

# **Evaluation of practical tests with Cruse Scanners**

**New Hardware Configuration  
Cruse Professional Profiles**

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## Colorimetric Evaluation

The plot to the right illustrates the error distribution of different scanner configurations and profiling methods.

The length of a colored bar indicates the percentage of test colors that fall below a certain error threshold ( $\Delta E_{00}$ ). The test set contains more than 800 samples and includes many extremely challenging metameric colors.

The two shades of green indicate errors below 1 (invisible) and 2 (very small color differences) respectively. The dark green bars stand for perfectly reproduced colors and the light green bars for very good results (top-class proof systems produce errors in the same range).

Yellow bars depict errors below 3: in demanding cases they require minor manual corrections.

Shades of red indicate more or less drastic errors: Errors between 3 and 6 (bright red) catch even the eyes of untrained observers and errors above 6 (dark red) are fatal.

### Row 1: typical situation

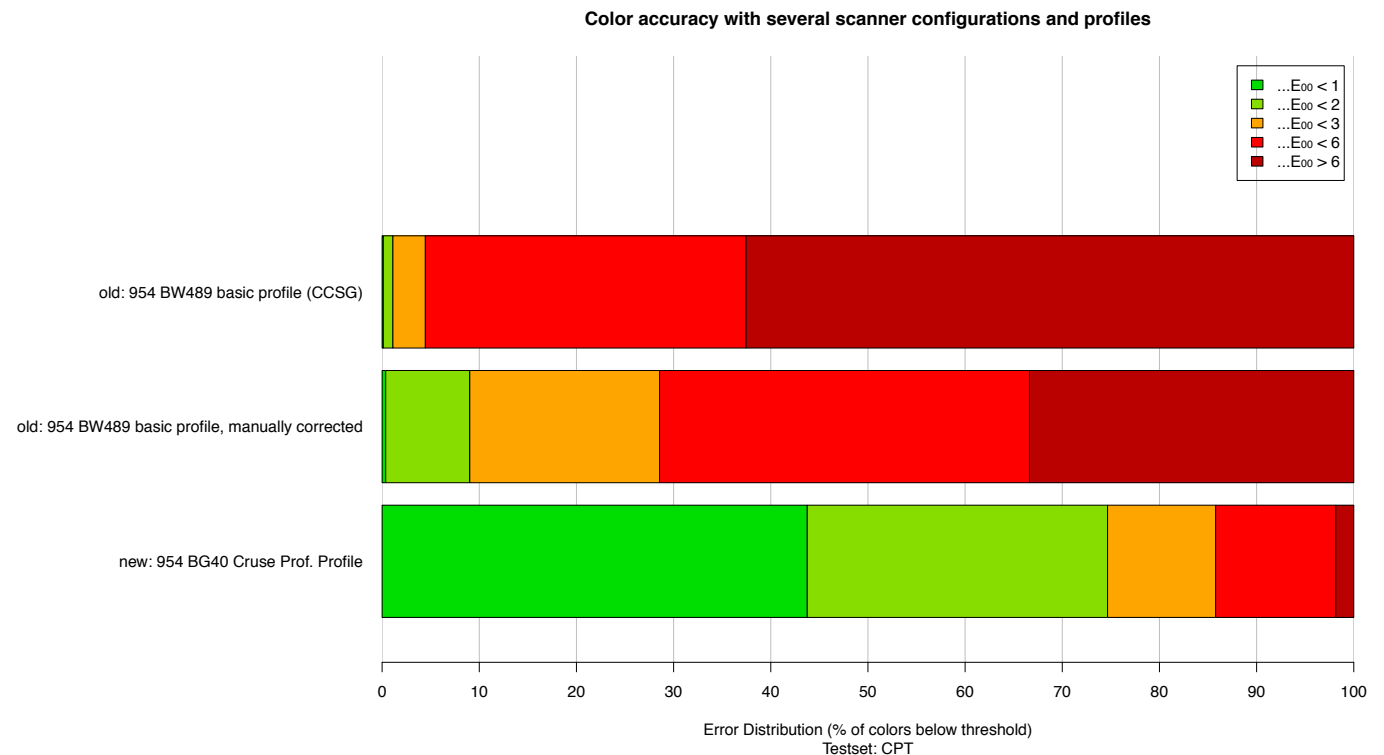
Old configuration (Osram 954 tubes, B&W 489 filter) with basic profile (ProfileMaker profile made with ColorChecker SG). The white balance is not brand new and maybe also the profile has not been created under optimal conditions. Approx. 95% of the colors require more or less drastic corrections. Systematic red shifts. More than 60% of the colors have been reproduced with grave errors.

### Row 2: manually corrected

Same scan as Row 1, but lightness errors (caused by stray light, outdated white balances and profile errors) manually corrected in Photoshop. More than 90% of the colors are still not very good. Systematic color shift (red cast) in many colors as profiling target does not represent typical originals and IR sensitivity of the sensor is too high. Still more than 30% grave color errors.

