



# Auraia-II DM-II Screening Hamillroad Software, 2010-2011

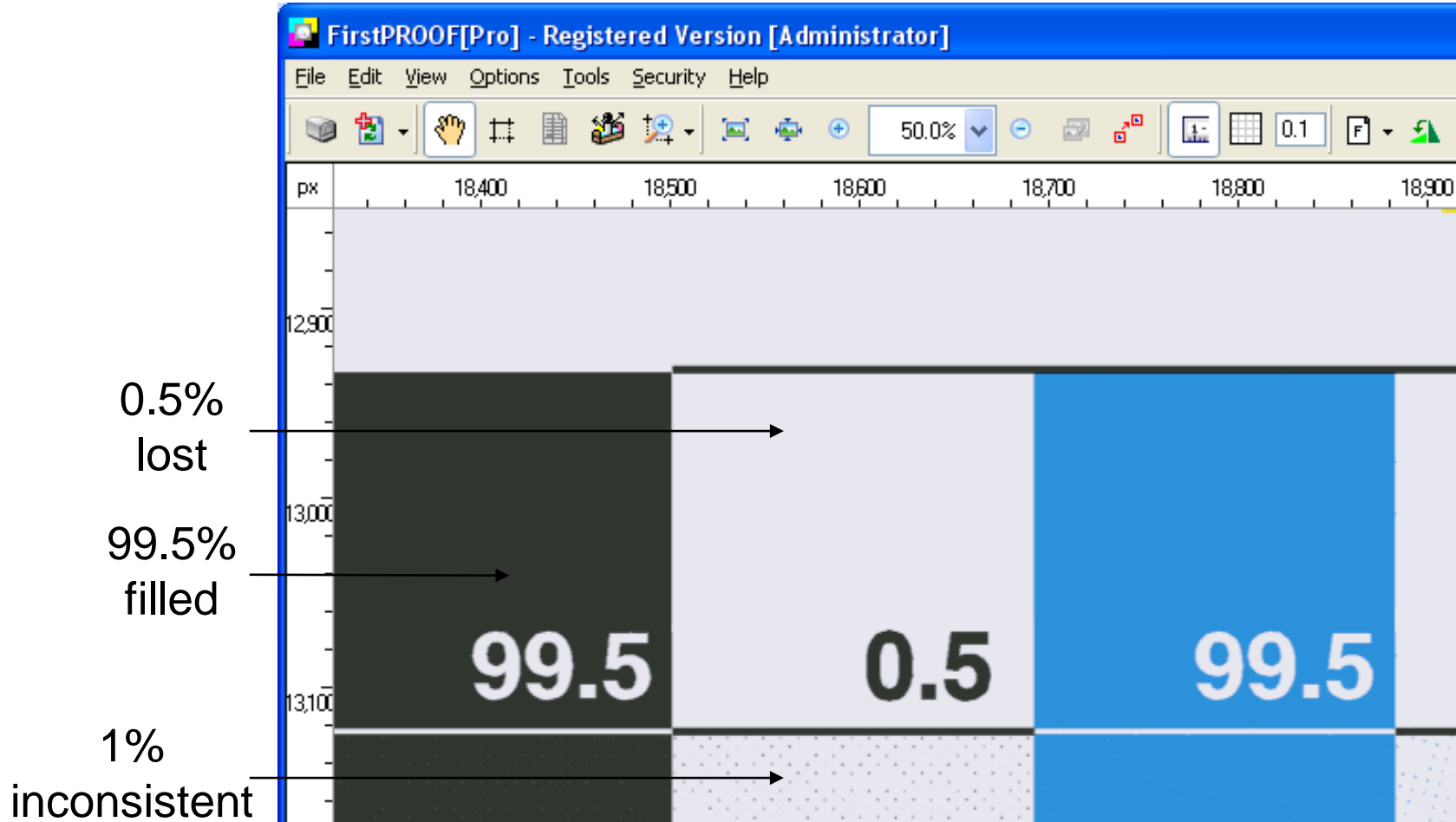


## Comparison of DM / FM / AM / XM

Attributes (a "✓" is good)	DM	FM	AM	XM
Hilite dots down to 0.5% and less	✓	x	x	✓
Shadow dots up to 99.5% and more	✓	x	x	✓
Smooth flat tints ( $\leq 200$ lpi, $30\mu$ )	✓	x	✓	✓
Smooth flat tints ( $\geq 250$ lpi, $20\mu$ )	✓	x	x	x
Screen moiré free	✓	✓	x	x
Content moiré free	✓	✓	x	x
Color shift free	✓	x	x	x
Noise shift free	✓	x	-	-
High image detail - coated (350+ lpi)	✓	✓	x	✓
High image detail - uncoated (350+ lpi)	✓	x	x	x
Easy to plate	✓	x	✓	✓
Easy to calibrate	✓	x	✓	✓
Easy to print	✓	x	✓	✓
Ink savings	✓ <sup>20%</sup>	✓ <sup>15%</sup>	x	x
N-color printing	✓	✓	x	x
Hexachrome printing	✓	✓	x	x
Useable on violet CtP	✓	x	✓	✓
Useable on thermal CtP	✓	✓	✓	✓



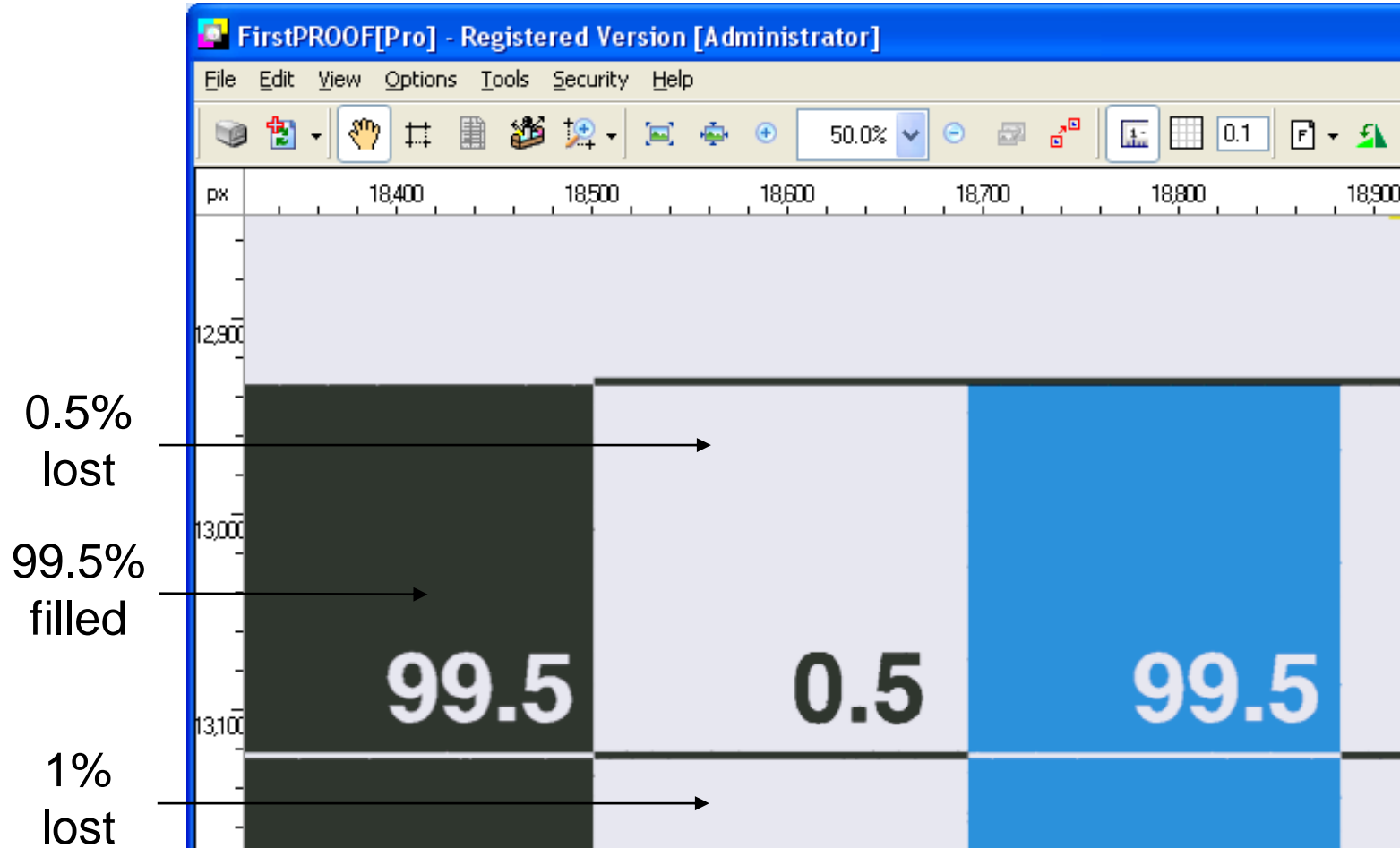
# Hilite / shadow dots (AM)





