Aardenburg
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IMAGING & ARCHIVES

Tested System:
ID#:307

Printer: Canon Pixma Pro-100

Inks/Colorants: Canon Chromalife 100+ (8-color ink set CIi-42)

Media: Canon Photo Paper Plus Glossy II PP-201

Coating(s): no additional coating

Sample #: AaI_20131001_SN013

Testing Status: 120 Megalux hours total light exposure

Testing Is ongoing, next update on approximately DEC 20, 2017

Conservation Display Rating (CDR)

Lower limit: 23 Megalux hours (for weakest 10% of the color patches)
Upper limit: 48 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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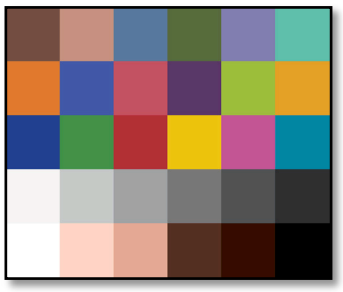
Aardenburg Imaging & Archives

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_20131001_SN013** **Batch #:** M1c
Printer: Canon Pixma Pro-100
Ink: Canon Chromalife 100+ (8-color ink set CIi-42)
Media: Canon Photo Paper Plus Glossy II PP-201
Coating(s): no additional coating

Test Print Prepared by: AaI&A
Printed: October 1, 2013
Initial Print colors measured December 10, 2013
Test Started: December 10, 2013

Test Image: AaI_StandardColorSet(v2)forSRGB.tif
RIP?Driver settings: PSCC, Canon OEM driver, ps manages colors, 16bit, quality = 1 (finest)

Media Setting Photo Paper Plus Glossy II

Profile: Canon Pro-100<GL><PP>1/2 Photo Paper Plus Gloss **Rendering** Perceptual
Profile type: generic, available through OEM driver

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

Optical Brighteners Present? *yes (low)*	**L***		**a***		**b***	
Media Whitepoint Color	UV inc	UV exc	UV inc	UV exc	UV inc	UV exc
	95.2	95.3	-0.3	-0.7	-3.9	-2.4
	UV-inc/UV-exc ΔL*, Δa*, Δb* respectively					
	0.2		0.4		1.5	
	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)		
	4.9	-0.5	-2.6	2.27		

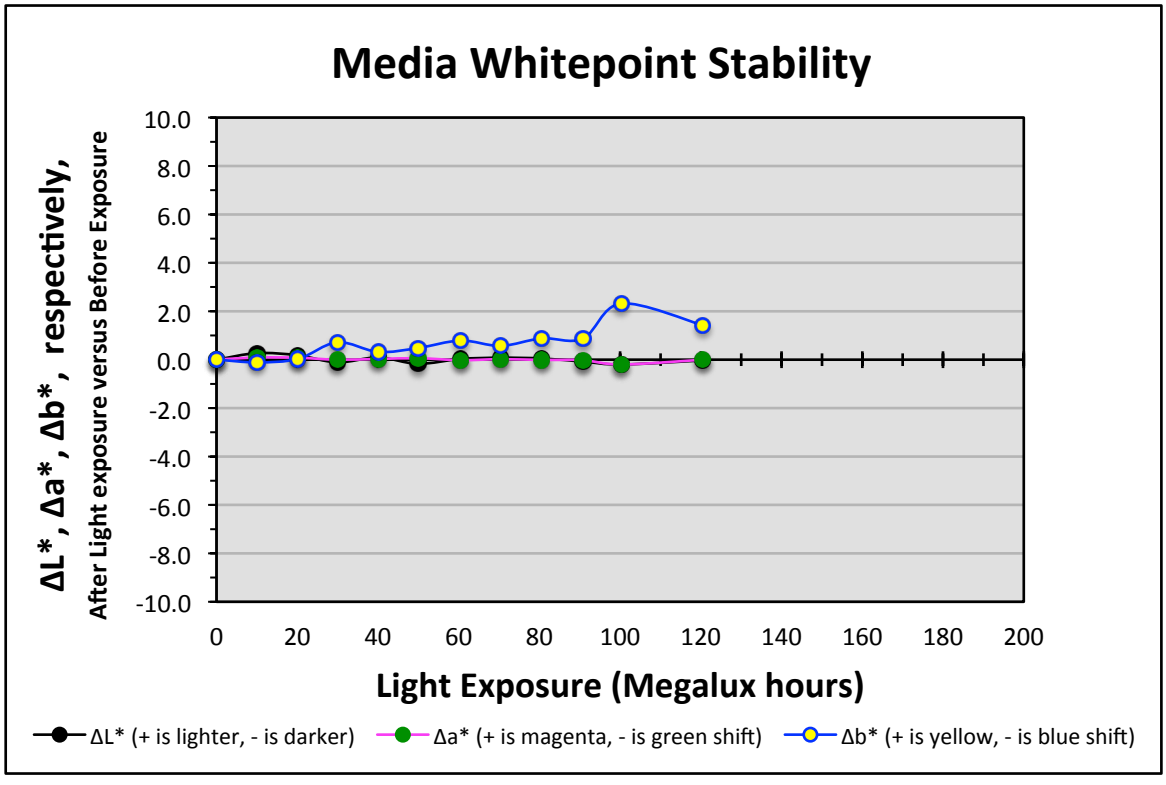
Light source: Phillips Colortone F40T12/C50 – 5000˚K full spectrum fluorescent. Color rendering Index (CRI) =92), soda lime glass filtered
Light Exposure Cycle: 8 hours on, 4 hours off, twice per 24 hours
CIELAB measurements: D50 2˚ observer, Xrite Gretag/Macbeth Spectrolino/Spectroscan

Average Illuminance during "on" cycle: **10727 Lux**
Average Temperature: 24.4˚C over full test duration, 25.6˚C during light exposure.
Average Relative humidity: 56.5%RH over full test duration, 56.6%RH during light exposure.

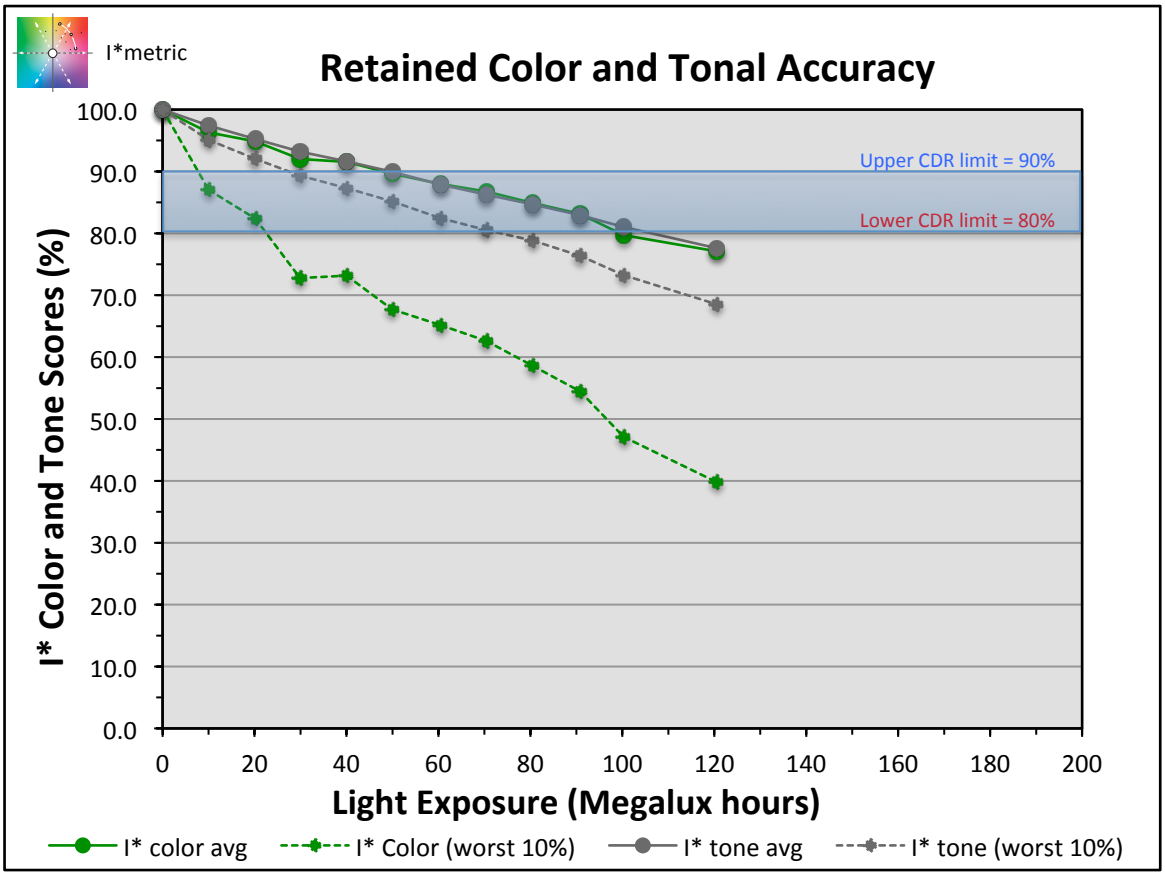
Notes/Comments:

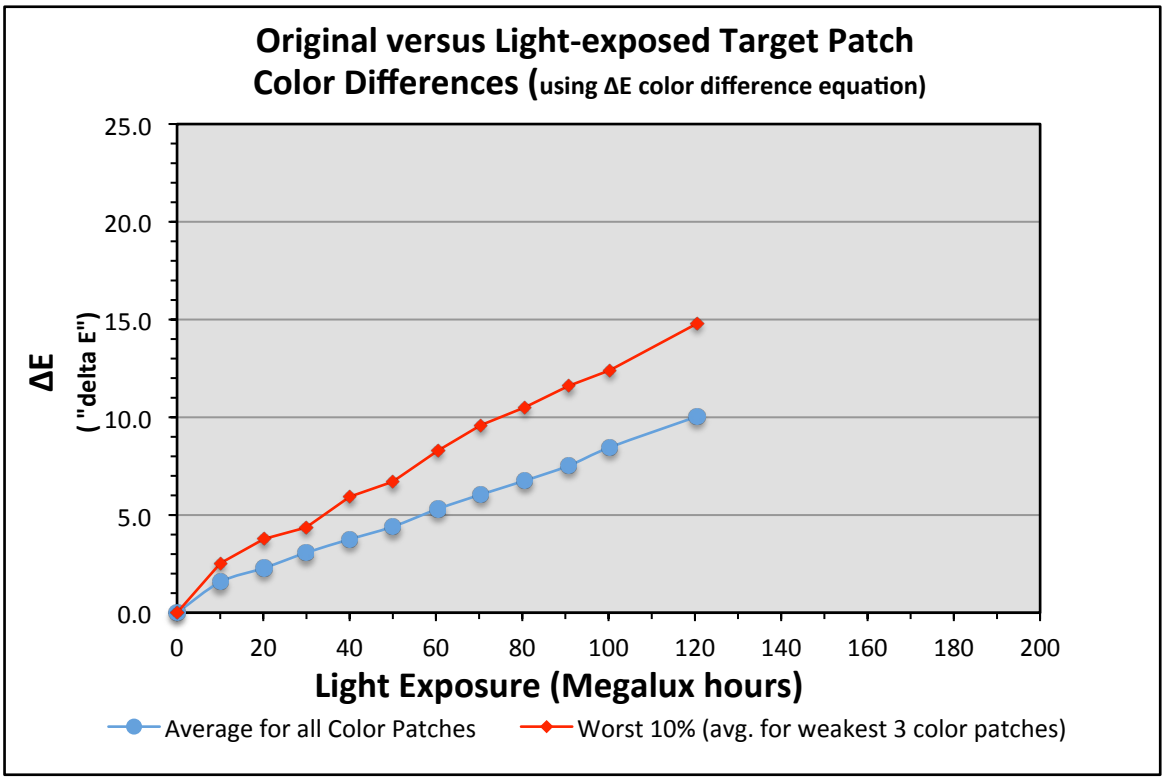
Graphs:

Canon Pixma Pro-100, Canon Chromalife 100+ (8-color ink set CIi-42), Canon Photo Paper Plus Glossy II PP-201, no additional coating

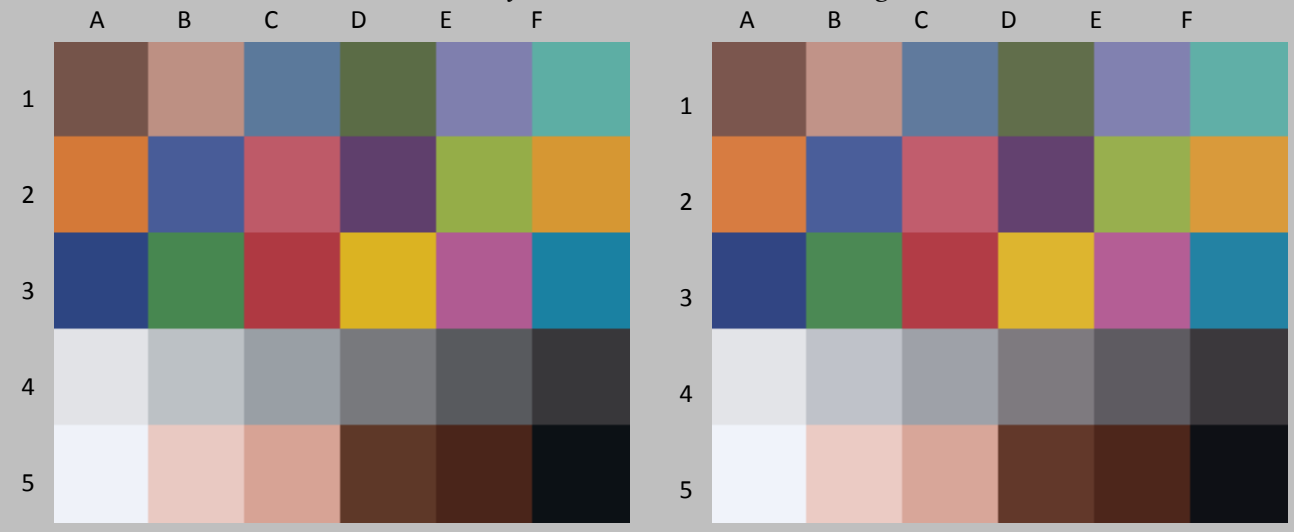


Canon Pixma Pro-100, Canon Chromalife 100+ (8-color ink set CIi-42), Canon Photo Paper Plus Glossy II PP-201, no additional coating





Canon Pixma Pro-100, Canon Chromalife 100+ (8-color ink set CIi-42), Canon Photo Paper Plus Glossy II PP-201, no additional coating



Original Print Colors before light exposure

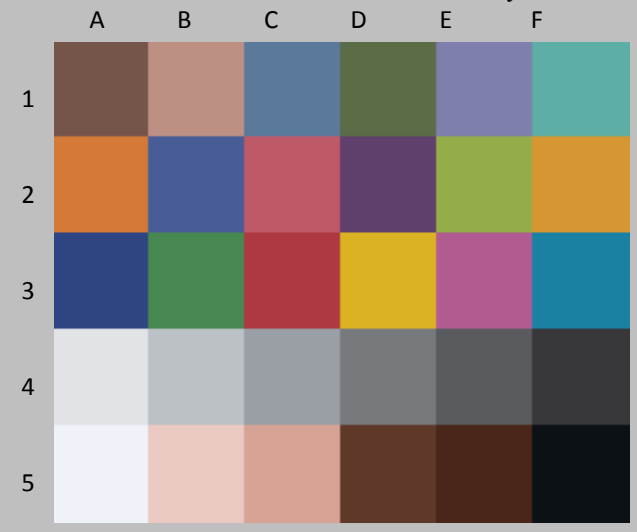
Colors After light exposure

				L*		a*		b*	
Patch #	Description	I* Color	ΔE	Before	After	Before	After	Before	After
A1	Dark Skin	93.7	2.0	39.2	40.4	13.3	14.9	11.5	11.2
B1	Light Skin	96.6	1.7	64.0	65.1	16.2	17.0	13.7	12.8
C1	Blue sky	98.1	1.2	49.3	50.1	-4.2	-3.3	-22.4	-22.5
D1	Foliage	94.2	2.0	43.7	44.6	-12.1	-10.5	19.2	18.4
E1	blue flower	99.6	1.1	54.4	55.3	7.9	8.4	-24.7	-24.6
F1	bluish green	97.0	1.5	65.8	66.4	-28.1	-27.1	-2.7	-3.6
A1	orange	97.0	2.5	60.5	61.5	33.3	33.1	49.7	47.4
B2	purplish blue	100.0	0.8	39.5	40.2	5.6	6.1	-36.4	-36.4
C2	moderate red	97.6	1.9	51.4	52.5	41.6	42.1	12.1	10.7
D2	purple	97.8	1.5	31.8	32.8	21.0	22.1	-21.2	-21.2
E2	yellow green	96.1	2.7	67.5	68.3	-20.1	-19.4	48.0	45.6
F2	orange yellow	97.3	2.4	67.4	68.4	18.3	18.2	59.3	57.1
A3	blue	100.0	0.9	29.6	30.4	7.2	7.7	-38.4	-38.5
B3	green	95.8	2.3	51.0	51.8	-30.6	-29.6	23.4	21.6
C3	red	97.7	2.0	42.4	43.4	48.7	49.5	23.4	21.9
D3	yellow	97.5	2.4	74.9	75.8	6.4	6.3	70.5	68.3
E3	magenta	99.8	1.4	50.5	51.7	40.5	41.0	-13.8	-14.1
F3	cyan	98.9	1.1	49.6	50.3	-19.8	-19.0	-25.5	-25.6
A4	white	100.0	0.6	90.1	90.6	-0.1	0.2	-2.2	-2.4
B4	neutral 8	95.0	1.3	77.6	78.4	-1.4	-0.5	-3.3	-3.5
C4	neutral 6.5	90.9	1.7	65.2	66.2	-1.4	0.0	-3.8	-4.0
D4	neutral 5	87.6	2.0	50.8	51.9	0.3	2.0	-1.9	-2.1
E4	neutral 3.5	85.9	2.1	38.1	39.1	0.3	2.2	-2.5	-2.6
F4	black	87.6	1.8	23.2	23.9	0.5	2.2	-2.4	-2.3
A5	paper white	100.0	0.3	95.4	95.6	-0.1	0.0	-3.7	-3.8
B5	Skin highlight L*=88	98.8	1.0	83.5	84.2	10.6	10.6	8.5	7.8
C5	Skin highlight L* =75	97.8	1.4	71.6	72.6	17.6	18.0	14.8	13.9
D5	Skin shadow L*=28	95.2	1.9	27.9	28.8	16.5	18.1	17.0	17.2
E5	Skin shadow L*=13	95.5	1.7	19.8	20.5	16.8	18.1	15.4	16.0
F5	Maximum Black	100.0	0.1	4.9	4.8	-0.5	-0.5	-2.6	-2.6

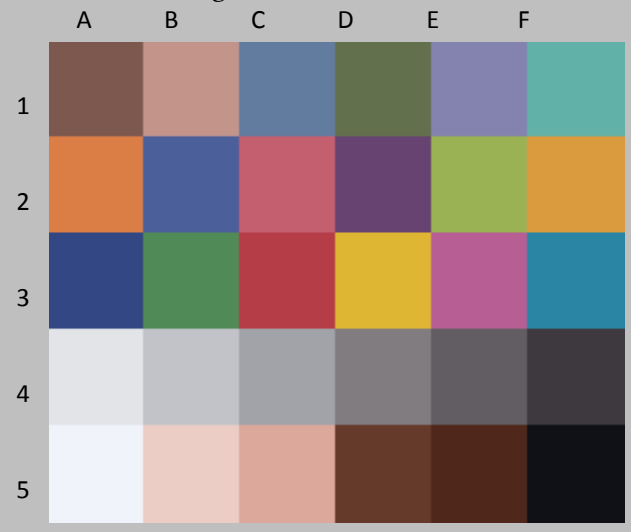
Summary Results	I* Color	I* tone	ΔE
Average Score for all patches	96.3	97.4	1.6
Worst 10% (3 lowest scoring patches)	87.0	95.1	2.5

