Monitor Calibration

Etobicoke Camera Club

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Why calibrate your monitor?

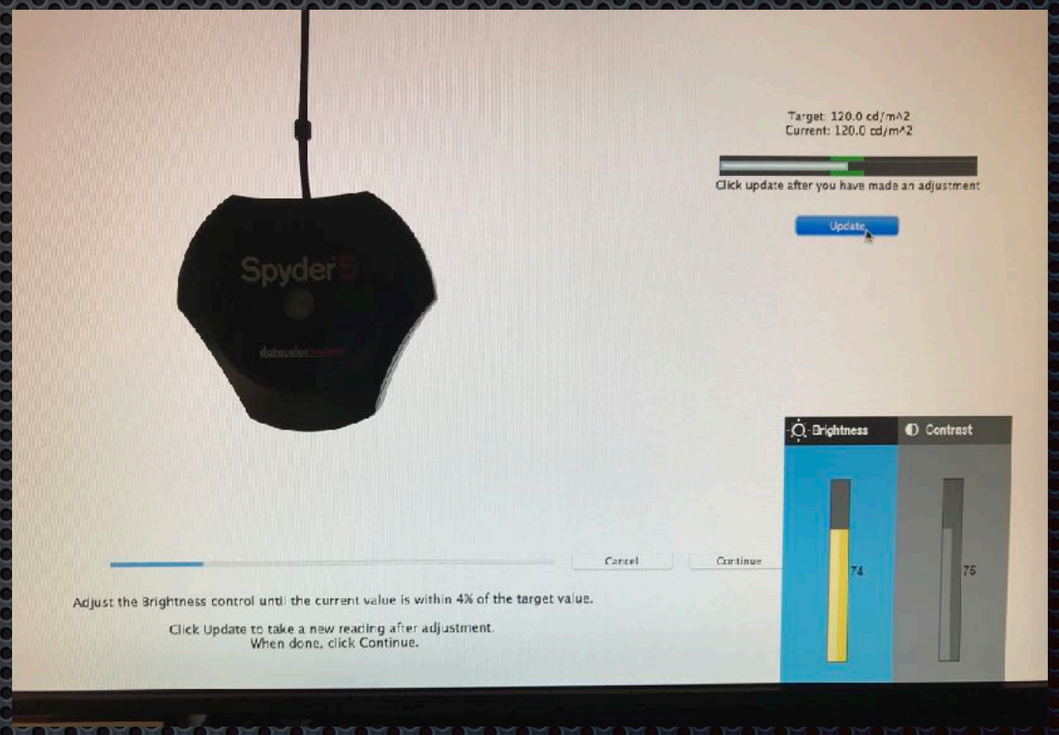
- To ensure your images get a fair score during competitions
- To match your monitor's colours, brightness and other settings to a set standard ("calibrated")
- The ECC projector has been calibrated for each season

Can’t I manually adjust my monitor?

- Sure, but there’s an infinite number of settings for brightness, contrast, colour, etc.
- There’s no guarantee that you’ll match what will be shown on the ECC projector

What do I need to do?

- Buy a “Calibrator”
- Use it to calibrate your monitor(s)
- Repeat on a regular basis
- As monitors age, they need to be re-calibrated



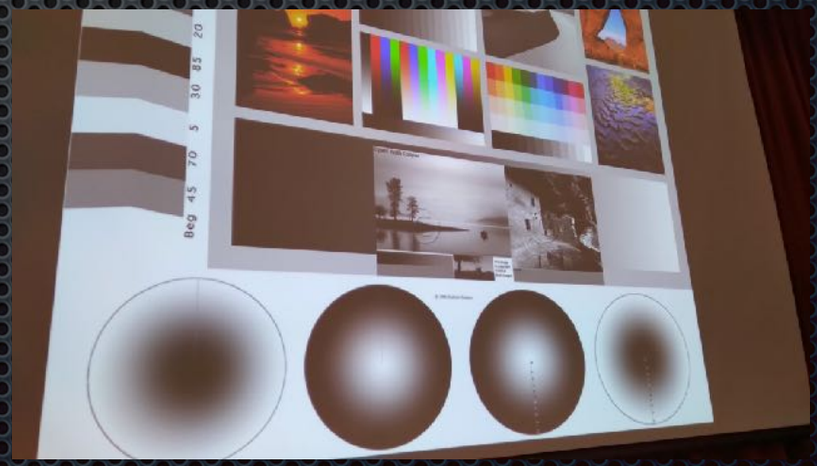
What is a “Calibrator”?