# Hilite / shadow dots (FM)

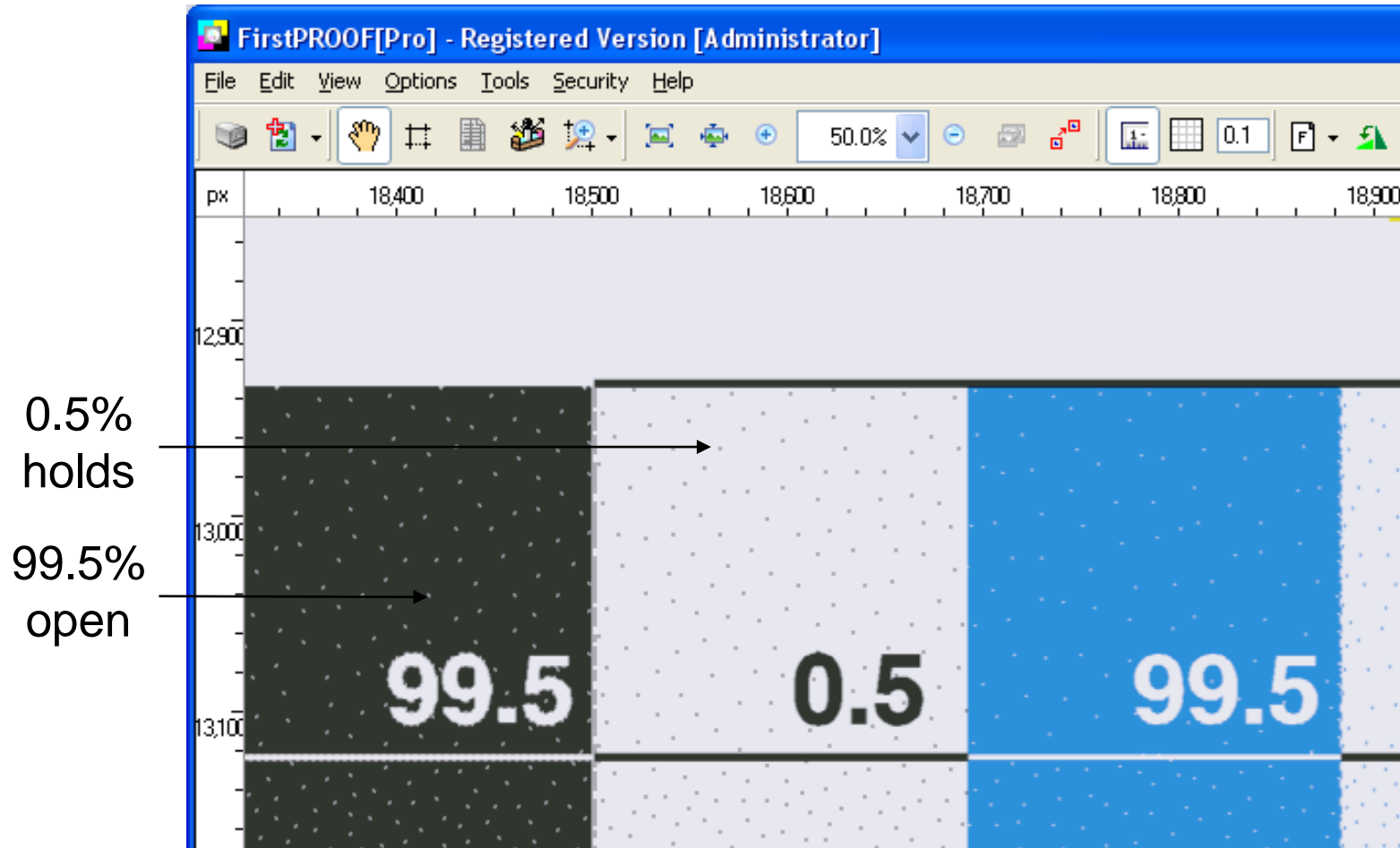
[HDS/Staccato/RandotX/Satin<sup>1</sup>]



1. HDS is a trademark of Global Graphics, Staccato is a trademark of Creo / Kodak, Randot X is a trademark of Screen, Satin is a trademark of Heidelberg.



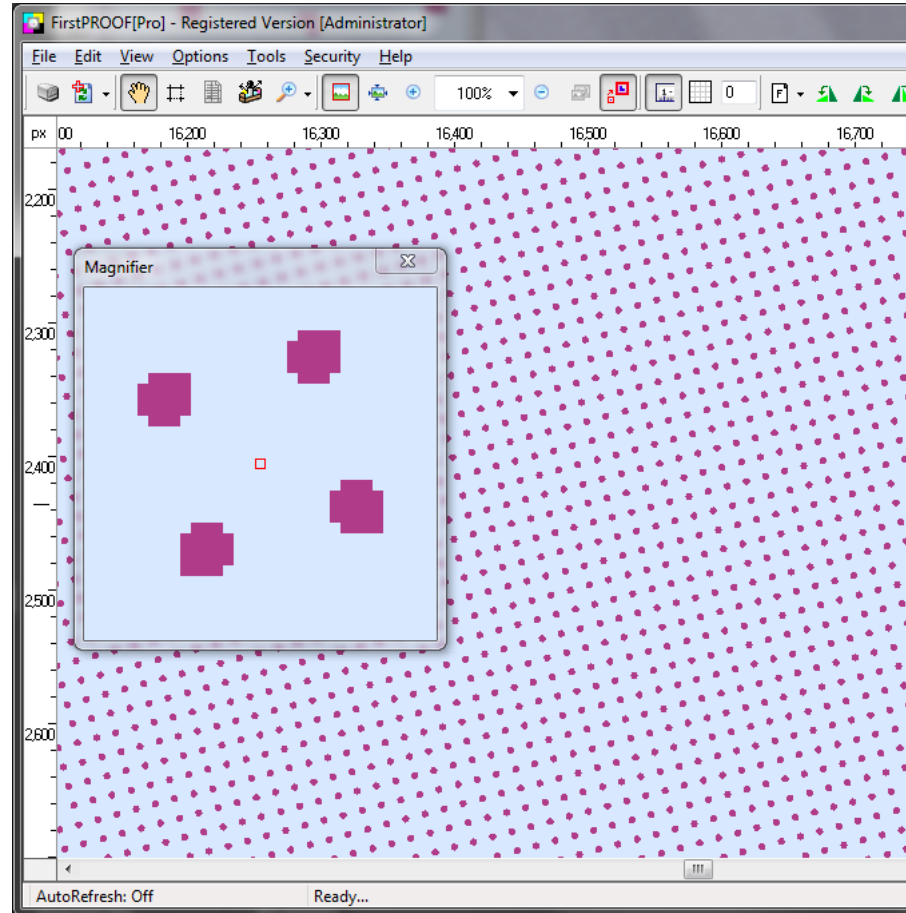
# Hilite / shadow dots (DM)





## Flat tints (AM)

Consistent  
dots





# Flat tints (FM)

[HDS/Staccato/Randot X/Satin<sup>1</sup>]

