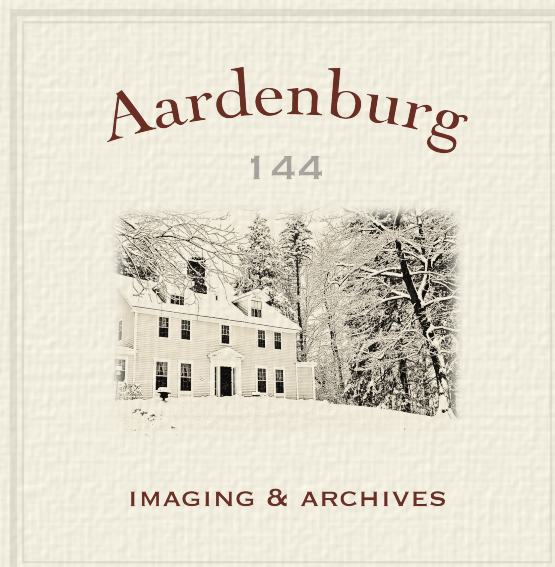




Accelerated Light Fading Test Results

*Canon iPF5000 Printer, Canon Lucia OEM ink,
Harman Gloss FB AI 320gsm Paper*

Sample # AaI_20071212_SN002

260 Megalux-hours completed

Conservation Display Rating *	
Lower Exposure Limit (Megalux hours)	Upper Exposure limit (Megalux hours)
70	73

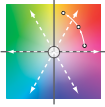
* Please read document **AaI_2009_0118_TA-01.pdf**, “An Overview of the AaI&A Conservation Display Ratings”, located on the Documents page of the AaI&A website for an explanation of the conservation display ratings.

Document #: AaI_20071212_SN002Lf.pdf Rev: October 3, 2012

Test Print Prepared by: Aardenburg Imaging & Archives

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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

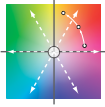
The magnitude and visual appearance of fading depends not only on the chosen printing system but the chosen image as well. In other words, different images are comprised of different colors, and the fading relationships between those colors dictate how the image will look as it fades. The sample print 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

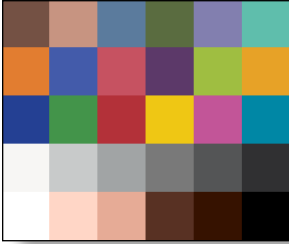
Printer: Canon iPF5000

Ink: Canon Lucia OEM

Paper: Harman Gloss FB AI 320 gsm Paper

Sample #: AaI_20071212_SN002

Test Print Prepared by: AaI&A



AaI_StandardColorSet(v2)forSRGB.tif

Test Image: AaI_StandardColorSet(v2)forSRGB.tif

RIP/Driver settings: Canon 16bit plug-in for PS, highest quality driver settings

Media Setting: "Special 5"

Printed: December 12, 2007

Original print colors measured on: January 08, 2008

Test started on: January 10, 2008

Profile: AaI_iPF5000_HRglFBAI(1a).icc

Rendering Intent: Perceptual

Profile type: custom

Profile Creation Software: Gretag/Macbeth Profilemaker 5.0.8

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)	97.9	97.8	0.2	-0.7	-2.2	1.0
(1) ΔL^* , Δa^* , Δb^* respectively	0.1		0.9		3.2	
(1) Calculated differences, especially for Δb^* , indicate the role and magnitude of fluorescence on original paper color						
Maximum Printed black (UV included)	L* =6.0		a* = 0.4		b* = -1.8	

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: 11,725 Lux

Average Temperature: 23.2°C over full test duration, 24.6°C during light exposure

Average Relative humidity: 58.5% RH full test period, 59.1% RH during light exposure

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

Replicates/Compare to:

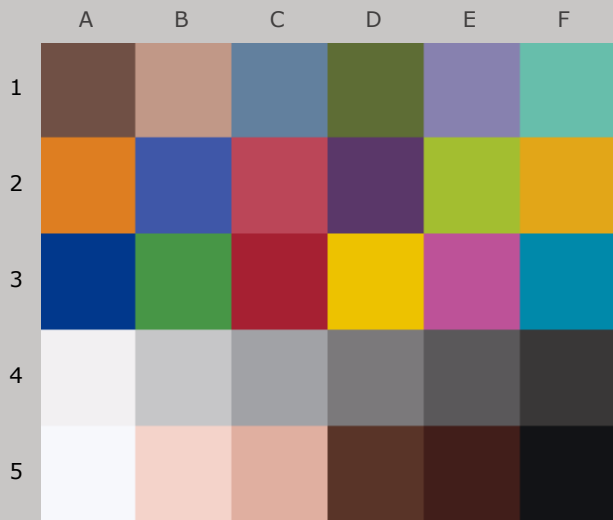
No Replicates are available at this time.

Notes/Comments:

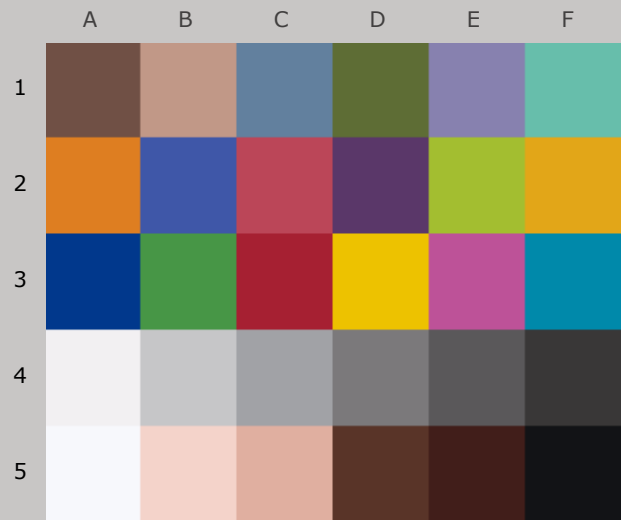
* The Phillips Colortone F40T12/C50 fluorescent light source and ordinary glass picture frame glazing yields UVA content and overall spectral power similar to natural 5000°K daylight entering a window and then striking a print that has been framed by **standard acrylic glazing** rather than ordinary 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)

*Canon iPF5000 Printer, Canon Lucia OEM ink,
Harman Gloss FB AI 320gsm 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	37.3		12.5		12.0	
B1	light Skin	100	0.0	66.3		13.9		15.1	
C1	blue sky	100	0.0	52.1		-4.7		-20.4	
D1	foliage	100	0.0	44.0		-13.0		28.6	
E1	blue flower	100	0.0	55.9		9.6		-24.2	
F1	bluish green	100	0.0	70.9		-30.9		1.2	
A2	orange	100	0.0	62.9		33.5		62.4	
B2	purplish blue	100	0.0	38.5		10.9		-46.5	
C2	moderate red	100	0.0	47.1		48.7		16.0	
D2	purple	100	0.0	29.0		23.3		-23.1	
E2	yellow green	100	0.0	72.8		-23.3		63.4	
F2	orange yellow	100	0.0	72.7		15.2		72.3	
A3	blue	100	0.0	25.2		13.2		-52.1	
B3	green	100	0.0	55.8		-38.4		33.8	
C3	red	100	0.0	37.4		53.9		26.3	
D3	yellow	100	0.0	80.5		5.1		90.3	
E3	magenta	100	0.0	50.9		49.7		-16.9	
F3	cyan	100	0.0	52.1		-23.4		-27.3	
A4	white	100	0.0	94.8		0.7		-0.9	
B4	neutral 8	100	0.0	80.2		0.4		-1.1	
C4	neutral 6.5	100	0.0	66.7		0.3		-2.3	
D4	neutral 5	100	0.0	50.9		0.6		-1.0	
E4	neutral 3.5	100	0.0	37.8		0.6		-0.9	
F4	black	100	0.0	23.2		0.6		-0.5	
A5	paper white	100	0.0	97.8		0.5		-2.2	
B5	skin highlight L*=89	100	0.0	87.1		11.2		9.2	
C5	skin highlight L*=75	100	0.0	75.6		17.0		15.1	
D5	skin shadow L*=25	100	0.0	26.2		16.0		15.3	
E5	skin shadow L*=11	100	0.0	16.5		16.6		11.0	
F5	Max Black	100	0.0	6.0		0.4		-1.8	

Summary Results

I*Color

I*tone

ΔE

Average Score for all patches

100

100

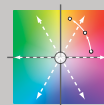
0.0

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

100

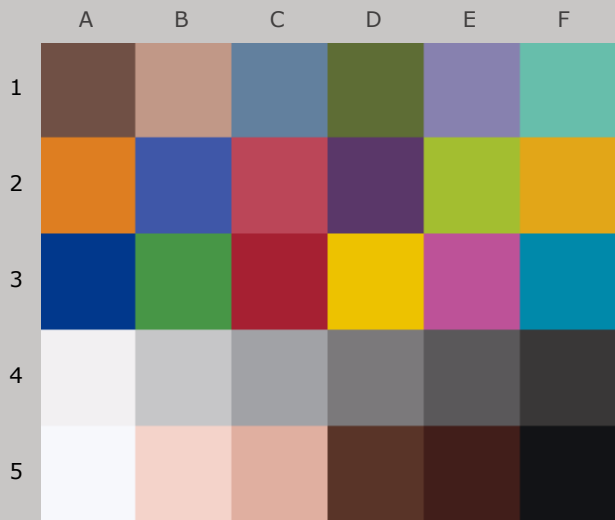
100

0.0

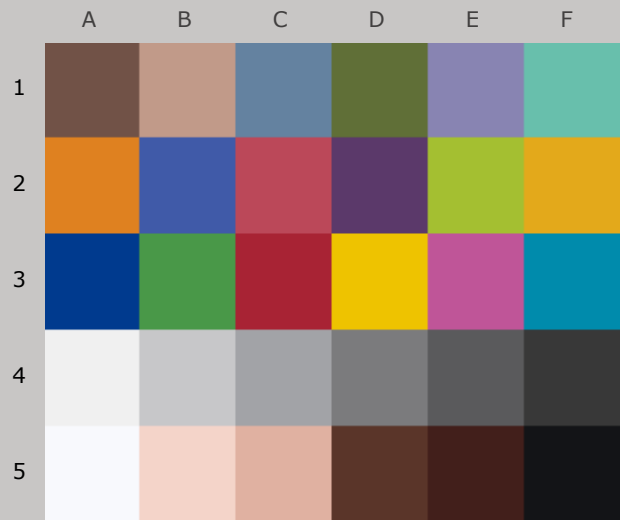


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99.4_{color} / 98.0_{tone}



Original Print Colors
(measured before light exposure)



Colors after 10 Megalux-hours
light exposure

*Canon iPF5000 Printer, Canon Lucia OEM ink,
Harman Gloss FB AI 320gsm 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	99.2	1.0	37.3	38.2	12.5	11.9	12.0	11.9
B1	light Skin	98.2	1.1	66.3	67.0	13.9	13.0	15.1	15.2
C1	blue sky	98.2	1.4	52.1	53.1	-4.7	-5.4	-20.4	-19.9
D1	foliage	100.0	0.8	44.0	44.8	-13.0	-13.1	28.6	28.9
E1	blue flower	97.6	1.4	55.9	56.7	9.6	8.7	-24.2	-23.5
F1	bluish green	99.9	0.7	70.9	71.3	-30.9	-30.9	1.2	0.7
A2	orange	99.3	1.1	62.9	63.4	33.5	32.5	62.4	62.5
B2	purplish blue	99.0	1.2	38.5	39.2	10.9	10.0	-46.5	-46.2
C2	moderate red	99.3	1.0	47.1	47.6	48.7	47.8	16.0	15.7
D2	purple	99.7	1.0	29.0	29.8	23.3	22.7	-23.1	-23.0
E2	yellow green	100.0	0.4	72.8	73.3	-23.3	-23.2	63.4	63.3
F2	orange yellow	99.6	0.9	72.7	73.2	15.2	14.4	72.3	72.2
A3	blue	99.5	1.0	25.2	25.8	13.2	12.4	-52.1	-51.9
B3	green	100.0	1.0	55.8	56.6	-38.4	-38.0	33.8	33.7
C3	red	100.0	0.6	37.4	37.9	53.9	53.7	26.3	26.0
D3	yellow	100.0	0.6	80.5	80.9	5.1	4.9	90.3	90.7
E3	magenta	98.6	1.4	50.9	51.6	49.7	48.6	-16.9	-16.4
F3	cyan	99.7	1.0	52.1	52.8	-23.4	-23.9	-27.3	-27.0
A4	white	99.8	0.5	94.8	95.0	0.7	0.5	-0.9	-0.4
B4	neutral 8	100.0	0.6	80.2	80.6	0.4	0.1	-1.1	-0.7
C4	neutral 6.5	100.0	0.7	66.7	67.2	0.3	-0.2	-2.3	-2.2
D4	neutral 5	100.0	0.9	50.9	51.7	0.6	0.1	-1.0	-0.9
E4	neutral 3.5	100.0	0.8	37.8	38.5	0.6	0.2	-0.9	-0.8
F4	black	100.0	0.5	23.2	23.6	0.6	0.3	-0.5	-0.4
A5	paper white	99.4	0.6	97.8	97.9	0.5	0.3	-2.2	-1.7
B5	skin highlight L*=89	97.8	0.9	87.1	87.4	11.2	10.5	9.2	9.6
C5	skin highlight L*=75	98.0	1.1	75.6	76.2	17.0	16.0	15.1	15.2
D5	skin shadow L*=25	100.0	0.7	26.2	26.7	16.0	15.6	15.3	15.5
E5	skin shadow L*=11	100.0	0.4	16.5	16.8	16.6	16.6	11.0	11.3
F5	Max Black	100.0	0.2	6.0	6.1	0.4	0.4	-1.8	-1.7

