

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: P331836-935

Luminaire Tested: **S122RDIW-S865D970U935-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331836-935
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: S122RDIW-S865D970U935-4F0-1E-UDD-F1
Description: DEFINE 2 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 865 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 970 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

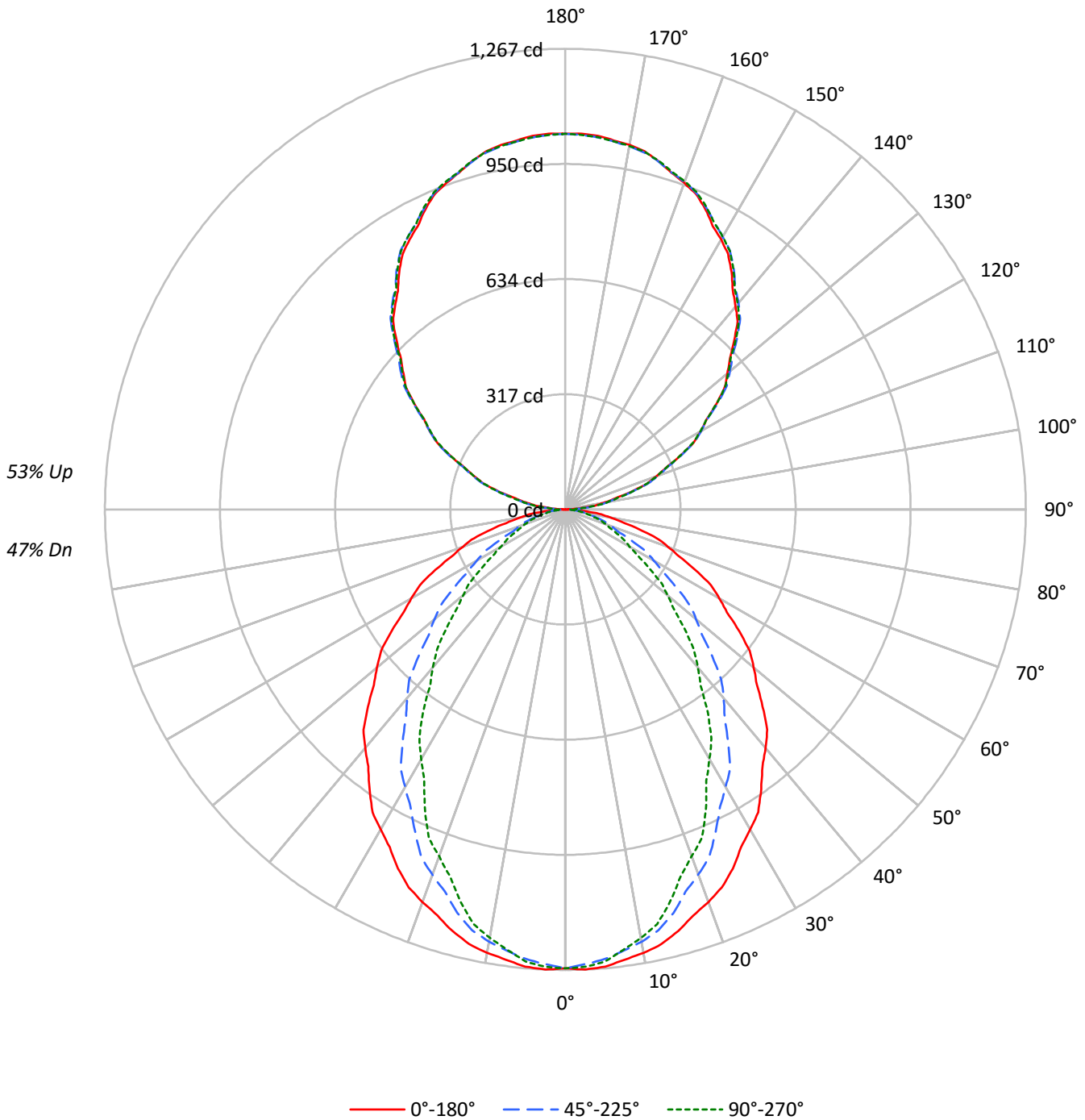
Lumens per Lamp: N/A
Luminaire Lumens: 5490.3 lumens
Efficiency: N/A
Efficacy: 89.7 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular (W 0.17' x L: 4' x H: 0')
CIE Type: General Diffuse

Input Watts (W): 61.2
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	50	30	10	0	
RCR																						
0	107	107	107	107	98	98	98	98	82	82	82	67	67	67	54	54	54	47				47
1	98	93	90	86	90	86	83	80	72	70	68	60	58	57	48	47	46	41				41
2	89	82	76	71	82	76	71	66	64	60	57	53	50	48	43	41	40	35				35
3	82	73	66	60	75	67	61	56	57	52	49	47	44	41	38	36	34	30				30
4	75	65	57	51	69	60	53	48	51	46	42	42	39	36	35	32	30	26				26
5	69	58	50	44	63	54	47	41	46	40	36	38	34	31	31	29	26	23				23
6	64	52	44	38	58	48	41	36	41	36	32	35	31	28	29	26	23	20				20
7	59	47	39	34	54	44	37	32	38	32	28	32	28	25	26	23	21	18				18
8	55	43	35	30	50	40	33	28	34	29	25	29	25	22	24	21	19	17				17
9	51	39	32	27	47	37	30	25	32	26	23	27	23	20	22	19	17	15				15
10	48	36	29	24	44	34	27	23	29	24	21	25	21	18	21	18	16	14				14

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	20384	20384	20384
5°	20462	20128	20238
10°	20305	19799	19630
15°	20072	19211	18658
20°	19747	18374	17452
25°	19417	17423	16283
30°	18957	16444	14783
35°	18510	15380	13466
40°	18061	14280	11944
45°	17532	13045	10565
50°	16990	11796	9211
55°	16434	10452	7910
60°	15791	9038	6568
65°	15060	7595	5979
70°	14186	6255	5500
75°	13119	5702	5128
80°	11576	5095	4677
85°	9114	4020	4020



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	118.2	2.2
10°-20°	324.5	5.9
20°-30°	455.6	8.3
30°-40°	496.8	9.0
40°-50°	456.8	8.3
50°-60°	358.8	6.5
60°-70°	233.9	4.3
