Aardenburg
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IMAGING & ARCHIVES

Tested System:
ID#:209

Printer: Epson Stylus Pro 3800

Inks/Colorants: Inkjetfly IMA24/36 V3

Media: Epson Exhibition Fiber 325gsm paper

Coating(s): no additional coating

Sample #: AaI_20100905_SN002

Testing Status: 140 Megalux hours total light exposure

Testing is complete - there are no more updates

Conservation Display Rating (CDR)

Lower limit: 27 Megalux hours (for weakest 10% of the color patches)
Upper limit: 69 Megalux hours (for average of all the color patches)

Note: a CDR with narrow range (typically less than 2:1) indicates relatively even overall fading of the image. A wide range indicates faster fading in certain local colors/tones prior to general fading of most colors/tones in the entire image. Compare ratings for different systems directly and/or use the table on page 2 to estimate time (years) on display.

* 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 furhter explanation of the Conservation display ratings.

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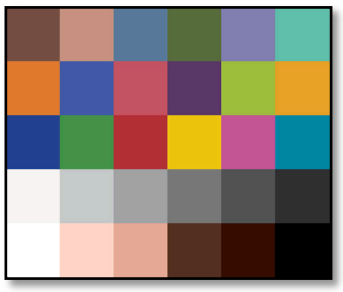
About this Report

This report contains light fastness information about a sample 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 4). 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 this Report



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 CIELAB 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 "before and after" presentation of the target images simulates looking at a perfect copy of the unexposed original print along side the same print after light exposure. You can 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. Properly tracking changes in image contrast was a major reason behind the development of the I* metric.

Table to Convert Megalux-hours of Light Exposure to estimated "Years on Display" Light Fastness Ratings.											
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 an equivalent light exposure 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 "Light Exposure" 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 strong seasonal humidity fluctuations can cause physical cracks and/or flaking, etc., over time. Handling damage such as scratching, abrasion, tears and creases, and catastrophic damage by smoke, fire, flood, etc., also destroy print quality over time. Thus, as illumination levels are reduced other forms of print degradation take on greater probability of occurrence.

(1) Eastman Kodak cited this exposure condition with a 90% confidence limit as a rationale for estimating print fading times of traditional color photo materials in typical home display environments. However, for light fading claims regarding its line of pigment-based inkjet printers, Kodak 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) standardized its light fastness ratings on 450 lux for 12 hours per day in order to estimate the years on display necessary to reach "easily noticeable" fading. This average daily light exposure dosage, at an assumed 75˚F/60%RH temperature and humidity level, has become a de facto industry standard for most industry-sponsored predictive "years of life" light fading estimates in the absence of a published International Standards Organization (ISO) test standard. The table above readily shows how much error occurs in such "print lifetime" predictions as actual real world light levels for prints on display routinely deviate above and below the assumed 450 lux intensity value.

Sample Description

Sample # **AaI_20100905_SN002** **Batch #:** K1
Printer: Epson Stylus Pro 3800
Ink: Inkjetfly IMA24/36 V3
Media: Epson Exhibition Fiber 325gsm paper
Coating(s): no additional coating

Test Print Prepared by: AaI&A member
Printed: September 5, 2010
Initial Print colors measured August 10, 2011
Test Started: August 11, 2011

Test Image: AaI_StandardColorSet(v2)forSRGB.tif
RIP?Driver settings: Qimage, Superfine, High speed "off", no color adjust (NCA)

Media Setting Premium Luster Photo Paper

Profile: yes **Rendering** Relative w/BPC
Profile type: custom

Paper White Color (UV-included versus UV-excluded)

Optical Brighteners Present? *yes (high)*	**L***		**a***		**b***	
Media Whitepoint Color	UV inc	UV exc	UV inc	UV exc	UV inc	UV exc
	95.8	95.6	1.4	-0.4	-4.5	2.2
	UV-inc/UV-exc ΔL*, Δa*, Δb* respectively					
	0.2		1.8		6.7	
	Calculated differences, especially for Δb, indicate the role and magnitude of fluorescence on original paper color*					

Maximum Printed Black	**L***	**a***	**b***	Optical Density (Dmax)
	9.5	0.7	-0.6	1.97

Light source: Phillips Colortone F40T12/C50 – 5000˚K full spectrum fluorescent. Color rendering Index (CRI) =92), soda lime glass filtered
Light Exposure Cycle: 8 hours on, 4 hours off, twice per 24 hours
CIELAB measurements: D50 2˚ observer, Xrite Gretag/Macbeth Spectrolino/Spectroscan

Average Illuminance during "on" cycle: 10906 Lux
Average Temperature: 23.6˚C over full test duration, 25.0˚C during light exposure.
Average Relative humidity: 56.7%RH over full test duration, 56.3%RH during light exposure.

Replicates/Compare to:

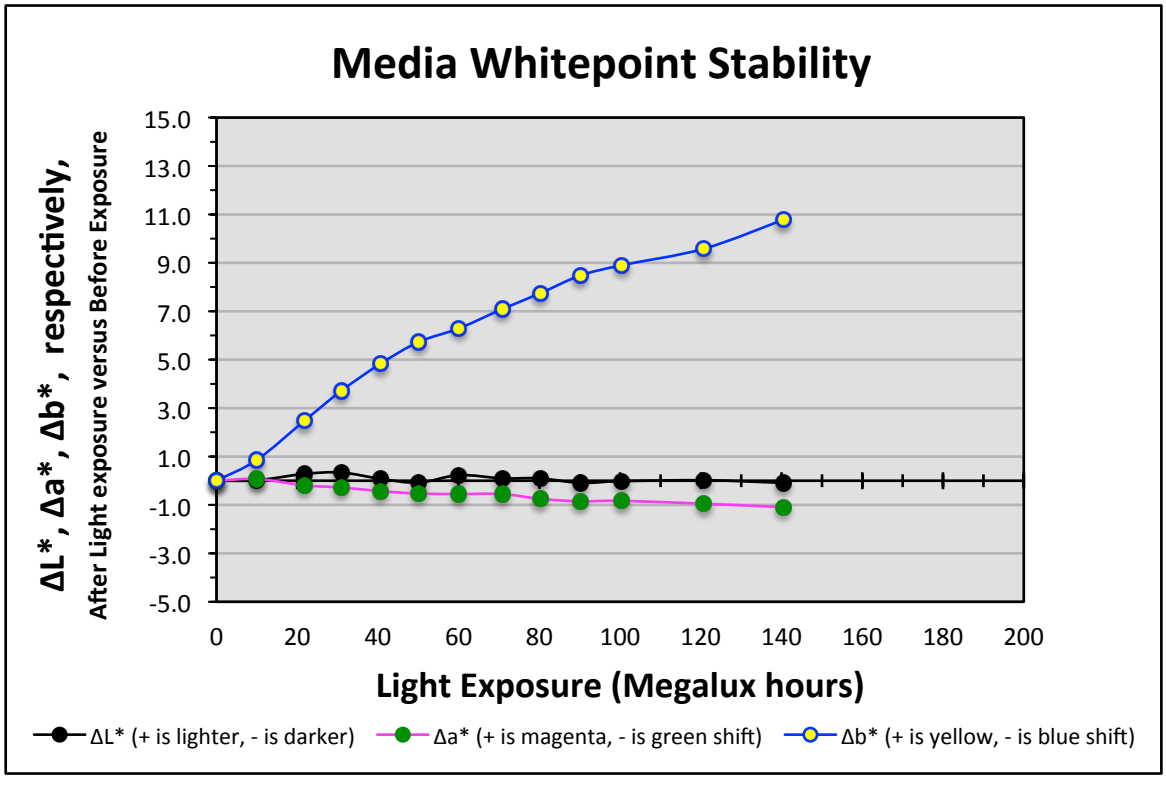
Compare to sample # AaI_20100905_SN004 which was printed on the same printer and same batch of Epson Exhibition Fiber paper but using the Epson OEM Ultrachrome K3 inkset . These two samples have also been tested side-by-side in the light fade testing unit (i.e., batch K1) to eliminate the testing equipment as a potential source of variablity in the comparative results.

Notes/Comments:

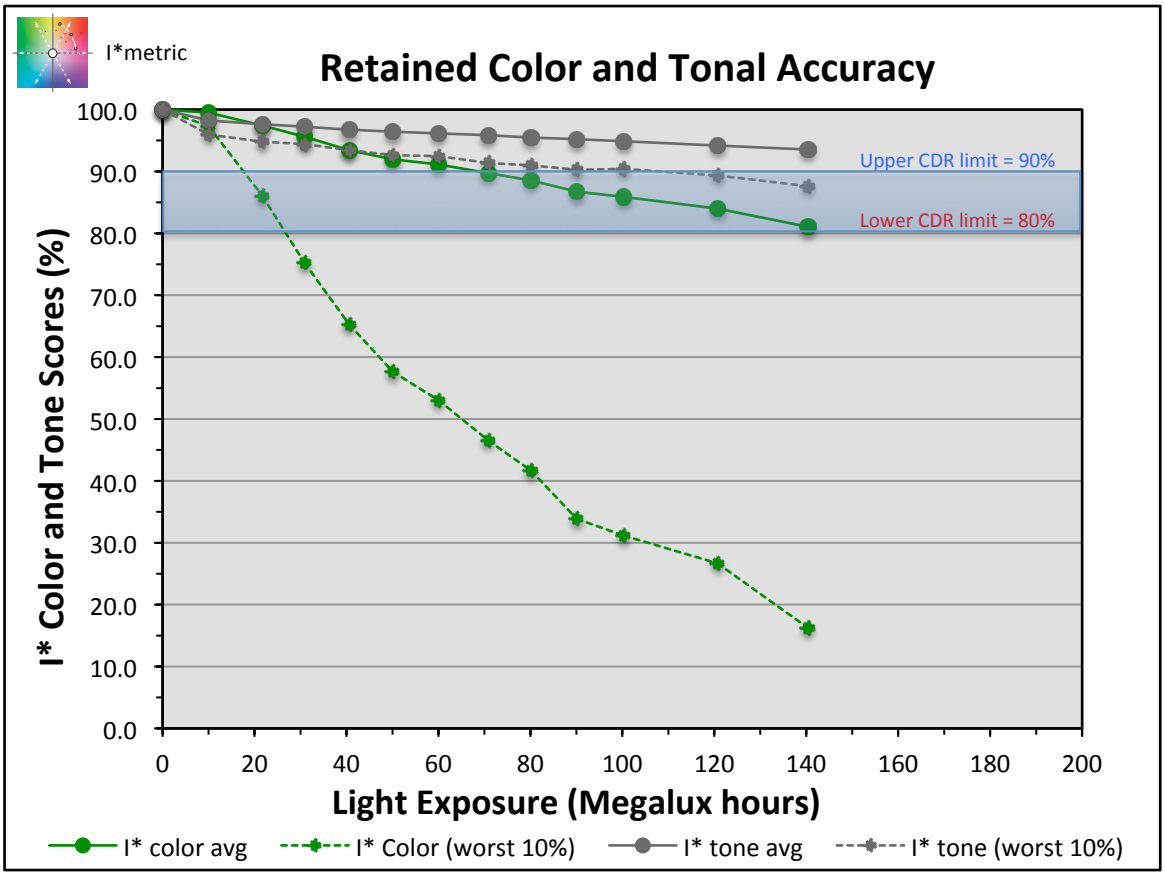
This paper's susceptibility to light induced discoloration severely compromises the overall performance of this printer/ink/media combination. This paper is therefore NOT RECOMMENDED FOR FINE ART APPLICATIONS where long term media color stability on and off display is essential.