Summary Results

I*Color

I*tone

ΔE

Average Score for all patches

99.4

98.0

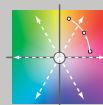
0.9

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

97.8

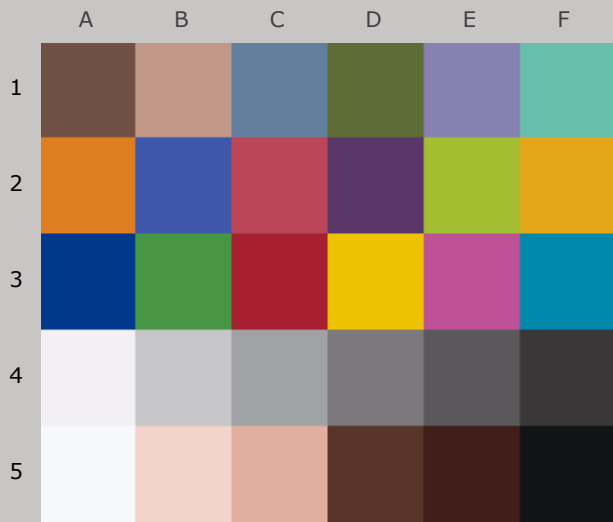
96.5

1.4

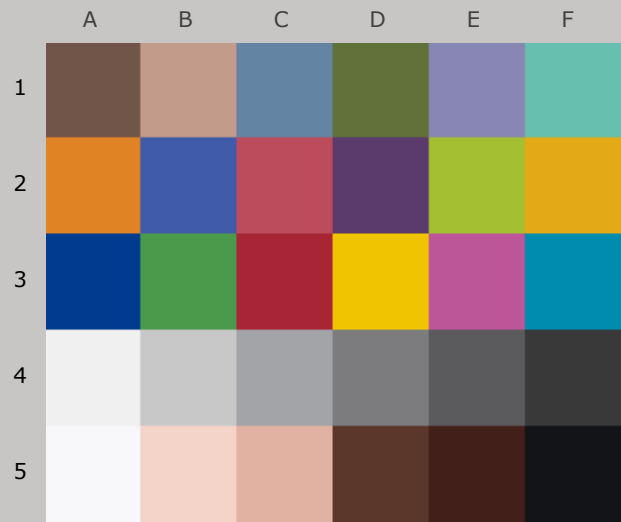


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97.8_{color} / 97.0_{tone}



Original Print Colors
(measured before light exposure)



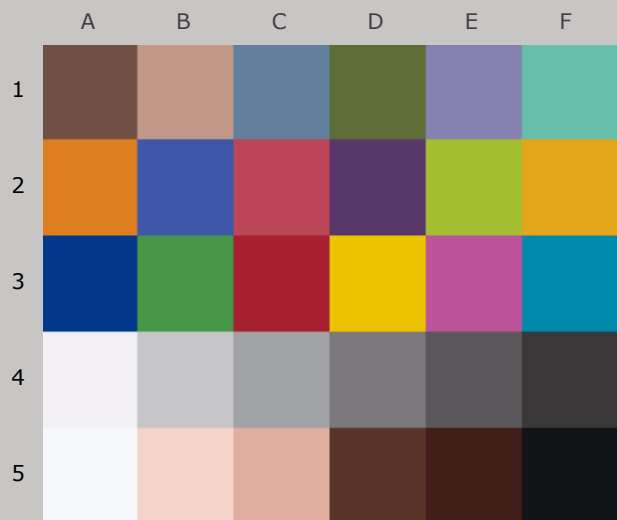
Colors after 20 Megalux-hours
light exposure

*Canon iPF5000 Printer, Canon Lucia OEM ink,
Harman Gloss FB AI 320gsm 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	96.3	1.8	37.3	38.7	12.5	11.4	12.0	11.7
B1	light Skin	96.1	1.7	66.3	67.4	13.9	12.6	15.1	15.2
C1	blue sky	96.1	1.9	52.1	53.5	-4.7	-5.7	-20.4	-19.5
D1	foliage	100.0	1.3	44.0	45.3	-13.0	-13.2	28.6	28.7
E1	blue flower	95.0	2.2	55.9	57.1	9.6	8.3	-24.2	-22.9
F1	bluish green	98.0	1.3	70.9	71.6	-30.9	-30.7	1.2	0.1
A2	orange	98.3	2.0	62.9	63.8	33.5	31.8	62.4	62.3
B2	purplish blue	97.5	2.0	38.5	39.5	10.9	9.4	-46.5	-45.8
C2	moderate red	97.8	1.9	47.1	48.1	48.7	47.2	16.0	15.2
D2	purple	98.8	1.5	29.0	30.2	23.3	22.5	-23.1	-22.9
E2	yellow green	100.0	0.7	72.8	73.5	-23.3	-23.3	63.4	63.3
F2	orange yellow	99.0	1.5	72.7	73.5	15.2	13.9	72.3	72.6
A3	blue	98.0	1.9	25.2	26.2	13.2	11.7	-52.1	-51.7
B3	green	98.8	1.9	55.8	57.3	-38.4	-37.8	33.8	32.9
C3	red	98.8	1.5	37.4	38.2	53.9	53.4	26.3	25.2
D3	yellow	99.4	1.1	80.5	81.0	5.1	4.6	90.3	91.2
E3	magenta	97.3	2.1	50.9	51.9	49.7	48.0	-16.9	-16.1
F3	cyan	98.7	1.5	52.1	53.2	-23.4	-24.1	-27.3	-26.7
A4	white	94.7	1.0	94.8	95.0	0.7	0.3	-0.9	0.1
B4	neutral 8	97.0	1.0	80.2	80.7	0.4	0.0	-1.1	-0.4
C4	neutral 6.5	98.6	1.0	66.7	67.5	0.3	-0.3	-2.3	-2.1
D4	neutral 5	98.4	1.4	50.9	52.2	0.6	-0.1	-1.0	-0.9
E4	neutral 3.5	99.3	1.3	37.8	39.0	0.6	0.0	-0.9	-0.8
F4	black	100.0	0.8	23.2	23.9	0.6	0.1	-0.5	-0.4
A5	paper white	94.3	1.0	97.8	97.8	0.5	0.1	-2.2	-1.2
B5	skin highlight L*=89	95.8	1.2	87.1	87.5	11.2	10.2	9.2	9.7
C5	skin highlight L*=75	96.2	1.6	75.6	76.4	17.0	15.6	15.1	15.0
D5	skin shadow L*=25	98.0	1.4	26.2	27.2	16.0	15.0	15.3	15.3
E5	skin shadow L*=11	99.0	0.9	16.5	17.0	16.6	16.5	11.0	11.7
F5	Max Black	100.0	0.4	6.0	6.4	0.4	0.4	-1.8	-1.7
Summary Results		I*Color	I*tone	 AARDENBURG IMAGING & ARCHIVES					
Average Score for all patches		97.8	97.0						
Average Score for the Worst 10% (3 lowest scoring patches)		94.7	95.1						

96.3_{color} / 95.8_{tone}



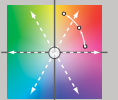
Original Print Colors
(measured before light exposure)



Colors after 30 Megalux-hours
light exposure

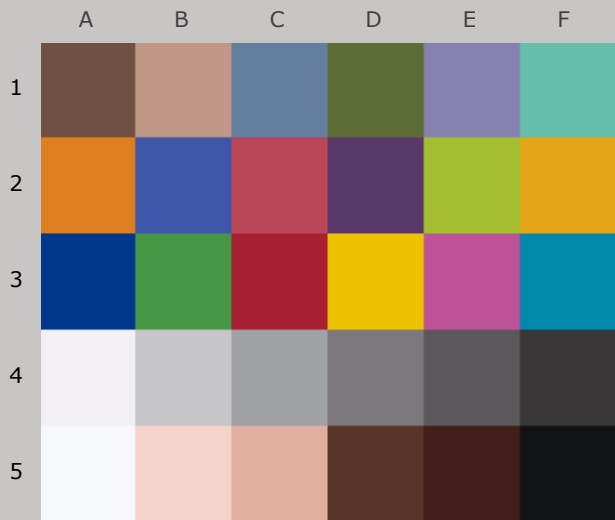
*Canon iPF5000 Printer, Canon Lucia OEM ink,
Harman Gloss FB AI 320gsm Paper*

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

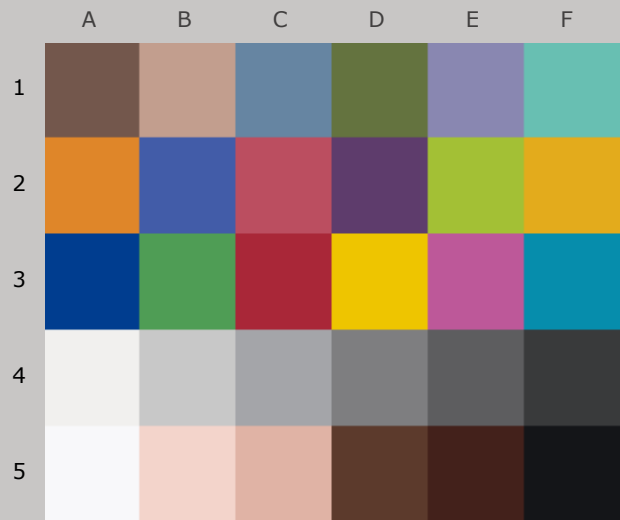
				L*		a*		b*	
Column/row	Color Patch	I*Color	ΔE	Before	After	Before	After	Before	After
A1	dark Skin	93.0	2.5	37.3	39.2	12.5	11.0	12.0	11.2
B1	light Skin	94.4	2.2	66.3	67.8	13.9	12.3	15.1	14.6
C1	blue sky	94.7	2.4	52.1	53.9	-4.7	-5.8	-20.4	-19.3
D1	foliage	99.9	2.0	44.0	45.9	-13.0	-13.3	28.6	28.2
E1	blue flower	92.8	2.9	55.9	57.4	9.6	8.0	-24.2	-22.4
F1	bluish green	94.8	2.3	70.9	71.8	-30.9	-30.4	1.2	-0.8
A2	orange	97.1	2.8	62.9	64.2	33.5	31.1	62.4	61.9
B2	purplish blue	96.1	2.7	38.5	39.9	10.9	8.9	-46.5	-45.3
C2	moderate red	95.8	3.0	47.1	48.5	48.7	46.5	16.0	14.4
D2	purple	97.7	2.0	29.0	30.7	23.3	22.2	-23.1	-22.7
E2	yellow green	100.0	1.0	72.8	73.7	-23.3	-23.4	63.4	63.0
F2	orange yellow	98.3	2.1	72.7	73.7	15.2	13.5	72.3	72.9
A3	blue	96.5	2.7	25.2	26.5	13.2	11.0	-52.1	-51.3
B3	green	96.2	3.3	55.8	58.0	-38.4	-37.6	33.8	31.6
C3	red	97.3	2.4	37.4	38.4	53.9	53.0	26.3	24.4
D3	yellow	98.3	2.1	80.5	81.1	5.1	4.4	90.3	92.2
E3	magenta	96.4	2.7	50.9	52.1	49.7	47.5	-16.9	-16.0
F3	cyan	98.1	1.9	52.1	53.6	-23.4	-24.2	-27.3	-26.4
A4	white	91.9	1.3	94.8	95.0	0.7	0.3	-0.9	0.3
B4	neutral 8	95.4	1.2	80.2	80.9	0.4	0.0	-1.1	-0.2
C4	neutral 6.5	98.4	1.2	66.7	67.7	0.3	-0.4	-2.3	-2.1
D4	neutral 5	97.4	1.9	50.9	52.7	0.6	-0.2	-1.0	-1.1
E4	neutral 3.5	98.6	1.8	37.8	39.5	0.6	0.0	-0.9	-0.8
F4	black	98.9	1.2	23.2	24.2	0.6	0.0	-0.5	-0.5
A5	paper white	90.7	1.4	97.8	97.8	0.5	0.0	-2.2	-0.9
B5	skin highlight L*=89	95.6	1.3	87.1	87.6	11.2	10.0	9.2	9.4
C5	skin highlight L*=75	94.4	2.1	75.6	76.7	17.0	15.4	15.1	14.4
D5	skin shadow L*=25	94.8	2.3	26.2	27.8	16.0	14.3	15.3	15.1
E5	skin shadow L*=11	96.7	1.4	16.5	17.3	16.6	16.3	11.0	12.1
F5	Max Black	100.0	0.6	6.0	6.6	0.4	0.5	-1.8	-1.7
Summary Results		I*Color	I*tone	ΔE	 AARDENBURG IMAGING & ARCHIVES				
Average Score for all patches		96.3	95.8	2.0					
Average Score for the Worst 10% (3 lowest scoring patches)		91.8	93.0	3.0					

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94.8_{color} / 94.9_{tone}



Original Print Colors
(measured before light exposure)



Colors after 40 Megalux-hours
light exposure

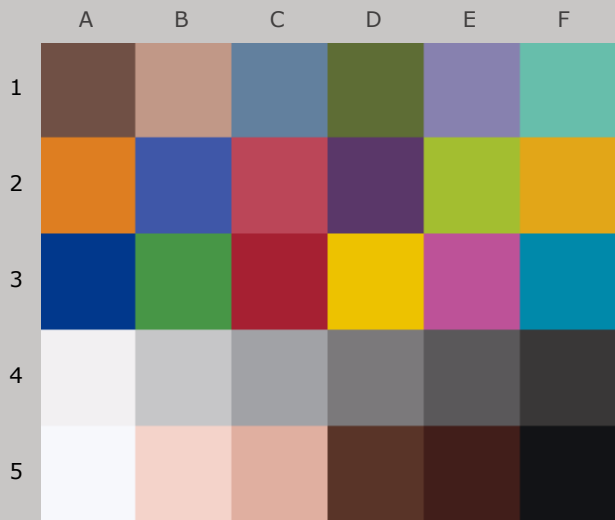
*Canon iPF5000 Printer, Canon Lucia OEM ink,
Harman Gloss FB AI 320gsm Paper*

