

BS ISO 13142:2015



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Electro-optical systems — Cavity ring-down technique for high-reflectance measurement

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National foreword

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The UK participation in its preparation was entrusted to Technical Committee CPW/172, Optics and Photonics.

A list of organizations represented on this committee can be obtained on request to its secretary.

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Published by BSI Standards Limited 2015

ISBN 978 0 580 80659 9

ICS 31.260

Compliance with a British Standard cannot confer immunity from legal obligations.

This British Standard was published under the authority of the Standards Policy and Strategy Committee on 31 July 2015.

Amendments/corrigenda issued since publication

Date	Text affected
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Electro-optical systems — Cavity ring-down technique for high- reflectance measurement

*Systèmes électro-optiques — Technique d'alternance de la cavité pour
le mesurage du facteur de réflexion*





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Foreword

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The committee responsible for this document is ISO/TC 172, *Optics and photonics*, Subcommittee SC 9, *Electro-optical systems*.

Introduction

With the development of film-deposition technology, the performance of optical thin films, especially the highly reflective coatings which are widely used in large high-power laser systems, interferometric gravitational-wave detectors, laser gyroscopes, and cavity-enhanced and cavity ring-down spectroscopy applications, has been substantially improved in recent years. Laser-based optical systems require some optical components with extremely high reflectance characteristic. It is necessary to be able to measure this reflectance characteristic precisely. The measurement procedures in this International Standard have been optimized to allow the measurement of high reflectance (larger than 99 %, theoretically up to 100 %) of optical laser components using the cavity ring-down technique which provides reflectance data with high accuracy, high repeatability and reproducibility, and high reliability.

