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Just last year, things looked grim. It was difficult to find much basis for optimism in the way of lighting or driver assistance innovation in the American market. There were dribs and drabs here and there, but they were mostly employed as marketeering hooks, considered on par with a new paint colour. What a difference a year makes!

At the 2011 North American International Auto Show, fascinating and innovative lighting was everywhere, showing vast improvement in design, technology, technique, and performance.

You will find in this report more than 90 clear, sharp, high-dynamic-range photos presented to show lighting devices and configurations not often seen outside North America—a result of this continent's adherence to lighting regulations different to the ECE standards used throughout the rest of the world.

The principle difference in lighting between American- and rest-of-world-market Mercedes models, for example, aside from the required sidemarker lights and reflectors, is that most American Mercedes models have red rather than amber rear turn signals. This is somewhat puzzling from the technical standpoint given the wide window of harmonisation between US and ECE requirements for amber rear turn signal intensity, and the latest data showing significant safety benefit to amber rather than red signals. It appears to be a stylistic choice made not only by Mercedes but also by Audi, BMW, and Porsche.

Certainly all of these makers are providing high-class, high-quality lighting, but it is to be hoped by the lighting safety enthusiast that amber turn signals and side repeaters will eventually be installed on all vehicles throughout the American market as the basic item of vehicle safety equipment they are. To be fair, it is equally baffling that the sidemarker light and reflector, basic and effective anticollision devices required in America since 1968, are still treated as unimportant stylistic options elsewhere.

This report does not attempt to catalogue the lighting system of each and every car; rather, it focuses in 40 pages on the lighting equipment, technology, and techniques that are new or otherwise interesting and notable.

And now, on with the show!