70°-80°	120.6	2.2
80°-90°	35.4	0.6
90°-100°	65.5	1.2
100°-110°	203.4	3.7
110°-120°	347.6	6.3
120°-130°	457.2	8.3
130°-140°	513.1	9.3
140°-150°	503.1	9.2
150°-160°	422.0	7.7
160°-170°	279.9	5.1
170°-180°	97.8	1.8
0°-30°	898.3	16.4
0°-40°	1395.1	25.4
0°-60°	2210.7	40.3
0°-90°	2600.7	47.4
90°-120°	616.5	11.2
90°-150°	2089.9	38.1
90°-180°	2890.0	52.6
0°-180°	5490.3	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1262	1262	1262	1262	1262	
5°	1262	1256	1242	1251	1249	120
15°	1201	1187	1149	1128	1116	338
25°	1090	1051	978	933	914	501
35°	939	878	780	711	683	587
45°	768	689	571	493	463	593
55°	584	493	371	305	281	521
65°	394	301	199	162	156	391
75°	210	133	91	84	82	223
85°	49	26	22	22	22	58
90°	1	12	30	29	30	4
95°	45	54	56	56	54	52
105°	188	190	192	194	194	198
115°	349	354	352	351	349	345
125°	508	515	513	510	509	453
135°	657	666	668	667	664	507
145°	797	803	808	809	806	498
155°	911	914	916	920	918	419
165°	992	991	991	996	992	280
175°	1032	1029	1027	1033	1028	98
180°	1033	1033	1033	1033	1033	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1262.5	1262.5	1262.5	1262.5	1262.5	1262.5	1262.5	1262.5	1262.5	1262.5	1262.5
2.5°	1267.0	1266.0	1265.0	1263.9	1263.0	1261.4	1259.1	1256.9	1254.6	1252.4	1254.5
5°	1262.5	1261.2	1259.9	1258.6	1257.4	1255.1	1251.8	1248.5	1245.2	1241.9	1244.1
7.5°	1249.4	1247.8	1246.3	1244.7	1243.1	1240.4	1236.6	1232.7	1228.8	1224.9	1225.6
10°	1238.5	1236.7	1234.9	1233.1	1231.3	1228.0	1222.9	1217.8	1212.7	1207.6	1206.9
12.5°	1224.8	1222.5	1220.4	1218.2	1216.0	1211.7	1205.1	1198.7	1192.1	1185.7	1184.3
15°	1200.8	1198.0	1195.2	1192.4	1189.6	1183.9	1175.3	1166.7	1158.0	1149.3	1144.5
17.5°	1171.3	1167.0	1162.8	1158.5	1154.3	1146.6	1135.5	1124.4	1113.4	1102.3	1096.6
20°	1149.3	1144.3	1139.2	1134.1	1129.0	1120.2	1107.4	1094.8	1082.1	1069.4	1063.0
22.5°	1125.6	1119.9	1114.2	1108.5	1102.9	1092.9	1078.5	1064.2	1049.9	1035.5	1027.3
25°	1089.9	1081.8	1073.7	1065.6	1057.5	1045.0	1028.2	1011.5	994.7	978.0	967.6
27.5°	1047.0	1038.1	1029.3	1020.5	1011.7	997.8	978.9	960.0	941.1	922.2	910.1
30°	1016.8	1007.2	997.6	987.9	978.3	963.3	943.0	922.6	902.3	882.0	869.1