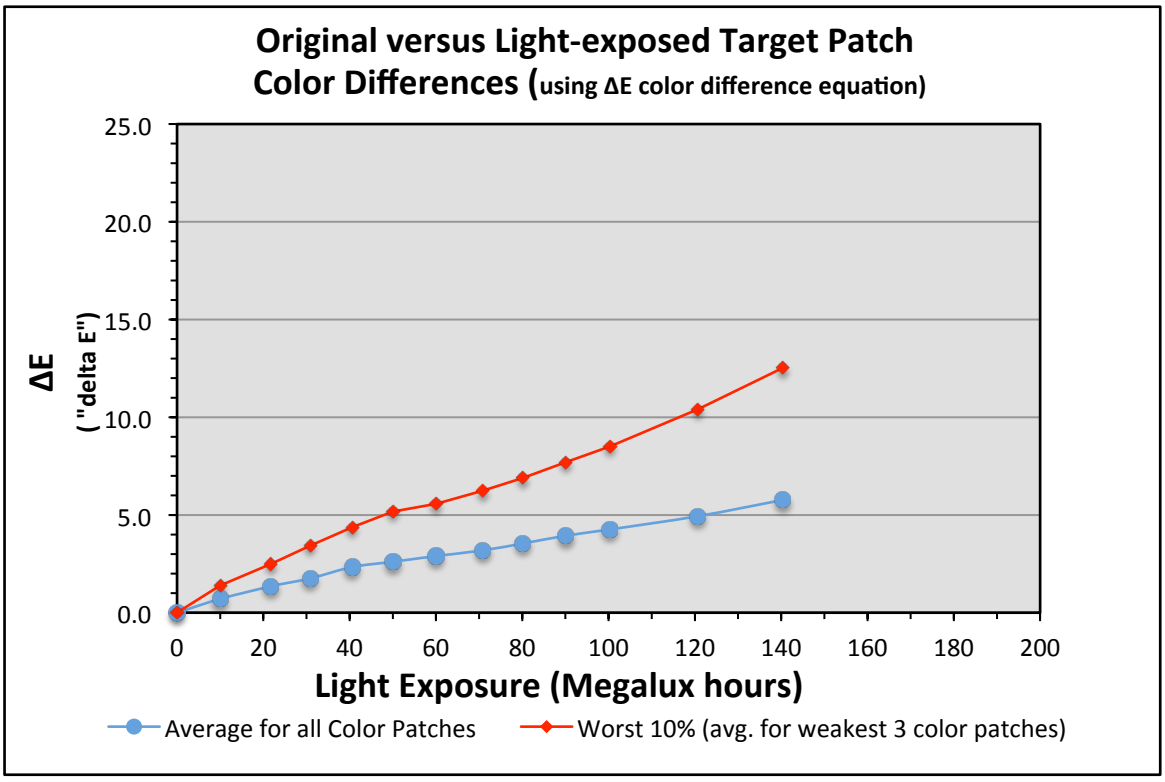
Graphs:

Epson Stylus Pro 3800, Inkjetfly IMA24/36 V3, Epson Exhibition Fiber 325gsm paper, no additional coating



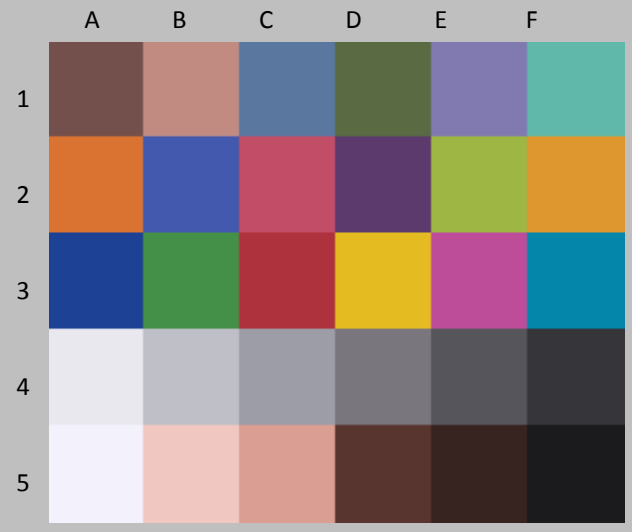
Epson Stylus Pro 3800, Inkjetfly IMA24/36 V3, Epson Exhibition Fiber 325gsm paper, no additional coating



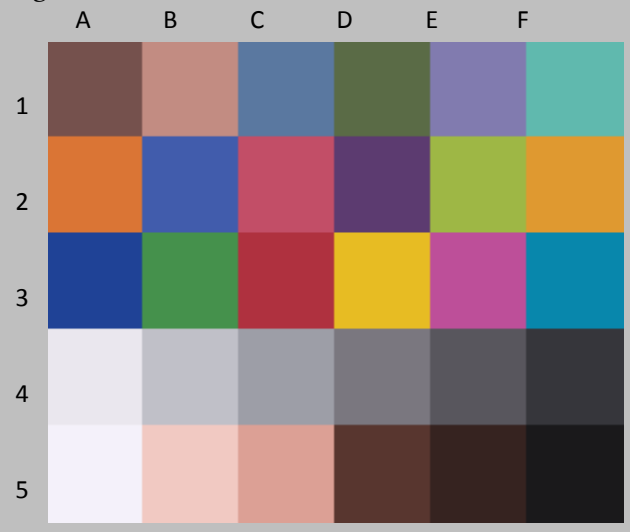


Values:

Epson Stylus Pro 3800, Inkjetfly IMA24/36 V3, Epson Exhibition Fiber 325gsm paper, no additional coating



Original Print Colors before light exposure



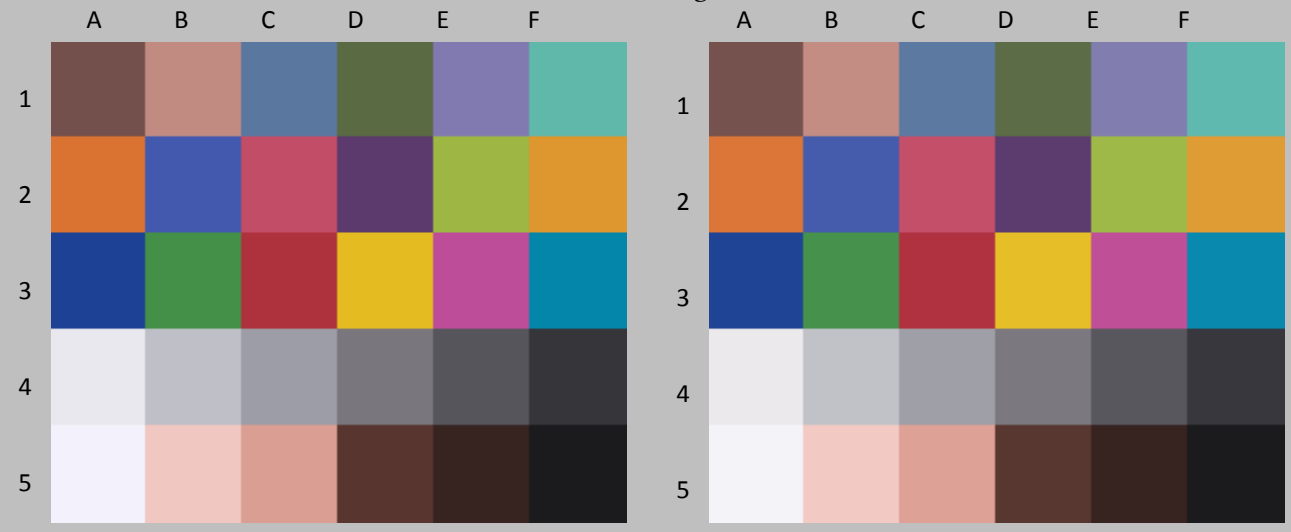
Colors After light exposure

				L*		a*		b*	
Patch #	Description	I* Color	ΔE	Before	After	Before	After	Before	After
A1	Dark Skin	100.0	0.6	38.1	38.6	15.3	15.2	9.4	9.2
B1	Light Skin	100.0	0.7	63.2	63.7	20.3	19.8	13.9	13.7
C1	Blue sky	99.3	0.9	49.0	49.5	-2.0	-2.6	-25.5	-25.2
D1	Foliage	99.6	0.7	42.8	43.2	-11.7	-11.7	19.7	19.1
E1	blue flower	97.6	1.3	53.2	53.7	11.6	10.8	-28.1	-27.2
F1	bluish green	99.6	0.7	69.0	69.3	-30.1	-29.8	-2.4	-3.0
A1	orange	99.4	1.0	60.0	60.5	38.2	37.5	52.7	52.3
B2	purplish blue	98.1	1.5	39.5	39.9	11.5	10.4	-47.7	-46.9
C2	moderate red	100.0	0.4	49.5	49.8	49.1	49.0	11.2	11.1
D2	purple	100.0	0.4	30.2	30.6	22.8	22.8	-24.4	-24.6
E2	yellow green	99.6	0.8	70.5	70.9	-20.8	-21.1	53.3	52.7
F2	orange yellow	99.4	1.0	68.4	68.9	21.5	20.6	62.2	62.0
A3	blue	99.7	0.7	29.1	29.3	13.3	12.6	-50.9	-50.7
B3	green	99.2	1.0	53.7	54.1	-35.6	-35.8	30.4	29.5
C3	red	100.0	0.3	41.1	41.2	51.5	51.7	23.5	23.4
D3	yellow	99.6	0.9	78.0	78.4	6.2	5.6	74.1	73.6
E3	magenta	98.6	1.4	50.2	50.7	52.2	51.3	-19.0	-18.1
F3	cyan	100.0	0.5	51.6	51.9	-21.0	-21.3	-28.8	-28.9
A4	white	100.0	0.4	92.2	92.3	1.5	1.5	-3.2	-2.8
B4	neutral 8	100.0	0.4	77.7	78.0	0.8	0.7	-4.1	-3.9
C4	neutral 6.5	100.0	0.5	64.8	65.3	1.3	1.1	-4.9	-4.9
D4	neutral 5	100.0	0.6	50.0	50.5	2.0	1.7	-3.3	-3.6
E4	neutral 3.5	100.0	0.6	36.6	37.0	2.2	1.9	-3.8	-4.2
F4	black	100.0	0.6	22.3	22.7	1.0	0.9	-3.0	-3.4
A5	paper white	96.2	0.9	95.7	95.7	1.5	1.6	-4.6	-3.7
B5	Skin highlight L*=88	100.0	0.5	83.9	84.2	14.3	14.0	9.2	9.1
C5	Skin highlight L* =75	99.3	0.8	71.0	71.4	22.3	21.7	15.6	15.2
D5	Skin shadow L*=28	100.0	0.1	26.6	26.7	15.2	15.3	10.7	10.6
E5	Skin shadow L*=13	100.0	0.5	16.3	15.9	9.1	9.4	5.9	6.1
F5	Maximum Black	100.0	0.6	9.5	9.0	0.7	0.6	-0.6	-1.0