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

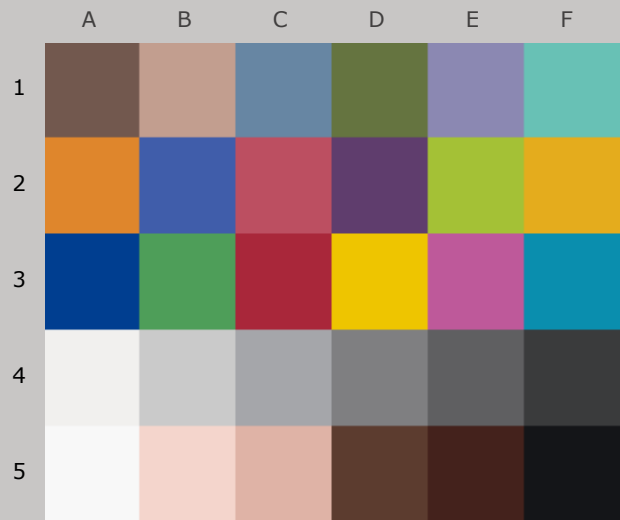
				L*		a*		b*	
Column/row	Color Patch	I*Color	ΔE	Before	After	Before	After	Before	After
A1	dark Skin	91.0	3.1	37.3	39.6	12.5	10.7	12.0	11.1
B1	light Skin	92.3	2.7	66.3	68.1	13.9	12.0	15.1	14.1
C1	blue sky	93.5	2.8	52.1	54.1	-4.7	-6.0	-20.4	-19.1
D1	foliage	97.5	2.6	44.0	46.3	-13.0	-13.4	28.6	27.4
E1	blue flower	90.9	3.4	55.9	57.7	9.6	7.8	-24.2	-22.0
F1	bluish green	92.4	3.0	70.9	71.8	-30.9	-30.3	1.2	-1.6
A2	orange	95.7	3.9	62.9	64.5	33.5	30.3	62.4	60.9
B2	purplish blue	95.1	3.2	38.5	40.0	10.9	8.5	-46.5	-45.0
C2	moderate red	93.7	4.1	47.1	48.8	48.7	46.0	16.0	13.4
D2	purple	96.6	2.5	29.0	30.9	23.3	21.8	-23.1	-22.5
E2	yellow green	99.1	1.5	72.8	73.8	-23.3	-23.6	63.4	62.4
F2	orange yellow	97.8	2.4	72.7	73.9	15.2	13.1	72.3	72.5
A3	blue	95.2	3.5	25.2	26.8	13.2	10.4	-52.1	-50.9
B3	green	93.1	4.8	55.8	58.4	-38.4	-37.4	33.8	29.9
C3	red	95.8	3.3	37.4	38.7	53.9	52.6	26.3	23.6
D3	yellow	98.0	2.4	80.5	81.2	5.1	4.2	90.3	92.4
E3	magenta	95.7	3.0	50.9	52.1	49.7	47.1	-16.9	-16.0
F3	cyan	97.6	2.2	52.1	53.8	-23.4	-24.3	-27.3	-26.3
A4	white	88.6	1.6	94.8	94.9	0.7	0.2	-0.9	0.6
B4	neutral 8	93.3	1.3	80.2	80.9	0.4	-0.1	-1.1	-0.1
C4	neutral 6.5	98.1	1.2	66.7	67.7	0.3	-0.4	-2.3	-2.2
D4	neutral 5	96.3	2.1	50.9	52.9	0.6	-0.2	-1.0	-1.2
E4	neutral 3.5	98.0	2.1	37.8	39.8	0.6	-0.1	-0.9	-0.9
F4	black	97.4	1.5	23.2	24.5	0.6	-0.2	-0.5	-0.7
A5	paper white	87.3	1.7	97.8	97.6	0.5	-0.1	-2.2	-0.6
B5	skin highlight L*=89	95.4	1.3	87.1	87.6	11.2	10.0	9.2	8.9
C5	skin highlight L*=75	92.3	2.5	75.6	76.7	17.0	15.2	15.1	13.8
D5	skin shadow L*=25	91.3	3.3	26.2	28.4	16.0	13.7	15.3	14.6
E5	skin shadow L*=11	94.9	2.0	16.5	17.7	16.6	15.8	11.0	12.3
F5	Max Black	100.0	0.8	6.0	6.7	0.4	0.4	-1.8	-1.7
Summary Results		I*Color	I*tone	ΔE	AARDENBURG IMAGING & ARCHIVES				
Average Score for all patches		94.8	94.9	2.5					
Average Score for the Worst 10% (3 lowest scoring patches)		88.9	91.5	4.3					

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93.4_{color} / 93.9_{tone}



Original Print Colors
(measured before light exposure)



Colors after 50 Megalux-hours
light exposure

*Canon iPF5000 Printer, Canon Lucia OEM ink,
Harman Gloss FB AI 320gsm 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	87.1	3.9	37.3	40.1	12.5	10.4	12.0	10.3
B1	light Skin	89.6	3.3	66.3	68.4	13.9	12.0	15.1	13.3
C1	blue sky	92.5	3.2	52.1	54.5	-4.7	-6.1	-20.4	-18.9
D1	foliage	95.4	3.3	44.0	46.7	-13.0	-13.4	28.6	26.7
E1	blue flower	89.6	3.9	55.9	58.0	9.6	7.6	-24.2	-21.7
F1	bluish green	88.0	4.4	70.9	72.1	-30.9	-29.9	1.2	-2.9
A2	orange	94.8	4.6	62.9	64.8	33.5	29.9	62.4	60.4
B2	purplish blue	93.9	3.9	38.5	40.4	10.9	8.1	-46.5	-44.6
C2	moderate red	92.4	4.8	47.1	49.1	48.7	45.6	16.0	12.8
D2	purple	96.1	2.8	29.0	31.2	23.3	21.7	-23.1	-22.3
E2	yellow green	98.2	2.2	72.8	74.2	-23.3	-23.6	63.4	61.7
F2	orange yellow	97.3	2.9	72.7	74.1	15.2	12.7	72.3	72.2
A3	blue	94.6	3.9	25.2	27.1	13.2	10.1	-52.1	-50.7
B3	green	90.0	6.4	55.8	58.9	-38.4	-37.3	33.8	28.3
C3	red	94.7	4.0	37.4	38.9	53.9	52.6	26.3	22.9
D3	yellow	97.4	3.0	80.5	81.3	5.1	3.9	90.3	92.9
E3	magenta	95.0	3.4	50.9	52.4	49.7	46.8	-16.9	-15.9
F3	cyan	97.3	2.5	52.1	54.1	-23.4	-24.4	-27.3	-26.2
A4	white	86.7	1.8	94.8	95.0	0.7	0.1	-0.9	0.8
B4	neutral 8	93.1	1.5	80.2	81.1	0.4	0.0	-1.1	0.0
C4	neutral 6.5	97.9	1.5	66.7	68.0	0.3	-0.4	-2.3	-2.1
D4	neutral 5	95.6	2.5	50.9	53.3	0.6	-0.3	-1.0	-1.3
E4	neutral 3.5	97.8	2.5	37.8	40.2	0.6	-0.1	-0.9	-1.0
F4	black	96.3	1.8	23.2	24.7	0.6	-0.3	-0.5	-0.7
A5	paper white	84.0	2.0	97.8	97.7	0.5	-0.1	-2.2	-0.3
B5	skin highlight L*=89	94.0	1.5	87.1	87.8	11.2	9.9	9.2	8.6
C5	skin highlight L*=75	89.8	3.1	75.6	77.0	17.0	15.1	15.1	13.1
D5	skin shadow L*=25	88.4	4.1	26.2	28.9	16.0	13.1	15.3	14.1
E5	skin shadow L*=11	93.4	2.4	16.5	18.1	16.6	15.5	11.0	12.5
F5	Max Black	100.0	0.9	6.0	6.8	0.4	0.5	-1.8	-1.8

Summary Results

I*Color

I*tone

ΔE

Average Score for all patches

93.4

93.9

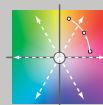
3.1

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

86.0

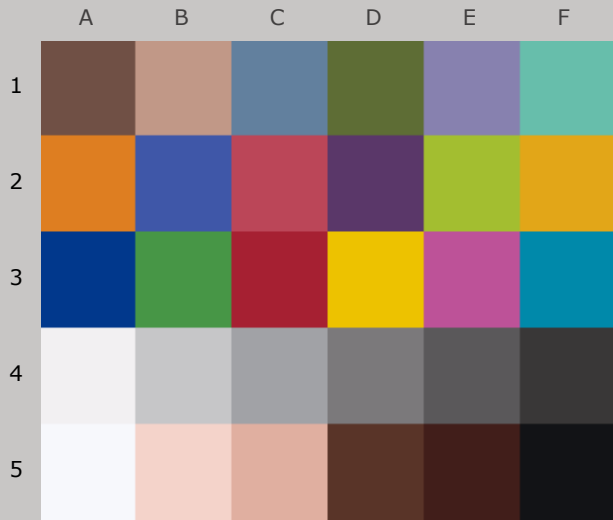
89.8

5.3

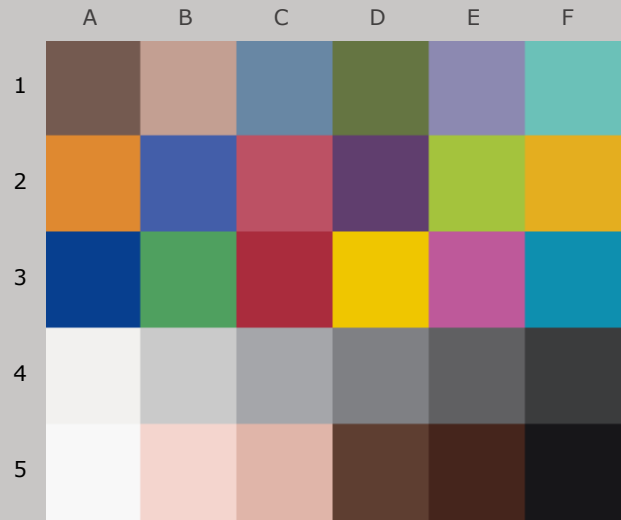


AARDENBURG IMAGING
& ARCHIVES

92.0_{color} / 93.0_{tone}



Original Print Colors
(measured before light exposure)



Colors after 60 Megalux-hours
light exposure

*Canon iPF5000 Printer, Canon Lucia OEM ink,
Harman Gloss FB AI 320gsm 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	84.4	4.7	37.3	40.7	12.5	10.2	12.0	9.8
B1	light Skin	85.6	4.2	66.3	68.8	13.9	12.0	15.1	12.2
C1	blue sky	92.2	3.5	52.1	54.8	-4.7	-6.1	-20.4	-18.8
D1	foliage	92.1	4.4	44.0	47.3	-13.0	-13.3	28.6	25.7
E1	blue flower	88.5	4.3	55.9	58.4	9.6	7.5	-24.2	-21.4
F1	bluish green	83.6	5.8	70.9	72.4	-30.9	-29.4	1.2	-4.1
A2	orange	93.1	6.0	62.9	65.4	33.5	29.3	62.4	59.1
B2	purplish blue	93.0	4.4	38.5	40.7	10.9	7.9	-46.5	-44.2
C2	moderate red	90.7	5.8	47.1	49.6	48.7	45.2	16.0	12.0
D2	purple	95.4	3.3	29.0	31.7	23.3	21.6	-23.1	-22.1
E2	yellow green	96.3	3.5	72.8	74.6	-23.3	-23.7	63.4	60.4
F2	orange yellow	96.7	3.5	72.7	74.5	15.2	12.3	72.3	71.6
A3	blue	93.5	4.7	25.2	27.5	13.2	9.7	-52.1	-50.3
B3	green	86.2	8.4	55.8	59.4	-38.4	-37.1	33.8	26.4
C3	red	93.5	4.9	37.4	39.4	53.9	52.3	26.3	22.2
D3	yellow	97.5	3.0	80.5	81.7	5.1	3.6	90.3	92.6
E3	magenta	94.7	3.7	50.9	52.7	49.7	46.6	-16.9	-15.8
F3	cyan	97.5	2.8	52.1	54.5	-23.4	-24.2	-27.3	-26.2
A4	white	86.4	1.8	94.8	95.1	0.7	0.1	-0.9	0.8
B4	neutral 8	93.9	1.6	80.2	81.4	0.4	0.0	-1.1	-0.1
C4	neutral 6.5	99.2	1.8	66.7	68.4	0.3	-0.3	-2.3	-2.2
D4	neutral 5	95.2	2.9	50.9	53.7	0.6	-0.2	-1.0	-1.5
E4	neutral 3.5	97.9	3.1	37.8	40.8	0.6	-0.1	-0.9	-1.1
F4	black	95.7	2.3	23.2	25.3	0.6	-0.3	-0.5	-0.8
A5	paper white	82.2	2.2	97.8	97.8	0.5	-0.2	-2.2	-0.1
B5	skin highlight L*=89	91.2	2.0	87.1	88.0	11.2	9.9	9.2	7.9
C5	skin highlight L*=75	86.1	4.0	75.6	77.4	17.0	15.1	15.1	12.0
D5	skin shadow L*=25	85.4	5.1	26.2	29.7	16.0	12.7	15.3	13.6
E5	skin shadow L*=11	92.0	3.1	16.5	18.8	16.6	15.2	11.0	12.5
F5	Max Black	100.0	1.6	6.0	7.5	0.4	0.6	-1.8	-1.6

Summary Results

I*Color

I*tone

ΔE

Average Score for all patches

92.0

93.0

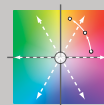
3.7

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

83.4

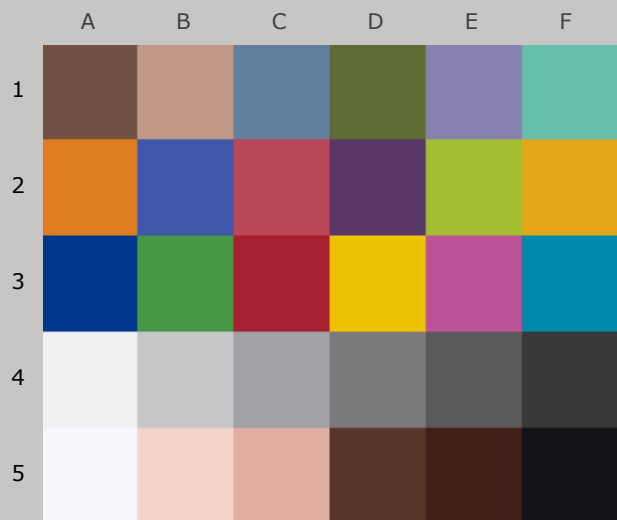
88.7

6.7

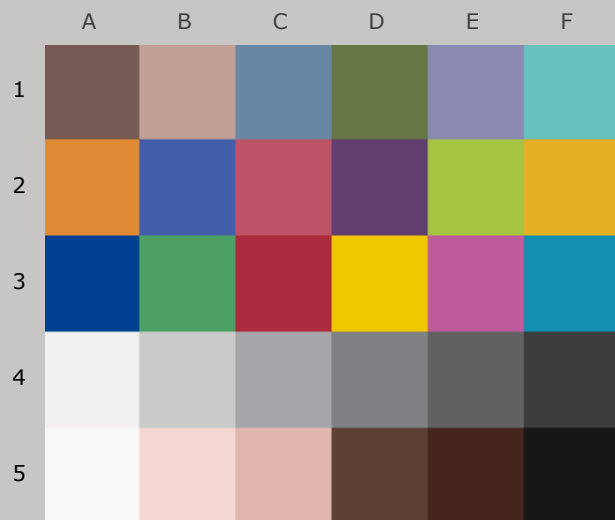


AARDENBURG IMAGING
& ARCHIVES

90.6_{color} / 92.3_{tone}



Original Print Colors
(measured before light exposure)



