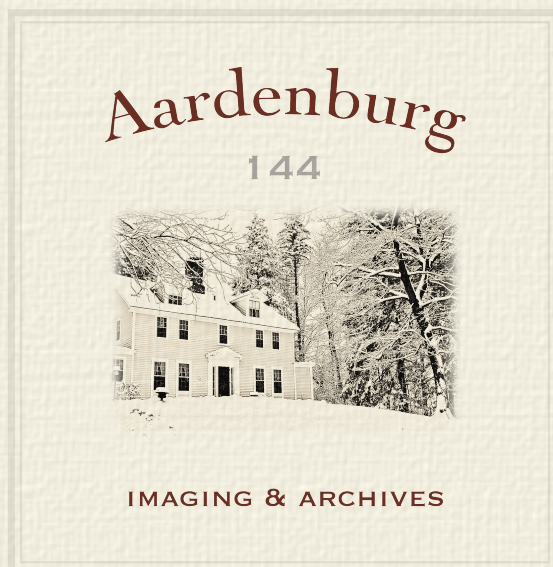




Accelerated Light Fading Test Results

*Fujifilm Frontier DL 400, Fujifilm Frontier DL 400 OEM ink,
Fujifilm OEM for DL400, Glossy paper*

Sample # AaI_20080617_SN001

200 Megalux-hours completed

Conservation Display Rating *	
Lower Exposure Limit (Megalux hours)	Upper Exposure limit (Megalux hours)
11	16

* Please read document **AaI_2009_0118_TA-01.pdf**, "An Overview of the AaI&A Conservation Display Ratings", located on the Documents page of the AaI&A website for an explanation of the conservation display ratings.

Document #: AaI_20080617_SN001Lf.pdf Rev: October 3, 2012

Test Print Prepared by: Aardenburg Imaging & Archives

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For more information please contact: info@aardenburg-imaging.com



About this Report

This report contains light fastness information about a single test print produced by a specific digital printing system. “System” refers to all hardware, software, and materials used to make the finished print. The hardware, software, material components, and printmaker’s skills contribute to the final image quality and image permanence. The tested sample is made with current or recently discontinued stocks of commercially available products unless otherwise stated. Each sample has been prepared by Aardenburg Imaging & Archives or one of its members in accordance with customary print making practices unless otherwise noted. The sample may also contain additional finishing materials such as overcoats and laminates which are also noted when used. Finally, the sample has been tested under standardized conditions that are defined on the Sample Description page (see page 2). AaI&A makes every effort to ensure but cannot guarantee that the samples are properly identified and documented and that test results are accurate. For this reason, AaI&A also strives to test independently produced sample replicates in order to increase sampling confidence and to provide information on process variability. Please compare the results in this report to replicate test samples when the data become available.

Understanding the Test Results



AaI_StandardColorSet(v2)forSRGB.tif

The magnitude and visual appearance of fading depends not only on the chosen printing system but the chosen image as well. In other words, different images are comprised of different colors, and the fading relationships between those colors dictate how the image will look as it fades. The sample print in this test report was made by reproducing the digital image shown on the left. It contains 30 standard colors. 24 of the colors are colorimetrically matched to the Macbeth ColorChecker™ chart viewed under D50 illumination. The remaining six colors supplement the ColorChecker™ array with four additional skin tone colors, one patch for paper white, and another for maximum black. The additional colors also round out the distribution of L* lightness values in the test target.

Information about the fading characteristics of the product is provided in three ways:

1) ***You can visually assess the fading.*** The target images reproduced in this report are digitally reconstructed from the spectrally measured color data rather than scanning or otherwise reproducing the physical print by conventional techniques. This method ensures a colorimetrically accurate representation of the print appearance as the print fades. A calibrated monitor is recommended to experience the best possible reproduction of the test sample appearance. The side-by-side presentation of the target images simulates looking at the light-exposed print along side a perfect duplicate of the unexposed original print. The “Before/After” Layer mode takes advantage of Adobe Reader Layer technology. Toggle the “Before/After” layer on and off using the layers feature of Adobe Reader to directly switch between the light exposed print colors and the initial print colors for the image located on the right side of each page. Also, use Adobe Reader’s full screen mode to cycle through the pages and “animate” the fading.

2) ***I* Color and tonal accuracy scores are reported.*** This report includes I* metric scores that compare the color and tonal relationships of the light exposed samples to the color and tonal relationships existing in the original print prior to light exposure. Perfect I* scores of 100% can be approached when no significant fading occurs. Average scores above 90% generally indicate excellent retention of original quality, 80% good, 70% fair, etc., but your conclusions may vary depending on your image quality requirements. ***I* color*** rates the retained color accuracy (hue and chroma) while ***I* tone*** rates the retained tonal accuracy (lightness and contrast). The score is on a percentile scale where 100% is a perfect match between the comparison image (e.g., “after” light exposure) and the reference image (e.g., “before” any light exposure). 0% ***I* color*** means no color accuracy is left. 0% ***I* tone*** means essentially no tonality remains and all image information content is lost. Negative I* values have significance as well and contribute to the average I* score when they occur. Negative I* color values mean false color has occurred, for example, when a skin tone turns green or a neutral gray becomes distinctly colorful. Negative I* tone scores mean visual contrast between colors has become inverted (i.e., like the tonal relationships in a photographic film negative). Serious image quality problems must arise before false colors and/or tones appear. For more information on the I* metric, please refer to the AaI&A web site.

3) ***Color changes are also reported using the classic color difference model, ΔE .*** Note that ΔE values lose perceptual scaling significance when they become large (e.g., > 15). Also, the ΔE equation does not unambiguously measure changes in image contrast. This limitation is generally not a problem for paints and textiles, but can be a serious oversight when evaluating photographic images. It was a major reason behind the development of the I* metric.

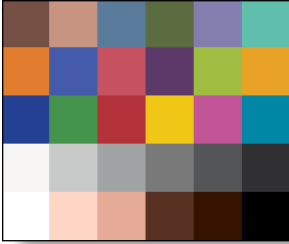


Sample Description

Printer: Fujifilm Frontier DL 400
Ink: Fujifilm OEM
Paper: Fujifilm OEM for DL 400, glossy paper

Sample #: AaI_20080617_SN001

Test Print Prepared by: AaI&A



AaI_StandardColorSet(v2)forSRGB.tif

Test Image: AaI_StandardColorSet(v2)forSRGB.tif
RIP/Driver settings: Machine baseline settings, auto color corrections off
Media Setting: n.a.

Printed: June 16, 2008
Original print colors measured on: August 5, 2008
Test started on: August 9, 2008

Profile: n.a

Rendering Intent: n.a

Profile type: n.a

Profile Creation Software: n.a

Paper White Color (UV–included versus UV–excluded) and Maximum Printed Black						
Optical Brighteners present? yes	L*		a*		b*	
	UV inc	UV exc	UV inc	UV exc	UV inc	UV exc
Maximum Paper White (no colorants printed)	95.2	95.1	1.2	-0.6	-8.0	-1.6
(1) ΔL*, Δa*, Δb* respectively	0.1		1.8		6.4	
(1) Calculated differences, especially for Δb*, indicate the role and magnitude of fluorescence on original paper color						
Maximum Printed black (UV included)	L* =2.8		a* = 0.1		b* = -2.4	

Light Source: Phillips Colortone F40T12/C50

Filter/Glazing: Sample framed under Glass*

Light Exposure Cycle: 8 hours on, 4 hours off, twice per 24 hours

Average Illuminance during “on” cycle: 11,732 Lux

Average Temperature: 23.5°C over full test duration, 25.0°C during light exposure

Average Relative humidity: 58.0%RH full test period, 58.4%RH during light exposure

CIELAB measurements: D50 2° observer, Xrite Gretag/Macbeth Spectrolino/Spectroscan

Replicates/Compare to:

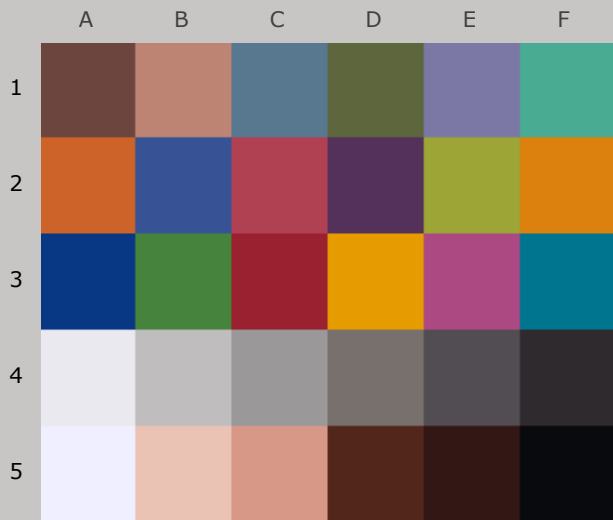
Replicate: AaI_20080723_SN001

Notes/Comments:

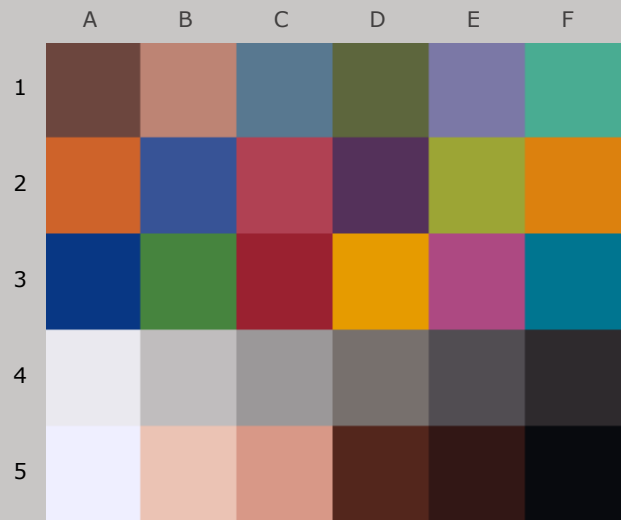
* The Phillips Colortone F40T12/C50 fluorescent light source and ordinary glass picture frame glazing yields UVA content and overall spectral power similar to natural 5000°K daylight entering a window and then striking a print that has been framed by **standard acrylic glazing** rather than ordinary glass. Other light sources and/or different glazing options may yield greater or lesser fade rates (generally, a 2-5x increase in fade rate for direct sunlight compared to UV-excluded sources at the same Lux level). The spectral quality of the light can also affect individual colors differently.

Table to Convert Megalux-hours of Light Exposure to estimated “Years on Display”												
Indoor Light Levels for Print Display		Multiply Mlux-hrs by	Megalux-hours in test									
Light Exposure	Description		10	20	30	40	50	60	70	80	90	100
≤ 10 Lux 24 hours per day	Interior rooms, storage areas, or hallways without windows, illuminated sparingly by artificial lighting	11.42	114	228	342	457	571	685	799	913	1027	1142
50 Lux 12 hours per day	“Museum Standard” display condition	4.57	46	91	137	183	228	274	325	365	411	457
120 Lux 12 hours per day “Kodak Display Years” (1)	Average home illumination level for photos is ~ 60 lux. 90% of all displayed photos do not exceed 120 lux (1).	1.90	19	38	57	76	95	114	133	152	171	190
228 Lux 12 hours per day	Relatively bright home or office. Note the simple 1:1 relationship between “years on display” and Mlux-hr values at this condition.	1.00	10	20	30	40	50	60	70	80	90	100
450 Lux 12 hours per day “WIR Display Years” (2) Also equals 500 lux for 11.8 hours per day	A bright home or commercial office building illumination level is 200-500 lux. Also, good illumination for color critical viewing and color matching tasks begins at about 500 lux.	0.51	5	10	15	20	25	30	35	41	46	51
2000 Lux 12 hours per day	Commercial Gallery. Also, critical color evaluation standards call for 2000 lux and a D50 illumination source.	0.114	1.1	2.3	3.4	4.6	5.7	6.8	8.0	9.1	10.3	11.4
5000 Lux 12 hours per day	E.g., Sunlight through a window striking print at an angle.	0.046	0.5	0.9	1.4	1.8	2.3	2.7	3.2	3.7	4.1	4.6
10,000 Lux 12 hours per day	South-facing window in U.S.A. , e.g., storefront display with photos directly facing window.	0.023	0.2	0.5	0.7	0.9	1.1	1.4	1.6	1.8	2.1	2.3
Light levels commonly encountered in the real world fluctuate widely throughout indoor print display environments and produce large variations in how long it takes for artwork to acquire light-induced damage. Use this table as a guide to estimate how many “years on display” (denoted in red text) it takes to accumulate the light exposure test dosage. Review the test results to decide which Megalux-hour dose has caused fading to your level of concern (e.g., just noticeable, easily noticeable, objectionable, etc.). Then choose the print display description that best represents how your print is likely to be displayed. You may want to obtain a lux meter and make some measurements in your own display environment! Note that as the years of display time increase, light-induced fading can be eclipsed by other serious aging mechanisms such as fading and/or staining caused by heat, humidity, and air pollutants. Mould damage can also occur at high humidity. Even when colorants remain water fast, direct contact with liquids may result in physical deformation and staining of the substrate. Also, temperature and especially humidity cycling can cause physical cracks and/or flaking, etc. Handling damage such as scratching, abrasion, tears and creases, and catastrophic damage by smoke, fire, flood, etc., also degrade print quality over time. Thus, as illumination levels are reduced other forms of degradation take on greater proportion of risk and may appear in shorter time intervals. (1) Eastman Kodak has cited this exposure condition and 90% confidence limit as a rationale for estimating print fading times of traditional color photo materials in typical home display environments. For recent light fading claims regarding its line of pigment-based inkjet printers, Kodak has adopted the higher level of 450lux/12 hours per day which is also used by Wilhelm Imaging Research, Inc. (See below). (2) Wilhelm Imaging Research (WIR) has standardized its light fastness ratings on 450 lux for 12 hours per day in order to estimate the years on display necessary to reach “noticeable” fading. This average light exposure condition, an assumed 75°F/60%RH temperature and humidity level, and WIR’s visually weighted densitometric endpoint criteria set V3.0 has become a de facto industry standard for most predictive light fading estimates in the absence of a published International Standards Organization (ISO) test standard.												