- A hardware/software tool
- It measures how your monitor displays colours
- It builds a custom profile to correct your monitor

What about the ECC projector?

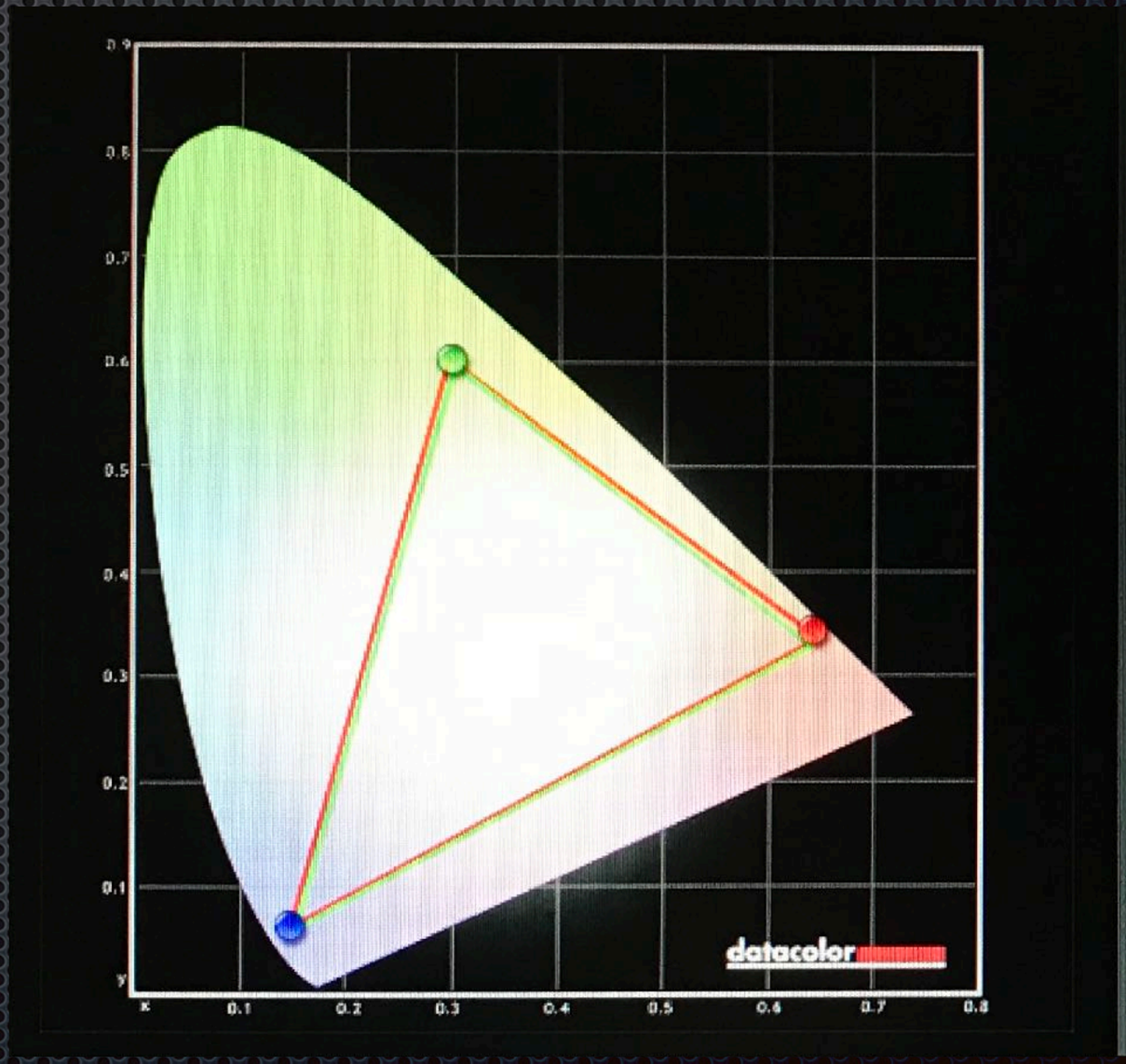
- At the start of each season, we calibrate the projector and backup projector with both notebook computers

