

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: P331516-930

Luminaire Tested: **S122DIW-S485D1240U930-4F0-1E-UDD-D1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331516-930
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-S485D1240U930-4F0-1E-UDD-D1
Description: DEFINE 2 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 485 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 1240 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5110.7 lumens
Efficiency: N/A
Efficacy: 95.0 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

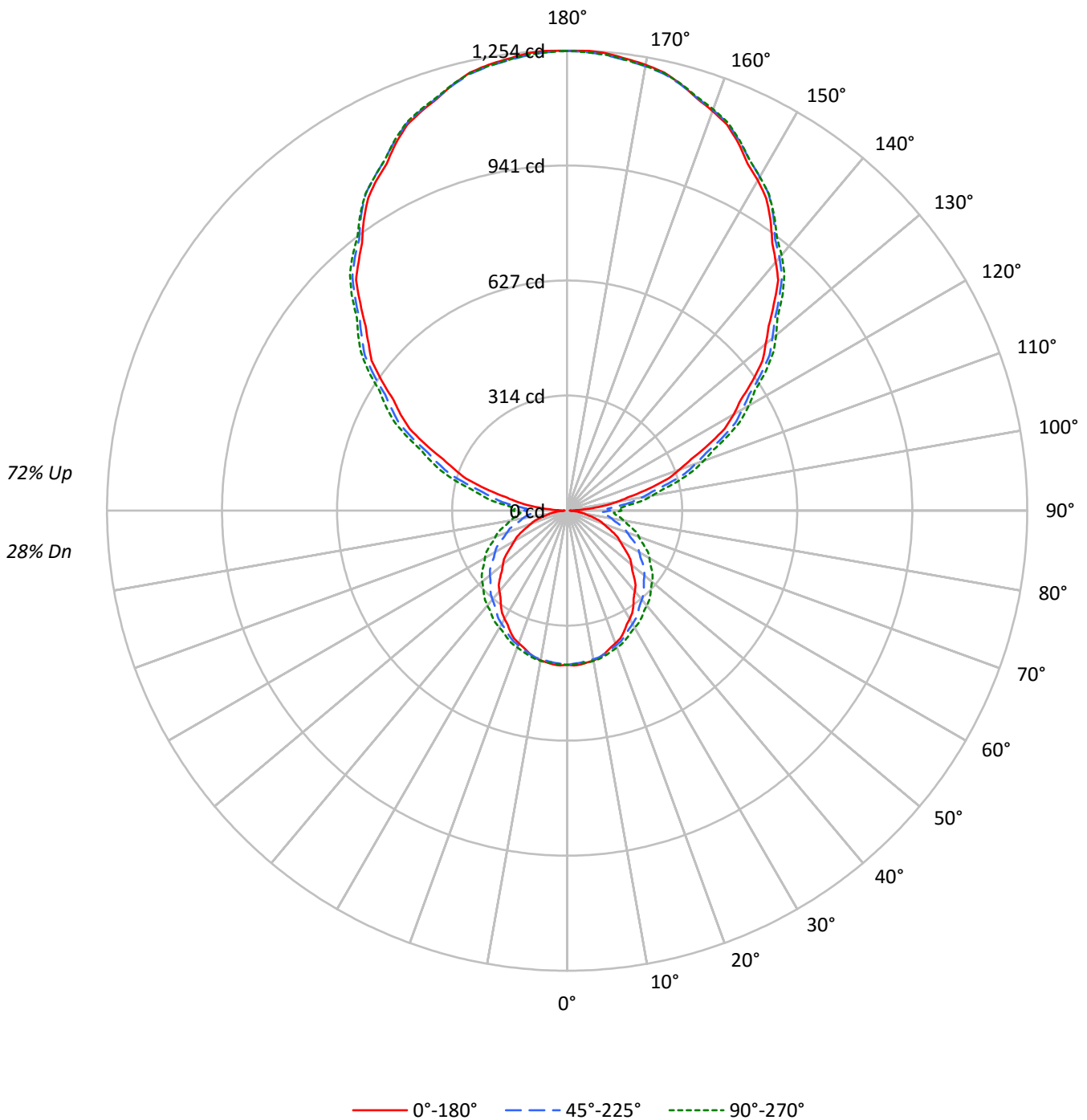
Input Watts (W): 53.8
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	102	102	102	102	91	91	91	91	71	71	71	53	53	53	36	36	36	28
1	92	87	83	80	82	78	75	72	61	59	56	45	43	42	30	29	29	22
2	83	76	70	64	74	68	63	58	53	49	46	39	37	34	26	25	23	18
3	76	66	59	53	67	59	53	48	46	42	38	34	31	29	23	21	19	14
4	69	58	51	44	61	52	46	40	41	36	32	30	27	24	20	18	17	12
5	63	52	44	38	56	46	39	34	36	31	27	27	23	21	18	16	14	10
6	58	46	38	32	52	41	35	29	33	27	24	24	21	18	16	14	12	9
7	54	41	34	28	48	37	30	26	29	24	21	22	18	16	15	13	11	8
8	50	37	30	25	44	34	27	22	27	22	18	20	16	14	14	11	10	7
9	46	34	27	22	41	31	24	20	24	19	16	18	15	12	13	10	9	6
10	43	31	24	19	38	28	22	18	22	18	14	17	13	11	12	9	8	6

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	6783	6783	6783
5°	6816	6530	6505
10°	6774	6337	6266
15°	6681	6133	6014
20°	6562	5913	5771
25°	6445	5701	5552
30°	6282	5486	5330
35°	6116	5276	5174
40°	5941	5099	5017
45°	5775	4940	4885
50°	5598	4794	4753
55°	5410	4638	4620
60°	5180	4477	4479
65°	4944	4290	4310
70°	4679	4085	4131
75°	4335	3888	3964
80°	3800	3685	3794
85°	3277	3510	3661



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	39.8	0.8
10°-20°	114.2	2.2
20°-30°	173.0	3.4
30°-40°	210.7	4.1
40°-50°	226.7	4.4
50°-60°	220.1	4.3
60°-70°	192.2	3.8
70°-80°	148.0	2.9
80°-90°	104.3	2.0
90°-100°	147.8	2.9
100°-110°	296.5	5.8
110°-120°	454.4	8.9
120°-130°	572.6	11.2
130°-140°	629.7	12.3
140°-150°	611.2	12.0
150°-160°	511.5	10.0
160°-170°	339.3	6.6
170°-180°	118.6	2.3
