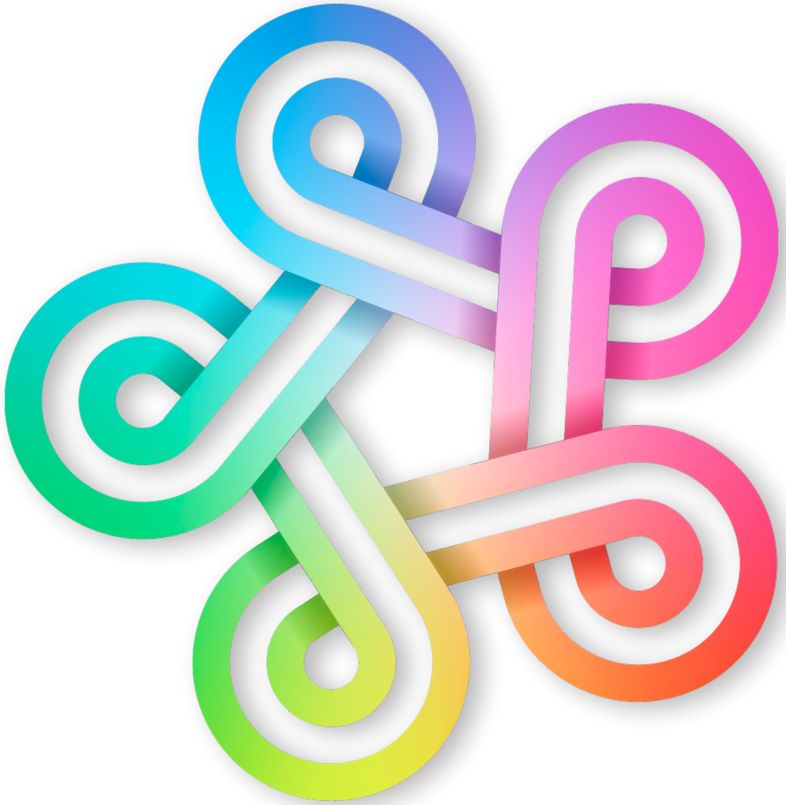


COLOR CONFORMANCE CONFERENCE ‘25

New Port Richey, FL (Tampa North)
January 28–30, 2025

COLOR CONFORMANCE
CONFERENCE ‘25

What to Aim For?

Reference Print Condition or Custom

January 28, 2025

Presented by

Krzysztof Kućma

Process Color Printing – What to Aim For?

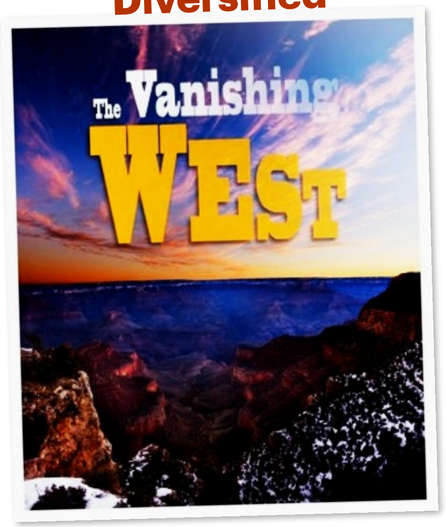
Agenda

- When reproducing print jobs, need to determine the bulls eye
  - Required to know color match to expectations (E-Factor)
- What are the options today?
  - Reference Printing Conditions
  - Custom Printing Reference
  - SCCA Edited Condition
- Quantifying success