- ECC has used Datacolor calibrators for over 10 years



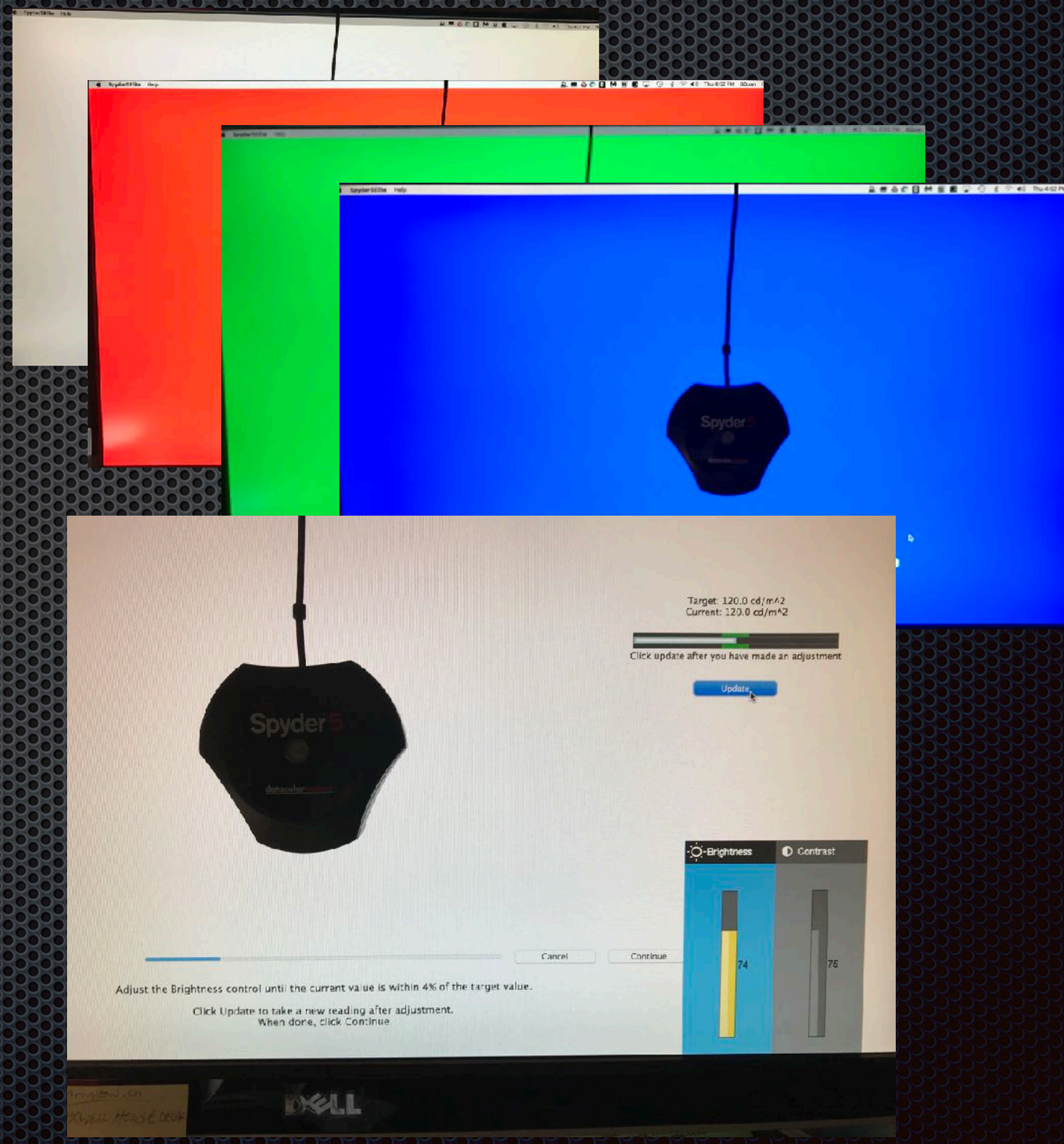
What standard do we use?