## Inconsistent dots

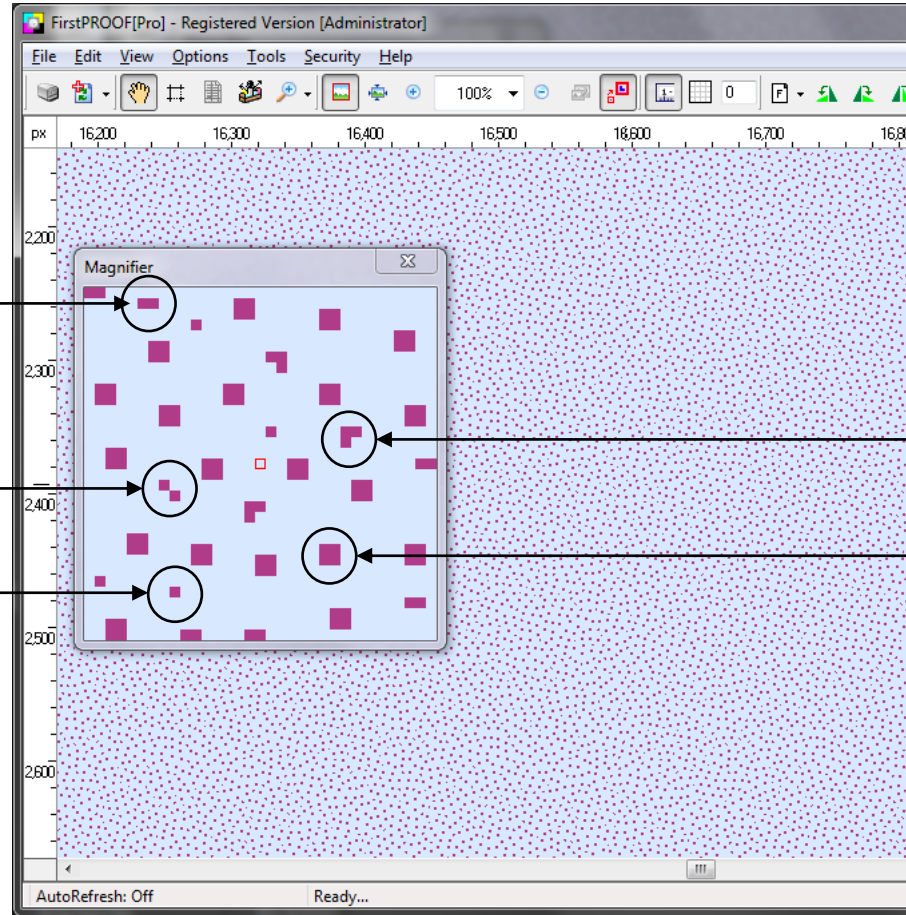
Possibly exposed on plate

Not exposed on plate

Not exposed on plate

Partially exposed on plate

Fully exposed on plate

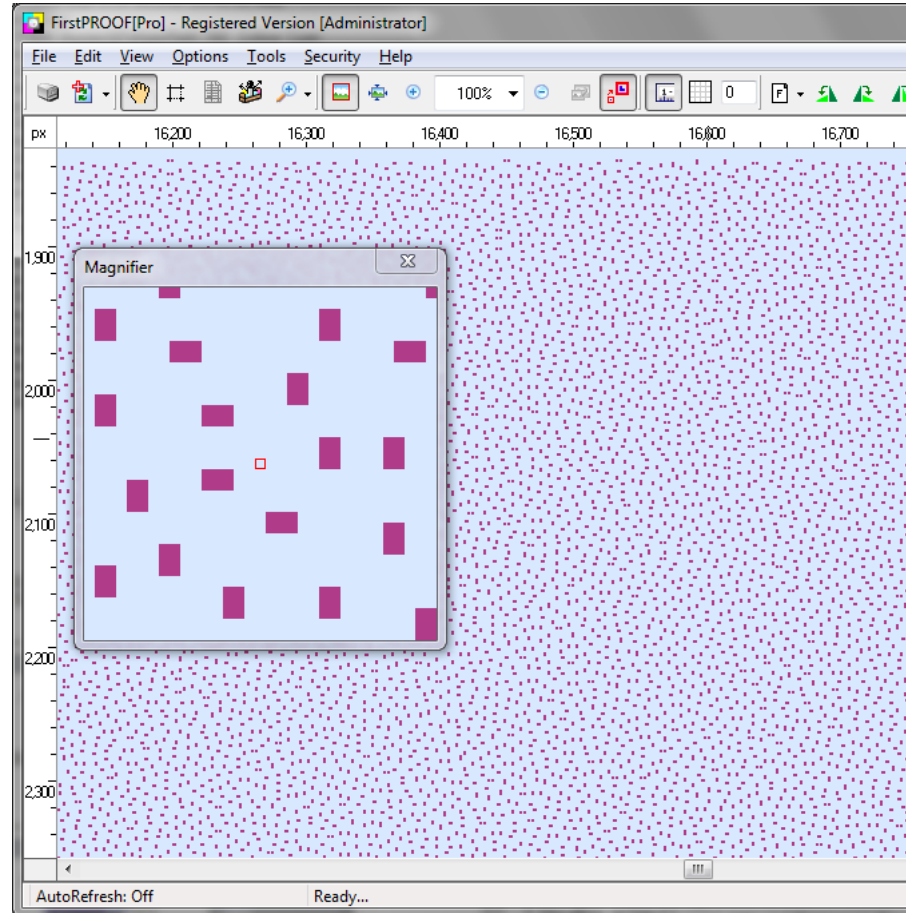


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## Flat tints (DM)

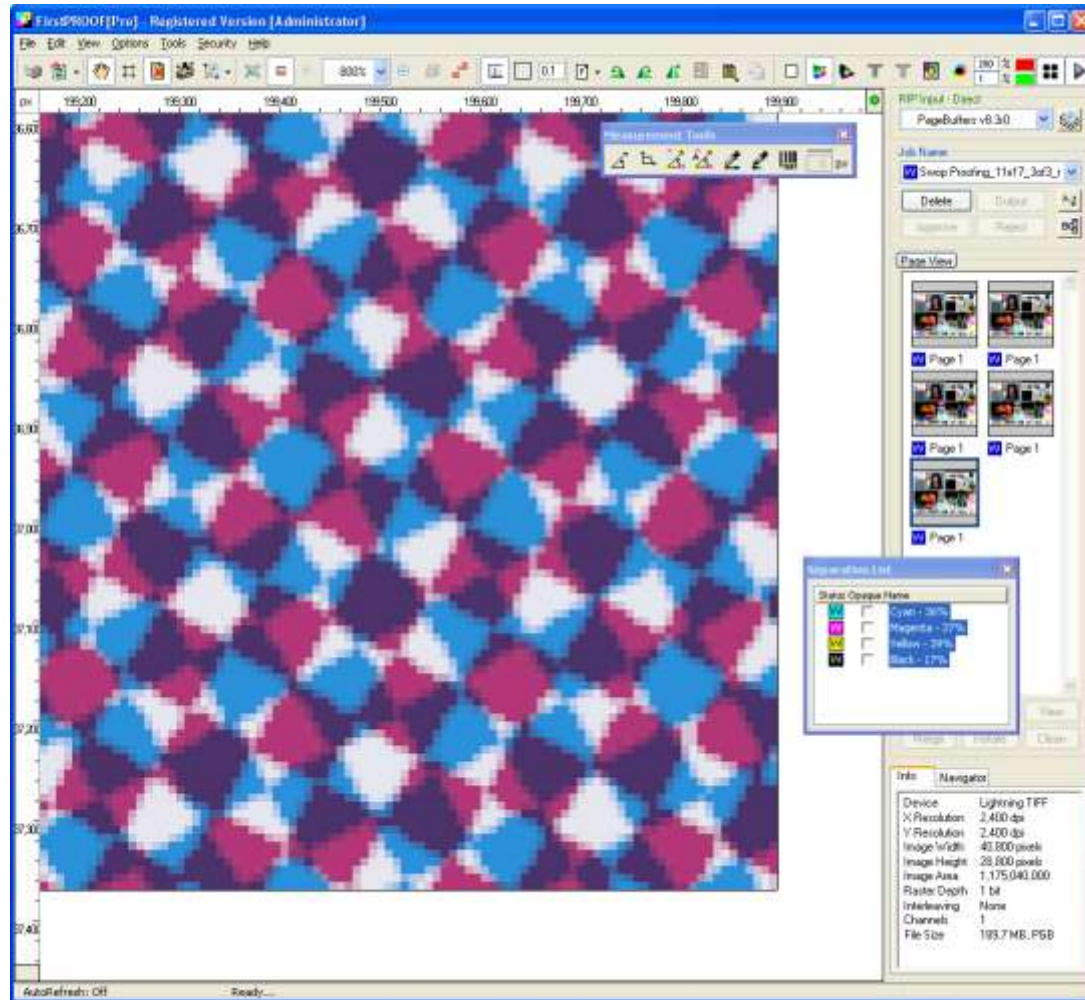
Consistent  
dots





# Flat tints (AM)

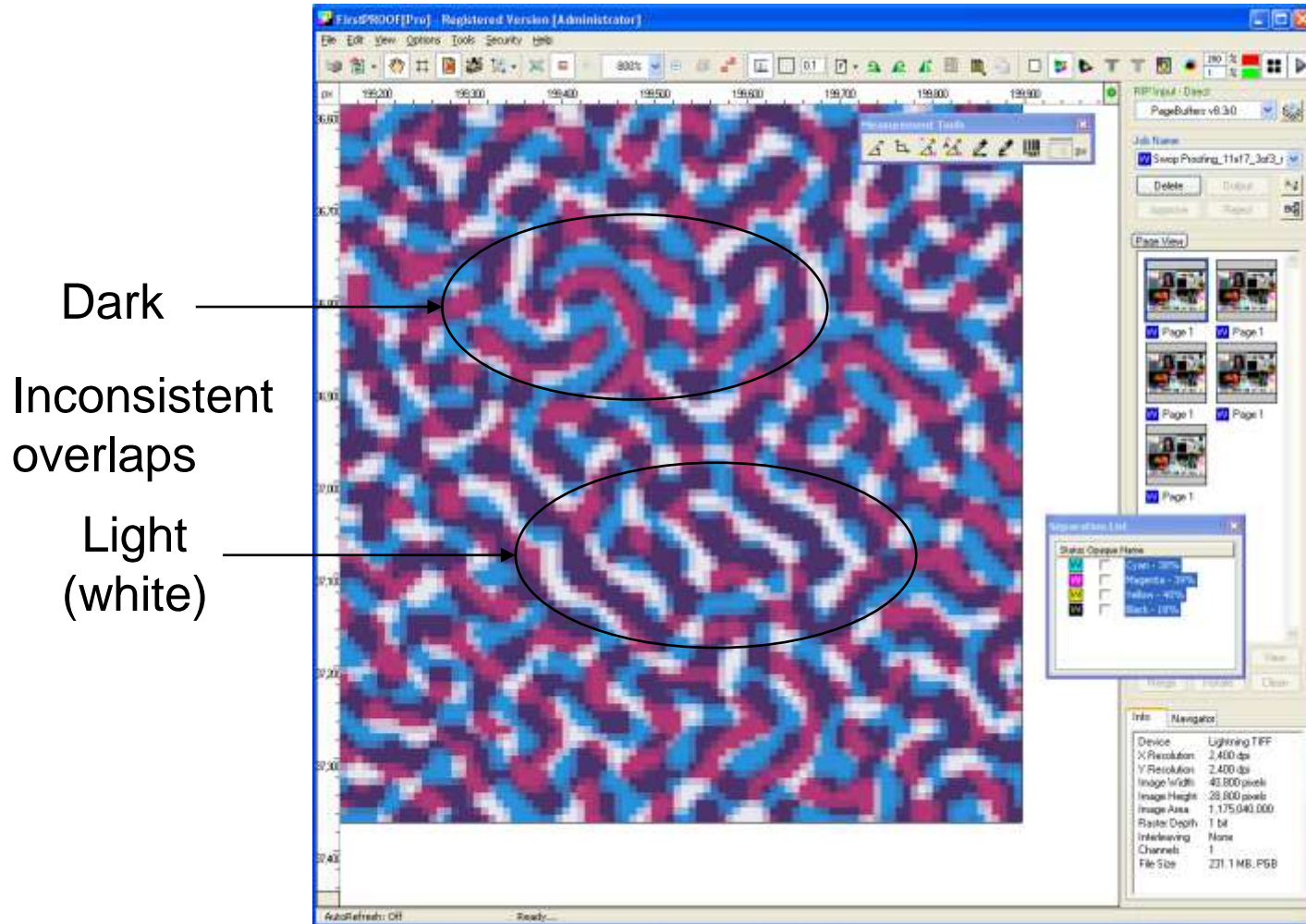
Consistent overlaps





# Flat tints (FM)

[HDS/Staccato/RandotX/Satin<sup>1</sup>]