0°-30°	327.0	6.4
0°-40°	537.7	10.5
0°-60°	984.5	19.3
0°-90°	1429.0	28.0
90°-120°	898.7	17.6
90°-150°	2712.3	53.1
90°-180°	3682.0	72.0
0°-180°	5110.7	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	420	420	420	420	420	
5°	421	419	416	419	419	40
15°	402	403	403	408	408	113
25°	365	370	375	382	384	168
35°	315	325	337	350	354	197
45°	258	275	296	314	321	199
55°	198	220	251	273	281	177
65°	135	165	201	225	234	134
75°	75	109	148	173	182	79
85°	22	60	99	123	133	24
90°	7	56	117	139	148	7
95°	60	99	138	160	166	67
105°	230	252	285	307	315	244
115°	425	439	464	480	484	420
125°	616	626	642	655	660	551
135°	797	808	816	828	830	615
145°	966	974	980	984	984	604
155°	1105	1108	1111	1116	1113	508
165°	1202	1201	1201	1208	1203	339
175°	1251	1248	1245	1252	1246	119
180°	1253	1253	1253	1253	1253	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	420.1	420.1	420.1	420.1	420.1	420.1	420.1	420.1	420.1	420.1	420.1
2.5°	422.6	422.2	421.9	421.6	421.3	420.7	420.0	419.2	418.5	417.7	418.2
5°	421.3	420.9	420.5	420.1	419.7	419.1	418.3	417.5	416.7	415.9	416.7
7.5°	417.6	417.3	417.0	416.8	416.5	416.0	415.4	414.8	414.2	413.5	414.5
10°	414.7	414.4	414.1	413.8	413.6	413.3	412.9	412.5	412.1	411.6	412.7
12.5°	409.8	409.9	409.9	409.9	410.0	409.9	409.6	409.3	409.0	408.7	409.8
15°	401.9	402.1	402.4	402.7	402.9	403.1	403.1	403.1	403.1	403.1	404.3
17.5°	391.7	392.2	392.8	393.4	394.0	394.4	394.8	395.3	395.7	396.2	397.4
20°	384.8	385.5	386.2	386.9	387.5	388.2	388.7	389.2	389.8	390.3	391.8
22.5°	377.5	378.3	379.1	379.8	380.7	381.4	382.2	382.9	383.7	384.5	386.0
25°	365.3	366.3	367.2	368.2	369.1	370.2	371.5	372.7	373.9	375.0	376.7
27.5°	350.7	352.3	353.8	355.4	356.9	358.4	359.8	361.3	362.6	364.1	366.2
30°	341.0	342.8	344.5	346.3	348.1	349.8	351.6	353.3	355.1	356.8	359.0
32.5°	330.3	332.2	334.2	336.2	338.2	340.2	342.3	344.4	346.4	348.5	351.0
35°	314.8	317.1	319.4	321.7	324.0	326.4	329.0	331.6	334.1	336.7	339.7
37.5°	298.0	300.7	303.3	306.0	308.6	311.6	315.0	318.2	321.6	324.9	328.2
40°	286.8	289.8	292.8	295.7	298.7	302.0	305.7	309.3	313.0	316.7	320.2
