

CCPR-K6, EUROMET-K6, EURAMET.PR-K6.1 and EURAMET.PR-K6.2

MEASURAND : Spectral regular transmittance

Key comparison CCPR-K6

Measurements involve five different filters designated as "Filter A", Filter B", "Filter C", "Filter D", and "Filter E", and 8 wavelengths (380 nm, 400 nm, 500 nm, 600 nm, 700 nm, 800 nm, 900 nm, and 1000 nm). The filter characteristics are detailed in Table 3 on page 7 of the Final Report. Absolute transmission measurements and associated uncertainties of all participants are available in the Annex B of the Final Report.

Key comparison EUROMET.PR-K6

Measurements involve five different filters designated as "Filter A", Filter B", "Filter C", "Filter D", and "Filter E", and 8 wavelengths (380 nm, 400 nm, 500 nm, 600 nm, 700 nm, 800 nm, 900 nm, and 1000 nm). The filter standards used are detailed in section 3.1 of the EUROMET.PR-K6 Final Report. Absolute transmission measurements and associated uncertainties of all participants in EUROMET.PR-K6 are available in the Annex B of the EUROMET.PR-K6 Final Report.

Key comparison EURAMET.PR-K6.1

Measurements involve five different filters designated as "Filter A", Filter B", "Filter C", "Filter D", and "Filter E", and 8 wavelengths (380 nm, 400 nm, 500 nm, 600 nm, 700 nm, 800 nm, 900 nm, and 1000 nm). The filter standards used are detailed in section 3.1 of the EURAMET.PR-K6.1 Final Report. Absolute transmission measurements and associated uncertainties of the participants in EURAMET.PR-K6.1 are available in page 17 of the EURAMET.PR-K6.1 Final Report.

Note:

The Spanish laboratory IFA-CSIC is now IO-CSIC (Instituto de Óptica Daza de Valdés). The corresponding results are presented here under the acronym IODV.

Key comparison EURAMET.PR-K6.2

Measurements involve four different filters designated as "Filter A", Filter B", "Filter C" and "Filter D", and 5 wavelengths (380 nm, 400 nm, 500 nm, 600 nm, 700 nm). Measurements were also carried out at 546 nm and 635 nm. The filter standards used are detailed on p. 2 of the EURAMET.PR-K6.2 Final Report. The measurement results of this bi-lateral comparison are listed on pp. 4 to 10 of the EURAMET.PR-K6.2 Final Report.

CCPR-K6, EUROMET-K6, EURAMET.PR-K6.1 and EURAMET.PR-K6.2

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Key comparison CCPR-K6

Measurements involve five different filters designated as "Filter A", "Filter B", "Filter C", "Filter D", and "Filter E", and 8 wavelengths (380 nm, 400 nm, 500 nm, 600 nm, 700 nm, 800 nm, 900 nm, and 1000 nm). The filter characteristics are detailed in Table 3 on page 7 of the Final Report.

The key comparison reference value, x_R , and its standard uncertainty, u_R , are deduced from the participants' results compared to the Pilot's results, using a weighted mean with application of a cut-off, outliers being excluded, as explained in Sections 5 and 8 of the Final Report.

λ / nm	Filter A		Filter B		Filter C		Filter D		Filter E	
	x_R	u_R	x_R	u_R	x_R	u_R	x_R	u_R	x_R	u_R
380	4.357E-04	1.058E-04	1.540E-03	1.637E-04	1.211E-04	3.114E-05	-1.599E-06	3.689E-06	1.049E-06	2.379E-06
400	3.701E-04	8.210E-05	1.093E-03	1.187E-04	-3.117E-05	2.835E-05	-1.185E-05	4.792E-06	-6.444E-09	1.209E-06
500	3.234E-04	6.338E-05	9.756E-04	1.139E-04	1.156E-04	2.193E-05	8.555E-06	4.187E-06	2.954E-06	1.125E-06
600	3.075E-04	6.302E-05	7.611E-04	6.358E-05	1.777E-04	1.765E-05	4.101E-05	4.668E-06	8.210E-06	1.484E-06
700	4.225E-04	6.926E-05	3.424E-04	5.251E-05	9.633E-05	2.987E-05	3.374E-05	1.090E-05	7.620E-06	4.124E-06
800	6.383E-04	4.380E-05	2.010E-04	5.879E-05	1.455E-05	2.755E-05	6.546E-06	8.918E-06	1.543E-05	3.869E-06
900	5.228E-04	6.047E-05	7.263E-05	5.819E-05	8.838E-06	1.978E-05	-4.104E-06	6.348E-06	-2.187E-06	3.015E-06
1000	4.211E-04	6.443E-05	1.051E-04	6.384E-05	-1.840E-06	1.555E-05	-3.835E-06	5.411E-06	-9.511E-06	2.903E-06

The degree of equivalence of laboratory i with respect to the key comparison reference value is given by a pair of terms: D_i and its expanded uncertainty ($k = 2$), U_i , computed according to equations 16 and 17 on page 52 of the Final Report (see also Section 9 on page 62).

Linking EUROMET.PR-K6 to CCPR-K6

The linking process is described in section 6 of the EUROMET.PR-K6 Final Report. For each wavelength and each filter, the Matrix and the Graph of equivalence obtained in CCPR-K6 are extended to the participants in EUROMET.PR-K6 only.

Linking EURAMET.PR-K6.1 to CCPR-K6

The linking process is described in section 6 of the EURAMET.PR-K6.1 Final Report. For each wavelength and each filter, the Matrix and the Graphs of equivalence obtained in CCPR-K6 are extended to DMDM participant in EURAMET.PR-K6.1 only.

Linking EURAMET.PR-K6.2 to CCPR-K6

The linking is made via the VSL who participated both in CCPR-K6 and EURAMET.PR-K6.2.

The BIPM key comparison database, July 2017