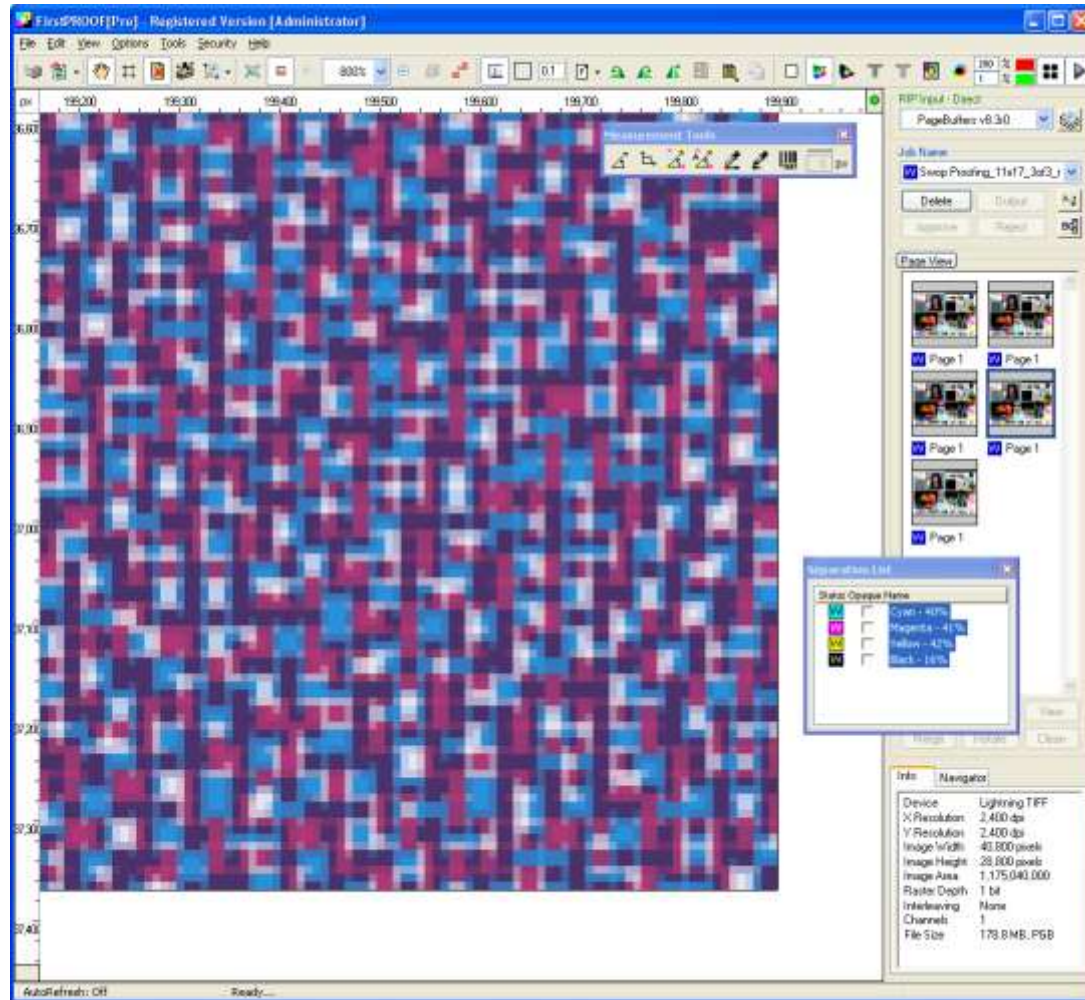


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## Flat tints (DM)