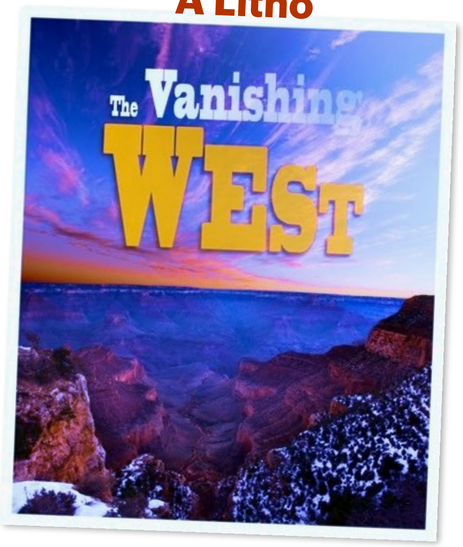
Historic Decision Making

- Looked at the four prints
  - Asked which did they like the best…

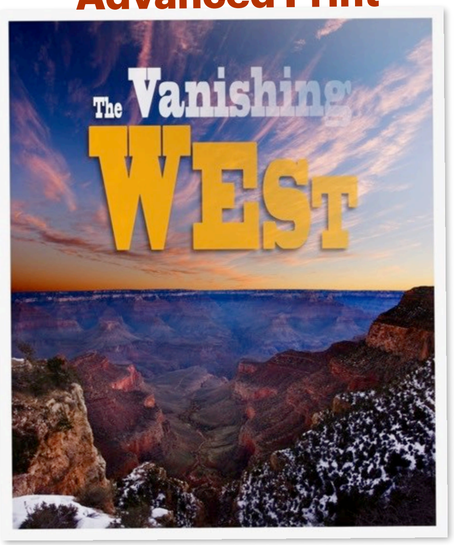
Diversified



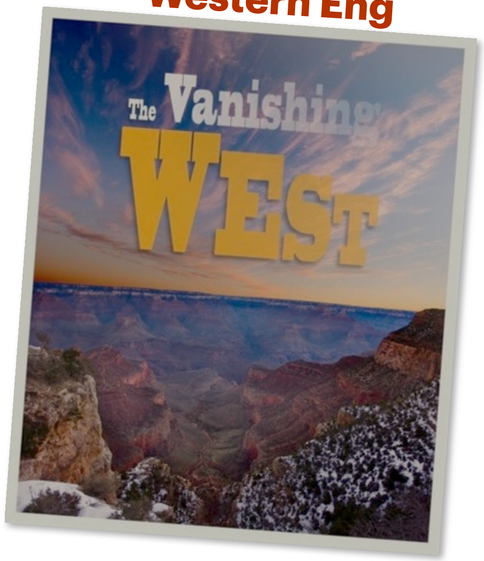
A Litho



Advanced Print



Western Eng

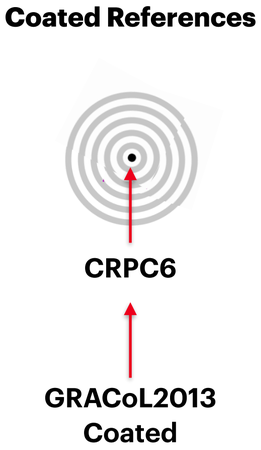


- They couldn’t agree, so they picked their favorite Printer – Diversified

Scientifically Determine Aim Point

Need Targeted Condition to define level of “Match”

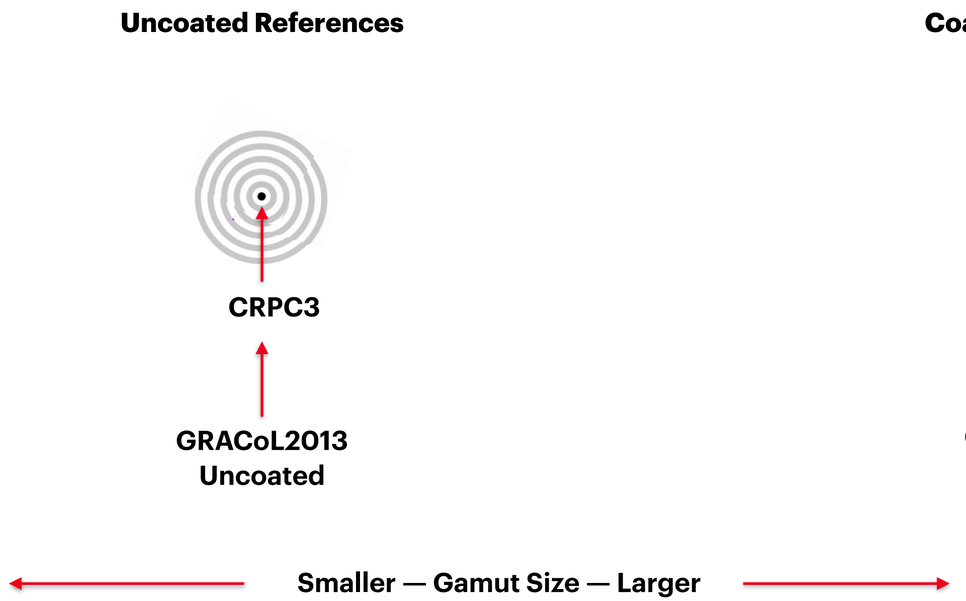
- Define expectations (E-Factor), apply to all printing conditions
- Critical to understand salable or waste for organization
- Different References for different substrates



