

## W1.1 2004 - 016

Color Rendition Teleconference, August 4, 2004

Present: Susan, Oscar, Ann, Karin

- 1) The discussion focused on the results of the color fidelity scaling experiment, particularly efforts to find correlations between the observer data and the patch measurement data. Susan has now examined all but two images (Pillow Chair and Man with Fruit) looking first for the patches that show reasonable correlation between  $\Delta E_{2000}$  values (calculated using the highest rated image as a reference) and the observer scale values. Typically, there were about 10-12 patches of the 64 total patches for each image that showed reasonable correlation. These were yellowish patches (including greenish-yellow) for Austria; brown, orange, and skin tone patches for Sunny Kids, greenish-blue patches for Ocean Palm, browns and skin tones for Elder Woman, tans and browns for Fireplace, and grays and browns for Three on a Porch. It was noted that red patches were missing from this list. This prompted discussion of adding images for the next phase of the experimentation to cover more of visible color range. Once the patches having  $\Delta E_{2000}$  values that were well correlated with the observer results were determined, the  $L^*$ ,  $C^*$ , and  $h$  values of these patches were plotted relative to the scale values. These plots show some reasonable relationships especially for the  $C^*$  values, for some of the patches. Once Susan has finished the other two images, she will distribute these results, hopefully by August 27, leaving some time for others to examine them prior to the next teleconference.

One issue that arose when examining the color fidelity scaling experimental results was that, for a couple of patches for certain prints, the best and worst rates prints had nearly identical colorimetry, indicating that color fidelity quality is driven by more than just color change in isolation. To attempt to examine this effect further, patches that form a "tone scale" of sorts will be evaluated where possible.

Oscar commented that there may not be enough images to evaluate color fidelity quality and that it might be helpful to increase the number of samples by making deliberate changes to the images in Photoshop.

Ann commented that it might be useful to examine the standard deviation of the responses for the normalized data, where a smaller standard deviation would be indicative of a more uniform response. She will try to look at this in the coming weeks.

- ACTIONS:
  - Susan to finish two other images; Pillow Chair and Man with Fruit
  - Ann to send normalized data

- Efforts to correlate observer data to patch data to continue by looking at patches making up a “tone scale”, where possible
  - Consider other image possibilities
- Next Meeting
  - September 8