10 Megalux hours

Canon Pixma Pro-100, Canon Chromalife 100+ (8-color ink set CIi-42), Canon Photo Paper Plus Glossy II PP-201, no additional coating



Original Print Colors before light exposure



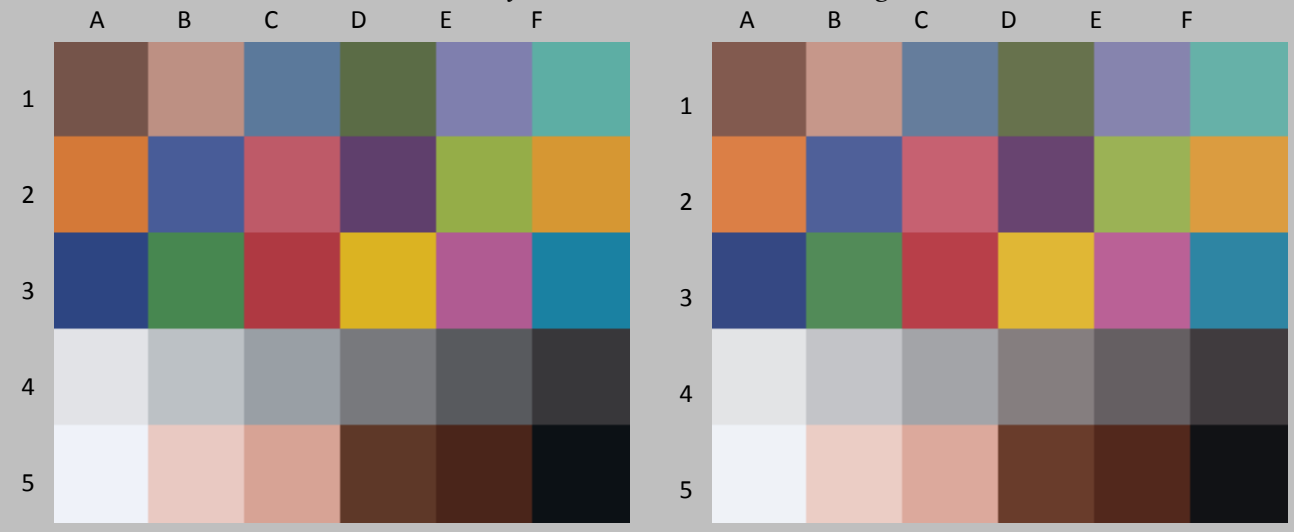
Colors After light exposure

				L*		a*		b*	
Patch #	Description	I* Color	ΔE	Before	After	Before	After	Before	After
A1	Dark Skin	91.5	2.9	39.2	41.3	13.3	15.3	11.5	11.6
B1	Light Skin	96.2	2.3	64.0	65.9	16.2	17.2	13.7	12.9
C1	Blue sky	97.2	1.9	49.3	50.8	-4.2	-3.2	-22.4	-21.8
D1	Foliage	92.7	2.8	43.7	45.5	-12.1	-10.1	19.2	18.5
E1	blue flower	98.3	1.7	54.4	55.9	7.9	8.5	-24.7	-23.9
F1	bluish green	96.0	2.0	65.8	66.9	-28.1	-26.8	-2.7	-3.6
A1	orange	95.4	3.7	60.5	62.2	33.3	33.1	49.7	46.5
B2	purplish blue	99.1	1.5	39.5	40.8	5.6	6.0	-36.4	-35.6
C2	moderate red	97.2	2.6	51.4	53.3	41.6	42.3	12.1	10.6
D2	purple	96.4	2.4	31.8	33.6	21.0	22.4	-21.2	-20.4
E2	yellow green	93.7	4.0	67.5	68.9	-20.1	-19.2	48.0	44.4
F2	orange yellow	95.9	3.5	67.4	69.1	18.3	18.2	59.3	56.2
A3	blue	99.6	1.4	29.6	30.9	7.2	7.6	-38.4	-37.9
B3	green	93.7	3.3	51.0	52.5	-30.6	-29.2	23.4	20.9
C3	red	97.2	2.7	42.4	44.3	48.7	49.6	23.4	21.7
D3	yellow	96.0	3.6	74.9	76.3	6.4	6.2	70.5	67.2
E3	magenta	99.7	2.2	50.5	52.6	40.5	41.0	-13.8	-13.4
F3	cyan	98.3	1.7	49.6	50.9	-19.8	-18.9	-25.5	-25.0
A4	white	100.0	0.7	90.1	90.7	-0.1	0.2	-2.2	-2.1
B4	neutral 8	94.6	1.6	77.6	78.9	-1.4	-0.4	-3.3	-3.1
C4	neutral 6.5	89.2	2.3	65.2	66.9	-1.4	0.1	-3.8	-3.5
D4	neutral 5	84.4	2.8	50.8	52.7	0.3	2.2	-1.9	-1.5
E4	neutral 3.5	81.4	2.9	38.1	40.0	0.3	2.5	-2.5	-2.0
F4	black	81.4	2.7	23.2	24.6	0.5	2.7	-2.4	-1.9
A5	paper white	100.0	0.2	95.4	95.5	-0.1	0.0	-3.7	-3.7
B5	Skin highlight L*=88	98.1	1.3	83.5	84.5	10.6	10.4	8.5	7.7
C5	Skin highlight L* =75	97.6	1.9	71.6	73.3	17.6	18.0	14.8	13.8
D5	Skin shadow L*=28	92.4	2.9	27.9	29.6	16.5	18.6	17.0	17.8
E5	Skin shadow L*=13	92.2	2.7	19.8	21.2	16.8	18.7	15.4	16.5
F5	Maximum Black	100.0	0.3	4.9	5.2	-0.5	-0.4	-2.6	-2.6

Summary Results	I* Color	I* tone	ΔE
Average Score for all patches	94.9	95.3	2.3
Worst 10% (3 lowest scoring patches)	82.4	92.0	3.8

20 Megalux hours

Canon Pixma Pro-100, Canon Chromalife 100+ (8-color ink set CIi-42), Canon Photo Paper Plus Glossy II PP-201, no additional coating



Original Print Colors before light exposure

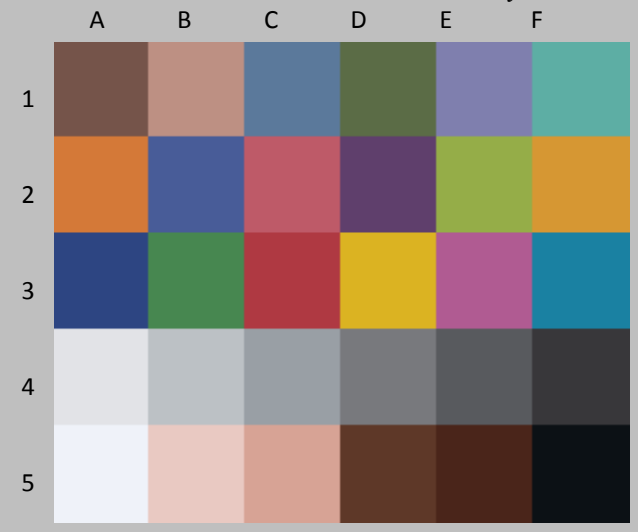
Colors After light exposure

				L*		a*		b*	
Patch #	Description	I* Color	ΔE	Before	After	Before	After	Before	After
A1	Dark Skin	88.2	4.0	39.2	42.2	13.3	15.6	11.5	12.6
B1	Light Skin	97.0	2.8	64.0	66.6	16.2	17.3	13.7	13.7
C1	Blue sky	92.5	3.1	49.3	51.4	-4.2	-3.1	-22.4	-20.5
D1	Foliage	90.5	3.7	43.7	46.2	-12.1	-9.5	19.2	19.0
E1	blue flower	93.3	3.0	54.4	56.4	7.9	8.4	-24.7	-22.5
F1	bluish green	95.6	2.2	65.8	67.2	-28.1	-26.4	-2.7	-3.1
A1	orange	95.3	4.1	60.5	62.8	33.3	32.9	49.7	46.4
B2	purplish blue	95.1	2.9	39.5	41.3	5.6	5.9	-36.4	-34.1
C2	moderate red	98.9	3.0	51.4	54.2	41.6	42.1	12.1	11.4
D2	purple	92.3	3.8	31.8	34.4	21.0	22.4	-21.2	-18.8
E2	yellow green	92.5	4.7	67.5	69.2	-20.1	-18.7	48.0	43.8
F2	orange yellow	95.4	4.0	67.4	69.5	18.3	18.1	59.3	55.9
A3	blue	96.0	2.7	29.6	31.4	7.2	7.4	-38.4	-36.4
B3	green	92.1	4.0	51.0	52.9	-30.6	-28.5	23.4	20.6
C3	red	98.6	3.0	42.4	45.1	48.7	49.5	23.4	22.4
D3	yellow	95.2	4.2	74.9	76.5	6.4	6.2	70.5	66.6
E3	magenta	96.7	3.5	50.5	53.4	40.5	40.7	-13.8	-11.9
F3	cyan	95.4	2.6	49.6	51.3	-19.8	-18.8	-25.5	-23.8
A4	white	96.2	1.0	90.1	90.6	-0.1	0.1	-2.2	-1.4
B4	neutral 8	88.8	2.2	77.6	79.1	-1.4	-0.5	-3.3	-2.1
C4	neutral 6.5	83.0	3.0	65.2	67.3	-1.4	0.2	-3.8	-2.4
D4	neutral 5	76.3	3.7	50.8	53.3	0.3	2.5	-1.9	-0.2
E4	neutral 3.5	72.2	4.1	38.1	40.7	0.3	2.9	-2.5	-0.7
F4	black	69.9	4.0	23.2	25.4	0.5	3.5	-2.4	-0.7
A5	paper white	97.7	0.7	95.4	95.3	-0.1	-0.1	-3.7	-3.0
B5	Skin highlight L*=88	100.0	1.2	83.5	84.6	10.6	10.3	8.5	8.2
C5	Skin highlight L* =75	99.3	2.0	71.6	73.6	17.6	17.9	14.8	14.3
D5	Skin shadow L*=28	89.3	4.0	27.9	30.4	16.5	19.0	17.0	18.7
E5	Skin shadow L*=13	88.1	3.9	19.8	22.0	16.8	19.3	15.4	17.3
F5	Maximum Black	99.4	0.9	4.9	5.6	-0.5	-0.1	-2.6	-2.2

