
30°	6870	5999	5829
35°	6689	5771	5659
40°	6498	5576	5488
45°	6317	5402	5343
50°	6123	5242	5199
55°	5916	5073	5052
60°	5666	4897	4897
65°	5405	4692	4714
70°	5117	4470	4516
75°	4741	4251	4334
80°	4149	4028	4148
85°	3591	3837	4006



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	43.5	0.9
10°-20°	124.9	2.6
20°-30°	189.2	4.0
30°-40°	230.5	4.9
40°-50°	247.9	5.2
50°-60°	240.8	5.1
60°-70°	210.2	4.4
70°-80°	161.8	3.4
80°-90°	112.9	2.4
90°-100°	142.6	3.0
100°-110°	265.3	5.6
110°-120°	396.1	8.3
120°-130°	493.6	10.4
130°-140°	539.9	11.4
140°-150°	522.5	11.0
150°-160°	437.0	9.2
160°-170°	289.9	6.1
170°-180°	101.3	2.1
0°-30°	357.6	7.5
0°-40°	588.1	12.4
0°-60°	1076.8	22.7
0°-90°	1561.7	32.9
90°-120°	804.0	16.9
90°-150°	2360.0	49.7
90°-180°	3188.0	67.1
0°-180°	4750.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	460	460	460	460	460	
5°	461	459	455	459	458	44
15°	440	441	441	446	446	124
25°	400	404	410	418	420	184
35°	344	356	368	382	388	215
45°	282	301	324	344	351	218
55°	216	241	275	298	308	193
65°	148	181	220	246	256	147
75°	82	119	162	189	199	87
85°	24	65	108	135	145	26
90°	8	58	120	143	153	7
95°	52	93	134	159	166	58
105°	198	220	256	280	288	209
115°	364	378	405	423	429	360
125°	527	536	554	568	574	471
135°	681	691	699	712	715	526
145°	826	832	837	842	842	516
155°	944	946	949	953	951	434
165°	1027	1026	1026	1032	1028	289
175°	1068	1066	1064	1070	1065	101
180°	1070	1070	1070	1070	1070	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	459.5	459.5	459.5	459.5	459.5	459.5	459.5	459.5	459.5	459.5	459.5
2.5°	462.2	461.8	461.5	461.1	460.7	460.1	459.3	458.5	457.7	456.8	457.4
5°	460.8	460.4	459.9	459.5	459.1	458.4	457.5	456.6	455.8	454.9	455.8
7.5°	456.7	456.4	456.1	455.8	455.6	455.0	454.3	453.7	453.0	452.3	453.3
10°	453.5	453.3	452.9	452.6	452.4	452.0	451.6	451.1	450.7	450.2	451.4
12.5°	448.2	448.3	448.4	448.4	448.4	448.3	448.0	447.6	447.3	447.0	448.2
15°	439.5	439.8	440.1	440.4	440.7	440.9	440.9	440.9	440.9	440.9	442.2
17.5°	428.4	429.0	429.6	430.3	430.9	431.4	431.9	432.3	432.8	433.3	434.6
20°	420.9	421.6	422.4	423.1	423.8	424.5	425.1	425.7	426.3	426.9	428.5
22.5°	412.9	413.8	414.6	415.4	416.3	417.1	418.0	418.8	419.6	420.5	422.1
25°	399.6	400.6	401.6	402.7	403.7	404.9	406.3	407.6	408.9	410.2	412.0
27.5°	383.6	385.3	387.0	388.7	390.3	392.0	393.5	395.1	396.6	398.2	400.5
30°	372.9	374.9	376.7	378.7	380.7	382.5	384.5	386.4	388.3	390.2	392.6
32.5°	361.2	363.4	365.5	367.7	369.9	372.1	374.3	376.7	378.9	381.2	383.9
35°	344.3	346.8	349.4	351.9	354.4	357.0	359.8	362.7	365.4	368.3	371.5
37.5°	325.9	328.9	331.7	334.7	337.5	340.8	344.5	348.0	351.7	355.3	359.0
40°	313.7	316.9	320.2	323.4	326.7	330.3	334.3	338.3	342.3	346.3	350.2
42.5°	301.9	305.2	308.4	311.7	315.0	318.9	323.5	328.1	332.7	337.2	341.4