32.5°	987.6	976.3	965.0	953.7	942.5	926.5	905.8	885.0	864.4	843.6	828.9
35°	939.1	926.2	913.3	900.3	887.3	869.7	847.3	825.0	802.7	780.3	764.3
37.5°	890.7	876.5	862.3	848.0	833.8	814.8	791.0	767.2	743.4	719.5	701.9
40°	856.9	841.6	826.4	811.1	795.9	776.0	751.4	726.8	702.1	677.5	659.4
42.5°	822.2	806.1	790.1	774.0	757.9	737.2	711.8	686.3	660.9	635.4	616.8
45°	767.8	750.7	733.7	716.7	699.7	677.9	651.3	624.6	597.9	571.3	553.2
47.5°	714.7	696.7	678.7	660.6	642.7	619.8	592.4	564.8	537.3	509.8	491.9
50°	676.4	658.3	640.3	622.2	604.2	581.3	553.4	525.4	497.5	469.6	452.0
52.5°	638.9	620.0	601.2	582.4	563.5	540.4	513.2	485.8	458.5	431.2	414.2
55°	583.8	564.0	544.2	524.4	504.6	481.0	453.6	426.1	398.7	371.3	356.1
57.5°	527.4	507.0	486.7	466.4	446.2	422.8	396.4	370.1	343.7	317.4	303.4
60°	489.0	468.6	448.4	428.1	407.8	384.5	358.3	332.2	306.1	279.9	267.0
62.5°	451.5	431.2	410.9	390.5	370.2	347.7	322.7	297.8	272.9	247.9	235.6
65°	394.2	373.6	353.0	332.4	311.9	290.2	267.3	244.5	221.6	198.8	190.2
67.5°	338.9	318.5	298.1	277.6	257.2	236.7	216.2	195.6	175.0	154.5	150.5
70°	300.5	280.7	260.9	241.1	221.3	202.6	185.1	167.6	150.1	132.5	130.0
72.5°	263.9	245.0	225.9	207.0	188.0	171.4	157.4	143.3	129.2	115.2	113.0
75°	210.3	192.4	174.7	156.9	139.1	126.0	117.3	108.7	100.0	91.4	89.6
77.5°	157.5	141.8	126.2	110.6	95.1	85.2	81.0	76.9	72.8	68.5	67.5
80°	124.5	111.6	98.7	85.7	72.8	65.0	62.4	59.9	57.3	54.8	53.8
82.5°	94.4	84.3	74.1	64.1	54.0	48.0	46.3	44.6	42.9	41.2	40.6
85°	49.2	43.8	38.5	33.1	27.8	24.8	24.0	23.2	22.5	21.7	21.7
87.5°	14.8	13.6	12.5	11.3	10.2	10.0	10.8	11.7	12.6	13.4	13.2
90°	0.9	3.2	5.5	7.8	10.2	13.4	17.7	22.0	26.3	30.5	30.1
92.5°	15.5	17.2	18.9	20.7	22.4	23.7	24.7	25.7	26.7	27.7	27.8
95°	45.4	47.3	49.2	51.1	53.1	54.2	54.7	55.0	55.4	55.8	55.8
97.5°	82.8	84.6	86.3	88.0	89.6	90.9	91.6	92.4	93.1	93.8	93.8
100°	110.7	112.3	113.8	115.4	116.9	118.0	118.6	119.2	119.8	120.4	120.4
102.5°	140.1	141.3	142.5	143.8	145.0	146.0	146.7	147.5	148.2	149.0	149.1
105°	187.5	188.0	188.6	189.2	189.9	190.3	190.7	191.1	191.5	191.8	192.3
107.5°	235.3	236.2	236.9	237.8	238.7	239.1	239.1	239.1	239.1	239.1	239.3