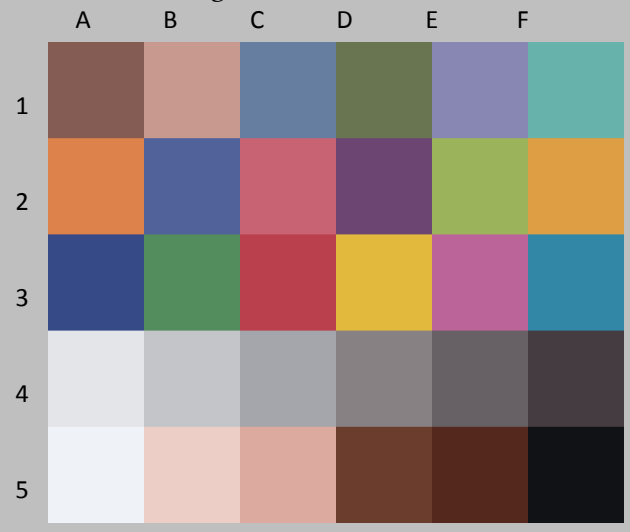
Summary Results	I* Color	I* tone	ΔE
Average Score for all patches	92.0	93.2	3.1
Worst 10% (3 lowest scoring patches)	72.8	89.3	4.4

30 Megalux hours

Canon Pixma Pro-100, Canon Chromalife 100+ (8-color ink set CIi-42), Canon Photo Paper Plus Glossy II PP-201, no additional coating



Original Print Colors before light exposure



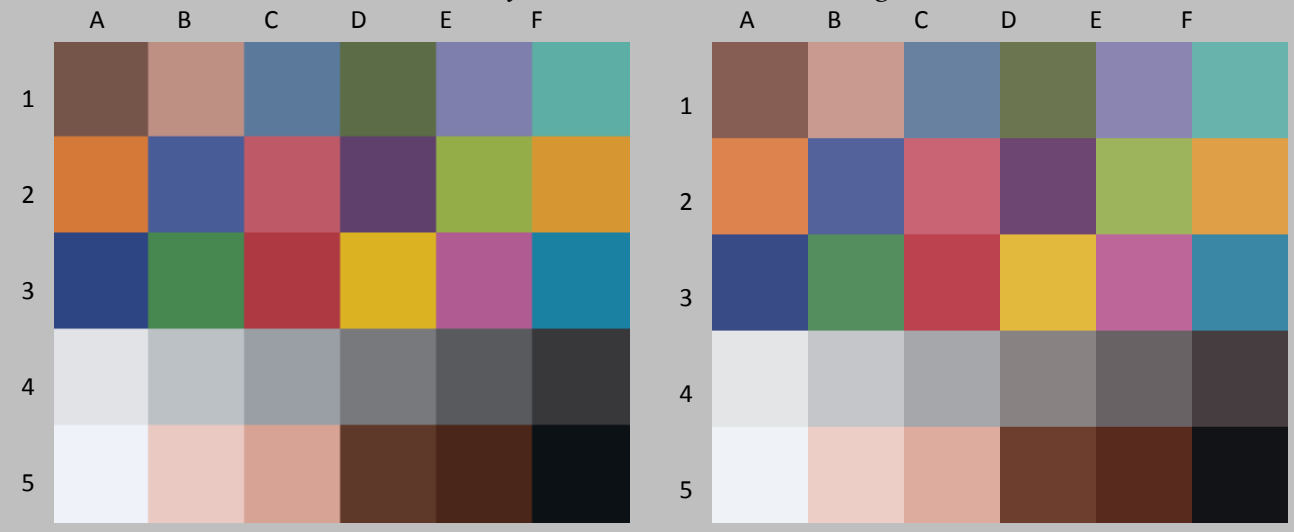
Colors After light exposure

				L*		a*		b*	
Patch #	Description	I* Color	ΔE	Before	After	Before	After	Before	After
A1	Dark Skin	88.7	4.6	39.2	43.1	13.3	15.7	11.5	12.1
B1	Light Skin	96.0	3.6	64.0	67.4	16.2	17.3	13.7	12.9
C1	Blue sky	93.2	3.5	49.3	52.2	-4.2	-2.9	-22.4	-20.7
D1	Foliage	90.2	4.4	43.7	47.1	-12.1	-9.5	19.2	18.5
E1	blue flower	94.1	3.4	54.4	57.2	7.9	8.5	-24.7	-22.7
F1	bluish green	93.5	3.0	65.8	67.7	-28.1	-26.0	-2.7	-3.7
A1	orange	92.4	5.8	60.5	63.4	33.3	32.5	49.7	44.7
B2	purplish blue	95.7	3.2	39.5	42.0	5.6	5.8	-36.4	-34.3
C2	moderate red	96.3	4.1	51.4	54.8	41.6	42.0	12.1	10.1
D2	purple	93.4	4.2	31.8	35.2	21.0	22.6	-21.2	-19.3
E2	yellow green	89.9	6.2	67.5	69.9	-20.1	-18.7	48.0	42.4
F2	orange yellow	93.1	5.5	67.4	70.2	18.3	17.7	59.3	54.6
A3	blue	96.9	2.9	29.6	32.0	7.2	7.3	-38.4	-36.7
B3	green	89.6	5.3	51.0	53.7	-30.6	-28.4	23.4	19.5
C3	red	96.2	4.1	42.4	45.6	48.7	49.7	23.4	21.0
D3	yellow	93.3	5.7	74.9	77.1	6.4	5.8	70.5	65.3
E3	magenta	98.2	4.0	50.5	54.3	40.5	40.7	-13.8	-12.6
F3	cyan	95.5	3.1	49.6	52.1	-19.8	-18.6	-25.5	-24.0
A4	white	99.9	1.0	90.1	91.0	-0.1	0.1	-2.2	-1.8
B4	neutral 8	90.6	2.6	77.6	79.7	-1.4	-0.4	-3.3	-2.4
C4	neutral 6.5	83.6	3.7	65.2	68.2	-1.4	0.4	-3.8	-2.7
D4	neutral 5	76.6	4.5	50.8	54.4	0.3	2.7	-1.9	-0.7
E4	neutral 3.5	72.1	4.8	38.1	41.7	0.3	3.1	-2.5	-1.1
F4	black	70.7	4.4	23.2	26.1	0.5	3.6	-2.4	-1.1
A5	paper white	100.0	0.3	95.4	95.5	-0.1	-0.1	-3.7	-3.4
B5	Skin highlight L*=88	95.6	2.0	83.5	85.1	10.6	10.0	8.5	7.6
C5	Skin highlight L* =75	96.1	3.0	71.6	74.3	17.6	17.7	14.8	13.5
D5	Skin shadow L*=28	88.4	4.7	27.9	31.2	16.5	19.4	17.0	18.5
E5	Skin shadow L*=13	86.6	4.5	19.8	22.5	16.8	19.7	15.4	17.4
F5	Maximum Black	100.0	0.6	4.9	5.4	-0.5	-0.3	-2.6	-2.4

Summary Results	I* Color	I* tone	ΔE
Average Score for all patches	91.5	91.6	3.8
Worst 10% (3 lowest scoring patches)	73.2	87.3	5.9

40 Megalux hours

Canon Pixma Pro-100, Canon Chromalife 100+ (8-color ink set CIi-42), Canon Photo Paper Plus Glossy II PP-201, no additional coating



