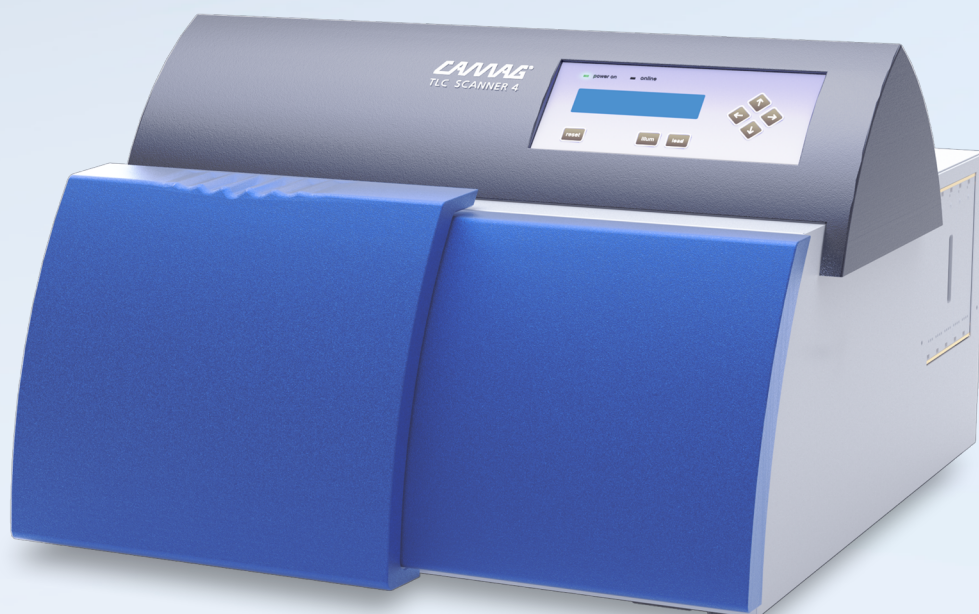




CAMAG® TLC SCANNER 4

WITH LED EXCITATION



RELIABLE 366 NM FLUORESCENCE DETECTION – WITHOUT MERCURY

CAMAG introduces **366 nm LED excitation** for the **TLC Scanner 4**, providing a modern, mercury-free alternative to the conventional Hg lamp while maintaining compatibility with established TLC Scanner 4 workflows and *visionCATS* software.

The LED combines **immediate readiness, long operational lifetime, and high excitation intensity stability** with reliable analytical performance. Comparative studies with fluorescence-active compounds and a complex botanical sample demonstrated **comparable precision, highly similar chromatographic fingerprints and peak profiles, as well as comparable quantitative performance** under the investigated conditions.

This makes LED excitation a reliable and future-oriented solution for fluorescence detection at 366 nm in HPTLC applications.

WHY LED?

- Mercury-free LED excitation at 366 nm
- No warm-up time – Immediately ready for operation
- Long operational lifetime
- High excitation intensity stability over the LED lifetime
- Compatible with existing TLC Scanner 4 workflows
- Seamless integration in *visionCATS*

UPGRADE KIT AVAILABLE

An upgrade kit is available to convert existing Hg-equipped TLC Scanner 4 systems to LED excitation.

COMPARABLE ANALYTICAL PERFORMANCE

CAMAG evaluated LED and Hg excitation using several fluorescence-active compounds and a complex botanical sample. The study demonstrated:

Precision

Comparable precision between LED and Hg excitation

Fingerprints

Highly comparable chromatographic fingerprints and peak profiles

Equivalence

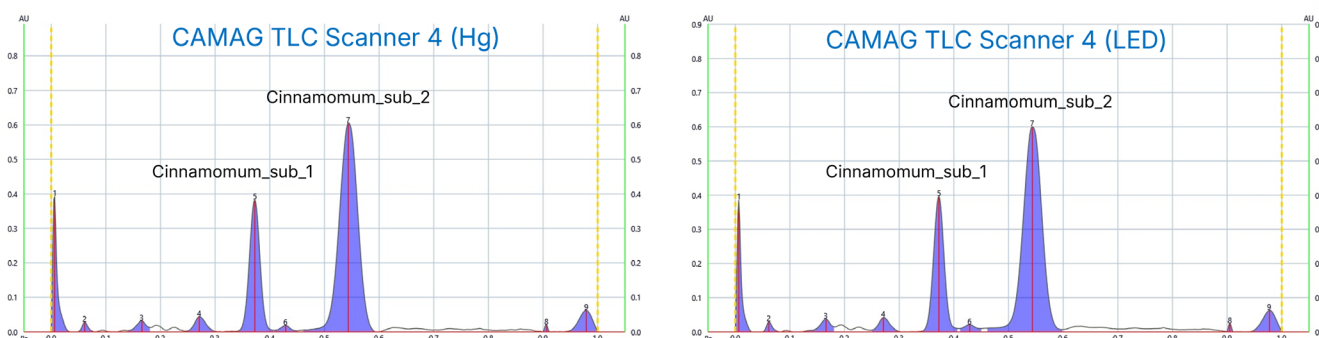
Functional equivalence for most of the investigated fluorescence-active analytes

Quantification

Comparable quantitative performance under the investigated conditions

CINNAMOMUM CASSIA

A representative peak profile from scanning densitometry at 366 nm $\lambda > 400$ obtained from *Cinnamomum cassia* extract showed highly comparable fluorescence profiles under Hg and LED excitation.



WHAT CUSTOMERS SHOULD KNOW

➤ 366 NM SELECTION

For both Hg and LED excitation, the wavelength is selected using a monochromator calibrated to 366 nm. However, the effective excitation characteristics are not strictly identical, and small analyte-dependent differences in absolute fluorescence intensity may therefore occur.

➤ QUALITATIVE METHODS

For qualitative HPTLC applications, such differences are generally of limited practical relevance as long as the required zones remain reliably detectable.

➤ QUANTITATIVE METHODS

For quantitative methods, calibration performance should be verified when transferring an existing method from Hg to LED excitation. Historical quantitative results obtained with Hg excitation should not automatically be considered directly interchangeable with LED results.

UPGRADE YOUR EXISTING TLC SCANNER 4

Modernize your TLC Scanner 4 with the CAMAG Upgrade Kit and benefit from advanced LED excitation technology.

CAMAG

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WANT THE SCIENTIFIC DETAILS?

Scan the QR code to download the full Technical Note

**„CAMAG TLC Scanner 4 with LED Excitation: Reliable
Fluorescence Detection at 366 nm for HPTLC Applications.“**

