



Certified 01/31/07



## Off-Press Proof Application Data Sheet

# EFI Colorproof XF – EFI Validation 250 Satin Media (Coated #3)

The IDEAlliance Print Properties Working Group has established a certification process for off-press proofs as input material to publications. In accordance with this process: "The appearance of a hard copy or monitor proof used in this application must have the ability to closely match specific CGATS or other documented characterization data sets within outlined tolerances. See further explanations and recommendations outlined on [www.swop.org](http://www.swop.org) or [www.gracol.org](http://www.gracol.org).

The following information is intended to assist producers and consumers in the use of vendor specified proofing materials in an off-press proof application:

### I. Manufacturer

EFI  
3030 Velocity Way  
Foster City, CA 94404

### II. Product

EFI Colorproof XF – EFI Validation 250 Satin Premium Proofing Media – EPSON Stylus Pro x800 series printer with EPSON UltraChrome K3 Photo Black Ink Set – Coated #3 Certification.

### III. Introduction

The EFI Colorproof XF proofing system is a contract quality inkjet proofing system capable of producing off-press proofs as defined by the SWOP and GRACoL specifications for off-press proofing.

### IV. Control Guide

IDEAlliance specifies a control guide such as an ADS Proofing Certification Strip be supplied on every off-press proof. As a minimum, this guide should contain solids for the primary process colors (YMCK), two-color overprints (RGB) and a three-color overprint (YMC), as well as a 25%, 50%, and 75% tint in stated line screen resolution of each of the primary process colors and 3-color gray patches. All control guides should be checked for accuracy of the original values. Use and interpretation of a control guide is the responsibility of the creator.



## V. System Components

The following components and limited procedures shall be used with EFI Colorproof XF in order to achieve conformance with this Application Data Sheet.

The EFI Colorproof XF proofing system consists of the latest version of EFI Colorproof XF software (version 3.x or later), EFI Validation 250 Satin Premium Proofing Media, an EPSON Stylus Pro x800 series printer using the Ultrachrome K3 Photo Black inkset, an X-Rite DTP70 spectrophotometer and the appropriate profiles for SWOP grade 3 available for download at: <http://www.efi-media.com>.

Uncompress the files obtained from the download site. You will find three directories available after this is completed. Move the directory named: SWOP Paper Profiles to the Program Files\EFI\EFI Colorproof XF Profiles\Epson\Stylus Pro 4800\_7800\_9800\UCK3\Ultrachrome K3 Photo\Proof directory on the EFI Server. Next move the contents of the Ref Profile directory to the Program Files\EFI\EFI Colorproof XF 3.0\Server\Profiles\Reference directory on the EFI Server.

In a few moments these profiles will be available in the EFI Colorproof XF Client. In the Colorproof XF Client access the system manager and create a new workflow. Configure this workflow to match the requirements of your specific proof workflow. On the Color tab, choose the SWOP2006\_Coated3v2.icc profile as the CMYK source reference profile. Choose the Absolute colorimetric rendering intent. Save the changes to your workflow.

Connect this workflow to your EPSON output device. On the Quality tab of the selected output device choose the UltraChrome Photo Ink type, then choose the EFI Validation 250 Satin Proofing paper. Next load the EFI Calibration set named: EFI\_V250\_SPx800\_1440x720\_010307.epl. Save these changes to the output device.

To validate and/or optimize your new SWOP grade 3 workflow, launch the LinTool or ColorManager Tool and optimize this workflow to conform to a maximum delta E of less than 6.0 and an average delta E of less than 1.5 per the SWOP specifications for off-press proof conformance. Make sure to load the final .3cc file generated from your optimization in your workflow and save these changes.

## VI. Finishing Procedures

No special finishing procedures are required for the EFI Colorproof XF Proofing system.

## VII. Finished Proof Characteristics

A proof with the color characteristics referenced in Appendix 1 is to be expected when measured from the ADS Proofing Certification Strip having been properly made to all the listed system components and finishing procedures.

Note: Three-color grays are comprised of Cyan, Magenta, Yellow: 75, 66, 66; 50, 40, 40; and 25, 19, 19 values.

