

Flying high in Malmö: LEDs light up the Turning Torso

More than 16 000 white LEDs have been used to create an innovative LED lighting system for Europe's tallest residential building, according to **Jørn Brinkmann** of Osram Denmark.



The new Turning Torso residential tower in Malmö, Sweden, is not only an architectural feat but a state-of-the-art example of modern lighting solutions. Using Golden Dragon LEDs from Osram and a custom-made fixture from the Danish lighting manufacturer Louis Poulsen Lighting, the planners of the building were able to achieve their custom installation objectives as well as implement a cost-effective and stylish lighting arrangement.

Standing at a height of 190 m, the futuristic skyscraper towers over the Western Docks in Malmö like an oversized model of a DNA strand. Designed by world-renowned Spanish architect Santiago Calatrava, the 54-story building officially opened its doors at the end of August 2005 at a total cost of €175 million.

Guests or residents heading to apartments on the upper floors are greeted with automatic lighting triggered by motion sensors based on a proprietary Osram system for LEDs. No additional light sources are necessary, thereby demonstrating the potential of LEDs in "real" lighting solutions.

The main objective for the lighting installations in the corridor areas was to keep service costs down throughout the lifespan of the equipment. After a thorough comparison between standard fluorescent lamps and the Golden Dragon LED system, the balance was tipped in favor of the latter by its long service life and low energy consumption. The

system also easily achieves the required luminance of 160 lx on the outer side of the 1.6 m wide corridor and 100 lx on the inner side.

In addition the LED system could also be integrated into the building's round interior design. The narrow, flexible LED modules were designed in corporation with Louis Poulsen Lighting. With a width of just 2.5 cm, these were fitted into preformed custom-made fixtures and then recessed into the ceiling, creating a homogeneous lighting effect on the outer wall of the corridor.

Over and above the flexibility of the installation, Louis Poulsen Lighting placed great importance on Osram's ability to supply a complete system and was impressed by the optimized color selection, which is vital for flush lighting applications.

A total of 2700 modified Dragontape modules, with a color temperature of 5400 K and operated on 350 Optotronic OT75/220-240/24 control gear units, were installed in this spectacular skyscraper. Six Golden Dragon LEDs are mounted on a flexible support in each module. One Optotronic unit is assigned to every eight modules with 24 V DC voltage.

As a result, the Turning Torso, which the New York Museum of Art has included in its exhibition on the 25 most exciting skyscrapers in the world, stands out not only for its unique design but also for its use of innovative LED lighting. ●