100_{color}/100_{tone}



Original Print Colors
(measured before light exposure)



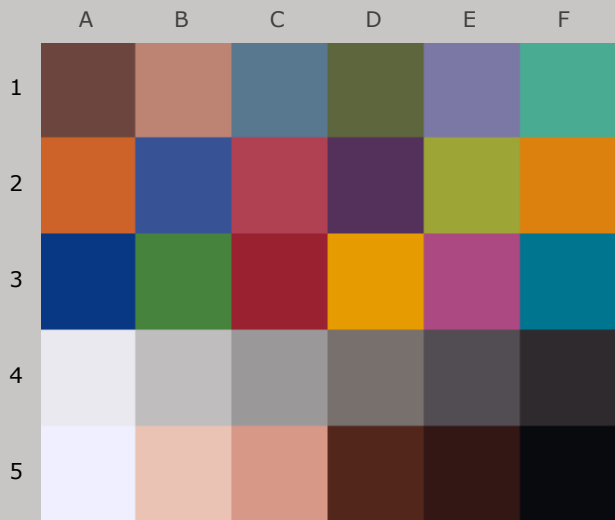
Colors at Zero Megalux-hours of Light Exposure
(same as original print colors)

*Fujifilm Frontier DL 400, Fujifilm Frontier DL 400 OEM ink,
Fujifilm OEM for DL 400, Glossy paper*

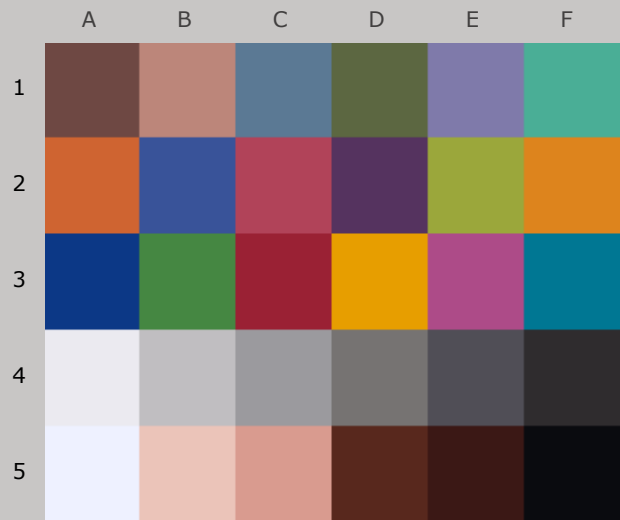
Original Print Colors as Measured and at Start of Test

Column/row	Color Patch	I*Color	ΔE	L*		a*		b*	
				Before	After	Before	After	Before	After
A1	dark Skin	100.0	0.0	34.3		16.3		12.0	
B1	light Skin	100.0	0.0	60.8		20.7		17.8	
C1	blue sky	100.0	0.0	48.8		-6.6		-16.6	
D1	foliage	100.0	0.0	41.4		-9.3		21.7	
E1	blue flower	100.0	0.0	52.3		9.2		-23.6	
F1	bluish green	100.0	0.0	63.9		-34.8		4.0	
A2	orange	100.0	0.0	54.7		41.5		50.6	
B2	purplish blue	100.0	0.0	35.9		7.0		-40.6	
C2	moderate red	100.0	0.0	44.4		47.3		14.5	
D2	purple	100.0	0.0	26.4		22.3		-18.5	
E2	yellow green	100.0	0.0	65.3		-14.0		53.6	
F2	orange yellow	100.0	0.0	63.1		31.1		66.7	
A3	blue	100.0	0.0	24.2		11.2		-47.7	
B3	green	100.0	0.0	49.7		-31.8		30.8	
C3	red	100.0	0.0	34.9		49.8		23.7	
D3	yellow	100.0	0.0	70.1		22.2		82.0	
E3	magenta	100.0	0.0	46.1		46.3		-11.2	
F3	cyan	100.0	0.0	43.7		-28.6		-25.2	
A4	white	100.0	0.0	92.5		0.6		-3.2	
B4	neutral 8	100.0	0.0	76.7		1.4		0.1	
C4	neutral 6.5	100.0	0.0	63.1		0.7		0.0	
D4	neutral 5	100.0	0.0	47.9		1.6		2.5	
E4	neutral 3.5	100.0	0.0	33.2		2.3		-1.5	
F4	black	100.0	0.0	17.5		2.4		-0.6	
A5	paper white	100.0	0.0	94.9		1.5		-8.0	
B5	skin highlight L*=89	100.0	0.0	81.8		13.5		12.7	
C5	skin highlight L*=75	100.0	0.0	69.1		22.9		18.8	
D5	skin shadow L*=25	100.0	0.0	21.5		21.2		17.4	
E5	skin shadow L*=11	100.0	0.0	11.7		13.9		8.1	
F5	Max Black	100.0	0.0	2.8		0.1		-2.4	
Summary Results		I*Color	I*tone	ΔE	 AARDENBURG IMAGING & ARCHIVES				
Average Score for all patches		100	100	0.0					
Average Score for the Worst 10% (3 lowest scoring patches)		100	100	0.0					

94.6_{color} / 97.8_{tone}



Original Print Colors
(measured before light exposure)



Colors after 10 Megalux-hours
light exposure

*Fujifilm Frontier DL 400, Fujifilm Frontier DL 400 OEM ink,
Fujifilm OEM for DL 400, Glossy paper*

10 Mlux-hrs Light Exposure (i.e., after) Compared to Original Print Colors (i.e., before)

Column/row	Color Patch	I*Color	ΔE	L*		a*		b*	
				Before	After	Before	After	Before	After
A1	dark Skin	92.8	2.0	34.3	34.7	16.3	15.6	12.0	10.2
B1	light Skin	93.3	2.4	60.8	61.4	20.7	20.3	17.8	15.5
C1	blue sky	94.8	1.5	48.8	49.4	-6.6	-6.3	-16.6	-18.0
D1	foliage	94.3	1.9	41.4	42.0	-9.3	-10.4	21.7	20.2
E1	blue flower	96.3	1.6	52.3	52.9	9.2	9.6	-23.6	-25.0
F1	bluish green	98.2	1.3	63.9	64.5	-34.8	-34.9	4.0	2.9
A2	orange	96.2	3.1	54.7	55.4	41.5	40.7	50.6	47.8
B2	purplish blue	97.1	1.7	35.9	36.2	7.0	7.6	-40.6	-42.2
C2	moderate red	95.1	3.0	44.4	44.8	47.3	47.1	14.5	11.6
D2	purple	94.7	2.1	26.4	26.9	22.3	22.2	-18.5	-20.5
E2	yellow green	97.3	2.1	65.3	66.0	-14.0	-14.9	53.6	51.8
F2	orange yellow	97.3	2.5	63.1	63.8	31.1	30.1	66.7	64.5
A3	blue	97.8	1.7	24.2	24.7	11.2	11.6	-47.7	-49.2
B3	green	97.9	1.6	49.7	50.5	-31.8	-32.8	30.8	29.8
C3	red	96.4	2.5	34.9	35.0	49.8	50.3	23.7	21.3
D3	yellow	98.1	2.3	70.1	70.9	22.2	21.1	82.0	80.1
E3	magenta	96.2	2.4	46.1	46.6	46.3	46.3	-11.2	-13.6
F3	cyan	98.4	1.2	43.7	44.2	-28.6	-28.8	-25.2	-26.3
A4	white	100.0	0.5	92.5	93.0	0.6	0.5	-3.2	-3.2
B4	neutral 8	89.4	1.6	76.7	77.3	1.4	1.4	0.1	-1.5
C4	neutral 6.5	86.4	1.9	63.1	63.7	0.7	0.7	0.0	-1.8
D4	neutral 5	84.9	2.0	47.9	48.5	1.6	1.4	2.5	0.6
E4	neutral 3.5	82.0	2.3	33.2	33.8	2.3	1.8	-1.5	-3.7
F4	black	100.0	1.0	17.5	18.3	2.4	2.5	-0.6	-1.0
A5	paper white	100.0	0.5	94.9	95.4	1.5	1.5	-8.0	-7.8
B5	skin highlight L*=89	93.4	1.8	81.8	82.5	13.5	13.3	12.7	11.0
C5	skin highlight L*=75	93.7	2.5	69.1	69.7	22.9	22.7	18.8	16.5
D5	skin shadow L*=25	98.5	1.6	21.5	22.8	21.2	21.9	17.4	18.0
E5	skin shadow L*=11	79.1	4.4	11.7	13.8	13.9	16.6	8.1	10.9
F5	Max Black	100.0	0.3	2.8	3.0	0.1	0.2	-2.4	-2.3

Summary Results

I*Color

I*tone

ΔE

Average Score for all patches

94.6

97.8

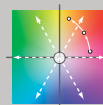
1.9

Average Score for the Worst 10%
(3 lowest scoring patches)

82.0

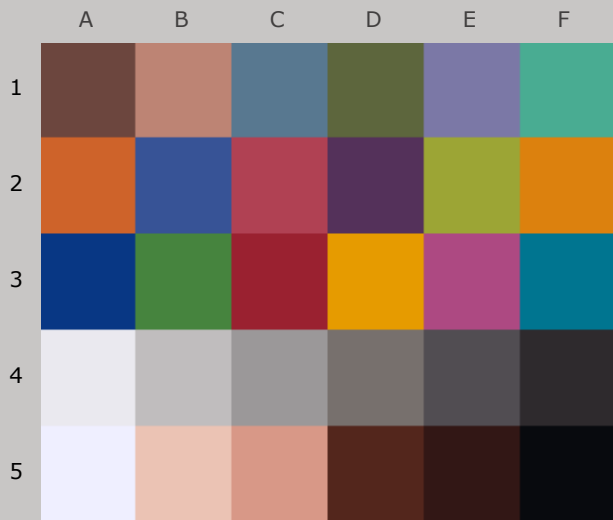
93.6

3.5

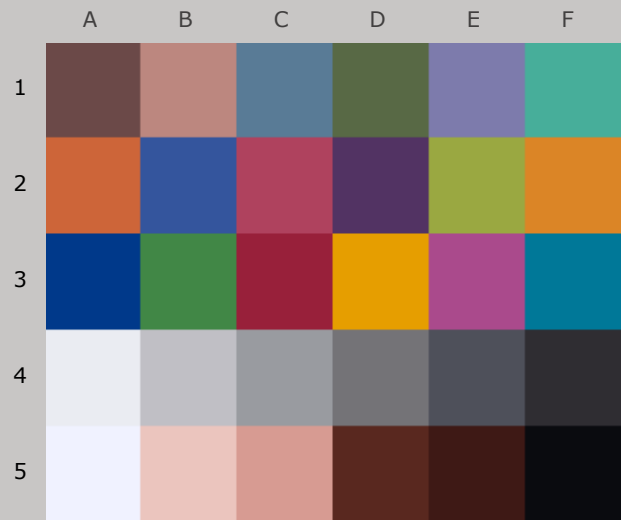


AARDENBURG IMAGING
& ARCHIVES

86.6_{color} / 95.5_{tone}



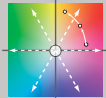
Original Print Colors
(measured before light exposure)



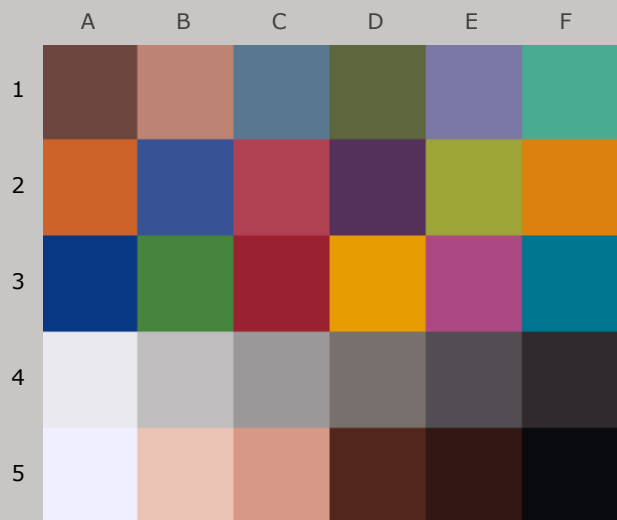
Colors after 20 Megalux-hours
light exposure

*Fujifilm Frontier DL 400, Fujifilm Frontier DL 400 OEM ink,
Fujifilm OEM for DL 400, Glossy paper*