The data listed in Appendix 1 was taken directly from the SWOP data set which was measured with a GretagMacbeth SpectroScan (non-UV, white-backing).

The EFI Colorproof XF System was checked for accuracy to this entire dataset by an IDEAlliance certifying contractor using an X-Rite DTP70 Spectrophotometer as defined by the certification process. The EFI Colorproof XF System was then checked for accuracy to this same dataset on the ADS Proofing Certification Strip using a GretagMacbeth SpectroScan Spectrophotometer as defined by the certification process.

Typically users of EFI Colorproof XF Proofing System will use an X-Rite Eye-One UV or non-UV filtered instrument with or without an IO table for verification of conformance to this ADS as this is the most practical production process for daily process controls.

It is highly recommended that you develop a new standard data set for Appendix 1, based upon your own instrument type, once you verify conformance to this ADS, so that you can reduce the tolerances for the monitoring of daily production consistency.

## VIII. Sample Proofs

EFI has supplied three (3) sets of hard copy proofs for retention or has had their monitor system verified that it conforms to this Application Data Sheet by an IDEAlliance certifying contractor.

## IX. Additional Proof Data

No additional data is supplied for this ADS.

**Appendix 1**  
**Characterization Data CIELab Values**

**ADS Proofing Certification Strip SWOP 2006 Coated #3**

Patch ID	CIELab Data			Maximum Delta E(ab)
	L*	a*	b*	
Paper	92.5	0	0	3
Yellow Solid	87.97	-5.03	88.1	5
Yellow 75%	89.01	-5.15	67.4	-
Yellow 50%	90.32	-4.34	43.74	-
Yellow 25%	91.46	-2.5	20.87	-
Magenta Solid	47.84	72.08	-3.11	5
Magenta 75%	56.81	55.45	-4.35	-
Magenta 50%	68.16	35.77	-4.37	-
Magenta 25%	80.49	17.04	-2.7	-
Cyan Solid	56.99	-37.23	-44.95	5
Cyan 75%	64.4	-28.99	-35.65	-
Cyan 50%	73.08	-19.51	-24.73	-
Cyan 25%	82.45	-9.86	-12.88	-
Black Solid	18.06	0.01	-0.11	5
Black 75%	39.28	-0.34	-1.8	-
Black 50%	58.21	-0.51	-2.27	-
Black 25%	75.49	-0.39	-1.61	-
Red Solid	46.86	66.21	45.03	6
Green Solid	52.12	-64.75	24.83	6
Blue Solid	26.85	18.1	-44.32	6
3 Color 100%	24.79	0.22	-0.52	6
3 Color 75%	39.81	-0.46	0.13	-
3 Color 50%	56.29	-0.48	-0.41	3
3 Color 25%	73.5	0.03	-0.29	-

**Note:** 3-color 25% and 75% CIELab values are calculations from the IT8/7.4 characterization data as these patches are not a subset of that data.