- sRGB: standard default colorspace for the Internet for 8-bit colour (as used by JPEG files)
- Defined by International Color Consortium (ICC): IEC 61966-2-1: 1999



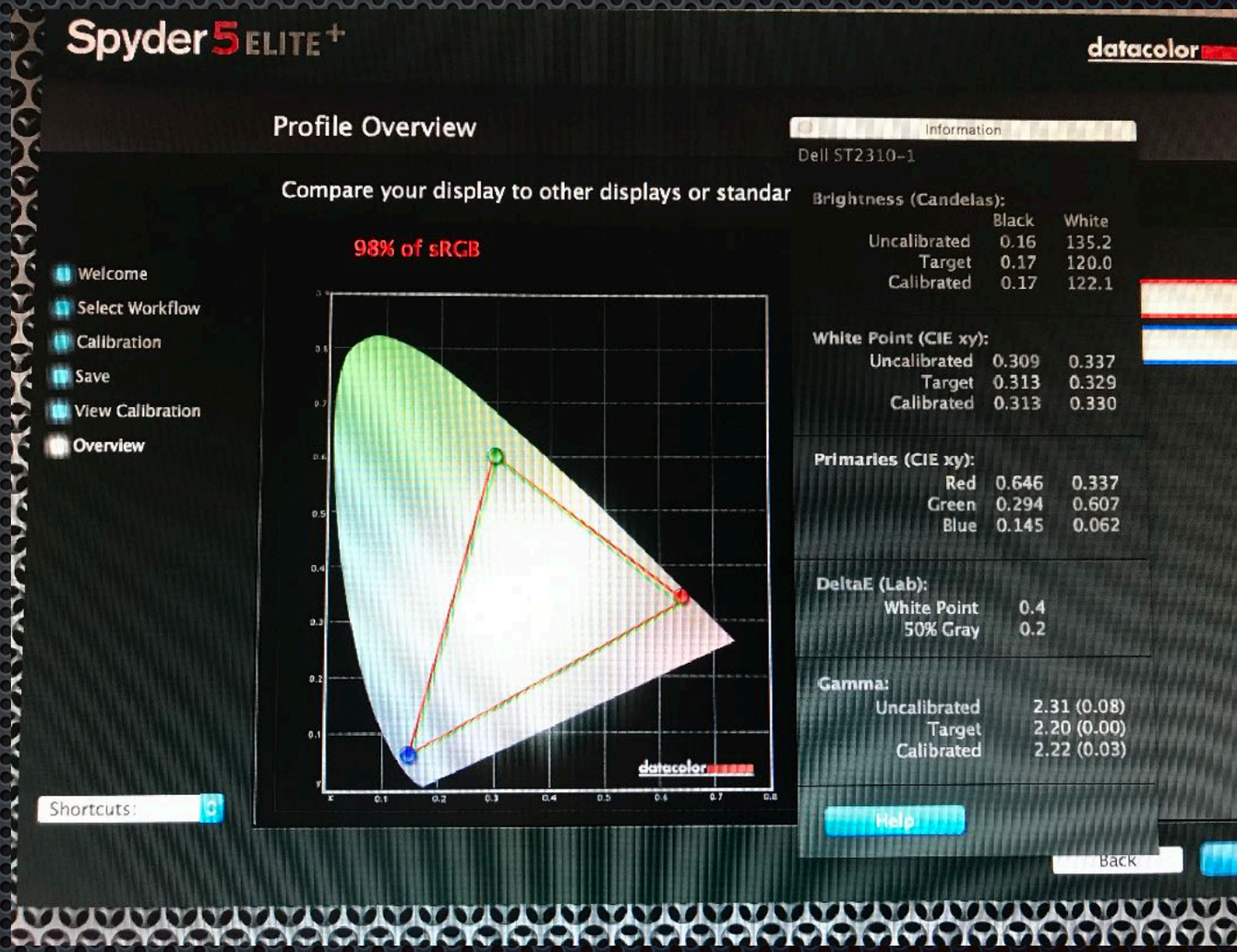
How does Calibration work?