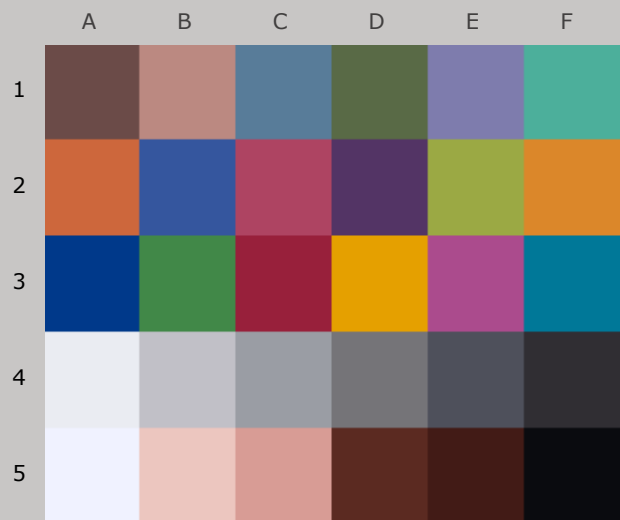
20 Mlux-hrs Light Exposure (i.e., after) Compared to Original Print Colors (i.e., before)

Column/row	Color Patch	I*Color	ΔE	L*		a*		b*	
				Before	After	Before	After	Before	After
A1	dark Skin	78.2	4.9	34.3	34.8	16.3	14.6	12.0	7.4
B1	light Skin	84.3	4.8	60.8	61.6	20.7	19.6	17.8	13.1
C1	blue sky	87.0	3.0	48.8	49.7	-6.6	-6.8	-16.6	-19.4
D1	foliage	84.7	4.2	41.4	42.3	-9.3	-11.6	21.7	18.3
E1	blue flower	90.8	3.0	52.3	53.3	9.2	9.2	-23.6	-26.4
F1	bluish green	93.7	2.9	63.9	64.8	-34.8	-34.9	4.0	1.4
A2	orange	90.5	6.7	54.7	55.2	41.5	39.7	50.6	44.2
B2	purplish blue	93.4	3.3	35.9	36.5	7.0	7.2	-40.6	-43.8
C2	moderate red	87.1	6.9	44.4	44.5	47.3	46.7	14.5	7.7
D2	purple	84.7	5.0	26.4	26.9	22.3	22.0	-18.5	-23.4
E2	yellow green	93.3	4.3	65.3	66.4	-14.0	-15.8	53.6	49.8
F2	orange yellow	92.8	5.8	63.1	63.8	31.1	29.0	66.7	61.3
A3	blue	94.3	3.4	24.2	25.0	11.2	11.8	-47.7	-50.9
B3	green	93.2	3.7	49.7	50.8	-31.8	-33.8	30.8	28.0
C3	red	88.9	6.6	34.9	34.5	49.8	50.1	23.7	17.1
D3	yellow	94.9	4.9	70.1	71.1	22.2	20.0	82.0	77.7
E3	magenta	89.8	5.3	46.1	46.5	46.3	46.0	-11.2	-16.6
F3	cyan	94.4	2.8	43.7	44.6	-28.6	-28.8	-25.2	-27.8
A4	white	100.0	0.7	92.5	93.2	0.6	0.5	-3.2	-3.2
B4	neutral 8	77.6	2.8	76.7	77.7	1.4	1.2	0.1	-2.6
C4	neutral 6.5	68.8	3.6	63.1	64.1	0.7	0.2	0.0	-3.5
D4	neutral 5	60.6	4.3	47.9	48.8	1.6	0.6	2.5	-1.6
E4	neutral 3.5	54.2	4.9	33.2	33.9	2.3	1.0	-1.5	-6.2
F4	black	82.1	2.5	17.5	18.8	2.4	2.0	-0.6	-2.7
A5	paper white	99.6	0.8	94.9	95.5	1.5	1.4	-8.0	-7.5
B5	skin highlight L*=89	85.1	3.4	81.8	82.7	13.5	12.9	12.7	9.5
C5	skin highlight L*=75	85.3	4.9	69.1	69.9	22.9	22.0	18.8	14.1
D5	skin shadow L*=25	98.4	1.8	21.5	23.1	21.2	21.8	17.4	16.7
E5	skin shadow L*=11	69.6	6.2	11.7	14.6	13.9	18.0	8.1	11.7
F5	Max Black	100.0	0.6	2.8	3.3	0.1	0.3	-2.4	-2.3
Summary Results		I*Color	I*tone	 AARDENBURG IMAGING & ARCHIVES					
Average Score for all patches		86.6	95.5						
Average Score for the Worst 10% (3 lowest scoring patches)		61.2	88.8						
ΔE				Page 7					

84.1_{color} / 94.1_{tone}



Original Print Colors
(measured before light exposure)



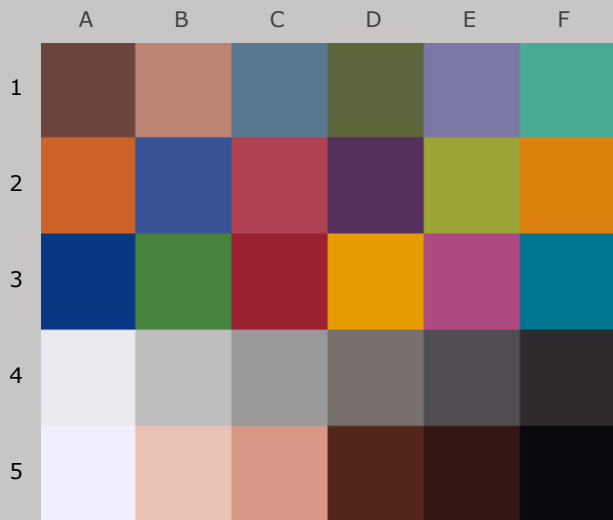
Colors after 30 Megalux-hours
light exposure

*Fujifilm Frontier DL 400, Fujifilm Frontier DL 400 OEM ink,
Fujifilm OEM for DL 400, Glossy paper*

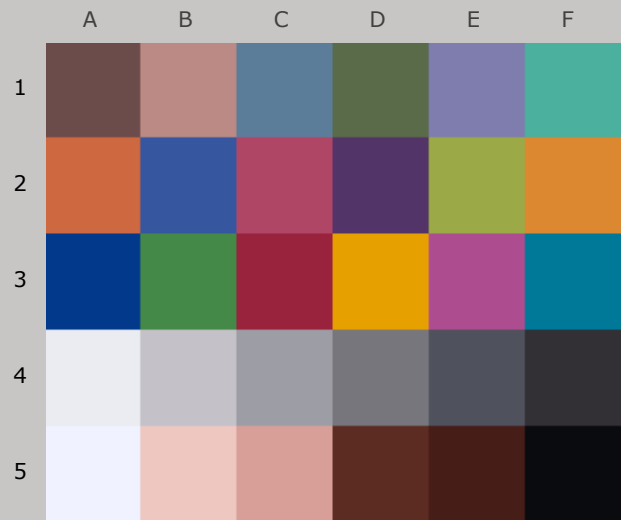
30 Mlux-hrs Light Exposure (i.e., after) Compared to Original Print Colors (i.e., before)

Column/row	Color Patch	I*Color	ΔE	L*		a*		b*	
				Before	After	Before	After	Before	After
A1	dark Skin	74.1	5.8	34.3	35.1	16.3	14.3	12.0	6.6
B1	light Skin	81.1	5.8	60.8	62.0	20.7	19.4	17.8	12.3
C1	blue sky	85.6	3.4	48.8	50.1	-6.6	-6.6	-16.6	-19.7
D1	foliage	82.3	4.8	41.4	42.6	-9.3	-11.7	21.7	17.7
E1	blue flower	90.6	3.2	52.3	53.7	9.2	9.1	-23.6	-26.5
F1	bluish green	92.6	3.3	63.9	65.2	-34.8	-34.4	4.0	1.0
A2	orange	88.2	8.3	54.7	55.5	41.5	39.1	50.6	42.8
B2	purplish blue	93.2	3.5	35.9	36.9	7.0	7.0	-40.6	-43.9
C2	moderate red	84.5	8.2	44.4	44.8	47.3	46.4	14.5	6.4
D2	purple	82.0	5.8	26.4	27.2	22.3	21.9	-18.5	-24.1
E2	yellow green	91.9	5.2	65.3	66.8	-14.0	-15.9	53.6	49.0
F2	orange yellow	90.5	7.6	63.1	64.2	31.1	28.4	66.7	59.7
A3	blue	93.8	3.7	24.2	25.3	11.2	11.7	-47.7	-51.2
B3	green	92.4	4.1	49.7	51.1	-31.8	-33.6	30.8	27.4
C3	red	86.1	8.2	34.9	34.6	49.8	50.0	23.7	15.6
D3	yellow	93.3	6.3	70.1	71.4	22.2	19.3	82.0	76.6
E3	magenta	88.6	6.0	46.1	46.9	46.3	45.7	-11.2	-17.1
F3	cyan	93.7	3.1	43.7	44.9	-28.6	-28.5	-25.2	-28.1
A4	white	100.0	0.8	92.5	93.2	0.6	0.4	-3.2	-2.8
B4	neutral 8	75.7	3.1	76.7	78.0	1.4	1.3	0.1	-2.8
C4	neutral 6.5	65.9	4.0	63.1	64.5	0.7	0.3	0.0	-3.8
D4	neutral 5	55.2	4.9	47.9	49.2	1.6	0.6	2.5	-2.2
E4	neutral 3.5	49.9	5.4	33.2	34.3	2.3	0.8	-1.5	-6.6
F4	black	80.5	3.0	17.5	19.4	2.4	2.2	-0.6	-2.9
A5	paper white	93.2	1.3	94.9	95.5	1.5	1.3	-8.0	-6.9
B5	skin highlight L*=89	83.0	3.8	81.8	83.0	13.5	12.6	12.7	9.1
C5	skin highlight L*=75	81.9	6.0	69.1	70.3	22.9	21.6	18.8	13.1
D5	skin shadow L*=25	98.2	2.5	21.5	23.8	21.2	22.1	17.4	16.9
E5	skin shadow L*=11	56.6	8.6	11.7	15.9	13.9	19.3	8.1	13.4
F5	Max Black	100.0	0.3	2.8	3.0	0.1	0.3	-2.4	-2.2
Summary Results		I*Color	I*tone	 AARDENBURG IMAGING & ARCHIVES					
Average Score for all patches		84.1	94.1						
Average Score for the Worst 10% (3 lowest scoring patches)		53.9	86.2						

81.6_{color} / 93.4_{tone}



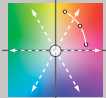
Original Print Colors
(measured before light exposure)



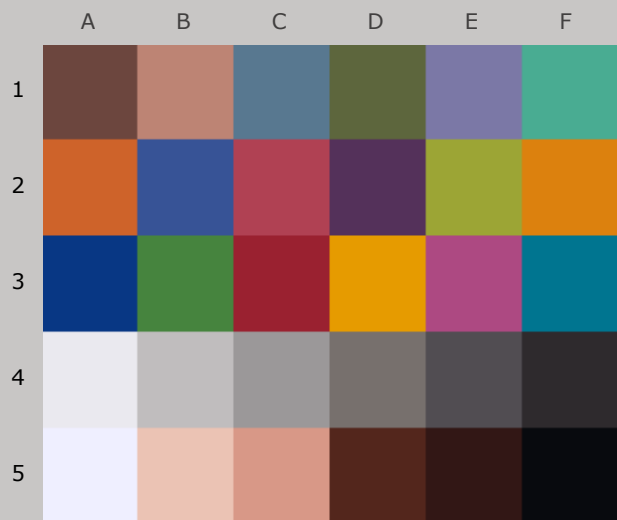
Colors after 40 Megalux-hours
light exposure

*Fujifilm Frontier DL 400, Fujifilm Frontier DL 400 OEM ink,
Fujifilm OEM for DL 400, Glossy paper*

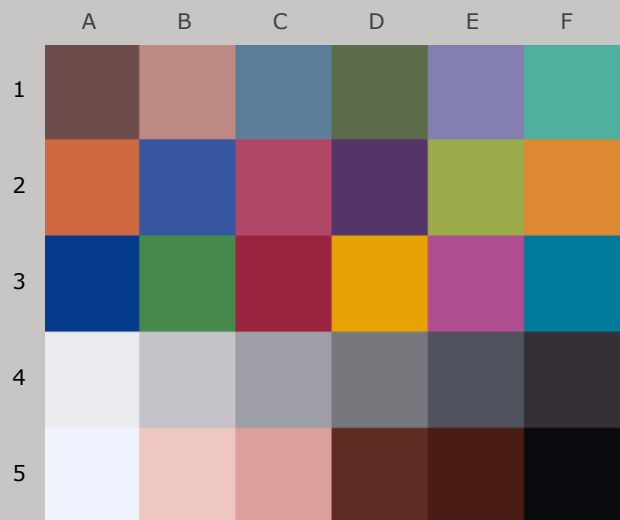
40 Mlux-hrs Light Exposure (i.e., after) Compared to Original Print Colors (i.e., before)

