Test Report

Clear Ballot, Clear Audit System
Accuracy and Mark Sensitivity Testing

Test Report Rev 01

January 9th, 2014

Prepared for:

Vendor Name	*Clear Ballot*
Vendor System	*Clear Audit*

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Accredited by the Election Assistance Commission (EAC) for VSTL status.

Revision History

Release	Author	Revisions
Rev 01	M. Santos	Initial Revision

Disclaimer

The test results reported herein must not be used by the client to claim product certification, approval, or endorsement by any agency of the Federal Government. Results herein relate only to the items tested.

The tests referenced in this document were performed in a controlled environment using specific systems and data sets, and results are related to the specific items tested. Actual results in other environments may vary.

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1 Introduction

SLI Global Solutions is submitting this report as a summary of the testing efforts for the Clear Ballot "Clear Audit" vote counting system. The purpose of this document is to provide an overview of the testing effort and the resultant findings for the Clear Audit system. The review and testing was performed at SLI's Denver, Colorado facility.

1.1 References

1. FEC 2005 Voluntary Voting System Guidelines (VVSG) Volumes I and II.
2. SLI VSTL Quality System Manual, Revision v1.16, prepared by SLI, dated December 3rd, 2013

1.2 Terms and Abbreviations

The following terms and abbreviations will be used throughout this document:

Table 1 – Terms and Abbreviations

Term	Description
Test Deck	A set of ballots that constitute one full cycle of voting of ballots that results in every ballot marking position having been marked in once.
Box	A set of Test Decks run through a scanner and grouped together for accumulation.
Ballot Marking Position	A pre-defined location on a ballot that corresponds to a specific candidate/selection. When marked, assigns an indication of selection for the specific candidate/selection.

1.3 Document Overview

This document contains:

- The Introduction, which discusses the application tested/reviewed
- The Test Background, which discusses the testing process
- The System Identification, which identifies hardware and software for the Clear Audit system
- The Testing Performed section, which is a summary of the testing effort
- The Test Results summary section, which contains the final analysis of the testing effort

- The Recommendation section, which makes a final conclusion.
- Appendix A, which contains software version and/or digests
- Attachment 1-Ballots, which contains images of the Ballot Styles tested.

2 Test Background

2.1 Accuracy Testing

The purpose of Accuracy testing is to validate that in standard conditions, as defined by VVSG volume 2, section 1.8.2.2.b, that the devices and system under test are able to correctly read a pre-determined number of marked and unmarked ballot marking positions.

In this effort, Clear Audit was tested against six different ballot styles, as listed in section 3.2, “Materials”.

The ballots were marked in a slanted pattern covering every seventh position. In this way a “Test Deck” contained seven ballots which between them had every ballot marking position marked.

2.2 Ballot Mark Sensitivity Testing

The purpose of Ballot Mark Sensitivity testing is to determine that the system under test is able to accurately determine when a mark has been made within a ballot marking position. Any mark, intentional or extraneous, should be brought to the attention of election administrators for their determination as to whether the mark is meaningful or not. For this test, various marks were made within the ballot marking positions, using various colors of ink.

Marks included fully filled boxes, left and right oriented slashes, “X” markings, check marks, horizontal single line marks, and circles of various sizes. Marks also included vertical lines within the marking position that filled approximately ten percent of the designated space. Small dots down to approximately five percent of the ballot marking position were also included.

Inks implemented included red, green, blue and black.

3 System Identification

The Clear Audit system consisted of the following components:

- One ScanServer laptop
- Three ScanStation laptops

- One Fujitsu fi-6800 optical scanner
- One Fujitsu fi-6670 optical scanner
- One Fujitsu fi-6140z optical scanner

3.1 Materials

Items identified below reflect materials required to perform accuracy and ballot mark sensitivity testing.

- Premier Block (8.5x18) – 32x51 front and back for 3264 vote targets per ballot
- Dominion Grid (8.5x17) – 24x59 front and back for 2832 vote targets per ballot
- ESS Electionware Grid (8.5x17) – 24x81 front and back for 3888 vote targets per ballot
- Sequoia (10x18) – 27x3 front and 36x3 back for 189 vote targets per ballot
- ESS Unity Block (8.5x17) - 3x45 front and back for 270 vote targets per ballot
- Hart Block (11x17) - 13x36 front and back for 936 vote targets per ballot

4 Testing Performed

4.1 Accuracy & Mark Sensitivity Configurations Tested

Three different scanner configurations were subjected to Accuracy and Mark Sensitivity testing against six different ballot styles. A supported optical scanner was connected to a laptop containing ScanStation, which in turn was linked to a laptop containing ScanServer.

4.1.1 Fujitsu Scanner 6140z

- Premier Block – 490 Ballots, 1,566,360 ballot marking positions
- Dominion Grid – 490 Ballots, 1,387,680 ballot marking positions
- ES&S Electionware Grid – 427 Ballots, 1,660,176 ballot marking positions
- Sequoia – Not Run against fi-6140z, ballots too large
- ES&S Unity Block – 1470 Ballots, 396,900 ballot marking positions
- Hart Block - Not Run against fi-6140z, ballots too large

In total, 5,011,116 ballot marking positions were exercised.

The same four ballot styles were also successfully tested against the fi-6140z for the Mark Sensitivity testing.

4.1.2 Fujitsu Scanner 6670

- Premier Block – 490 Ballots, 1,566,360 ballot marking positions
- Dominion Grid – 490 Ballots, 1,387,680 ballot marking positions
- ES&S Electionware Grid – 427 Ballots, 1,660,176 ballot marking positions
- Sequoia – 3500 Ballots, 661,500 ballot marking positions
- ES&S Unity Block – 1470 Ballots, 396,900 ballot marking positions
- Hart Block – 413 Ballots, 386,568 ballot marking positions

In total, 6,059,184 ballot marking positions were exercised.

The same six ballot styles were also successfully tested against the fi-6670 for the Mark Sensitivity testing.

4.1.3 Fujitsu Scanner 6800

- Premier Block – 490 Ballots, 1,566,360 ballot marking positions
- Dominion Grid – 490 Ballots, 1,387,680 ballot marking positions
- ES&S Electionware Grid – 427 Ballots, 1,660,176 ballot marking positions
- Sequoia – 3500 Ballots, 661,500 ballot marking positions
- ES&S Unity Block – 1470 Ballots, 396,900 ballot marking positions
- Hart Block – 413 Ballots, 386,568 ballot marking positions

In total, 6,059,184 ballot marking positions were exercised.

The same six ballot styles were also successfully tested against the fi-6800 for the Mark Sensitivity testing.

5 Test Results Summary

A total of 16 tests were run, with 4 tests performed against the fi-6140z and 6 tests each against the fi-6670 and 6800.

5.1 Fujitsu Scanner fi-6140z

The following tests were executed on the Clear Audit system with the Fujitsu fi-6140z.

5.1.1 Accuracy - Premier Block

490 ballots were scanned in boxes of 70 ballots each, for a total of 7 boxes.

Each box reported the correct results, as did the final tallies.

The Fujitsu 6140z successfully passed this test of the Premier Block ballot style.

5.1.2 Accuracy - Dominion Grid

490 ballots were scanned in boxes of 70 ballots each, for a total of 7 boxes.

Each box reported the correct results, as did the final tallies.

The Fujitsu 6140z successfully passed this test of the Dominion Grid ballot style.

5.1.3 Accuracy - ES&S Electionware Grid

350 of the ballots were scanned in boxes of 70 ballots each, for a total of 5 boxes. A sixth box was scanned that contained 77 ballots. This totaled 427 ballots.

Each box reported the correct results, as did the final tallies.

The Fujitsu 6140z successfully passed this test of the ES&S Electionware Grid ballot style.

5.1.4 Accuracy - ES&S Unity Block

1344 of the ballots were scanned in boxes of 168 ballots each, for a total of 8 boxes. A ninth box was scanned that contained 126 ballots. This totaled 1470 ballots.

Each box reported the correct results, as did the final tallies.

The Fujitsu 6140z successfully passed this test of the ES&S Unity Block ballot style.

5.1.5 Mark Sensitivity

The following ballot styles were tested on the fi-6140z for ballot mark sensitivity testing:

- Premier Block
- Dominion Grid
- ESS Electionware Grid
- ESS Unity Block

Each ballot style was successfully scanned and interpreted by Clear Audit as expected.

5.2 Fujitsu fi-6670

The following tests were executed on the Clear Audit system with the Fujitsu fi-6670.

5.2.1 Premier Block

The 490 ballots were scanned in boxes of 70 ballots each, for a total of 7 boxes.

Each box reported the correct results, as did the final tallies.

The Fujitsu 6670 successfully passed this test of the Premier Block ballot style.

5.2.2 Dominion Grid

The 490 ballots were scanned in boxes of 70 ballots each, for a total of 7 boxes.

Each box reported the correct results, as did the final tallies.

The Fujitsu 6670 successfully passed this test of the Dominion Grid ballot style.

5.2.3 ES&S Electionware Grid

350 of the ballots were scanned in boxes of 70 ballots each, for a total of 5 boxes. A sixth box was scanned that contained 77 ballots. This totaled 427 ballots.

Each box reported the correct results, as did the final tallies.

The Fujitsu 6670 successfully passed this test of the ES&S Electionware Grid ballot style.

5.2.4 Sequoia

The 3500 ballots were scanned in boxes of 70 ballots each, for a total of 50 boxes.

Each box reported the correct results, as did the final tallies.

The Fujitsu 6670 successfully passed this test of the Sequoia ballot style.

5.2.5 ES&S Unity Block

1428 of the ballots were scanned in boxes of 84 ballots each, for a total of 17 boxes. An eighteenth box was scanned that contained 42 ballots. This totaled 1470 ballots.

Each box reported the correct results, as did the final tallies.

The Fujitsu 6670 successfully passed this test of the ES&S Unity Block ballot style.

5.2.6 Hart Block

350 of the ballots were scanned in boxes of 70 ballots each, for a total of 5 boxes. A sixth box was scanned that contained 63 ballots. This totaled 413 ballots.

Each box reported the correct results, as did the final tallies.

The Fujitsu 6670 successfully passed this test of the Hart Block ballot style.

5.2.7 Mark Sensitivity

The following ballot styles were tested on the fi-6670 for ballot mark sensitivity testing:

- Premier Block
- Dominion Grid
- ESS Electionware Grid
- Sequoia
- ESS Unity Block
- Hart Block

Each ballot style was successfully scanned and interpreted by Clear Audit as expected.

5.3 Fujitsu fi-6800

The following tests were executed on the Clear Audit system with the Fujitsu fi-6800.

5.3.1 Premier Block

308 ballots were scanned in boxes of 77 ballots each, for a total of 4 boxes. A fifth box was scanned that contained 75 ballots, a sixth box was scanned that contained 76 ballots and seventh box was scanned that contained 31 ballots, for a total of 490 ballots scanned.

Each box reported the correct results, as did the final tallies.

The Fujitsu 6800 successfully passed this test of the Premier Block ballot style.

5.3.2 Dominion Grid

357 ballots were scanned in boxes of 119 ballots each, for a total of 3 boxes. A fourth box was scanned that contained 133 ballots, for a total of 490 ballots scanned.

Each box reported the correct results, as did the final tallies.

The Fujitsu 6800 successfully passed this test of the Dominion Grid ballot style.

5.3.3 ES&S Electionware Grid

278 of the ballots were scanned in boxes of 139 ballots each, for a total of 2 boxes. A third box was scanned that contained 149 ballots. This totaled 427 ballots.

Each box reported the correct results, as did the final tallies.

The Fujitsu 6800 successfully passed this test of the ES&S Electionware Grid ballot style.

5.3.4 Sequoia

The 3500 ballots were scanned in boxes of 70 ballots each, for a total of 50 boxes.