- The calibrator measures the screen output for a set of standard test slides
- Then, the brightness of the monitor is adjusted to match a standard level



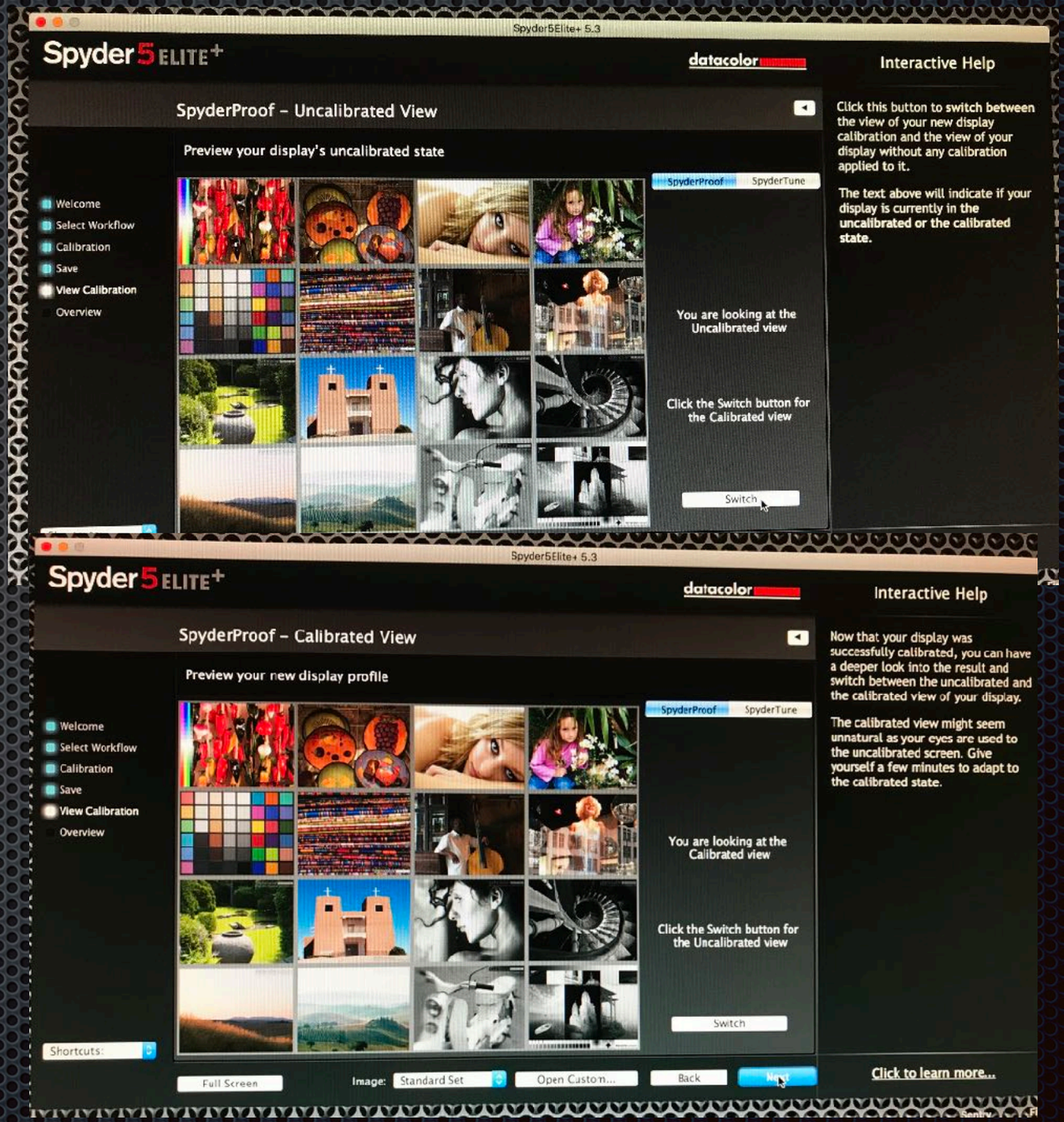
How does Calibration work?