42.5°	276.1	279.1	282.0	285.0	288.0	291.6	295.8	299.9	304.2	308.3	312.2
45°	258.2	261.8	265.5	269.1	272.8	277.0	281.7	286.4	291.2	296.0	300.1
47.5°	240.5	244.5	248.5	252.4	256.4	261.2	266.8	272.3	277.9	283.4	287.8
50°	228.4	232.5	236.8	240.9	245.1	250.2	256.3	262.4	268.6	274.6	279.2
52.5°	216.6	221.0	225.4	229.9	234.3	239.7	246.1	252.5	258.9	265.4	270.0
55°	197.9	202.8	207.7	212.5	217.4	223.3	230.4	237.4	244.4	251.4	256.3
57.5°	179.4	184.9	190.4	195.8	201.4	207.7	214.8	222.0	229.2	236.4	241.7
60°	166.2	172.0	177.9	183.7	189.5	196.2	204.0	211.7	219.4	227.1	232.3
62.5°	154.5	160.5	166.6	172.7	178.7	185.6	193.2	201.0	208.7	216.4	221.8
65°	135.2	141.8	148.5	155.1	161.7	169.0	177.0	185.0	193.0	201.0	206.5
67.5°	117.4	124.3	131.3	138.2	145.1	152.6	160.9	169.0	177.2	185.3	190.9
70°	104.8	111.8	118.8	125.8	132.9	140.6	149.0	157.4	165.8	174.1	179.9
72.5°	93.0	100.3	107.5	114.8	122.1	130.0	138.4	146.9	155.4	163.9	169.7
75°	74.9	82.5	90.0	97.6	105.2	113.3	122.0	130.6	139.3	148.0	153.8
77.5°	57.4	65.3	73.2	81.1	89.1	97.4	106.2	115.0	123.8	132.6	138.4
80°	45.7	53.9	62.2	70.4	78.7	87.2	96.0	104.8	113.6	122.4	128.1
82.5°	36.0	44.1	52.2	60.3	68.5	77.0	85.9	94.8	103.7	112.7	118.3
85°	21.9	30.3	38.7	47.1	55.4	64.0	72.6	81.3	90.0	98.7	104.4
87.5°	12.1	20.8	29.4	38.0	46.6	55.8	65.6	75.2	84.9	94.6	100.0
90°	7.2	17.8	28.5	39.1	49.8	62.0	75.9	89.7	103.5	117.4	122.3
92.5°	24.5	33.8	43.1	52.5	61.9	71.4	81.0	90.5	100.0	109.6	115.0
95°	59.8	68.6	77.3	85.9	94.7	103.3	111.9	120.5	129.1	137.7	142.8
97.5°	104.7	112.4	120.2	127.8	135.6	143.8	152.5	161.2	169.8	178.6	183.5
100°	138.5	145.4	152.3	159.1	166.1	173.7	181.9	190.2	198.5	206.8	211.8
102.5°	173.6	179.6	185.7	191.8	197.9	205.0	213.3	221.5	229.8	238.1	243.1
105°	230.3	235.0	239.6	244.2	248.8	254.9	262.4	269.9	277.4	284.9	290.2
107.5°	288.1	292.3	296.5	300.7	304.8	310.3	317.0	323.8	330.5	337.2	342.0
110°	324.9	329.0	333.1	337.2	341.4	346.7	353.4	360.0	366.6	373.2	377.6



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	365.5	369.2	372.8	376.5	380.2	385.1	391.2	397.3	403.4	409.5	413.4
115°	425.3	428.2	431.1	434.0	436.9	441.2	446.8	452.4	458.0	463.7	467.4