Column/row	Color Patch	I*Color	ΔE	L*		a*		b*	
				Before	After	Before	After	Before	After
A1	dark Skin	70.3	6.6	34.3	35.6	16.3	14.2	12.0	5.9
B1	light Skin	77.7	6.8	60.8	62.4	20.7	19.3	17.8	11.4
C1	blue sky	84.2	3.8	48.8	50.6	-6.6	-6.4	-16.6	-19.9
D1	foliage	79.4	5.6	41.4	43.0	-9.3	-11.7	21.7	16.9
E1	blue flower	90.7	3.4	52.3	54.2	9.2	9.3	-23.6	-26.4
F1	bluish green	90.7	4.1	63.9	65.6	-34.8	-33.7	4.0	0.5
A2	orange	85.9	9.8	54.7	56.0	41.5	38.7	50.6	41.3
B2	purplish blue	92.9	3.7	35.9	37.2	7.0	7.2	-40.6	-44.0
C2	moderate red	82.4	9.3	44.4	45.3	47.3	46.3	14.5	5.3
D2	purple	79.8	6.5	26.4	27.6	22.3	22.1	-18.5	-24.8
E2	yellow green	89.9	6.3	65.3	67.2	-14.0	-15.9	53.6	47.8
F2	orange yellow	88.6	9.0	63.1	64.6	31.1	28.0	66.7	58.4
A3	blue	93.2	4.1	24.2	25.6	11.2	11.8	-47.7	-51.5
B3	green	90.9	4.8	49.7	51.4	-31.8	-33.5	30.8	26.7
C3	red	84.2	9.2	34.9	35.0	49.8	49.9	23.7	14.5
D3	yellow	91.8	7.6	70.1	71.7	22.2	18.9	82.0	75.3
E3	magenta	87.6	6.5	46.1	47.4	46.3	45.7	-11.2	-17.6
F3	cyan	92.6	3.6	43.7	45.2	-28.6	-28.1	-25.2	-28.4
A4	white	99.2	1.1	92.5	93.4	0.6	0.5	-3.2	-2.6
B4	neutral 8	72.1	3.6	76.7	78.5	1.4	1.6	0.1	-3.1
C4	neutral 6.5	60.1	4.7	63.1	65.1	0.7	0.6	0.0	-4.3
D4	neutral 5	48.3	5.7	47.9	49.7	1.6	0.9	2.5	-2.9
E4	neutral 3.5	43.0	6.1	33.2	34.8	2.3	0.9	-1.5	-7.3
F4	black	77.4	3.6	17.5	20.0	2.4	2.4	-0.6	-3.2
A5	paper white	90.7	1.5	94.9	95.6	1.5	1.3	-8.0	-6.6
B5	skin highlight L*=89	79.8	4.5	81.8	83.4	13.5	12.6	12.7	8.5
C5	skin highlight L*=75	78.7	7.0	69.1	70.8	22.9	21.6	18.8	12.1
D5	skin shadow L*=25	97.5	3.1	21.5	24.4	21.2	22.2	17.4	16.7
E5	skin shadow L*=11	48.4	10.2	11.7	16.9	13.9	20.2	8.1	14.3
F5	Max Black	100.0	0.6	2.8	3.2	0.1	0.4	-2.4	-2.3
Summary Results		I*Color	I*tone	 AARDENBURG IMAGING & ARCHIVES					
Average Score for all patches		81.6	93.4						
Average Score for the Worst 10% (3 lowest scoring patches)		46.6	84.4						
ΔE				Page 9					

80.6_{color} / 92.7_{tone}



Original Print Colors
(measured before light exposure)



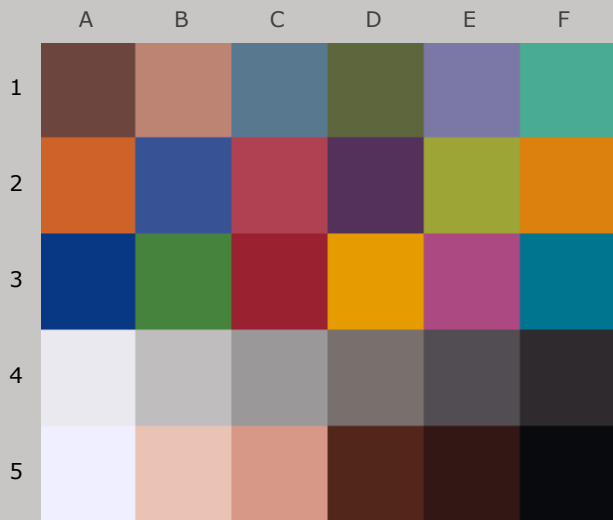
Colors after 50 Megalux-hours
light exposure

*Fujifilm Frontier DL 400, Fujifilm Frontier DL 400 OEM ink,
Fujifilm OEM for DL 400, Glossy paper*

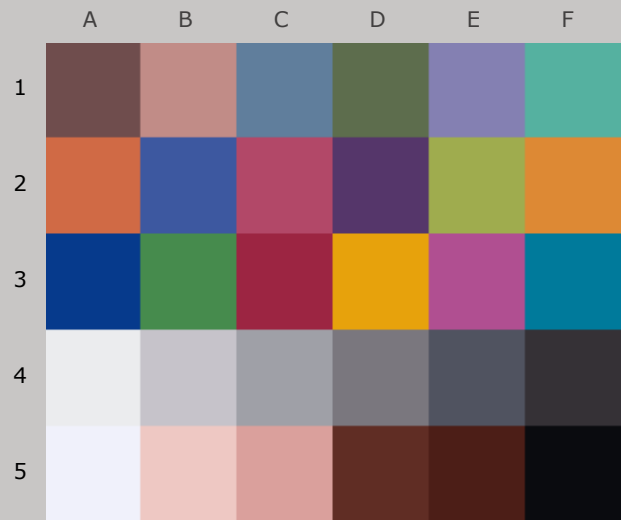
50 Mlux-hrs Light Exposure (i.e., after) Compared to Original Print Colors (i.e., before)

Column/row	Color Patch	I*Color	ΔE	L*		a*		b*	
				Before	After	Before	After	Before	After
A1	dark Skin	71.0	6.6	34.3	36.0	16.3	14.5	12.0	5.9
B1	light Skin	76.8	7.2	60.8	62.9	20.7	19.5	17.8	11.1
C1	blue sky	85.0	3.9	48.8	51.1	-6.6	-5.9	-16.6	-19.7
D1	foliage	78.8	5.8	41.4	43.4	-9.3	-11.4	21.7	16.6
E1	blue flower	92.4	3.4	52.3	54.8	9.2	9.6	-23.6	-26.0
F1	bluish green	90.0	4.5	63.9	66.0	-34.8	-33.1	4.0	0.4
A2	orange	84.9	10.6	54.7	56.5	41.5	38.6	50.6	40.6
B2	purplish blue	93.7	3.5	35.9	37.6	7.0	7.4	-40.6	-43.6
C2	moderate red	81.8	9.6	44.4	45.8	47.3	46.4	14.5	5.0
D2	purple	80.2	6.4	26.4	28.0	22.3	22.3	-18.5	-24.7
E2	yellow green	88.7	7.1	65.3	67.4	-14.0	-15.6	53.6	47.0
F2	orange yellow	87.5	9.9	63.1	65.0	31.1	27.8	66.7	57.6
A3	blue	93.6	4.0	24.2	25.8	11.2	11.8	-47.7	-51.3
B3	green	90.4	5.2	49.7	51.7	-31.8	-33.1	30.8	26.3
C3	red	83.8	9.4	34.9	35.6	49.8	50.0	23.7	14.3
D3	yellow	90.9	8.4	70.1	72.1	22.2	18.7	82.0	74.6
E3	magenta	88.3	6.3	46.1	47.9	46.3	45.8	-11.2	-17.3
F3	cyan	92.8	3.7	43.7	45.5	-28.6	-27.8	-25.2	-28.3
A4	white	90.4	1.7	92.5	93.4	0.6	0.4	-3.2	-1.8
B4	neutral 8	75.2	3.6	76.7	78.9	1.4	1.9	0.1	-2.8
C4	neutral 6.5	61.1	4.9	63.1	65.6	0.7	1.0	0.0	-4.2
D4	neutral 5	47.7	5.9	47.9	50.1	1.6	1.3	2.5	-3.0
E4	neutral 3.5	41.9	6.3	33.2	35.1	2.3	1.4	-1.5	-7.5
F4	black	77.9	4.0	17.5	20.5	2.4	2.8	-0.6	-3.1
A5	paper white	80.0	2.5	94.9	95.6	1.5	1.1	-8.0	-5.6
B5	skin highlight L*=89	80.1	4.6	81.8	83.7	13.5	12.6	12.7	8.6
C5	skin highlight L*=75	78.0	7.4	69.1	71.2	22.9	21.7	18.8	11.9
D5	skin shadow L*=25	96.4	3.8	21.5	25.0	21.2	22.7	17.4	17.2
E5	skin shadow L*=11	37.5	12.2	11.7	17.8	13.9	21.3	8.1	15.7
F5	Max Black	100.0	0.4	2.8	3.0	0.1	0.4	-2.4	-2.3
Summary Results		I*Color	I*tone	 AARDENBURG IMAGING & ARCHIVES					
Average Score for all patches		80.6	92.7						
Average Score for the Worst 10% (3 lowest scoring patches)		42.4	82.8						

79.3_{color} / 91.6_{tone}



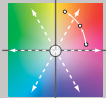
Original Print Colors
(measured before light exposure)



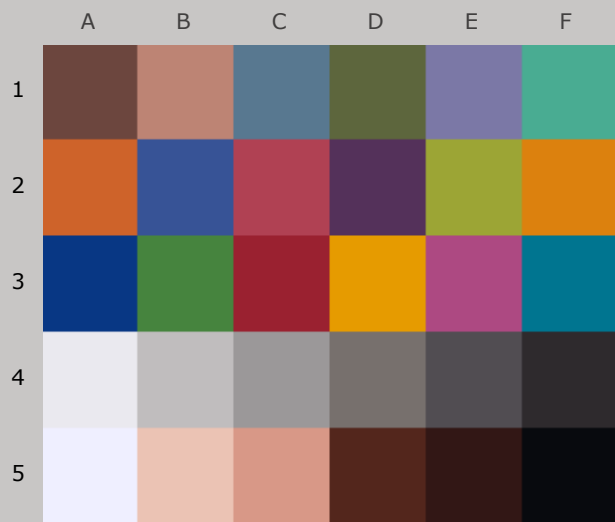
Colors after 60 Megalux-hours
light exposure

*Fujifilm Frontier DL 400, Fujifilm Frontier DL 400 OEM ink,
Fujifilm OEM for DL 400, Glossy paper*

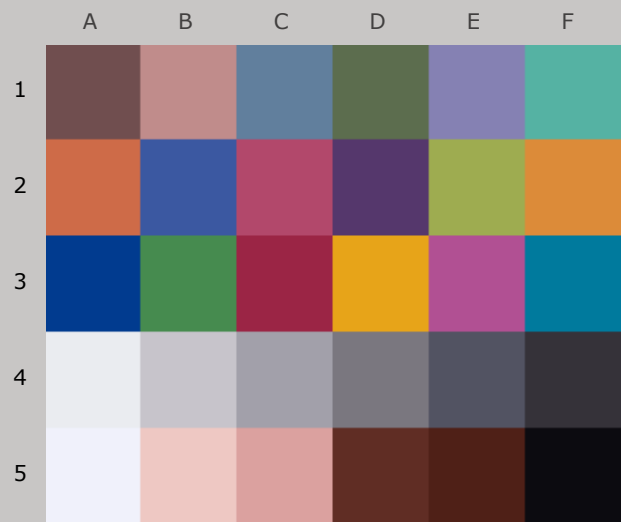
60 Mlux-hrs Light Exposure (i.e., after) Compared to Original Print Colors (i.e., before)

Column/row	Color Patch	I*Color	ΔE	L*		a*		b*	
				Before	After	Before	After	Before	After
A1	dark Skin	69.9	6.9	34.3	36.4	16.3	14.6	12.0	5.6
B1	light Skin	75.3	7.7	60.8	63.3	20.7	19.6	17.8	10.6
C1	blue sky	84.2	4.3	48.8	51.5	-6.6	-5.5	-16.6	-19.8
D1	foliage	78.3	6.1	41.4	43.8	-9.3	-11.1	21.7	16.4
E1	blue flower	92.6	3.7	52.3	55.2	9.2	9.9	-23.6	-25.9
F1	bluish green	88.5	5.2	63.9	66.4	-34.8	-32.5	4.0	0.1
A2	orange	83.6	11.4	54.7	56.8	41.5	38.5	50.6	39.8
B2	purplish blue	94.1	3.5	35.9	37.9	7.0	7.6	-40.6	-43.4
C2	moderate red	80.7	10.2	44.4	46.2	47.3	46.4	14.5	4.5
D2	purple	79.6	6.7	26.4	28.3	22.3	22.4	-18.5	-24.9
E2	yellow green	87.6	7.7	65.3	67.7	-14.0	-15.3	53.6	46.3
F2	orange yellow	86.3	10.8	63.1	65.3	31.1	27.6	66.7	56.7
A3	blue	93.8	4.0	24.2	26.0	11.2	11.8	-47.7	-51.2
B3	green	89.9	5.5	49.7	52.0	-31.8	-32.6	30.8	25.9
C3	red	82.6	10.2	34.9	35.9	49.8	50.0	23.7	13.6
D3	yellow	89.9	9.3	70.1	72.3	22.2	18.6	82.0	73.6
E3	magenta	88.4	6.4	46.1	48.3	46.3	45.8	-11.2	-17.2
F3	cyan	92.2	4.0	43.7	45.8	-28.6	-27.3	-25.2	-28.4
A4	white	86.9	2.0	92.5	93.5	0.6	0.4	-3.2	-1.4
B4	neutral 8	74.3	3.9	76.7	79.2	1.4	2.1	0.1	-2.8
C4	neutral 6.5	58.5	5.3	63.1	66.0	0.7	1.4	0.0	-4.4
D4	neutral 5	44.4	6.3	47.9	50.5	1.6	1.7	2.5	-3.3
E4	neutral 3.5	40.8	6.5	33.2	35.5	2.3	1.5	-1.5	-7.6
F4	black	77.9	4.3	17.5	20.8	2.4	3.0	-0.6	-3.1
A5	paper white	76.1	2.8	94.9	95.5	1.5	1.0	-8.0	-5.3
B5	skin highlight L*=89	79.0	4.8	81.8	83.8	13.5	12.6	12.7	8.4
C5	skin highlight L*=75	76.2	8.0	69.1	71.5	22.9	21.8	18.8	11.3
D5	skin shadow L*=25	96.0	4.3	21.5	25.5	21.2	22.8	17.4	17.5
E5	skin shadow L*=11	31.5	13.4	11.7	18.6	13.9	21.9	8.1	16.5
F5	Max Black	100.0	0.5	2.8	3.0	0.1	0.4	-2.4	-2.3
Summary Results		I*Color	I*tone	 AARDENBURG IMAGING & ARCHIVES					
Average Score for all patches		79.3	91.6						
Average Score for the Worst 10% (3 lowest scoring patches)		38.9	80.9						