FOGRA Wedge Characterization Data CIE Lab Values for SWOP 2006 Coated #3

Patch ID	CIE Lab Data		
	L*	a*	b*
Top 1-1	56.99	-37.23	-44.95
Top 1-2	66.07	-27.13	-33.53
Top 1-3	76.68	-15.58	-20.13
Top 1-4	47.84	72.08	-3.11
Top 1-5	58.95	51.61	-4.46
Top 1-6	73.11	27.81	-3.93
Top 1-7	87.97	-5.03	88.1
Top 1-8	89.28	-5.09	62.78
Top 1-9	90.78	-3.69	34.25
Top 1-10	52.11	36.5	27.3
Top 1-11	39.97	20.57	14.49
Top 1-12	31.11	36.33	20.69
Top 1-13	32.17	39.98	-2.94
Top 1-14	49.02	0.9	37.5
Top 1-15	35.01	-34.17	11.23
Top 1-16	37.09	-24.36	-18.62
Top 1-17	22.79	7.7	-22.88
Top 1-18	85.69	-0.18	-0.7
Top 1-19	78.87	-0.35	-1.4
Top 1-20	65.26	-0.51	-2.24
Top 1-21	51.02	-0.51	-2.31
Top 1-22	35.26	-0.28	-1.63
Top 1-23	18.06	0.01	-0.11
Bottom 2-1	26.85	18.1	-44.32
Bottom 2-2	40.85	16.19	-34.08
Bottom 2-3	59.98	9.94	-22
Bottom 2-4	46.86	66.21	45.03
Bottom 2-5	57.68	47.17	37.42
Bottom 2-6	71.81	24.79	23.57
Bottom 2-7	52.12	-64.75	24.83
Bottom 2-8	63.15	-41.26	21.06
Bottom 2-9	74.98	-21.34	12
Bottom 2-10	68.56	20.02	18.67
Bottom 2-11	69.74	23.44	67.23
Bottom 2-12	47.87	69.02	16.49
Bottom 2-13	38.04	51.19	-21.63
Bottom 2-14	72.78	-24.61	60.84
Bottom 2-15	54.86	-51.51	-16.56
Bottom 2-16	44.63	-16.62	-44.13
Bottom 2-17	92.5	0	0
Bottom 2-18	85.38	-0.74	-1.07
Bottom 2-19	78.59	-1.59	-2.16
Bottom 2-20	64.76	-2.56	-2.79
Bottom 2-21	51.46	-3.19	-2.38
Bottom 2-22	39.01	-4.45	-2.42
Bottom 2-23	28.66	-6.84	-3.79

## ISO12647-7 Digital Control Strip 2007

The IDEAlliance Print Properties Working Group has developed a new digital control strip for off-press proofs. As of November 2007, this control strip replaces the current FOGRA Wedge and proofing bar on the proofing certification test forms. This ADS Attachment provides the CIE Lab data for all fifty-four (54) patches contained in the new strip. These data sheets will replace Appendix 1 in the Application Data Sheets for all previous certified proofing systems to the specific data set for GRACoL C1, SWOP C3, or SWOP C5.



### Control Strip Patch Values

Patch ID Top	Patch Tint % Values			
	CMYK_C	CMYK_M	CMYK_Y	CMYK_K
A1	100	0	0	60
A2	100	0	0	0
A3	70	0	0	0
A4	30	0	0	0
A5	0	100	0	60
A6	0	100	0	0
A7	0	70	0	0
A8	0	30	0	0
A9	0	0	100	60
A10	0	0	100	0
A11	0	0	70	0
A12	0	0	30	0
A13	100	0	40	0
A14	40	100	0	0
A15	0	40	100	0
A16	0	40	70	40
A17	0	70	40	40
A18	40	70	0	40
A19	40	0	70	40
A20	70	40	0	40
A21	0	0	0	3
A22	0	0	0	10
A23	0	0	0	25
A24	0	0	0	50
A25	0	0	0	75
A26	0	0	0	90
A27	0	0	0	100

Patch ID Bottom	Patch Tint % Values			
	CMYK_C	CMYK_M	CMYK_Y	CMYK_K
B1	100	100	0	60
B2	100	100	0	0
B3	70	70	0	0
B4	30	30	0	0
B5	0	100	100	60
B6	0	100	100	0
B7	0	70	70	0
B8	0	30	30	0
B9	100	0	100	60
B10	100	0	100	0
B11	70	0	70	0
B12	30	0	30	0
B13	100	40	0	0
B14	0	100	40	0
B15	40	0	100	0
B16	10	40	40	0
B17	20	70	70	0
B18	0	70	70	40
B19	70	0	40	40
B20	0	0	0	0
B21	3.1	2.2	2.2	0
B22	10.2	7.4	7.4	0
B23	25	19	19	0
B24	50	40	40	0
B25	75	66	66	0
B26	100	100	100	0
B27	80	70	70	100