45°	282.4	286.3	290.3	294.4	298.4	302.9	308.1	313.3	318.5	323.7	328.2
47.5°	263.1	267.4	271.8	276.1	280.4	285.7	291.8	297.8	303.9	310.0	314.8
50°	249.8	254.3	259.0	263.5	268.0	273.7	280.4	287.0	293.7	300.3	305.4
52.5°	236.9	241.7	246.6	251.5	256.3	262.2	269.2	276.2	283.2	290.3	295.3
55°	216.4	221.8	227.1	232.4	237.7	244.2	252.0	259.7	267.3	275.0	280.4
57.5°	196.2	202.2	208.2	214.2	220.3	227.1	235.0	242.8	250.7	258.5	264.3
60°	181.8	188.2	194.6	200.9	207.2	214.6	223.1	231.5	240.0	248.4	254.0
62.5°	169.0	175.6	182.3	188.9	195.5	203.0	211.3	219.8	228.3	236.7	242.6
65°	147.8	155.1	162.4	169.6	176.8	184.9	193.6	202.3	211.1	219.8	225.9
67.5°	128.4	136.0	143.6	151.1	158.7	166.9	175.9	184.9	193.8	202.7	208.8
70°	114.6	122.3	129.9	137.6	145.3	153.7	162.9	172.1	181.3	190.5	196.8
72.5°	101.7	109.7	117.6	125.6	133.5	142.1	151.4	160.7	170.0	179.2	185.6
75°	81.9	90.2	98.4	106.7	115.0	123.9	133.4	142.9	152.4	161.8	168.2
77.5°	62.8	71.4	80.1	88.7	97.5	106.6	116.2	125.8	135.5	145.1	151.4
80°	49.9	58.9	68.0	77.0	86.1	95.4	105.0	114.6	124.2	133.8	140.1
82.5°	39.3	48.2	57.1	66.0	74.9	84.3	94.0	103.7	113.4	123.2	129.4
85°	24.0	33.2	42.4	51.5	60.6	70.0	79.5	88.9	98.4	107.9	114.1
87.5°	13.2	22.6	31.8	41.1	50.5	60.3	70.6	81.0	91.3	101.7	107.6
90°	7.6	18.5	29.5	40.6	51.5	63.9	77.8	91.8	105.7	119.5	125.0
92.5°	22.2	31.9	41.7	51.5	61.3	71.2	81.3	91.5	101.7	111.8	117.7
95°	52.3	61.3	70.2	79.2	88.1	97.3	106.6	115.8	125.1	134.4	140.0
97.5°	90.4	98.4	106.4	114.3	122.3	130.9	140.2	149.5	158.7	168.0	173.5
100°	119.4	126.4	133.5	140.6	147.7	155.7	164.5	173.4	182.4	191.3	196.7
102.5°	149.2	155.4	161.8	168.0	174.3	181.9	190.6	199.5	208.3	217.1	222.7
105°	197.5	202.4	207.3	212.2	217.1	223.6	231.7	239.8	247.9	256.0	261.5
107.5°	246.9	251.2	255.5	259.8	264.1	270.0	277.3	284.7	292.1	299.4	304.6
110°	278.1	282.3	286.4	290.6	294.8	300.5	307.7	315.0	322.3	329.5	334.2



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	312.8	316.5	320.2	323.9	327.6	332.8	339.6	346.3	353.0	359.7	364.0
115°	363.9	366.8	369.6	372.5	375.2	379.8	386.0	392.4	398.6	404.8	409.1
117.5°	414.2	416.9	419.5	422.2	424.9	428.7	433.8	438.8	443.8	448.9	452.8
120°	448.2	450.4	452.5	454.8	456.9	460.2	464.5	468.9	473.1	477.5	481.6
122.5°	479.2	481.4	483.6	485.7	487.9	491.2	495.6	500.1	504.5	509.0	512.5
125°	527.0	528.8	530.6	532.4	534.2	537.2	541.3	545.5	549.6	553.8	557.1
127.5°	574.1	576.2	578.4	580.5	582.6	585.3	588.4	591.5	594.6	597.7	600.7
130°	603.8	606.2	608.7	611.1	613.6	616.2	618.8	621.6	624.3	627.0	630.2
132.5°	636.9	639.0	641.0	642.9	644.9	647.1	649.6	652.1	654.6	657.0	659.6
135°	680.7	683.0	685.2	687.4	689.6	691.6	693.5	695.4	697.3	699.2	702.0
137.5°	727.5	729.3	731.1	732.9	734.7	736.1	737.3	738.4	739.7	740.8	743.4
