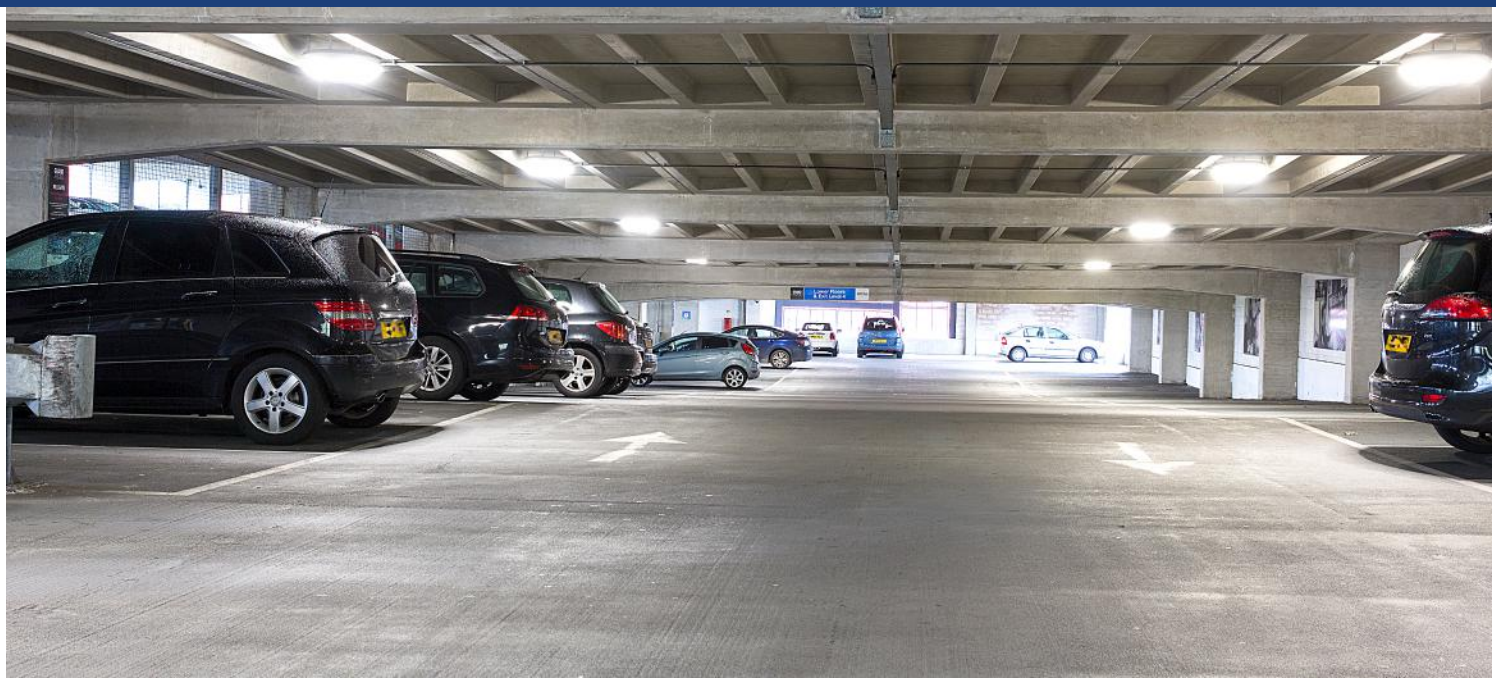
APCOA save 70% lighting energy costs at The Grand Arcade Car Park, Wigan



APCOA is Europe's largest parking business and a major operator of car parks in the UK rail sector. We are a value-based and service-orientated company with over 40 years of experience in Car Park Management.

APCOA was a founder member of the British Parking Association and continues to lead the parking industry in terms of service, technology and a forward-looking, partnership based relationship with its clients.

In recent years we have received significant investment from our owners, Centerbridge Partners, one of the world's fastest growing private investment firms which manages over $20bn of assets. This has allowed us to develop new products that address the core needs of our clients.

Established in 1992, Morgan Hope Industries have seen the development of many technologies within the lighting industry up to and including the progression and efficiency in LED technology. These technological advances have enabled Morgan Hope to develop and introduce a range of industrial LED lighting solutions. The luminaires, which are manufactured in the UK, incorporate high quality components from Osram, Phillips, Samsung and Epistar and are specifically designed to be robust, highly energy efficient and sensor controllable in environments where applicable.

APCOA:

Manages annual revenues in excess of €1bn

Manages 1.3m parking spaces across 12 Countries.

Sells over 150m parking tickets each year

Employees 4,900 people across Europe, including 1,900 in the UK and Ireland.

Has a UK National Control Room (Heathrow) and Customer Service Centre (Uxbridge)

Key Sectors:

Health

Education

Airports

Retail & Shopping Centre

Leisure, Hospitality & Events

Local Government – Local Authorities

Rail & Transportation

Private Landlords/Management Agents

Morgan Hope Industries:

25 years lighting industry experience

UK and USA based manufacturing facilities

Consultancy based services including site surveys, photometric planning and energy saving calculations

Bespoke manufacturing capabilities

Product warranty of 3 years components and labour plus an additional 2 years component warranty

Key Sectors:

Health

Education

Manufacturing, Warehousing & Distribution

Retail

Car Parking

Local Government – Local Authorities

Rail & Transportation

Social Housing & Residential Care

Project Overview

The Grand Arcade Car Park in Wigan is equipped with 216 Holophane Atlanta Luminaires which originally contained twin 55 Watt PLL lamps, each fitting consuming approximately 115 Watts when an additional allowance was made for the ballast consumption. A number of the existing luminaires were not operational as were a number of the integral emergency fittings. Light readings or LUX levels were recorded across the facility and in consultation with APCOA it was decided that increased light levels across the site would be desirable. Whilst a number of control systems such as timeclocks, PIR detectors and photocells were in place, during the onsite survey many were found to be inoperative or ineffective.