**Appendix 1**  
**Characterization Data CIELab Values**

**ISO12647-7 Digital Control Strip 2007 for GRACoL 2006 Coated #1 Data Set**

Patch ID Top	CIELab Data			Maximum
	L*	a*	b*	$\Delta E$ (ab)
A1	30.05	-22.65	-28.82	-
A2	54.96	-37.12	-50.00	5
A3	66.60	-25.13	-37.01	-
A4	82.64	-9.99	-17.85	-
A5	26.45	41.59	-1.73	-
A6	47.93	74.11	-3.01	5
A7	60.35	51.93	-5.67	-
A8	80.03	20.38	-5.35	-
A9	48.53	-5.30	49.19	-
A10	88.94	-5.02	93.17	5
A11	90.56	-4.57	63.58	-
A12	92.84	-2.51	24.77	-
A13	52.53	-53.19	-19.34	-
A14	37.89	52.56	-22.07	-
A15	70.88	22.91	72.40	-
A16	50.86	15.13	33.06	-
A17	42.17	33.42	13.25	-
A18	34.60	23.09	-17.15	-
A19	52.45	-18.04	26.12	-
A20	36.56	-1.43	-26.62	-
A21	92.88	-0.08	-1.96	-
A22	87.93	-0.20	-1.98	-
A23	77.43	-0.40	-1.93	-
A24	59.77	-0.53	-1.61	-
A25	39.75	-0.57	-1.02	-
A26	25.57	-0.21	-0.53	-

Patch ID Bottom	CIELab Data			Maximum
	L*	a*	b*	$\Delta E$ (ab)
B1	15.18	8.84	-24.61	-
B2	24.13	17.20	-46.14	6
B3	40.84	17.09	-35.77	-
B4	69.57	8.37	-19.26	-
B5	26.22	35.38	24.54	-
B6	47.37	68.25	48.79	6
B7	59.09	47.55	39.25	-
B8	78.62	17.92	18.20	-
B9	28.47	-39.38	12.04	-
B10	50.12	-68.43	25.00	6
B11	62.69	-41.44	20.96	-
B12	80.64	-14.75	8.25	-
B13	42.57	-16.27	-48.19	-
B14	48.28	70.95	17.76	-
B15	72.70	-25.21	65.09	-
B16	70.23	19.71	18.63	-
B17	53.40	36.61	28.63	-
B18	41.61	32.01	26.83	-
B19	45.40	-26.20	-3.82	-
B20	95.00	-0.02	-1.96	3
B21	92.43	0.19	-2.06	-
B22	86.74	0.31	-2.04	-
B23	75.52	0.07	-1.50	-
B24	57.54	-0.12	-1.44	3
B25	39.39	-0.30	-0.55	-
B26	23.00	0.17	-0.25	-

**Note:** Color measurements comparing measured proof data to this reference data requires the use of a calibrated spectrophotometer.

**Appendix 2**  
**Characterization Data CIELab Values**

**ISO12647-7 Digital Control Strip 2007 for SWOP 2006 Coated #3 Data Set**

Patch ID Top	CIELab Data			Maximum
	L*	a*	b*	$\Delta E$ (ab)
A1	31.96	-21.01	-26.32	-
A2	56.99	-37.23	-44.95	5
A3	66.07	-27.13	-33.53	-
A4	80.52	-11.80	-15.33	-
A5	25.80	40.75	-2.90	-
A6	47.84	72.08	-3.11	5
A7	58.95	51.61	-4.46	-
A8	78.03	20.64	-3.18	-
A9	47.67	-4.29	45.76	-
A10	87.97	-5.03	88.10	5
A11	89.28	-5.09	62.78	-
A12	91.24	-2.93	25.28	-
A13	54.86	-51.51	-16.56	-
A14	38.04	51.19	-21.63	-
A15	69.74	23.44	67.23	-
A16	49.55	15.84	31.56	-
A17	40.89	33.29	12.00	-
A18	34.01	22.69	-16.52	-
A19	52.24	-17.96	25.88	-
A20	36.91	-2.13	-25.08	-
A21	90.46	-0.06	-0.21	-
A22	85.69	-0.18	-0.70	-
A23	75.49	-0.39	-1.61	-
A24	58.21	-0.51	-2.27	-
A25	39.28	-0.34	-1.80	-
A26	26.88	-0.14	-0.89	-