75.9_{color} / 90.4_{tone}



Original Print Colors
(measured before light exposure)



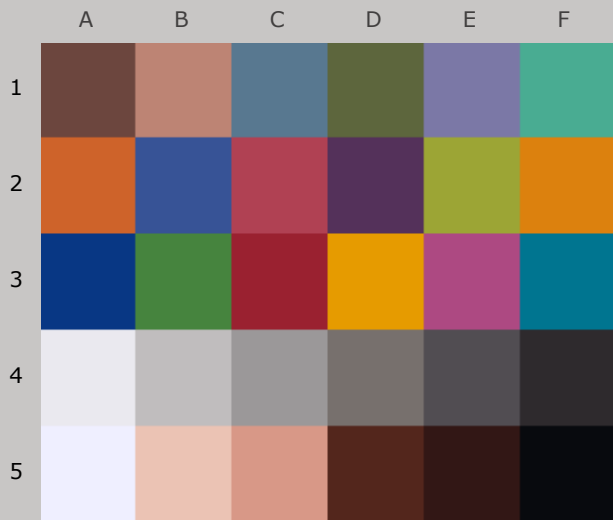
Colors after 70 Megalux-hours
light exposure

*Fujifilm Frontier DL 400, Fujifilm Frontier DL 400 OEM ink,
Fujifilm OEM for DL 400, Glossy paper*

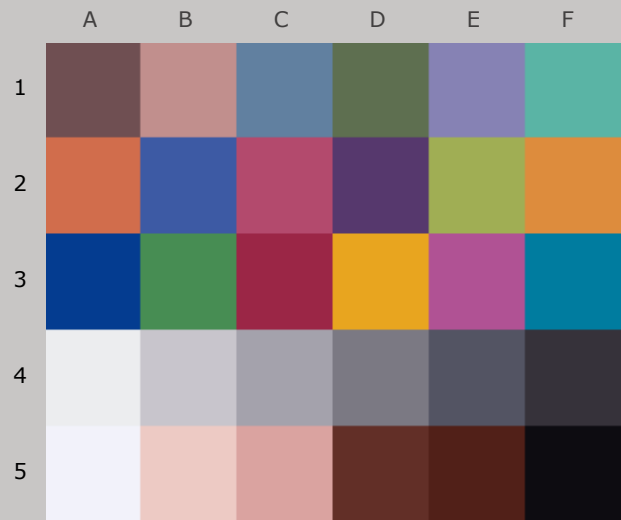
70 Mlux-hrs Light Exposure (i.e., after) Compared to Original Print Colors (i.e., before)

				L*		a*		b*	
Column/row	Color Patch	I*Color	ΔE	Before	After	Before	After	Before	After
A1	dark Skin	65.7	7.8	34.3	36.7	16.3	14.5	12.0	4.8
B1	light Skin	70.9	8.9	60.8	63.7	20.7	19.6	17.8	9.4
C1	blue sky	80.0	5.1	48.8	51.9	-6.6	-5.2	-16.6	-20.5
D1	foliage	74.1	7.1	41.4	44.1	-9.3	-11.2	21.7	15.4
E1	blue flower	90.9	4.3	52.3	55.6	9.2	10.1	-23.6	-26.3
F1	bluish green	85.9	6.1	63.9	66.7	-34.8	-31.9	4.0	-0.6
A2	orange	81.2	13.0	54.7	57.0	41.5	38.2	50.6	38.3
B2	purplish blue	93.2	4.0	35.9	38.1	7.0	7.9	-40.6	-43.8
C2	moderate red	77.9	11.6	44.4	46.4	47.3	46.3	14.5	3.1
D2	purple	76.1	7.7	26.4	28.5	22.3	22.5	-18.5	-25.9
E2	yellow green	85.4	9.0	65.3	68.0	-14.0	-15.3	53.6	45.1
F2	orange yellow	83.9	12.5	63.1	65.5	31.1	27.2	66.7	55.0
A3	blue	92.8	4.5	24.2	26.2	11.2	12.0	-47.7	-51.6
B3	green	87.4	6.6	49.7	52.3	-31.8	-32.6	30.8	24.8
C3	red	80.0	11.6	34.9	35.9	49.8	49.8	23.7	12.2
D3	yellow	87.9	11.0	70.1	72.4	22.2	18.1	82.0	72.1
E3	magenta	86.8	7.2	46.1	48.6	46.3	45.6	-11.2	-18.0
F3	cyan	90.4	4.8	43.7	46.1	-28.6	-26.9	-25.2	-28.9
A4	white	88.1	1.9	92.5	93.4	0.6	0.4	-3.2	-1.6
B4	neutral 8	69.3	4.4	76.7	79.5	1.4	2.3	0.1	-3.2
C4	neutral 6.5	49.3	6.2	63.1	66.3	0.7	1.7	0.0	-5.3
D4	neutral 5	31.8	7.5	47.9	50.7	1.6	1.9	2.5	-4.5
E4	neutral 3.5	29.0	7.6	33.2	35.6	2.3	1.5	-1.5	-8.7
F4	black	71.1	4.8	17.5	21.1	2.4	3.0	-0.6	-3.7
A5	paper white	76.5	2.8	94.9	95.3	1.5	1.1	-8.0	-5.3
B5	skin highlight L*=89	74.5	5.6	81.8	83.9	13.5	12.5	12.7	7.6
C5	skin highlight L*=75	72.0	9.2	69.1	71.7	22.9	21.7	18.8	10.1
D5	skin shadow L*=25	95.8	4.4	21.5	25.6	21.2	22.7	17.4	16.6
E5	skin shadow L*=11	28.0	14.2	11.7	19.1	13.9	22.3	8.1	16.8
F5	Max Black	99.9	0.7	2.8	3.2	0.1	0.6	-2.4	-2.4
Summary Results		I*Color	I*tone	 AARDENBURG IMAGING & ARCHIVES					
Average Score for all patches		75.9	90.4	7.1					
Average Score for the Worst 10% (3 lowest scoring patches)		29.6	78.9	13.2					

73.3_{color} / 89.3_{tone}



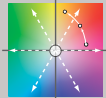
Original Print Colors
(measured before light exposure)



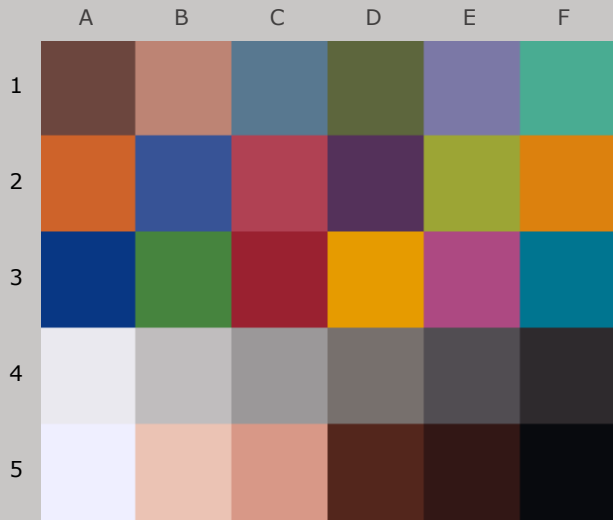
Colors after 80 Megalux-hours
light exposure

*Fujifilm Frontier DL 400, Fujifilm Frontier DL 400 OEM ink,
Fujifilm OEM for DL 400, Glossy paper*

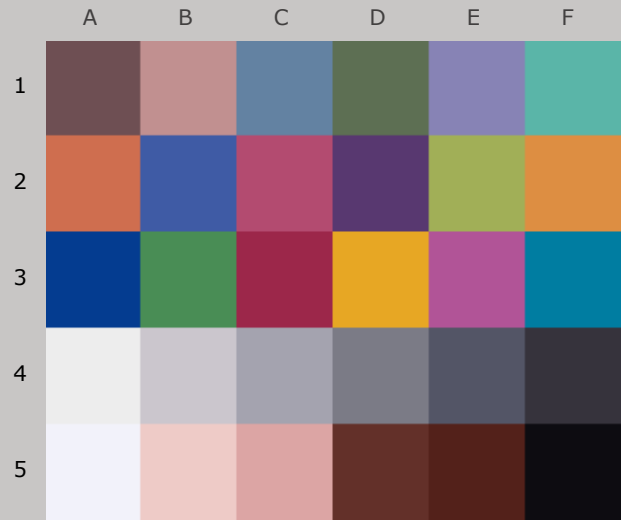
80 Mlux-hrs Light Exposure (i.e., after) Compared to Original Print Colors (i.e., before)

Column/row	Color Patch	I*Color	ΔE	L*		a*		b*	
				Before	After	Before	After	Before	After
A1	dark Skin	60.9	8.9	34.3	37.1	16.3	14.3	12.0	3.8
B1	light Skin	68.0	9.9	60.8	64.2	20.7	19.4	17.8	8.7
C1	blue sky	78.7	5.6	48.8	52.3	-6.6	-5.2	-16.6	-20.7
D1	foliage	70.5	8.1	41.4	44.5	-9.3	-11.4	21.7	14.5
E1	blue flower	91.6	4.7	52.3	56.2	9.2	9.9	-23.6	-26.1
F1	bluish green	84.3	6.9	63.9	67.3	-34.8	-31.5	4.0	-1.0
A2	orange	79.0	14.5	54.7	57.5	41.5	37.7	50.6	36.9
B2	purplish blue	93.0	4.4	35.9	38.7	7.0	7.5	-40.6	-43.9
C2	moderate red	75.7	12.8	44.4	46.9	47.3	46.1	14.5	2.1
D2	purple	73.9	8.5	26.4	29.0	22.3	22.4	-18.5	-26.5
E2	yellow green	83.2	10.3	65.3	68.5	-14.0	-15.4	53.6	43.9
F2	orange yellow	81.9	14.1	63.1	66.0	31.1	26.7	66.7	53.6
A3	blue	92.1	4.9	24.2	26.6	11.2	11.9	-47.7	-52.0
B3	green	85.7	7.5	49.7	52.8	-31.8	-32.6	30.8	24.1
C3	red	77.7	12.9	34.9	36.2	49.8	49.9	23.7	10.9
D3	yellow	86.6	12.2	70.1	72.9	22.2	17.6	82.0	71.0
E3	magenta	86.0	7.8	46.1	49.1	46.3	45.5	-11.2	-18.3
F3	cyan	89.5	5.3	43.7	46.6	-28.6	-26.7	-25.2	-29.3
A4	white	79.6	2.7	92.5	93.7	0.6	0.3	-3.2	-0.8
B4	neutral 8	72.0	4.7	76.7	80.1	1.4	2.4	0.1	-2.9
C4	neutral 6.5	48.0	6.7	63.1	67.0	0.7	1.8	0.0	-5.4
D4	neutral 5	26.6	8.3	47.9	51.4	1.6	1.8	2.5	-5.0
E4	neutral 3.5	21.4	8.5	33.2	36.2	2.3	1.7	-1.5	-9.5
F4	black	64.6	5.7	17.5	21.7	2.4	3.0	-0.6	-4.4
A5	paper white	66.0	3.8	94.9	95.6	1.5	0.9	-8.0	-4.3
B5	skin highlight L*=89	74.2	5.9	81.8	84.4	13.5	12.2	12.7	7.6
C5	skin highlight L*=75	70.2	9.9	69.1	72.3	22.9	21.4	18.8	9.6
D5	skin shadow L*=25	94.6	5.0	21.5	26.2	21.2	22.7	17.4	16.0
E5	skin shadow L*=11	25.6	14.9	11.7	19.7	13.9	22.7	8.1	17.0
F5	Max Black	99.2	0.9	2.8	3.4	0.1	0.6	-2.4	-2.4
Summary Results		I*Color	I*tone	 AARDENBURG IMAGING & ARCHIVES					
Average Score for all patches		73.3	89.3						
Average Score for the Worst 10% (3 lowest scoring patches)		24.5	77.8						