Summary Results	I* Color	I* tone	ΔE
Average Score for all patches	99.5	98.2	0.7
Worst 10% (3 lowest scoring patches)	97.3	96.0	1.4

10 Megalux hours

Epson Stylus Pro 3800, Inkjetfly IMA24/36 V3, Epson Exhibition Fiber 325gsm paper, no additional coating



Original Print Colors before light exposure

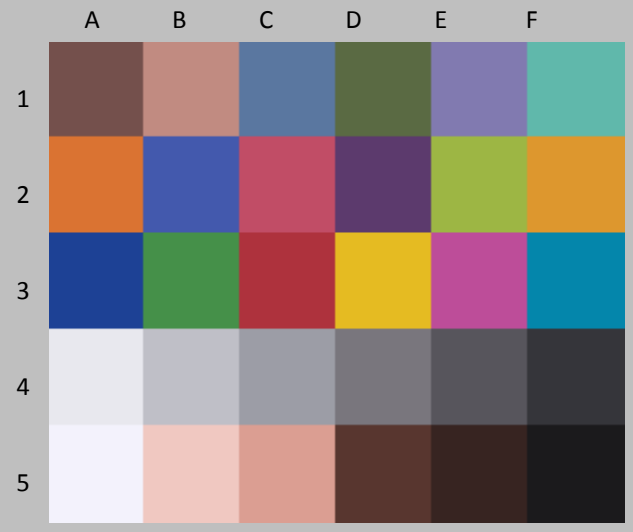
Colors After light exposure

				L*		a*		b*	
Patch #	Description	I* Color	ΔE	Before	After	Before	After	Before	After
A1	Dark Skin	100.0	0.9	38.1	38.9	15.3	15.1	9.4	9.0
B1	Light Skin	99.4	1.0	63.2	64.0	20.3	19.7	13.9	13.6
C1	Blue sky	96.7	1.6	49.0	49.8	-2.0	-2.9	-25.5	-24.6
D1	Foliage	97.6	1.2	42.8	43.5	-11.7	-11.8	19.7	18.6
E1	blue flower	94.5	2.3	53.2	54.1	11.6	10.4	-28.1	-26.3
F1	bluish green	99.0	1.0	69.0	69.6	-30.1	-29.7	-2.4	-3.1
A1	orange	98.0	2.0	60.0	60.8	38.2	37.2	52.7	51.3
B2	purplish blue	95.9	2.7	39.5	40.3	11.5	9.8	-47.7	-46.0
C2	moderate red	100.0	0.8	49.5	50.2	49.1	48.9	11.2	10.9
D2	purple	99.4	1.2	30.2	31.2	22.8	22.3	-24.4	-23.9
E2	yellow green	97.9	1.9	70.5	71.3	-20.8	-21.1	53.3	51.7
F2	orange yellow	98.4	1.8	68.4	69.3	21.5	20.3	62.2	61.1
A3	blue	98.1	1.6	29.1	29.7	13.3	12.0	-50.9	-50.0
B3	green	97.9	1.7	53.7	54.5	-35.6	-35.9	30.4	28.9
C3	red	99.9	0.7	41.1	41.5	51.5	51.7	23.5	23.0
D3	yellow	98.7	1.7	78.0	78.9	6.2	5.2	74.1	73.0
E3	magenta	97.2	2.2	50.2	51.1	52.2	51.1	-19.0	-17.2
F3	cyan	99.6	1.1	51.6	52.4	-21.0	-21.5	-28.8	-28.5
A4	white	86.4	1.8	92.2	92.5	1.5	1.3	-3.2	-1.4
B4	neutral 8	92.6	1.3	77.7	78.3	0.8	0.5	-4.1	-2.9
C4	neutral 6.5	98.0	1.1	64.8	65.7	1.3	1.0	-4.9	-4.3
D4	neutral 5	100.0	1.0	50.0	51.0	2.0	1.6	-3.3	-3.3
E4	neutral 3.5	100.0	1.0	36.6	37.5	2.2	1.9	-3.8	-4.2
F4	black	99.5	0.9	22.3	23.1	1.0	0.9	-3.0	-3.6
A5	paper white	79.2	2.5	95.7	96.0	1.5	1.3	-4.6	-2.1
B5	Skin highlight L*=88	99.8	0.9	83.9	84.6	14.3	13.8	9.2	9.3
C5	Skin highlight L* =75	98.7	1.2	71.0	72.0	22.3	21.6	15.6	15.1
D5	Skin shadow L*=28	100.0	0.7	26.6	27.2	15.2	15.2	10.7	10.4
E5	Skin shadow L*=13	100.0	0.3	16.3	16.5	9.1	9.3	5.9	5.9
F5	Maximum Black	100.0	0.3	9.5	9.5	0.7	0.7	-0.6	-1.0

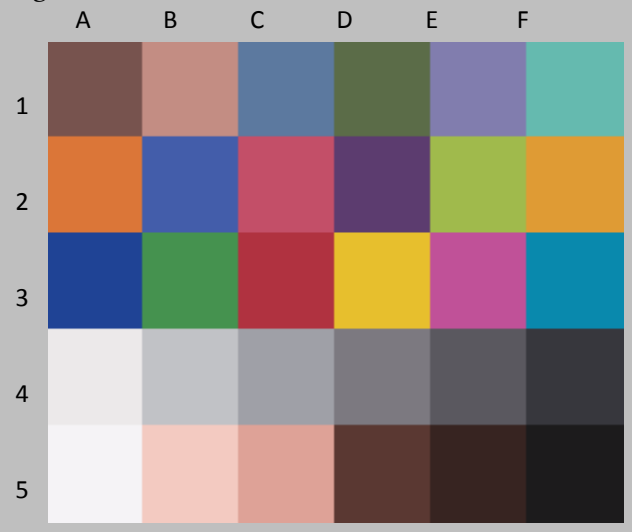
Summary Results	I* Color	I* tone	ΔE
Average Score for all patches	97.4	97.6	1.3
Worst 10% (3 lowest scoring patches)	86.0	94.8	2.5

20 Megalux hours

Epson Stylus Pro 3800, Inkjetfly IMA24/36 V3, Epson Exhibition Fiber 325gsm paper, no additional coating



Original Print Colors before light exposure



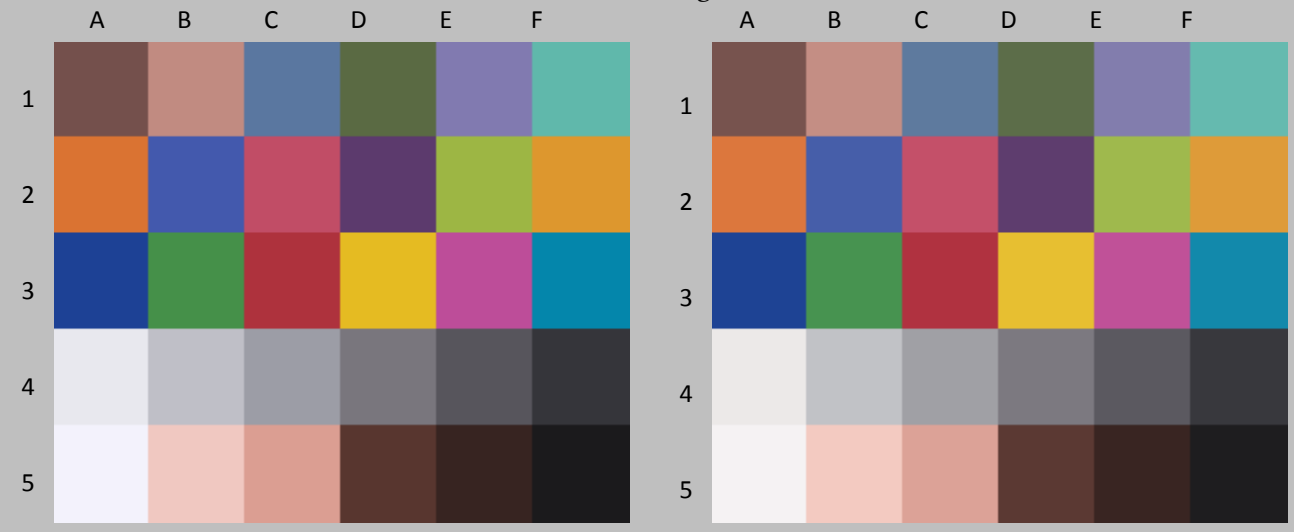
Colors After light exposure

				L*		a*		b*	
Patch #	Description	I* Color	ΔE	Before	After	Before	After	Before	After
A1	Dark Skin	100.0	1.1	38.1	39.1	15.3	15.2	9.4	9.0
B1	Light Skin	99.5	1.0	63.2	64.1	20.3	19.8	13.9	13.6
C1	Blue sky	95.5	1.9	49.0	49.9	-2.0	-3.0	-25.5	-24.2
D1	Foliage	96.2	1.6	42.8	43.6	-11.7	-11.7	19.7	18.3
E1	blue flower	92.1	3.1	53.2	54.2	11.6	10.2	-28.1	-25.6
F1	bluish green	98.5	1.1	69.0	69.6	-30.1	-29.4	-2.4	-3.1
A1	orange	97.1	2.6	60.0	61.0	38.2	37.1	52.7	50.6
B2	purplish blue	94.3	3.4	39.5	40.4	11.5	9.4	-47.7	-45.2
C2	moderate red	100.0	0.9	49.5	50.2	49.1	48.9	11.2	10.8
D2	purple	99.7	1.0	30.2	31.0	22.8	22.5	-24.4	-24.0
E2	yellow green	96.9	2.5	70.5	71.6	-20.8	-21.1	53.3	51.1
F2	orange yellow	97.8	2.2	68.4	69.5	21.5	20.2	62.2	60.7
A3	blue	97.3	2.0	29.1	29.7	13.3	11.8	-50.9	-49.6
B3	green	96.7	2.3	53.7	54.7	-35.6	-35.9	30.4	28.3
C3	red	99.5	0.9	41.1	41.6	51.5	51.9	23.5	22.9
D3	yellow	97.8	2.5	78.0	79.2	6.2	5.2	74.1	72.2
E3	magenta	95.6	3.1	50.2	51.3	52.2	50.7	-19.0	-16.4
F3	cyan	98.6	1.4	51.6	52.6	-21.0	-21.6	-28.8	-28.1
A4	white	75.0	2.9	92.2	92.6	1.5	1.3	-3.2	-0.4
B4	neutral 8	84.6	2.1	77.7	78.4	0.8	0.4	-4.1	-2.2
C4	neutral 6.5	92.5	1.6	64.8	65.9	1.3	0.9	-4.9	-3.8
D4	neutral 5	100.0	1.2	50.0	51.2	2.0	1.6	-3.3	-3.1
E4	neutral 3.5	100.0	1.2	36.6	37.6	2.2	1.9	-3.8	-4.1
F4	black	99.5	1.1	22.3	23.3	1.0	1.0	-3.0	-3.6
A5	paper white	66.1	3.7	95.7	96.0	1.5	1.3	-4.6	-0.9
B5	Skin highlight L*=88	98.4	1.2	83.9	84.7	14.3	13.7	9.2	9.7
C5	Skin highlight L* =75	98.8	1.4	71.0	72.2	22.3	21.6	15.6	15.1
D5	Skin shadow L*=28	100.0	0.8	26.6	27.3	15.2	15.3	10.7	10.3
E5	Skin shadow L*=13	100.0	0.4	16.3	16.6	9.1	9.4	5.9	5.9
F5	Maximum Black	100.0	0.5	9.5	9.9	0.7	0.6	-0.6	-1.0