Original Print Colors before light exposure

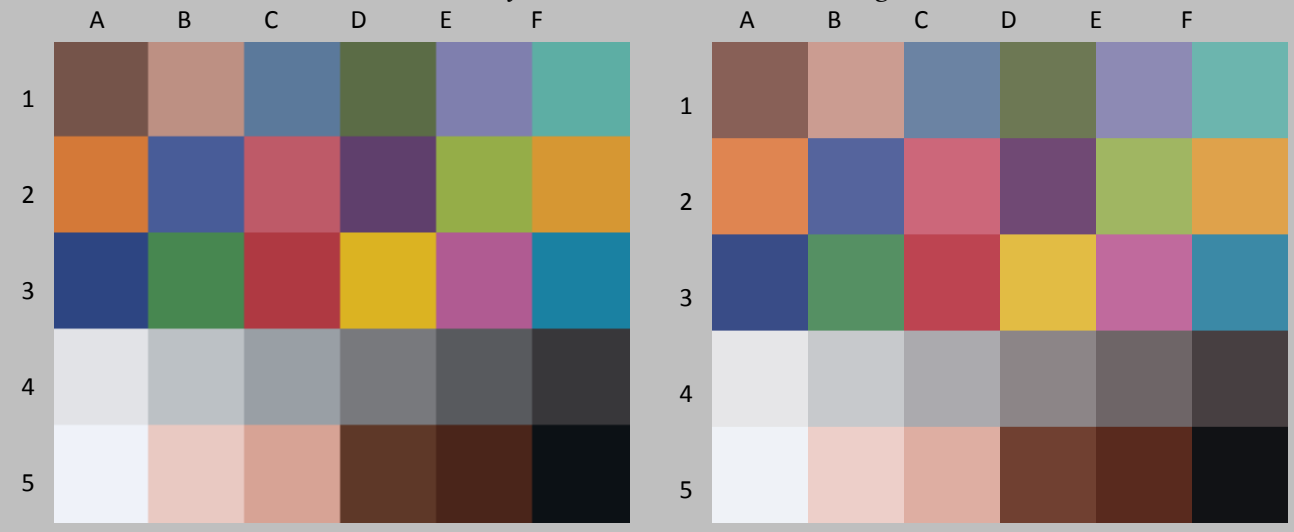
Colors After light exposure

				L*		a*		b*	
Patch #	Description	I* Color	ΔE	Before	After	Before	After	Before	After
A1	Dark Skin	87.1	5.4	39.2	43.9	13.3	15.9	11.5	12.6
B1	Light Skin	96.4	4.2	64.0	68.0	16.2	17.3	13.7	13.1
C1	Blue sky	90.4	4.4	49.3	52.8	-4.2	-2.9	-22.4	-20.1
D1	Foliage	89.0	5.1	43.7	47.8	-12.1	-9.2	19.2	18.7
E1	blue flower	90.9	4.4	54.4	57.8	7.9	8.5	-24.7	-21.9
F1	bluish green	92.8	3.4	65.8	68.1	-28.1	-25.7	-2.7	-3.6
A1	orange	91.3	6.6	60.5	63.9	33.3	32.2	49.7	44.1
B2	purplish blue	93.5	4.1	39.5	42.5	5.6	5.8	-36.4	-33.5
C2	moderate red	96.8	4.5	51.4	55.5	41.6	41.9	12.1	10.3
D2	purple	90.8	5.2	31.8	35.9	21.0	22.7	-21.2	-18.4
E2	yellow green	88.5	7.0	67.5	70.2	-20.1	-18.4	48.0	41.8
F2	orange yellow	92.2	6.2	67.4	70.6	18.3	17.6	59.3	54.0
A3	blue	94.6	3.8	29.6	32.4	7.2	7.2	-38.4	-35.8
B3	green	88.1	6.0	51.0	54.1	-30.6	-28.0	23.4	19.1
C3	red	96.7	4.5	42.4	46.3	48.7	49.5	23.4	21.3
D3	yellow	92.3	6.4	74.9	77.3	6.4	5.8	70.5	64.6
E3	magenta	96.3	4.9	50.5	54.9	40.5	40.4	-13.8	-11.8
F3	cyan	93.4	3.9	49.6	52.5	-19.8	-18.4	-25.5	-23.3
A4	white	96.9	1.1	90.1	90.9	-0.1	0.2	-2.2	-1.5
B4	neutral 8	86.8	3.0	77.6	79.9	-1.4	-0.4	-3.3	-1.9
C4	neutral 6.5	79.1	4.3	65.2	68.7	-1.4	0.4	-3.8	-2.1
D4	neutral 5	71.7	5.3	50.8	55.0	0.3	2.8	-1.9	0.0
E4	neutral 3.5	66.6	5.6	38.1	42.4	0.3	3.3	-2.5	-0.4
F4	black	64.8	5.3	23.2	26.7	0.5	3.9	-2.4	-0.5
A5	paper white	100.0	0.5	95.4	95.2	-0.1	0.0	-3.7	-3.2
B5	Skin highlight L*=88	95.0	2.0	83.5	85.1	10.6	9.9	8.5	7.6
C5	Skin highlight L* =75	96.6	3.2	71.6	74.6	17.6	17.6	14.8	13.6
D5	Skin shadow L*=28	86.6	5.5	27.9	31.9	16.5	19.5	17.0	19.1
E5	Skin shadow L*=13	84.1	5.3	19.8	23.1	16.8	20.0	15.4	18.0
F5	Maximum Black	100.0	0.9	4.9	5.7	-0.5	-0.2	-2.6	-2.4

Summary Results	I* Color	I* tone	ΔE
Average Score for all patches	89.6	89.9	4.4
Worst 10% (3 lowest scoring patches)	67.7	85.2	6.7

50 Megalux hours

Canon Pixma Pro-100, Canon Chromalife 100+ (8-color ink set CIi-42), Canon Photo Paper Plus Glossy II PP-201, no additional coating



Original Print Colors before light exposure

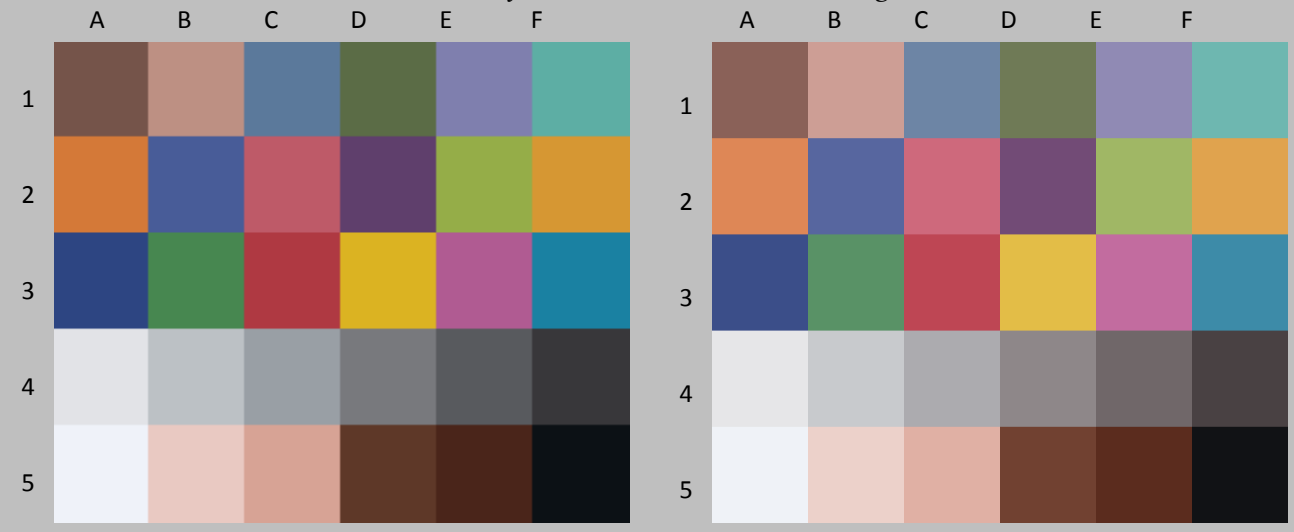
Colors After light exposure

				L*		a*		b*	
Patch #	Description	I* Color	ΔE	Before	After	Before	After	Before	After
A1	Dark Skin	86.4	6.3	39.2	44.8	13.3	16.1	11.5	12.4
B1	Light Skin	95.6	5.0	64.0	68.8	16.2	17.2	13.7	12.6
C1	Blue sky	89.6	5.2	49.3	53.6	-4.2	-2.8	-22.4	-19.9
D1	Foliage	88.0	6.1	43.7	48.8	-12.1	-9.0	19.2	18.3
E1	blue flower	89.8	5.2	54.4	58.6	7.9	8.4	-24.7	-21.6
F1	bluish green	91.1	4.2	65.8	68.7	-28.1	-25.3	-2.7	-3.9
A1	orange	88.6	8.5	60.5	64.7	33.3	31.8	49.7	42.6
B2	purplish blue	93.0	4.8	39.5	43.2	5.6	5.5	-36.4	-33.3
C2	moderate red	94.4	5.8	51.4	56.4	41.6	41.7	12.1	9.2
D2	purple	90.7	6.0	31.8	36.8	21.0	22.7	-21.2	-18.4
E2	yellow green	86.0	8.5	67.5	70.9	-20.1	-18.4	48.0	40.4
F2	orange yellow	89.9	7.8	67.4	71.3	18.3	17.1	59.3	52.6
A3	blue	94.7	4.3	29.6	33.1	7.2	6.9	-38.4	-35.9
B3	green	85.2	7.3	51.0	54.9	-30.6	-27.8	23.4	17.9
C3	red	94.4	5.8	42.4	47.0	48.7	49.6	23.4	20.0
D3	yellow	90.4	7.9	74.9	77.9	6.4	5.4	70.5	63.3
E3	magenta	96.9	5.7	50.5	55.9	40.5	40.3	-13.8	-12.0
F3	cyan	93.1	4.6	49.6	53.3	-19.8	-18.3	-25.5	-23.2
A4	white	95.1	1.5	90.1	91.2	-0.1	0.1	-2.2	-1.3
B4	neutral 8	85.0	3.6	77.6	80.7	-1.4	-0.3	-3.3	-1.7
C4	neutral 6.5	77.2	5.2	65.2	69.7	-1.4	0.5	-3.8	-2.0
D4	neutral 5	69.1	6.4	50.8	56.2	0.3	3.1	-1.9	0.1
E4	neutral 3.5	64.3	6.7	38.1	43.5	0.3	3.6	-2.5	-0.4
F4	black	62.1	6.0	23.2	27.5	0.5	4.1	-2.4	-0.4
A5	paper white	96.9	0.8	95.4	95.4	-0.1	-0.1	-3.7	-2.9
B5	Skin highlight L*=88	92.1	2.7	83.5	85.7	10.6	9.6	8.5	7.3
C5	Skin highlight L* =75	94.1	4.2	71.6	75.4	17.6	17.3	14.8	13.0
D5	Skin shadow L*=28	85.0	6.4	27.9	32.8	16.5	19.9	17.0	19.2
E5	Skin shadow L*=13	80.9	6.2	19.8	23.7	16.8	20.5	15.4	18.4
F5	Maximum Black	100.0	0.7	4.9	5.5	-0.5	-0.2	-2.6	-2.4

Summary Results	I* Color	I* tone	ΔE
Average Score for all patches	88.0	87.9	5.3
Worst 10% (3 lowest scoring patches)	65.2	82.4	8.3

60 Megalux hours

Canon Pixma Pro-100, Canon Chromalife 100+ (8-color ink set CIi-42), Canon Photo Paper Plus Glossy II PP-201, no additional coating