70.2_{color} / 88.2_{tone}



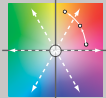
Original Print Colors
(measured before light exposure)



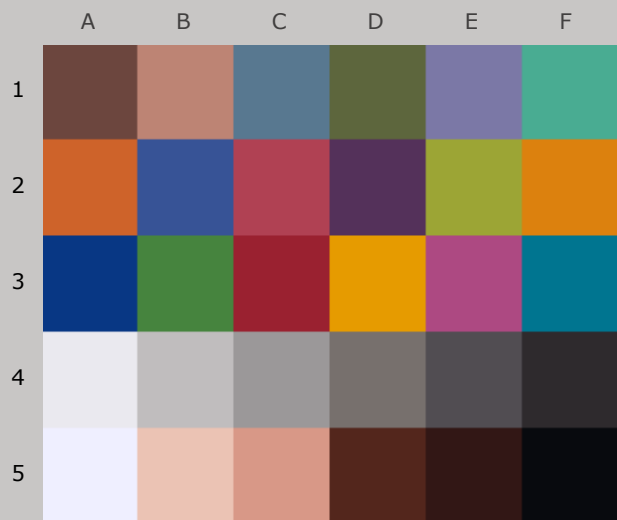
Colors after 90 Megalux-hours
light exposure

*Fujifilm Frontier DL 400, Fujifilm Frontier DL 400 OEM ink,
Fujifilm OEM for DL 400, Glossy paper*

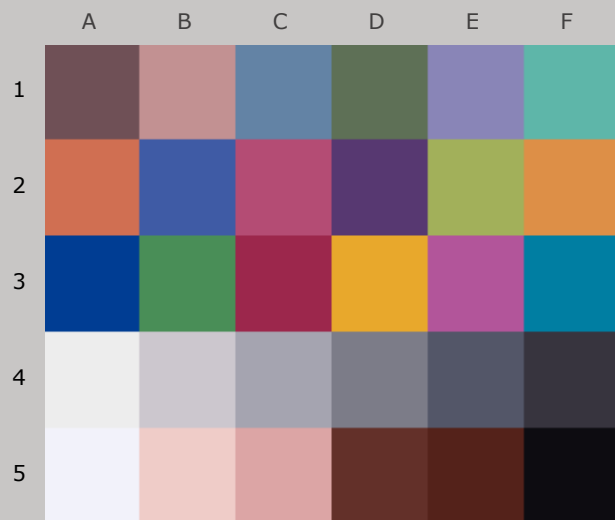
90 Mlux-hrs Light Exposure (i.e., after) Compared to Original Print Colors (i.e., before)

Column/row	Color Patch	I*Color	ΔE	L*		a*		b*	
				Before	After	Before	After	Before	After
A1	dark Skin	54.5	10.2	34.3	37.4	16.3	14.2	12.0	2.5
B1	light Skin	64.6	10.9	60.8	64.6	20.7	19.3	17.8	7.7
C1	blue sky	75.6	6.3	48.8	52.8	-6.6	-4.8	-16.6	-21.2
D1	foliage	66.1	9.2	41.4	44.9	-9.3	-11.3	21.7	13.4
E1	blue flower	90.6	5.2	52.3	56.7	9.2	10.0	-23.6	-26.4
F1	bluish green	81.5	7.9	63.9	67.7	-34.8	-30.8	4.0	-1.6
A2	orange	76.5	16.1	54.7	57.8	41.5	37.4	50.6	35.3
B2	purplish blue	92.2	4.9	35.9	39.0	7.0	7.7	-40.6	-44.2
C2	moderate red	73.1	14.1	44.4	47.2	47.3	46.0	14.5	0.8
D2	purple	70.8	9.4	26.4	29.3	22.3	22.8	-18.5	-27.4
E2	yellow green	81.3	11.4	65.3	68.9	-14.0	-15.4	53.6	42.8
F2	orange yellow	79.8	15.7	63.1	66.3	31.1	26.2	66.7	52.1
A3	blue	91.2	5.5	24.2	26.8	11.2	12.1	-47.7	-52.4
B3	green	83.7	8.4	49.7	53.1	-31.8	-32.4	30.8	23.1
C3	red	75.0	14.4	34.9	36.4	49.8	50.0	23.7	9.4
D3	yellow	84.9	13.7	70.1	73.2	22.2	17.1	82.0	69.6
E3	magenta	84.8	8.5	46.1	49.5	46.3	45.3	-11.2	-18.9
F3	cyan	87.2	6.3	43.7	46.9	-28.6	-26.1	-25.2	-29.9
A4	white	75.5	3.1	92.5	93.8	0.6	0.3	-3.2	-0.4
B4	neutral 8	71.3	5.0	76.7	80.5	1.4	2.5	0.1	-3.0
C4	neutral 6.5	43.3	7.4	63.1	67.5	0.7	2.0	0.0	-5.8
D4	neutral 5	17.9	9.2	47.9	51.9	1.6	2.0	2.5	-5.8
E4	neutral 3.5	13.1	9.4	33.2	36.6	2.3	1.7	-1.5	-10.3
F4	black	57.2	6.5	17.5	22.1	2.4	3.2	-0.6	-5.0
A5	paper white	60.4	4.3	94.9	95.6	1.5	0.8	-8.0	-3.8
B5	skin highlight L*=89	72.4	6.3	81.8	84.8	13.5	12.0	12.7	7.3
C5	skin highlight L*=75	67.4	10.8	69.1	72.8	22.9	21.2	18.8	8.8
D5	skin shadow L*=25	93.0	5.6	21.5	26.5	21.2	22.7	17.4	15.4
E5	skin shadow L*=11	23.7	15.4	11.7	20.2	13.9	23.0	8.1	17.1
F5	Max Black	98.7	0.9	2.8	3.4	0.1	0.7	-2.4	-2.4
Summary Results		I*Color	I*tone	 AARDENBURG IMAGING & ARCHIVES					
Average Score for all patches		70.2	88.2						
Average Score for the Worst 10% (3 lowest scoring patches)		18.2	76.4						

67.2_{color} / 87.1_{tone}



Original Print Colors
(measured before light exposure)



Colors after 100 Megalux-hours
light exposure

*Fujifilm Frontier DL 400, Fujifilm Frontier DL 400 OEM ink,
Fujifilm OEM for DL 400, Glossy paper*

100 Mlux-hrs Light Exposure (i.e., after) Compared to Original Print Colors (i.e., before)

Column/row	Color Patch	I*Color	ΔE	L*		a*		b*	
				Before	After	Before	After	Before	After
A1	dark Skin	49.6	11.2	34.3	37.8	16.3	14.0	12.0	1.5
B1	light Skin	61.0	11.9	60.8	65.1	20.7	19.2	17.8	6.8
C1	blue sky	73.2	6.9	48.8	53.3	-6.6	-4.6	-16.6	-21.6
D1	foliage	61.9	10.2	41.4	45.2	-9.3	-11.3	21.7	12.4
E1	blue flower	90.1	5.7	52.3	57.2	9.2	10.1	-23.6	-26.5
F1	bluish green	79.3	8.8	63.9	68.1	-34.8	-30.2	4.0	-2.2
A2	orange	74.1	17.8	54.7	58.1	41.5	37.0	50.6	33.8
B2	purplish blue	91.6	5.3	35.9	39.4	7.0	7.8	-40.6	-44.4
C2	moderate red	70.5	15.4	44.4	47.5	47.3	45.9	14.5	-0.5
D2	purple	67.6	10.4	26.4	29.6	22.3	22.8	-18.5	-28.3
E2	yellow green	79.0	12.8	65.3	69.3	-14.0	-15.4	53.6	41.5
F2	orange yellow	77.3	17.6	63.1	66.7	31.1	25.8	66.7	50.3
A3	blue	90.5	5.9	24.2	27.1	11.2	12.2	-47.7	-52.7
B3	green	81.2	9.6	49.7	53.5	-31.8	-32.2	30.8	22.0
C3	red	72.2	15.9	34.9	36.6	49.8	49.9	23.7	7.9
D3	yellow	82.9	15.4	70.1	73.6	22.2	16.6	82.0	68.0
E3	magenta	83.5	9.2	46.1	49.9	46.3	45.1	-11.2	-19.5
F3	cyan	85.7	7.0	43.7	47.3	-28.6	-25.7	-25.2	-30.3
A4	white	75.2	3.2	92.5	93.9	0.6	0.4	-3.2	-0.3
B4	neutral 8	68.9	5.5	76.7	80.9	1.4	2.6	0.1	-3.2
C4	neutral 6.5	37.3	8.1	63.1	68.0	0.7	2.1	0.0	-6.4
D4	neutral 5	7.8	10.3	47.9	52.3	1.6	2.2	2.5	-6.7
E4	neutral 3.5	1.8	10.5	33.2	36.9	2.3	1.9	-1.5	-11.3
F4	black	47.4	7.4	17.5	22.5	2.4	3.4	-0.6	-6.0
A5	paper white	59.3	4.4	94.9	95.6	1.5	0.8	-8.0	-3.7
B5	skin highlight L*=89	69.4	6.9	81.8	85.1	13.5	11.8	12.7	6.8
C5	skin highlight L*=75	64.4	11.8	69.1	73.1	22.9	21.0	18.8	7.9
D5	skin shadow L*=25	90.7	6.1	21.5	26.8	21.2	22.7	17.4	14.7
E5	skin shadow L*=11	22.1	15.9	11.7	20.7	13.9	23.3	8.1	17.2
F5	Max Black	99.0	1.0	2.8	3.5	0.1	0.6	-2.4	-2.5

Summary Results

I*Color

I*tone

ΔE

Average Score for all patches

67.2

87.1

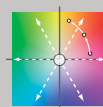
9.6

Average Score for the Worst 10%
(3 lowest scoring patches)

10.6

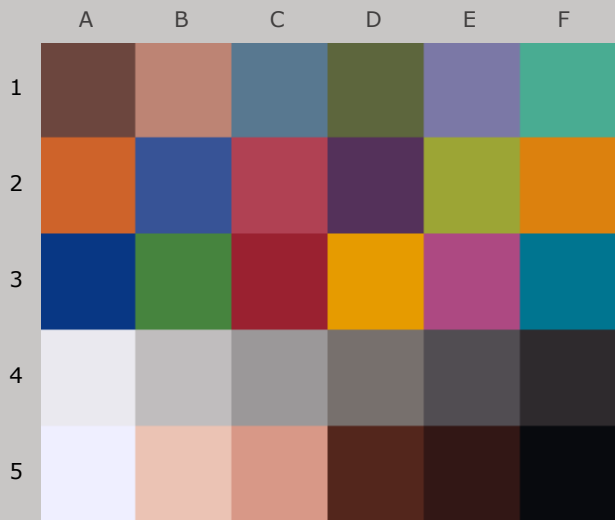
74.9

17.1

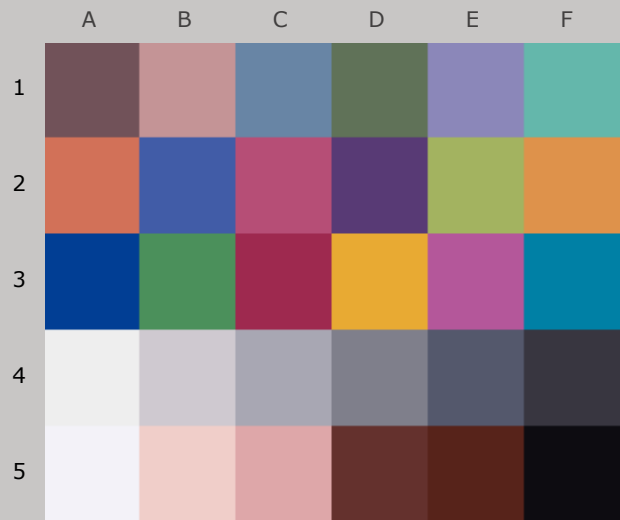


AARDENBURG IMAGING
& ARCHIVES

64.9_{color}/85.1_{tone}



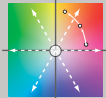
Original Print Colors
(measured before light exposure)



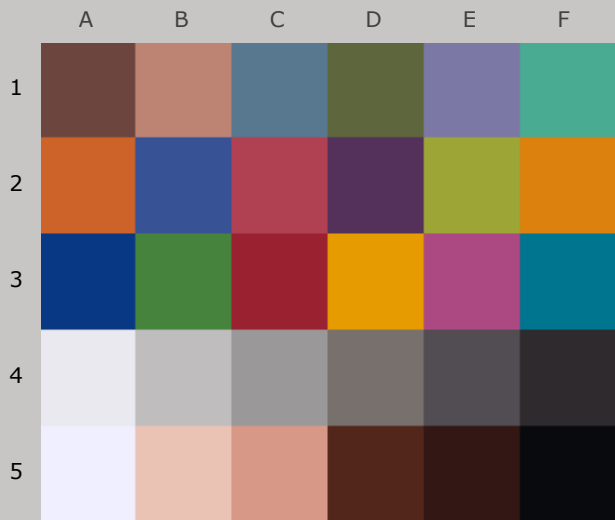
Colors after 120 Megalux-hours
light exposure