- The results are stored in an ICC profile
- The ICC profile is automatically loaded into the video card each time the computer is started



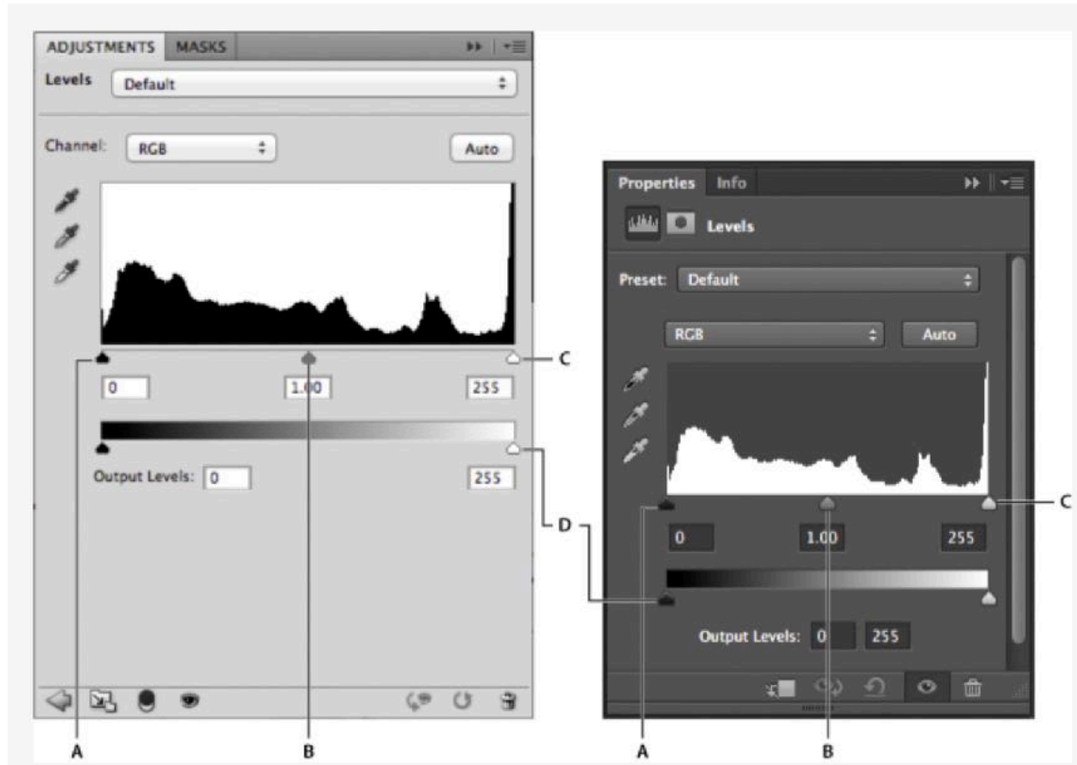
How does Calibration work?