Original Print Colors before light exposure

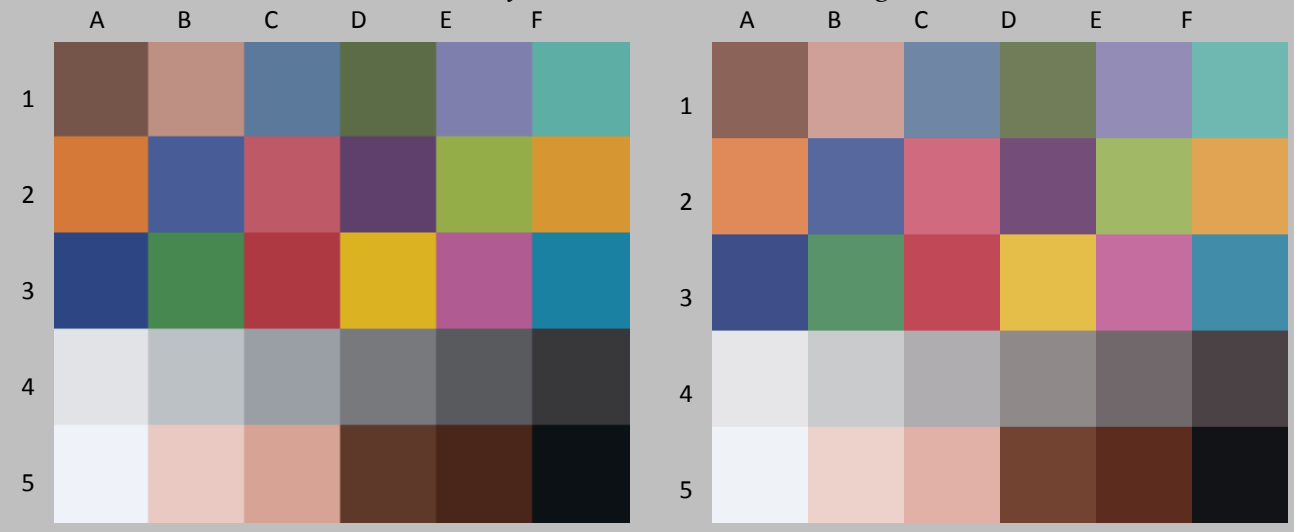
Colors After light exposure

				L*		a*		b*	
Patch #	Description	I* Color	ΔE	Before	After	Before	After	Before	After
A1	Dark Skin	85.8	7.1	39.2	45.6	13.3	16.2	11.5	12.4
B1	Light Skin	94.2	5.7	64.0	69.4	16.2	17.1	13.7	12.3
C1	Blue sky	88.3	5.9	49.3	54.3	-4.2	-2.6	-22.4	-19.6
D1	Foliage	86.9	6.9	43.7	49.6	-12.1	-8.8	19.2	18.1
E1	blue flower	88.6	6.0	54.4	59.3	7.9	8.5	-24.7	-21.3
F1	bluish green	89.3	4.9	65.8	69.3	-28.1	-24.9	-2.7	-4.1
A1	orange	86.2	10.0	60.5	65.2	33.3	31.4	49.7	41.2
B2	purplish blue	92.1	5.5	39.5	43.8	5.6	5.6	-36.4	-33.0
C2	moderate red	92.8	6.7	51.4	57.1	41.6	41.6	12.1	8.5
D2	purple	89.7	6.8	31.8	37.6	21.0	22.9	-21.2	-18.2
E2	yellow green	83.8	9.8	67.5	71.4	-20.1	-18.2	48.0	39.3
F2	orange yellow	88.1	9.1	67.4	71.8	18.3	16.9	59.3	51.5
A3	blue	94.3	4.8	29.6	33.6	7.2	7.0	-38.4	-35.7
B3	green	82.7	8.5	51.0	55.5	-30.6	-27.4	23.4	17.0
C3	red	93.2	6.7	42.4	47.6	48.7	49.6	23.4	19.3
D3	yellow	89.0	9.0	74.9	78.4	6.4	5.2	70.5	62.3
E3	magenta	96.8	6.5	50.5	56.7	40.5	40.2	-13.8	-12.0
F3	cyan	92.3	5.3	49.6	54.0	-19.8	-18.1	-25.5	-23.0
A4	white	96.6	1.5	90.1	91.4	-0.1	0.1	-2.2	-1.4
B4	neutral 8	84.9	4.0	77.6	81.1	-1.4	-0.3	-3.3	-1.7
C4	neutral 6.5	76.4	5.8	65.2	70.3	-1.4	0.6	-3.8	-2.0
D4	neutral 5	67.3	7.2	50.8	57.0	0.3	3.3	-1.9	0.2
E4	neutral 3.5	61.5	7.5	38.1	44.4	0.3	3.8	-2.5	-0.2
F4	black	59.0	6.7	23.2	28.3	0.5	4.3	-2.4	-0.2
A5	paper white	99.3	0.6	95.4	95.4	-0.1	-0.1	-3.7	-3.1
B5	Skin highlight L*=88	89.5	3.1	83.5	86.0	10.6	9.4	8.5	7.0
C5	Skin highlight L* =75	91.9	4.9	71.6	75.9	17.6	17.2	14.8	12.5
D5	Skin shadow L*=28	83.9	7.1	27.9	33.5	16.5	20.1	17.0	19.4
E5	Skin shadow L*=13	78.9	6.9	19.8	24.2	16.8	20.8	15.4	18.8
F5	Maximum Black	100.0	0.8	4.9	5.6	-0.5	-0.2	-2.6	-2.3

Summary Results	I* Color	I* tone	ΔE
Average Score for all patches	86.8	86.2	6.0
Worst 10% (3 lowest scoring patches)	62.6	80.5	9.6

70 Megalux hours

Canon Pixma Pro-100, Canon Chromalife 100+ (8-color ink set CIi-42), Canon Photo Paper Plus Glossy II PP-201, no additional coating



Original Print Colors before light exposure

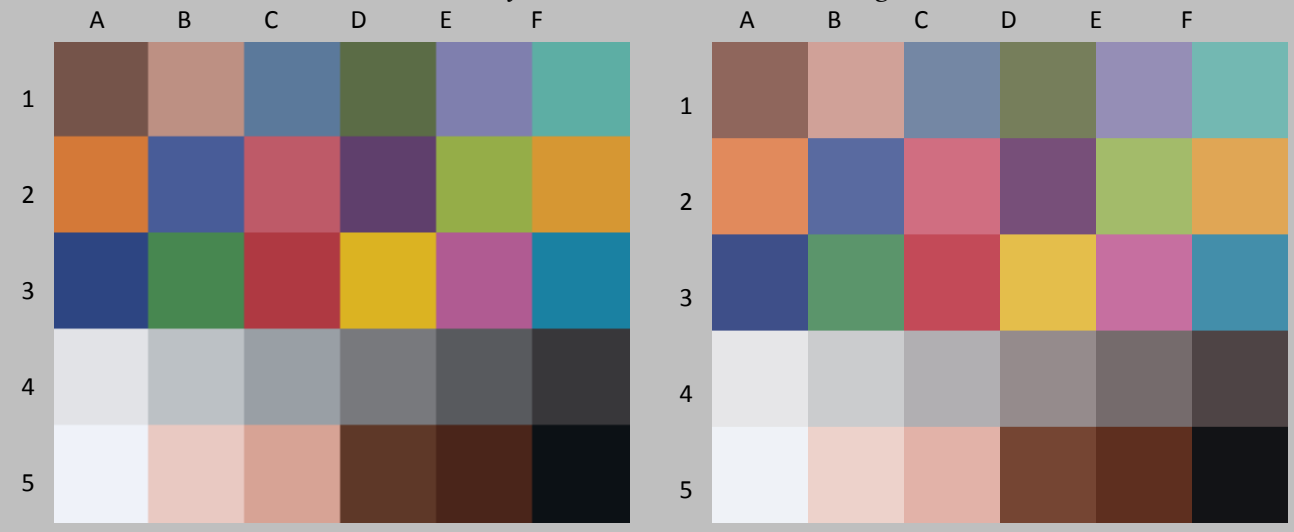
Colors After light exposure

				L*		a*		b*	
Patch #	Description	I* Color	ΔE	Before	After	Before	After	Before	After
A1	Dark Skin	84.8	7.9	39.2	46.4	13.3	16.3	11.5	12.6
B1	Light Skin	94.0	6.3	64.0	70.0	16.2	17.2	13.7	12.2
C1	Blue sky	85.6	6.9	49.3	55.1	-4.2	-2.6	-22.4	-19.0
D1	Foliage	86.2	7.6	43.7	50.4	-12.1	-8.6	19.2	18.2
E1	blue flower	85.8	7.0	54.4	60.0	7.9	8.6	-24.7	-20.5
F1	bluish green	88.6	5.4	65.8	69.8	-28.1	-24.6	-2.7	-3.9
A1	orange	84.6	11.0	60.5	65.8	33.3	31.3	49.7	40.3
B2	purplish blue	90.2	6.4	39.5	44.4	5.6	5.5	-36.4	-32.3
C2	moderate red	92.3	7.4	51.4	57.7	41.6	41.6	12.1	8.3
D2	purple	88.0	7.7	31.8	38.4	21.0	23.0	-21.2	-17.6
E2	yellow green	82.4	10.6	67.5	71.9	-20.1	-18.0	48.0	38.6
F2	orange yellow	87.0	9.9	67.4	72.2	18.3	16.8	59.3	50.8
A3	blue	92.9	5.6	29.6	34.1	7.2	6.9	-38.4	-35.2
B3	green	81.1	9.3	51.0	56.0	-30.6	-27.1	23.4	16.5
C3	red	92.9	7.3	42.4	48.2	48.7	49.6	23.4	19.2
D3	yellow	88.1	9.7	74.9	78.7	6.4	5.1	70.5	61.6
E3	magenta	95.6	7.3	50.5	57.4	40.5	40.1	-13.8	-11.5
F3	cyan	90.5	6.1	49.6	54.5	-19.8	-18.0	-25.5	-22.4
A4	white	93.4	1.8	90.1	91.5	-0.1	0.1	-2.2	-1.1
B4	neutral 8	80.8	4.5	77.6	81.5	-1.4	-0.2	-3.3	-1.3
C4	neutral 6.5	71.9	6.6	65.2	70.9	-1.4	0.8	-3.8	-1.5
D4	neutral 5	62.8	8.1	50.8	57.8	0.3	3.4	-1.9	0.7
E4	neutral 3.5	57.3	8.4	38.1	45.2	0.3	3.9	-2.5	0.3
F4	black	55.6	7.6	23.2	29.1	0.5	4.5	-2.4	0.2
A5	paper white	96.0	0.9	95.4	95.4	-0.1	-0.1	-3.7	-2.8
B5	Skin highlight L*=88	88.9	3.3	83.5	86.2	10.6	9.3	8.5	7.0
C5	Skin highlight L* =75	91.3	5.3	71.6	76.3	17.6	17.2	14.8	12.4
D5	Skin shadow L*=28	82.9	7.8	27.9	34.2	16.5	20.1	17.0	19.7
E5	Skin shadow L*=13	77.8	7.5	19.8	24.9	16.8	20.9	15.4	19.1
F5	Maximum Black	97.7	1.3	4.9	6.0	-0.5	0.2	-2.6	-2.6

