

**W1.1 Image Quality of Printers**

W1.1 2002 – 049

MicroUniformity

Robert E. Zeman

Oct 25th, 2002

Reference: W1.1 2002 – 035

**Micro Uniformity Ad-hoc Group Meeting, Oct 25th, 2002 1:30PM EDT**

(Tele)present: Robert Zeman (Chair, Kodak), Pauk Kane(Kodak), Rene Rasmussen(Xerox), Eric Zeise(NexPress), Bill Kress(Toshiba)

The meeting began with a review by Bill Kress of his work on establishing a procedure for scanner calibration. Bill stated that he has constructed a method using RR's target to convert from RGB to CIELAB consistently and accurately. He has also looked at a (photographic) IT8 target with 700 patches and, while this gives slightly better and more appropriate results for photographic applications, the RR target is entirely adequate for our work. The main issue is not accuracy, but noise in the processing of the data. BK uses 16 bit data all the way through, from the original scan to the final results. He has submitted an abstract for the 2003 PICS conference on this topic.

RR said that the next step would be to take the BK procedure and 'qualify' the scanners expected to be used. He mentioned that Karin Topfer may already be doing this for photographic media. EZ commented that apparently media quality has a large effect on the repeatability/accuracy of the results, which BK confirmed, stating that he has been using high grade Hammermill paper, not just plain paper. This may generate a requirement for our study.

BK also stated that characterization of the scanner is very important. He has Munsell patches 'permanently' mounted along the sides of his scanner, he has made efforts to turn off automatic software, added fiducials, and established a list of good scanner practices, which he will summarize for us. EZ discussed an issue, again confirmed by BK, regarding scan resolution and scanner stability. A high resolution scan, typically at the optical limit, which may take 10-15 minutes to complete, will in general yield less accurate, less repeatable results because of lamp drift during the measurement process. BK commented that his calibrations are for a 300dpi scan, which is relatively quick, and may necessarily be different for different resolutions.

The sole action item falls upon BK and it is to write up the calibration procedure, so that we can move on to the measurements. BK will try to accomplish this by the end of next month. RZ was reminded to include the phone and passcode numbers in the meeting notices.

**Next Teleconference:1:30PM (EST), Nov 22nd, 2002, Ph: 1-888-394-5271; passcode: 71647#**

Robert E. Zeman  
Eastman Kodak Company  
1700 Dewey Ave. 1/67/RL  
Rochester, NY 14650-1860

Phone: (716)-722-7090  
Fax: (716)-588-1999  
email: robert.zeman@kodak.com