

GREENLED - CASE STUDY



Saving energy through sustainable lighting

Marriott Hotels – saving energy with Greenled Light Ltd



DESCRIPTION:

The Marriott Hotel in Marble Arch wanted to reduce energy consumption and recognized that LED technology could replace halogen downlighting along the corridors where the lights are on for 24 hours every day. Following a comparative trial conducted in August 2008, Greenled's "Antares" 3.7W lamp was chosen for the roll out in December 2008 because the colour temperature was sympathetic, the efficiencies were demonstrable, the light projection was effective and the service guarantee suited the task.

The lamps in the corridor were all low voltage 12V MR16 lamps. By stripping out the halogen transformers and replacing them with mains GU10 flying leads, the engineers reduced the extra energy consumption used by the transformers, as well as negating a component which often fails.

TASK:

220 x 20W halogens above the bedroom doors replaced with Greenled's 3.7W "Antares" lamp. 220 x 35W halogens along the corridors replaced with Greenled's 3.7W "Antares" lamp. In all 440 lamps replaced.

SUSTAINABILITY DATA:

Installing 440 x 4W Greenled "Antares" in place of all the 20W lamps above the doors and the 35W halogens used in the hotel's corridors, contributed to 32,000 kWh less electricity being consumed in January 2009 than in January 2008 at Marriott Marble Arch.



ECONOMIC BENEFITS:

Total Annual Costs: £ 12,847.92 saved pa. £ 64,239.60 saved over lamp life

Direct lamp replacement: £ 8,152.06 / yr saved

Indirect air conditioning saving: £ 3,815.86 / yr saved

Work hours saved: £ 880.00

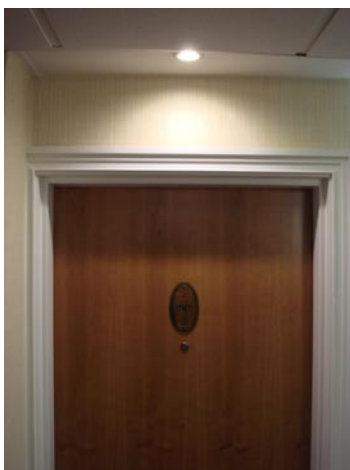
ENVIRONMENTAL BENEFITS:

Energy Use: 132,976 kWh / yr saved

CO2 Emissions: 71.41 tonnes CO2 / yr saved

SOCIAL AND WIDER BENEFITS:

- Reducing the air-conditioning load benefits the site enormously and could eventually lead to smaller A/C units.
- Reducing the temperature enhances the ambience and feel of the site
- 50,000 hour LED lifespan negates the need to replace lamps each year. With these lamps on for 24 hours every day previously the lamps needed to be replaced at least once a year – saving £440 in the cost of buying new lamps as well as stock-holding space for storing them
- No UV or IR from the lamps protects the paintings, the décor and the carpet

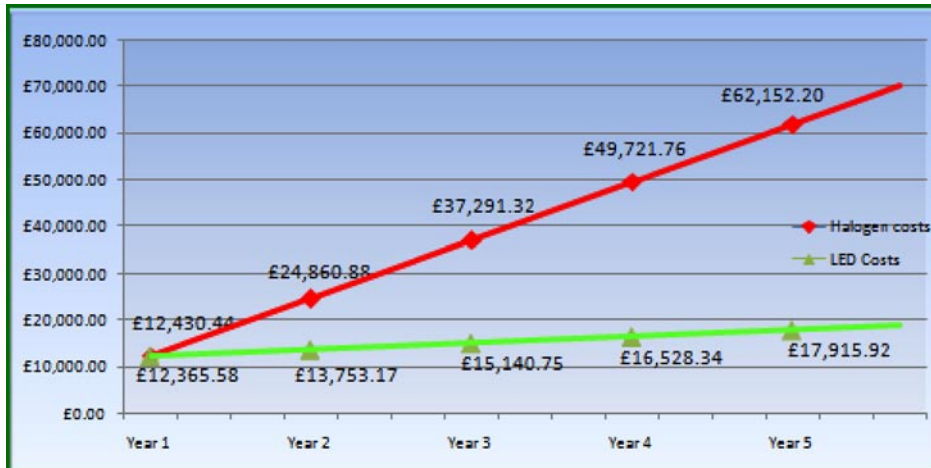


Marriott Hotel – Marble Arch - London



BUSINESS CASE:

Initial Cost: £ 8,778.00
Work Hours: 440 x £5.00 = £2,200.00
Payback: under 12 months inclusive of labour costs



BENEFITS ACHIEVED:

These savings have been assessed from electricity monitoring data and Greenled's extrapolative analysis.

A second impact has been on the customer's expectations. ***Not one person in the period since the trial has made any mention of the lighting on the 9th floor and there has been no mention at all since all the corridors were changed in December.***

FURTHER OPPORTUNITIES ARISING:

The success of this trial has already led to several initiatives:

1. Replacing the 35W halogen bar lighting at the Heathrow Marriott with dimmable 3.7 Watt "Antares" lamps
2. Replacing the halogen lighting in the corridors at Kensington Marriott, County Hall Marriott and Gloucester Square
3. Extending the transition to LEDs at Marble Arch by replacing all the halogens in the canopy at the entrance with Greenled's 4W Chara lamp

By replacing the halogens in the corridors alone across the 72 sites in the Marriott estate in the UK, Greenled anticipates that Marriott can save 2,497,000 kWhs in energy consumption. By adding in the potential air conditioning saving this is likely to increase to over 3,650,000 kWhs.