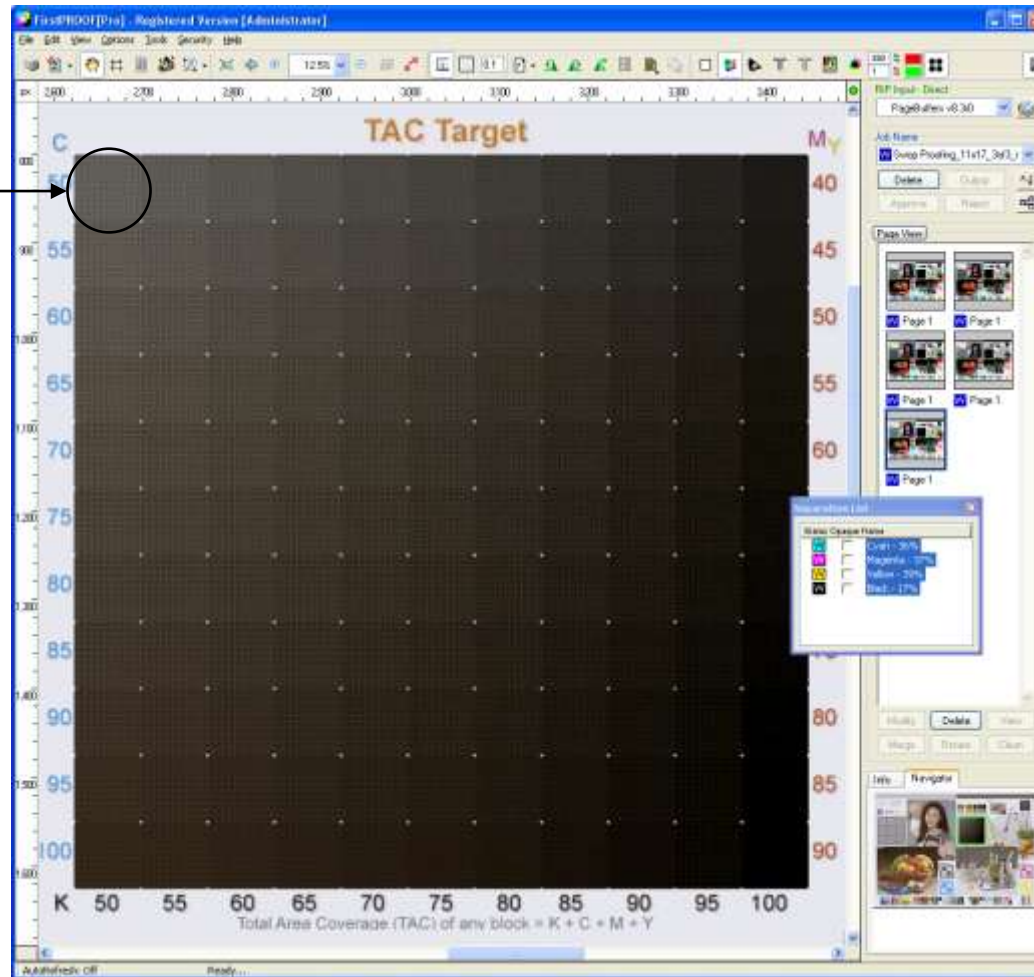
Consistent overlaps





## Flat tints (AM)

Moiré

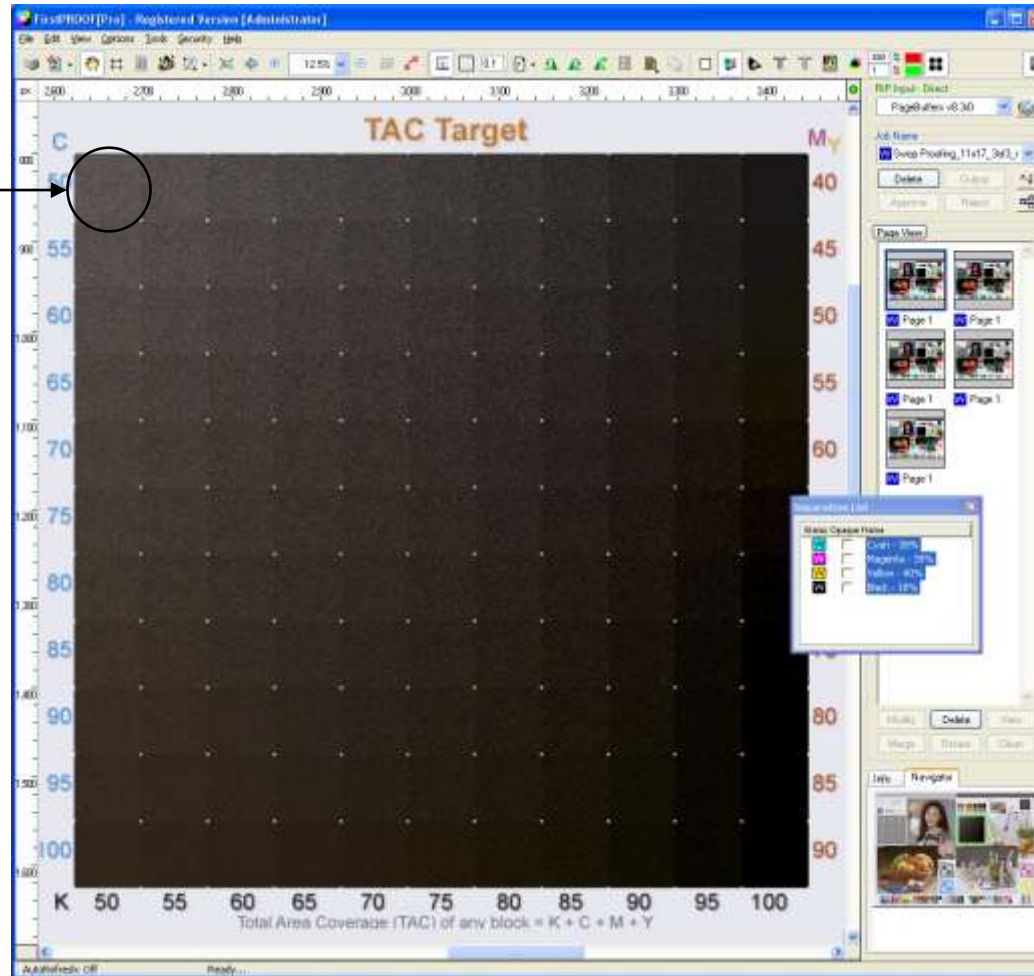




# Flat tints (FM)

[HDS/Staccato/RandotX/Satin<sup>1</sup>]

Noisy

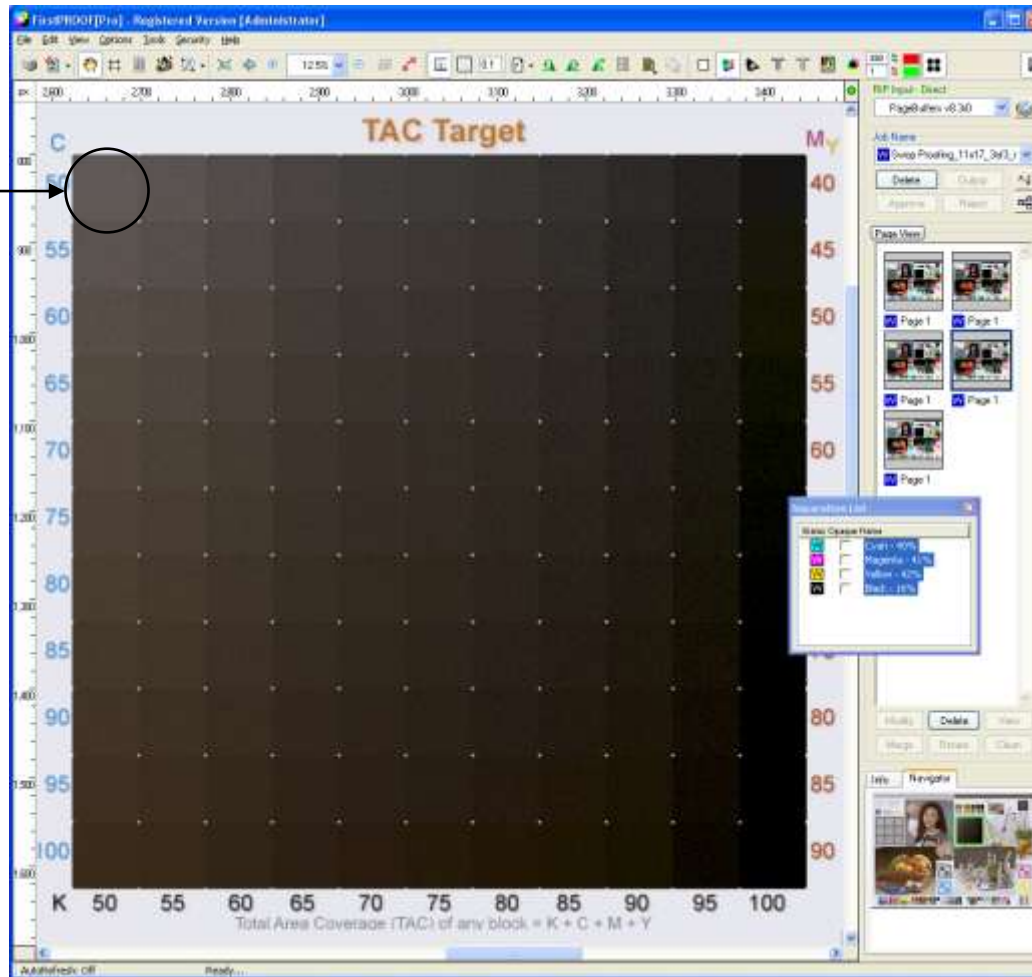


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# Flat tints (DM)

Smooth





## Flat tints (DM vs FM)

[Auraia-II vs HDS/Staccato/RandotX/Satin<sup>1</sup>]

Actual prints



FM 50% patch  
noisy



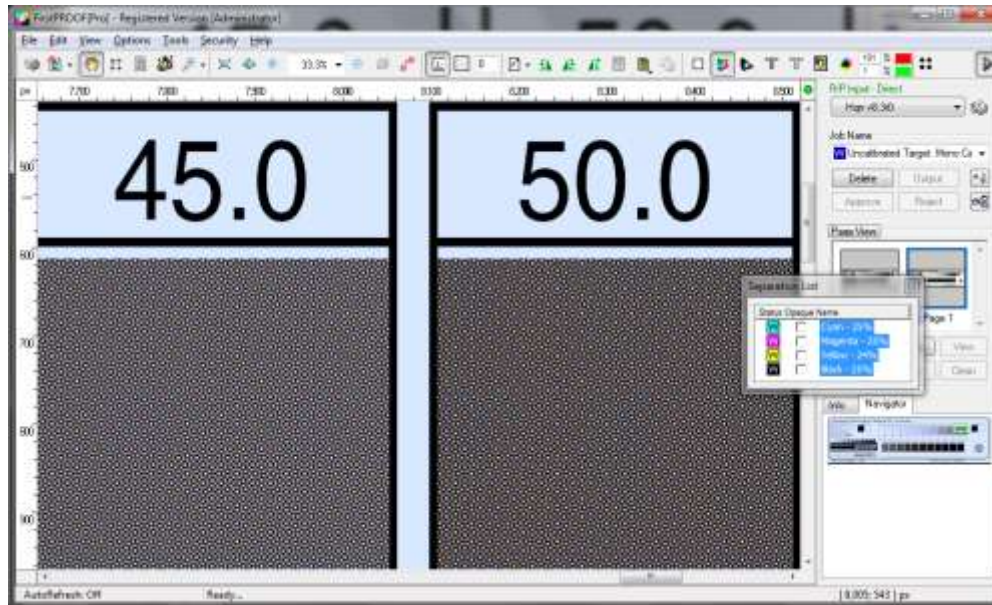
DM 50% patch  
smooth

100x magnification

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## Noise / color shifts (AM)



Mis-registered

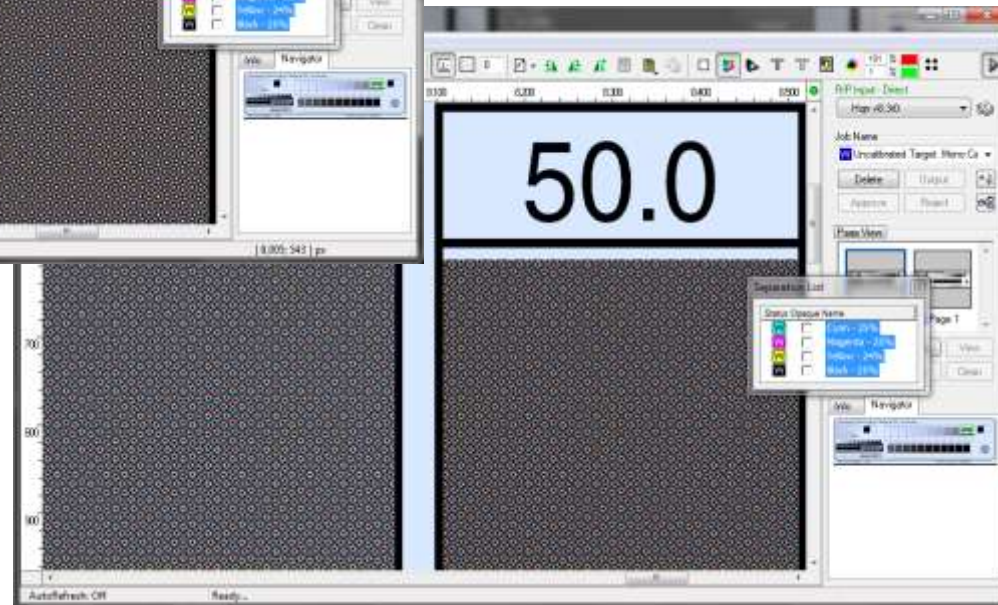
(a) dot center rosette

(b) Darker (less white)