Each box reported the correct results, as did the final tallies.

The Fujitsu 6800 successfully passed this test of the Sequoia ballot style.

5.3.5 ES&S Unity Block

1344 of the ballots were scanned in boxes of 168 ballots each, for a total of 8 boxes. A ninth box was scanned that contained 126 ballots. This totaled 1470 ballots.

Each box reported the correct results, as did the final tallies.

The Fujitsu 6800 successfully passed this test of the ES&S Unity Block ballot style.

5.3.6 Hart Block

350 of the ballots were scanned in boxes of 70 ballots each, for a total of 5 boxes. A sixth box was scanned that contained 63 ballots. This totaled 413 ballots.

Each box reported the correct results, as did the final tallies.

The Fujitsu 6800 successfully passed this test of the Hart Ballot style.

5.3.7 Mark Sensitivity

The following ballot styles were tested on the fi-6800 for ballot mark sensitivity testing:

- Premier Block
- Dominion Grid
- ESS Electionware Grid
- Sequoia
- ESS Unity Block
- Hart Block

Each ballot style was successfully scanned and interpreted by Clear Audit as expected.

5.4 Deficiencies

SLI found no Accuracy or Ballot Mark Sensitivity deficiencies against the Clear Audit system during this testing.

5.5 Conclusion

Based upon SLI's examination of the Accuracy and Mark Sensitivity of the Clear Audit system with the Fujitsu fi-6140z, fi-6670 and fi-6800 optical scanners, SLI concludes that the Clear Audit system is able to successfully and accurately identify marked and unmarked ballot marking positions of the ballot types used in this effort.

6 Recommendations

SLI has successfully completed the Accuracy and Ballot Marking Sensitivity testing of the Clear Ballot "Clear Audit" vote verification system. It has been determined that the system meets the requirements for accuracy and mark sensitivity.

This recommendation reflects the opinion SLI Global Solutions, based on testing scope and results.

Traci Mapps

Senior Director of Operations

7 Appendix A

The following tables list pertinent files and versions, or digests.

COTS files found on ScanStation

Scanner	Version
ScandAll Pro	2.0.5
Fujitsu fi-6800	10.10.707
Fujitsu fi-6670	9.21.1202
Fujitsu fi-6140z	10.21.310

Files found on ScanServer

File	Digest (SHA-256)
/usr/share/cbg/web/media/js/jquery.dataTables.customizations.js	e678e1e56be85e83e76a4e8fcc2ee291d4cd415e915684e002acaec2b653e2a4
/usr/share/cbg/web/webCBG.fcgi	7ca684755d0b0f28f0073ec295e3420e1818aeacb489862c685563d53f3ec0f4
/usr/share/cbg/web/media/js/ballot_remaking.js	d69af7ff418f13cd61ff22652ff9195889c82ef5357a7d94de415e9b540cf9eb
/usr/share/cbg/web/media/css/ballot_remaking.css	cc770389c68793101fe3588fc01ce41e28556f675d8f2ec0f892f8f18ed1e763
/usr/share/cbg/web/media/css/style.css	35efe619ed6448b2f33c7a182e9d4422851f0cccbda17c4820842b8abfbeaa8f
/usr/share/cbg/client/GetScannerInfo.exe	d15e9604b77e880f810caefa586efe8f016706128b9b05a4c94114eb7d905d4c
/usr/share/cbg/client/BallotDeleteBox.exe	c8729081775e6d4e5ef96a7018f9596607fdc62b3120a20335e1a7f229587076
/usr/share/cbg/client/BallotTabulator.exe	7a597840bf4e2b8aa1b50c9def11ce14ef196aa7132cc2939c529734fe961871
/usr/share/cbg/client/fi6670/CBG fi6670 Profile.dsi	43495d16e0764afbea0eecabd5f1ff0e178964174006291eb84c4b95fcd1b82c
/usr/share/cbg/client/fi6800/CBG fi6800 18-22 Profile.dsi	e305689f291b3e9140d9221d588a47c006f644fe3381f892a916337123311e25

/usr/share/cbg/client/fi6800/CBG fi6800 Profile.dsi	293186f7a113221ecad5ef32e38f9c10d029d161a76754ce42a831081b7f1b62
/usr/share/cbg/client/fi6140/CBG fi-6140Z Profile.dsi	ee1de7c7498f1b90f15b46899871691e63ed5aa9035f4d6fb2bddaf1f81943a8
/usr/share/cbg/web/media/img/ballot_remaking.png	a4def66462c12ea160e1c67fda67e5cd486c1c5f1450e8c2f2ed60bffa06f1d7
/usr/share/cbg/web/media/js/jquery.tooltip.min.js	2cff4066bb7f544cd444277a9249f1a0eb5bff2687133ce0e9523559d32ca4f8
/usr/share/cbg/web/media/js/jquery.pep.min.js	6a05f071b1d792c3f5657ff4fb75b588807687fc3fe5c20a6b5de4fd4631cc62
/usr/share/cbg/web/media/img/bubble.ogg	35d0ab5d0d43fae35173241bc9efe5c5741f8f024d2a78c26a141135c1849db3
/usr/share/cbg/web/media/img/bubble.mp3	17b1a91c00fd7087d16eef7b52d9682e0a8817a3b28b012c3df4a8ab077d6a23
/usr/share/cbg/client/StartTabulator.cmd	cc481a23e3717a47117337f3a69b5236b2253a3be79aaf616a5aa5b8ec07362c
/usr/share/cbg/web/media/css/TableTools.css	911079b12b903e9d96e8397133be41d4a57413874c2a172f92cac28665c41fe3
/usr/share/cbg/web/media/js/jquery.dataTables.five_button.js	cecc61ed049101d718cda189255421c6e170107f396f7acfeed66b75b03d84bb
/usr/share/cbg/client/DeleteBox.bat	b3dd6b98c046ff6996e9e2a88ef75b6b59c867c6f87a7191a5489cb60bcef3d6
/usr/share/cbg/web/media/js/jquery-migrate-1.2.1.js	58564bc237b683f482c3a82def059f27b2be41109d237d7a2380074b5b4f22be
/usr/share/cbg/web/media/js/jquery-1.10.2.min.js	0ba081f546084bd5097aa8a73c75931d5aa1fc4d6e846e53c21f98e6a1509988
/usr/share/cbg/web/media/js/chosen.jquery.min.js	cdf7377ff0283ac0f89861a0563d2e9362adad64b0400e4cdc7b61c297245349
/usr/share/cbg/web/media/css/chosen-sprite.png	e670fdcaf8cd467a9a1a67e9a5c1f73288089f59dc08031b118dc26fbd233c80
/usr/share/cbg/web/media/css/chosen.css	0b9ea2c569e864534b0e58887d6fc8134add7e594f0f4e61b96734b3b737ec19
/usr/share/cbg/web/media/css/chosen-sprite@2x.png	edc297359fe8a5f6ee0bc4a1abc36ce4a773104a9225e17bbe592f820c617a72
/usr/share/cbg/client/Update6800.bat	5a288bf55ade22a9d9ce27b7240afe84f9cec6d2845b98287381b9bbab32b1ae
/usr/share/cbg/client/fi6800/CBG fi6800 Profile.ini	082b79512dfa8edbdd2f4bc6d1450cb3448839f0eabb0e368d2f275d2abb5580

/usr/share/cbg/client/fi6800/CBG fi6800 Profile_BAR.jpg	b93624acc37d343883472d1701ddae73713b738f607c7ad92d10cc65d641f6c9
/usr/share/cbg/web/media/js/bootstrap.js	bdad90b135145d1d5a5a2243bfa2bd073ef8fe813e5d26984999188b0e770c6a
/usr/share/cbg/web/media/css/bootstrap.css	d7871b00e6e30b52ada8bfe95ee12c34979d77520bdac0009ef812cb68ade0e8
/usr/share/cbg/web/media/img/glyphicons-halflings-white.png	f0e0d95a9c8abcdfabf46348e2d4285829bb0491f5f6af0e05af52bffb6324c4
/usr/share/cbg/web/media/img/glyphicons-halflings.png	d99e3fa32c641032f08149914b28c2dc6acf2ec62f70987f2259eabbfa7fc0de
/usr/share/cbg/web/media/js/less-1.3.3.min.js	7bb9e794c59412e657a262b42eea7eb4193e864d339ba15acc8fa62172cfdae1
/usr/share/cbg/web/media/js/jquery.hotkeys.js	27a36f34a861f9ca7184f3a8dd719fcdb17cb823b769c8beb11f4c19b861a53a
/usr/share/cbg/web/media/swf/copy_csv_xls_pdf.swf	85adab5c75ec9afbe2ef113e3a0a4297471c9ca817c9b346f2dfffa7d949dcce
/usr/share/cbg/web/media/js/TableTools.min.js	3c9c7feae17862664168d29d484ae1b2498b70f1b1ea5f1e35a327c51dbd6fa2
/usr/share/cbg/web/media/img/print_hover.png	dfd041e39e9342f1706335301e65b2fe1bbed3ecce90aeed1b6880b3177dc5c9
/usr/share/cbg/web/media/img/pdf.png	178bccf4fa6246c4e983e1b45bd521c929fa197321ccafdc0c8c0dce799699b2
/usr/share/cbg/web/media/js/ZeroClipboard.js	a2ac19afa4c8639ae8cde84996cb9ede6ecfcf00553982e5c5d745074f214f29
/usr/share/cbg/web/media/img/copy.png	a0feeab39e2b27cd966f77ebac68be4b3638eae7b51b61431bf860a1bb6da929
/usr/share/cbg/web/media/img/copy_hover.png	cde411862f25c1f66a2f54da665968e4b5be58e5eb6ef5769fc69fde1cf8915e
/usr/share/cbg/web/media/img/csv_hover.png	671101bdd0b393cd51c28b34fb5fa24c08932e654c75b47df2d7ef8b021ce289
/usr/share/cbg/web/media/img/pdf_hover.png	a0c883c30bf77280618eba2ce08de7e1377bff15955ebf024deee72819f33945
/usr/share/cbg/web/media/img/print.png	56efc7161f8c36454f011542fd51c4c515fd8a64e4e499834daaf0415bc55bd1
/usr/share/cbg/web/media/img/xls.png	7995e42ff963255fb782c1b858e7d01be93f204befade7e7a41961e42d285d44
/usr/share/cbg/web/media/img/csv.png	d1ddfd7d80b19736d956c00dbe6a9dde454e0b48e732975a89f0d9ec8ca5646c