140°	755.7	757.4	759.0	760.7	762.3	763.8	765.1	766.4	767.8	769.0	771.4
142.5°	784.6	786.3	787.9	789.6	791.2	792.5	793.2	794.0	794.7	795.4	797.5
145°	825.5	826.9	828.3	829.7	831.2	832.4	833.7	834.8	836.1	837.2	838.3
147.5°	862.6	864.2	865.9	867.5	869.2	870.5	871.3	872.1	872.9	873.7	874.3
150°	887.8	889.0	890.2	891.4	892.6	893.7	894.5	895.3	896.1	896.9	897.4
152.5°	910.3	911.4	912.7	913.8	915.1	916.1	917.1	918.0	919.0	920.0	920.7
155°	943.8	944.4	945.0	945.7	946.2	946.8	947.4	948.1	948.6	949.2	950.2
157.5°	972.5	972.9	973.3	973.7	974.1	974.6	974.9	975.3	975.6	976.0	977.3
160°	989.9	990.2	990.7	991.0	991.5	991.8	992.0	992.2	992.4	992.6	993.8
162.5°	1005.8	1005.8	1005.9	1006.0	1006.1	1006.2	1006.5	1006.7	1006.8	1007.0	1008.4
165°	1026.9	1026.7	1026.5	1026.3	1026.1	1026.0	1026.0	1026.0	1026.0	1026.0	1027.4
167.5°	1044.6	1044.0	1043.4	1042.8	1042.2	1041.9	1041.9	1041.8	1041.8	1041.7	1043.1
170°	1054.0	1053.4	1052.8	1052.2	1051.6	1051.2	1051.0	1050.8	1050.6	1050.4	1051.8
172.5°	1060.5	1059.9	1059.3	1058.7	1058.1	1057.7	1057.5	1057.3	1057.1	1056.9	1058.3
175°	1068.4	1067.8	1067.3	1066.7	1066.0	1065.5	1065.1	1064.7	1064.3	1063.9	1065.3
177.5°	1071.7	1071.2	1070.8	1070.2	1069.8	1069.3	1069.1	1068.7	1068.4	1068.1	1069.1
180°	1070.2	1070.2	1070.2	1070.2	1070.2	1070.2	1070.2	1070.2	1070.2	1070.2	1070.2



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	459.5	459.5	459.5	459.5	459.5	459.5	459.5	459.5
2.5°	458.1	458.6	459.2	459.4	459.1	459.0	458.7	458.4
5°	456.6	457.5	458.4	458.8	458.6	458.5	458.3	458.2
7.5°	454.4	455.5	456.6	457.0	456.9	456.7	456.6	456.5
10°	452.5	453.7	455.0	455.5	455.3	455.1	455.0	454.9
12.5°	449.3	450.6	451.7	452.3	452.1	451.9	451.8	451.7
15°	443.5	444.9	446.2	446.7	446.7	446.5	446.3	446.2
17.5°	436.0	437.5	438.8	439.5	439.5	439.5	439.5	439.5
20°	430.2	431.8	433.4	434.2	434.2	434.2	434.2	434.2
22.5°	423.7	425.3	427.0	427.9	428.2	428.4	428.6	428.9
25°	413.8	415.5	417.3	418.5	418.9	419.4	419.8	420.3
27.5°	402.8	405.0	407.2	408.5	408.8	409.2	409.5	409.8
30°	395.0	397.3	399.8	401.1	401.5	402.0	402.4	402.9
32.5°	386.6	389.3	392.1	393.9	394.7	395.5	396.3	397.1
35°	374.8	378.1	381.3	383.4	384.5	385.5	386.6	387.6
37.5°	362.6	366.2	369.8	372.1	373.3	374.3	375.4	376.6
40°	354.0	357.8	361.7	364.3	365.6	366.9	368.3	369.6
42.5°	345.6	349.8	354.0	356.9	358.1	359.4	360.8	362.1
45°	332.9	337.4	342.0	345.0	346.5	348.0	349.5	351.0
47.5°	319.5	324.3	329.1	332.3	333.9	335.6	337.2	338.9
50°	310.4	315.4	320.5	323.8	325.5	327.1	328.7	330.3
52.5°	300.5	305.7	310.9	314.2	316.0	317.8	319.5	321.3
55°	285.7	291.1	296.3	300.0	301.9	303.8	305.8	307.6
57.5°	270.0	275.7	281.5	285.3	287.3	289.3	291.2	293.2
60°	259.7	265.3	270.9	274.7	276.8	278.9	281.0	283.0
62.5°	248.6	254.6	260.6	264.6	266.5	268.5	270.5	272.4