Patch ID Bottom	CIELab Data			Maximum
	L*	a*	b*	$\Delta E$ (ab)
B1	15.57	11.13	-25.12	-
B2	26.85	18.10	-44.32	6
B3	40.85	16.19	-34.08	-
B4	67.49	7.60	-17.17	-
B5	25.19	35.01	22.46	-
B6	46.86	66.21	45.03	6
B7	57.68	47.17	37.42	-
B8	77.94	18.06	18.43	-
B9	29.42	-36.88	12.46	-
B10	52.12	-64.75	24.83	6
B11	63.15	-41.26	21.06	-
B12	79.23	-15.72	8.94	-
B13	44.63	-16.62	-44.13	-
B14	47.87	69.02	16.49	-
B15	72.78	-24.61	60.84	-
B16	68.56	20.02	18.67	-
B17	52.11	36.50	27.30	-
B18	40.29	32.11	25.13	-
B19	45.95	-26.09	-3.01	-
B20	92.50	0.00	0.00	3
B21	90.08	-0.02	-0.08	-
B22	84.59	-0.04	-0.22	-
B23	73.54	-0.15	-0.48	-
B24	56.29	-0.48	-0.41	3
B25	39.80	-0.33	0.14	-
B26	24.79	0.22	-0.52	-

**Note:** Color measurements comparing measured proof data to this reference data requires the use of a calibrated spectrophotometer.

**Appendix 3**  
**Characterization Data CIELab Values**

**ISO12647-7 Digital Control Strip 2007 for SWOP 2006 Coated #5 Data Set**

Patch ID Top	CIELab Data			Maximum
	L*	a*	b*	$\Delta E$ (ab)
A1	32.65	-22.26	-23.31	-
A2	56.56	-37.98	-40.93	5
A3	64.70	-26.67	-29.70	-
A4	78.29	-11.19	-11.42	-
A5	26.42	40.29	-3.23	-
A6	47.64	69.97	-3.54	5
A7	58.14	49.08	-2.95	-
A8	75.88	19.59	0.11	-
A9	47.09	-4.83	44.51	-
A10	85.43	-5.82	84.62	5
A11	86.28	-5.18	60.33	-
A12	88.09	-2.76	26.91	-
A13	54.38	-50.05	-13.62	-
A14	37.79	50.15	-21.11	-
A15	68.36	21.69	65.39	-
A16	48.86	15.14	31.31	-
A17	40.69	32.61	12.52	-
A18	33.04	22.15	-14.98	-
A19	51.08	-17.54	25.50	-
A20	36.75	-2.64	-22.16	-
A21	87.97	-0.06	3.85	-
A22	83.35	-0.16	3.31	-
A23	73.53	-0.34	2.37	-
A24	56.84	-0.35	1.34	-
A25	38.89	0.04	0.98	-
A26	27.07	0.55	1.06	-

Patch ID Bottom	CIELab Data			Maximum
	L*	a*	b*	$\Delta E$ (ab)
B1	15.76	11.76	-23.91	-
B2	26.54	18.56	-42.01	6
B3	40.30	15.39	-31.31	-
B4	65.80	7.14	-13.75	-
B5	26.49	34.78	21.45	-
B6	47.43	64.38	42.74	6
B7	57.01	44.95	36.24	-
B8	74.61	17.32	19.99	-
B9	30.65	-35.02	14.67	-
B10	52.26	-61.49	26.76	6
B11	61.52	-39.10	20.93	-
B12	76.68	-14.80	10.89	-
B13	44.23	-17.41	-40.21	-
B14	47.52	67.23	15.19	-
B15	70.77	-24.24	58.75	-
B16	66.70	19.12	19.70	-
B17	51.52	34.92	26.64	-
B18	40.31	31.25	24.75	-
B19	45.31	-25.37	-1.12	-
B20	90.06	-0.01	4.14	3
B21	87.67	0.00	3.75	-
B22	82.19	-0.02	3.09	-
B23	71.47	-0.07	2.12	-
B24	54.70	-0.44	1.24	3
B25	39.10	-0.23	1.19	-
B26	24.73	0.21	-0.12	-

**Note:** Color measurements comparing measured proof data to this reference data requires the use of a calibrated spectrophotometer.