Summary Results	I* Color	I* tone	ΔE
Average Score for all patches	84.9	84.7	6.8
Worst 10% (3 lowest scoring patches)	58.6	78.8	10.5

80 Megalux hours

Canon Pixma Pro-100, Canon Chromalife 100+ (8-color ink set CIi-42), Canon Photo Paper Plus Glossy II PP-201, no additional coating



Original Print Colors before light exposure

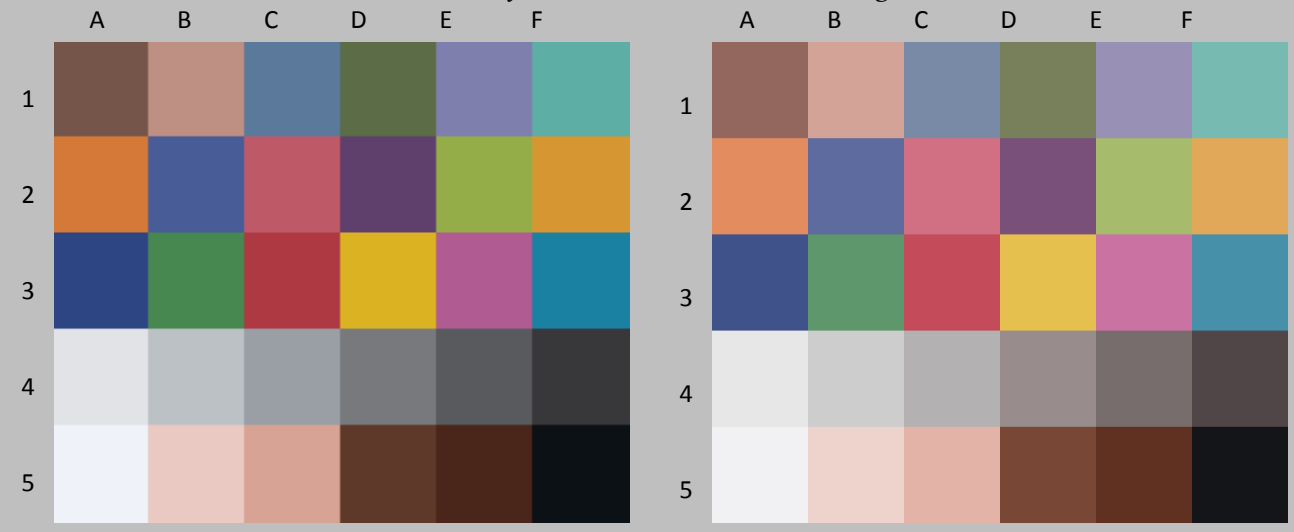
Colors After light exposure

				L*		a*		b*	
Patch #	Description	I* Color	ΔE	Before	After	Before	After	Before	After
A1	Dark Skin	83.3	8.8	39.2	47.3	13.3	16.4	11.5	13.0
B1	Light Skin	93.9	6.8	64.0	70.6	16.2	17.1	13.7	12.2
C1	Blue sky	82.9	7.9	49.3	55.9	-4.2	-2.5	-22.4	-18.3
D1	Foliage	85.6	8.5	43.7	51.3	-12.1	-8.4	19.2	18.3
E1	blue flower	83.1	8.0	54.4	60.8	7.9	8.6	-24.7	-19.9
F1	bluish green	87.3	6.2	65.8	70.4	-28.1	-24.1	-2.7	-3.7
A1	orange	82.8	12.3	60.5	66.3	33.3	31.0	49.7	39.2
B2	purplish blue	88.2	7.4	39.5	45.1	5.6	5.4	-36.4	-31.6
C2	moderate red	91.6	8.2	51.4	58.5	41.6	41.4	12.1	8.0
D2	purple	86.0	8.8	31.8	39.2	21.0	23.0	-21.2	-17.0
E2	yellow green	80.8	11.6	67.5	72.4	-20.1	-17.7	48.0	37.8
F2	orange yellow	85.5	10.9	67.4	72.7	18.3	16.5	59.3	49.9
A3	blue	91.2	6.4	29.6	34.7	7.2	6.6	-38.4	-34.5
B3	green	79.4	10.2	51.0	56.8	-30.6	-26.7	23.4	16.0
C3	red	92.1	8.0	42.4	48.8	48.7	49.5	23.4	18.7
D3	yellow	86.6	10.8	74.9	79.0	6.4	4.9	70.5	60.7
E3	magenta	94.8	8.2	50.5	58.2	40.5	39.9	-13.8	-11.1
F3	cyan	88.7	7.0	49.6	55.3	-19.8	-17.9	-25.5	-21.9
A4	white	92.6	1.9	90.1	91.6	-0.1	0.1	-2.2	-1.0
B4	neutral 8	78.0	5.0	77.6	81.9	-1.4	-0.2	-3.3	-1.0
C4	neutral 6.5	68.4	7.3	65.2	71.6	-1.4	0.8	-3.8	-1.1
D4	neutral 5	58.9	9.1	50.8	58.8	0.3	3.5	-1.9	1.1
E4	neutral 3.5	53.1	9.4	38.1	46.1	0.3	4.0	-2.5	0.8
F4	black	51.3	8.4	23.2	29.8	0.5	4.7	-2.4	0.6
A5	paper white	96.1	0.9	95.4	95.3	-0.1	-0.1	-3.7	-2.8
B5	Skin highlight L*=88	86.6	3.6	83.5	86.3	10.6	9.0	8.5	6.8
C5	Skin highlight L* =75	90.0	5.8	71.6	76.8	17.6	16.9	14.8	12.1
D5	Skin shadow L*=28	81.4	8.6	27.9	34.9	16.5	20.3	17.0	20.1
E5	Skin shadow L*=13	75.3	8.3	19.8	25.4	16.8	21.1	15.4	19.6
F5	Maximum Black	98.6	1.3	4.9	6.0	-0.5	0.0	-2.6	-2.3

Summary Results	I* Color	I* tone	ΔE
Average Score for all patches	83.1	82.9	7.5
Worst 10% (3 lowest scoring patches)	54.5	76.4	11.6

90 Megalux hours

Canon Pixma Pro-100, Canon Chromalife 100+ (8-color ink set CIi-42), Canon Photo Paper Plus Glossy II PP-201, no additional coating