Colors after 70 Megalux-hours
light exposure

*Canon iPF5000 Printer, Canon Lucia OEM ink,
Harman Gloss FB AI 320gsm Paper*

70 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	82.1	5.2	37.3	41.1	12.5	10.1	12.0	9.3
B1	light Skin	81.3	5.1	66.3	69.0	13.9	12.0	15.1	11.2
C1	blue sky	92.2	3.6	52.1	55.0	-4.7	-6.1	-20.4	-18.8
D1	foliage	88.9	5.3	44.0	47.5	-13.0	-13.4	28.6	24.7
E1	blue flower	87.9	4.6	55.9	58.7	9.6	7.5	-24.2	-21.3
F1	bluish green	78.6	7.3	70.9	72.6	-30.9	-28.9	1.2	-5.6
A2	orange	91.3	7.3	62.9	65.8	33.5	28.8	62.4	57.8
B2	purplish blue	92.4	4.8	38.5	40.9	10.9	7.7	-46.5	-43.9
C2	moderate red	89.2	6.7	47.1	49.9	48.7	45.0	16.0	11.2
D2	purple	95.0	3.6	29.0	31.9	23.3	21.5	-23.1	-21.9
E2	yellow green	94.4	4.7	72.8	74.9	-23.3	-23.8	63.4	59.1
F2	orange yellow	96.0	4.1	72.7	74.9	15.2	12.0	72.3	70.9
A3	blue	93.0	5.0	25.2	27.7	13.2	9.4	-52.1	-50.1
B3	green	82.1	10.5	55.8	59.9	-38.4	-36.9	33.8	24.3
C3	red	92.4	5.6	37.4	39.8	53.9	52.2	26.3	21.5
D3	yellow	97.3	3.2	80.5	81.9	5.1	3.4	90.3	92.7
E3	magenta	94.7	3.8	50.9	52.8	49.7	46.6	-16.9	-15.9
F3	cyan	97.7	2.9	52.1	54.7	-23.4	-24.2	-27.3	-26.2
A4	white	85.8	1.9	94.8	95.2	0.7	0.1	-0.9	0.9
B4	neutral 8	95.0	1.7	80.2	81.6	0.4	0.1	-1.1	-0.1
C4	neutral 6.5	100.0	1.9	66.7	68.5	0.3	-0.2	-2.3	-2.3
D4	neutral 5	94.0	3.2	50.9	53.9	0.6	-0.1	-1.0	-1.8
E4	neutral 3.5	97.8	3.3	37.8	41.0	0.6	0.0	-0.9	-1.3
F4	black	94.5	2.4	23.2	25.4	0.6	-0.3	-0.5	-1.0
A5	paper white	80.3	2.4	97.8	97.9	0.5	-0.2	-2.2	0.1
B5	skin highlight L*=89	87.0	2.6	87.1	88.2	11.2	10.1	9.2	7.1
C5	skin highlight L*=75	81.8	5.0	75.6	77.5	17.0	15.2	15.1	10.9
D5	skin shadow L*=25	83.4	5.7	26.2	30.1	16.0	12.4	15.3	13.1
E5	skin shadow L*=11	91.1	3.3	16.5	18.9	16.6	15.0	11.0	12.6
F5	Max Black	100.0	1.3	6.0	7.2	0.4	0.6	-1.8	-1.7

Summary Results

I*Color

I*tone

ΔE

Average Score for all patches

90.6

92.3

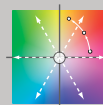
4.3

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

80.0

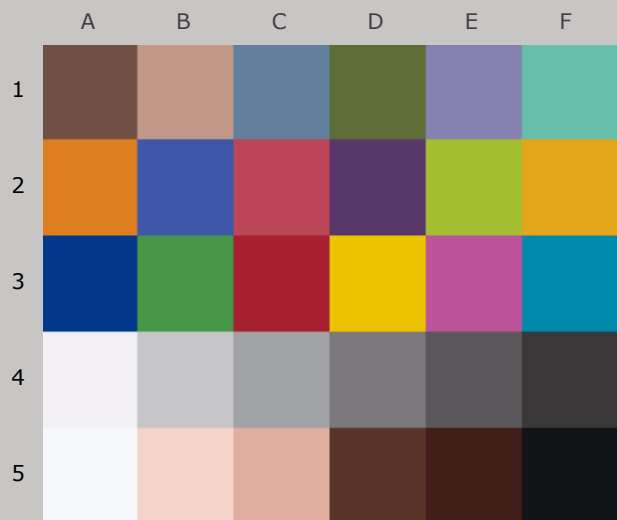
87.8

8.4

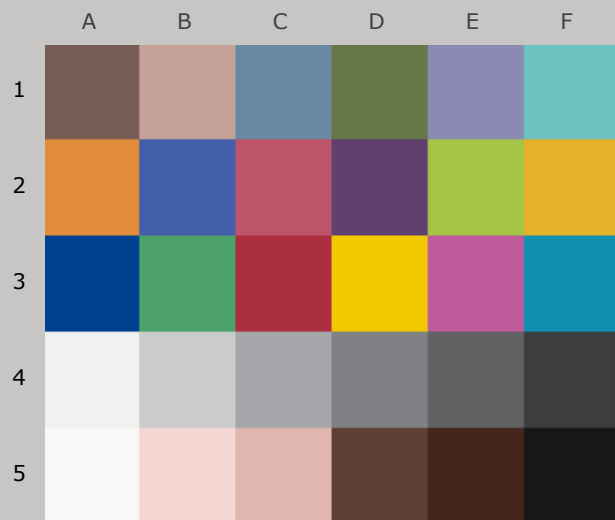


AARDENBURG IMAGING
& ARCHIVES

88.9_{color} / 91.3_{tone}



Original Print Colors
(measured before light exposure)



Colors after 80 Megalux-hours
light exposure

*Canon iPF5000 Printer, Canon Lucia OEM ink,
Harman Gloss FB AI 320gsm 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	78.6	6.1	37.3	41.7	12.5	10.0	12.0	8.6
B1	light Skin	75.6	6.3	66.3	69.3	13.9	12.0	15.1	9.9
C1	blue sky	92.1	3.9	52.1	55.4	-4.7	-6.0	-20.4	-18.7
D1	foliage	85.4	6.4	44.0	47.9	-13.0	-13.4	28.6	23.6
E1	blue flower	87.3	4.9	55.9	58.9	9.6	7.4	-24.2	-21.1
F1	bluish green	73.6	8.9	70.9	72.8	-30.9	-28.3	1.2	-7.1
A2	orange	88.6	9.3	62.9	66.4	33.5	28.0	62.4	55.9
B2	purplish blue	91.6	5.3	38.5	41.3	10.9	7.5	-46.5	-43.6
C2	moderate red	87.1	7.8	47.1	50.4	48.7	44.6	16.0	10.1
D2	purple	94.7	3.9	29.0	32.2	23.3	21.5	-23.1	-21.8
E2	yellow green	91.8	6.5	72.8	75.2	-23.3	-23.9	63.4	57.4
F2	orange yellow	94.7	5.1	72.7	75.3	15.2	11.5	72.3	69.8
A3	blue	92.3	5.4	25.2	28.0	13.2	9.1	-52.1	-49.9
B3	green	77.6	12.8	55.8	60.4	-38.4	-36.7	33.8	22.0
C3	red	91.1	6.5	37.4	40.2	53.9	52.1	26.3	20.7
D3	yellow	97.2	3.5	80.5	82.2	5.1	3.0	90.3	92.5
E3	magenta	94.4	4.0	50.9	53.0	49.7	46.4	-16.9	-16.0
F3	cyan	98.1	3.1	52.1	55.0	-23.4	-24.0	-27.3	-26.3
A4	white	87.0	1.8	94.8	95.2	0.7	0.1	-0.9	0.8
B4	neutral 8	97.1	1.7	80.2	81.7	0.4	0.2	-1.1	-0.3
C4	neutral 6.5	100.0	2.1	66.7	68.8	0.3	-0.1	-2.3	-2.5
D4	neutral 5	92.1	3.6	50.9	54.3	0.6	0.0	-1.0	-2.1
E4	neutral 3.5	96.9	3.8	37.8	41.5	0.6	0.1	-0.9	-1.5
F4	black	93.2	2.8	23.2	25.7	0.6	-0.3	-0.5	-1.2
A5	paper white	80.3	2.4	97.8	97.8	0.5	-0.2	-2.2	0.1
B5	skin highlight L*=89	82.0	3.3	87.1	88.3	11.2	10.1	9.2	6.3
C5	skin highlight L*=75	77.0	6.1	75.6	77.7	17.0	15.2	15.1	9.7
D5	skin shadow L*=25	81.0	6.5	26.2	30.7	16.0	12.1	15.3	12.7
E5	skin shadow L*=11	89.3	3.9	16.5	19.4	16.6	14.9	11.0	13.0
F5	Max Black	100.0	1.4	6.0	7.3	0.4	0.7	-1.8	-1.6

Summary Results

I*Color

I*tone

ΔE

Average Score for all patches

88.9

91.3

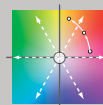
5.0

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

75.4

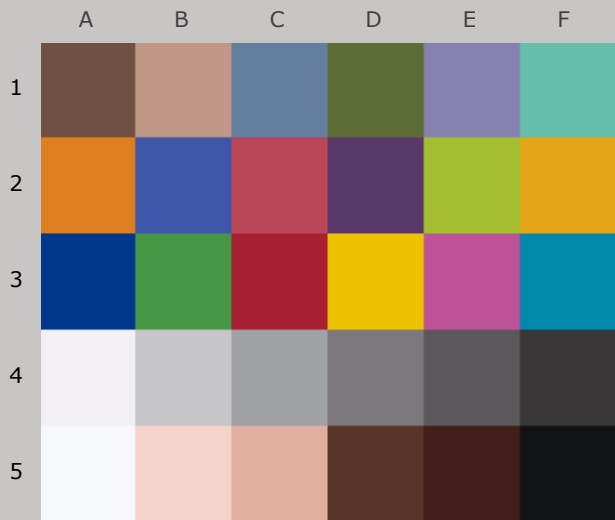
86.3

10.3

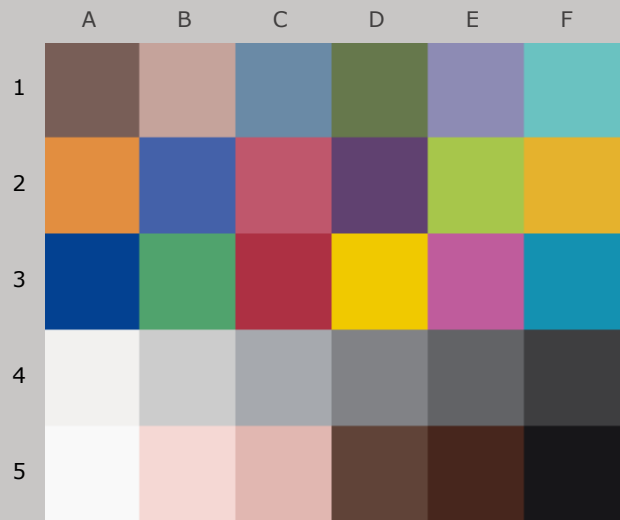


AARDENBURG IMAGING
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87.3_{color} / 90.3_{tone}



Original Print Colors
(measured before light exposure)



Colors after 90 Megalux-hours
light exposure

*Canon iPF5000 Printer, Canon Lucia OEM ink,
Harman Gloss FB AI 320gsm 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	76.3	6.7	37.3	42.2	12.5	10.0	12.0	8.2
B1	light Skin	70.3	7.4	66.3	69.7	13.9	12.0	15.1	8.8
C1	blue sky	92.3	4.2	52.1	55.7	-4.7	-5.9	-20.4	-18.7
D1	foliage	81.3	7.7	44.0	48.4	-13.0	-13.3	28.6	22.3
E1	blue flower	86.3	5.3	55.9	59.3	9.6	7.3	-24.2	-20.9
F1	bluish green	69.1	10.3	70.9	73.1	-30.9	-27.8	1.2	-8.4
A2	orange	86.3	11.0	62.9	67.0	33.5	27.5	62.4	54.2
B2	purplish blue	90.9	5.7	38.5	41.6	10.9	7.3	-46.5	-43.4
C2	moderate red	85.3	8.9	47.1	50.9	48.7	44.4	16.0	9.2
D2	purple	94.4	4.3	29.0	32.6	23.3	21.4	-23.1	-21.7
E2	yellow green	89.1	8.3	72.8	75.7	-23.3	-24.0	63.4	55.6
F2	orange yellow	93.2	6.3	72.7	75.7	15.2	11.1	72.3	68.6
A3	blue	91.7	5.9	25.2	28.3	13.2	8.9	-52.1	-49.7
B3	green	73.9	14.8	55.8	60.9	-38.4	-36.5	33.8	20.1
C3	red	90.0	7.3	37.4	40.7	53.9	52.0	26.3	20.1
D3	yellow	97.0	3.7	80.5	82.4	5.1	2.7	90.3	92.4
E3	magenta	94.3	4.2	50.9	53.2	49.7	46.3	-16.9	-16.0
F3	cyan	98.1	3.4	52.1	55.3	-23.4	-24.0	-27.3	-26.3
A4	white	86.7	1.8	94.8	95.3	0.7	0.1	-0.9	0.8
B4	neutral 8	96.9	1.9	80.2	81.9	0.4	0.2	-1.1	-0.3
C4	neutral 6.5	100.0	2.3	66.7	68.9	0.3	-0.1	-2.3	-2.5
D4	neutral 5	90.8	3.9	50.9	54.6	0.6	0.1	-1.0	-2.3
E4	neutral 3.5	96.0	4.2	37.8	41.8	0.6	0.1	-0.9	-1.6
F4	black	92.4	3.1	23.2	26.1	0.6	-0.3	-0.5	-1.3
A5	paper white	79.1	2.5	97.8	97.9	0.5	-0.3	-2.2	0.2
B5	skin highlight L*=89	77.7	4.0	87.1	88.5	11.2	10.1	9.2	5.6
C5	skin highlight L*=75	72.4	7.1	75.6	77.9	17.0	15.2	15.1	8.6
D5	skin shadow L*=25	79.1	7.3	26.2	31.3	16.0	11.9	15.3	12.2
E5	skin shadow L*=11	87.2	4.5	16.5	19.7	16.6	14.7	11.0	13.4
F5	Max Black	100.0	1.6	6.0	7.5	0.4	0.6	-1.8	-1.6