117.5°	484.3	487.1	490.0	492.8	495.7	499.3	503.6	507.9	512.3	516.6	520.0
120°	524.1	526.5	528.9	531.3	533.8	536.7	540.2	543.8	547.3	550.8	554.6
122.5°	560.4	562.9	565.4	567.9	570.3	573.4	577.2	581.0	584.7	588.5	591.7
125°	616.4	618.6	620.7	622.8	624.9	627.8	631.4	635.0	638.7	642.3	645.2
127.5°	671.6	674.2	676.8	679.3	681.8	684.4	687.1	689.7	692.4	695.0	697.5
130°	706.4	709.2	712.2	715.1	718.0	720.6	723.0	725.4	727.7	730.2	733.0
132.5°	745.3	747.6	749.9	752.3	754.6	757.0	759.3	761.6	763.9	766.1	768.3
135°	796.6	799.2	801.8	804.4	807.0	809.2	811.0	812.9	814.6	816.4	819.0
137.5°	851.4	853.5	855.6	857.7	859.7	861.4	862.6	863.8	865.0	866.3	868.5
140°	884.4	886.4	888.4	890.3	892.3	894.1	895.4	896.9	898.4	899.8	902.0
142.5°	918.2	920.2	922.2	924.1	926.1	927.6	928.4	929.3	930.1	931.0	932.9
145°	966.2	967.9	969.6	971.2	972.8	974.4	975.8	977.1	978.6	980.0	981.0
147.5°	1009.6	1011.5	1013.5	1015.5	1017.5	1019.0	1019.9	1020.8	1021.7	1022.7	1023.3
150°	1039.2	1040.6	1042.0	1043.4	1044.8	1046.0	1046.9	1047.9	1048.8	1049.8	1050.4
152.5°	1065.4	1066.8	1068.2	1069.6	1071.1	1072.3	1073.4	1074.6	1075.7	1076.8	1077.7
155°	1104.7	1105.5	1106.1	1106.9	1107.6	1108.2	1109.0	1109.6	1110.4	1111.1	1112.2
157.5°	1138.3	1138.8	1139.3	1139.8	1140.2	1140.7	1141.1	1141.5	1141.9	1142.4	1143.9
160°	1158.6	1159.1	1159.6	1160.1	1160.5	1160.9	1161.1	1161.3	1161.6	1161.8	1163.2
162.5°	1177.2	1177.4	1177.5	1177.5	1177.6	1177.8	1178.0	1178.3	1178.5	1178.8	1180.3
165°	1202.0	1201.8	1201.5	1201.3	1201.0	1200.9	1200.9	1200.9	1200.9	1200.9	1202.6
167.5°	1222.7	1222.0	1221.3	1220.6	1219.9	1219.5	1219.4	1219.4	1219.4	1219.3	1221.0
170°	1233.7	1233.0	1232.3	1231.6	1230.9	1230.4	1230.2	1230.0	1229.7	1229.5	1231.1
172.5°	1241.3	1240.6	1239.9	1239.2	1238.5	1238.0	1237.8	1237.5	1237.3	1237.1	1238.8
175°	1250.6	1249.9	1249.2	1248.5	1247.8	1247.2	1246.8	1246.3	1245.8	1245.3	1247.0
177.5°	1254.4	1253.8	1253.3	1252.7	1252.1	1251.7	1251.3	1250.9	1250.6	1250.2	1251.3
180°	1252.7	1252.7	1252.7	1252.7	1252.7	1252.7	1252.7	1252.7	1252.7	1252.7	1252.7



