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Dellux Technologies has selected Golden Dragon from OSRAM

LEDs for main tunnel lighting – a first in Germany

In the fall of 2008 the “Thüringer Schmücketunnel” on the A71 will be the first tunnel in Germany and the longest in Europe to have brilliant LED light. Trials have already commenced in one of the bores. Each luminaire is equipped with Golden Dragon LEDs from OSRAM. Dellux Technologies has developed the luminaire specifically for tunnel lighting. Dellux luminaires and the LED light sources from OSRAM make a strong team – virtually maintenance-free and with a minimum life of 130,000 hours (15 years). Thanks to Dellux patented LED Degradation Compensation technology, the luminaire installed uses 30% less energy than the usual 70 W high-intensity discharge lamps.

Dellux’s technology combined with Golden Dragon LEDs from OSRAM guarantee a minimum life span of 15 years without light degradation. “For tunnel lighting in particular this is a major benefit because maintaining or replacing lamps is not only an expensive business but is inconvenient for drivers and a safety risk,” said Michael Fiebig, Marketing Director for Solid State Lighting at OSRAM Opto Semiconductors. “What’s more, the light sources and luminaires exceed the high safety standards for tunnel lighting. They tolerate heat, are mechanically robust and insensitive to pollution.” Another benefit is that OSRAM LEDs have a stable lumen degradation curve and show hardly any color location shifts throughout their life, as long-term tests have documented. Together with Dellux patented light degradation technology, an impressive minimum life span of 130,000 hours could be reached, while maintaining the required light levels.

Homogenous light and high illuminance levels through the tunnel

The semiconductor light sources can be dimmed and controlled and therefore adjusted to provide the prescribed illuminance levels through the tunnel during both day and night. By day the required luminance in the tunnel is 4.65 cd/m², by night a value of 0.8 cd/m² is sufficient. The average power consumption during the day is 70 W. By night, an average of 12 W only is needed to provide enough

light to suit the conditions. Overall, annual savings of 10,000 kWh can be made compared with a lighting system based on high-intensity discharge lamps. This corresponds to a minimum of 30% less energy consumption.

Intelligent lighting concept prolongs system life

As a specialist in tunnel lighting, Dellux has developed an intelligent lighting concept for tunnel lighting application such as Schmücketunnel that fully exploits the benefits of Golden Dragon LEDs with customized electronic circuitry and software to increase the life of the system still further. "We have installed redundant LEDs in each luminaire to offset soiling and degradation losses. We also operate the LEDs at only 85% of their rated current to achieve greater efficiency and durability. Our patented light degradation compensation technology allows to maintain the required light levels for a minimum of 15 years despite the difficult conditions in the tunnel", said Wolfgang Medenwald, VP Business Development Europe, Dellux Technologies.



Picture: OSRAM / Dellux Technologies
<http://www.osram-os.com/press>

Dellux luminaires fitted with OSRAM LEDs use 30% less energy than high-intensity discharge lamps. The required road luminance light output is maintained for a minimum of 130,000 hours.

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