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[Image PDF (568K)] [References]

Stability and Reproducibility of Radiometric Properties of Light Curing Units (LCUs). Part II: LED LCUs

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Abstract:

The present work is the second part of a study on the stability and reproducibility of the energy and spectral emission of some light curing units (LCUs). In this part, Part II, LED LCUs were investigated. Results revealed that these devices presented high stability and reproducibility in terms of their spectral emission, with values of VAF (variance accounting for) coefficient calculated from the Cauchy—Schwarz inequality all close to 100%. With respect to energy stability, the LED LCUs presented energy stability except for the third-generation LED LCUs which have several LEDs. For these devices, the law of reciprocity was not fulfilled as irradiance was not constant over exposure time. This result should be taken into account both in works examining the polymerization kinetics of dental materials as well as when these LED LCUs are used in clinical practice.

Key words:

LED light curing units (LED LCUs), Radiometric properties, Spectral emission

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