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	420.1	420.1	420.1	420.1	420.1	420.1	420.1	420.1
2.5°	418.8	419.3	419.9	420.0	419.8	419.6	419.4	419.1
5°	417.5	418.3	419.1	419.5	419.3	419.2	419.1	418.9
7.5°	415.5	416.5	417.4	417.8	417.8	417.6	417.4	417.4
10°	413.8	414.8	416.0	416.5	416.3	416.1	416.0	415.9
12.5°	410.8	412.0	413.0	413.5	413.4	413.2	413.1	412.9
15°	405.5	406.8	408.0	408.5	408.4	408.2	408.1	408.0
17.5°	398.7	400.0	401.2	401.9	401.9	401.9	401.9	401.9
20°	393.3	394.8	396.2	397.0	397.0	397.0	397.0	397.0
22.5°	387.4	388.9	390.4	391.3	391.5	391.7	391.9	392.2
25°	378.3	379.9	381.6	382.6	383.0	383.4	383.8	384.3
27.5°	368.3	370.3	372.3	373.5	373.8	374.1	374.4	374.7
30°	361.2	363.3	365.5	366.7	367.1	367.5	367.9	368.4
32.5°	353.5	356.0	358.5	360.1	360.9	361.6	362.3	363.1
35°	342.7	345.7	348.6	350.6	351.6	352.5	353.4	354.4
37.5°	331.5	334.8	338.1	340.2	341.3	342.3	343.2	344.3
40°	323.7	327.2	330.7	333.0	334.3	335.5	336.7	337.9
42.5°	316.0	319.8	323.7	326.3	327.4	328.6	329.9	331.1
45°	304.4	308.5	312.7	315.4	316.8	318.2	319.5	320.9
47.5°	292.1	296.5	300.9	303.9	305.3	306.8	308.3	309.8
50°	283.8	288.4	293.0	296.0	297.6	299.1	300.5	302.0
52.5°	274.8	279.5	284.2	287.3	288.9	290.6	292.1	293.8
55°	261.2	266.1	270.9	274.3	276.1	277.8	279.6	281.3
57.5°	246.9	252.1	257.4	260.9	262.7	264.5	266.3	268.1
60°	237.4	242.6	247.7	251.2	253.1	255.0	256.9	258.8
62.5°	227.3	232.8	238.2	241.9	243.7	245.5	247.3	249.1
65°	212.1	217.6	223.1	226.8	228.5	230.3	232.0	233.8
67.5°	196.6	202.1	207.7	211.5	213.3	215.2	217.0	218.8
70°	185.8	191.6	197.4	201.1	202.8	204.4	206.0	207.7
72.5°	175.4	181.1	186.8	190.6	192.5	194.4	196.4	198.4
75°	159.6	165.4	171.2	175.0	176.8	178.6	180.3	182.1
77.5°	144.2	150.0	155.8	159.6	161.5	163.4	165.3	167.2
80°	133.8	139.4	145.1	148.9	150.8	152.7	154.6	156.5
82.5°	124.0	129.7	135.3	139.1	140.9	142.7	144.5	146.3
85°	110.0	115.7	121.4	125.1	127.0	129.0	130.9	132.7
87.5°	105.4	110.9	116.3	119.9	121.6	123.4	125.2	127.0
90°	127.3	132.2	137.1	140.6	142.4	144.2	146.1	148.0
92.5°	120.4	125.8	131.2	134.8	136.4	138.1	139.7	141.5
95°	148.0	153.1	158.2	161.4	162.6	163.7	164.9	166.0
