December 20, 2012

Michael Ondresuk
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Dear Mike:

Attached (in an email) are the spectral radiance values for the OL455 sphere on "Level 5" as we used it on September 19, 2012 (GMT) to validate the HyperOCR-R S/N 206. This is file `OL455_level05.xlsx`, and included are the uncertainty estimates. As we have discussed, these data are not to be used as a calibration of your HyperOCR-R, but you may use the data in a comparison to the Satlantic-provided calibration of this radiometer. I have also attached two WORD documents, `appendix_B.docx` and `Calibration of NISTOL455_v2_with_fits.docx.` The first file describes the derivation of the OL455 radiances at the six Visible Transfer Radiometer (VXR) wavelengths, and the second describes how we fitted these results to get spectral radiances values over a broad spectral range. I have reported the results as the average of the two methods – the blackbody fit that Michael Feinholz performed, and the polynomial fit to the relative spectral difference between the NIST Portable Radiance (NPR) source and the OL455 that Stephanie Flora and I did. The VXR was used in May 2012 to transfer the NPR radiances to the OL455. I think extrapolation beyond the VXR wavelengths is not merited, so I have reported values from 410 nm to 870 nm. If you distribute this material, please do so in full, with all the documentation. If you publish this material, please credit yourself, me, Michael Feinholz, and Stephanie Flora. Appendix B will be part of an annual report to NOAA, and the calibration document will end up as part of the Shadowing Experiment write up.

Thank you very much for participating in the Shadowing Experiment, and I look forward to working with you on the write up. The validation exercise with the OL455 shows the calibration of the HyperOCR-R S/N 206 is valid.

Sincerely,

Dr. B. Carol Johnson, Physicist
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