Original Print Colors before light exposure

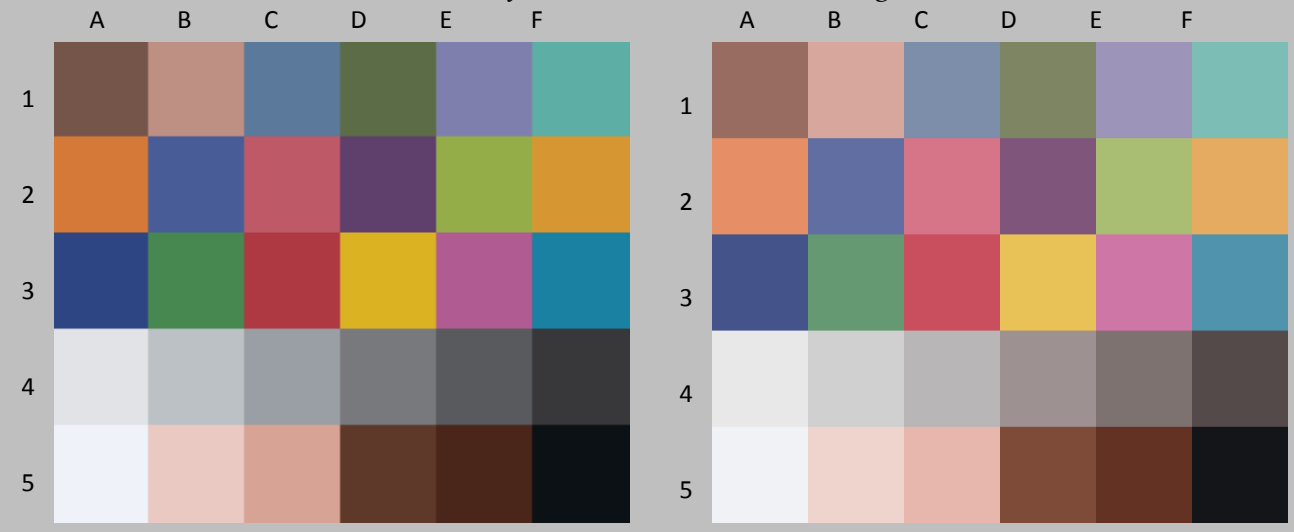
Colors After light exposure

				L*		a*		b*	
Patch #	Description	I* Color	ΔE	Before	After	Before	After	Before	After
A1	Dark Skin	80.9	9.8	39.2	48.2	13.3	16.7	11.5	13.4
B1	Light Skin	95.0	7.5	64.0	71.4	16.2	17.3	13.7	12.6
C1	Blue sky	77.9	9.2	49.3	56.7	-4.2	-2.4	-22.4	-17.1
D1	Foliage	84.3	9.4	43.7	52.2	-12.1	-8.1	19.2	18.7
E1	blue flower	77.6	9.5	54.4	61.6	7.9	8.6	-24.7	-18.4
F1	bluish green	86.3	6.8	65.8	71.1	-28.1	-23.7	-2.7	-2.8
A1	orange	81.5	13.3	60.5	67.0	33.3	30.9	49.7	38.4
B2	purplish blue	85.1	8.7	39.5	45.9	5.6	5.2	-36.4	-30.4
C2	moderate red	91.7	8.9	51.4	59.3	41.6	41.4	12.1	8.1
D2	purple	83.6	10.0	31.8	40.2	21.0	23.1	-21.2	-16.2
E2	yellow green	80.1	12.2	67.5	73.1	-20.1	-17.3	48.0	37.5
F2	orange yellow	84.5	11.7	67.4	73.4	18.3	16.5	59.3	49.3
A3	blue	88.8	7.5	29.6	35.4	7.2	6.4	-38.4	-33.6
B3	green	78.6	10.9	51.0	57.5	-30.6	-26.2	23.4	15.9
C3	red	91.7	8.7	42.4	49.6	48.7	49.6	23.4	18.5
D3	yellow	85.8	11.5	74.9	79.5	6.4	4.9	70.5	60.1
E3	magenta	92.6	9.4	50.5	59.1	40.5	39.8	-13.8	-10.2
F3	cyan	85.4	8.3	49.6	56.0	-19.8	-17.9	-25.5	-20.7
A4	white	79.7	2.9	90.1	91.7	-0.1	0.0	-2.2	0.2
B4	neutral 8	67.3	6.1	77.6	82.5	-1.4	-0.2	-3.3	0.1
C4	neutral 6.5	57.9	8.5	65.2	72.4	-1.4	1.0	-3.8	0.0
D4	neutral 5	50.3	10.3	50.8	59.7	0.3	3.7	-1.9	2.1
E4	neutral 3.5	45.4	10.7	38.1	47.2	0.3	4.3	-2.5	1.6
F4	black	45.5	9.5	23.2	30.8	0.5	4.9	-2.4	1.2
A5	paper white	80.8	2.3	95.4	95.2	-0.1	-0.3	-3.7	-1.4
B5	Skin highlight L*=88	89.0	3.6	83.5	86.5	10.6	8.9	8.5	7.4
C5	Skin highlight L* =75	91.6	6.1	71.6	77.3	17.6	17.0	14.8	12.5
D5	Skin shadow L*=28	80.1	9.5	27.9	35.8	16.5	20.5	17.0	20.4
E5	Skin shadow L*=13	74.3	9.0	19.8	26.1	16.8	21.3	15.4	19.8
F5	Maximum Black	97.8	1.8	4.9	6.5	-0.5	0.1	-2.6	-2.3

Summary Results	I* Color	I* tone	ΔE
Average Score for all patches	79.7	81.0	8.5
Worst 10% (3 lowest scoring patches)	47.1	73.2	12.4

100 Megalux hours

Canon Pixma Pro-100, Canon Chromalife 100+ (8-color ink set CIi-42), Canon Photo Paper Plus Glossy II PP-201, no additional coating



Original Print Colors before light exposure

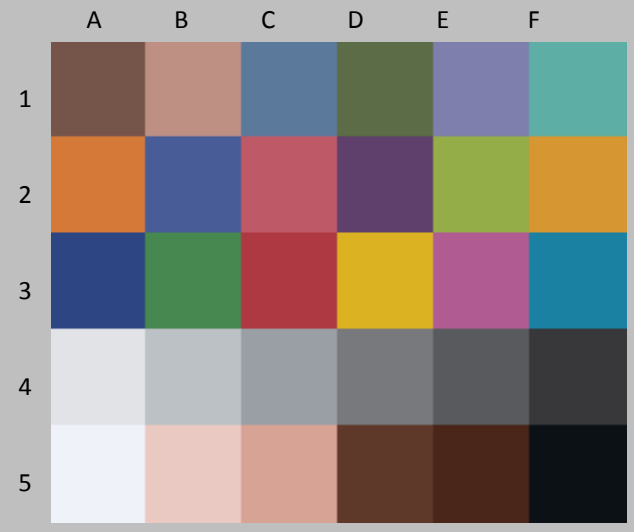
Colors After light exposure

				L*		a*		b*	
Patch #	Description	I* Color	ΔE	Before	After	Before	After	Before	After
A1	Dark Skin	79.2	11.7	39.2	50.1	13.3	16.9	11.5	13.6
B1	Light Skin	92.2	9.1	64.0	72.8	16.2	17.5	13.7	12.0
C1	Blue sky	75.3	10.9	49.3	58.4	-4.2	-1.8	-22.4	-16.7
D1	Foliage	81.6	11.4	43.7	54.1	-12.1	-7.5	19.2	18.4
E1	blue flower	75.6	11.0	54.4	63.0	7.9	9.1	-24.7	-18.0
F1	bluish green	81.9	8.6	65.8	72.3	-28.1	-22.5	-2.7	-3.0
A1	orange	77.3	16.1	60.5	68.2	33.3	30.6	49.7	35.9
B2	purplish blue	83.0	10.3	39.5	47.3	5.6	5.5	-36.4	-29.6
C2	moderate red	89.4	10.7	51.4	60.8	41.6	41.3	12.1	7.0
D2	purple	80.5	12.0	31.8	42.0	21.0	23.5	-21.2	-15.4
E2	yellow green	76.6	14.4	67.5	74.2	-20.1	-16.6	48.0	35.8
F2	orange yellow	81.4	13.9	67.4	74.5	18.3	16.3	59.3	47.4
A3	blue	86.9	9.0	29.6	36.7	7.2	6.4	-38.4	-32.8
B3	green	74.2	13.1	51.0	58.9	-30.6	-25.2	23.4	14.5
C3	red	90.2	10.4	42.4	51.1	48.7	49.6	23.4	17.7
D3	yellow	83.3	13.4	74.9	80.3	6.4	4.8	70.5	58.3
E3	magenta	92.1	11.0	50.5	60.8	40.5	39.8	-13.8	-10.0
F3	cyan	83.3	9.8	49.6	57.4	-19.8	-17.1	-25.5	-20.3
A4	white	85.2	2.8	90.1	92.1	-0.1	0.2	-2.2	-0.3
B4	neutral 8	64.8	7.1	77.6	83.5	-1.4	0.2	-3.3	0.2
C4	neutral 6.5	53.7	10.0	65.2	74.0	-1.4	1.4	-3.8	0.2
D4	neutral 5	45.2	12.2	50.8	61.6	0.3	4.2	-1.9	2.3
E4	neutral 3.5	38.5	12.8	38.1	49.2	0.3	4.8	-2.5	2.0
F4	black	35.7	11.6	23.2	32.7	0.5	5.5	-2.4	2.0
A5	paper white	90.3	1.4	95.4	95.3	-0.1	-0.1	-3.7	-2.3
B5	Skin highlight L*=88	85.0	4.5	83.5	87.2	10.6	8.8	8.5	6.7
C5	Skin highlight L* =75	88.4	7.5	71.6	78.5	17.6	16.9	14.8	11.8
D5	Skin shadow L*=28	76.3	11.5	27.9	37.6	16.5	20.9	17.0	21.2
E5	Skin shadow L*=13	69.0	10.9	19.8	27.6	16.8	21.9	15.4	20.9
F5	Maximum Black	96.7	2.0	4.9	6.8	-0.5	0.3	-2.6	-2.4

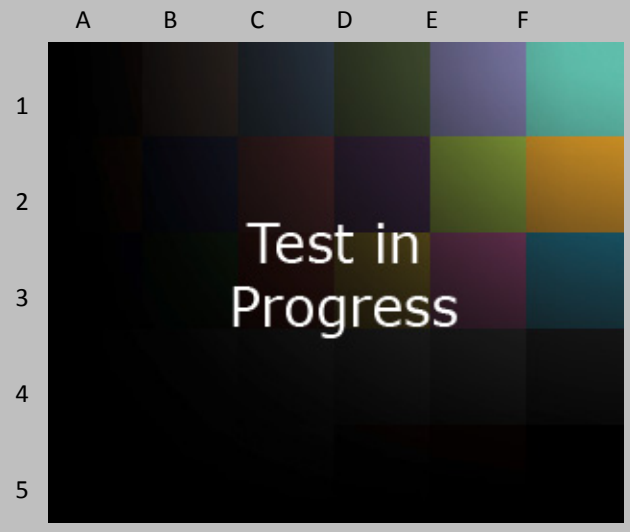
Summary Results	I* Color	I* tone	ΔE
Average Score for all patches	77.1	77.6	10.0
Worst 10% (3 lowest scoring patches)	39.8	68.5	14.8

120 Megalux hours

The 140 Megalux hour Update will be posted on approximately DEC 20, 2017.



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			39.2		13.3		11.5	
B1	Light Skin			64.0		16.2		13.7	
C1	Blue sky			49.3		-4.2		-22.4	
D1	Foliage			43.7		-12.1		19.2	
E1	blue flower			54.4		7.9		-24.7	
F1	bluish green			65.8		-28.1		-2.7	
A1	orange			60.5		33.3		49.7	
B2	purplish blue			39.5		5.6		-36.4	
C2	moderate red			51.4		41.6		12.1	
D2	purple			31.8		21.0		-21.2	
E2	yellow green			67.5		-20.1		48.0	
F2	orange yellow			67.4		18.3		59.3	
A3	blue			29.6		7.2		-38.4	
B3	green			51.0		-30.6		23.4	
C3	red			42.4		48.7		23.4	
D3	yellow			74.9		6.4		70.5	
E3	magenta			50.5		40.5		-13.8	
F3	cyan			49.6		-19.8		-25.5	
A4	white			90.1		-0.1		-2.2	
B4	neutral 8			77.6		-1.4		-3.3	
C4	neutral 6.5			65.2		-1.4		-3.8	
D4	neutral 5			50.8		0.3		-1.9	
E4	neutral 3.5			38.1		0.3		-2.5	
F4	black			23.2		0.5		-2.4	
A5	paper white			95.4		-0.1		-3.7	
B5	Skin highlight L*=88			83.5		10.6		8.5	
C5	Skin highlight L* =75			71.6		17.6		14.8	
D5	Skin shadow L*=28			27.9		16.5		17.0	
E5	Skin shadow L*=13			19.8		16.8		15.4	
F5	Maximum Black			4.9		-0.5		-2.6	

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

140 Megalux hours