65°	231.9	238.0	244.1	248.1	249.9	251.9	253.8	255.7
67.5°	215.0	221.1	227.2	231.3	233.3	235.3	237.4	239.3
70°	203.2	209.6	215.9	220.0	221.8	223.6	225.3	227.1
72.5°	191.8	198.0	204.3	208.5	210.5	212.7	214.8	217.0
75°	174.6	180.9	187.3	191.5	193.3	195.3	197.2	199.1
77.5°	157.7	164.1	170.4	174.6	176.6	178.7	180.8	182.9
80°	146.3	152.5	158.7	162.8	165.0	167.0	169.1	171.1
82.5°	135.6	141.9	148.0	152.1	154.1	156.0	158.0	160.0
85°	120.3	126.5	132.8	136.9	138.9	141.1	143.1	145.2
87.5°	113.6	119.6	125.6	129.5	131.4	133.3	135.3	137.2
90°	130.5	136.1	141.6	145.3	147.3	149.3	151.2	153.3
92.5°	123.6	129.5	135.4	139.2	141.0	142.9	144.6	146.5
95°	145.6	151.2	156.9	160.4	161.8	163.1	164.5	165.9
97.5°	179.0	184.5	189.9	193.5	195.2	197.0	198.7	200.4
100°	202.2	207.7	213.1	216.6	218.0	219.5	220.9	222.3
102.5°	228.2	233.7	239.2	242.6	244.1	245.5	246.9	248.3
105°	267.2	272.7	278.3	281.9	283.6	285.2	286.8	288.4
107.5°	309.7	314.9	320.0	322.9	323.6	324.3	325.0	325.7
110°	338.9	343.7	348.5	351.3	352.3	353.4	354.4	355.4



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	368.3	372.5	376.7	379.5	380.7	381.8	383.0	384.2
115°	413.3	417.6	421.8	424.5	425.4	426.5	427.5	428.6
117.5°	456.6	460.6	464.5	466.9	467.8	468.7	469.6	470.5
120°	485.7	489.9	494.0	496.6	497.7	498.6	499.7	500.7
122.5°	516.0	519.6	523.2	525.4	526.3	527.3	528.2	529.1
125°	560.5	563.9	567.3	569.5	570.7	571.8	572.9	574.1
127.5°	603.6	606.5	609.5	611.3	612.0	612.6	613.2	613.9
130°	633.3	636.4	639.6	641.4	641.8	642.1	642.5	642.9
132.5°	662.2	664.7	667.3	668.8	669.3	669.9	670.4	670.9
135°	705.0	707.8	710.8	712.6	713.1	713.7	714.3	714.9
137.5°	745.9	748.5	751.1	752.4	752.7	752.9	753.0	753.2
140°	773.7	776.1	778.5	779.7	779.8	779.9	780.0	780.1
142.5°	799.5	801.6	803.6	804.7	804.6	804.6	804.6	804.5
145°	839.5	840.5	841.6	842.1	842.0	842.0	842.0	841.9
147.5°	874.9	875.4	875.9	876.0	875.7	875.2	874.9	874.4
150°	898.0	898.7	899.3	899.3	898.7	898.0	897.4	896.9
152.5°	921.5	922.3	923.0	923.0	922.3	921.5	920.7	920.0
155°	951.3	952.3	953.2	953.4	952.9	952.3	951.6	951.0
157.5°	978.7	980.1	981.4	981.6	980.7	979.7	978.7	977.8
160°	995.0	996.2	997.4	997.6	996.8	996.0	995.2	994.4
162.5°	1009.8	1011.1	1012.5	1012.7	1011.7	1010.8	1009.8	1008.9
165°	1028.9	1030.2	1031.6	1031.8	1030.8	1029.8	1028.9	1027.8
167.5°	1044.6	1046.0	1047.3	1047.5	1046.5	1045.4	1044.4	1043.4
170°	1053.2	1054.6	1056.1	1056.1	1054.9	1053.7	1052.5	1051.3
172.5°	1059.7	1061.1	1062.5	1062.7	1061.4	1060.2	1059.0	1057.8
175°	1066.8	1068.2	1069.5	1069.7	1068.4	1067.3	1066.0	1064.9
177.5°	1070.1	1070.9	1071.9	1071.9	1070.9	1070.1	1069.1	1068.1
180°	1070.2	1070.2	1070.2	1070.2	1070.2	1070.2	1070.2	1070.2

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