



International Commission on Illumination
Commission Internationale de l'Eclairage
Internationale Beleuchtungskommission

PRESS RELEASE

August 2018

**Determination of Measurement Uncertainties in
Photometry
Supplement 2: Spectral measurements and
derivative quantities**

CIE 198-SP2:2018

ISBN 978-3-902842-11-4

DOI: 10.25039/TR.198SP2.2018

This report is a second supplement to CIE 198:2011 *Determination of Measurement Uncertainties in Photometry* for the determination of measurement uncertainties associated with the values of selected quantities in photometry. It deals with spectral measurements and combinations of measured spectral distributions, in particular with the effect of correlations between the measured spectral values that arise from the measurement and calibration processes.

Guidelines are given for identifying sources of correlation in spectral measurements. Calibration is treated as a transfer from a reference to the object of interest. Various processes of interpolation and correction may be applied to measured spectral values before they are combined. Examples of treating correlations introduced by such processes are included. Uncertainties in a number of important radiometric and photometric quantities determined from spectral measurements are provided, including the use of Monte-Carlo methods.

Photometer examples covered are photometric response, photometer $V(\lambda)$ mismatch index and spectral mismatch factor. Dominant wavelength, correlated colour temperature and blue-light hazard measurements are covered, with particular emphasis on LED sources.

The publication is written in English, with a short summary in French and German. It consists of 78 pages with 35 figures and 14 tables and is readily available from the [CIE Webshop](#) or from the National Committees of the CIE.

The price of this publication is EUR 162,- (Members of the National Committees of the CIE receive a 66,7 % discount on this price).