

# Estates

## Lighting Specification for Roads, Paths and Pedestrianised Areas

<b>Document</b>	Street Lighting Equipment Specification
<b>Version</b>	4
<b>Date</b>	19/03/2019
<b>Originator</b>	I.Jones
<b>Approved</b>	S Boon

## **1. Forward**

This specification has been compiled to provide assistance to consultants, designers, project managers and operators in the procurement, use and maintenance of the University's Street Lighting infrastructure.

The responsibility for the management of the University's Street Lighting infrastructure lies with Maintenance Services. It is essential that all projects involving the installation of street lighting equipment adopt this standard. This is to ensure that the client's requirements are fully defined and are able to be interpreted by the supplier to ensure street lighting installations are both cost effective and meet the University's requirements.

## **2. Standards**

### **2.1 Columns;**

5m (nominal) root mounted, light duty, galvanised steel, base hinged column, as supplied by messrs Abacus Lighting. Finish to be hot dipped galvanised. Part number T051RLS.

*\*Total overall height of the installed column and lantern measured from finished ground level shall be 5 metres.*

### **2.2 Paint Finishes;**

Each column is to be rubbed down and painted with 1 coat of blue/grey etching undercoat, and 2 coats of gloss applied in manufacture. Scuffs and scratches shall be touched up following planting. Finish coat to be BS4800:1998: 12 B 21 (Crown Peridot)

### **2.3 Alternative Epoxy Powder Coating;**

Factory applied baked epoxy powder coating to equivalent RAL colour.

### **2.4 Lantern & Bracket Assembly;**

Holophane D Series LED lantern with the following features:

- IP65 LED Module
- LED light engine producing 5000 lm at 4000 K colour temperature
- Asymetric light distribution
- Die-cast aluminium body conforming to EN1706
- Body finished in RAL7035 grey
- Integral electronic driver suitable for 230V to 240V operation
- Factory fitted photocell
- Pre-set dimming to 70% between 12:00am and 6am.
- Universal bracket for 76mm OD post top mounting
- Bracket to be galvanised and painted RAL7035 to match the lantern
- The Holophane part number for this lantern configuration is COMDSX1115-2515-01-10.

## **2.5 Fuse Cut outs;**

Double pole fused cut-outs as supplied by messrs Lucy Lighting, Titan 2 part number NT06 or equal and approved.

## **2.6 Cable Types;**

Cables to be 16mm<sup>2</sup> 3 core PVC SWA cables or split concentric pulled through 100mm diameter black rigi-duct with hockey stick to column base.

## **2.7 Cable Depth;**

Minimum 450mm of cover in footway/verge, 750mm in carriageway, or as otherwise described in the latest revisions of the NJUG standards.

## **2.8 Cable Joints;**

Underground cable joints in street lighting installations shall be avoided wherever practical and subject to approval by the University of Reading Estates Department where unavoidable.

When necessary Messrs. B.I.C.C. BICAST joint systems may be used. The only approved buried cable joint shall be of the 'straight through' type, under no circumstances are 'T' joints to be used.

## **2.9 Lantern to Cut Out Flexes;**

Cable connection between the cut-out unit and lantern shall be in 1.0mm<sup>2</sup> 3-core circular butyl insulated and neoprene sheathed flexible cable

## **2.10 Erection of Columns;**

Columns to be erected with concrete sub base to prevent movement. Set plumb and level to ensure that the terminal box is at the correct level relative to the finished ground. Install a 50mm diameter uPVC tube (hockey stick shaped) through the concrete and into the column base.

## **2.11 Photo Electric Cell;**

Holophane factory fitted unit for the D series LED lantern; Thorn QP or other suitable photo-electric cell for the optional standard in 2.13 below.

### **2.12 Optional standard (to match existing lanterns only);**

An optional standard for the provision of street lighting using an LED source to match existing lanterns may be provided in compliance with the following variation:

Substitute the standard Holophane D Series lantern for Holophane LED Denver Elite lantern, part number DEP.LZ054.AY.C6.T1.D2.

Provide 300mm outreach mounting brackets by messrs Abacus, part numbers PR2-03/S (single) or PR2-03/D (double) units to permit the installation of the Denver Elite lantern onto the standard Abacus base hinged column.

All other items, including columns, cut-outs, cabling, jointing and installation methods to be as specified earlier in this document.

### **2.13 Belisha Beacon Installations**

Where specified, the following belisha beacon standard shall be installed and incorporated on to the general street lighting wiring infrastructure:

- Street Furnishings SF-ZEB 4 internally illuminated belisha beacon, complete with optional 24v LED illumination and matching proprietary transformer.

### **2.14 Numbering;**

All new street lighting columns and belisha beacons shall be clearly marked with a unique reference number by means of a self-adhesive vinyl tape, providing for 50mm high black lettering on a white background. The vinyl tape system used for the column numbering shall be UV stabilised and suitable for external use in the UK.

### **2.15 Record Drawings;**

All alterations, additions and/or omissions relating to the street lighting installations on all University sites shall be the subject of an update to the relevant site record drawing immediately following the completion of the works.