Registered:

(a) clear center rosette

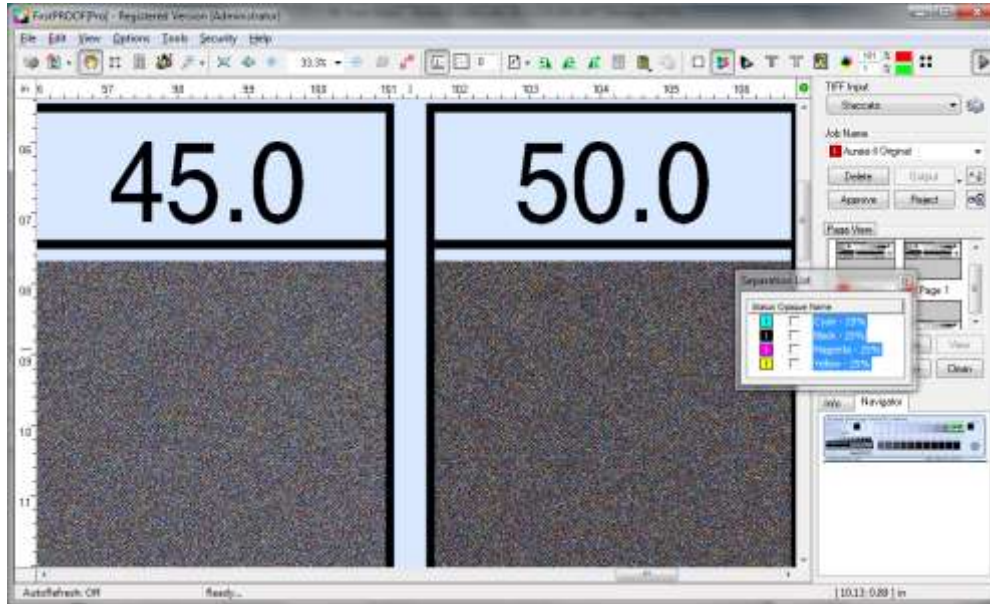
(b) lighter (more white)





# Noise / color shifts (FM)

[HDS/Staccato/RandotX/Satin<sup>1</sup>]



Mis-registered

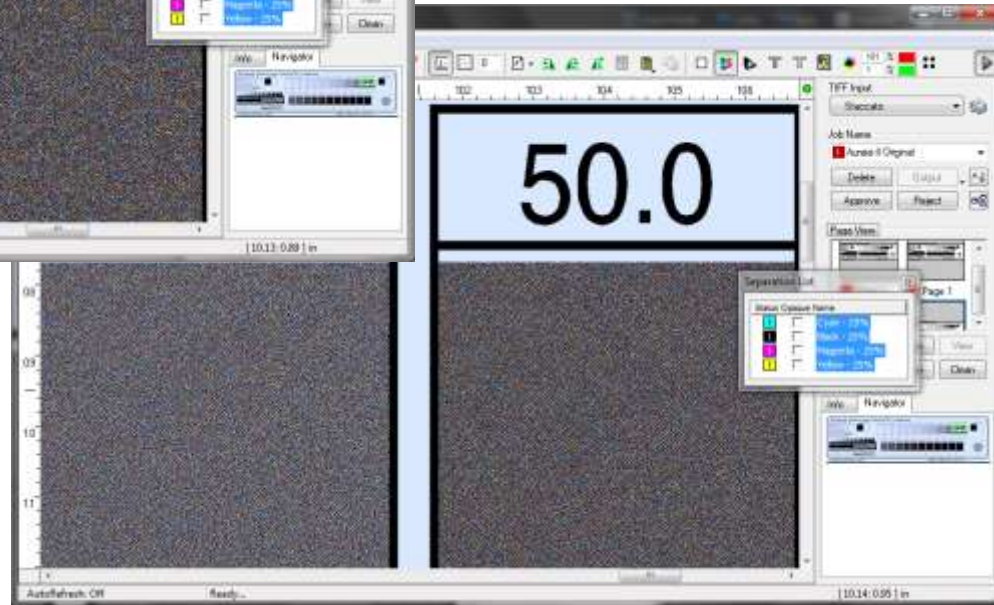
(a) smoother

(b) lighter

Registered:

(a) noiser

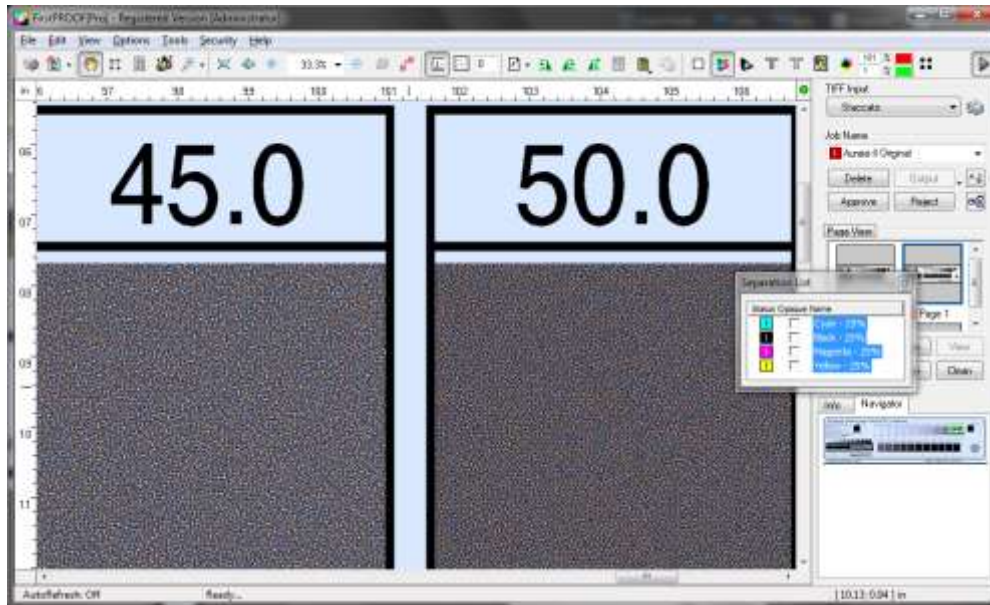
(b) darker



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## Noise / color shifts (DM)



Mis-registered

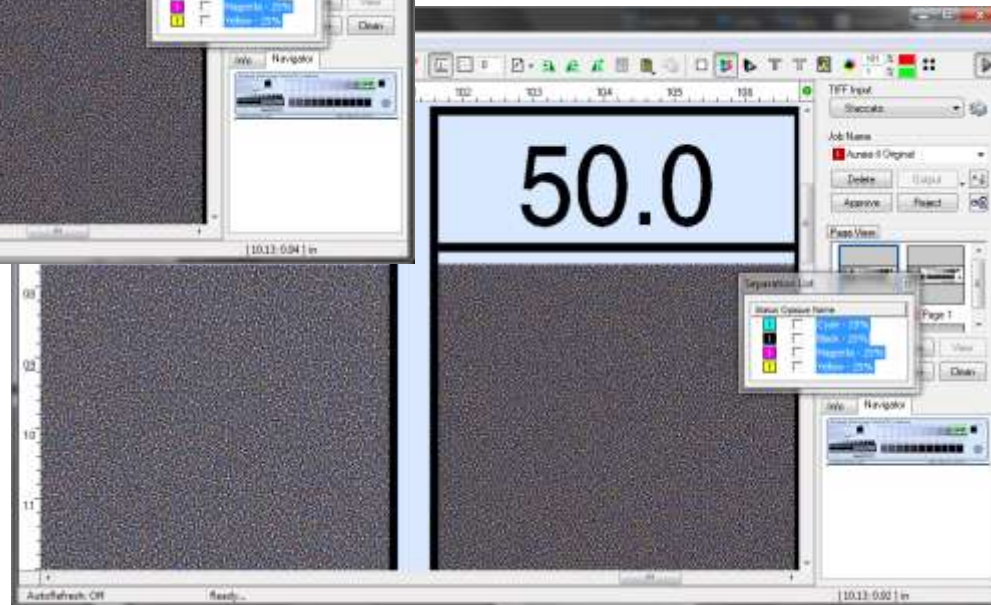
(a) same smoothness

(b) same color

Registered:

