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Nota di contenuto	1 Introduction -- 2 Fundamentals of plasma physics -- 3 Selection of substitutes for mercury in light technologies -- 4 Diagnostic methods -- 5 Collisional-radiative model (CRM) for indium(I)iodide-argon plasma -- 6 Experimental setup -- 7 Investigation of indium(I)iodide-argon plasmas -- 8 Implementation of the new lamp technology -- 9 Summary -- A Appendix -- List of figures -- List of tables -- List of symbols -- Bibliography -- Publications by the author -- Supervised theses -- Acknowledgment.
Sommario/riassunto	Nowadays, compact fluorescent lamps are widely-used in general lighting applications. However, they still struggle with acceptance problems due to the hazardous mercury, which serves as the radiant component inside the lamp. The presented work deals with the development of a mercury-free, electrodeless, low pressure plasma based on a molecular filling and driven by microwaves, which may represent a viable alternative to the conventional CFLs.