



# **Nishkam School, West London External Lighting Assessment**

Job No: 4467

Revision P1



BAM Design  
Centrium  
Griffiths Way  
St Albans  
Hertfordshire  
AL1 2RD

Tel No: (01727 894200)  
Fax No: (01727 818852)

BAM Design


**SUBJECT**

**Nishkam School, West London – External Lighting Assessment**

CLIENT: BAM Construction  
PROJECT: Nishkam School, West London  
SITE ADDRESS: Syon Lane, Isleworth, TW7

Contract no: TBA Job no: 4467  
Prepared by: J McNicholas Checked by: Nicholas Neill

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AMENDMENTS				
ref.	date	amendment	amended by	checked by
P1	04/06/15	Preliminary – Planning Submission	JPM	

## NISHKAM SCHOOL

### EXTERNAL LIGHTING ASSESSMENT

#### Design strategy

The external lighting design strategy is intended to achieve the required illumination levels in compliance with the following design guides:-

Lighting Guide LG6 1992 – The Outdoor Environment

Lighting Guide LG5 2011 - Lighting for Education

Institution of Lighting Professionals – Guidance Notes for the Reduction of Obtrusive Light

Exterior lighting will be provided to the perimeter of the building, the car park and pedestrian footpaths.

No lighting will be provided to the multi-use games area (MUGA).

Lighting Guides LG5 and LG6 give conflicting recommendations for exterior lighting. LG5 provides recommended performance requirements in Table 5.5 whilst LG6 provides recommendations in section 4.9. The recommended average illumination levels for the areas are as follows:-

Walkways (pedestrian)	LG5 5 lux	LG6 20 lux
Car Parking	LG5 5 lux	LG6 10 lux
Perimeter lighting	LG5 N/A	LG6 20 lux

Consideration has been given to the above recommendations but also to security of staff and pupils and use out of normal school hours, possibly by community users.

The most onerous of the above recommendations has been selected and the car park will be lit to the same level as the perimeter and pathways.

An average illumination level of 20 lux is proposed throughout the routes identified below.

Lamp sources for the lighting scheme have been selected with regard to energy efficiency and colour rendering to suit security purposes, having a colour rendering index (CRI) above 60.

#### Car Park and Access Road

The car park and access road will be illuminated by LED lanterns mounted on 5 metre high columns.

#### Footpaths

Footpaths will generally be illuminated by LED lanterns mounted on 5 metre columns. Where footpaths occur adjacent to roads and parking areas, the same luminaire will provide illumination of both.

Footpaths around the perimeter of the building will be illuminated by wall mounted LED luminaires, mounted at approximately 3 metres from ground level.

#### Emergency Lighting

Selected luminaires will comprise self-contained non-maintained emergency lighting battery packs to provide emergency lighting in the event of a power failure for safe egress from the building.

### Controls

Amenity lighting control will be via photocell on and time clock off. The time clock will be set to suit any extended hours and/or community activities. Time clocks will control the electrical supply to photocells and photocells will switch luminaires on and off whilst electrical supply is available via the time clock control. Time clocks will initially be set to switch off at 23:00 hours. Time clocks will, however, be programmable.

### Calculation Results

The calculation results are shown on the accompanying drawing which indicates that the proposed lighting levels for the areas listed above are achieved using the luminaires detailed.

The luminaires selected assist in achieving minimal obtrusive light within the parameters issued by the Institution of Lighting Professionals, ie;

- The extent to which the installation illuminates the surrounding area to 1 Lux or above is indicated as an isoline (gradient type line) on the accompanying drawing which doesn't interact with any of the existing buildings.
- The upward light ratio of the installation is 1% which is within the 5% limit for an E3/ Suburban environmental zone.

In terms of energy efficiency the luminaires selected meet the BREEAM requirements as follows;

- LED lanterns mounted on 5 metre high columns achieve 89 luminaire lumens per circuit Watt, exceeding the 55 required for an Ra (CCI) above 60, in a car park.
- Wall mounted LED luminaires achieve 59 luminaire lumens per circuit Watt, exceeding the 40 required for an Ra (CCI) above 60 on a footpath.

### Appendices

The following drawing is appended, indicating the outline design proposals and proposed illumination levels;

Drawing No 4467 NWL-BMD-00-GF-DR-E-49020-P1 - External Lighting Proposal for Planning