/usr/share/cbg/web/media/img/xls_hover.png	4aeef987c05055d78ff769f7ad4d871b897fced597d77fcc92ace6945d99f5bd
/usr/share/cbg/web/sql/cbgweb.sql	51cbbd54c64981fadb1da88d2842fdb98165d11cf0c07f77b9fbaf948ba2d107
/usr/share/cbg/client/Update6800-18-22.bat	72d33018d1c4c3a27f3b9d63395db5e788cdf54da4d7866fa73da763a2f1c95c
/usr/share/cbg/client/Update6670.bat	f37ac9a7591bea7f2088cda7defa94c7bcc106535ca37dbc53e02339bfe372d4
/usr/share/cbg/client/Update6140.bat	196ad8f74052e2b2f96b2c84dc7f67e8c927d873ab60db91515fdcabe73646a8
/usr/share/cbg/client/fi6800/CBG fi6800 18-22 Profile.ini	a350704c2c9ebc738d91b13a42641a40a94c8f0c421d44b4b96fc190d78c4286
/usr/share/cbg/client/fi6140/CBG fi-6140Z Profile.ini	4627213b5b6705ac7ea2fa219ed5ad2079256139febbfe1b58787f2bcf7ea3bb
/usr/share/cbg/client/fi6670/CBG fi6670 Profile.ini	a2b2c29e2545da0d86fa026b74690c2b25fd80ed0e553454096d908e9790aa11
/usr/share/cbg/web/media/js/jquery.dataTables.min.js	1a030c3e2766bf3bb59a0e8b6eaf03558deec0e808e65a8cca0274df672e3c6d
/usr/share/cbg/web/media/img/xs-CB-Lockup-Color-RGB-01.png	fef78faaf21aa75508a6e83ec3fad91772083f942babd26aa9d69076e39d6211
/usr/share/cbg/web/media/img/xs-CB-Logotype-White-01.png	64e4ce856482b2885827a1f7e01ec50258499e505f2b750814cf5b4045c0d0f3
/usr/share/cbg/web/media/img/xs-CB-Logo-White-01.png	27b673eb4c30c667f328fac2eedd9044da3ebdd295c74112cc85b840c3167dfd
/usr/share/cbg/web/media/img/favicon.ico	f964b3a246c68c59f633801f17dbbe3f0c052f511a9b020407d6a6310d314f58
/usr/share/cbg/web/media/js/jquery.FixedHeader.min.js	b51a03fe031c6ea5c436cc32898da96732fdcccf11d455fc53e9f6afde82f2df
/usr/share/cbg/web/media/img/sort_both.png	624f0a471a2535c4754e1f6974b0e64ee70d6907738346e2a11d0bff20258b8c
/usr/share/cbg/web/media/img/sort_asc.png	ee6010bb0a8d17e58307136a0fbf0b196d949ab6c50eb66d1ff8f0a7d2a4d48b
/usr/share/cbg/web/media/img/sort_desc_disabled.png	3450cc1e5a1585690226a713a726753b3fa2d177e41338a36e0a3188e3f02663
/usr/share/cbg/web/media/img/forward_enabled_hover.png	4fa2d689a633713d9fb8900611a646c5df0ba24deb9597ab955c62cba77ae3b4
/usr/share/cbg/web/media/img/back_disabled.png	6950463a4f9db9435b8df01fa276eaf88aa65b8913b82e979317d741305bb5d6

/usr/share/cbg/web/media/img/back_enabled.png	9fd6f47b90ca92e855bdf80a0d57178af3a59c307e5c0246bb24dc781d3ae69b
/usr/share/cbg/web/media/img/forward_disabled.png	ede9f1003cef25add5cc2b13f531a014ed9bea78154d4fba008b21f353030295
/usr/share/cbg/web/media/img/sort_asc_disabled.png	539d9e0fc1f3b7196e726c4985397ad804082193d21e68cdf258764d34f85ff6
/usr/share/cbg/web/media/img/forward_enabled.png	bcb3b13b5aaf9015767aff77d621f1f9557adcd8eb8284d06f0b51e2475556b0
/usr/share/cbg/web/media/img/sort_desc.png	26da8e7eaf746a08dec2928977be21aa67212484540a12042b86aa2d904b80e8
/usr/share/cbg/web/media/img/back_enabled_hover.png	b3a398bdb9afa40edff875c14c972ac9329e018e2e5e175ebb8e104c59be37e1

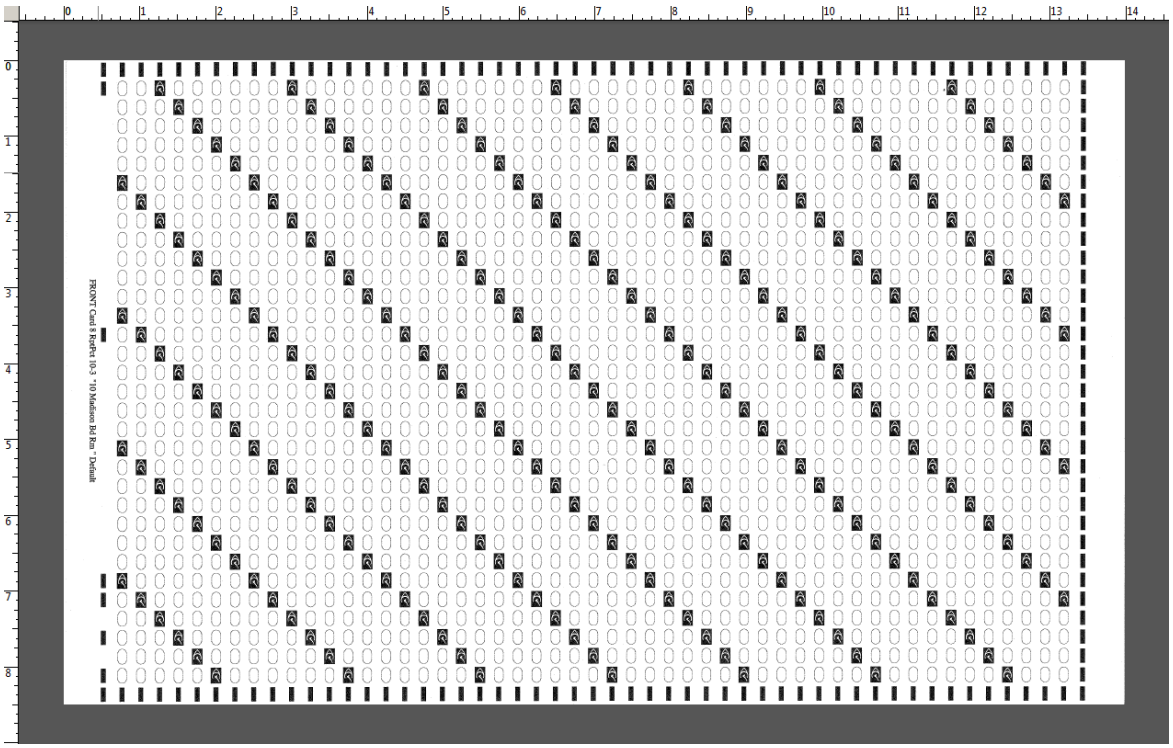
End of Report

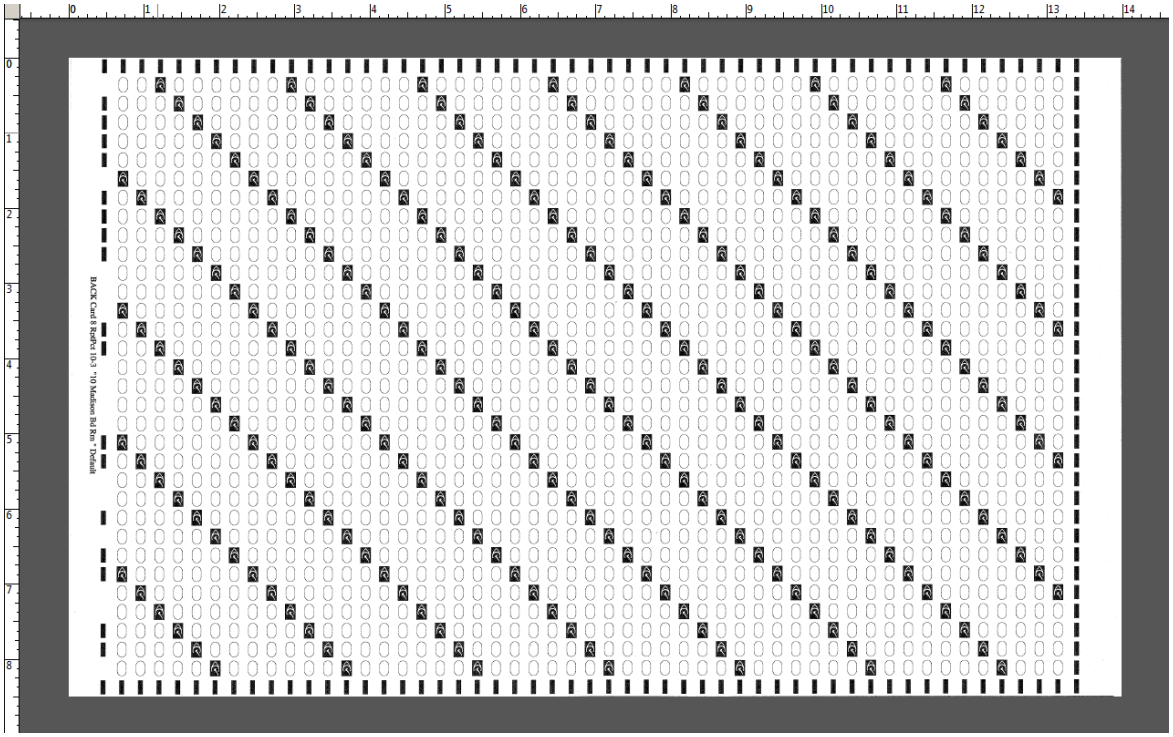
Appendix A

Accuracy and Sensitivity Tests

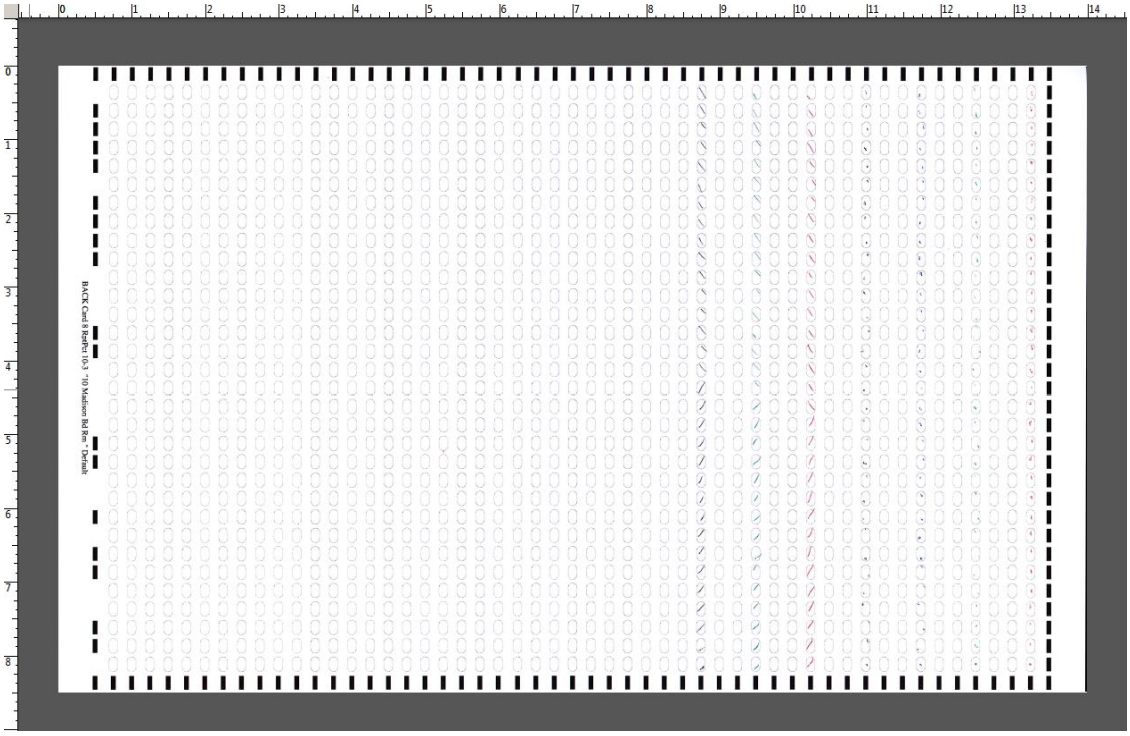
Tests		Voting System / Election Management System
Accuracy	Sensitivity	
A-2	A-3	Premier / Gems
A-4	A-5	Dominion / ImageCast
A-6	A-7	ES&S / Unity
A-8	A-9	ES&S / ElectionWare
A-10	A-11	Hart / BallotNow
A-12	A-13	Sequoia / WinEDS