Project Objectives

Having carried out a detailed survey of the facility it was decided that the key objectives of the project should include increasing the overall lighting levels, ensuring the provision of adequate emergency lighting in line with current health and safety requirements and the reduction of energy consumption, including ongoing maintenance costs.

Project Considerations

Having considered a number of optional approaches Morgan Hope provided proposals based on retrofitting the existing Holophane Atlanta fittings on a 1 for 1 basis with bespoke LED gear trays incorporating individual microwave motion detectors.

Unlike the existing twin 55 Watt PLL lamps consuming 115 Watts per fitting, the proposed Morgan Hope LED retrofit solution only consumes 58 Watts per fitting at full output. With the addition of individual microwave occupancy detectors this reduces to a mere 12 Watts when no occupancy is detected, whilst still providing adequate ambient or background light until occupancy is detected.

In conjunction with the initial retrofit installation of the luminaires, it was proposed that Morgan Hope's internal electrical support team (DT Electrical) also undertook the replacement and refurbishment of the existing, timeclocks and photocell control systems.

Project Installation

Working in partnership with APCOA, the entire project was undertaken outside of the normal working hours of the facility thus reducing the potential interference and disruption to the normal commercial running of the facility and also minimising the health and safety risks involved to all parties and in particular the general public.

Project Overview Post Installation

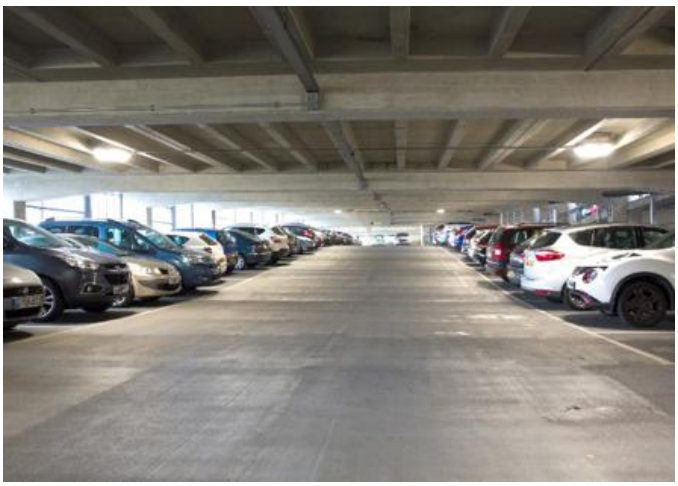
The average lighting or LUX levels recorded at post installation were above EN recommended minimum standards and all emergency lighting requirements within the main car park were addressed and certified. The timeclocks throughout the facility were either replaced or repaired and the photocell detectors were also replaced. Mini Meters were installed prior to the installation in order to record energy consumption on two individual circuits DB 17 (part of the general car park lighting) and DB 18 (roof top level external lighting).

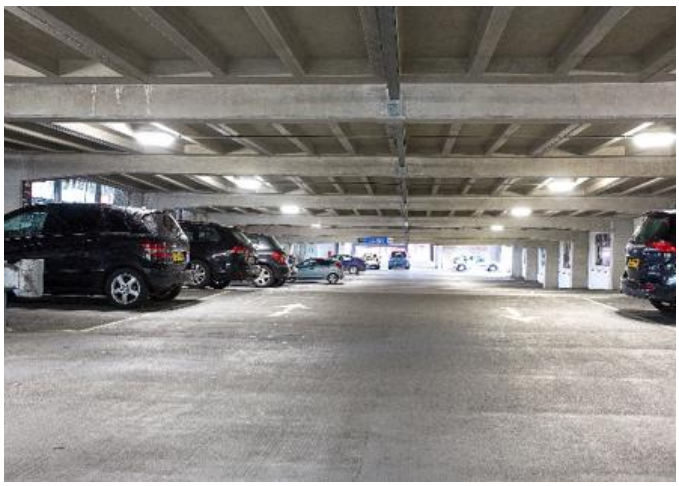
The pre installation readings showed that the readings from DB 17 (part of the general car park lighting) indicated a 14.569 kW average daily consumption compared with a post installation daily consumption of 4.624 kW therefore achieving an **energy saving on this circuit in the region of 68.26%.**

The mini meters also recorded a reduction on the DB 18 (roof top level external lighting) circuit with initial pre installation readings of 4.170 kW average daily consumption compared with a post installation daily consumption of 0.339 kW therefore achieving an **energy saving on this circuit in the region of 91.87%.**

Before Morgan Hope Installation

Post Morgan Hope Installation





Executive Summary

Given the meter readings on the two circuits monitored, which are based on pre and post installation comparisons, and using the figures gained to project average savings across the entire facility. It is estimated that APCOA will realise a 70% reduction in energy consumption which equates to the following projected financial savings:

Based on 4499 hours annually (normal operating hours)

Existing conventional (fixed output) lighting system energy costs pre installation @ £17,019.0 p.a.

Morgan Hope LED (sensor controlled) retrofit system energy costs post installation @ £5,105.70 p.a. Estimated total annual energy savings @ £11,913.30

Client Comments

"Working with Morgan Hope and in particular Jonathan and David throughout the Grand Arcade, Wigan LED lighting installation has been a pleasure. Their levels of communication throughout the project have been exceptional and the aftercare provided post the install has been excellent. The team deployed to complete the installation worked in a professional and efficient manner working closely with the operational team on site to minimise disruption and complete to schedule"

Adam Richards | Area Commercial Manager North West and Yorkshire at APCOA|

APCOA PARKING

morganhope INDUSTRIES LTD