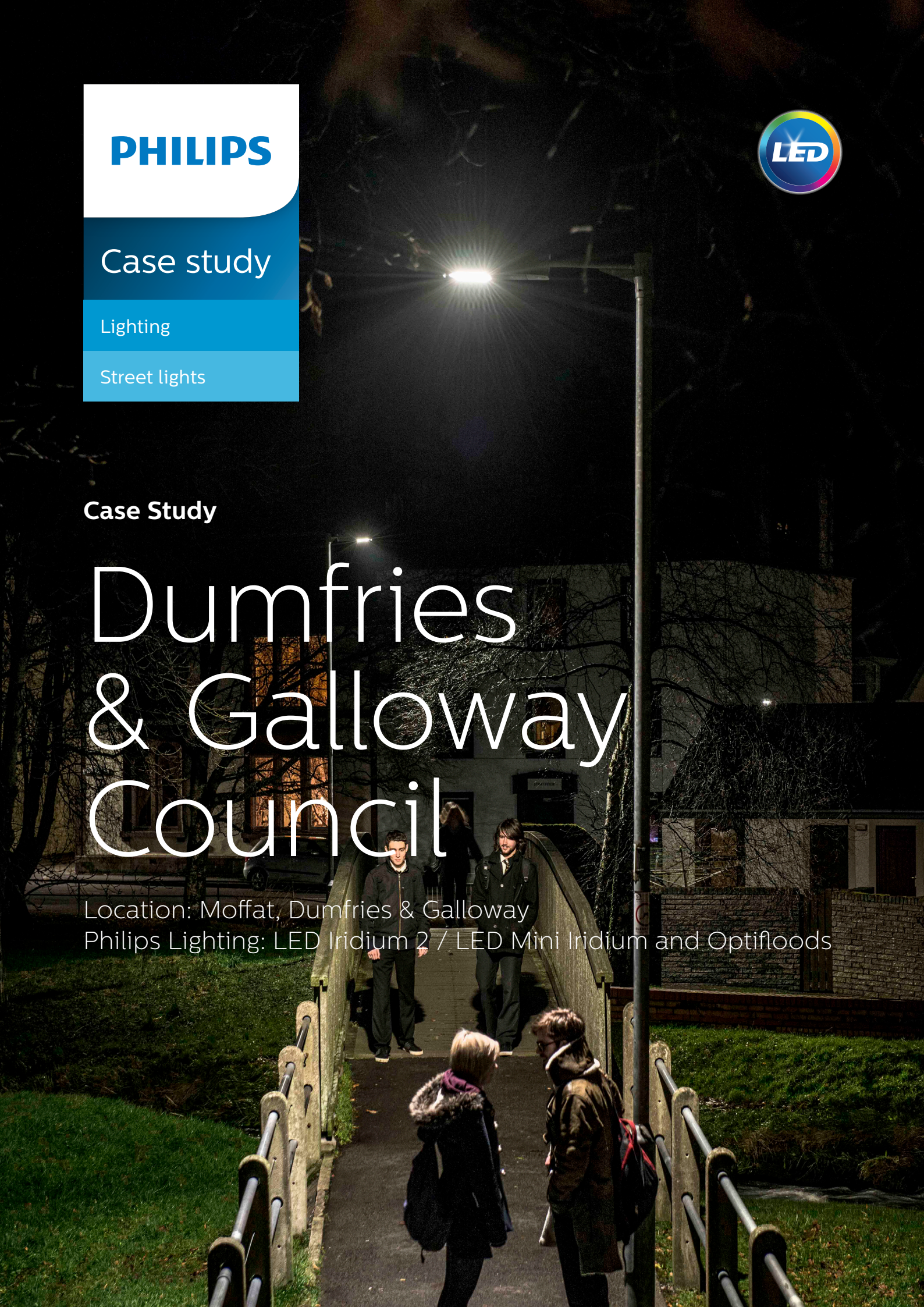
PHILIPS

Case study

Lighting

Street lights



**Case Study**

# Dumfries & Galloway Council

Location: Moffat, Dumfries & Galloway
Philips Lighting: LED Iridium 2 / LED Mini Iridium and Optifloods

