



The next generation of retroreflectometers

Delta's new LTL3000 is smaller and lighter than most other retroreflectometers, offering fast and easy retroreflection measurements of road markings

Words | Kjeld Aabye, Delta Light and Optics, Denmark



With autonomous vehicles around the corner, there is an increasing focus on the performance of road markings. Automated vehicles use such markings for navigation and therefore require a minimum level of retroreflection to “see” the markings. A growing number of road authorities are in the process of recognizing this challenge and may soon realize the need for better-performing markings.

Automated driving systems are divided into five levels of automation, with level one offering lane tracking or automatic warning if the vehicle drifts beyond road markings, and level five covering fully automated vehicles needing no human interaction. In other words, all levels of automated

1 second

The speed at which Delta's LTL3000 retroreflectometer can take measurements

Above: Mobile retroreflectometers are a convenient and efficient way of measuring road markings

vehicles will benefit from high-performing road markings.

To guarantee high performance, a more extensive checking of the markings' retroreflection levels using retroreflectometers will be necessary. The challenge may centre less on dry roads and more on ensuring high-performing road markings in wet weather.

In these conditions, markings will typically lose 50%-75% of their retroreflection compared to their performance under dry conditions. This is especially true at night, when wet markings become more or less invisible to automated systems.

Retroreflection measurement of markings can be undertaken by mobile and handheld instruments. Mobile instruments such as Delta's

LTL-M are increasingly used around the world for convenient and efficient measurements, but have limitations when it comes to wet markings and rainy conditions. Handheld instruments can be used to measure under all weather conditions.

To prepare for an increasing market demand for new and better retroreflectometer instruments, Delta will begin launching a new line of road-marking products at the start of 2020. The LTL3000 will be Delta's first instrument in this new generation, followed later in the year by more advanced instruments.

The LTL3000 is based on the latest technological developments in modern design and materials. Like Delta's other retroreflectometer instruments, the LTL3000 is user-friendly as well as easy to calibrate and operate.

The instrument is robust and long-lasting, in addition to being



Above: Delta's new handheld LTL3000 retroreflectometer will measure night-time color as well as night and daytime visibility in both dry and wet conditions

smaller in size and lighter in weight to other instruments on the market. The product offers the necessary features for carrying out a measurement program.

The instrument is intended for those who need a solution requiring less demanding measurement tasks, those who want something that is easy to transport without too many features to support a measurement program, and – last but not least – those seeking a competitively priced solution compared to other models.

Besides measuring night and daytime visibility under dry and wet conditions the LTL3000 is capable of measuring night-time color, a feature increasingly requested by users. The LTL3000 is fast, with a measurement time of one second. It can measure retroreflection of high-profile structured markings and complies with all the relevant European and US standards. ■