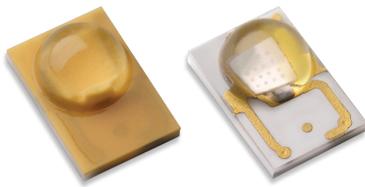




# LED Lighting Masters the Art of In-Flight Calm on Airbus A380s and Boeing 787s

Aboard a state-of-the-art aircraft might be the last place you would think of yourself enjoying a warm candlelit dinner, followed by a good night's sleep under a starry night sky. The truth is, the latest aircraft cabins seek to provide just that — a revolutionary in-flight experience through the use of mood lighting. Mood lighting uses the full spectrum of colors and the ability to change these colors continuously with LEDs to mimic or enhance a sunrise morning or a bright, fresh afternoon or a cool evening that winds down the day. These lighting effects even seek to reduce your likelihood of jet lag. LED lighting programs are specifically designed to gradually shift your waking and sleeping biorhythms to match that of your destination city.



## Summary

Lumileds LUXEON Rebel designed in on airplanes to:

- Reduce jetlag
- Optimize comfort
- Be energy efficient

LED lighting is perfectly suited to create a flexible and ever-changing lighting scheme using a combination of white and colored LEDs. In the design of the cabins of the Boeing 787 Dreamliner and the Airbus A380, Lumileds partnered with Diehl Aerospace to optimize the interior lighting system design for maximum passenger comfort.

"Many years of research led to an optimized selection of various LED types and colors to achieve the best balance of flexibility in the lighting system and maximum energy efficiency," explained Mark van den Berg, Director of Marketing EMEA at Lumileds. Lumileds provided the LEDs while Diehl Aerospace engineered the overall lighting system for the Boeing and Airbus cabin interiors. "The system creates a unique atmosphere in the aircraft," said van den Berg.

**"LED technology can offer an overall energy savings of 35 to 55% relative to previous lighting systems."**

— Marc Renz from Diehl Aerospace

"LED technology can offer an overall energy savings of 35 to 55% relative to previous lighting systems," said Marc Renz from Diehl Aerospace. Contributing to this savings is the dramatically lower power consumption of LED technology but also the ability to easily dim the LEDs. This reduction in energy use, in addition to the smaller size and lighter weight of solid-state devices, reduces the aircraft's fuel consumption.

In addition to fuel efficiency, maintenance has a direct effect on operating costs of an airline. LED lighting has a lifespan of approximately 50,000 hours 10x the life of incandescent, fluorescent or halogen bulbs. Furthermore, since LEDs are solid-state devices, they are much more robust to vibration and shock than light bulbs, so the maintenance requirement is even further diminished.



## About Lumileds

Lumileds is the light engine leader, delivering innovation, quality, and reliability.

For 100 years, Lumileds commitment to innovation has helped customers pioneer breakthrough products in the automotive, consumer and illumination markets.

Lumileds is shaping the future of light with our LEDs and automotive lamps, and helping our customers illuminate how people see the world around them.

To learn more about our portfolio of light engines visit [lumileds.com](http://lumileds.com).

Over the last several years, reading lamps on aircraft were one of the first to switch from halogen to LEDs due to the reduced power consumption and longer lifespan. Now, virtually all the lighting on the Airbus A380 and Boeing 787 Dreamliner is LED based, including ceiling and sidewall wash lighting, dome lighting, reading lamps and other spot lamps.

Passengers on the Airbus A380 or Boeing 787 Dreamliner might find the difference in cabin ambiance between these flights and those on previous aircraft to be like night and day. Mood lighting not only provides the airline with an ability to recreate a soothing, relaxing atmosphere in-flight, but it also affords a new branding opportunity that airlines haven't seen since air travel first became affordable to the masses. Along with this newfound in-flight comfort, aircraft designers can reap the practical benefits of smart LED lighting systems including energy efficiency, better lighting control and longer lifespan.

For more information, see [www.diehl.com/en/diehl-aerosystems/aircraft-systems/interior-lighting-systems.html](http://www.diehl.com/en/diehl-aerosystems/aircraft-systems/interior-lighting-systems.html)

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