Summary Results	I* Color	I* tone	ΔE
Average Score for all patches	95.6	97.2	1.8
Worst 10% (3 lowest scoring patches)	75.2	94.4	3.4

30 Megalux hours

Epson Stylus Pro 3800, Inkjetfly IMA24/36 V3, Epson Exhibition Fiber 325gsm paper, no additional coating



Original Print Colors before light exposure

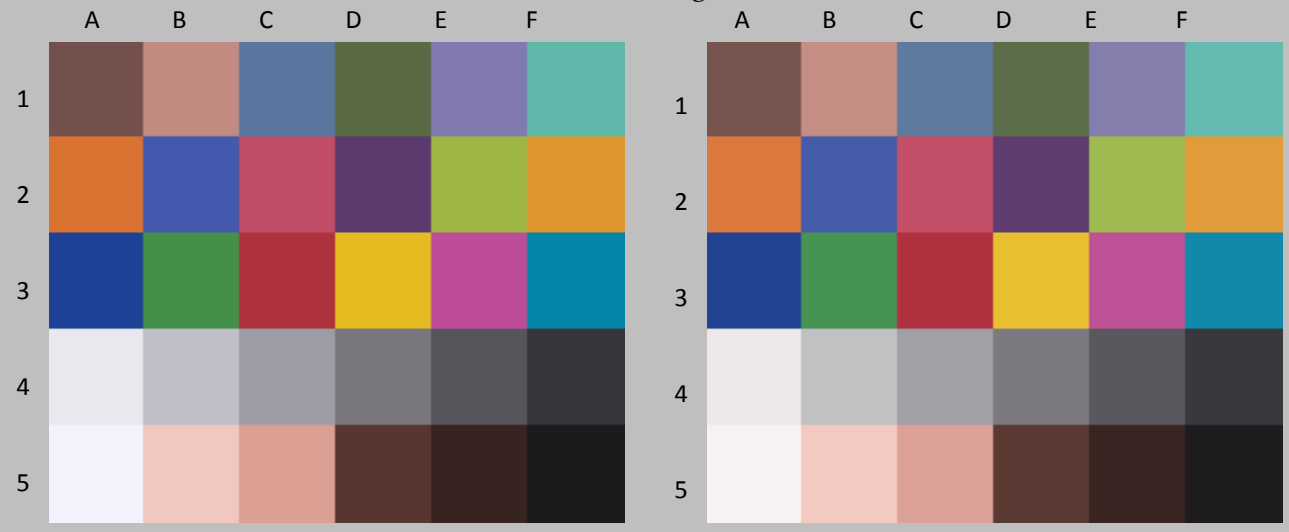
Colors After light exposure

				L*		a*		b*	
Patch #	Description	I* Color	ΔE	Before	After	Before	After	Before	After
A1	Dark Skin	99.3	1.4	38.1	39.3	15.3	14.9	9.4	8.9
B1	Light Skin	99.1	1.2	63.2	64.2	20.3	19.6	13.9	13.7
C1	Blue sky	92.4	2.7	49.0	50.1	-2.0	-3.1	-25.5	-23.4
D1	Foliage	95.2	1.9	42.8	43.8	-11.7	-11.6	19.7	18.1
E1	blue flower	89.3	3.9	53.2	54.3	11.6	10.0	-28.1	-24.7
F1	bluish green	98.4	1.2	69.0	69.7	-30.1	-29.3	-2.4	-3.0
A1	orange	95.1	3.8	60.0	61.1	38.2	36.8	52.7	49.3
B2	purplish blue	92.5	4.3	39.5	40.6	11.5	9.1	-47.7	-44.3
C2	moderate red	99.9	1.1	49.5	50.4	49.1	48.6	11.2	10.9
D2	purple	97.5	1.7	30.2	31.2	22.8	22.2	-24.4	-23.3
E2	yellow green	95.3	3.3	70.5	71.5	-20.8	-21.1	53.3	50.2
F2	orange yellow	96.0	3.4	68.4	69.6	21.5	20.0	62.2	59.4
A3	blue	94.9	3.3	29.1	30.0	13.3	11.2	-50.9	-48.5
B3	green	95.4	2.8	53.7	54.8	-35.6	-35.7	30.4	27.7
C3	red	99.4	1.0	41.1	41.7	51.5	51.7	23.5	22.7
D3	yellow	96.6	3.2	78.0	79.2	6.2	4.9	74.1	71.4
E3	magenta	94.2	3.9	50.2	51.3	52.2	50.6	-19.0	-15.6
F3	cyan	96.7	2.0	51.6	52.6	-21.0	-21.7	-28.8	-27.3
A4	white	63.9	3.9	92.2	92.4	1.5	1.1	-3.2	0.7
B4	neutral 8	77.6	2.7	77.7	78.3	0.8	0.3	-4.1	-1.5
C4	neutral 6.5	87.1	2.0	64.8	65.9	1.3	0.9	-4.9	-3.3
D4	neutral 5	97.6	1.4	50.0	51.3	2.0	1.7	-3.3	-2.7
E4	neutral 3.5	100.0	1.4	36.6	37.9	2.2	1.8	-3.8	-3.8
F4	black	100.0	1.3	22.3	23.6	1.0	1.0	-3.0	-3.4
A5	paper white	54.2	4.8	95.7	95.8	1.5	1.1	-4.6	0.3
B5	Skin highlight L*=88	97.6	1.2	83.9	84.7	14.3	13.7	9.2	9.9
C5	Skin highlight L* =75	98.4	1.5	71.0	72.2	22.3	21.5	15.6	15.1
D5	Skin shadow L*=28	99.2	1.4	26.6	27.8	15.2	15.2	10.7	10.0
E5	Skin shadow L*=13	100.0	0.9	16.3	17.3	9.1	9.2	5.9	5.7
F5	Maximum Black	100.0	1.4	9.5	10.9	0.7	0.7	-0.6	-0.8

Summary Results	I* Color	I* tone	ΔE
Average Score for all patches	93.4	96.8	2.3
Worst 10% (3 lowest scoring patches)	65.2	93.4	4.4

40 Megalux hours

Epson Stylus Pro 3800, Inkjetfly IMA24/36 V3, Epson Exhibition Fiber 325gsm paper, no additional coating