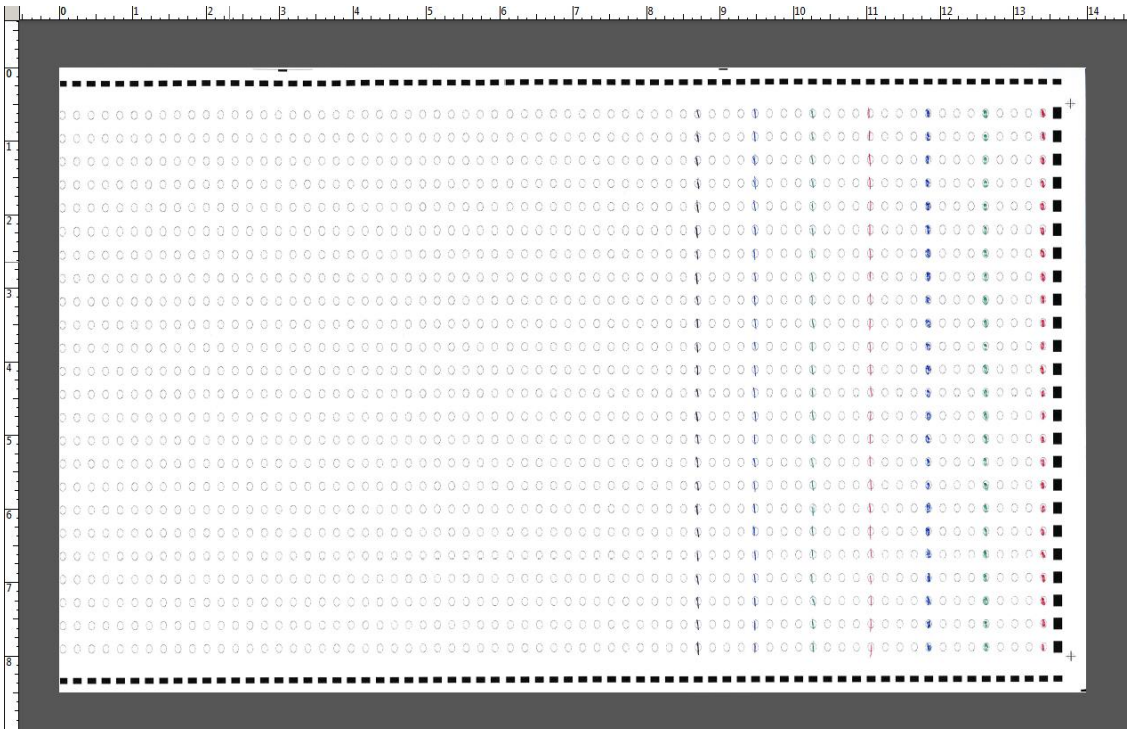
Premier / GEMS
Accuracy Test



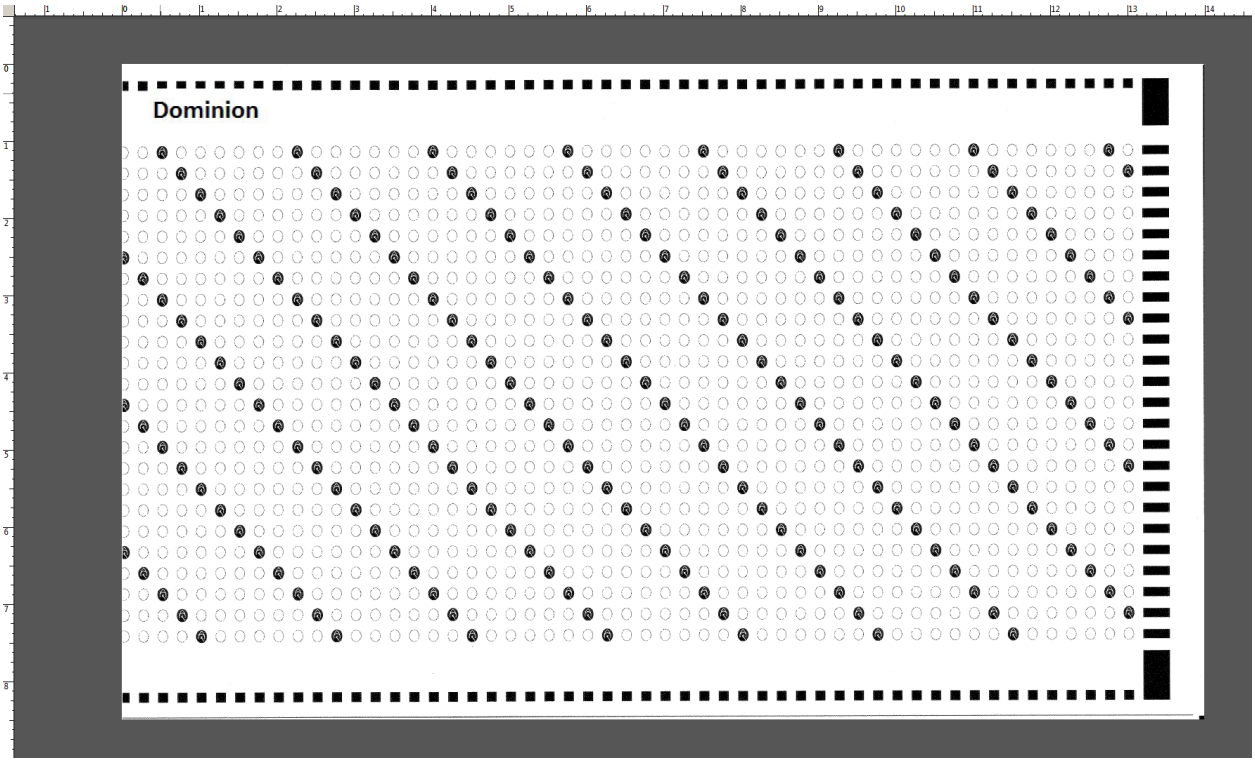


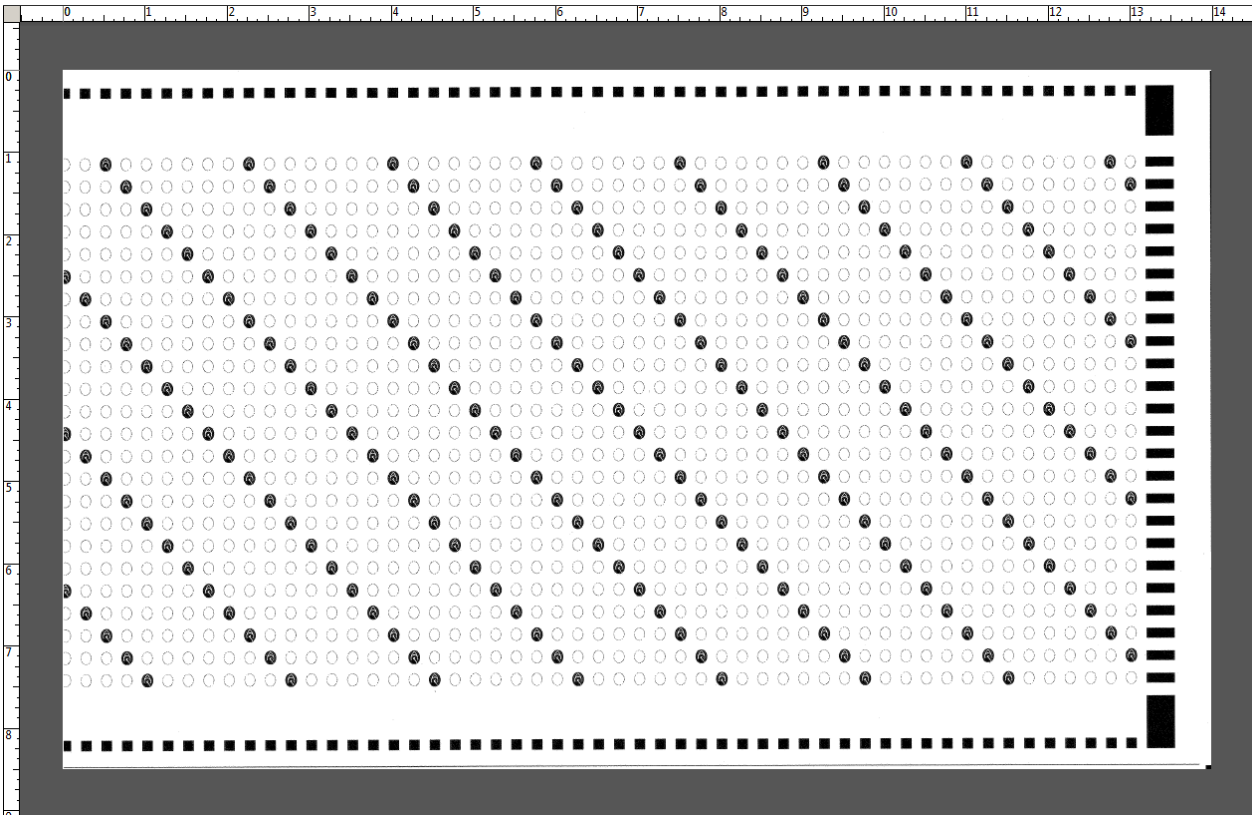
Premier / GEMS
Sensitivity Test



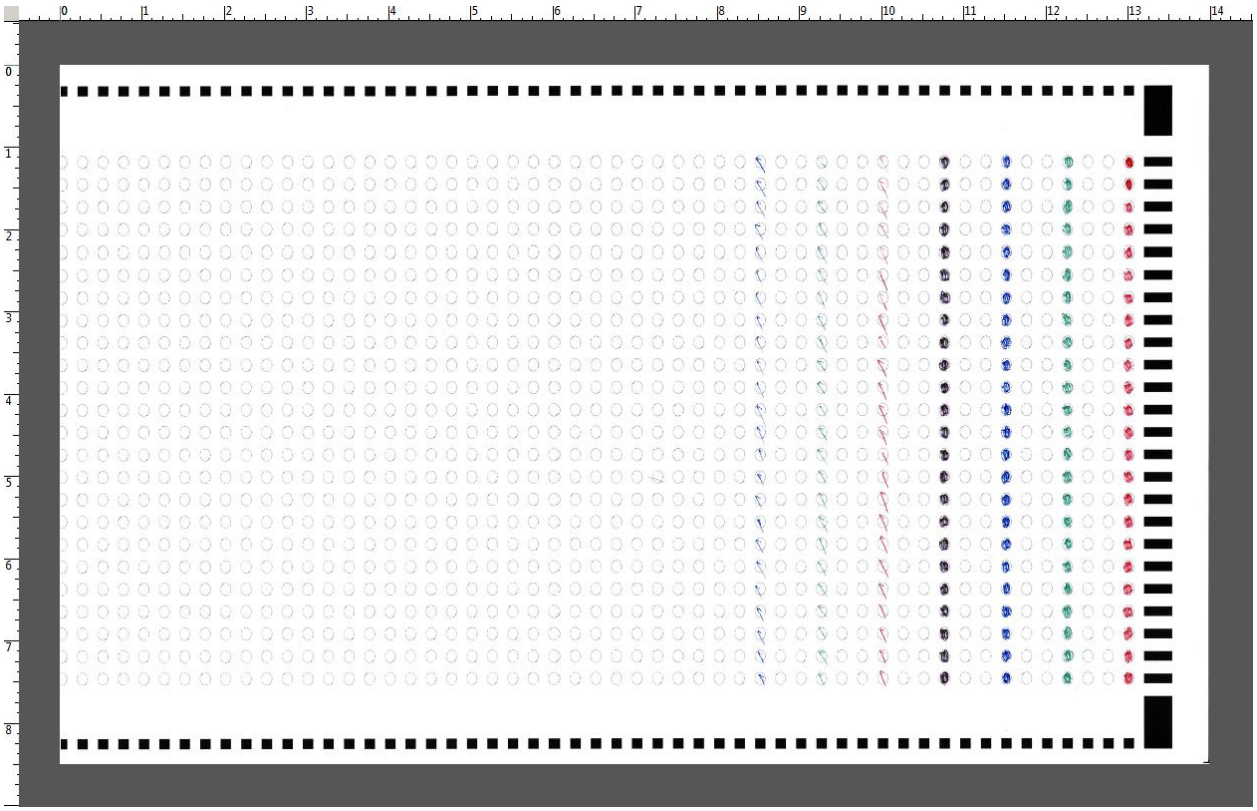