Options Defining Your Printing Reference

1. Reference Printing Conditions per ISO 15339

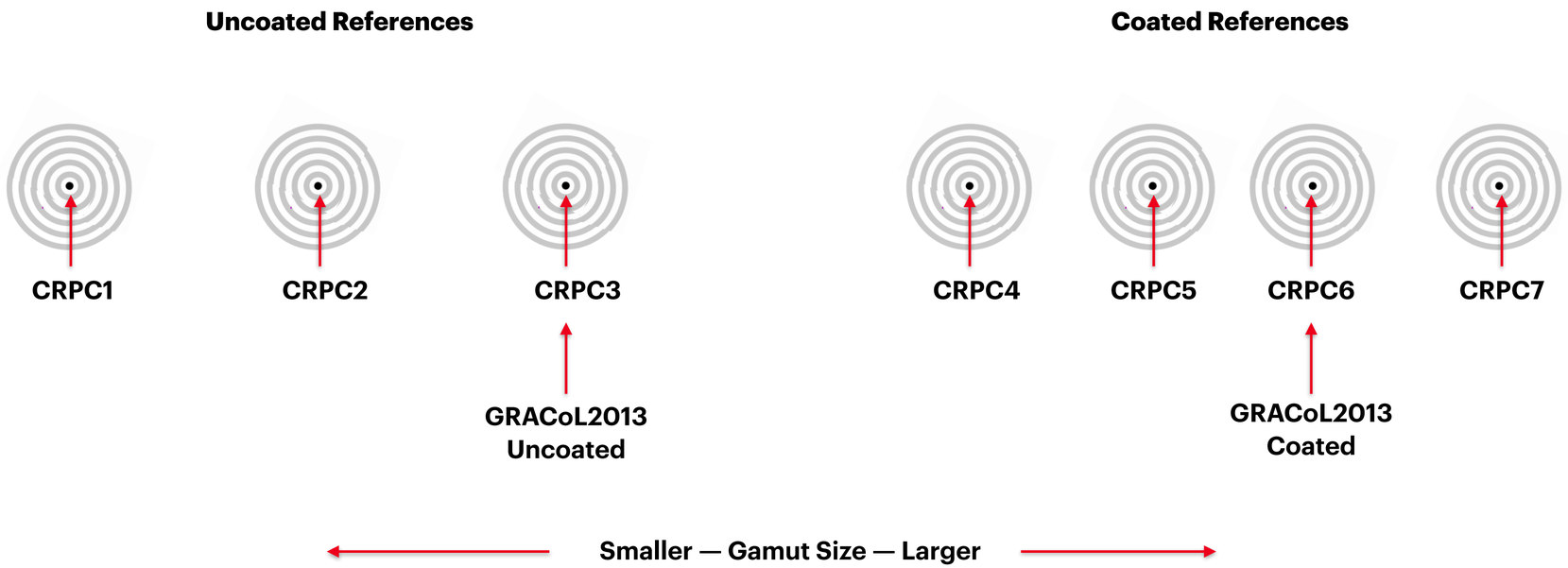
- What substrate are you printing on, what is your E-Factor goal?