110°	266.0	267.2	268.3	269.5	270.6	271.2	271.2	271.2	271.2	271.2	271.2



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	299.5	300.7	301.8	303.0	304.1	304.6	304.4	304.3	304.2	304.0	303.5
115°	348.8	350.0	351.1	352.3	353.4	353.9	353.4	353.1	352.7	352.3	352.1
117.5°	398.0	399.6	401.1	402.7	404.2	404.4	403.4	402.3	401.2	400.1	399.7
120°	430.8	432.4	433.9	435.5	437.0	437.0	435.5	433.9	432.4	430.8	430.8
122.5°	460.8	462.7	464.5	466.4	468.2	468.6	467.5	466.5	465.4	464.3	463.8
125°	507.6	509.3	511.0	512.8	514.5	515.1	514.5	513.9	513.3	512.8	512.2
127.5°	553.1	555.3	557.5	559.7	561.9	562.7	562.0	561.3	560.6	559.9	559.1
130°	581.7	584.2	586.7	589.3	591.8	592.8	592.5	592.0	591.7	591.2	590.9
132.5°	613.7	615.8	617.9	619.9	622.0	623.0	623.1	623.2	623.3	623.4	622.5
135°	656.7	658.8	660.9	663.1	665.2	666.4	666.8	667.2	667.6	668.0	667.8
137.5°	701.8	703.6	705.3	707.1	708.8	710.0	710.4	710.9	711.4	712.0	711.8
140°	729.0	730.8	732.5	734.3	736.0	737.4	738.4	739.3	740.3	741.2	741.2
142.5°	757.0	758.7	760.4	762.2	764.0	765.2	765.8	766.5	767.2	767.8	767.9
145°	797.0	798.4	799.8	801.2	802.5	803.7	804.9	806.1	807.3	808.4	808.6
147.5°	832.8	834.5	836.1	837.7	839.3	840.5	841.3	842.1	842.8	843.6	844.0
150°	857.2	858.4	859.5	860.7	861.9	862.9	863.7	864.4	865.2	866.0	866.5
152.5°	878.9	880.0	881.2	882.4	883.6	884.6	885.5	886.4	887.3	888.3	889.0
155°	911.3	911.9	912.5	913.1	913.6	914.2	914.8	915.4	915.9	916.5	917.5
157.5°	939.0	939.4	939.8	940.2	940.6	941.0	941.3	941.7	942.0	942.4	943.7
160°	955.8	956.1	956.6	956.9	957.3	957.6	957.9	958.0	958.2	958.4	959.6
162.5°	971.1	971.2	971.3	971.4	971.5	971.6	971.8	972.0	972.2	972.3	973.7
165°	991.5	991.4	991.2	990.9	990.8	990.7	990.7	990.7	990.7	990.7	992.0
167.5°	1008.7	1008.1	1007.5	1006.9	1006.3	1006.0	1006.0	1005.9	1005.9	1005.8	1007.2
170°	1017.7	1017.1	1016.6	1016.0	1015.4	1015.0	1014.8	1014.6	1014.4	1014.3	1015.5
172.5°	1024.0	1023.4	1022.8	1022.3	1021.7	1021.2	1021.1	1020.9	1020.7	1020.5	1021.8
175°	1031.7	1031.0	1030.5	1029.9	1029.3	1028.8	1028.5	1028.0	1027.7	1027.3	1028.6