Original Print Colors before light exposure

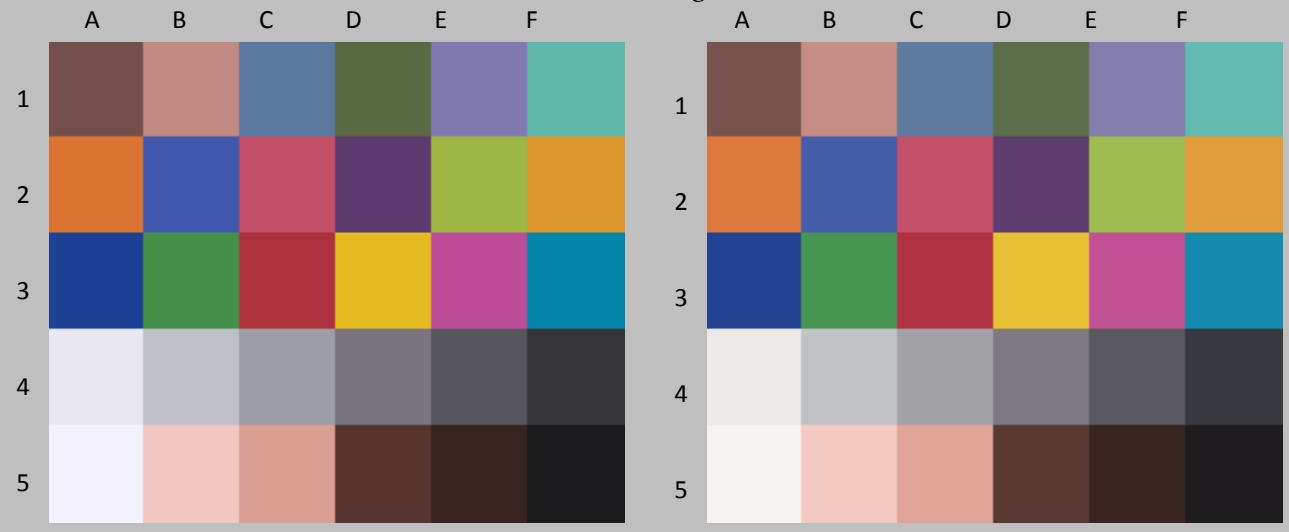
Colors After light exposure

Patch #	Description	I* Color	ΔE	L* Before	L* After	a* Before	a* After	b* Before	b* After
A1	Dark Skin	99.0	1.5	38.1	39.4	15.3	15.0	9.4	8.8
B1	Light Skin	99.2	1.2	63.2	64.3	20.3	19.6	13.9	13.6
C1	Blue sky	90.8	3.1	49.0	50.1	-2.0	-3.3	-25.5	-23.0
D1	Foliage	94.1	2.1	42.8	43.8	-11.7	-11.6	19.7	17.8
E1	blue flower	87.2	4.5	53.2	54.3	11.6	9.8	-28.1	-24.1
F1	bluish green	97.7	1.4	69.0	69.7	-30.1	-29.3	-2.4	-3.3
A1	orange	95.2	3.8	60.0	61.1	38.2	36.9	52.7	49.3
B2	purplish blue	90.8	5.1	39.5	40.6	11.5	8.7	-47.7	-43.6
C2	moderate red	99.9	1.1	49.5	50.4	49.1	48.7	11.2	10.9
D2	purple	97.0	1.8	30.2	31.2	22.8	22.1	-24.4	-23.1
E2	yellow green	94.1	4.0	70.5	71.7	-20.8	-21.1	53.3	49.5
F2	orange yellow	95.6	3.6	68.4	69.6	21.5	19.9	62.2	59.1
A3	blue	94.2	3.6	29.1	29.8	13.3	10.9	-50.9	-48.2
B3	green	94.6	3.2	53.7	54.8	-35.6	-35.7	30.4	27.3
C3	red	99.2	1.1	41.1	41.6	51.5	51.7	23.5	22.6
D3	yellow	95.7	3.9	78.0	79.3	6.2	4.9	74.1	70.6
E3	magenta	92.7	4.7	50.2	51.3	52.2	50.2	-19.0	-14.9
F3	cyan	95.6	2.3	51.6	52.6	-21.0	-21.9	-28.8	-27.0
A4	white	56.9	4.6	92.2	92.3	1.5	1.1	-3.2	1.4
B4	neutral 8	71.3	3.3	77.7	78.2	0.8	0.2	-4.1	-0.9
C4	neutral 6.5	82.9	2.4	64.8	65.9	1.3	0.8	-4.9	-2.9
D4	neutral 5	96.0	1.5	50.0	51.3	2.0	1.6	-3.3	-2.5
E4	neutral 3.5	100.0	1.3	36.6	37.8	2.2	1.9	-3.8	-3.8
F4	black	100.0	1.4	22.3	23.7	1.0	0.9	-3.0	-3.4
A5	paper white	44.7	5.8	95.7	95.6	1.5	1.0	-4.6	1.2
B5	Skin highlight L*=88	97.2	1.2	83.9	84.5	14.3	13.7	9.2	10.0
C5	Skin highlight L* =75	98.3	1.5	71.0	72.1	22.3	21.5	15.6	15.0
D5	Skin shadow L*=28	99.0	1.3	26.6	27.7	15.2	15.1	10.7	10.0
E5	Skin shadow L*=13	100.0	0.7	16.3	17.0	9.1	9.3	5.9	5.7
F5	Maximum Black	100.0	1.1	9.5	10.6	0.7	0.8	-0.6	-0.9

Summary Results	I* Color	I* tone	ΔE
Average Score for all patches	92.0	96.4	2.6
Worst 10% (3 lowest scoring patches)	57.6	92.6	5.2

50 Megalux hours

Epson Stylus Pro 3800, Inkjetfly IMA24/36 V3, Epson Exhibition Fiber 325gsm paper, no additional coating



Original Print Colors before light exposure

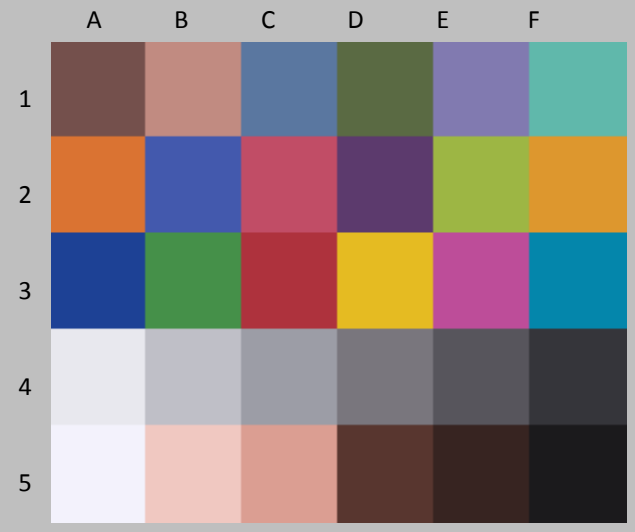
Colors After light exposure

				L*		a*		b*	
Patch #	Description	I* Color	ΔE	Before	After	Before	After	Before	After
A1	Dark Skin	99.0	1.6	38.1	39.5	15.3	15.0	9.4	8.8
B1	Light Skin	99.1	1.4	63.2	64.5	20.3	19.6	13.9	13.6
C1	Blue sky	90.4	3.2	49.0	50.3	-2.0	-3.3	-25.5	-22.9
D1	Foliage	93.3	2.4	42.8	44.0	-11.7	-11.6	19.7	17.6
E1	blue flower	86.2	4.9	53.2	54.5	11.6	9.7	-28.1	-23.8
F1	bluish green	96.7	1.7	69.0	69.9	-30.1	-29.2	-2.4	-3.6
A1	orange	94.5	4.3	60.0	61.4	38.2	36.9	52.7	48.9
B2	purplish blue	90.6	5.3	39.5	40.8	11.5	8.6	-47.7	-43.6
C2	moderate red	99.9	1.3	49.5	50.6	49.1	48.8	11.2	10.8
D2	purple	96.9	1.9	30.2	31.4	22.8	22.2	-24.4	-23.0
E2	yellow green	93.0	4.8	70.5	72.0	-20.8	-21.1	53.3	48.8
F2	orange yellow	94.9	4.2	68.4	70.0	21.5	19.8	62.2	58.7
A3	blue	93.9	3.8	29.1	30.0	13.3	10.8	-50.9	-48.2
B3	green	93.6	3.8	53.7	55.1	-35.6	-35.8	30.4	26.9
C3	red	98.9	1.3	41.1	41.8	51.5	51.9	23.5	22.5
D3	yellow	94.8	4.7	78.0	79.6	6.2	4.7	74.1	70.0
E3	magenta	92.1	5.1	50.2	51.6	52.2	50.1	-19.0	-14.5
F3	cyan	95.5	2.5	51.6	52.9	-21.0	-21.9	-28.8	-27.0
A4	white	51.5	5.1	92.2	92.5	1.5	1.1	-3.2	1.9
B4	neutral 8	68.8	3.6	77.7	78.5	0.8	0.2	-4.1	-0.7
C4	neutral 6.5	81.2	2.7	64.8	66.2	1.3	0.8	-4.9	-2.7
D4	neutral 5	96.1	1.8	50.0	51.6	2.0	1.6	-3.3	-2.6
E4	neutral 3.5	100.0	1.6	36.6	38.1	2.2	1.9	-3.8	-3.8
F4	black	99.9	1.5	22.3	23.8	1.0	1.0	-3.0	-3.6
A5	paper white	38.8	6.3	95.7	95.9	1.5	1.0	-4.6	1.7
B5	Skin highlight L*=88	97.9	1.3	83.9	84.8	14.3	13.7	9.2	9.8
C5	Skin highlight L* =75	97.7	1.8	71.0	72.5	22.3	21.6	15.6	14.7
D5	Skin shadow L*=28	98.7	1.5	26.6	27.9	15.2	15.3	10.7	9.9
E5	Skin shadow L*=13	100.0	0.8	16.3	17.1	9.1	9.4	5.9	5.9
F5	Maximum Black	100.0	1.0	9.5	10.4	0.7	0.8	-0.6	-0.9

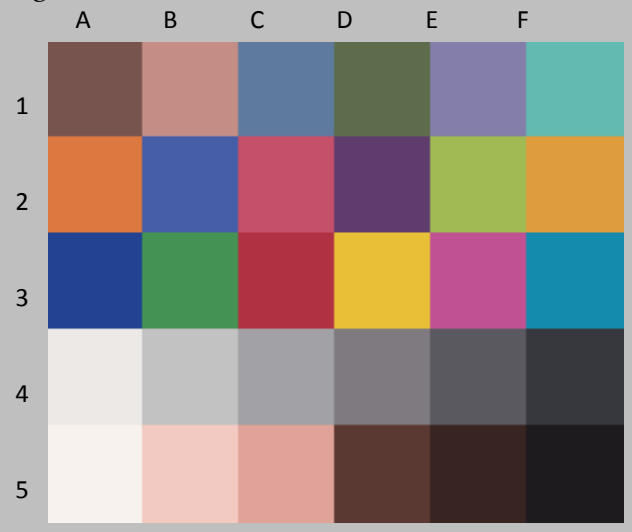
Summary Results	I* Color	I* tone	ΔE
Average Score for all patches	91.1	96.2	2.9
Worst 10% (3 lowest scoring patches)	53.1	92.5	5.6

60 Megalux hours

Epson Stylus Pro 3800, Inkjetfly IMA24/36 V3, Epson Exhibition Fiber 325gsm paper, no additional coating