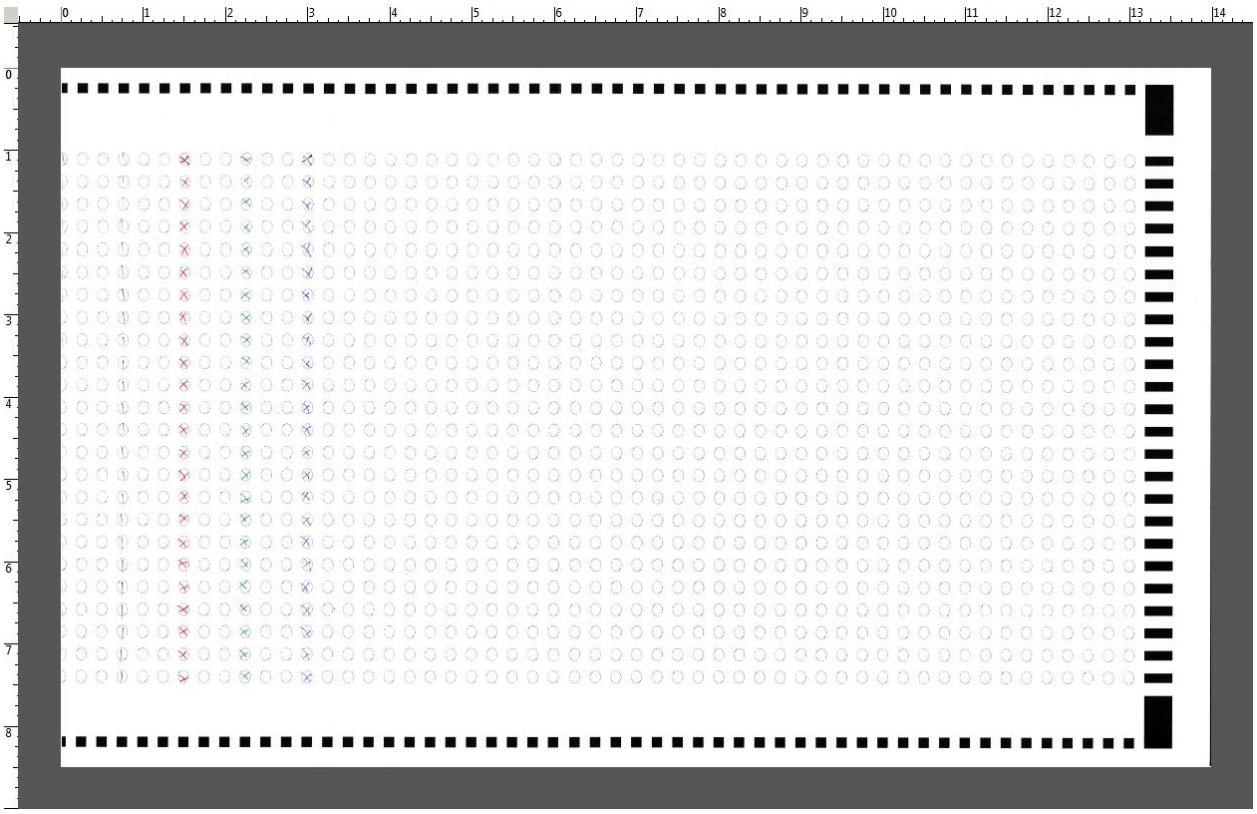
Dominion / ImageCast
Accuracy Test



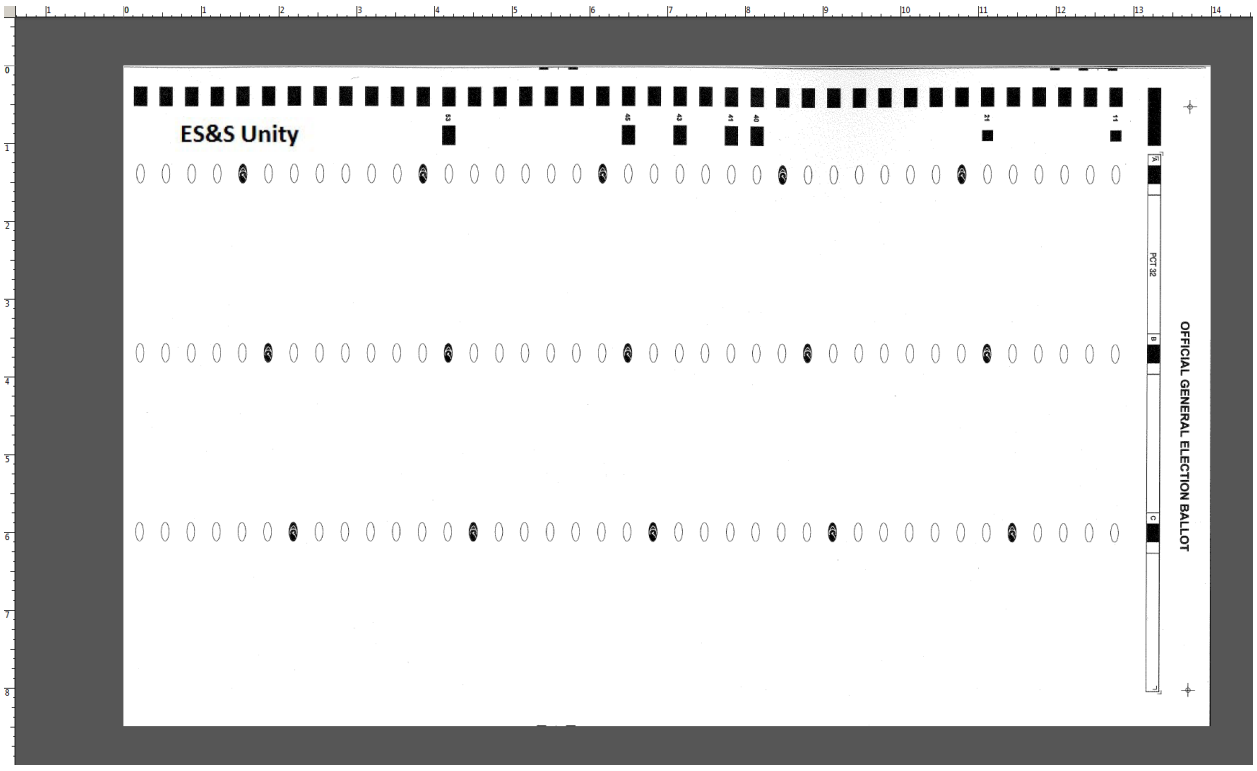


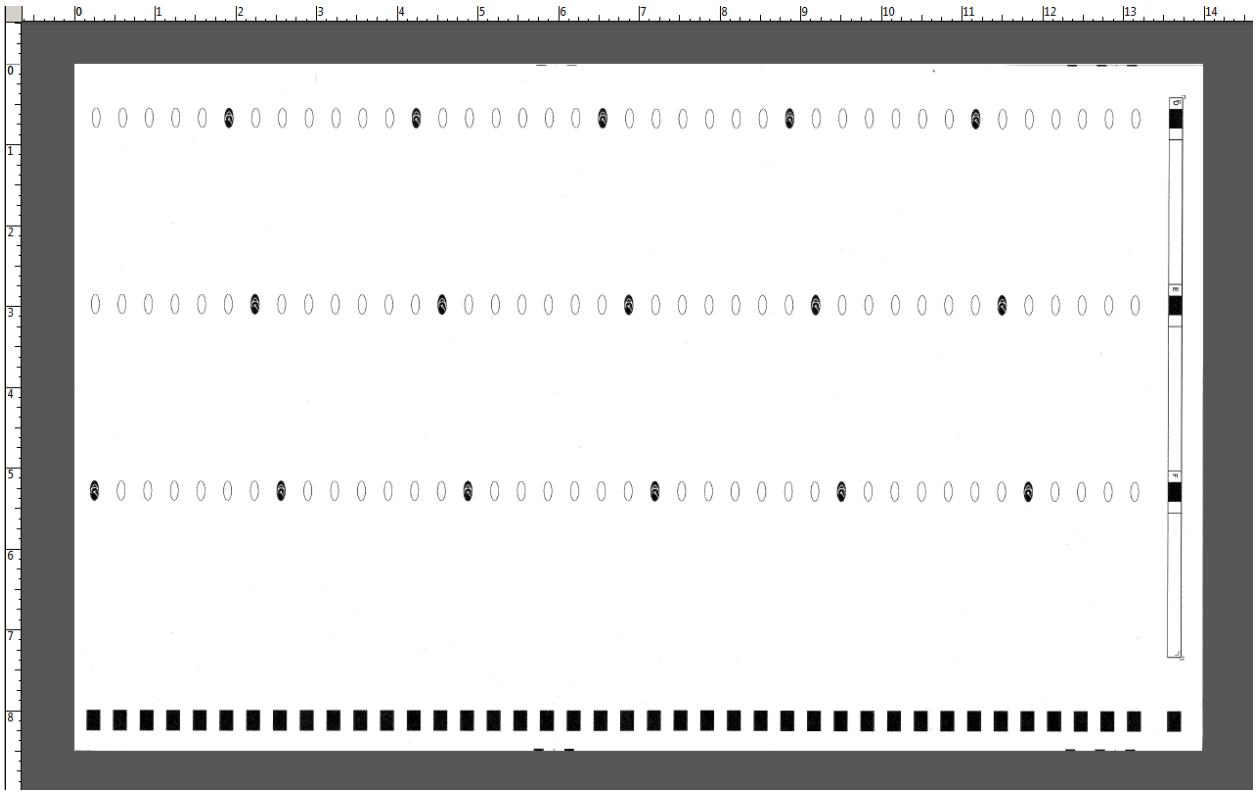
Dominion / ImageCast
Sensitivity Test



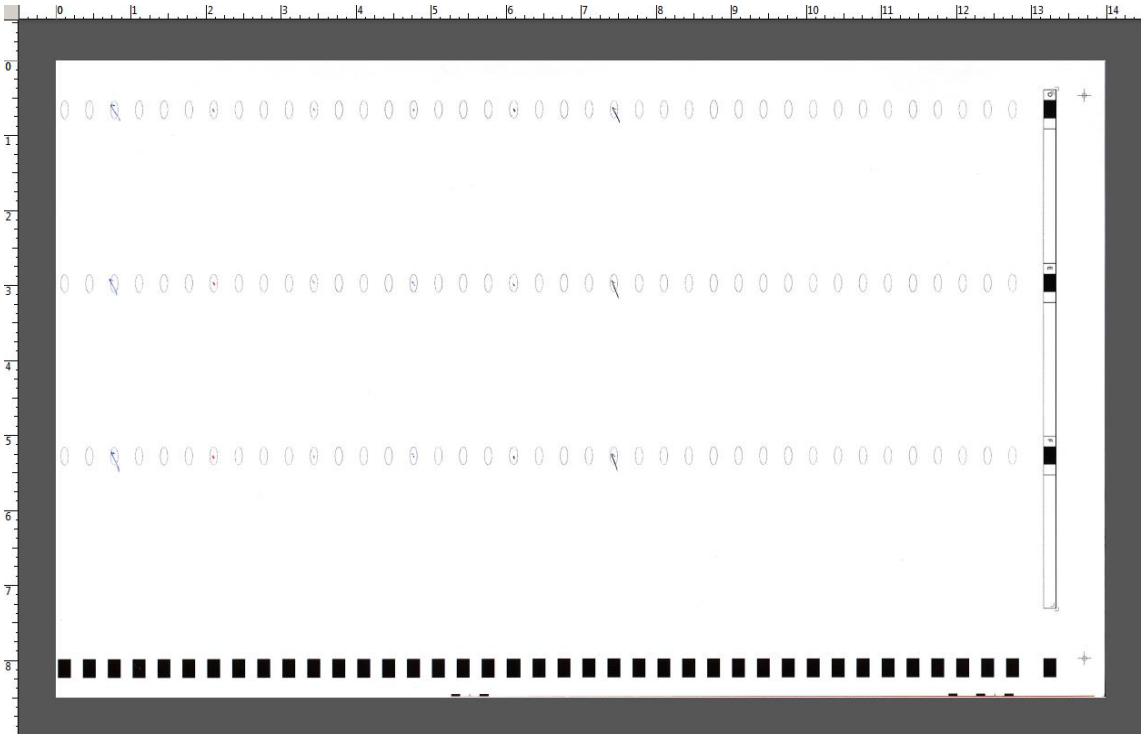