- Then, all images shown on that monitor by the computer are displayed in the calibrated colorspace
- Differences are evident in people, skies, plants and brightness levels



What else is needed?

- Learning to adjust white and black levels in images
- Without adjustment, whites may be featureless: ‘burned out’; blacks may be also be featureless
- Adjust black output from “0” to “10-15”; white output from “255” to “240-245”
- Nothing is pure white (255) or black (0) in digital images



Adjusting levels

A. Shadows **B.** Midtones **C.** Highlights **D.** Output Level sliders

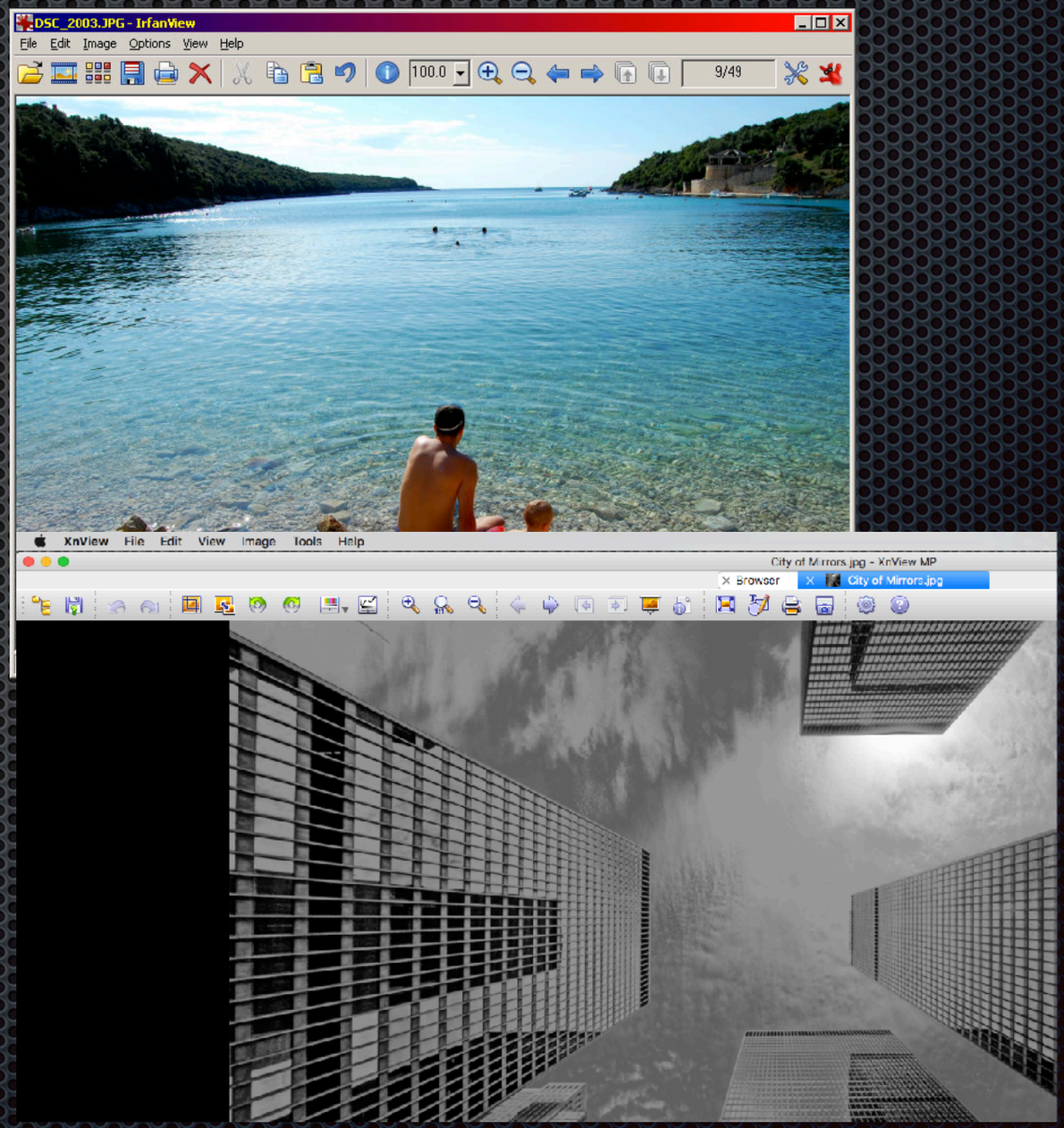
For more information....

