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# Case study first direct arena

Location  
Philips Lighting

Leeds  
Philips ColorGraz



**PHILIPS**



“Initially we created a mock-up at our offices to evaluate the general performance of the luminaires. This was followed by a second mock-up on site to confirm the luminaires would deliver the required performance in situ. We were then able to develop a technical submission in conjunction with Philips.”

Jason McDaid, Project Director with Rotary Yorkshire.



# Colour-changing LEDs bring the first direct arena to life



## Fast Facts

### Customer

first direct

### Location

Leeds

### Philips Product

Philips ColorGraze

### Project Partners

SMG Europe, Property Management

Populous London

Arup Lighting Sheffield

BAM Construction Leeds

Rotary Yorkshire

LITE Ltd

## Background

Philips ColorGraze colour-changing LED lighting, combined with Pharos controls, is enabling the new first direct arena in Leeds to come alive at night with a kaleidoscope of colour to suit different events

The 12,500-seat capacity multi-purpose first direct arena was officially opened by Sir Elton John on the 4th September 2013 and will host more than 140 events each year, including concerts, comedy shows, boxing matches and ice dancing. It is the first arena in the UK to use a purpose-built fan-shaped seating arrangement, which provides every spectator with a perfect view of the centre stage. The tight spatial configuration also allows improved control of atmosphere and acoustics.

Main contractors BAM Construction used Building Information Modelling (BIM) to ensure efficient delivery of the arena, which has been designed to achieve a BREEAM 'Very Good' rating. Sustainability was therefore a key consideration in the design, which included the performance of the lighting.

The honeycomb architecture of the iconic external design has created unique mesh areas and illuminating these was a particular challenge for the design team, in terms of positioning the luminaires and avoiding shadows from the acute angles involved.

"We considered colour-changing products from four lighting manufacturers but the Philips ColorGraze was the only one that met all of the criteria," recalled Jason McDaid, Project Director with Rotary Yorkshire, who was responsible for the design and build of M&E services.

## The Solution

The Philips ColorGraze luminaires are used to provide colour-changing lighting using red, green and blue energy-efficient LEDs with 9 degree beam angles to provide an almost infinite choice of colours with a high level of saturation. Control is delivered through a Pharos system which can be accessed via an internet-based control interface for ease of access by the venue operators.

A further benefit of using ColorGraze was its PowerCore technology, which facilitates installation by using single leaders and jumpers cables to link the products, avoiding the need for separate drivers or data cabling. At the first direct Arena the PowerCore system is also used for onsite addressing.

This combination of Pharos controls and PowerCore system enables the arena to adapt lighting scenes to suit each event, with potential for linking to triggers such as motion, temperature and music inputs. The inherent flexibility of the Pharos system also provides the opportunity for remote access to the lighting control system in the future, using the arena's main server.

As a result of its striking architecture and versatile exterior lighting, the first direct Arena has become a focal point in Leeds that will act as a catalyst for future investment and tourism. "The lighting really brings the building to life and everyone involved has been very impressed with the results. There were certainly some challenges along the way but when the going got tough Philips was always there in full support," Jason McDaid concluded.



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