Summary Results

I*Color

I*tone

ΔE

Average Score for all patches

87.3

90.3

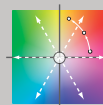
5.7

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

70.6

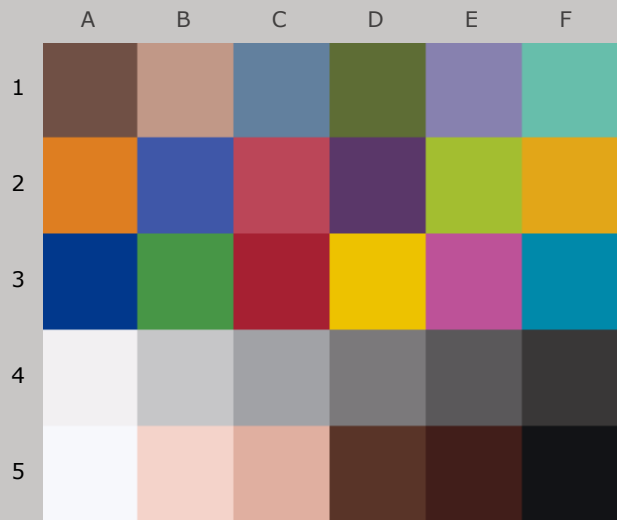
84.7

12.0

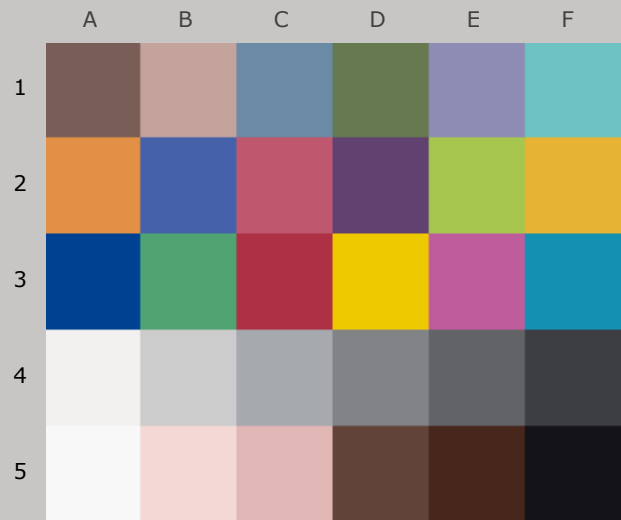


AARDENBURG IMAGING
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85.6_{color} / 89.5_{tone}



Original Print Colors
(measured before light exposure)



Colors after 100 Megalux-hours
light exposure

*Canon iPF5000 Printer, Canon Lucia OEM ink,
Harman Gloss FB AI 320gsm 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	73.7	7.3	37.3	42.5	12.5	10.0	12.0	7.6
B1	light Skin	65.1	8.4	66.3	69.9	13.9	12.1	15.1	7.7
C1	blue sky	91.6	4.4	52.1	55.9	-4.7	-6.0	-20.4	-18.6
D1	foliage	77.9	8.8	44.0	48.7	-13.0	-13.3	28.6	21.2
E1	blue flower	85.3	5.6	55.9	59.4	9.6	7.2	-24.2	-20.6
F1	bluish green	65.7	11.4	70.9	73.2	-30.9	-27.5	1.2	-9.4
A2	orange	84.0	12.7	62.9	67.5	33.5	27.1	62.4	52.4
B2	purplish blue	90.1	6.2	38.5	41.8	10.9	6.9	-46.5	-43.1
C2	moderate red	83.7	9.8	47.1	51.2	48.7	44.4	16.0	8.2
D2	purple	94.5	4.2	29.0	32.6	23.3	21.4	-23.1	-21.8
E2	yellow green	86.9	9.8	72.8	75.8	-23.3	-24.1	63.4	54.1
F2	orange yellow	92.1	7.1	72.7	76.0	15.2	10.7	72.3	67.8
A3	blue	91.1	6.1	25.2	28.3	13.2	8.4	-52.1	-49.9
B3	green	70.2	16.7	55.8	61.1	-38.4	-36.4	33.8	18.2
C3	red	88.7	8.1	37.4	41.0	53.9	52.1	26.3	19.3
D3	yellow	96.3	4.3	80.5	82.5	5.1	2.4	90.3	93.0
E3	magenta	94.2	4.3	50.9	53.4	49.7	46.3	-16.9	-16.0
F3	cyan	97.8	3.6	52.1	55.5	-23.4	-24.1	-27.3	-26.2
A4	white	86.8	1.8	94.8	95.3	0.7	0.1	-0.9	0.8
B4	neutral 8	97.9	1.9	80.2	82.0	0.4	0.3	-1.1	-0.4
C4	neutral 6.5	100.0	2.4	66.7	69.0	0.3	0.0	-2.3	-2.6
D4	neutral 5	89.2	4.1	50.9	54.8	0.6	0.2	-1.0	-2.4
E4	neutral 3.5	95.0	4.4	37.8	42.1	0.6	0.1	-0.9	-1.7
F4	black	90.8	3.2	23.2	26.1	0.6	-0.3	-0.5	-1.5
A5	paper white	78.0	2.6	97.8	97.8	0.5	-0.3	-2.2	0.3
B5	skin highlight L*=89	72.1	4.8	87.1	88.6	11.2	10.2	9.2	4.7
C5	skin highlight L*=75	66.9	8.4	75.6	78.0	17.0	15.4	15.1	7.3
D5	skin shadow L*=25	77.7	7.7	26.2	31.7	16.0	11.8	15.3	11.8
E5	skin shadow L*=11	84.8	4.8	16.5	19.7	16.6	14.9	11.0	14.1
F5	Max Black	100.0	0.5	6.0	6.4	0.4	0.6	-1.8	-1.6

Summary Results

I*Color

I*tone

ΔE

Average Score for all patches

85.6

89.5

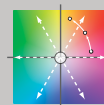
6.2

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

65.9

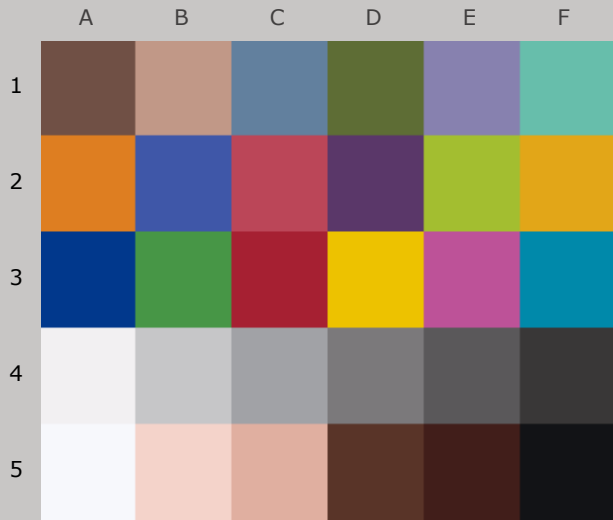
83.6

13.6

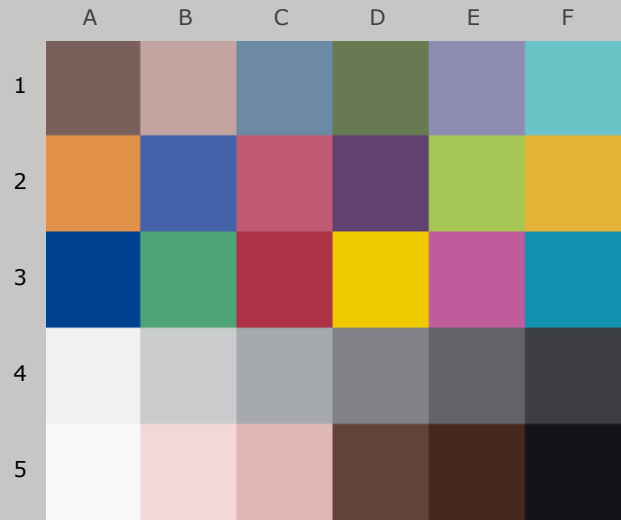


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83.9_{color} / 88.8_{tone}



Original Print Colors
(measured before light exposure)



Colors after 110 Megalux-hours
light exposure

*Canon iPF5000 Printer, Canon Lucia OEM ink,
Harman Gloss FB AI 320gsm Paper*

110 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	7.9	37.3	43.0	12.5	10.0	12.0	7.1
B1	light Skin	59.7	9.5	66.3	70.1	13.9	12.4	15.1	6.5
C1	blue sky	91.6	4.6	52.1	56.0	-4.7	-5.8	-20.4	-18.5
D1	foliage	73.6	10.1	44.0	48.9	-13.0	-13.1	28.6	19.8
E1	blue flower	84.5	5.9	55.9	59.6	9.6	7.2	-24.2	-20.4
F1	bluish green	61.3	12.7	70.9	73.2	-30.9	-26.9	1.2	-10.6
A2	orange	81.1	14.8	62.9	67.9	33.5	26.7	62.4	50.3
B2	purplish blue	89.4	6.5	38.5	42.0	10.9	6.8	-46.5	-42.8
C2	moderate red	82.1	10.7	47.1	51.6	48.7	44.2	16.0	7.4
D2	purple	94.2	4.4	29.0	32.7	23.3	21.4	-23.1	-21.6
E2	yellow green	83.1	12.3	72.8	76.0	-23.3	-24.0	63.4	51.5
F2	orange yellow	90.0	8.7	72.7	76.2	15.2	10.4	72.3	66.0
A3	blue	90.9	6.3	25.2	28.3	13.2	8.4	-52.1	-49.7
B3	green	65.9	18.8	55.8	61.3	-38.4	-36.0	33.8	16.0
C3	red	87.5	8.9	37.4	41.3	53.9	52.0	26.3	18.5
D3	yellow	96.3	4.4	80.5	82.7	5.1	2.1	90.3	92.6
E3	magenta	94.1	4.4	50.9	53.5	49.7	46.2	-16.9	-16.0
F3	cyan	98.2	3.5	52.1	55.4	-23.4	-24.0	-27.3	-26.3
A4	white	88.4	1.6	94.8	95.1	0.7	0.1	-0.9	0.6
B4	neutral 8	99.7	1.9	80.2	81.9	0.4	0.5	-1.1	-0.5
C4	neutral 6.5	100.0	2.3	66.7	69.0	0.3	0.2	-2.3	-2.7
D4	neutral 5	87.6	4.2	50.9	54.8	0.6	0.3	-1.0	-2.6
E4	neutral 3.5	94.2	4.5	37.8	42.1	0.6	0.3	-0.9	-1.9
F4	black	90.3	3.3	23.2	26.2	0.6	-0.3	-0.5	-1.7
A5	paper white	77.8	2.6	97.8	97.6	0.5	-0.3	-2.2	0.3
B5	skin highlight L*=89	64.7	5.8	87.1	88.5	11.2	10.3	9.2	3.6
C5	skin highlight L*=75	60.8	9.7	75.6	78.0	17.0	15.7	15.1	5.8
D5	skin shadow L*=25	75.8	8.2	26.2	31.9	16.0	11.7	15.3	11.3
E5	skin shadow L*=11	83.6	5.1	16.5	19.9	16.6	14.8	11.0	14.3
F5	Max Black	100.0	0.4	6.0	6.1	0.4	0.5	-1.8	-1.5

Summary Results

I*Color

I*tone

ΔE

Average Score for all patches

83.9

88.8

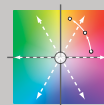
6.8

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

60.6

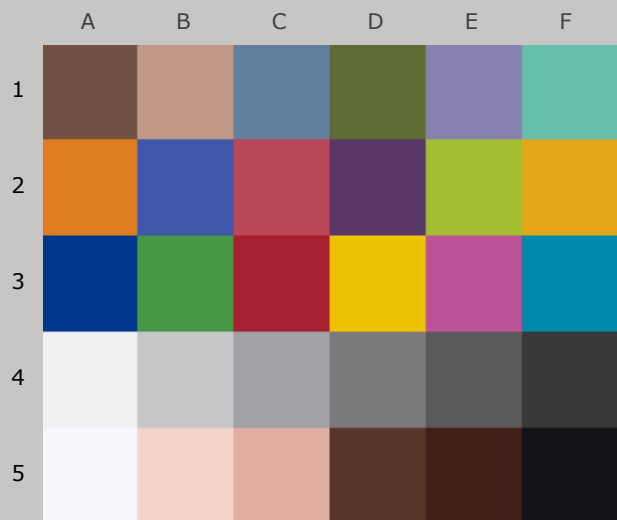
82.4

15.4



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82.2_{color} / 87.8_{tone}



Original Print Colors
(measured before light exposure)



Colors after 120 Megalux-hours
light exposure

*Canon iPF5000 Printer, Canon Lucia OEM ink,
Harman Gloss FB AI 320gsm 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	68.5	8.5	37.3	43.4	12.5	10.0	12.0	6.6
B1	light Skin	53.7	10.8	66.3	70.4	13.9	12.5	15.1	5.2
C1	blue sky	91.5	4.9	52.1	56.4	-4.7	-5.8	-20.4	-18.4
D1	foliage	69.1	11.5	44.0	49.4	-13.0	-12.9	28.6	18.4
E1	blue flower	84.2	6.1	55.9	59.9	9.6	7.3	-24.2	-20.2
F1	bluish green	57.2	14.0	70.9	73.5	-30.9	-26.3	1.2	-11.7
A2	orange	77.5	17.4	62.9	68.5	33.5	26.3	62.4	47.7
B2	purplish blue	88.7	7.0	38.5	42.3	10.9	6.7	-46.5	-42.5
C2	moderate red	80.3	11.7	47.1	52.1	48.7	44.1	16.0	6.4
D2	purple	93.6	4.9	29.0	33.2	23.3	21.3	-23.1	-21.4
E2	yellow green	79.0	15.1	72.8	76.5	-23.3	-23.9	63.4	48.7
F2	orange yellow	87.3	10.7	72.7	76.7	15.2	10.0	72.3	63.9
A3	blue	90.3	6.7	25.2	28.6	13.2	8.1	-52.1	-49.5
B3	green	61.9	20.9	55.8	61.8	-38.4	-35.6	33.8	14.0
C3	red	86.1	9.9	37.4	41.8	53.9	51.9	26.3	17.7
D3	yellow	96.3	4.7	80.5	83.2	5.1	1.6	90.3	91.9
E3	magenta	94.0	4.6	50.9	53.8	49.7	46.2	-16.9	-16.1
F3	cyan	98.3	3.8	52.1	55.8	-23.4	-23.8	-27.3	-26.3
A4	white	89.9	1.5	94.8	95.3	0.7	0.2	-0.9	0.5
B4	neutral 8	100.0	2.1	80.2	82.2	0.4	0.6	-1.1	-0.7
C4	neutral 6.5	100.0	2.7	66.7	69.3	0.3	0.3	-2.3	-2.8
D4	neutral 5	86.4	4.7	50.9	55.2	0.6	0.5	-1.0	-2.8
E4	neutral 3.5	93.2	4.9	37.8	42.6	0.6	0.4	-0.9	-2.0
F4	black	89.8	3.5	23.2	26.4	0.6	-0.3	-0.5	-1.7
A5	paper white	77.5	2.6	97.8	97.7	0.5	-0.3	-2.2	0.3
B5	skin highlight L*=89	58.8	6.7	87.1	88.8	11.2	10.4	9.2	2.8
C5	skin highlight L*=75	55.3	11.0	75.6	78.4	17.0	15.9	15.1	4.5
D5	skin shadow L*=25	74.0	8.9	26.2	32.5	16.0	11.6	15.3	10.8
E5	skin shadow L*=11	83.2	5.5	16.5	20.4	16.6	14.6	11.0	14.3
F5	Max Black	100.0	0.6	6.0	6.4	0.4	0.5	-1.8	-1.5

