Ain Shams University
University College for Women
for Art, Science and Education

Title

"The Realization of Luminous Flux Scale and Its Application in Preparing Calibrated and Tested Lamps"

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ABSTRACT

In this work the realization of total luminous flux is being carried out through the calibration of incandescent transfer standard lamps directly from (NRC) primary standards of total luminous flux such lamps were used for an international comparison of the total luminous flux scales of five national institute.

The design, constriction and characterization of new temperature controlled photometer to be used with the NRC three meter integrating sphere in calibration of incandescent working standard lamps.

The final results of the uncertainties are

١- The relative expanded (k=٢) uncertainty budget for the total luminous flux for the incandescent transfer standard lamps which is ٢,١٥٪.

٢- The relative expanded (k=٢) uncertainty budget for the total luminous flux for the incandescent working standard lamps which is ٢,٤٪

٣- The uncertainty budget for the spectral responsivity of the new temperature controlled photometer is mentioned in the text.

List of Abbreviations

ANSI: American National Standards Institute.

BIPM: Bureau International des Poids et Measures.

CCPR: Consultatif de Photometrie et Radiometrie.

CGPM: Conference Generale des Poids et Measures.

IEC: International Electronical Commission.

IEEE: Institute of Electrical and Electronics Engineers.

IES: Illuminating Engineering Society.

IENSA: Illuminating Engineering Society of North America.

ISO: International Standards Organization.

NIST: National Institute of Standards and Technology.

NRC: National Research of Canada.

LIST OF FIGURES