Original Print Colors before light exposure



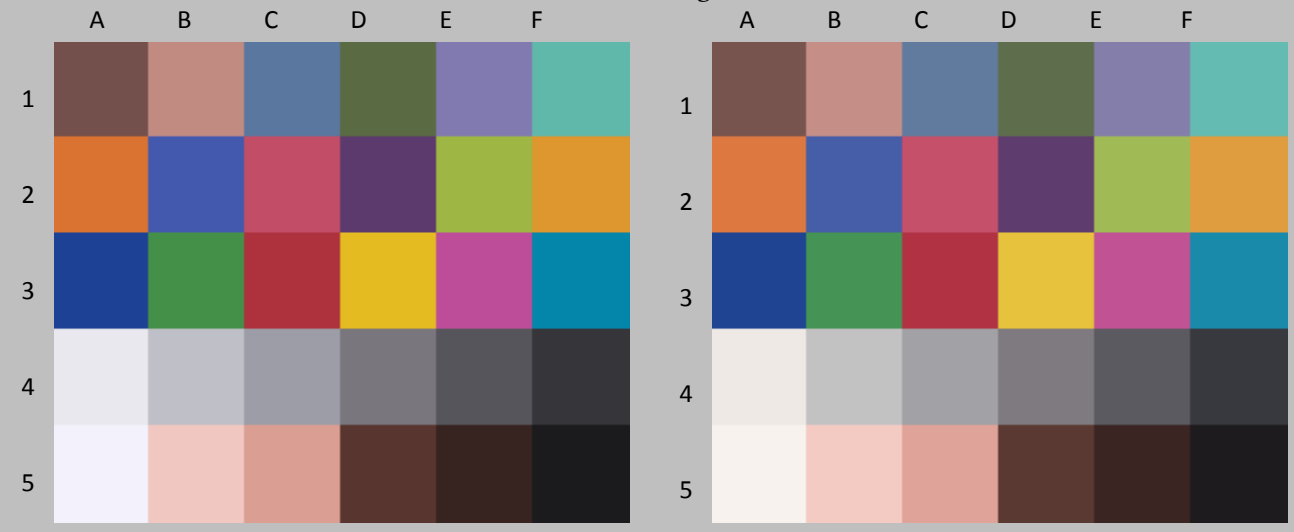
Colors After light exposure

				L*		a*		b*	
Patch #	Description	I* Color	ΔE	Before	After	Before	After	Before	After
A1	Dark Skin	98.6	1.7	38.1	39.6	15.3	15.1	9.4	8.7
B1	Light Skin	99.0	1.4	63.2	64.5	20.3	19.7	13.9	13.4
C1	Blue sky	89.1	3.5	49.0	50.3	-2.0	-3.3	-25.5	-22.5
D1	Foliage	91.3	2.8	42.8	44.0	-11.7	-11.5	19.7	17.2
E1	blue flower	84.6	5.4	53.2	54.6	11.6	9.7	-28.1	-23.3
F1	bluish green	95.4	2.1	69.0	69.9	-30.1	-28.9	-2.4	-3.9
A1	orange	93.7	4.8	60.0	61.4	38.2	36.9	52.7	48.3
B2	purplish blue	89.2	6.0	39.5	40.7	11.5	8.3	-47.7	-42.9
C2	moderate red	99.9	1.2	49.5	50.6	49.1	48.9	11.2	10.7
D2	purple	96.5	2.0	30.2	31.3	22.8	22.2	-24.4	-22.9
E2	yellow green	91.7	5.5	70.5	72.0	-20.8	-21.1	53.3	48.1
F2	orange yellow	94.0	4.7	68.4	70.0	21.5	19.7	62.2	58.1
A3	blue	93.2	4.2	29.1	29.8	13.3	10.5	-50.9	-47.8
B3	green	92.4	4.3	53.7	55.1	-35.6	-35.8	30.4	26.3
C3	red	98.5	1.5	41.1	41.7	51.5	52.1	23.5	22.3
D3	yellow	93.7	5.5	78.0	79.7	6.2	4.5	74.1	69.2
E3	magenta	91.2	5.5	50.2	51.5	52.2	50.1	-19.0	-14.0
F3	cyan	94.6	2.7	51.6	52.8	-21.0	-22.0	-28.8	-26.7
A4	white	45.7	5.7	92.2	92.4	1.5	1.0	-3.2	2.4
B4	neutral 8	63.5	4.0	77.7	78.4	0.8	0.1	-4.1	-0.2
C4	neutral 6.5	77.6	3.0	64.8	66.2	1.3	0.8	-4.9	-2.3
D4	neutral 5	95.1	1.8	50.0	51.6	2.0	1.7	-3.3	-2.4
E4	neutral 3.5	100.0	1.5	36.6	38.0	2.2	2.0	-3.8	-3.8
F4	black	99.8	1.5	22.3	23.7	1.0	1.1	-3.0	-3.6
A5	paper white	30.4	7.1	95.7	95.8	1.5	1.0	-4.6	2.5
B5	Skin highlight L*=88	98.2	1.2	83.9	84.8	14.3	13.8	9.2	9.8
C5	Skin highlight L* =75	96.9	2.0	71.0	72.5	22.3	21.6	15.6	14.5
D5	Skin shadow L*=28	98.0	1.6	26.6	27.9	15.2	15.3	10.7	9.8
E5	Skin shadow L*=13	100.0	0.8	16.3	17.0	9.1	9.5	5.9	5.7
F5	Maximum Black	100.0	0.9	9.5	10.3	0.7	0.8	-0.6	-0.9

Summary Results	I* Color	I* tone	ΔE
Average Score for all patches	89.7	95.9	3.2
Worst 10% (3 lowest scoring patches)	46.5	91.4	6.2

70 Megalux hours

Epson Stylus Pro 3800, Inkjetfly IMA24/36 V3, Epson Exhibition Fiber 325gsm paper, no additional coating



Original Print Colors before light exposure

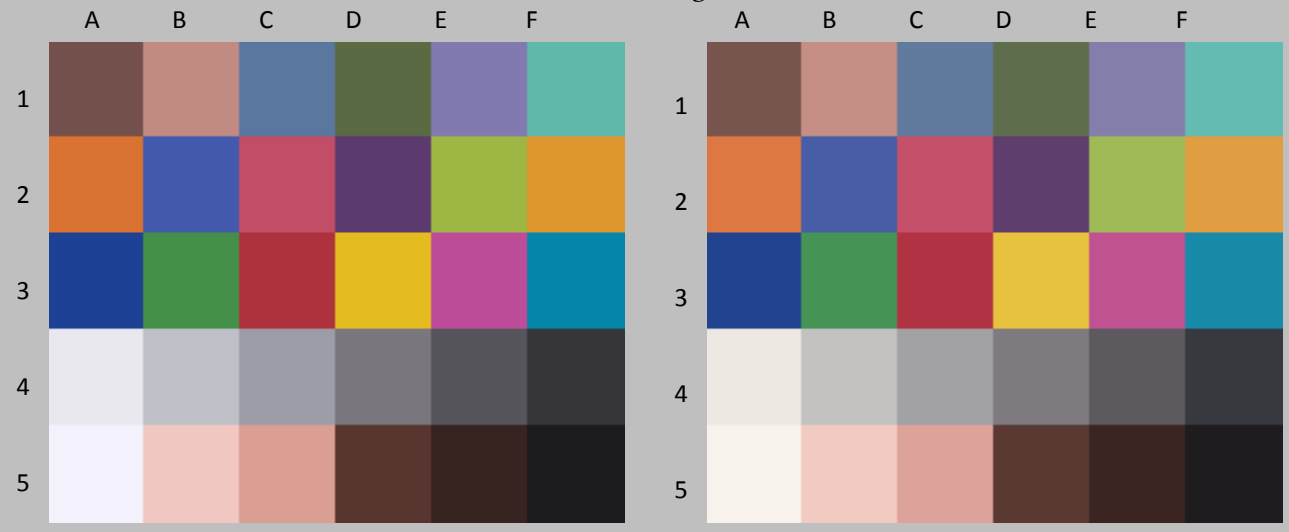
Colors After light exposure

				L*		a*		b*	
Patch #	Description	I* Color	ΔE	Before	After	Before	After	Before	After
A1	Dark Skin	98.2	1.8	38.1	39.7	15.3	15.1	9.4	8.6
B1	Light Skin	98.6	1.6	63.2	64.6	20.3	19.6	13.9	13.4
C1	Blue sky	87.9	3.9	49.0	50.5	-2.0	-3.5	-25.5	-22.3
D1	Foliage	90.1	3.1	42.8	44.1	-11.7	-11.5	19.7	16.9
E1	blue flower	83.2	5.8	53.2	54.6	11.6	9.5	-28.1	-22.9
F1	bluish green	94.6	2.4	69.0	70.0	-30.1	-28.8	-2.4	-4.1
A1	orange	92.4	5.7	60.0	61.5	38.2	36.7	52.7	47.5
B2	purplish blue	88.5	6.3	39.5	40.8	11.5	8.1	-47.7	-42.6
C2	moderate red	99.6	1.5	49.5	50.7	49.1	48.8	11.2	10.6
D2	purple	95.9	2.2	30.2	31.4	22.8	22.2	-24.4	-22.7
E2	yellow green	90.0	6.4	70.5	72.2	-20.8	-21.2	53.3	47.1
F2	orange yellow	92.6	5.7	68.4	70.2	21.5	19.5	62.2	57.1
A3	blue	92.5	4.5	29.1	29.9	13.3	10.3	-50.9	-47.5
B3	green	91.2	4.9	53.7	55.3	-35.6	-35.8	30.4	25.8
C3	red	98.4	1.6	41.1	41.8	51.5	52.0	23.5	22.2
D3	yellow	92.3	6.5	78.0	79.9	6.2	4.3	74.1	68.2
E3	magenta	90.4	6.0	50.2	51.6	52.2	49.9	-19.0	-13.6
F3	cyan	93.9	3.0	51.6	53.0	-21.0	-22.1	-28.8	-26.4
A4	white	40.7	6.1	92.2	92.4	1.5	0.8	-3.2	2.9
B4	neutral 8	60.8	4.3	77.7	78.5	0.8	0.0	-4.1	0.1
C4	neutral 6.5	76.1	3.2	64.8	66.4	1.3	0.7	-4.9	-2.2
D4	neutral 5	93.6	2.0	50.0	51.7	2.0	1.6	-3.3	-2.3
E4	neutral 3.5	100.0	1.7	36.6	38.2	2.2	1.9	-3.8	-3.8
F4	black	99.2	1.6	22.3	23.8	1.0	1.1	-3.0	-3.6
A5	paper white	23.4	7.8	95.7	95.8	1.5	0.8	-4.6	3.2
B5	Skin highlight L*=88	98.2	1.3	83.9	84.9	14.3	13.7	9.2	9.8
C5	Skin highlight L* =75	96.7	2.1	71.0	72.6	22.3	21.5	15.6	14.4
D5	Skin shadow L*=28	97.0	1.8	26.6	28.0	15.2	15.4	10.7	9.6
E5	Skin shadow L*=13	100.0	0.9	16.3	17.1	9.1	9.5	5.9	5.7
F5	Maximum Black	100.0	0.9	9.5	10.3	0.7	0.8	-0.6	-0.9

Summary Results	I* Color	I* tone	ΔE
Average Score for all patches	88.5	95.5	3.5
Worst 10% (3 lowest scoring patches)	41.6	91.0	6.9

80 Megalux hours

Epson Stylus Pro 3800, Inkjetfly IMA24/36 V3, Epson Exhibition Fiber 325gsm paper, no additional coating



