

## TECHNICAL REPORT

### Kent International Gateway proposal

This technical report reviews the lighting calculations carried out using AGI32 lighting software in conjunction with the information and the drawings provided for the Kent International Gateway.

The proposal is based in the combined use of high performance “flat glass” floodlights and road lighting lanterns, due to its wide range of lamp options and low light pollution optics for application in large areas and traffic routes.

### CRITERIA AND REQUIREMENTS

Designed to prEN 12464-2:2003 “Lighting of work places - Part 2: Outdoor work places”, the BS 5489-1:2003 “Code of practice for the design of road lighting” and the ILE “Guidance Notes for the Reduction of Obtrusive Light”

Maintenance Factor	0.80
Road Surface = C2	C2

### DESIGN CRITERIA

Minimise light pollution

Maximum uniformity in product range and mounting heights

### AREAS CLASSIFICATIONS

<b>Car parks</b>	5.9.3 – Heavy traffic parking lots as in prEN 12464-2:2003		$E_{av} \geq 20 \text{ lux}$ $U_o \geq 0.25$
<b>Loading areas</b>	5.7.2 – Industrial sites and storage areas as in prEN 12464-2:2003		$E_{av} \geq 50 \text{ lux}$ $U_o \geq 0.40$
<b>Roads</b>	5.1.3 – General circulation areas as in prEN 12464-2:2003		$E_{av} \geq 20 \text{ lux}$ $U_o \geq 0.40$
	S classes for subsidiary roads as in BS 5489-1:2003	S1	$22.5 \text{ lux} > E_{av} > 15 \text{ lux};$ $E_{min} = 5 \text{ lux}$
		S2	$15 \text{ lux} > E_{av} > 10 \text{ lux};$ $E_{min} = 3 \text{ lux}$

### ADDITIONAL INFORMATION

Lamps

High pressure sodium – tubular

## LIGHTING FITTINGS

### **Troika**

An asymmetric 'flat glass' floodlight for 250-600W discharge lamps, using adjustable lampholders

- Ideal for sports, functional and architectural applications
- Wide choice of lamp types
- Innovative reflector optimises performance and adjustable lampholder offers a variety of light distributions
- Light output is finely controlled to minimise light pollution
- Four different light distributions for each lamp option. Troika Variable (60°-70°) uses a reflector in conjunction with a variable position lampholder, providing three distributions varying in intensity, beam width and peak angle intensity (I peak).
- Ideal for tennis courts, sports applications and car parks. Troika Fixed has a fixed lamp position with a nominal 45° I peak angle. Ideal for swimming pools and uplighting.
- Broad selection of attachments, including a Lux Guillotine. This adjustable vertical light shield enables the light beam to be cut-off exactly where required and is therefore suitable for areas of extreme sensitivity to light spill



### **Champion**

Number one solution to floodlighting small sports stadia and general areas where the control of obtrusive light is critical.

- installation and maintenance both simple and safe.
- additional accessories for increased control of obtrusive light available
- excellent glare control with unique optical construction
- use of metal halide lamps
- minimum of 4 lamp positions, adjustable on-site, from just one installed position.
- new standards for providing 'on-pitch' performance.
- provides a 'virtual' light emitting surface.
- front glass inclined inside the floodlight
- Champion combines many of the performance features of classic 'projectors' with those of 'flat glass' projectors.
- Asymmetric floodlight for 1 & 2 kW lamps, incorporating an innovative design concept.



**Oracle**

High performance street and road lighting in a timeless design

- High precision optical system for lighting performance
- Offers a wide variety of solutions to control and reduce light wastage.
- Offers minimised installation and maintenance costs and maximised energy savings.
- A choice of 3 optics (Access, Wide, Comfort) for improved visibility and reduced obtrusive light.
- Available in 2 sizes, with a power range from 42 to 600W.
- Durability and recyclability with its high quality materials
- Wide range of applications.
- Fully complies with the WEEE RoHS requirements
- Vandal proof, vibration proof and suitable for use in harsh environments.
- Various mounting options for post-top or side entry allow choice of appearance.

