THE IMPACT OF GRID VOLTAGE WAVEFORM ON LUMINOUS AND ELECTRICAL PARAMETERS OF FLUORESCENT LAMPS

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ABSTRACT  Low-pressure mercury-vapor discharge lamps are fundamental light sources in industry lighting. Last years the usage of electronic ballasts instead of electromagnetic ballasts becomes more common. The number of non-linear loads in grid is significantly increasing. Accumulation of a large number of non-linear loads can lead to distortion of the mains voltage. Deformation generated by non-linear loads may cause disruption of other devices in mains, e.g. fluorescent lamps driven by electronic ballasts. This paper discusses the impact of the mains voltage waveform for luminous and electrical parameters of electronic ballasted low-pressure mercury-vapor discharge lamps.

Keywords: low-pressure mercury-vapor discharge lamp, electronic ballast, voltage waveform, luminous flux