Original Print Colors before light exposure

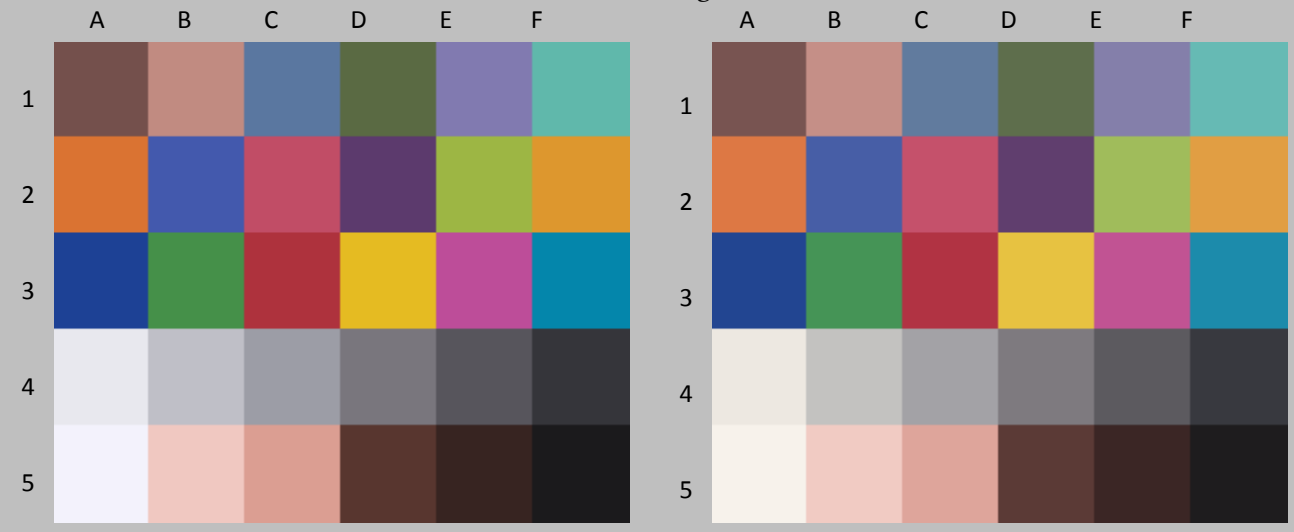
Colors After light exposure

Patch #	Description	I* Color	ΔE	L* Before	L* After	a* Before	a* After	b* Before	b* After
A1	Dark Skin	98.2	1.9	38.1	39.8	15.3	15.1	9.4	8.6
B1	Light Skin	99.2	1.6	63.2	64.7	20.3	19.7	13.9	13.5
C1	Blue sky	86.0	4.4	49.0	50.5	-2.0	-3.4	-25.5	-21.7
D1	Foliage	89.7	3.2	42.8	44.2	-11.7	-11.4	19.7	16.8
E1	blue flower	81.0	6.5	53.2	54.7	11.6	9.4	-28.1	-22.2
F1	bluish green	93.5	2.7	69.0	70.0	-30.1	-28.7	-2.4	-4.5
A1	orange	91.9	6.0	60.0	61.6	38.2	36.8	52.7	47.1
B2	purplish blue	86.6	7.2	39.5	40.9	11.5	7.7	-47.7	-41.8
C2	moderate red	99.7	1.5	49.5	50.8	49.1	48.7	11.2	10.7
D2	purple	94.5	2.6	30.2	31.5	22.8	22.0	-24.4	-22.3
E2	yellow green	88.6	7.2	70.5	72.3	-20.8	-21.1	53.3	46.3
F2	orange yellow	91.4	6.5	68.4	70.3	21.5	19.6	62.2	56.3
A3	blue	91.1	5.3	29.1	30.0	13.3	9.9	-50.9	-46.9
B3	green	90.2	5.3	53.7	55.3	-35.6	-35.7	30.4	25.3
C3	red	98.2	1.7	41.1	41.8	51.5	51.9	23.5	22.0
D3	yellow	91.2	7.3	78.0	79.9	6.2	4.2	74.1	67.3
E3	magenta	89.2	6.6	50.2	51.6	52.2	49.8	-19.0	-12.9
F3	cyan	92.0	3.6	51.6	53.0	-21.0	-22.2	-28.8	-25.7
A4	white	31.1	7.0	92.2	92.2	1.5	0.7	-3.2	3.8
B4	neutral 8	54.8	4.8	77.7	78.4	0.8	-0.1	-4.1	0.6
C4	neutral 6.5	71.0	3.6	64.8	66.3	1.3	0.7	-4.9	-1.7
D4	neutral 5	89.4	2.2	50.0	51.7	2.0	1.6	-3.3	-1.9
E4	neutral 3.5	100.0	1.8	36.6	38.3	2.2	1.8	-3.8	-3.4
F4	black	99.8	1.6	22.3	23.8	1.0	1.0	-3.0	-3.6
A5	paper white	15.7	8.5	95.7	95.6	1.5	0.7	-4.6	3.9
B5	Skin highlight L*=88	97.0	1.3	83.9	84.7	14.3	13.5	9.2	9.8
C5	Skin highlight L* =75	96.0	2.3	71.0	72.7	22.3	21.4	15.6	14.3
D5	Skin shadow L*=28	96.5	1.8	26.6	28.0	15.2	15.4	10.7	9.5
E5	Skin shadow L*=13	99.1	1.1	16.3	17.2	9.1	9.6	5.9	5.6
F5	Maximum Black	100.0	1.0	9.5	10.4	0.7	0.9	-0.6	-1.0

Summary Results	I* Color	I* tone	ΔE
Average Score for all patches	86.7	95.2	3.9
Worst 10% (3 lowest scoring patches)	33.9	90.3	7.7

90 Megalux hours

Epson Stylus Pro 3800, Inkjetfly IMA24/36 V3, Epson Exhibition Fiber 325gsm paper, no additional coating



Original Print Colors before light exposure

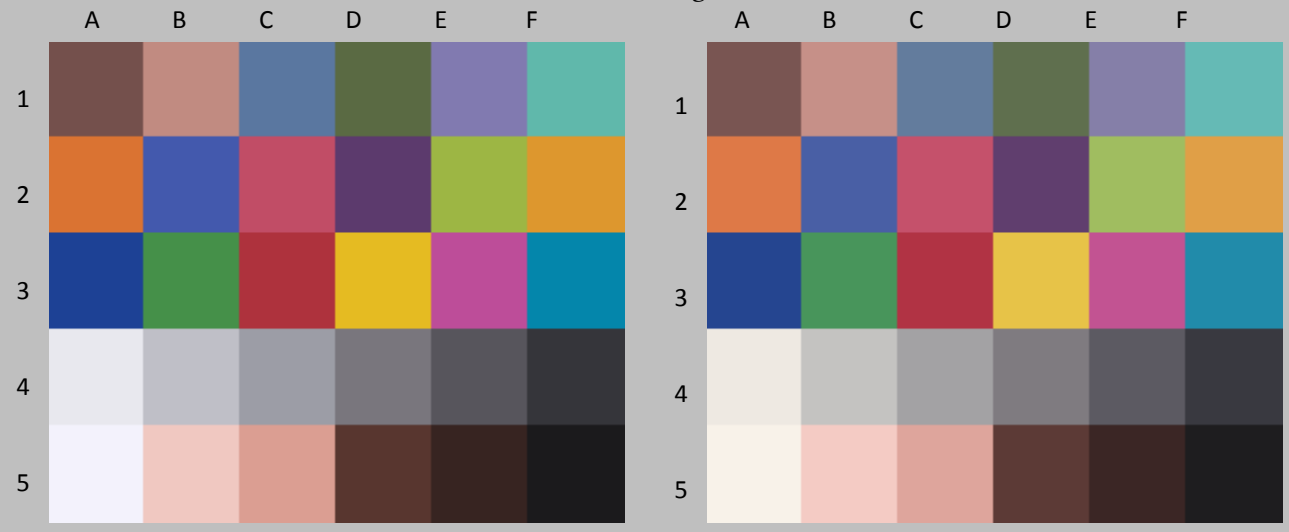
Colors After light exposure

				L*		a*		b*	
Patch #	Description	I* Color	ΔE	Before	After	Before	After	Before	After
A1	Dark Skin	97.5	1.9	38.1	39.8	15.3	15.1	9.4	8.5
B1	Light Skin	98.6	1.7	63.2	64.7	20.3	19.7	13.9	13.3
C1	Blue sky	85.4	4.6	49.0	50.7	-2.0	-3.4	-25.5	-21.5
D1	Foliage	88.5	3.5	42.8	44.3	-11.7	-11.3	19.7	16.5
E1	blue flower	80.0	6.8	53.2	54.9	11.6	9.3	-28.1	-22.0
F1	bluish green	91.7	3.2	69.0	70.2	-30.1	-28.5	-2.4	-5.0
A1	orange	90.8	6.7	60.0	61.7	38.2	36.7	52.7	46.4
B2	purplish blue	86.2	7.4	39.5	40.9	11.5	7.6	-47.7	-41.6
C2	moderate red	99.3	1.6	49.5	50.8	49.1	48.8	11.2	10.5
D2	purple	94.3	2.8	30.2	31.6	22.8	22.0	-24.4	-22.2
E2	yellow green	87.1	8.1	70.5	72.5	-20.8	-21.0	53.3	45.4
F2	orange yellow	90.2	7.2	68.4	70.4	21.5	19.5	62.2	55.5
A3	blue	90.5	5.6	29.1	30.1	13.3	9.7	-50.9	-46.7
B3	green	89.0	5.9	53.7	55.5	-35.6	-35.6	30.4	24.7
C3	red	97.6	2.0	41.1	41.9	51.5	52.0	23.5	21.8
D3	yellow	89.7	8.4	78.0	80.1	6.2	4.1	74.1	66.2
E3	magenta	88.8	6.9	50.2	51.7	52.2	49.8	-19.0	-12.7
F3	cyan	91.7	3.8	51.6	53.2	-21.0	-22.2	-28.8	-25.6
A4	white	28.6	7.3	92.2	92.3	1.5	0.8	-3.2	4.0
B4	neutral 8	53.7	5.0	77.7	78.6	0.8	-0.1	-4.1	0.7
C4	neutral 6.5	70.7	3.7	64.8	66.5	1.3	0.7	-4.9	-1.7
D4	neutral 5	89.3	2.4	50.0	51.9	2.0	1.7	-3.3	-1.9
E4	neutral 3.5	100.0	2.0	36.6	38.5	2.2	1.8	-3.8	-3.5
F4	black	99.5	1.8	22.3	24.1	1.0	1.1	-3.0	-3.6
A5	paper white	11.2	8.9	95.7	95.7	1.5	0.7	-4.6	4.3
B5	Skin highlight L*=88	97.6	1.4	83.9	84.9	14.3	13.4	9.2	9.5
C5	Skin highlight L* =75	95.2	2.5	71.0	72.8	22.3	21.4	15.6	14.0
D5	Skin shadow L*=28	95.5	2.1	26.6	28.2	15.2	15.5	10.7	9.4
E5	Skin shadow L*=13	98.4	1.3	16.3	17.5	9.1	9.6	5.9	5.5
F5	Maximum Black	100.0	1.3	9.5	10.7	0.7	1.1	-0.6	-0.9

Summary Results	I* Color	I* tone	ΔE
Average Score for all patches	85.9	94.9	4.3
Worst 10% (3 lowest scoring patches)	31.2	90.4	8.5

100 Megalux hours

Epson Stylus Pro 3800, Inkjetfly IMA24/36 V3, Epson Exhibition Fiber 325gsm paper, no additional coating