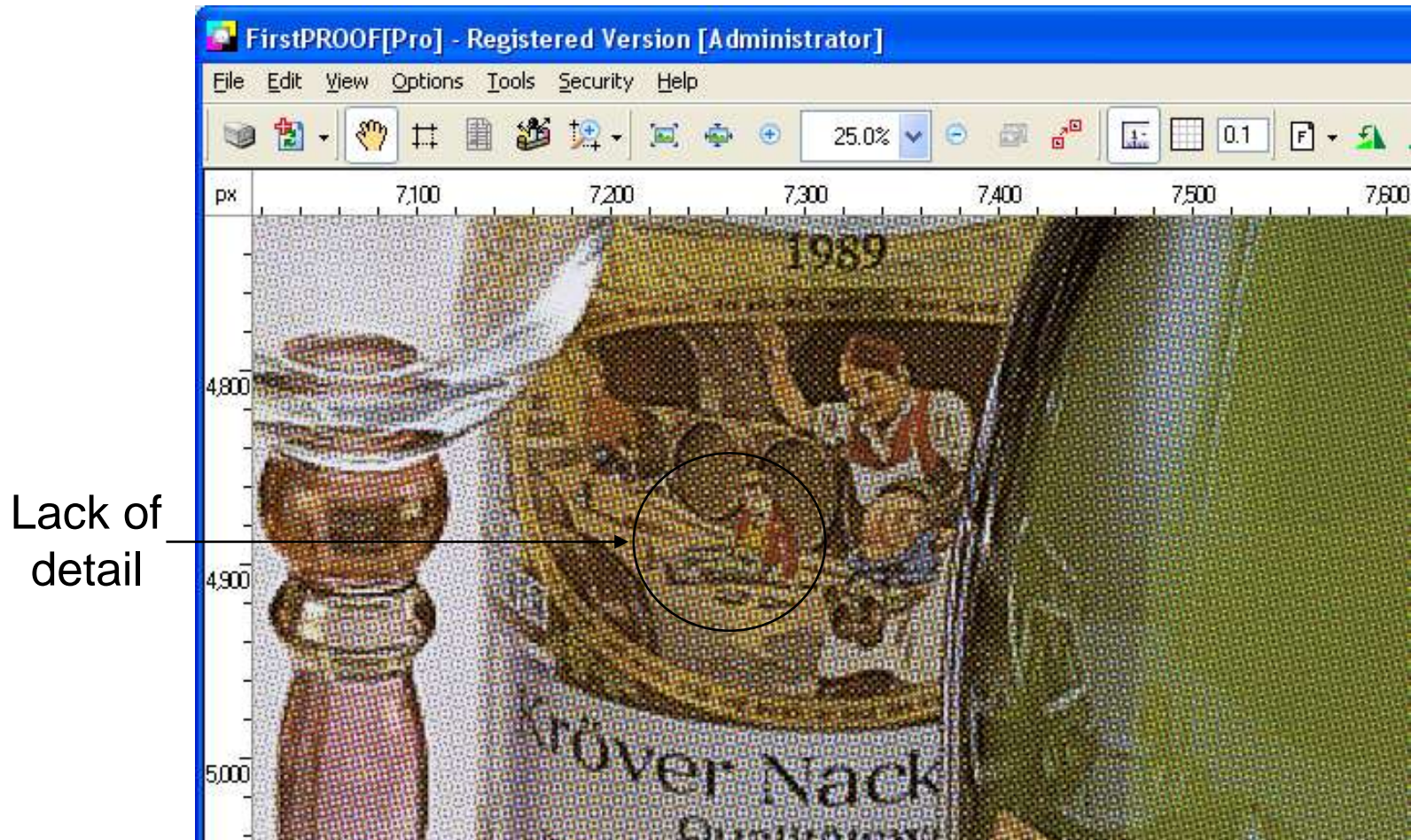
(a) same smoothness

(b) same color





## Image detail (AM)

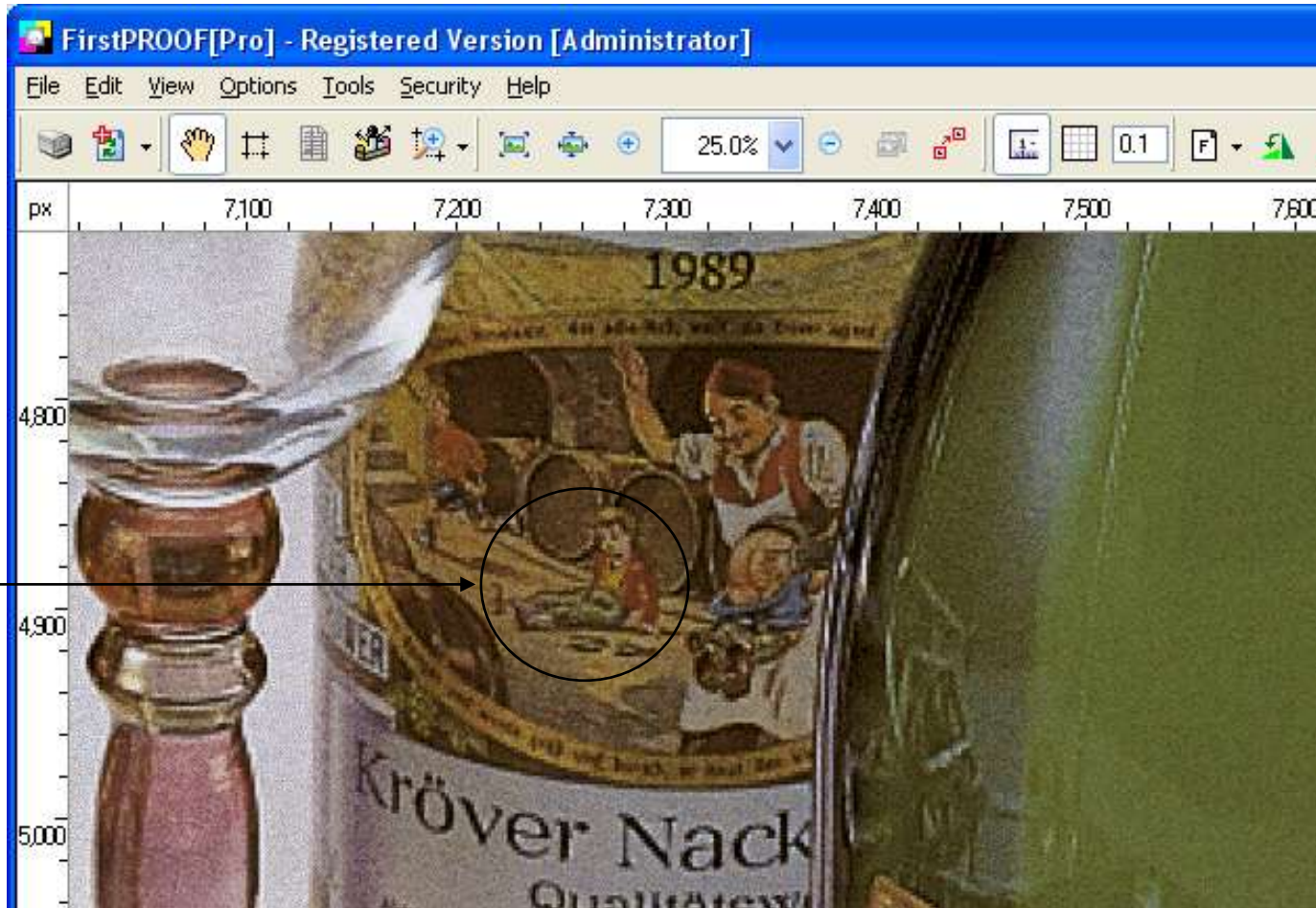




# Image detail (FM)

[HDS/Staccato/RandotX/Satin<sup>1</sup>]