> With energy prices set to rise year on year and a commitment to reduce carbon by 20% by 2020 we felt that it was time to start making changes. **This lighting upgrade will help reduce our energy consumption and maintenance costs as well as minimise the council's carbon footprint."**

**Calum Edgar**
**Lighting Engineer, Dumfries and Galloway Council**

## Background

Kielder Water and Forest Park, Northumberland National Park and Kielder Observatory Astronomical Society have been working together over the past couple of years to secure dark sky status for nearly 1,500 square kilometres of breath-taking scenery between Hadrian's Wall and the Scottish border. Lighting Consultant, James Paterson has played an integral part in all these projects, producing an extensive exterior Lighting Master Plan for the region.

It was in July 2012 that James first suggested he should bring his expertise to his home town of Moffat, situated 37 miles north of Carlisle. However the project was only realised when the Scottish Government approached Dumfries & Galloway Council to discuss the possibility of funding a small LED street lighting pilot project, with a view to combating carbon emissions and reducing energy. The pilot presented an opportunity for Moffat to consider a more ambitious goal – the chance to be the first town in Europe to be granted Dark Sky Community status by the International Dark Skies Association (IDA). An achievement that the residents and businesses of Moffat are hoping would result in a surge in winter tourism and boost local commerce.

## The Solution

Moffat's existing mix of low and high pressure sodium street lighting resulted in significant light pollution. Upgrading the lighting was key to meeting the recommendations of the IDA for combating the control of upward light and supporting any bid for Dark Sky Community status.

With highly efficient optics and dimming possibilities, LED lighting was identified as the ideal replacement. As well as saving money, an LED solution would distribute light only where and when it was needed, minimising light spill and preserving the night sky. Following extensive calculations assessing 10 different LED luminaires on the quality of light on the public highway, the polar distribution and spill light calculations into gardens and vertical building frontages, the Philips Mini Iridium and Iridium 2 were selected for the upgrade.

A total of 450 Mini Iridiums and 85 Philips Iridium 2s have been installed transforming the familiar sodium glow into bright white light. The scheme also incorporates 20 Philips Optifloods which replaced very large wall mounted high pressure sodium floodlights in the high street shopping hub of the community. A key feature of this compact floodlighting is its ability to accurately control light distribution to prevent uncontrolled stray and spill light. The Philips solution perfectly blends the need of Dumfries and Galloway Council to reduce their carbon footprint and energy costs with Moffat's objective of achieving a vast reduction in sky glow and thereby supporting a dark sky application.

From the outset, the local community backed the Dark Sky Community application, meeting regularly to discuss the progress. To support their application the quality of the sky darkness has been measured and recorded at eight different locations both in and around the town. As a result of the new lighting residents have reported being able to identify the Milky Way from their gardens, something which has not been possible for several years. Whilst the new lighting has clearly enhanced the conditions for stargazing, Moffat is still awaiting a final decision from the IDA on its dark sky application.

## Life Cycle Savings

With this new installation, Dumfries & Galloway Council expects to save around £20,000 per annum in energy costs and reduce CO2 emissions by over 56 tonnes a year. The reduction in CO2 emissions has put the Council in a strong position to offset the carbon tax that was introduced this year. The Council will also benefit from a £6,900 saving in maintenance costs.

If you would like to see more projects or have an enquiry, please visit us at www.philips.co.uk/lighting or email: lighting.uk@philips.com

> **This project, combining multiple objectives, is one small landmark step into providing darker skies.** A flagship for other larger towns to follow."

**James Paterson**
**Lighting Consultancy and Design Services Ltd (Scotland)**

## Fast Facts

**Customer**
Dumfries & Galloway Council

**Location**
Moffat, Dumfries & Galloway

**Philips Products**
Iridium/Mini Iridium/Optifloods

**Project in Partnership with**
Lighting Consultancy & Design Services Ltd

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