*Fujifilm Frontier DL 400, Fujifilm Frontier DL 400 OEM ink,
Fujifilm OEM for DL 400, Glossy paper*

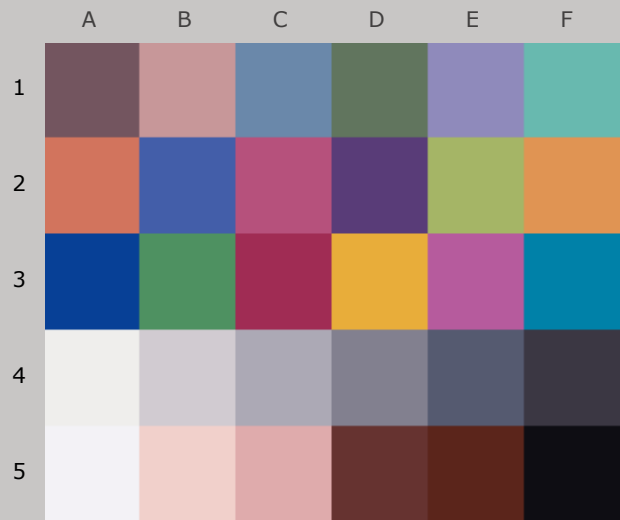
120 Mlux-hrs Light Exposure (i.e., after) Compared to Original Print Colors (i.e., before)

Column/row	Color Patch	I*Color	ΔE	L*		a*		b*	
				Before	After	Before	After	Before	After
A1	dark Skin	45.7	12.3	34.3	38.6	16.3	13.9	12.0	0.8
B1	light Skin	58.9	12.8	60.8	65.9	20.7	19.0	17.8	6.2
C1	blue sky	73.0	7.6	48.8	54.2	-6.6	-4.4	-16.6	-21.5
D1	foliage	58.3	11.3	41.4	46.0	-9.3	-11.2	21.7	11.5
E1	blue flower	92.1	6.2	52.3	58.0	9.2	10.1	-23.6	-25.9
F1	bluish green	76.9	10.0	63.9	69.0	-34.8	-29.2	4.0	-2.5
A2	orange	71.5	19.6	54.7	58.8	41.5	36.6	50.6	32.2
B2	purplish blue	92.8	5.5	35.9	40.2	7.0	7.7	-40.6	-44.0
C2	moderate red	68.6	16.5	44.4	48.3	47.3	45.6	14.5	-1.5
D2	purple	66.0	11.1	26.4	30.4	22.3	22.9	-18.5	-28.8
E2	yellow green	76.9	14.1	65.3	70.1	-14.0	-15.1	53.6	40.3
F2	orange yellow	74.8	19.5	63.1	67.3	31.1	25.3	66.7	48.6
A3	blue	90.6	6.1	24.2	27.6	11.2	12.0	-47.7	-52.7
B3	green	78.8	10.9	49.7	54.2	-31.8	-31.8	30.8	20.9
C3	red	69.9	17.2	34.9	37.2	49.8	49.8	23.7	6.6
D3	yellow	80.5	17.5	70.1	74.1	22.2	16.1	82.0	66.1
E3	magenta	83.5	9.5	46.1	50.7	46.3	44.7	-11.2	-19.4
F3	cyan	84.9	7.6	43.7	48.1	-28.6	-25.2	-25.2	-30.4
A4	white	70.3	3.6	92.5	94.0	0.6	0.4	-3.2	0.1
B4	neutral 8	71.6	5.9	76.7	81.6	1.4	2.8	0.1	-2.8
C4	neutral 6.5	37.0	8.7	63.1	68.9	0.7	2.3	0.0	-6.3
D4	neutral 5	0.8	11.2	47.9	53.2	1.6	2.5	2.5	-7.4
E4	neutral 3.5	-6.4	11.5	33.2	37.6	2.3	2.0	-1.5	-12.1
F4	black	41.6	8.2	17.5	23.1	2.4	3.4	-0.6	-6.5
A5	paper white	53.6	4.9	94.9	95.6	1.5	0.8	-8.0	-3.1
B5	skin highlight L*=89	68.5	7.3	81.8	85.5	13.5	11.5	12.7	6.7
C5	skin highlight L*=75	62.5	12.6	69.1	73.9	22.9	20.8	18.8	7.4
D5	skin shadow L*=25	89.3	6.8	21.5	27.4	21.2	22.6	17.4	14.2
E5	skin shadow L*=11	16.4	17.2	11.7	21.7	13.9	23.9	8.1	17.9
F5	Max Black	96.9	1.2	2.8	3.7	0.1	0.8	-2.4	-2.5
Summary Results		I*Color	I*tone	 AARDENBURG IMAGING & ARCHIVES					
Average Score for all patches		64.9	85.1						
Average Score for the Worst 10% (3 lowest scoring patches)		3.6	71.9						

61.2_{color}/83.0_{tone}



Original Print Colors
(measured before light exposure)



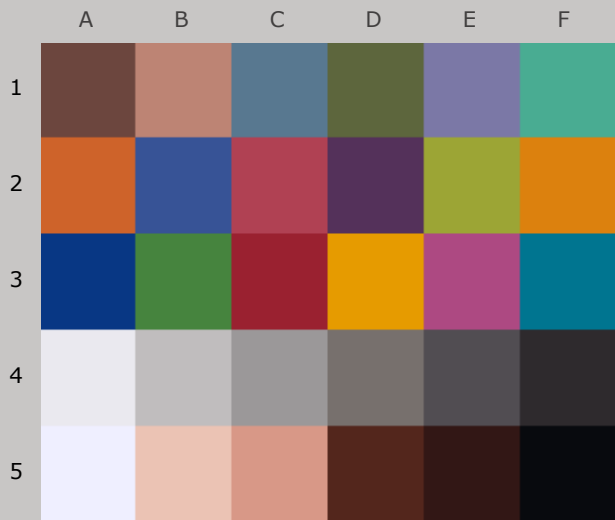
Colors after 140 Megalux-hours
light exposure

*Fujifilm Frontier DL 400, Fujifilm Frontier DL 400 OEM ink,
Fujifilm OEM for DL 400, Glossy paper*

140 Mlux-hrs Light Exposure (i.e., after) Compared to Original Print Colors (i.e., before)

Column/row	Color Patch	I*Color	ΔE	L*		a*		b*	
				Before	After	Before	After	Before	After
A1	dark Skin	39.4	13.8	34.3	39.5	16.3	14.1	12.0	-0.6
B1	light Skin	56.2	13.9	60.8	66.9	20.7	18.7	17.8	5.5
C1	blue sky	70.6	8.6	48.8	55.1	-6.6	-3.8	-16.6	-21.7
D1	foliage	52.1	13.0	41.4	46.9	-9.3	-10.9	21.7	10.0
E1	blue flower	94.4	7.0	52.3	59.1	9.2	10.1	-23.6	-25.3
F1	bluish green	73.3	11.6	63.9	70.0	-34.8	-27.9	4.0	-3.0
A2	orange	68.5	21.7	54.7	59.6	41.5	35.9	50.6	30.3
B2	purplish blue	92.7	6.2	35.9	41.0	7.0	7.9	-40.6	-43.9
C2	moderate red	66.2	17.9	44.4	49.2	47.3	45.3	14.5	-2.6
D2	purple	62.8	12.2	26.4	31.2	22.3	23.2	-18.5	-29.7
E2	yellow green	73.4	16.2	65.3	70.9	-14.0	-14.7	53.6	38.4
F2	orange yellow	71.6	22.0	63.1	68.1	31.1	24.6	66.7	46.3
A3	blue	90.3	6.6	24.2	28.2	11.2	12.0	-47.7	-52.8
B3	green	75.1	12.7	49.7	55.1	-31.8	-31.1	30.8	19.3
C3	red	67.0	19.0	34.9	37.9	49.8	49.9	23.7	5.0
D3	yellow	78.0	19.8	70.1	74.9	22.2	15.3	82.0	64.0
E3	magenta	83.6	10.0	46.1	51.7	46.3	44.2	-11.2	-19.3
F3	cyan	82.6	8.8	43.7	48.9	-28.6	-24.5	-25.2	-31.0
A4	white	59.1	4.7	92.5	94.2	0.6	0.2	-3.2	1.2
B4	neutral 8	77.1	6.4	76.7	82.5	1.4	3.1	0.1	-2.0
C4	neutral 6.5	37.1	9.5	63.1	70.0	0.7	2.6	0.0	-6.2
D4	neutral 5	-8.7	12.5	47.9	54.2	1.6	2.9	2.5	-8.3
E4	neutral 3.5	-18.8	12.9	33.2	38.5	2.3	2.4	-1.5	-13.3
F4	black	32.0	9.5	17.5	23.9	2.4	3.8	-0.6	-7.4
A5	paper white	40.0	6.2	94.9	95.7	1.5	0.5	-8.0	-1.9
B5	skin highlight L*=89	68.5	7.6	81.8	86.1	13.5	11.1	12.7	6.8
C5	skin highlight L*=75	60.8	13.4	69.1	74.8	22.9	20.3	18.8	7.0
D5	skin shadow L*=25	86.4	7.9	21.5	28.2	21.2	22.7	17.4	13.4
E5	skin shadow L*=11	10.2	18.7	11.7	22.9	13.9	24.7	8.1	18.5
F5	Max Black	94.8	1.6	2.8	4.0	0.1	1.0	-2.4	-2.5
Summary Results		I*Color	I*tone	 AARDENBURG IMAGING & ARCHIVES					
Average Score for all patches		61.2	83.0						
Average Score for the Worst 10% (3 lowest scoring patches)		-5.8	68.4						

60.0_{color}/81.5_{tone}



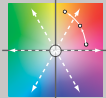
Original Print Colors
(measured before light exposure)



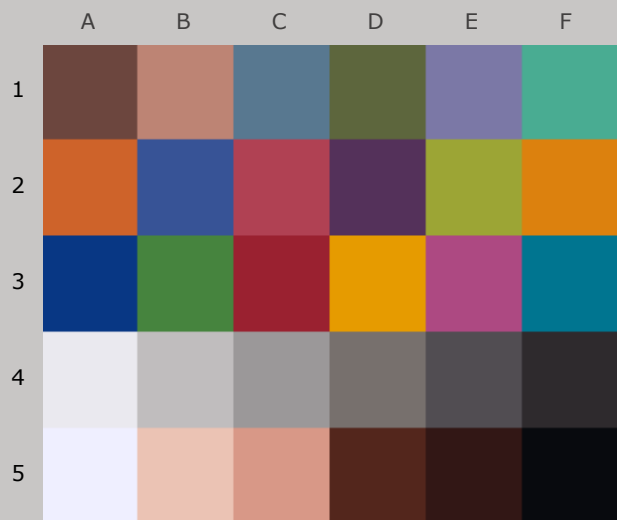
Colors after 160 Megalux-hours
light exposure

*Fujifilm Frontier DL 400, Fujifilm Frontier DL 400 OEM ink,
Fujifilm OEM for DL 400, Glossy paper*

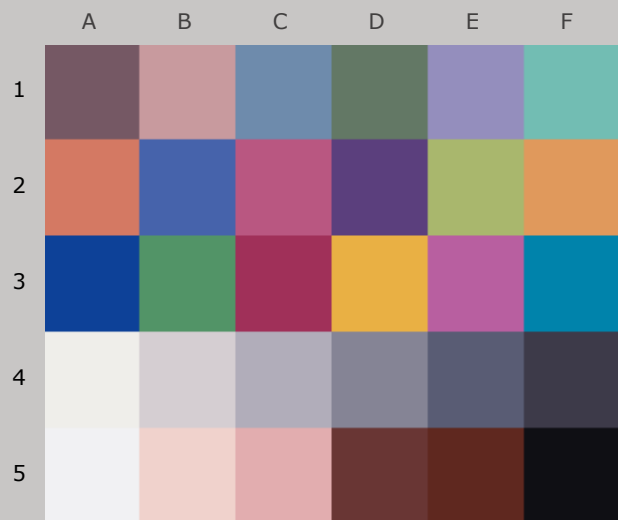
160 Mlux-hrs Light Exposure (i.e., after) Compared to Original Print Colors (i.e., before)