Original Print Colors before light exposure

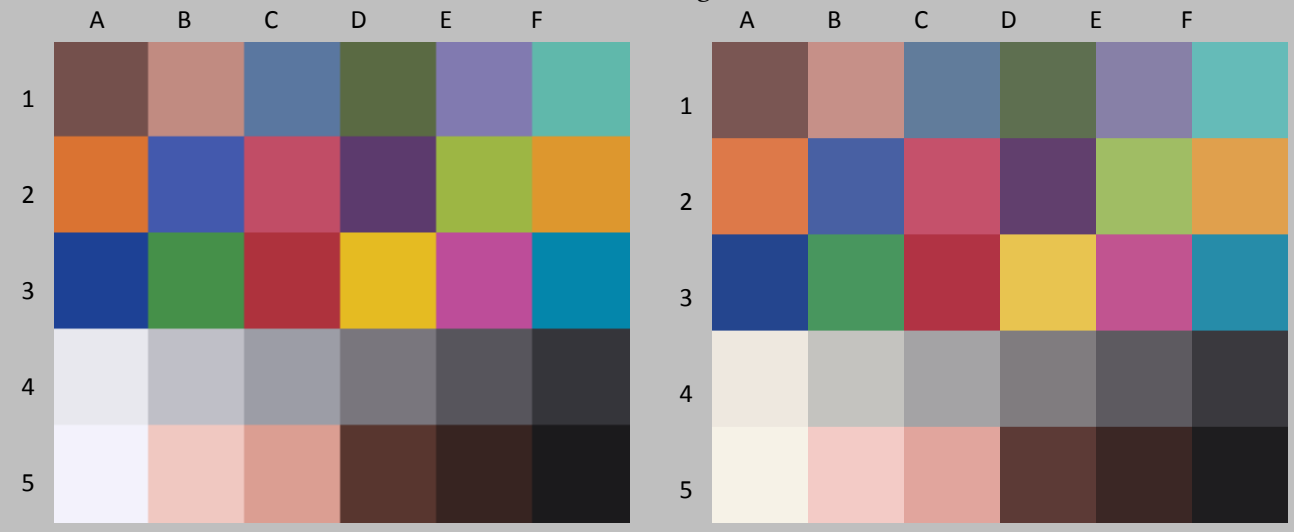
Colors After light exposure

				L*		a*		b*	
Patch #	Description	I* Color	ΔE	Before	After	Before	After	Before	After
A1	Dark Skin	96.1	2.3	38.1	40.1	15.3	15.2	9.4	8.2
B1	Light Skin	96.6	2.2	63.2	65.0	20.3	19.8	13.9	12.7
C1	Blue sky	84.0	5.0	49.0	50.9	-2.0	-3.5	-25.5	-21.2
D1	Foliage	84.9	4.3	42.8	44.6	-11.7	-11.2	19.7	15.7
E1	blue flower	78.3	7.3	53.2	55.1	11.6	9.3	-28.1	-21.4
F1	bluish green	88.4	4.2	69.0	70.3	-30.1	-28.0	-2.4	-5.8
A1	orange	88.9	8.0	60.0	62.0	38.2	36.7	52.7	45.1
B2	purplish blue	85.3	7.9	39.5	41.2	11.5	7.6	-47.7	-41.1
C2	moderate red	98.9	1.9	49.5	51.1	49.1	48.8	11.2	10.3
D2	purple	93.6	3.1	30.2	31.8	22.8	22.0	-24.4	-21.9
E2	yellow green	82.7	10.6	70.5	72.8	-20.8	-21.0	53.3	43.0
F2	orange yellow	87.5	9.1	68.4	70.8	21.5	19.4	62.2	53.7
A3	blue	89.6	6.1	29.1	30.3	13.3	9.5	-50.9	-46.3
B3	green	85.6	7.5	53.7	55.8	-35.6	-35.4	30.4	23.1
C3	red	97.0	2.4	41.1	42.1	51.5	52.1	23.5	21.4
D3	yellow	86.3	10.9	78.0	80.5	6.2	3.9	74.1	63.7
E3	magenta	87.6	7.6	50.2	51.9	52.2	49.6	-19.0	-12.0
F3	cyan	91.3	4.1	51.6	53.4	-21.0	-22.1	-28.8	-25.4
A4	white	25.6	7.6	92.2	92.4	1.5	0.8	-3.2	4.3
B4	neutral 8	50.5	5.3	77.7	78.7	0.8	-0.1	-4.1	1.0
C4	neutral 6.5	67.6	4.0	64.8	66.7	1.3	0.7	-4.9	-1.4
D4	neutral 5	89.3	2.6	50.0	52.2	2.0	1.7	-3.3	-1.8
E4	neutral 3.5	100.0	2.1	36.6	38.7	2.2	2.0	-3.8	-3.6
F4	black	98.4	2.0	22.3	24.3	1.0	1.2	-3.0	-3.7
A5	paper white	3.9	9.6	95.7	95.7	1.5	0.6	-4.6	5.0
B5	Skin highlight L*=88	97.4	1.6	83.9	85.1	14.3	13.5	9.2	8.6
C5	Skin highlight L* =75	92.6	3.2	71.0	73.1	22.3	21.5	15.6	13.2
D5	Skin shadow L*=28	94.2	2.4	26.6	28.4	15.2	15.5	10.7	9.1
E5	Skin shadow L*=13	97.7	1.5	16.3	17.6	9.1	9.7	5.9	5.5
F5	Maximum Black	100.0	1.5	9.5	11.0	0.7	0.9	-0.6	-1.0

Summary Results	I* Color	I* tone	ΔE
Average Score for all patches	84.0	94.2	4.9
Worst 10% (3 lowest scoring patches)	26.7	89.4	10.4

120 Megalux hours

Epson Stylus Pro 3800, Inkjetfly IMA24/36 V3, Epson Exhibition Fiber 325gsm paper, no additional coating



Original Print Colors before light exposure

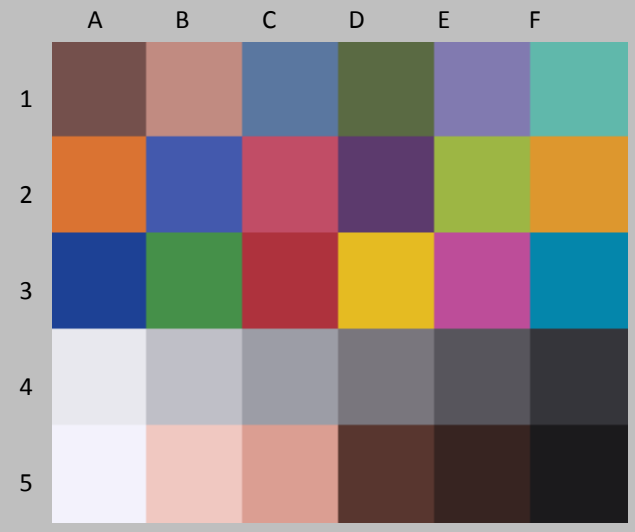
Colors After light exposure

Patch #	Description	I* Color	ΔE	L* Before	L* After	a* Before	a* After	b* Before	b* After
A1	Dark Skin	96.6	2.5	38.1	40.4	15.3	15.3	9.4	8.3
B1	Light Skin	97.2	2.3	63.2	65.2	20.3	20.0	13.9	12.8
C1	Blue sky	80.6	5.9	49.0	51.1	-2.0	-3.6	-25.5	-20.3
D1	Foliage	83.6	4.6	42.8	44.7	-11.7	-11.1	19.7	15.5
E1	blue flower	74.4	8.5	53.2	55.3	11.6	9.1	-28.1	-20.2
F1	bluish green	85.5	5.1	69.0	70.5	-30.1	-27.6	-2.4	-6.7
A1	orange	87.0	9.2	60.0	62.0	38.2	36.8	52.7	43.9
B2	purplish blue	82.4	9.3	39.5	41.3	11.5	6.9	-47.7	-39.8
C2	moderate red	99.0	2.0	49.5	51.1	49.1	48.7	11.2	10.3
D2	purple	91.1	3.9	30.2	32.0	22.8	21.7	-24.4	-21.1
E2	yellow green	78.5	13.0	70.5	73.1	-20.8	-20.5	53.3	40.6
F2	orange yellow	84.6	10.9	68.4	70.9	21.5	19.4	62.2	51.7
A3	blue	87.2	7.3	29.1	30.4	13.3	8.8	-50.9	-45.2
B3	green	83.0	8.8	53.7	55.9	-35.6	-35.1	30.4	21.9
C3	red	96.2	2.9	41.1	42.1	51.5	51.8	23.5	20.9
D3	yellow	82.8	13.6	78.0	80.6	6.2	3.9	74.1	61.0
E3	magenta	85.5	8.7	50.2	51.9	52.2	49.4	-19.0	-10.9
F3	cyan	88.5	5.0	51.6	53.6	-21.0	-22.3	-28.8	-24.5
A4	white	14.9	8.6	92.2	92.3	1.5	0.7	-3.2	5.3
B4	neutral 8	42.6	6.0	77.7	78.7	0.8	-0.1	-4.1	1.8
C4	neutral 6.5	60.1	4.8	64.8	66.9	1.3	0.7	-4.9	-0.7
D4	neutral 5	82.6	3.2	50.0	52.4	2.0	1.7	-3.3	-1.2
E4	neutral 3.5	97.6	2.4	36.6	38.9	2.2	2.0	-3.8	-3.1
F4	black	100.0	2.2	22.3	24.5	1.0	1.2	-3.0	-3.4
A5	paper white	(8.8)	10.8	95.7	95.6	1.5	0.4	-4.6	6.2
B5	Skin highlight L*=88	96.0	1.7	83.9	85.1	14.3	13.7	9.2	8.2
C5	Skin highlight L* =75	90.8	3.7	71.0	73.2	22.3	21.5	15.6	12.7
D5	Skin shadow L*=28	93.7	2.6	26.6	28.6	15.2	15.5	10.7	9.0
E5	Skin shadow L*=13	98.4	1.8	16.3	18.0	9.1	9.6	5.9	5.5
F5	Maximum Black	100.0	1.7	9.5	11.2	0.7	1.0	-0.6	-0.9

Summary Results	I* Color	I* tone	ΔE
Average Score for all patches	81.1	93.5	5.8
Worst 10% (3 lowest scoring patches)	16.2	87.6	12.5

140 Megalux hours

This test had been completed - no more updates



Original Print Colors before light exposure



Colors After light exposure

Patch #	Description	I* Color	ΔE	L* Before	L* After	a* Before	a* After	b* Before	b* After
A1	Dark Skin			38.1		15.3		9.4	
B1	Light Skin			63.2		20.3		13.9	
C1	Blue sky			49.0		-2.0		-25.5	
D1	Foliage			42.8		-11.7		19.7	
E1	blue flower			53.2		11.6		-28.1	
F1	bluish green			69.0		-30.1		-2.4	
A1	orange			60.0		38.2		52.7	
B2	purplish blue			39.5		11.5		-47.7	
C2	moderate red			49.5		49.1		11.2	
D2	purple			30.2		22.8		-24.4	
E2	yellow green			70.5		-20.8		53.3	
F2	orange yellow			68.4		21.5		62.2	
A3	blue			29.1		13.3		-50.9	
B3	green			53.7		-35.6		30.4	
C3	red			41.1		51.5		23.5	
D3	yellow			78.0		6.2		74.1	
E3	magenta			50.2		52.2		-19.0	
F3	cyan			51.6		-21.0		-28.8	
A4	white			92.2		1.5		-3.2	
B4	neutral 8			77.7		0.8		-4.1	
C4	neutral 6.5			64.8		1.3		-4.9	
D4	neutral 5			50.0		2.0		-3.3	
E4	neutral 3.5			36.6		2.2		-3.8	
F4	black			22.3		1.0		-3.0	
A5	paper white			95.7		1.5		-4.6	
B5	Skin highlight L*=88			83.9		14.3		9.2	
C5	Skin highlight L* =75			71.0		22.3		15.6	
D5	Skin shadow L*=28			26.6		15.2		10.7	
E5	Skin shadow L*=13			16.3		9.1		5.9	
F5	Maximum Black			9.5		0.7		-0.6	
Summary Results		I* Color	I* tone	ΔE					
Average Score for all patches									
Worst 10% (3 lowest scoring patches)									

160 Megalux hours