



# Case study

## Carrefour Hypermarket

Location  
Philips Lighting

Santiago de Compostela, Spain  
Philips LED Lighting solutions, Dynalite Control System

**PHILIPS**

## Background

The Carrefour Company was founded in 1959 and opened its first supermarket the following year. Since these humble beginnings, the company has continued to grow and today the Carrefour Group is the largest retailer in Europe and the second largest in the world. Operating four distinct grocery store formats – hypermarkets, supermarkets, cash-and-carry and convenience stores – the Carrefour group currently has over 9,500 stores across 32 countries, through a combination of company-operated and franchise outlets.

It was important for Carrefour to match lighting levels and effects with group lighting standards for its hypermarkets.

## The challenge

Wherever it has a presence, Carrefour is actively committed to promoting neighborhood economic development and supporting nearby suppliers. To this end, 90 to 95 per cent of the products on its shelves are sourced locally. Moreover, mindful of the social, economic and environmental impact of its activities, the Carrefour Group has placed sustainable development at the heart of its business strategy, with this approach focused on two key areas: to integrate sustainable development into the management of its business; and to increase client awareness of sustainable development.

When the Carrefour Group decided to build a new hypermarket at the Las Cancelas shopping center on the Avenida do Camiño Francés, in Santiago de Compostela in north-western Spain, the company wanted to incorporate an energy-efficient lighting solution to complement its corporate sustainability goals.

It was important for Carrefour to match lighting levels and effects with group lighting standards for its hypermarkets. The solution also needed to achieve significant energy savings – compared with its standard lighting solutions – and reduce ongoing maintenance costs as much as possible.

## The solution

Philips was the natural choice to provide a lighting system solution for this new 7,500 square-meter hypermarket project, as the company was already the main lighting partner for the Carrefour group. The Philips' offering was also assessed to present the greatest potential for energy savings, as well as providing the best-tested and most-recognized lighting system solution on the market.

Philips assumed project management responsibilities from the design stage through to commissioning. The solution agreed upon a systems approach that incorporated LED lighting throughout the store in conjunction with the controls system to enable the desired energy savings and reduction in maintenance costs to be attained. This system solution approach also delivers the correct color-temperature and quality of light to meet the customer's corporate store standardization policies.







## Fast facts

### Customer

Carrefour Group

### Location

Santiago de Compostela, Spain

### Products

Philips Maxos LED Industry 5500lm LED luminaires, Philips Ecostyle LED luminaires, Philips LCM Displays, Master LED SA tube luminaires, Philips Dyalite DDBC1200 12-channel HF ballast controllers, Philips Dyalite DPMI940 dry contact interfaces, serial bus network (DyNet), Philips Dyalite's EnvisionProject software

### Lighting Solutions

Energy efficiency, architectural lighting design and lighting control systems for retail

General lighting for the project was achieved through the use of 1241 Philips Maxos LED Industry 5500lm LED luminaires, with a further 816 Philips Ecostyle LED luminaires utilized for accent lighting. Additionally, 50 Philips LCM Displays and 100 Master LED SA tube luminaires were employed to provide lighting in freezers and coolers throughout the store.

The Maxos LED Industry luminaires by themselves have been shown to facilitate energy savings of 55 per cent compared with the conventional lighting solutions used in other Carrefour stores.

Similarly, Ecostyle luminaires can achieve 50 per cent savings, while both LCM and Master LED tube luminaires are able to realize comparable savings of 60 per cent.

A total of 10 Philips Dyalite DDBC1200 12-channel HF ballast controllers were used to enable dimming of the general lighting in the store. Nine Philips Dyalite DPMI940 dry contact interfaces were used to allow mechanical switches and relays to interface with Philips Dyalite's sophisticated peer-to-peer communications serial bus network, DyNet.

The single DyNet network installed – comprising 80 lighting channels, with an average of 20 DALI luminaires per channel – integrates with the ModBUS building management system (BMS) and centralized software within the BMS, enabling the lighting system to be controlled. Time management is achieved through a third-party ModBUS SCADA system, which sends commands to the Dyalite platform via the dry contact interfaces.

The system has been set up to give the store 32 different presets to allow fully automated control of individual and grouped areas. Eight lighting scenes have also been programmed into the system for general lighting requirement, according to a scheduled timetable designated by Carrefour.

The design phase of this project began in March 2012, with installation taking place during October 2012. Commissioning was completed using Philips Dyalite's EnvisionProject software and final user acceptance testing conducted in November 2012, in time for the store opening the same month. This project has served as a pilot project for the Carrefour Group worldwide, as it is the first of its stores to use a full-LED lighting solution. Furthermore, it is also the first Carrefour hypermarket that employs the systems combination of Philips LEDs for general lighting in conjunction with a Philips Dyalite control system.

## Benefits

The Philips' lighting system solution delivered to the new Santiago de Compostela hypermarket energy saves over 60 per cent of the energy used for lighting compared with Carrefour standard lighting solutions. This is expected to reduce carbon dioxide emissions by an impressive 96 tonnes per year.

Carrefour is extremely happy with the finished result, both in terms of the ongoing energy savings it can enjoy and the quality of lighting provided in this flagship store. Added to this, the company can expect additional sizeable reductions in its annual maintenance costs, simply through not having to replace blown bulbs. In all, this has been a very successful project for both Philips and Carrefour, providing a template for the lighting design of future Carrefour new-build and renovation projects.



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