Defining Your Printing Reference

What Target are you aiming for? ISO 15339

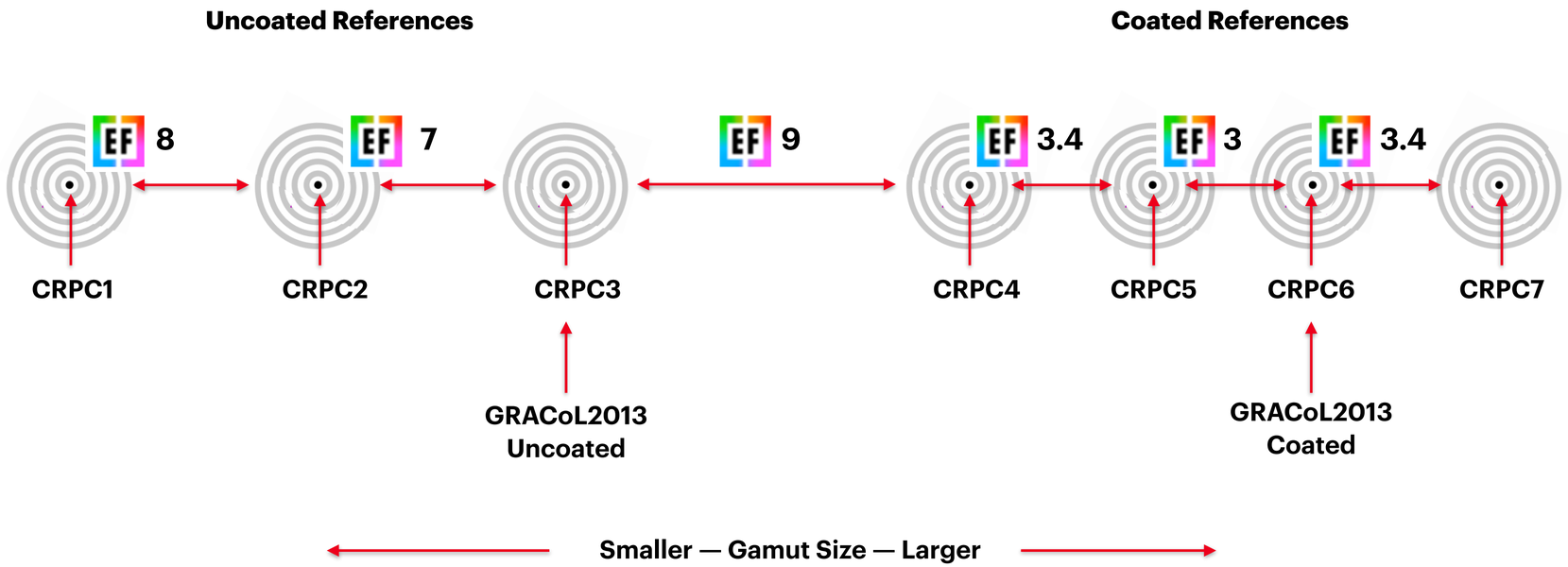
- What substrate are you printing on…



Defining Your Printing Reference

What Target are you aiming for?