177.5°	1034.8	1034.3	1033.9	1033.4	1032.9	1032.5	1032.3	1031.9	1031.7	1031.3	1032.3
180°	1033.4	1033.4	1033.4	1033.4	1033.4	1033.4	1033.4	1033.4	1033.4	1033.4	1033.4



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1262.5	1262.5	1262.5	1262.5	1262.5	1262.5	1262.5	1262.5
2.5°	1256.5	1258.5	1260.5	1261.4	1260.9	1260.5	1260.2	1259.7
5°	1246.5	1248.7	1251.0	1251.8	1251.0	1250.3	1249.5	1248.7
7.5°	1226.3	1226.9	1227.6	1227.3	1226.0	1224.7	1223.3	1222.0
10°	1206.1	1205.3	1204.5	1203.4	1201.9	1200.4	1198.9	1197.3
12.5°	1182.9	1181.6	1180.2	1178.3	1175.7	1173.2	1170.6	1168.1
15°	1139.7	1134.9	1130.1	1126.4	1123.9	1121.3	1118.8	1116.2
17.5°	1090.8	1085.0	1079.3	1074.3	1069.9	1065.6	1061.2	1056.8
20°	1056.7	1050.3	1044.0	1038.0	1032.4	1026.8	1021.2	1015.7
22.5°	1019.3	1011.1	1002.9	996.7	992.6	988.3	984.2	980.1
25°	957.2	946.8	936.3	929.2	925.4	921.6	917.8	914.0
27.5°	897.9	885.8	873.7	864.6	858.6	852.5	846.4	840.4
30°	856.1	843.2	830.2	820.3	813.5	806.6	799.8	792.9
32.5°	814.1	799.3	784.5	773.9	767.5	761.0	754.6	748.1
35°	748.3	732.4	716.4	705.6	700.0	694.4	688.8	683.2
37.5°	684.3	666.7	649.1	637.1	630.7	624.2	617.9	611.5
40°	641.4	623.5	605.4	593.1	586.5	579.9	573.3	566.7
42.5°	598.2	579.5	560.9	548.4	542.0	535.6	529.2	522.8
45°	535.2	517.2	499.1	487.1	481.0	474.9	468.8	462.7
47.5°	473.9	456.0	438.1	426.4	420.9	415.3	409.7	404.2
50°	434.5	417.0	399.5	388.1	382.7	377.4	372.0	366.7
52.5°	397.4	380.5	363.5	352.7	347.7	342.8	337.9	332.9
55°	340.9	325.6	310.4	300.3	295.5	290.7	285.9	281.0
57.5°	289.5	275.5	261.6	252.5	248.5	244.4	240.3	236.3
60°	254.0	241.1	228.1	219.6	215.5	211.5	207.4	203.4
62.5°	223.3	210.9	198.5	191.1	188.7	186.3	183.8	181.4
65°	181.5	172.9	164.3	159.5	158.8	158.1	157.3	156.5
67.5°	146.5	142.6	138.6	136.2	135.4	134.6	133.8	133.0
70°	127.4	124.9	122.3	120.6	119.6	118.6	117.5	116.5
72.5°	110.9	108.7	106.6	105.3	104.6	104.0	103.4	102.8
75°	87.8	86.1	84.3	83.3	83.0	82.7	82.5	82.2
77.5°	66.6	65.5	64.5	63.8	63.4	62.9	62.6	62.2
80°	52.8	51.8	50.8	50.3	50.3	50.3	50.3	50.3
82.5°	40.0	39.3	38.7	38.4	38.4	38.4	38.4	38.4
85°	21.7	21.7	21.7	21.7	21.7	21.7	21.7	21.7
87.5°	12.8	12.6	12.3	12.1	12.2	12.2	12.3	12.3
