

Abstract Submitted
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Iodine pressure in high intensity discharge lamps ALEXANDER DUNAEVSKY, JUN-MING TU, Philips Lighting North America — The dynamics of the partial pressure of iodine influence the emission properties of metal halide lamps. In addition, various processes in the discharge affect the iodine pressure. Monitoring the partial pressure of iodine by high-resolution spectroscopy (HRS) can be a very powerful, non-destructive diagnostic tool for metal halide lamp development, if the mechanisms responsible for the pressure changes are understood. Thermodynamic modeling can help to interpret some effects observed experimentally. In this study, the iodine pressure in quartz sodium-scandium metal halide lamps with various chemical additive ratios is measured using the HRS technique. The correlations between partial pressures predicted by modeling and observed experimentally are analyzed.

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