Summary Results

I*Color

I*tone

ΔE

Average Score for all patches

82.2

87.8

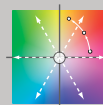
7.6

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

55.4

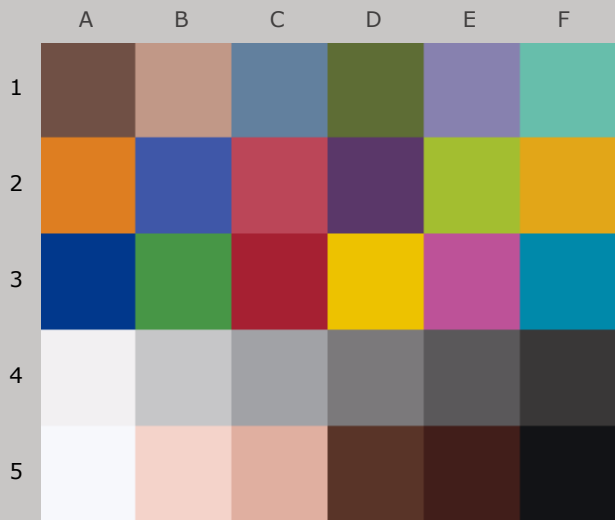
81.0

17.8



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80.9_{color} / 87.0_{tone}



Original Print Colors
(measured before light exposure)



Colors after 130 Megalux-hours
light exposure

*Canon iPF5000 Printer, Canon Lucia OEM ink,
Harman Gloss FB AI 320gsm Paper*

130 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	66.6	9.1	37.3	43.9	12.5	9.9	12.0	6.3
B1	light Skin	49.5	11.6	66.3	70.5	13.9	12.5	15.1	4.3
C1	blue sky	91.0	5.0	52.1	56.5	-4.7	-5.7	-20.4	-18.3
D1	foliage	65.6	12.7	44.0	49.7	-13.0	-12.9	28.6	17.3
E1	blue flower	83.4	6.4	55.9	60.1	9.6	7.2	-24.2	-20.0
F1	bluish green	55.4	14.6	70.9	73.6	-30.9	-26.1	1.2	-12.2
A2	orange	74.2	19.8	62.9	68.9	33.5	25.8	62.4	45.3
B2	purplish blue	88.0	7.4	38.5	42.5	10.9	6.5	-46.5	-42.2
C2	moderate red	78.5	12.7	47.1	52.5	48.7	43.9	16.0	5.5
D2	purple	92.9	5.2	29.0	33.4	23.3	21.2	-23.1	-21.2
E2	yellow green	75.9	17.2	72.8	76.6	-23.3	-23.9	63.4	46.6
F2	orange yellow	85.0	12.3	72.7	77.0	15.2	9.7	72.3	62.1
A3	blue	89.5	7.2	25.2	28.9	13.2	7.8	-52.1	-49.3
B3	green	58.6	22.6	55.8	62.1	-38.4	-35.2	33.8	12.4
C3	red	84.4	11.0	37.4	42.3	53.9	51.4	26.3	16.8
D3	yellow	96.2	4.7	80.5	83.2	5.1	1.5	90.3	91.7
E3	magenta	93.8	4.8	50.9	54.0	49.7	46.1	-16.9	-16.0
F3	cyan	97.8	4.0	52.1	55.9	-23.4	-23.8	-27.3	-26.1
A4	white	88.3	1.7	94.8	95.3	0.7	0.1	-0.9	0.6
B4	neutral 8	100.0	2.2	80.2	82.3	0.4	0.6	-1.1	-0.6
C4	neutral 6.5	100.0	2.8	66.7	69.5	0.3	0.3	-2.3	-2.7
D4	neutral 5	85.9	4.9	50.9	55.5	0.6	0.5	-1.0	-2.8
E4	neutral 3.5	93.3	5.2	37.8	42.8	0.6	0.4	-0.9	-2.0
F4	black	90.1	3.7	23.2	26.6	0.6	-0.3	-0.5	-1.7
A5	paper white	76.0	2.8	97.8	97.7	0.5	-0.3	-2.2	0.5
B5	skin highlight L*=89	60.6	6.4	87.1	88.5	11.2	10.2	9.2	3.1
C5	skin highlight L*=75	53.6	11.4	75.6	78.2	17.0	15.8	15.1	4.1
D5	skin shadow L*=25	71.1	10.0	26.2	33.4	16.0	11.1	15.3	10.5
E5	skin shadow L*=11	82.3	6.3	16.5	21.3	16.6	14.0	11.0	14.1
F5	Max Black	99.0	0.8	6.0	6.5	0.4	0.5	-1.8	-1.2

Summary Results

I*Color I*tone ΔE

Average Score for all patches

80.9

87.0

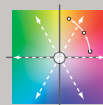
8.2

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

52.8

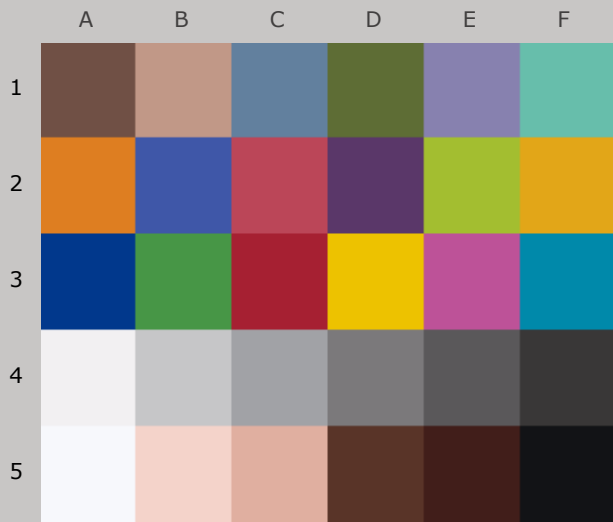
80.0

19.9



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79.1_{color} / 86.2_{tone}



Original Print Colors
(measured before light exposure)



Colors after 140 Megalux-hours
light exposure

*Canon iPF5000 Printer, Canon Lucia OEM ink,
Harman Gloss FB AI 320gsm 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	64.3	9.7	37.3	44.4	12.5	9.9	12.0	5.9
B1	light Skin	44.7	12.6	66.3	70.6	13.9	12.6	15.1	3.3
C1	blue sky	90.2	5.3	52.1	56.7	-4.7	-5.6	-20.4	-18.0
D1	foliage	61.6	13.9	44.0	50.0	-13.0	-12.6	28.6	16.1
E1	blue flower	82.1	6.8	55.9	60.2	9.6	7.2	-24.2	-19.7
F1	bluish green	52.4	15.5	70.9	73.7	-30.9	-25.5	1.2	-13.0
A2	orange	69.8	22.9	62.9	69.6	33.5	25.1	62.4	42.2
B2	purplish blue	87.4	7.8	38.5	42.8	10.9	6.4	-46.5	-41.9
C2	moderate red	76.9	13.7	47.1	53.0	48.7	43.6	16.0	4.8
D2	purple	92.2	5.6	29.0	33.7	23.3	21.2	-23.1	-20.9
E2	yellow green	71.0	20.5	72.8	77.0	-23.3	-23.5	63.4	43.3
F2	orange yellow	81.5	14.9	72.7	77.4	15.2	9.4	72.3	59.4
A3	blue	89.2	7.4	25.2	29.0	13.2	7.6	-52.1	-49.1
B3	green	54.8	24.5	55.8	62.3	-38.4	-34.7	33.8	10.5
C3	red	82.9	12.0	37.4	42.7	53.9	51.1	26.3	15.9
D3	yellow	96.0	5.2	80.5	83.6	5.1	1.0	90.3	90.9
E3	magenta	93.6	5.1	50.9	54.2	49.7	46.0	-16.9	-15.8
F3	cyan	97.6	4.1	52.1	56.0	-23.4	-23.7	-27.3	-26.0
A4	white	88.0	1.7	94.8	95.3	0.7	0.1	-0.9	0.6
B4	neutral 8	100.0	2.4	80.2	82.5	0.4	0.7	-1.1	-0.7
C4	neutral 6.5	100.0	2.9	66.7	69.6	0.3	0.4	-2.3	-2.7
D4	neutral 5	85.4	5.1	50.9	55.7	0.6	0.6	-1.0	-2.9
E4	neutral 3.5	93.4	5.4	37.8	43.1	0.6	0.5	-0.9	-2.0
F4	black	90.1	3.9	23.2	26.8	0.6	-0.2	-0.5	-1.7
A5	paper white	75.8	2.8	97.8	97.8	0.5	-0.3	-2.2	0.5
B5	skin highlight L*=89	54.4	7.3	87.1	89.0	11.2	10.2	9.2	2.2
C5	skin highlight L*=75	48.8	12.5	75.6	78.5	17.0	16.0	15.1	3.1
D5	skin shadow L*=25	69.1	10.6	26.2	33.9	16.0	10.9	15.3	10.0
E5	skin shadow L*=11	81.5	6.6	16.5	21.6	16.6	13.8	11.0	14.1
F5	Max Black	97.8	0.9	6.0	6.4	0.4	0.4	-1.8	-1.1

Summary Results

I*Color

I*tone

ΔE

Average Score for all patches

79.1

86.2

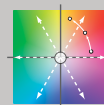
9.0

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

48.7

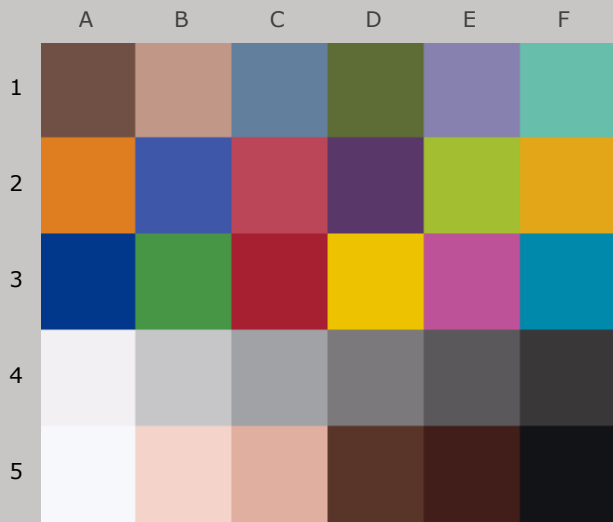
78.2

22.6



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77.7_{color} / 85.2_{tone}



Original Print Colors
(measured before light exposure)



Colors after 150 Megalux-hours
light exposure

*Canon iPF5000 Printer, Canon Lucia OEM ink,
Harman Gloss FB AI 320gsm Paper*

150 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	62.5	10.2	37.3	44.8	12.5	9.8	12.0	5.6
B1	light Skin	42.1	13.2	66.3	70.9	13.9	12.7	15.1	2.8
C1	blue sky	89.2	5.5	52.1	56.8	-4.7	-5.6	-20.4	-17.8
D1	foliage	58.5	14.9	44.0	50.3	-13.0	-12.5	28.6	15.1
E1	blue flower	80.6	7.2	55.9	60.5	9.6	7.2	-24.2	-19.2
F1	bluish green	50.9	16.0	70.9	73.8	-30.9	-25.3	1.2	-13.4
A2	orange	66.1	25.5	62.9	70.0	33.5	24.5	62.4	39.6
B2	purplish blue	86.6	8.2	38.5	43.0	10.9	6.2	-46.5	-41.5
C2	moderate red	75.4	14.5	47.1	53.4	48.7	43.3	16.0	4.0
D2	purple	91.3	5.9	29.0	33.9	23.3	21.0	-23.1	-20.6
E2	yellow green	66.8	23.3	72.8	77.2	-23.3	-23.3	63.4	40.5
F2	orange yellow	78.3	17.3	72.7	77.7	15.2	9.1	72.3	56.9
A3	blue	88.6	7.7	25.2	29.1	13.2	7.4	-52.1	-49.0
B3	green	51.6	26.2	55.8	62.6	-38.4	-34.3	33.8	8.9
C3	red	81.4	13.0	37.4	43.1	53.9	50.7	26.3	15.1
D3	yellow	95.6	5.5	80.5	83.7	5.1	0.6	90.3	90.3
E3	magenta	93.1	5.3	50.9	54.3	49.7	45.8	-16.9	-15.6
F3	cyan	97.2	4.3	52.1	56.1	-23.4	-23.7	-27.3	-25.8
A4	white	88.1	1.7	94.8	95.3	0.7	0.0	-0.9	0.6
B4	neutral 8	99.3	2.2	80.2	82.3	0.4	0.6	-1.1	-0.5
C4	neutral 6.5	100.0	2.7	66.7	69.4	0.3	0.3	-2.3	-2.6
D4	neutral 5	85.6	5.1	50.9	55.7	0.6	0.4	-1.0	-2.8
E4	neutral 3.5	93.6	5.5	37.8	43.2	0.6	0.3	-0.9	-2.0
F4	black	90.1	4.0	23.2	27.0	0.6	-0.2	-0.5	-1.7
A5	paper white	75.8	2.8	97.8	97.7	0.5	-0.4	-2.2	0.5
B5	skin highlight L*=89	51.2	7.8	87.1	89.0	11.2	10.1	9.2	1.7
C5	skin highlight L*=75	45.5	13.2	75.6	78.7	17.0	16.0	15.1	2.3
D5	skin shadow L*=25	67.3	11.3	26.2	34.4	16.0	10.7	15.3	9.6
E5	skin shadow L*=11	80.4	7.2	16.5	22.2	16.6	13.6	11.0	14.2
F5	Max Black	97.7	0.9	6.0	6.5	0.4	0.5	-1.8	-1.1