### Row 3: new configuration, Cruse Professional Profile

Osram 954, BG 40, G+ box, Cruse Professional Profile: Approx. 75% of the colors are very good and approx. 85% of the test colors require no or only minor corrections. No more systematic red shifts as profiling target closely resembles typical originals. Less than 2% grave color errors.

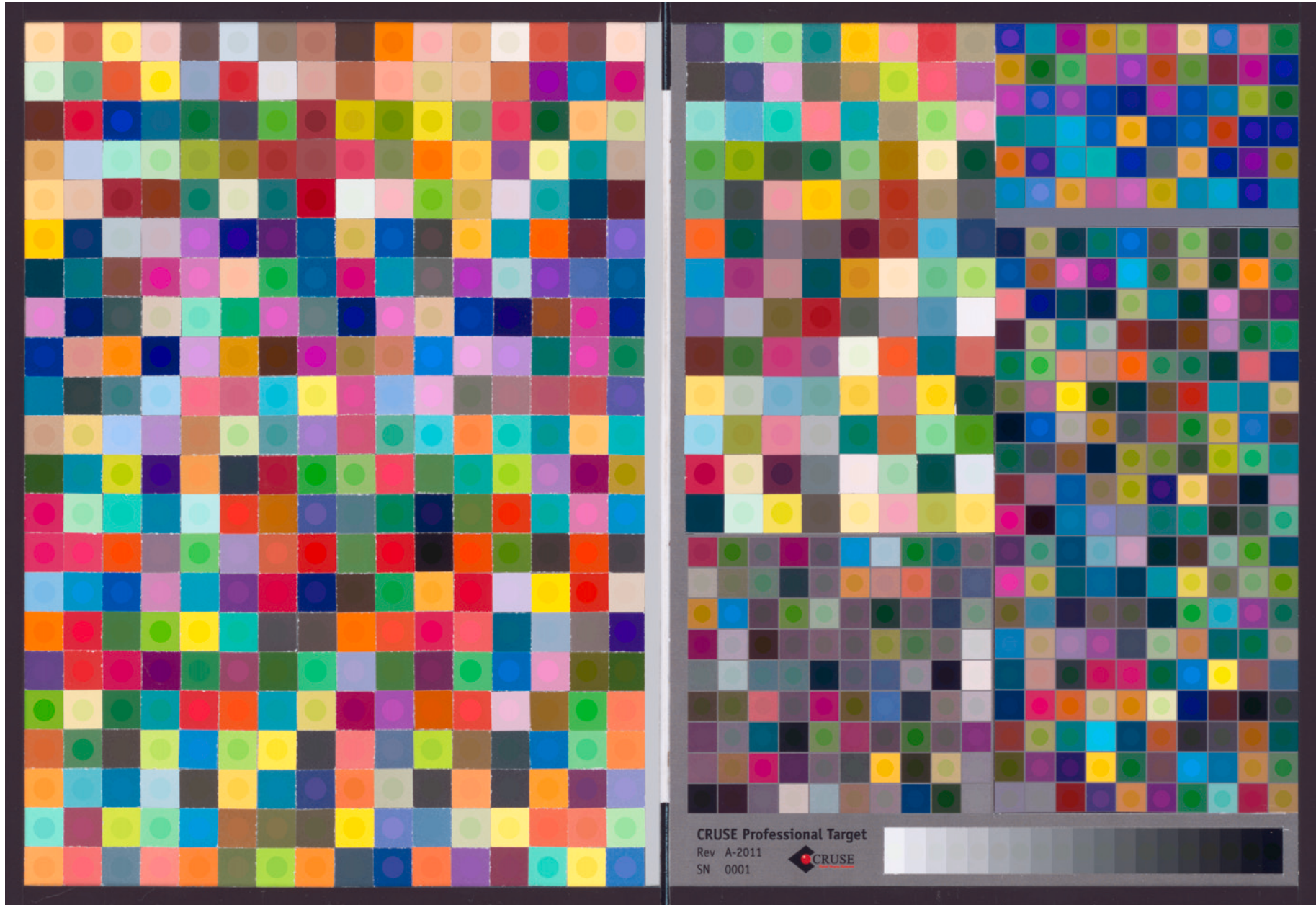


Visual Comparison Evaluation Row 1 – old Configuration (954/BW489)



Round dots: Target colors (measured), Configuration: Osram 954, B&W 489 filter, old scan box, basic profile (ProfileMaker profile made with ColorChecker SG)

**Visual Comparison** Evaluation Row 2 – old Configuration (954/BW489), manually corrected



Round dots: Target colors (measured), Configuration: Osram 954, B&W 489 filter, old scan box, basic profile (ProfileMaker profile made with ColorChecker SG), manually corrected

**Visual Comparison** Evaluation Row 3 – new Configuration (954/BG40/G+), Cruse Professional Profile



Round dots: Target colors (measured), Configuration: Osram 954 tubes, BG 40 filter, new scan box (G+ box), Cruse Professional Profile