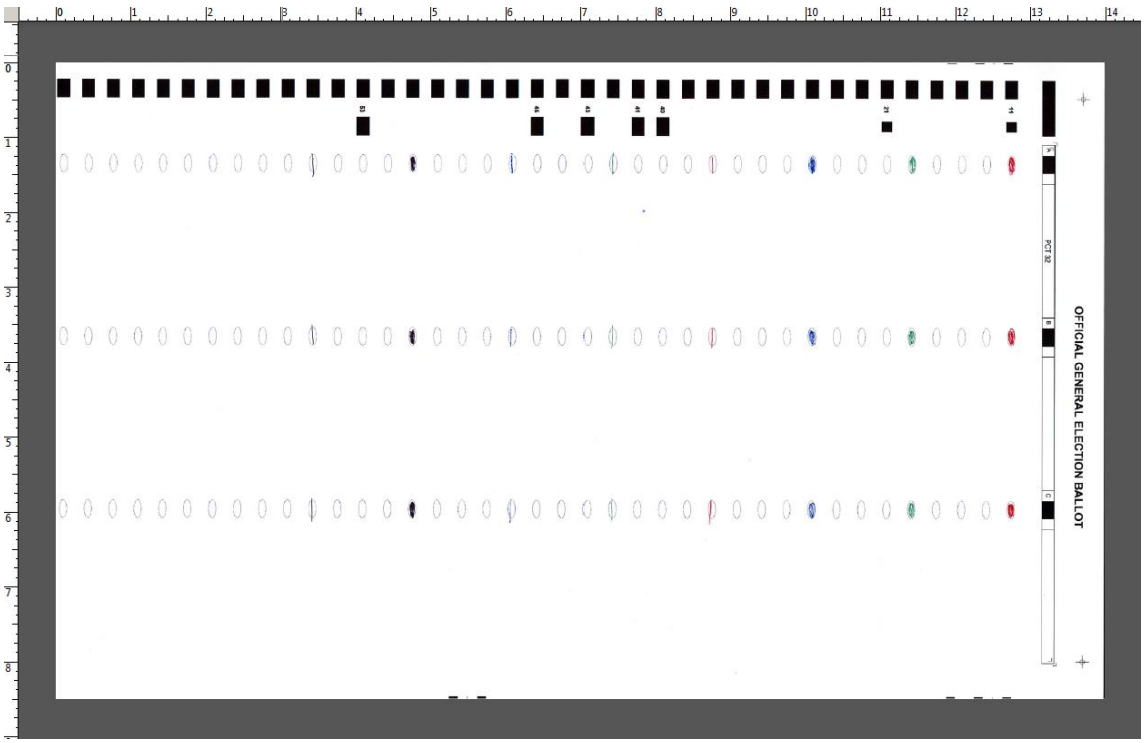
ES&S / Unity
Accuracy Test



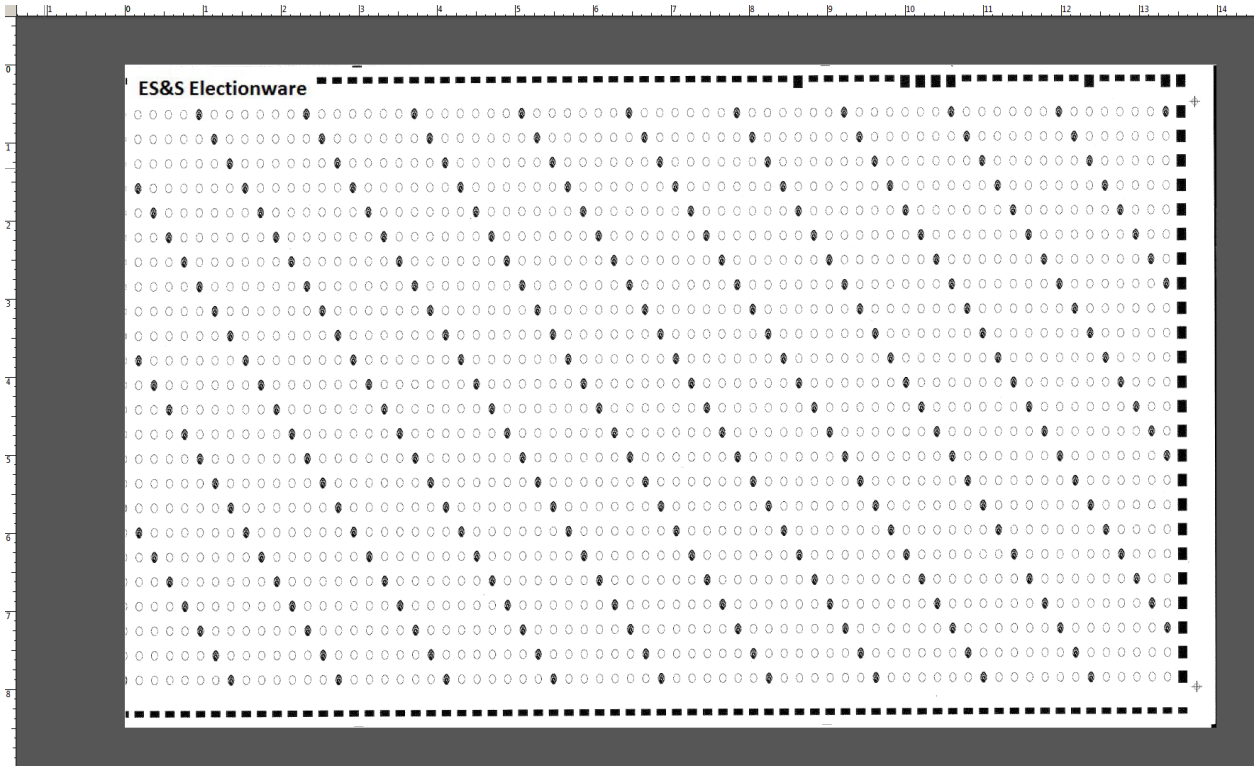


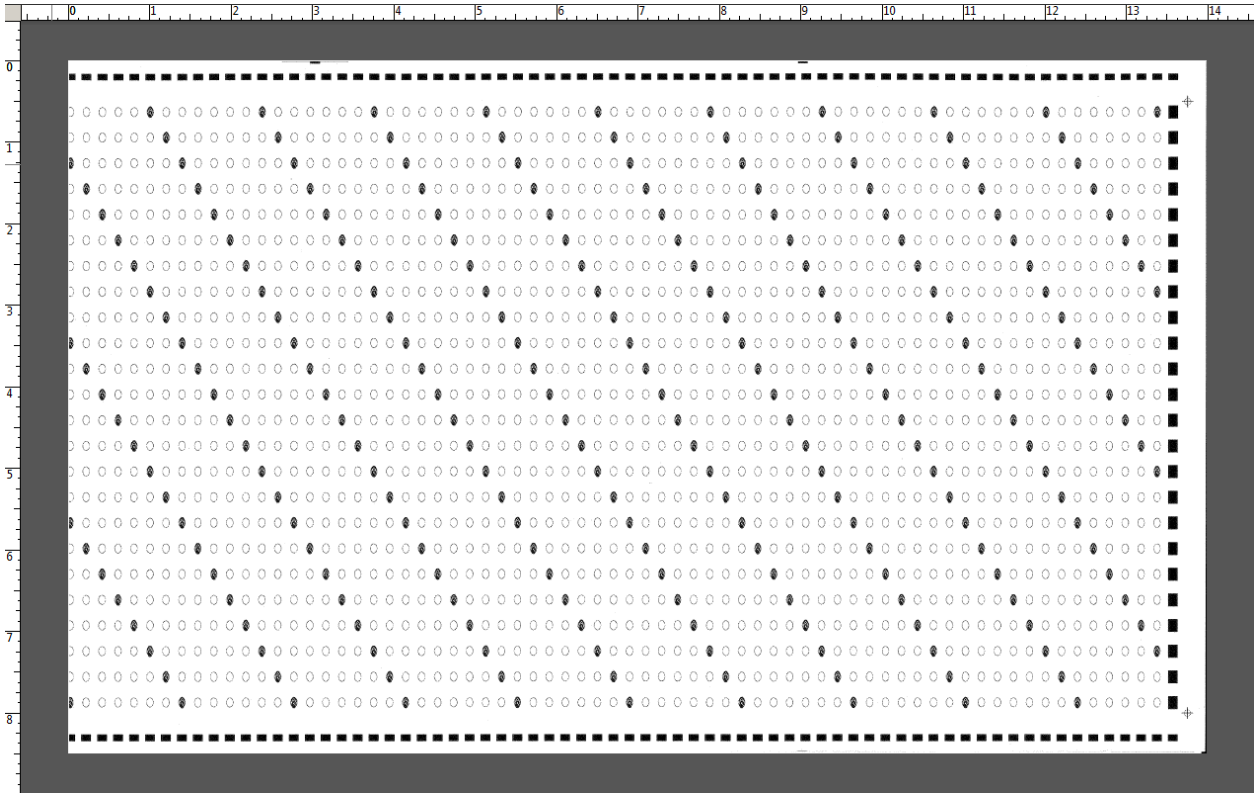
ES&S / Unity
Sensitivity Test



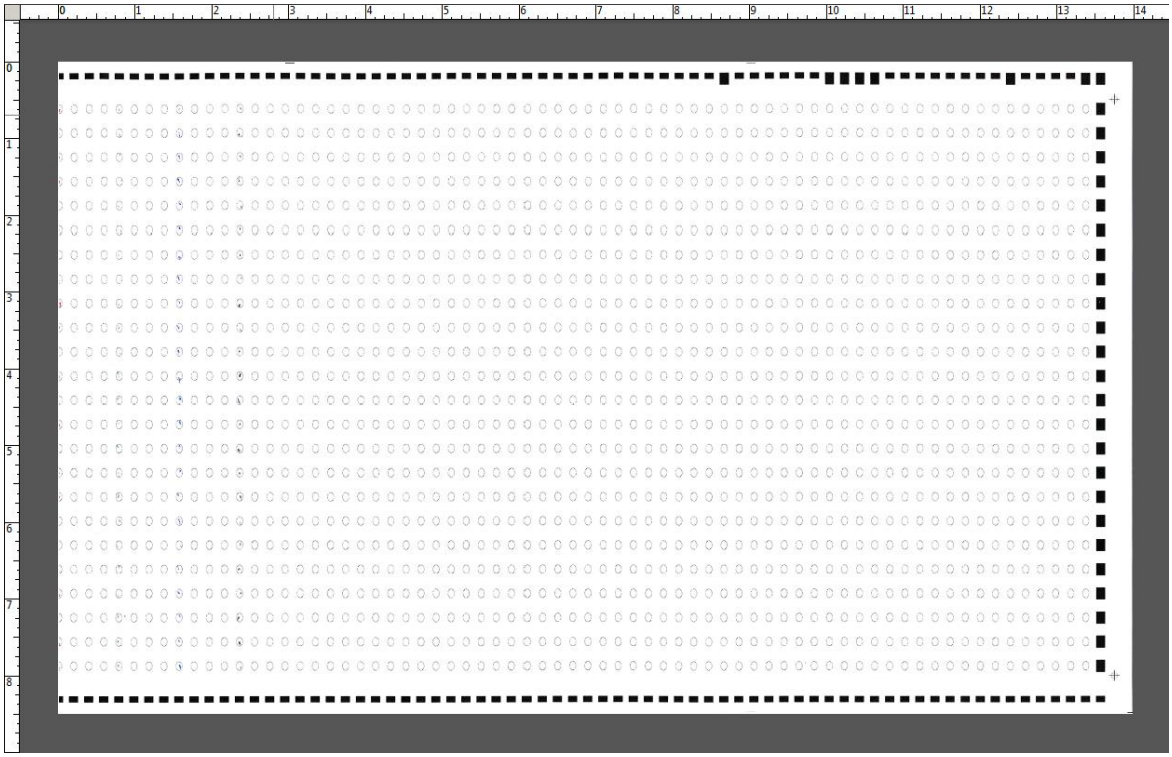


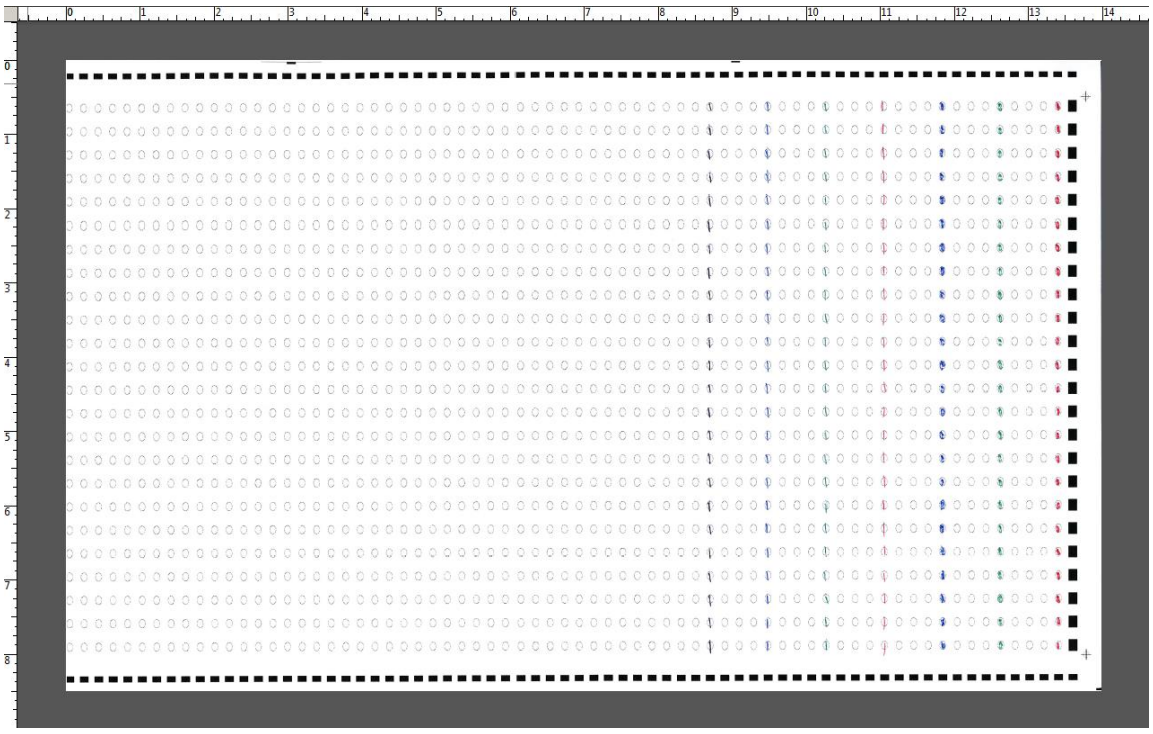