97.5°	188.6	193.6	198.5	201.9	203.4	205.0	206.5	208.1
100°	216.8	221.8	226.8	229.9	231.2	232.4	233.7	235.0
102.5°	248.2	253.3	258.4	261.5	262.8	264.1	265.3	266.6
105°	295.4	300.5	305.7	309.1	310.6	312.1	313.6	315.0
107.5°	346.7	351.5	356.2	358.7	359.1	359.5	360.0	360.4
110°	381.9	386.2	390.5	393.1	393.9	394.7	395.4	396.2



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	417.1	420.9	424.6	427.0	428.0	428.9	429.9	430.9
115°	471.2	475.1	478.9	481.2	482.0	482.8	483.6	484.4
117.5°	523.4	526.8	530.4	532.4	533.0	533.8	534.4	535.1
120°	558.4	562.2	566.0	568.3	569.1	569.9	570.6	571.4
122.5°	594.8	597.9	601.0	602.9	603.6	604.5	605.2	605.9
125°	648.2	651.2	654.1	656.1	657.0	658.0	659.0	660.0
127.5°	700.0	702.5	705.1	706.5	706.9	707.4	707.8	708.3
130°	735.7	738.5	741.3	742.7	742.8	743.0	743.1	743.3
132.5°	770.4	772.4	774.5	775.8	776.1	776.4	776.7	777.1
135°	821.7	824.3	826.9	828.4	828.8	829.2	829.6	829.9
137.5°	870.8	873.1	875.5	876.6	876.5	876.5	876.5	876.5
140°	904.2	906.3	908.5	909.5	909.4	909.2	909.1	909.0
142.5°	934.8	936.7	938.7	939.5	939.2	939.0	938.7	938.6
145°	982.1	983.1	984.1	984.6	984.3	984.1	983.7	983.5
147.5°	1023.9	1024.6	1025.2	1025.2	1024.7	1024.1	1023.5	1023.0
150°	1051.2	1051.9	1052.6	1052.6	1051.9	1051.2	1050.4	1049.8
152.5°	1078.6	1079.5	1080.4	1080.4	1079.5	1078.6	1077.7	1076.8
155°	1113.5	1114.6	1115.7	1116.0	1115.3	1114.6	1113.9	1113.2
157.5°	1145.6	1147.1	1148.8	1149.0	1147.9	1146.7	1145.6	1144.4
160°	1164.7	1166.0	1167.4	1167.7	1166.8	1165.8	1164.9	1163.9
162.5°	1181.9	1183.5	1185.1	1185.4	1184.2	1183.1	1181.9	1180.9
165°	1204.2	1205.8	1207.5	1207.7	1206.6	1205.4	1204.2	1203.1
167.5°	1222.6	1224.3	1225.9	1226.1	1224.9	1223.7	1222.5	1221.2
170°	1232.7	1234.4	1236.1	1236.2	1234.8	1233.4	1231.9	1230.5
172.5°	1240.4	1242.0	1243.7	1243.7	1242.4	1241.0	1239.6	1238.1
175°	1248.6	1250.3	1251.9	1252.1	1250.6	1249.2	1247.8	1246.3
177.5°	1252.5	1253.6	1254.7	1254.7	1253.6	1252.5	1251.3	1250.2
180°	1252.7	1252.7	1252.7	1252.7	1252.7	1252.7	1252.7	1252.7

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