Summary Results

I*Color

I*tone

ΔE

Average Score for all patches

77.7

85.2

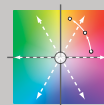
9.6

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

46.2

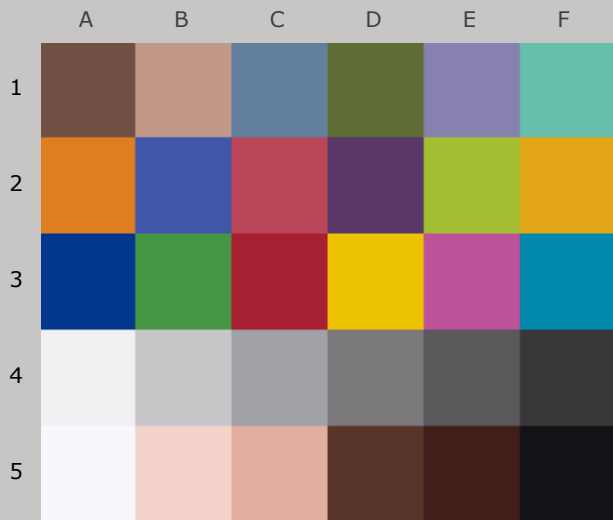
76.6

25.0



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75.9_{color} / 84.1_{tone}



Original Print Colors
(measured before light exposure)



Colors after 160 Megalux-hours
light exposure

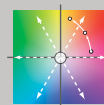
*Canon iPF5000 Printer, Canon Lucia OEM ink,
Harman Gloss FB AI 320gsm Paper*

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	60.6	10.8	37.3	45.3	12.5	9.9	12.0	5.2
B1	light Skin	38.5	14.0	66.3	71.1	13.9	12.9	15.1	2.0
C1	blue sky	87.5	5.9	52.1	57.1	-4.7	-5.4	-20.4	-17.4
D1	foliage	54.3	16.3	44.0	50.7	-13.0	-12.1	28.6	13.8
E1	blue flower	78.9	7.7	55.9	60.8	9.6	7.3	-24.2	-18.7
F1	bluish green	48.8	16.6	70.9	73.8	-30.9	-24.6	1.2	-13.9
A2	orange	61.7	28.7	62.9	70.4	33.5	24.1	62.4	36.4
B2	purplish blue	85.2	9.0	38.5	43.4	10.9	6.0	-46.5	-40.8
C2	moderate red	74.1	15.4	47.1	53.9	48.7	42.9	16.0	3.5
D2	purple	90.0	6.5	29.0	34.3	23.3	20.9	-23.1	-20.2
E2	yellow green	60.9	27.3	72.8	77.7	-23.3	-22.7	63.4	36.5
F2	orange yellow	73.8	20.6	72.7	78.1	15.2	8.9	72.3	53.5
A3	blue	87.9	8.2	25.2	29.4	13.2	7.2	-52.1	-48.6
B3	green	48.1	28.0	55.8	62.9	-38.4	-33.5	33.8	7.2
C3	red	79.8	14.1	37.4	43.6	53.9	50.3	26.3	14.2
D3	yellow	94.7	6.4	80.5	84.1	5.1	0.2	90.3	88.4
E3	magenta	92.4	5.8	50.9	54.6	49.7	45.5	-16.9	-15.2
F3	cyan	96.7	4.5	52.1	56.3	-23.4	-23.5	-27.3	-25.6
A4	white	88.2	1.7	94.8	95.3	0.7	0.1	-0.9	0.6
B4	neutral 8	98.4	2.4	80.2	82.5	0.4	0.7	-1.1	-0.5
C4	neutral 6.5	100.0	2.9	66.7	69.5	0.3	0.4	-2.3	-2.4
D4	neutral 5	86.8	5.1	50.9	55.8	0.6	0.4	-1.0	-2.7
E4	neutral 3.5	94.6	5.7	37.8	43.4	0.6	0.4	-0.9	-1.9
F4	black	90.4	4.2	23.2	27.2	0.6	-0.2	-0.5	-1.7
A5	paper white	74.9	2.9	97.8	97.6	0.5	-0.4	-2.2	0.6
B5	skin highlight L*=89	47.4	8.3	87.1	89.1	11.2	10.0	9.2	1.2
C5	skin highlight L*=75	42.4	13.9	75.6	78.7	17.0	15.9	15.1	1.6
D5	skin shadow L*=25	65.1	12.2	26.2	35.1	16.0	10.5	15.3	9.2
E5	skin shadow L*=11	79.4	7.9	16.5	22.9	16.6	13.2	11.0	14.1
F5	Max Black	96.3	1.1	6.0	6.6	0.4	0.5	-1.8	-1.0

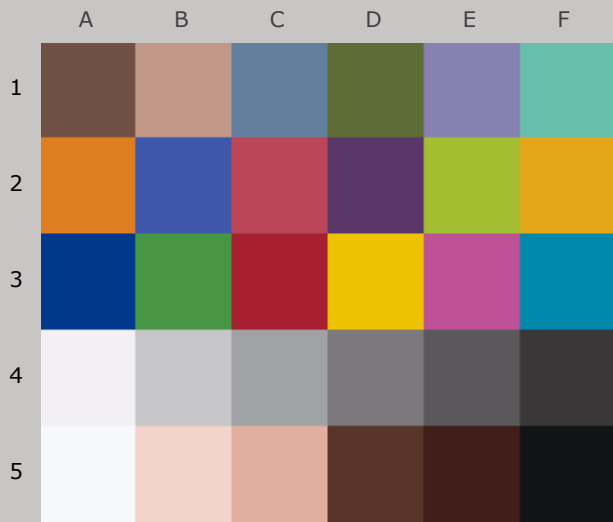
Summary Results

	I*Color	I*tone	ΔE
Average Score for all patches	75.9	84.1	10.5
Average Score for the Worst 10% (3 lowest scoring patches)	42.8	74.6	28.0



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73.2_{color} / 82.1_{tone}



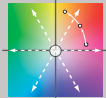
Original Print Colors
(measured before light exposure)



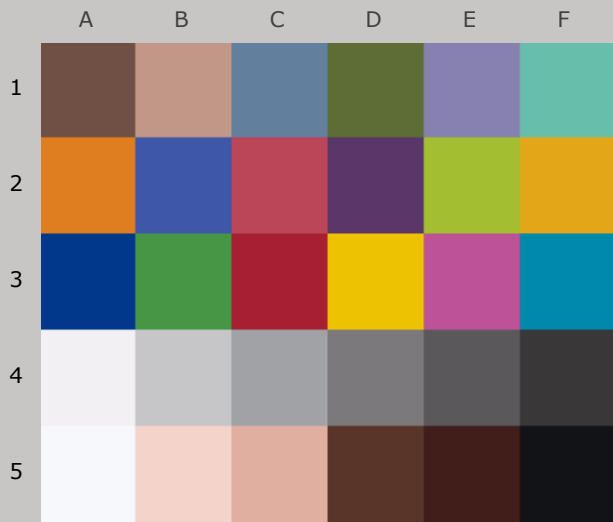
Colors after 180 Megalux-hours
light exposure

*Canon iPF5000 Printer, Canon Lucia OEM ink,
Harman Gloss FB AI 320gsm Paper*

180 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	57.4	11.9	37.3	46.3	12.5	10.0	12.0	4.5
B1	light Skin	32.0	15.4	66.3	71.8	13.9	13.3	15.1	0.7
C1	blue sky	86.0	6.6	52.1	57.7	-4.7	-5.0	-20.4	-17.0
D1	foliage	47.1	18.6	44.0	51.4	-13.0	-11.5	28.6	11.6
E1	blue flower	77.6	8.4	55.9	61.4	9.6	7.5	-24.2	-18.2
F1	bluish green	45.2	17.8	70.9	74.5	-30.9	-23.8	1.2	-14.7
A2	orange	54.3	34.1	62.9	71.7	33.5	23.8	62.4	31.0
B2	purplish blue	84.3	9.7	38.5	44.1	10.9	5.8	-46.5	-40.3
C2	moderate red	71.6	17.0	47.1	54.9	48.7	42.8	16.0	2.1
D2	purple	89.1	7.2	29.0	35.0	23.3	21.1	-23.1	-19.7
E2	yellow green	50.3	34.5	72.8	78.6	-23.3	-21.4	63.4	29.4
F2	orange yellow	65.1	27.1	72.7	79.0	15.2	8.9	72.3	46.8
A3	blue	87.1	8.8	25.2	29.9	13.2	6.8	-52.1	-48.3
B3	green	42.7	30.8	55.8	63.5	-38.4	-32.6	33.8	4.6
C3	red	77.6	15.7	37.4	44.6	53.9	50.2	26.3	12.9
D3	yellow	91.7	9.2	80.5	85.1	5.1	-0.6	90.3	84.7
E3	magenta	92.4	6.2	50.9	55.2	49.7	45.6	-16.9	-15.0
F3	cyan	95.9	5.0	52.1	56.7	-23.4	-23.2	-27.3	-25.3
A4	white	89.4	1.7	94.8	95.5	0.7	0.1	-0.9	0.5
B4	neutral 8	97.1	2.8	80.2	82.9	0.4	0.9	-1.1	-0.4
C4	neutral 6.5	100.0	3.4	66.7	70.0	0.3	0.7	-2.3	-2.3
D4	neutral 5	88.3	5.7	50.9	56.5	0.6	0.8	-1.0	-2.6
E4	neutral 3.5	95.6	6.3	37.8	44.0	0.6	0.7	-0.9	-1.8
F4	black	92.0	4.8	23.2	27.8	0.6	0.1	-0.5	-1.7
A5	paper white	74.0	3.0	97.8	97.6	0.5	-0.4	-2.2	0.7
B5	skin highlight L*=89	39.7	9.5	87.1	89.6	11.2	10.0	9.2	0.0
C5	skin highlight L*=75	35.5	15.6	75.6	79.2	17.0	16.2	15.1	0.0
D5	skin shadow L*=25	61.9	13.4	26.2	36.2	16.0	10.2	15.3	8.5
E5	skin shadow L*=11	78.7	8.8	16.5	23.8	16.6	12.8	11.0	13.8
F5	Max Black	96.4	1.2	6.0	6.8	0.4	0.5	-1.8	-1.0
Summary Results		I*Color	I*tone	 AARDENBURG IMAGING & ARCHIVES					
Average Score for all patches		73.2	82.1						
Average Score for the Worst 10% (3 lowest scoring patches)		35.7	71.0						

70.9_{color} / 80.8_{tone}



Original Print Colors
(measured before light exposure)



Colors after 200 Megalux-hours
light exposure

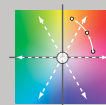
*Canon iPF5000 Printer, Canon Lucia OEM ink,
Harman Gloss FB AI 320gsm Paper*

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	55.0	12.7	37.3	46.9	12.5	10.2	12.0	4.0
B1	light Skin	26.8	16.6	66.3	72.2	13.9	13.6	15.1	-0.4
C1	blue sky	85.1	7.0	52.1	58.1	-4.7	-4.7	-20.4	-16.8
D1	foliage	41.6	20.4	44.0	51.8	-13.0	-11.0	28.6	9.9
E1	blue flower	76.5	8.9	55.9	61.9	9.6	7.8	-24.2	-17.9
F1	bluish green	43.3	18.5	70.9	74.8	-30.9	-23.3	1.2	-15.2
A2	orange	48.6	38.2	62.9	72.5	33.5	23.3	62.4	26.9
B2	purplish blue	83.8	10.1	38.5	44.4	10.9	5.9	-46.5	-40.0
C2	moderate red	69.9	18.1	47.1	55.6	48.7	42.5	16.0	1.3
D2	purple	88.3	7.8	29.0	35.6	23.3	21.2	-23.1	-19.3
E2	yellow green	42.0	40.2	72.8	79.3	-23.3	-20.3	63.4	23.9
F2	orange yellow	57.6	32.6	72.7	79.6	15.2	9.0	72.3	41.1
A3	blue	86.3	9.3	25.2	30.2	13.2	6.5	-52.1	-48.0
B3	green	38.4	33.1	55.8	64.0	-38.4	-31.8	33.8	2.5
C3	red	75.9	16.9	37.4	45.3	53.9	49.9	26.3	11.9
D3	yellow	88.1	12.4	80.5	85.7	5.1	-1.1	90.3	80.9
E3	magenta	92.5	6.5	50.9	55.7	49.7	45.8	-16.9	-14.9
F3	cyan	95.1	5.5	52.1	57.1	-23.4	-22.9	-27.3	-25.1
A4	white	89.9	1.7	94.8	95.7	0.7	0.1	-0.9	0.5
B4	neutral 8	96.0	3.2	80.2	83.3	0.4	1.1	-1.1	-0.4
C4	neutral 6.5	98.6	3.8	66.7	70.4	0.3	0.9	-2.3	-2.2
D4	neutral 5	87.9	6.1	50.9	56.8	0.6	1.0	-1.0	-2.6
E4	neutral 3.5	95.6	6.9	37.8	44.6	0.6	0.9	-0.9	-1.7
F4	black	91.9	5.2	23.2	28.2	0.6	0.3	-0.5	-1.7
A5	paper white	74.3	2.9	97.8	97.7	0.5	-0.4	-2.2	0.6
B5	skin highlight L*=89	33.8	10.5	87.1	89.9	11.2	10.0	9.2	-0.8
C5	skin highlight L*=75	29.8	16.9	75.6	79.7	17.0	16.6	15.1	-1.3
D5	skin shadow L*=25	59.9	14.3	26.2	37.0	16.0	10.2	15.3	8.0
E5	skin shadow L*=11	78.8	9.2	16.5	24.4	16.6	12.6	11.0	13.5
F5	Max Black	96.0	1.2	6.0	6.8	0.4	0.6	-1.8	-1.0

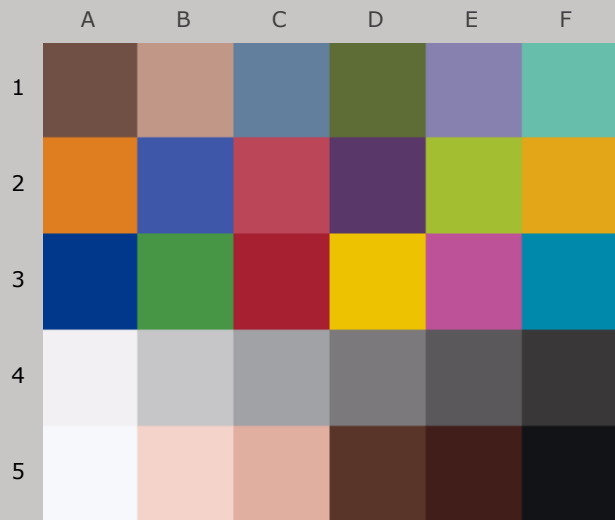
Summary Results

I*Color	I*tone	ΔE
70.9	80.8	13.2
30.1	68.8	37.1



AARDENBURG IMAGING
& ARCHIVES

68.5_{color} / 79.0_{tone}



Original Print Colors
(measured before light exposure)