90°	29.7	29.4	28.9	28.8	29.1	29.3	29.4	29.6
92.5°	27.9	28.0	28.1	28.1	28.2	28.2	28.2	28.2
95°	55.8	55.8	55.8	55.6	55.2	54.8	54.4	54.1
97.5°	93.8	93.8	93.8	93.8	93.8	93.8	93.7	93.7
100°	120.4	120.4	120.4	120.3	120.0	119.9	119.7	119.5
102.5°	149.3	149.4	149.6	149.6	149.4	149.1	149.0	148.8
105°	192.6	193.0	193.4	193.6	193.6	193.6	193.6	193.6
107.5°	239.4	239.6	239.7	239.4	238.5	237.5	236.7	235.8
110°	271.2	271.2	271.2	271.0	270.4	269.8	269.1	268.6



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	303.1	302.6	302.1	301.7	301.3	300.8	300.4	300.0
115°	351.9	351.7	351.5	351.1	350.6	350.0	349.4	348.8
117.5°	399.2	398.7	398.2	397.7	397.2	396.6	396.0	395.4
120°	430.8	430.8	430.8	430.5	429.9	429.4	428.8	428.2
122.5°	463.4	462.9	462.4	462.0	461.6	461.2	460.7	460.3
125°	511.6	511.0	510.5	510.1	509.9	509.7	509.5	509.3
127.5°	558.4	557.8	557.1	556.4	555.8	555.2	554.6	554.0
130°	590.5	590.1	589.7	589.1	588.3	587.5	586.8	586.0
132.5°	621.6	620.8	619.9	619.2	618.6	617.9	617.3	616.7
135°	667.6	667.4	667.2	666.8	666.2	665.6	665.1	664.5
137.5°	711.6	711.5	711.4	710.8	710.1	709.3	708.5	707.7
140°	741.2	741.2	741.2	740.9	740.1	739.3	738.6	737.8
142.5°	768.1	768.3	768.4	768.1	767.3	766.5	765.8	765.0
145°	808.8	809.0	809.2	808.9	808.1	807.4	806.6	805.8
147.5°	844.5	844.9	845.3	845.2	844.5	843.7	843.0	842.2
150°	867.1	867.7	868.3	868.3	867.7	867.1	866.5	866.0
152.5°	889.8	890.5	891.2	891.2	890.5	889.8	889.0	888.3
155°	918.5	919.5	920.4	920.6	920.1	919.5	918.9	918.3
157.5°	945.0	946.3	947.6	947.8	946.9	946.0	945.0	944.1
160°	960.7	961.9	963.0	963.3	962.5	961.7	961.0	960.2
162.5°	975.0	976.3	977.7	977.8	976.9	975.9	975.0	974.1
165°	993.4	994.7	996.1	996.3	995.3	994.4	993.4	992.4
167.5°	1008.6	1010.0	1011.2	1011.4	1010.5	1009.4	1008.4	1007.5
170°	1016.9	1018.3	1019.7	1019.8	1018.6	1017.4	1016.2	1015.1
172.5°	1023.2	1024.6	1025.9	1026.1	1024.8	1023.7	1022.5	1021.4
175°	1030.0	1031.4	1032.7	1032.9	1031.7	1030.5	1029.3	1028.2
177.5°	1033.2	1034.1	1035.0	1035.0	1034.1	1033.2	1032.3	1031.3
180°	1033.4	1033.4	1033.4	1033.4	1033.4	1033.4	1033.4	1033.4

(END OF REPORT)