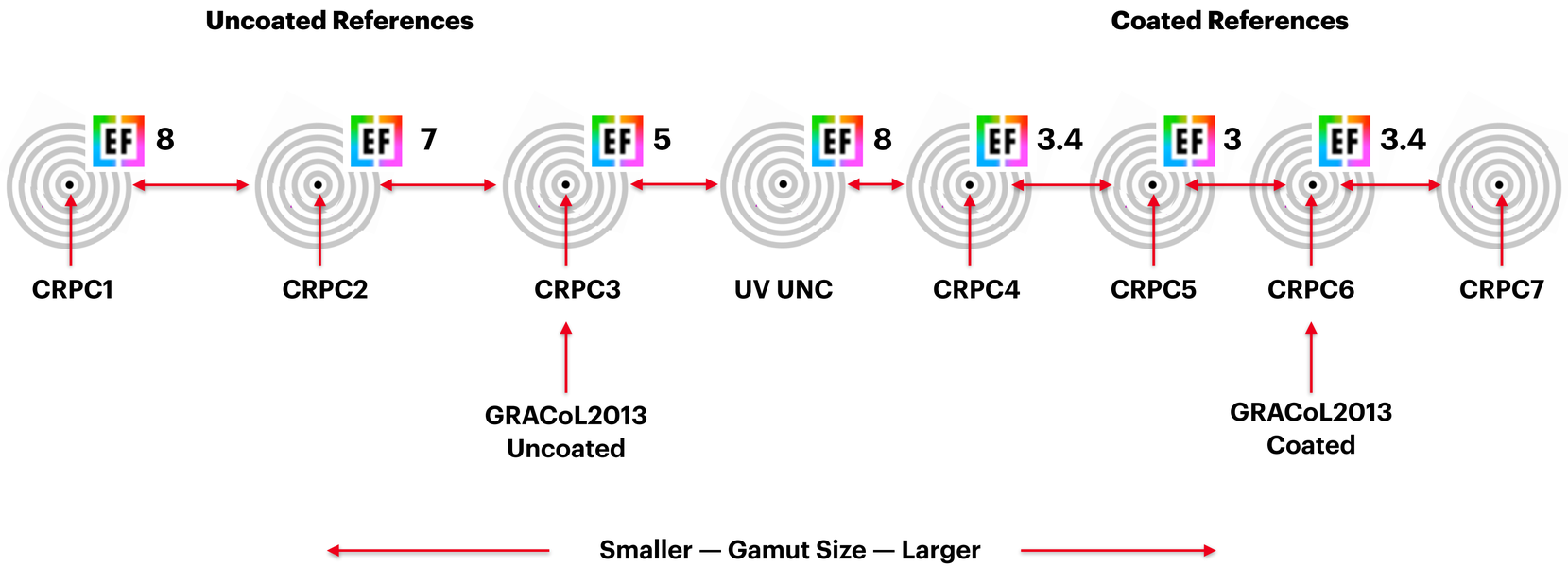
- What substrate are you printing on…



Defining Your Printing Reference

What Target are you aiming for?