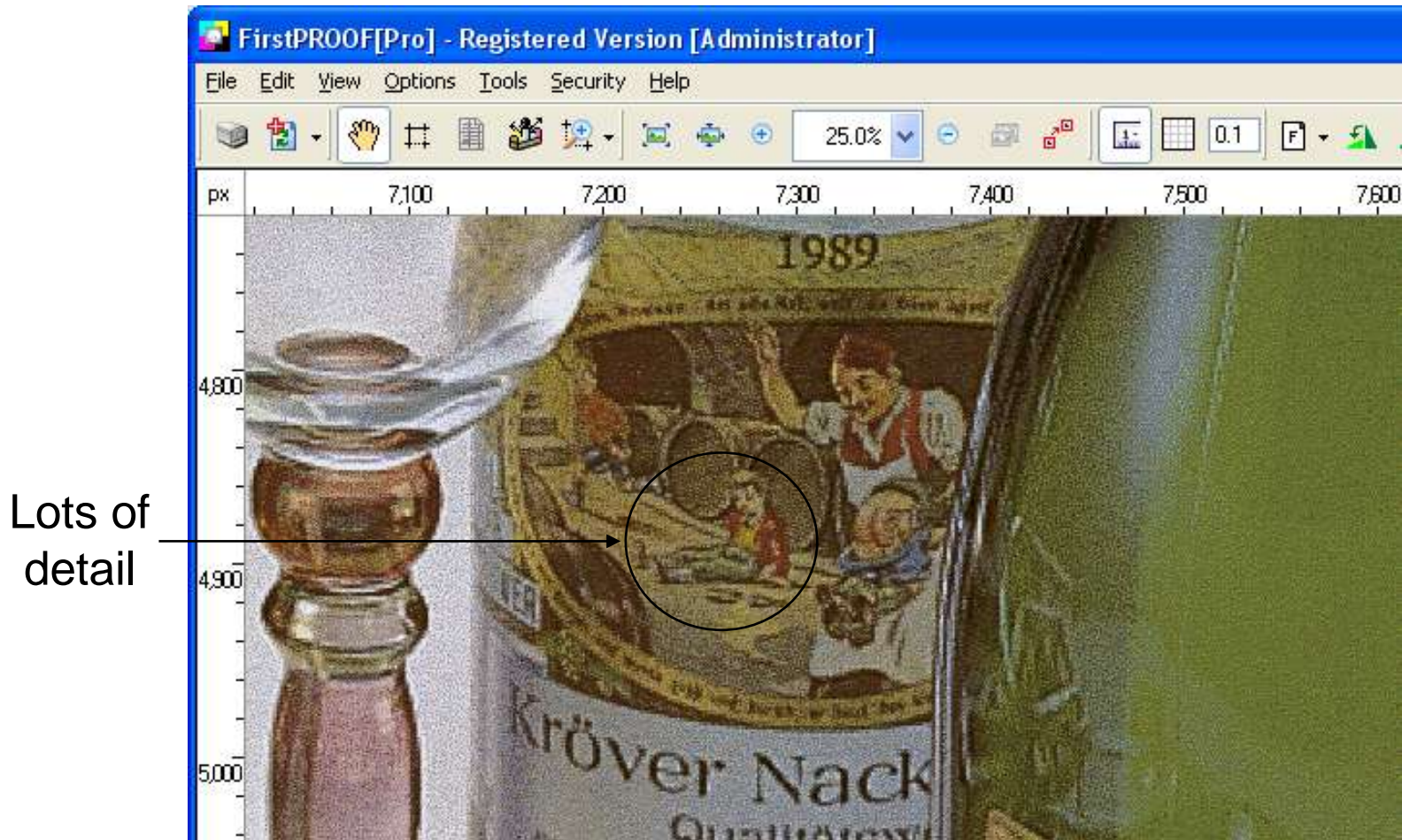
Lots of detail



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# Image detail (DM)





# Calibration (AM)

Some gain  
(harder to control)

**Edit uncalibrated target for Lightning TIFF**


Warning Criteria

Profile:

Resolution:  Vertical:   
 Dot shape:  Horizontal:

Screen freq:  ·

Exposure:   Use for Pos & Neg



Name:  Channel:

Measurements as:   Negative media

Force solid colours

0.0	2.0	4.0	6.0	8.0	10.0	15.0	20.0	30.0	40.0	45.0	50.0
0.00	6.50	9.90	13.10	16.00	18.90	25.70	32.20	44.60	56.60	62.30	66.90
55.0	60.0	70.0	80.0	85.0	90.0	92.0	94.0	96.0	98.0	100.0	
69.90	74.20	82.30	89.70	93.30	96.50	97.60	98.70	99.50	100.00	100.00	



# Calibration (AM)

Little gain  
(easy to control)

**Edit uncalibrated target for Lightning TIFF**

Warning Criteria

Profile: [dropdown]

Resolution: [dropdown] Vertical: [dropdown]  
[dropdown] Horizontal: [dropdown]

Dot shape: [dropdown]

Screen freq: [dropdown] . [dropdown] [dropdown]

Exposure: [dropdown]  Use for Pos & Neg

Name:  Channel:

Measurements as:   Negative media

Force solid colours

0.0	2.0	4.0	6.0	8.0	10.0	15.0	20.0	30.0	40.0	45.0	50.0
0.00	3.60	6.20	8.70	11.10	13.50	19.20	24.90	36.00	46.80	52.10	57.80
55.0	60.0	70.0	80.0	85.0	90.0	92.0	94.0	96.0	98.0	100.0	
61.80	66.60	75.70	84.70	89.00	93.30	94.80	96.50	98.00	99.30	100.00	



# Calibration (FM)

[HDS/Staccato/RandotX/Satin<sup>1</sup>]

Extreme gain  
(impossible  
to control)

Edit uncalibrated target for Lightning TIFF

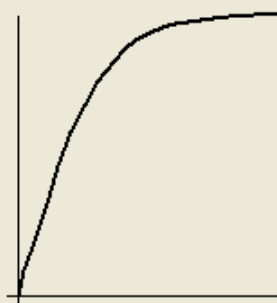
Warning Criteria

Profile:

Resolution:  Vertical:   
 Dot shape:  Horizontal:

Screen freq:  ·

Exposure:   Use for Pos & Neg



Name:  Channel:

Measurements as:   Negative media

Force solid colours

0.0	2.0	4.0	6.0	8.0	10.0	15.0	20.0	30.0	40.0	45.0	50.0
0.00	9.30	14.10	19.10	25.00	31.00	46.30	58.40	76.50	87.30	90.70	93.30
55.0	60.0	70.0	80.0	85.0	90.0	92.0	94.0	96.0	98.0	100.0	
95.10	96.30	97.80	99.00	99.40	99.60	99.70	99.80	100.00	100.00	100.00	

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# Calibration (FM)

[HDS/Staccato/RandotX/Satin<sup>1</sup>]

Significant gain  
(hard to control)

**Edit uncalibrated target for Lightning TIFF**

Warning Criteria

Profile:

Resolution:  Vertical:   
 Dot shape:  Horizontal:

Screen freq:  ·

Exposure:   Use for Pos & Neg

Name:  Channel:

Measurements as:   Negative media

Force solid colours

0.0	2.0	4.0	6.0	8.0	10.0	15.0	20.0	30.0	40.0	45.0	50.0
0.00	4.30	7.50	10.50	13.90	17.30	26.00	33.90	48.00	60.50	65.80	70.80
55.0	60.0	70.0	80.0	85.0	90.0	92.0	94.0	96.0	98.0	100.0	
75.20	79.20	85.80	91.60	94.10	96.00	96.90	97.70	98.80	99.70	100.00	

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# Calibration (DM)

Piecewise  
linear  
(accurate linear  
interpolation)

Edit uncalibrated target for Lightning TIFF


Warning Criteria

Profile:

Resolution:  Vertical:   
 Dot shape:  Horizontal:

Screen freq:  ·

Exposure:   Use for Pos & Neg



Name:  Channel:

Measurements as:   Negative media

Force solid colours

0.0	2.0	4.0	6.0	8.0	10.0	15.0	20.0	30.0	40.0	45.0	50.0
0.00	2.50	4.90	7.40	10.10	12.70	19.10	25.40	38.30	44.30	46.40	49.50
55.0	60.0	70.0	80.0	85.0	90.0	92.0	94.0	96.0	98.0	100.0	
56.40	64.40	78.10	84.50	87.90	91.80	93.40	95.00	96.60	98.30	100.00	



## Ink Saving (AM)

Filters 50% of red light, aka 50% Cyan



Filters 50% of (50% of red light), aka 75% Cyan



Requires >3.0 units of ink to produce 100% Cyan





# Ink Saving (FM)

[HDS/Staccato/RandotX/Satin<sup>1</sup>]

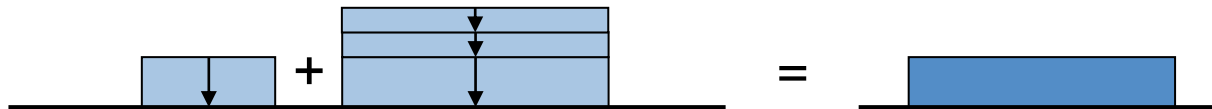
Filters 50% of red light, aka 50% Cyan



Between DM and AM, aka 87.5% Cyan



Requires >2.5 units of ink to produce 100% Cyan



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## Ink Saving (DM)

Filters 50% of red light, aka 50% Cyan



Filters 50% of red light, twice, aka 100% Cyan



Requires 2.0 units of ink to produce 100% Cyan





## Independent Quotes

Here is what some well known people had to say:

**Andy Tribute  
(Industry Analyst)**

“When you look at the tints, they are so smooth there is absolutely no banding, no screening visible in it. And they look like solid tints, like solid flat colors. I’m very impressed with this.”

**Gordon Pritchard  
(former Print Quality Marketing Manager at Creo/Kodak)**

“So, yes, I did get a chance to look at the samples, and yes they are most impressive. If indeed Auraia-II screening enables Violet CtP to do FM in a reliable manner then it has the potential to be a disruptive (for the better) technology.”



## Printer Quotes

Here is what a printer using Auraia-II had to say:

**Brian Parkes,  
(Parkes Print & Design MD)**

“As an experienced user of Auraia-II from its early development I really feel it’s one of the industry’s most productive advancements to be released in the CtP market.”

“We still use exactly the same plates, low-chem plate processor, press inks and blankets, and the press minder loves it. In fact, it simply makes quality print easier and flat tints amazingly smooth (‘unheard of for FM Screens’) and press productivity is improved as a result.”

“To date we have tested Auraia-II across a broad range of papers, both coated and uncoated, and the results are excellent, in fact on uncoated paper you could say stunning, as rosettes, dots or dot patterns are simply not discernable with the naked eye.”



# Conclusion

- Auraia produces an extended tone range of 0.01% to 99.99%
- Auraia is the only stochastic screen that produces smooth flat tints
- Auraia produces smoother flat tints than conventional screening
- Auraia produces no screen moiré, content moiré or color shifts
- Auraia produces excellent image detail of approx. 400-500 lpi
- Auraia is easy to plate, calibrate & print, using a min. 20 $\mu$  dot
- Auraia produces a significant level of ink savings (higher than FM)
- Auraia is the only screening solution that you can use on any job
- Auraia is the future for printers who want to retain and win business

For further information, please contact [auraia@hamillroad.com](mailto:auraia@hamillroad.com).