

> CASE STUDY

OXFORDSHIRE UPGRADES RESIDENTIAL STREETLIGHTING TO S-LINE



- Quick Facts**
- 63% reduction in energy costs
 - Long-term reduction in maintenance costs
 - Improved quality of light benefiting residents

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Previous 35W SOX installation



S Line

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BACKGROUND

Oxfordshire County Council manages over 57,000 streetlights across the whole of Oxfordshire. In 2017 they identified several key areas within the county where the lighting needed to be upgraded.

Oxfordshire CC found that they had many 35W SOX lanterns which had come to the end of their useful life. Typically, these lanterns are used for P4 and P5 applications such as residential roads where the designed average illumination is 3 – 5 lux. The reasons to upgrade the streetlighting are the same for many Local Authorities: commercial pressures, the need to reduce energy consumption and power bills, saving maintenance and relamping costs, a need for more optically efficient and longer lasting lanterns.

CHALLENGE

The challenge was how to deliver both reduced energy and maintenance costs on small, low wattage SOX lanterns.

The SOX lamp is often thought to be the most efficient light source available. However, it suffers several major disadvantages. Whilst it is a very efficient source in terms of simple lm/W, due to its large physical size, the delivered optical efficiency in terms of illumination on the road and pavement is often less than a modern LED lantern.



In Oxfordshire's case, the 35W SOX lanterns, with a total circuit consumption of 65W, are replaced by 24W S Line units to provide P4 illumination levels in the residential areas. This achieves a 63% reduction in energy costs alone.

THE SOLUTION

The S Line from Holophane is specifically designed to replace older, low wattage lanterns. The range of delivered light output is 1,000 to 4,000 lumens (13W – 34W).

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To reduce energy costs even further, the lanterns are programmed to dim to reduce the light output by 50% from the hours of 20.00 in the evening to 06.00 in the morning.

Another major saving will come from the reduced maintenance costs. A typical SOX lamp has a life of 16,000 hours, four years or less. The S Line LED lantern will last 100,000 hours (L90 B10 at 25C).

The new lantern is IP66 and so there will be less dirt accumulated inside thus maintaining the efficiency of the optical system for a longer period of time. It is also fitted with a pressure equalisation filter valve which minimises the "breathing" flow of air during the daily on/off cycle.

Future proofing is achieved by fitting the S Line lanterns with 7-pin NEMA sockets. This means they will be able to take advantage when Oxford CC installs a smart city control system.

There is a further advantage in that the streets look much brighter; the dull yellow, monochromatic light from SOX is replaced by a Warm 3,000K from the LEDs.

Holophane lanterns have been installed in towns across Oxfordshire such as Banbury, Bicester, Oxford and Witney. The installation was finished in May 2018.