- Search for “adjusting levels in Photoshop” or “...Lightroom”, or “...Photoshop Elements”, or whatever your image editing software: in the manual, your software publisher’s support section, DuckDuckGo.com or other search engine

What else is needed?

- Review your JPEGs before submitting them to ECC in “Ifranview” (Windows) or “XnViewMP” (Mac or Windows)

- Both display images in only the ICC sRGB colorspace



- Unless you really know for sure, Photoshop, Lightroom, and others may use a different colorspace (e.g. AdobeRGB): which will cause "*I didn't submit that*" on the ECC projector

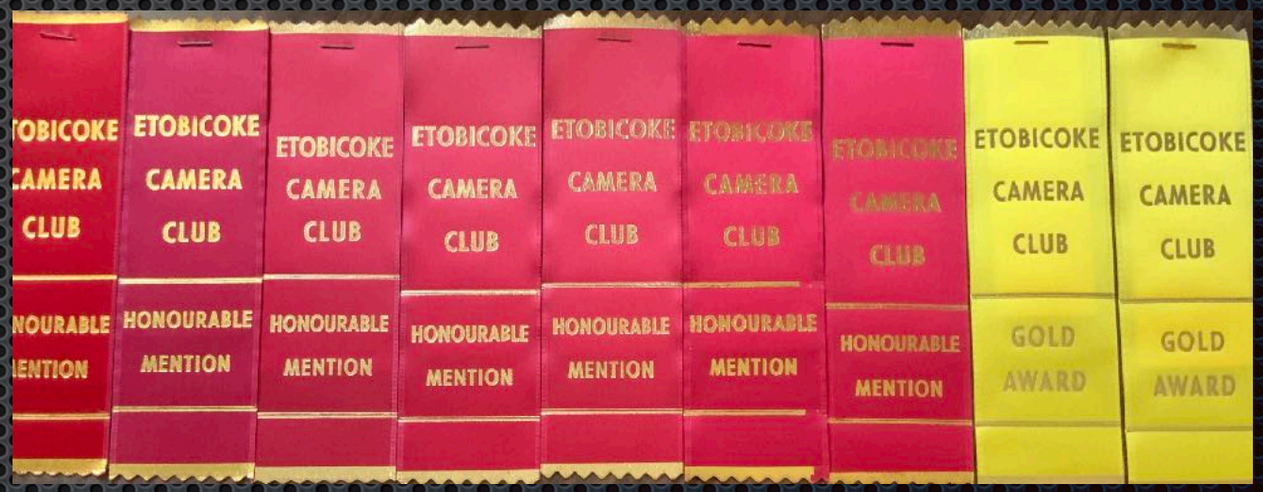
- It's a last opportunity to correct your image:
  -change embedded colorspace to sRGB
  -lower/raise white levels and/or brightness

For the software (free)..

- “Ifranview”: https://ifranview.com
- “XnViewMP”: https://xnviewmp.com

How much is a Calibrator?

- Prices start around CDN$230 and up
- Support your local camera stores
- Note: avoid Calibrators for “Pantone”: which do not support ICC sRGB
- Note: newer models may be less expensive than older

Remember...

- Like a lens, camera body or monitor, a calibrator is a tool to improve your images, and an investment in your photography
- Learning white/black level adjustments and checking the JPEG version in an sRGB viewer gives you more control over your submitted images