Column/row	Color Patch	I*Color	ΔE	L*		a*		b*	
				Before	After	Before	After	Before	After
A1	dark Skin	36.7	14.5	34.3	40.2	16.3	13.7	12.0	-1.0
B1	light Skin	57.6	13.8	60.8	67.6	20.7	18.3	17.8	6.0
C1	blue sky	75.8	8.5	48.8	55.8	-6.6	-4.2	-16.6	-20.8
D1	foliage	48.8	14.0	41.4	47.5	-9.3	-10.9	21.7	9.2
E1	blue flower	100.0	7.5	52.3	59.8	9.2	9.4	-23.6	-23.7
F1	bluish green	73.4	11.9	63.9	70.5	-34.8	-27.3	4.0	-2.3
A2	orange	66.4	23.1	54.7	60.3	41.5	35.4	50.6	29.0
B2	purplish blue	95.9	6.2	35.9	41.6	7.0	7.0	-40.6	-42.8
C2	moderate red	65.7	18.3	44.4	49.8	47.3	44.8	14.5	-2.8
D2	purple	62.2	12.6	26.4	31.7	22.3	23.0	-18.5	-29.9
E2	yellow green	71.6	17.4	65.3	71.5	-14.0	-14.6	53.6	37.4
F2	orange yellow	69.4	23.7	63.1	68.7	31.1	23.9	66.7	44.9
A3	blue	91.2	6.5	24.2	28.5	11.2	11.5	-47.7	-52.5
B3	green	73.1	13.7	49.7	55.6	-31.8	-30.8	30.8	18.5
C3	red	65.0	20.1	34.9	38.2	49.8	49.7	23.7	3.9
D3	yellow	76.0	21.6	70.1	75.3	22.2	14.6	82.0	62.5
E3	magenta	85.1	9.9	46.1	52.5	46.3	43.4	-11.2	-18.3
F3	cyan	83.6	8.8	43.7	49.5	-28.6	-24.3	-25.2	-30.3
A4	white	34.6	6.9	92.5	94.2	0.6	-0.1	-3.2	3.5
B4	neutral 8	89.1	6.6	76.7	83.2	1.4	2.9	0.1	-0.1
C4	neutral 6.5	51.0	9.3	63.1	70.8	0.7	2.5	0.0	-4.9
D4	neutral 5	-6.7	12.8	47.9	55.0	1.6	2.7	2.5	-8.1
E4	neutral 3.5	-23.6	13.5	33.2	39.0	2.3	2.4	-1.5	-13.8
F4	black	23.1	10.5	17.5	24.5	2.4	4.0	-0.6	-8.2
A5	paper white	13.7	8.7	94.9	95.5	1.5	0.1	-8.0	0.6
B5	skin highlight L*=89	73.6	7.1	81.8	86.5	13.5	10.4	12.7	8.2
C5	skin highlight L*=75	63.0	13.1	69.1	75.4	22.9	19.7	18.8	7.8
D5	skin shadow L*=25	83.6	8.8	21.5	28.8	21.2	22.6	17.4	12.6
E5	skin shadow L*=11	8.7	19.2	11.7	23.5	13.9	24.9	8.1	18.6
F5	Max Black	92.9	1.8	2.8	4.1	0.1	1.2	-2.4	-2.5
Summary Results		I*Color	I*tone	 AARDENBURG IMAGING & ARCHIVES					
Average Score for all patches		60.0	81.5						
Average Score for the Worst 10% (3 lowest scoring patches)		-7.2	65.7						

58.1_{color}/79.6_{tone}



Original Print Colors
(measured before light exposure)



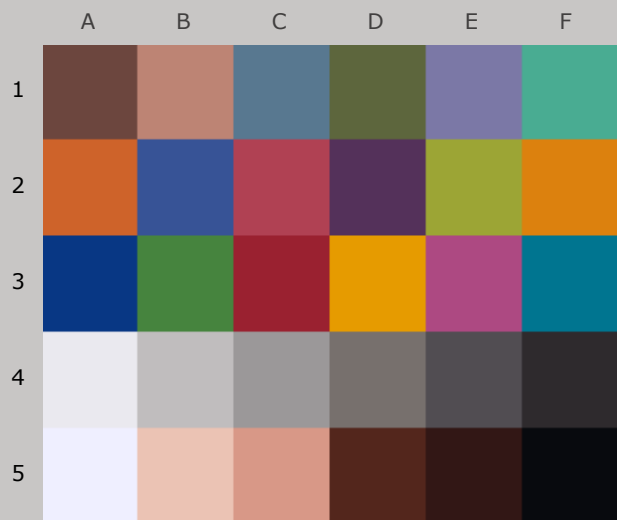
Colors after 180 Megalux-hours
light exposure

*Fujifilm Frontier DL 400, Fujifilm Frontier DL 400 OEM ink,
Fujifilm OEM for DL 400, Glossy paper*

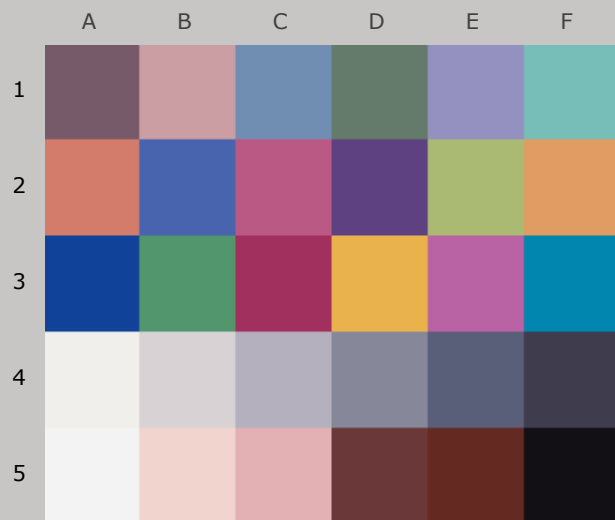
180 Mlux-hrs Light Exposure (i.e., after) Compared to Original Print Colors (i.e., before)

				L*		a*		b*	
Column/row	Color Patch	I*Color	ΔE	Before	After	Before	After	Before	After
A1	dark Skin	34.4	15.3	34.3	41.0	16.3	13.9	12.0	-1.6
B1	light Skin	54.4	15.0	60.8	68.4	20.7	18.3	17.8	5.1
C1	blue sky	72.0	9.6	48.8	56.6	-6.6	-3.6	-16.6	-21.3
D1	foliage	45.0	15.1	41.4	48.2	-9.3	-10.5	21.7	8.3
E1	blue flower	99.6	8.3	52.3	60.6	9.2	9.7	-23.6	-24.0
F1	bluish green	69.2	13.5	63.9	71.3	-34.8	-26.0	4.0	-3.1
A2	orange	64.1	24.8	54.7	60.9	41.5	35.0	50.6	27.5
B2	purplish blue	95.6	6.8	35.9	42.3	7.0	7.3	-40.6	-42.8
C2	moderate red	64.0	19.3	44.4	50.5	47.3	44.5	14.5	-3.6
D2	purple	59.7	13.5	26.4	32.2	22.3	23.2	-18.5	-30.6
E2	yellow green	69.1	18.9	65.3	72.1	-14.0	-14.1	53.6	35.9
F2	orange yellow	67.1	25.4	63.1	69.2	31.1	23.4	66.7	43.2
A3	blue	90.7	6.9	24.2	28.9	11.2	11.9	-47.7	-52.7
B3	green	70.2	15.2	49.7	56.2	-31.8	-30.1	30.8	17.3
C3	red	63.3	21.1	34.9	38.8	49.8	49.5	23.7	3.0
D3	yellow	73.8	23.4	70.1	75.7	22.2	14.1	82.0	60.8
E3	magenta	84.2	10.6	46.1	53.1	46.3	43.1	-11.2	-18.6
F3	cyan	81.0	10.0	43.7	50.0	-28.6	-23.4	-25.2	-30.9
A4	white	52.9	5.2	92.5	94.2	0.6	0.2	-3.2	1.8
B4	neutral 8	80.9	7.3	76.7	83.7	1.4	3.4	0.1	-1.1
C4	neutral 6.5	42.6	10.3	63.1	71.5	0.7	3.0	0.0	-5.6
D4	neutral 5	-15.5	13.8	47.9	55.6	1.6	3.1	2.5	-8.9
E4	neutral 3.5	-31.2	14.4	33.2	39.6	2.3	2.8	-1.5	-14.5
F4	black	17.6	11.2	17.5	25.0	2.4	4.3	-0.6	-8.6
A5	paper white	32.9	6.9	94.9	95.4	1.5	0.4	-8.0	-1.2
B5	skin highlight L*=89	66.4	8.3	81.8	86.7	13.5	10.4	12.7	6.7
C5	skin highlight L*=75	59.1	14.3	69.1	75.8	22.9	19.6	18.8	6.6
D5	skin shadow L*=25	82.2	9.4	21.5	29.2	21.2	22.6	17.4	12.2
E5	skin shadow L*=11	5.6	20.2	11.7	24.3	13.9	25.3	8.1	19.0
F5	Max Black	90.8	2.2	2.8	4.5	0.1	1.4	-2.4	-2.6
Summary Results		I*Color	I*tone	 AARDENBURG IMAGING & ARCHIVES					
Average Score for all patches		58.1	79.6	13.2					
Average Score for the Worst 10% (3 lowest scoring patches)		-13.7	62.8	24.5					

53.1_{color}/78.0_{tone}



Original Print Colors
(measured before light exposure)

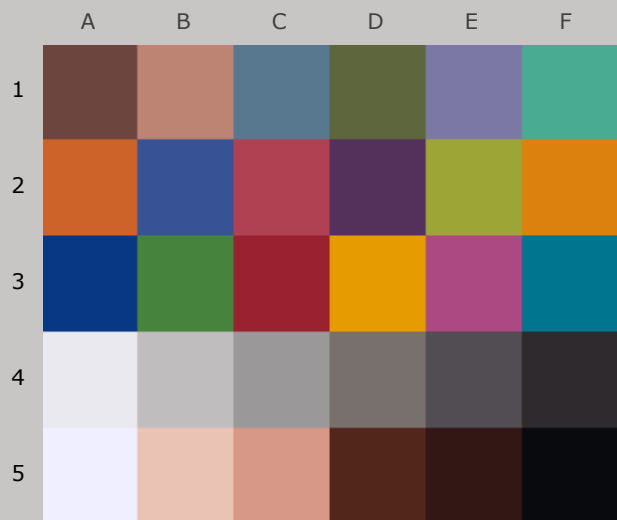


Colors after 200 Megalux-hours
light exposure

*Fujifilm Frontier DL 400, Fujifilm Frontier DL 400 OEM ink,
Fujifilm OEM for DL 400, Glossy paper*

200 Mlux-hrs Light Exposure (i.e., after) Compared to Original Print Colors (i.e., before)

Column/row	Color Patch	I*Color	ΔE	L*		a*		b*	
				Before	After	Before	After	Before	After
A1	dark Skin	23.6	17.6	34.3	41.8	16.3	13.6	12.0	-3.7
B1	light Skin	50.2	16.5	60.8	69.3	20.7	17.7	17.8	4.0
C1	blue sky	69.9	10.5	48.8	57.5	-6.6	-3.6	-16.6	-21.7
D1	foliage	36.5	17.2	41.4	49.0	-9.3	-10.6	21.7	6.3
E1	blue flower	100.0	9.3	52.3	61.6	9.2	9.4	-23.6	-23.7
F1	bluish green	65.5	15.1	63.9	72.2	-34.8	-25.0	4.0	-3.9
A2	orange	60.0	27.6	54.7	61.7	41.5	34.0	50.6	25.1
B2	purplish blue	95.1	7.7	35.9	43.1	7.0	7.1	-40.6	-43.1
C2	moderate red	60.0	21.4	44.4	51.3	47.3	43.8	14.5	-5.5
D2	purple	55.3	15.0	26.4	33.1	22.3	23.3	-18.5	-31.8
E2	yellow green	65.3	21.2	65.3	73.1	-14.0	-14.1	53.6	33.9
F2	orange yellow	63.1	28.5	63.1	70.1	31.1	22.4	66.7	40.5
A3	blue	89.6	7.8	24.2	29.6	11.2	11.7	-47.7	-53.3
B3	green	65.5	17.4	49.7	57.0	-31.8	-29.8	30.8	15.2
C3	red	58.6	23.7	34.9	39.4	49.8	49.5	23.7	0.4
D3	yellow	70.5	26.3	70.1	76.6	22.2	13.0	82.0	58.2
E3	magenta	82.8	11.9	46.1	54.2	46.3	42.2	-11.2	-18.9
F3	cyan	78.4	11.3	43.7	50.9	-28.6	-22.8	-25.2	-31.6
A4	white	46.5	5.9	92.5	94.5	0.6	0.1	-3.2	2.4
B4	neutral 8	82.9	8.2	76.7	84.6	1.4	3.3	0.1	-0.8
C4	neutral 6.5	41.0	11.4	63.1	72.7	0.7	3.0	0.0	-5.7
D4	neutral 5	-27.2	15.4	47.9	56.8	1.6	3.1	2.5	-10.0
E4	neutral 3.5	-50.2	16.5	33.2	40.5	2.3	2.9	-1.5	-16.3
F4	black	-0.1	13.1	17.5	25.9	2.4	4.5	-0.6	-10.3
A5	paper white	23.8	7.8	94.9	95.7	1.5	0.2	-8.0	-0.3
B5	skin highlight L*=89	63.5	9.2	81.8	87.5	13.5	9.7	12.7	6.5
C5	skin highlight L*=75	56.0	15.7	69.1	77.0	22.9	18.7	18.8	6.0
D5	skin shadow L*=25	76.3	11.1	21.5	30.2	21.2	22.5	17.4	10.5
E5	skin shadow L*=11	3.8	21.1	11.7	25.4	13.9	25.9	8.1	18.8
F5	Max Black	86.4	2.7	2.8	4.8	0.1	1.8	-2.4	-2.6
Summary Results		I*Color	I*tone	 AARDENBURG IMAGING & ARCHIVES					
Average Score for all patches		53.1	78.0						
Average Score for the Worst 10% (3 lowest scoring patches)		-25.8	60.2						



Original Print Colors
(measured before light exposure)



No further updates

*Fujifilm Frontier DL 400, Fujifilm Frontier DL 400 OEM ink,
Fujifilm OEM for DL 400, Glossy paper*



AARDENBURG IMAGING
& ARCHIVES