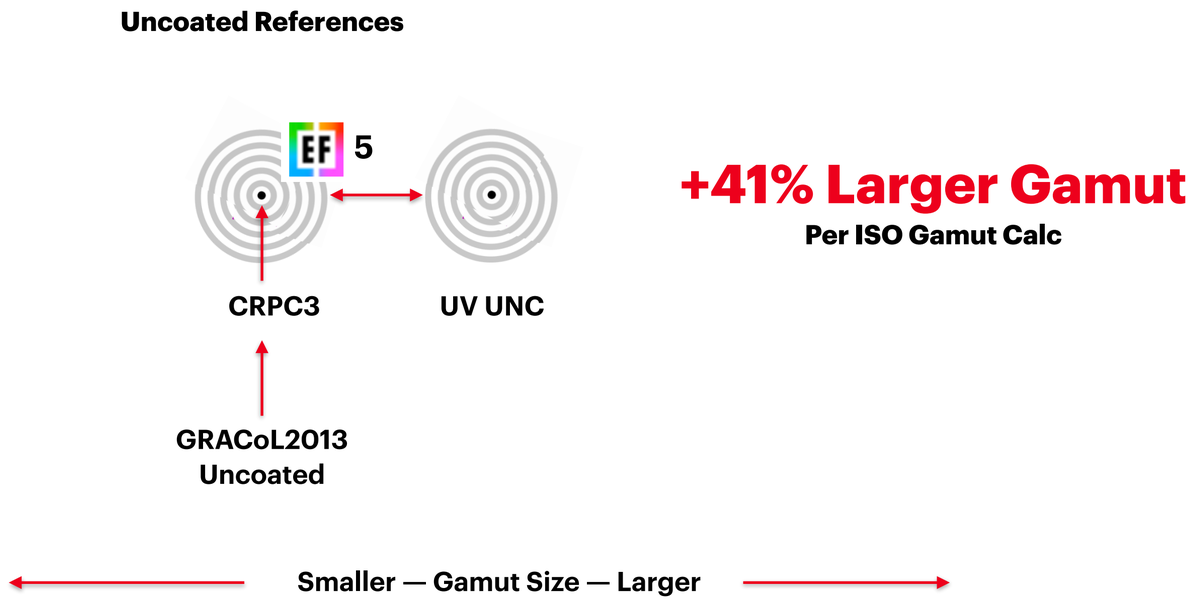
- What substrate are you printing on…



Defining Printing Reference – New UV UNC

What Target are you aiming for?

- What substrate are you printing on…



What if Print Gamut is “In Between RPCs”

2. Create Custom Print Reference

- Two use cases
- Extra large gamut- Canon Colorado
- Production ink jet printer between CRPC 2 and 3 (7 E-Factor delta)

Create Custom Print Reference

Use Case 1 – Canon Colorado

- Colorado gamut is very large, significantly bigger than CPRC 7
- Need Reference to be G7 based
  - Color conversion provides G7 print result without using curves
- Want to optimize print gamut – use all available color
  - While ensuring G7 and primaries are hue aligned to GRACoL
  - Blues stay blue – not purple, reds stay red, not orange

Create Custom Print Reference

Canon Colorado – Large Gamut, beyond CRPC 7

- Configure either profile as Input Profile in workflow
- Then print an ICC Profile target
  - Make CMYK to Lab table large if wanting to proof
  - Profile used within Color Conformance software for Pass Fail
  - May use to simulate production print condition in Photoshop etc.
  - Result should be G7 compliant, with primary hues in alignment

Create Custom Print Reference

Canon Colorado – Large Gamut, beyond CRPC 7

- Need Reference to be G7 based
  - Color conversion provides G7 print result without using curves
- Want to optimize print gamut – use all available color
  - While ensuring G7 and primaries are hue aligned to GRACoL
  - Blues stay blue – not purple, reds stay red, not orange
- Use Artificial G7 Large Gamut Profile as INPUT profile in workflow
  - Idealliance PrintWide
  - ChromaChecker Wide Gamut
  - Both based on ICC Profile Connection Space, and G7

Create Custom Print Reference

Use Case 2 – Production Ink Jet

- Need Reference to be G7 based
  - Color conversion provides G7 print result without using curves
- Want to optimize print gamut – use all available color
  - While ensuring G7 and primaries are hue aligned to GRACoL
  - Blues stay blue – not purple, reds stay red, not orange

Create Custom Print Reference

Use Case 2 – Production Ink Jet

- Need Reference to be G7 based
  - Color conversion provides G7 print result without using curves
- Want to optimize print gamut – use all available color
  - While ensuring G7 and primaries are hue aligned to GRACoL
  - Blues stay blue – not purple, reds stay red, not orange
- Could use CPRC3 as Input profile in workflow
  - Then print ICC Profile target through workflow
  - Use profile to assess E-Factor of production
  - In our case, did not provide G7 result

Create Custom Print Reference

Use Case 2 – Production Ink Jet

- When the ICC Profile target through workflow didn’t work…

- We used internal software which Virtually Print Run created ICC
- Configured this profile in workflow as INPUT profile

Create Custom Print Reference

Use Case 2 – Production Ink Jet

- When the ICC Profile target through workflow didn’t work…

- We used internal software which Virtually Print Run created ICC
- Configured this profile in workflow as INPUT profile

- This worked, provided a 2-3 E-Factor for printer
- And provided G7 compliance
- Possible to “productize” this Virtual Print Run ICC if enough demand

Quantifying Success

Use E-Factor, and Ensure G7 Compliance

- Experiment with different rendering intents using conversions
- Test to ensure E-Factor for production is within Acceptable limits
- Assess G7 compliance
  - NPDC passing is challenging when gamuts are very different

Resources – Thank You

Helpful links

- PDF version of this presentation
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