ES&S / ElectionWare
Accuracy Test



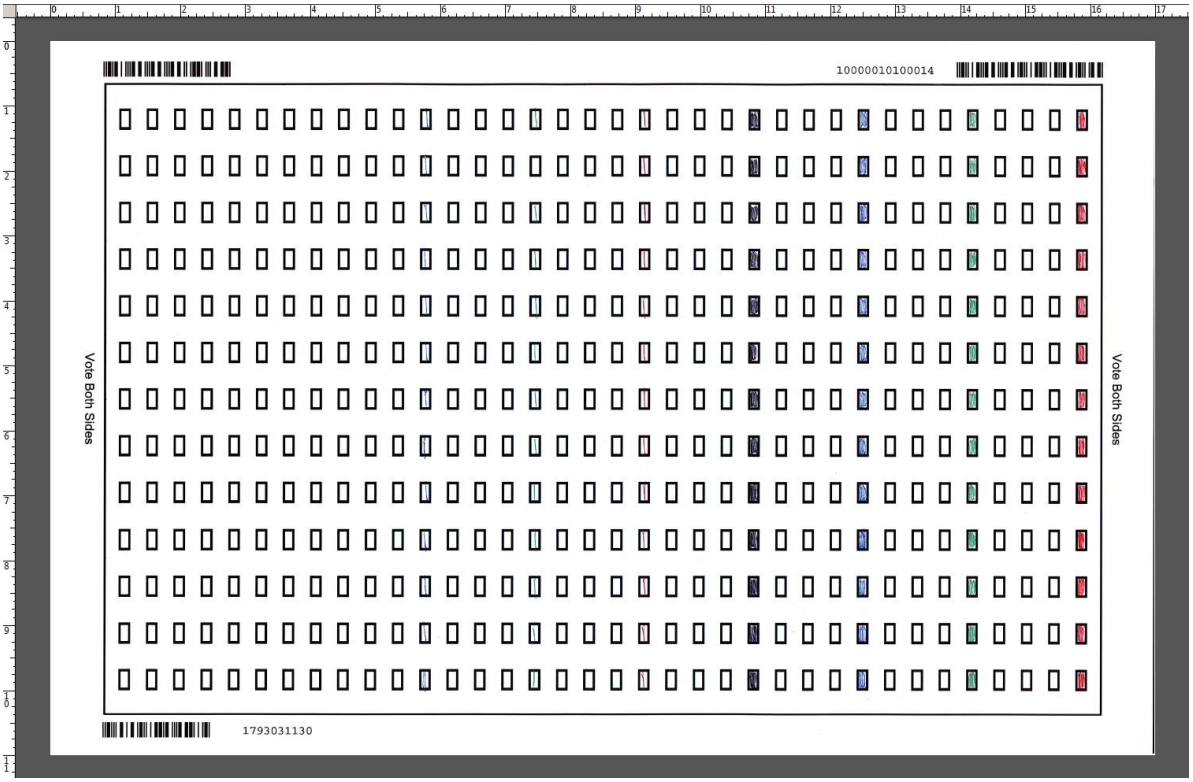


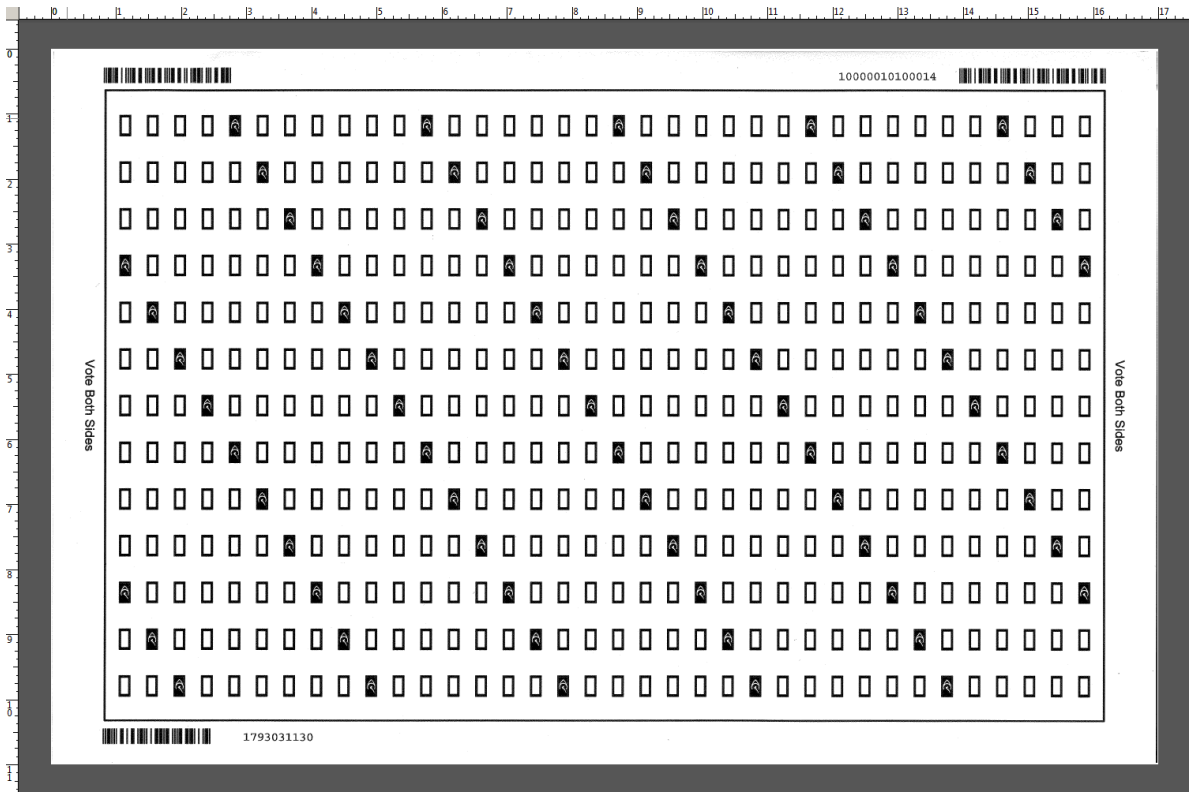
ES&S / ElectionWare
Sensitivity Test



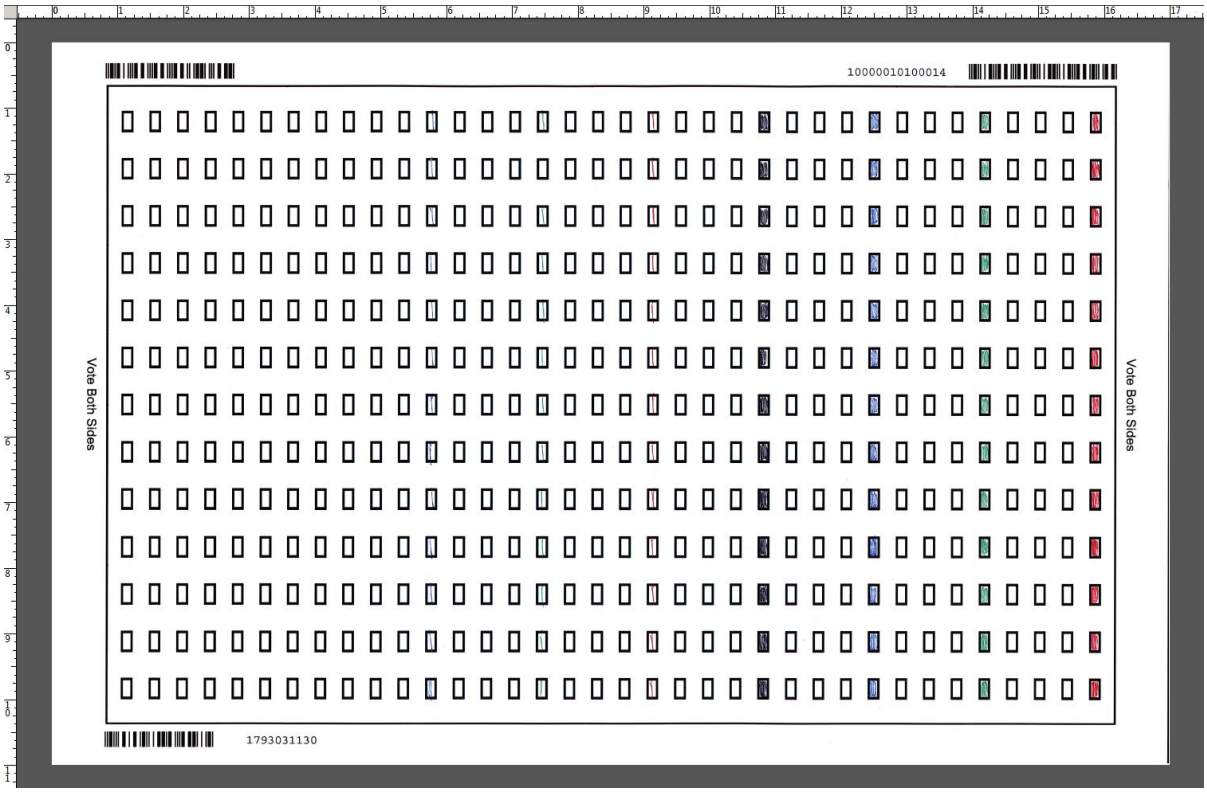


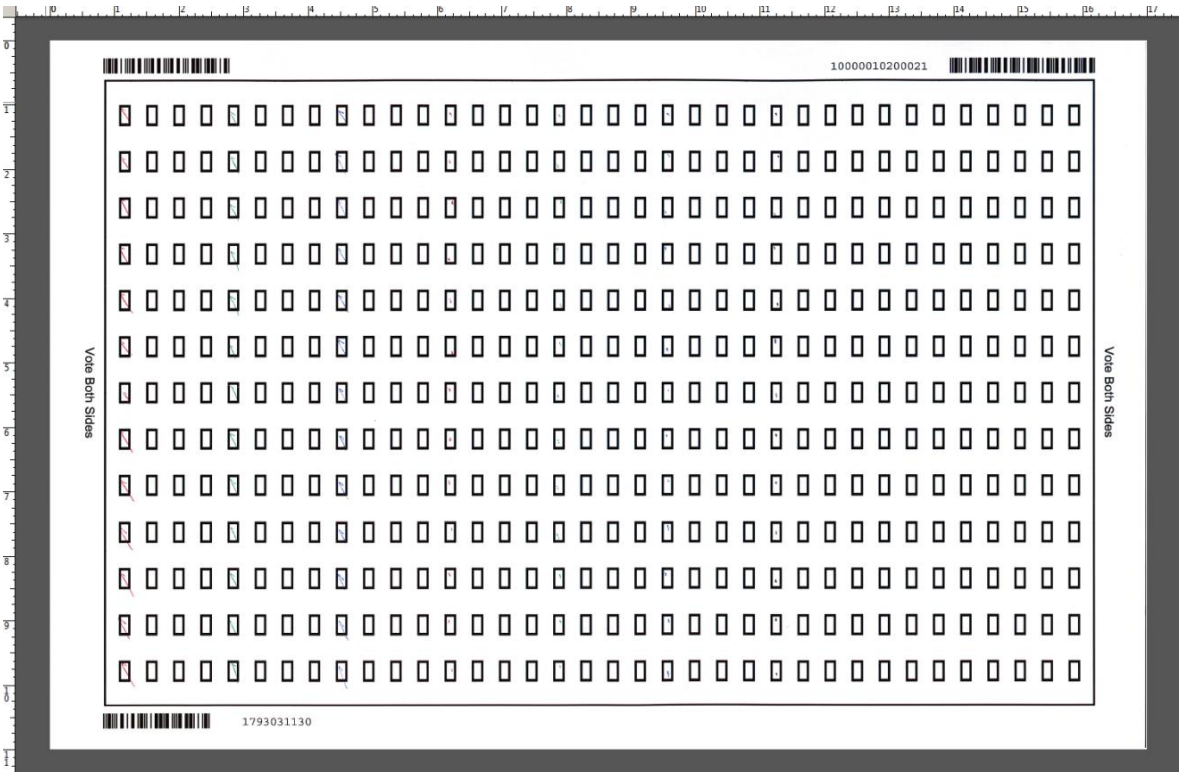
