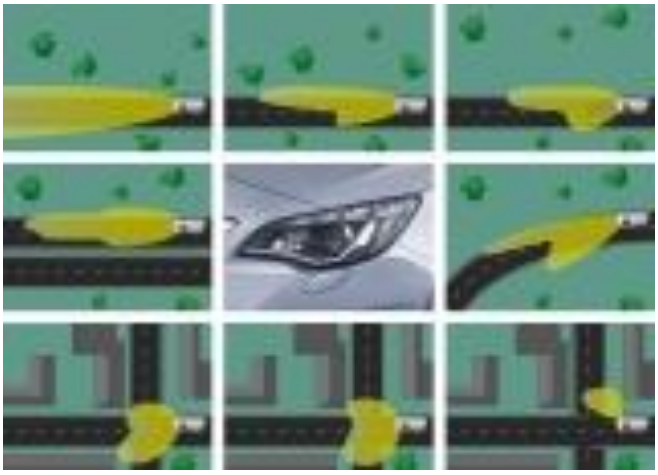
EURO NCAP advanced

**Reward 2011**

# Opel Adaptive Forward Lighting (AFL)



Opel's Adaptive Forward Lighting (AFL) is a system intended to help drivers observe objects earlier than they otherwise would when entering a corner in darkness, to prevent night accidents inside a curve or in turning situations. The system includes two main safety functions; Dynamic Curve Light and Static Curve Light.

Normally the front lights of a vehicle point directly ahead. When in a corner, the Dynamic Curve Light function illuminates that part of the road which the vehicle is driving towards by swivelling the light cones to the inside of the curve. This provides a better view into the corner, allowing earlier identification of possible dangers ahead. The Static Curve Light is an additional cornering light which is illuminated to support the driver in tight curves such as turning manoeuvres in the city. This additional illumination helps the driver avoid a collision with objects or other road users. Most turning scenarios are at low speeds, and the system is most effective at avoiding accidents with pedestrians and bicyclists.

**What is the safety benefit?**

It is estimated that AFL can support the driver in avoiding more than 15 percent of serious accidents within a curve occurring at night in Europe. The analysis excluded those night-time accidents where alcohol was a contributory factor. AFL is intended to provide more time for the driver to react to possible dangers ahead by better lighting. When fitted to all cars on the roads it is expected that nearly 1,000 severely injured or fatal accidents could have been prevented.

**How was AFL assessed?**

Opel conducted extensive laboratory tests and simulations to determine the best lighting strategy. To confirm the chosen strategy more than 20,000 km of night time driving was performed on as many different road and traffic situations as possible. This includes all kind of road environment and all curve radiuses.

**What are the limitations?**

AFL will still depend on the driver to react to the possible danger ahead, but is intended to give the driver more time to identify a critical situation. Drivers may adapt their speed to the better lighting conditions, which may result in a reduced benefit of the system.

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