



1990 Brunel Retail Park

External Lighting Report

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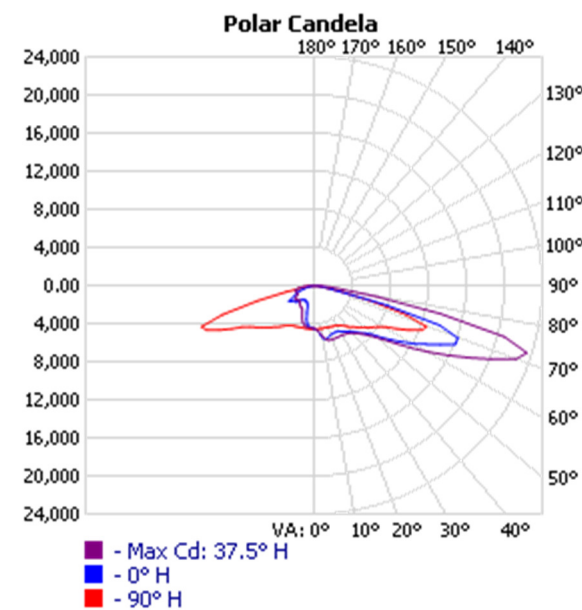
Overview

As part of the redevelopment of Brunel Retail Park in Reading, an external lighting scheme has been designed to enable both pedestrian and vehicular traffic to access the site safely. The scheme has been designed to comply with all relevant standards applying to external lighting, notably BS5489-1 Road Lighting and CIBSE Lighting Guide 6: The exterior environment.

Design Brief

The main design brief is to provide a scheme which is highly efficient, cost effective in terms of installation costs and maintenance, to give safe and recommended levels of light to the different areas such as roads, pathways, car parks and service yards. Light spill from the retail park must be minimised on all boundaries where there are other occupiers or where ecological areas are present.

Luminaires



Luminaires have been chosen from the Holophane range of products, a company with a good reputation for quality and lighting design. These are both wall and column mounted as necessary to light the space evenly and to the required levels within the park.

It is vital that light spill is minimised to certain boundaries, therefore a highly controlled optical performance is critical to achieving this. The products selected have well designed optical reflectors such that light is only emitted in useful directions and that wasted, back spill light is eliminated. The polar diagram (left) shows the results from testing the main luminaire proposed.

The red curve indicates the illuminance polar pattern emitted from the sides of the luminaire. The wide spread of the pattern indicates a highly efficient optical design.

The blue and purple curves are the front to back illuminances, from which it can be seen that almost no light is emitted rearwards, thus creating a very sharp cut-off behind the luminaire and eliminating light spill. It should also be noted that no light is transmitted upwards, thereby being dark skies compliant.

Lighting Plots

This report should be read in conjunction with the CWC drawing 1990-EX-6301 which shows the proposed lighting layouts and also the light levels achieved around the proposed development. It can be seen that around the west and south boundaries to the park, the light levels at the actual park boundaries are between 0 and 7 lux in all cases, however it drops off rapidly after that. It should be noted that no allowance has been made on these lighting plots for the effect of trees on these boundaries, and therefore it is considered that external spill is minimal and would be acceptable.