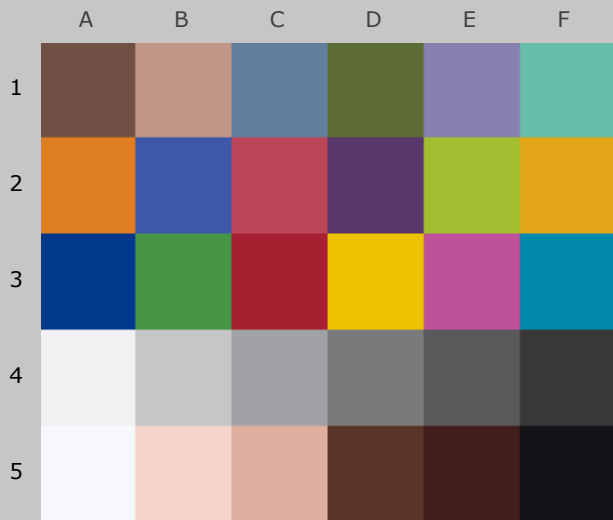
Colors after 220 Megalux-hours
light exposure

*Canon iPF5000 Printer, Canon Lucia OEM ink,
Harman Gloss FB AI 320gsm Paper*

220 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	52.3	13.6	37.3	47.8	12.5	10.3	12.0	3.5
B1	light Skin	22.7	17.6	66.3	72.8	13.9	13.7	15.1	-1.3
C1	blue sky	82.4	7.8	52.1	58.6	-4.7	-4.4	-20.4	-16.2
D1	foliage	35.8	22.4	44.0	52.7	-13.0	-10.5	28.6	8.1
E1	blue flower	75.0	9.7	55.9	62.5	9.6	8.1	-24.2	-17.4
F1	bluish green	42.0	19.0	70.9	75.2	-30.9	-22.6	1.2	-15.3
A2	orange	42.6	42.6	62.9	73.6	33.5	22.8	62.4	22.7
B2	purplish blue	82.5	11.0	38.5	45.1	10.9	5.8	-46.5	-39.3
C2	moderate red	68.2	19.3	47.1	56.6	48.7	42.2	16.0	0.5
D2	purple	86.3	8.8	29.0	36.3	23.3	21.1	-23.1	-18.6
E2	yellow green	32.8	46.5	72.8	80.2	-23.3	-18.8	63.4	17.7
F2	orange yellow	49.2	38.8	72.7	80.4	15.2	9.1	72.3	34.8
A3	blue	85.6	9.9	25.2	30.7	13.2	6.3	-52.1	-47.7
B3	green	34.4	35.2	55.8	64.6	-38.4	-31.0	33.8	0.6
C3	red	73.9	18.4	37.4	46.3	53.9	49.4	26.3	10.8
D3	yellow	82.7	17.2	80.5	86.4	5.1	-1.6	90.3	75.6
E3	magenta	92.2	7.1	50.9	56.3	49.7	45.7	-16.9	-14.5
F3	cyan	94.1	6.0	52.1	57.5	-23.4	-22.6	-27.3	-24.8
A4	white	90.6	1.6	94.8	95.6	0.7	0.2	-0.9	0.4
B4	neutral 8	94.5	3.6	80.2	83.6	0.4	1.2	-1.1	-0.4
C4	neutral 6.5	95.8	4.2	66.7	70.8	0.3	1.1	-2.3	-2.0
D4	neutral 5	88.1	6.6	50.9	57.4	0.6	1.3	-1.0	-2.5
E4	neutral 3.5	95.7	7.5	37.8	45.2	0.6	1.1	-0.9	-1.6
F4	black	92.5	5.7	23.2	28.7	0.6	0.5	-0.5	-1.7
A5	paper white	74.8	2.9	97.8	97.7	0.5	-0.4	-2.2	0.6
B5	skin highlight L*=89	29.7	11.1	87.1	90.1	11.2	10.0	9.2	-1.4
C5	skin highlight L*=75	25.4	18.0	75.6	80.1	17.0	16.8	15.1	-2.3
D5	skin shadow L*=25	58.0	15.1	26.2	37.7	16.0	10.2	15.3	7.4
E5	skin shadow L*=11	78.4	9.8	16.5	25.0	16.6	12.4	11.0	13.4
F5	Max Black	96.3	1.0	6.0	6.5	0.4	0.6	-1.8	-1.0
Summary Results		I*Color	I*tone	 AARDENBURG IMAGING & ARCHIVES					
Average Score for all patches		68.5	79.0						
Average Score for the Worst 10% (3 lowest scoring patches)		25.9	65.4						

66.4_{color} / 77.5_{tone}



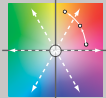
Original Print Colors
(measured before light exposure)



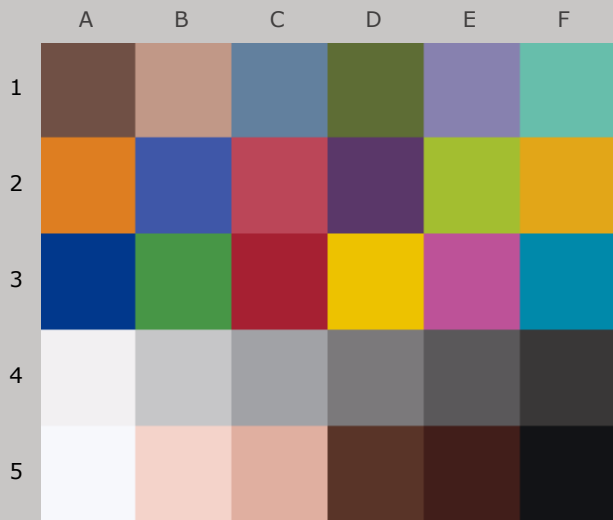
Colors after 240 Megalux-hours
light exposure

*Canon iPF5000 Printer, Canon Lucia OEM ink,
Harman Gloss FB AI 320gsm Paper*

240 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	50.4	14.7	37.3	48.9	12.5	10.2	12.0	3.2
B1	light Skin	20.6	18.1	66.3	73.2	13.9	13.8	15.1	-1.7
C1	blue sky	79.6	8.6	52.1	59.2	-4.7	-4.2	-20.4	-15.7
D1	foliage	31.7	23.9	44.0	53.3	-13.0	-9.9	28.6	6.9
E1	blue flower	72.8	10.4	55.9	63.0	9.6	8.3	-24.2	-16.8
F1	bluish green	41.3	19.3	70.9	75.6	-30.9	-22.2	1.2	-15.3
A2	orange	37.7	46.1	62.9	74.5	33.5	22.5	62.4	19.2
B2	purplish blue	81.2	11.9	38.5	45.8	10.9	5.7	-46.5	-38.6
C2	moderate red	66.6	20.4	47.1	57.5	48.7	41.9	16.0	-0.3
D2	purple	83.1	10.5	29.0	37.6	23.3	20.5	-23.1	-17.7
E2	yellow green	26.1	51.0	72.8	80.9	-23.3	-17.5	63.4	13.3
F2	orange yellow	41.9	44.3	72.7	81.2	15.2	9.5	72.3	29.2
A3	blue	84.5	10.7	25.2	31.2	13.2	5.9	-52.1	-47.1
B3	green	31.8	36.6	55.8	64.9	-38.4	-30.4	33.8	-0.7
C3	red	71.9	19.9	37.4	47.1	53.9	49.1	26.3	9.7
D3	yellow	76.8	22.5	80.5	87.0	5.1	-1.8	90.3	69.9
E3	magenta	92.1	7.5	50.9	56.9	49.7	45.8	-16.9	-14.3
F3	cyan	93.0	6.5	52.1	57.9	-23.4	-22.3	-27.3	-24.5
A4	white	90.6	1.7	94.8	95.8	0.7	0.2	-0.9	0.4
B4	neutral 8	92.6	4.0	80.2	84.0	0.4	1.3	-1.1	-0.3
C4	neutral 6.5	93.7	4.6	66.7	71.2	0.3	1.3	-2.3	-1.9
D4	neutral 5	88.5	7.1	50.9	57.9	0.6	1.5	-1.0	-2.3
E4	neutral 3.5	95.1	8.0	37.8	45.7	0.6	1.3	-0.9	-1.5
F4	black	93.3	6.0	23.2	29.1	0.6	0.7	-0.5	-1.6
A5	paper white	74.8	2.9	97.8	97.8	0.5	-0.4	-2.2	0.6
B5	skin highlight L*=89	27.7	11.5	87.1	90.5	11.2	9.8	9.2	-1.7
C5	skin highlight L*=75	22.4	18.8	75.6	80.6	17.0	16.9	15.1	-3.0
D5	skin shadow L*=25	56.3	16.0	26.2	38.5	16.0	10.1	15.3	7.1
E5	skin shadow L*=11	78.2	10.4	16.5	25.7	16.6	12.2	11.0	13.0
F5	Max Black	94.5	1.3	6.0	6.7	0.4	0.5	-1.8	-0.8
Summary Results		I*Color	I*tone	ΔE	 AARDENBURG IMAGING & ARCHIVES				
Average Score for all patches		66.4	77.5	15.8					
Average Score for the Worst 10% (3 lowest scoring patches)		23.0	62.7	47.1					

64.4_{color} / 75.9_{tone}



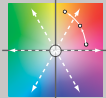
Original Print Colors
(measured before light exposure)

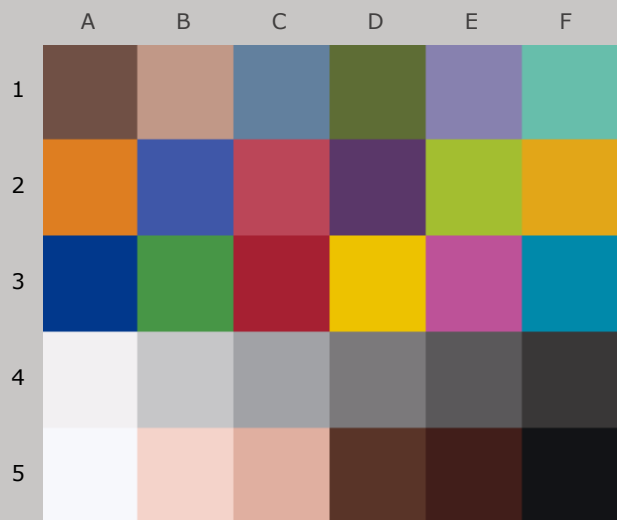


Colors after 260 Megalux-hours
light exposure

*Canon iPF5000 Printer, Canon Lucia OEM ink,
Harman Gloss FB AI 320gsm Paper*

260 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	48.3	15.6	37.3	49.8	12.5	10.1	12.0	2.8
B1	light Skin	19.2	18.6	66.3	73.6	13.9	13.8	15.1	-2.0
C1	blue sky	77.4	9.2	52.1	59.7	-4.7	-3.9	-20.4	-15.2
D1	foliage	27.2	25.4	44.0	54.0	-13.0	-9.4	28.6	5.5
E1	blue flower	71.4	11.0	55.9	63.5	9.6	8.6	-24.2	-16.3
F1	bluish green	40.1	19.7	70.9	75.9	-30.9	-21.7	1.2	-15.4
A2	orange	33.4	49.3	62.9	75.3	33.5	22.2	62.4	16.1
B2	purplish blue	80.4	12.6	38.5	46.4	10.9	5.9	-46.5	-38.0
C2	moderate red	65.7	21.2	47.1	58.2	48.7	41.7	16.0	-0.7
D2	purple	82.1	11.1	29.0	38.2	23.3	20.8	-23.1	-17.2
E2	yellow green	20.0	55.2	72.8	81.5	-23.3	-16.3	63.4	9.3
F2	orange yellow	35.5	49.0	72.7	81.7	15.2	10.0	72.3	24.5
A3	blue	84.4	10.9	25.2	31.5	13.2	6.0	-52.1	-46.9
B3	green	28.7	38.2	55.8	65.3	-38.4	-29.7	33.8	-2.2
C3	red	70.7	21.0	37.4	48.0	53.9	48.6	26.3	9.0
D3	yellow	69.3	29.2	80.5	87.6	5.1	-2.0	90.3	62.9
E3	magenta	91.9	8.1	50.9	57.5	49.7	46.0	-16.9	-13.9
F3	cyan	91.8	7.0	52.1	58.2	-23.4	-21.7	-27.3	-24.3
A4	white	90.3	1.8	94.8	95.9	0.7	0.1	-0.9	0.4
B4	neutral 8	90.7	4.3	80.2	84.2	0.4	1.5	-1.1	-0.1
C4	neutral 6.5	91.3	5.0	66.7	71.5	0.3	1.4	-2.3	-1.7
D4	neutral 5	87.5	7.7	50.9	58.4	0.6	1.7	-1.0	-2.2
E4	neutral 3.5	93.0	8.9	37.8	46.6	0.6	1.5	-0.9	-1.6
F4	black	92.4	6.5	23.2	29.6	0.6	1.0	-0.5	-1.7
A5	paper white	74.5	2.9	97.8	97.8	0.5	-0.5	-2.2	0.6
B5	skin highlight L*=89	26.8	11.7	87.1	90.7	11.2	9.7	9.2	-1.8
C5	skin highlight L*=75	20.7	19.3	75.6	80.9	17.0	17.1	15.1	-3.4
D5	skin shadow L*=25	54.9	16.7	26.2	39.2	16.0	10.0	15.3	6.7
E5	skin shadow L*=11	77.1	11.1	16.5	26.4	16.6	11.8	11.0	12.7
F5	Max Black	96.7	1.3	6.0	7.0	0.4	0.5	-1.8	-1.0
Summary Results		I*Color	I*tone	 AARDENBURG IMAGING & ARCHIVES					
Average Score for all patches		64.4	75.9						
Average Score for the Worst 10% (3 lowest scoring patches)		19.9	60.5						



Original Print Colors
(measured before light exposure)



Test Complete

No further updates

*Canon iPF5000 Printer, Canon Lucia OEM ink,
Harman Gloss FB AI 320gsm Paper*



AARDENBURG IMAGING
& ARCHIVES