Hart / BallotNow
Accuracy Test



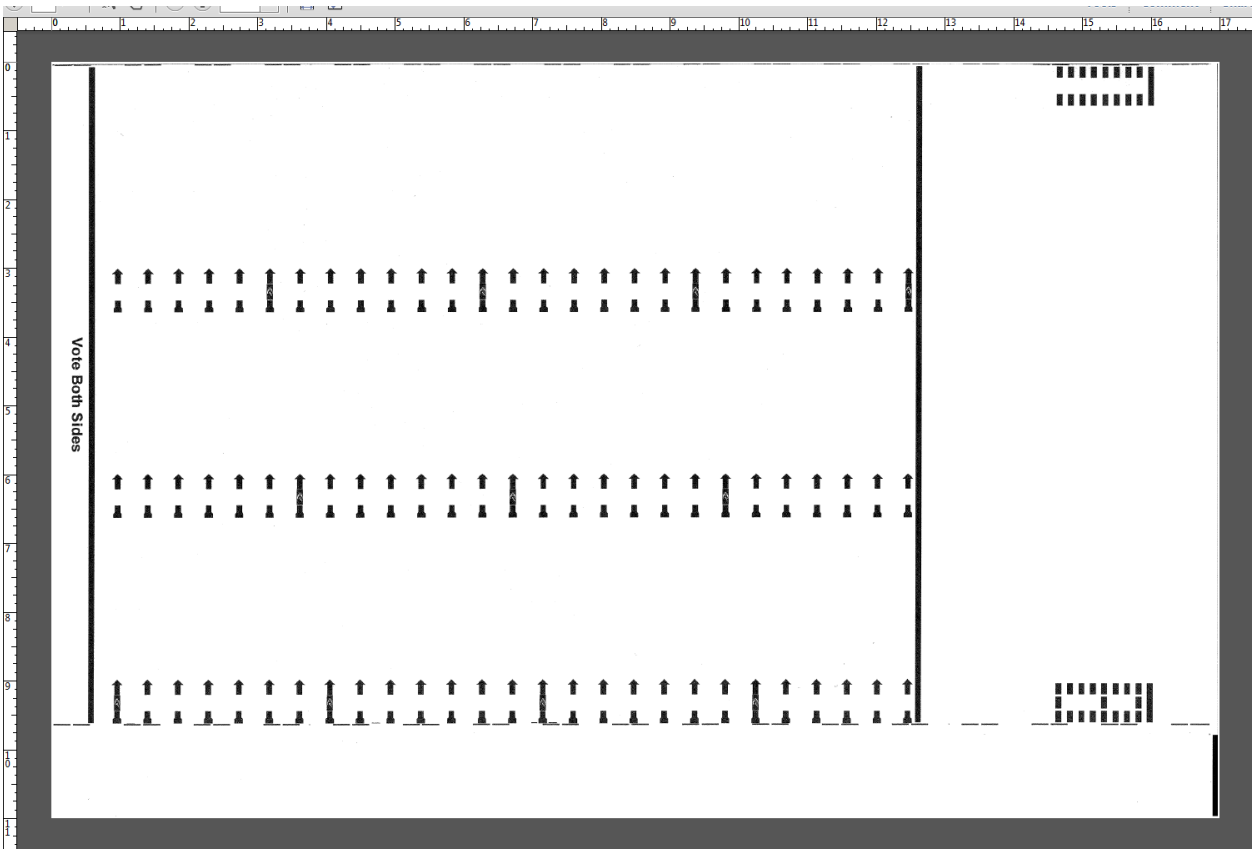


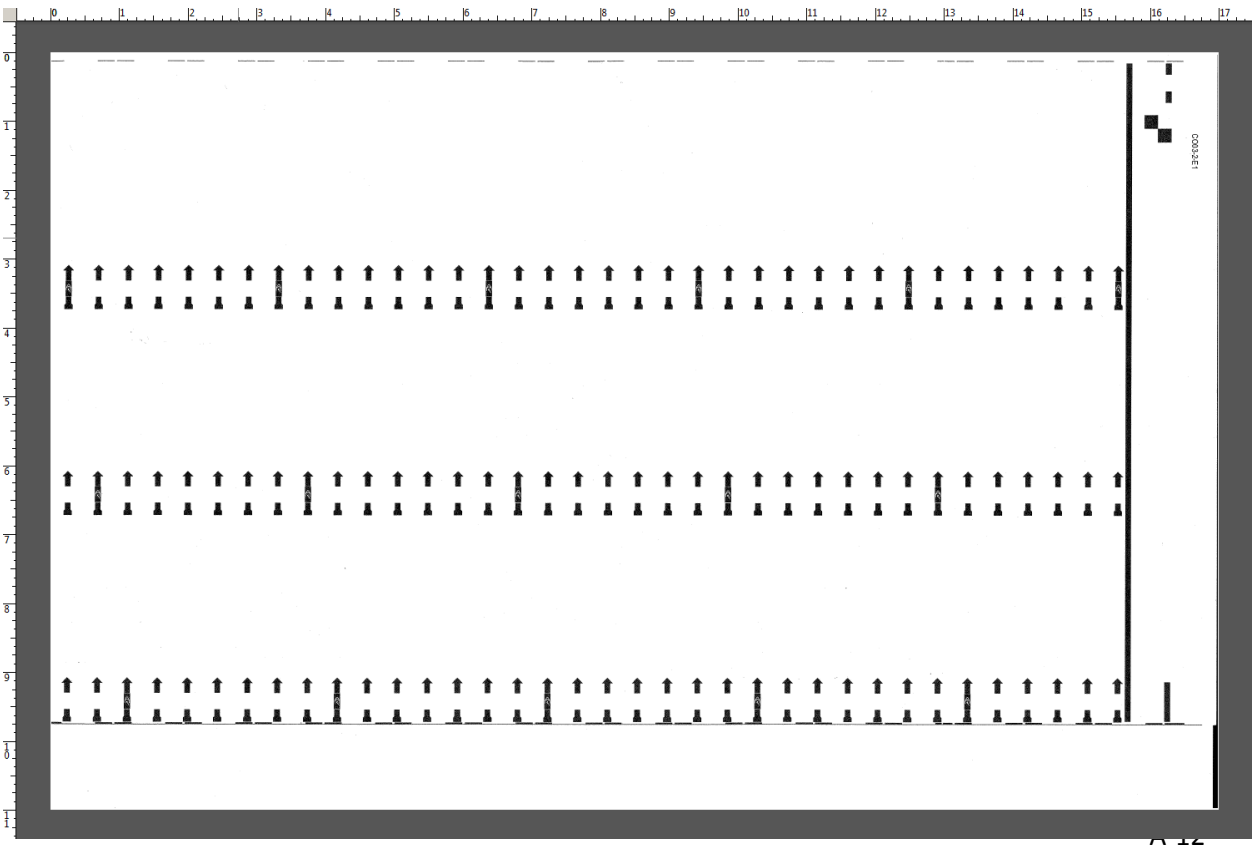
Hart / BallotNow
Sensitivity Test





Sequoia / WinEDS
Accuray Test





Sequoia / WinEDS
Sensitivity Test