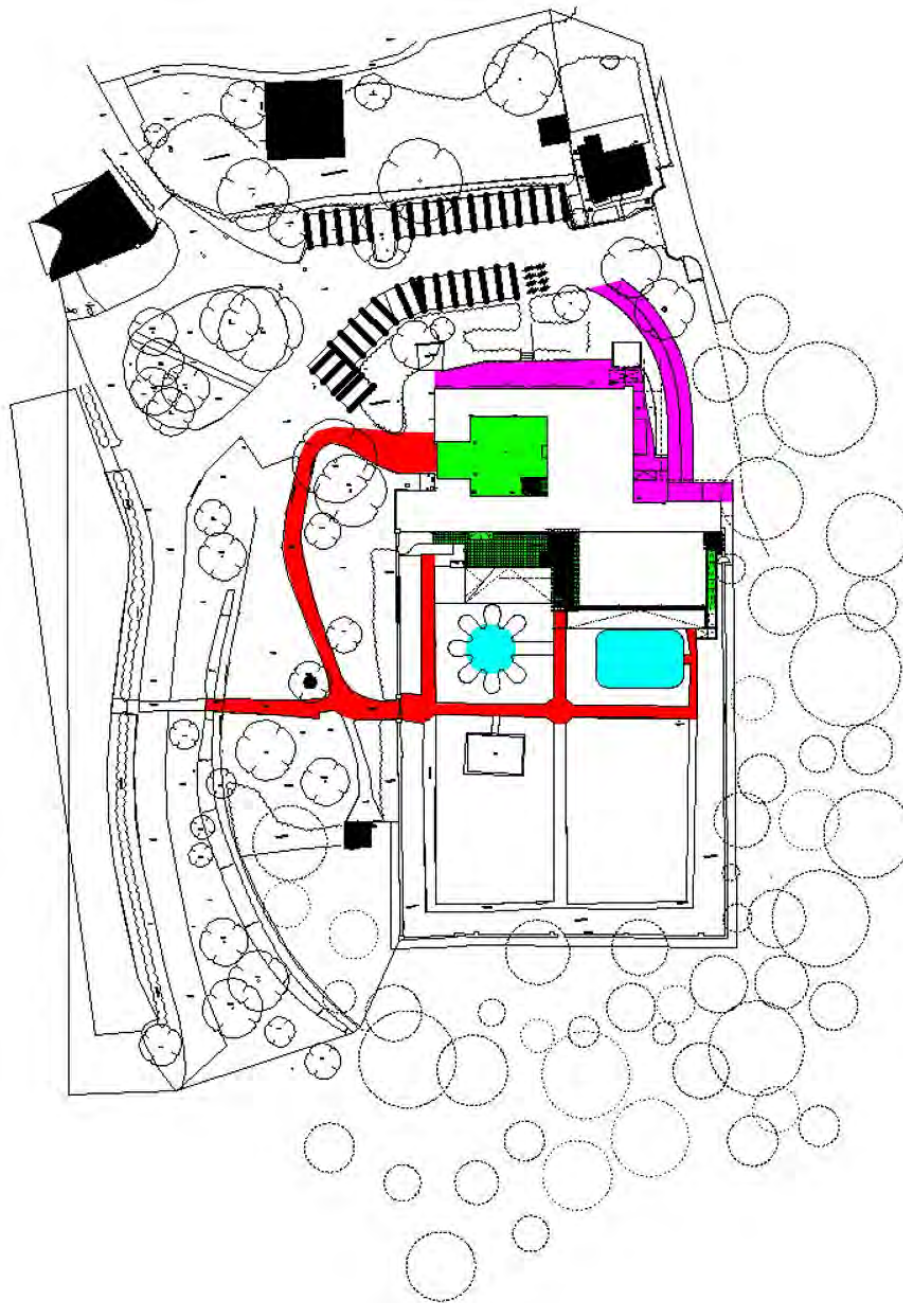


Borde Hill Stables

External lighting – REV B

September 2025





External lighting scope

New proposed lighting for the Borde Hill Stables restaurant development has been specified in the following areas:

Red - Front of house garden pathways

Blue - Walled garden customer terraces

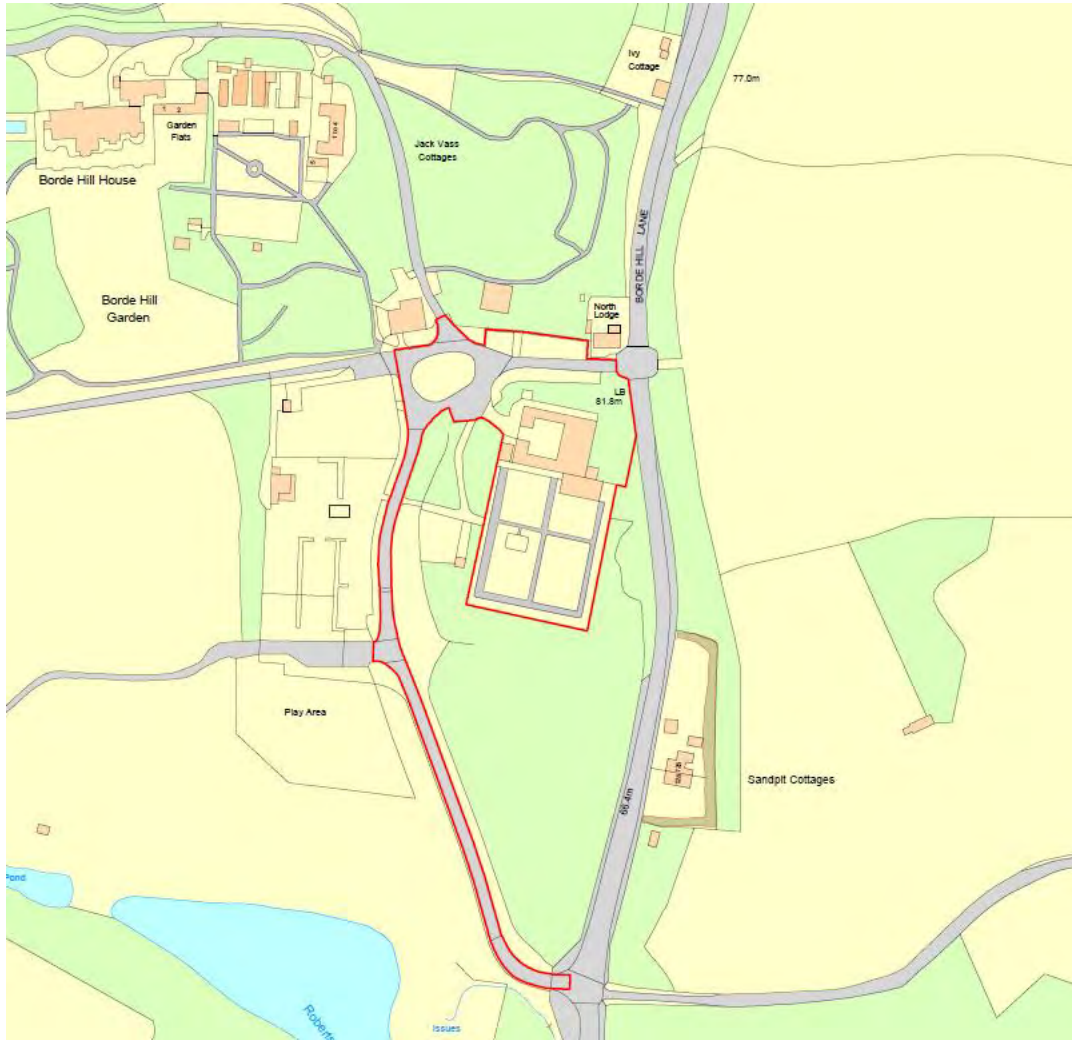
Green – Building façade lighting to courtyard, upper terrace and circulation

Pink – Back of house amenity lighting

Lighting philosophy

Lighting to ensure adequate wayfinding for customers entering and exiting the restaurant and for outdoor seating and dining. Wayfinding for staff and deliveries entrance.

Lighting to be muted and low level where possible in keeping with the elegant interior concept. Lighting to enhance the garden landscaping after dark. Warm white high quality light sources to be used with minimal glare and light fixture designs that are simple and unobtrusive so as not to detract from the garden design.



Controls

All front of house exterior illumination to be fully controlled via either the smart architectural control system or designated timeclocks for each circuit and lighting type.

Light spill

The nearest property is the North Lodge, however the use of this is planned to be associated with the Stables Restaurant and therefore considered will not be disturbed. However calculated light levels from back of house road amenity bollards will be below 0.1 lux at the properties nearest walls.

Sandpitt Cottages are the next nearest properties. The location and distance of these along with the screening by trees, and the wall of the garden, will mean any light spill will be negligible with horizontal lux levels well below 0.1 lux. New lighting proposals are therefore considered in accordance with ILP guidance for the Reduction of Obtrusive Light for nearby residents.

Ecology

The commissioned ecologists report concludes no existing presence of bats however new lighting proposals have been proposed to be low impact for new habitat opportunities.

The following have been specified to ensure local ecology has been considered:

- Woodland and waterway lighting has been avoided. Only pathways have been illuminated along with close to building terraces and the courtyard.
- Low glare light sources with no upward light element or bare lamps. Light directed downward below the horizontal.
- Minimal light spill with recessed light sources and use of baffles, cowls or shades.
- Warm white light sources with warmer colour temperatures less than 4200K. All front of house lighting to be warm white ranging from 2200K-2700K.
- All light sources to be LED with low wattage and light output.
- Light source spectral distribution with low UV content.
- Lighting mitigation has been considered by provision of smart timeclocks to ensure all lighting is switched on at dusk and off out of restaurant opening hours. Splitting into several circuits gives more switching flexibility.
- Timing of switching of individual circuits can be programmed to be adjusted as required. Use of PIR presence detectors therefore considered unnecessary as lights will be switched off automatically out of restaurant trading hours. Regular switching on and off of exterior lighting circuits by PIR considered potentially more obtrusive to wildlife during trading hours.
- Front of house exterior building mounted lighting to be dimmable and controlled via the internal scene setting system. Internal front of house lighting near windows to be recessed or baffled / shaded with no bare lamps to minimise external light spill.

Pathways and walled garden illumination

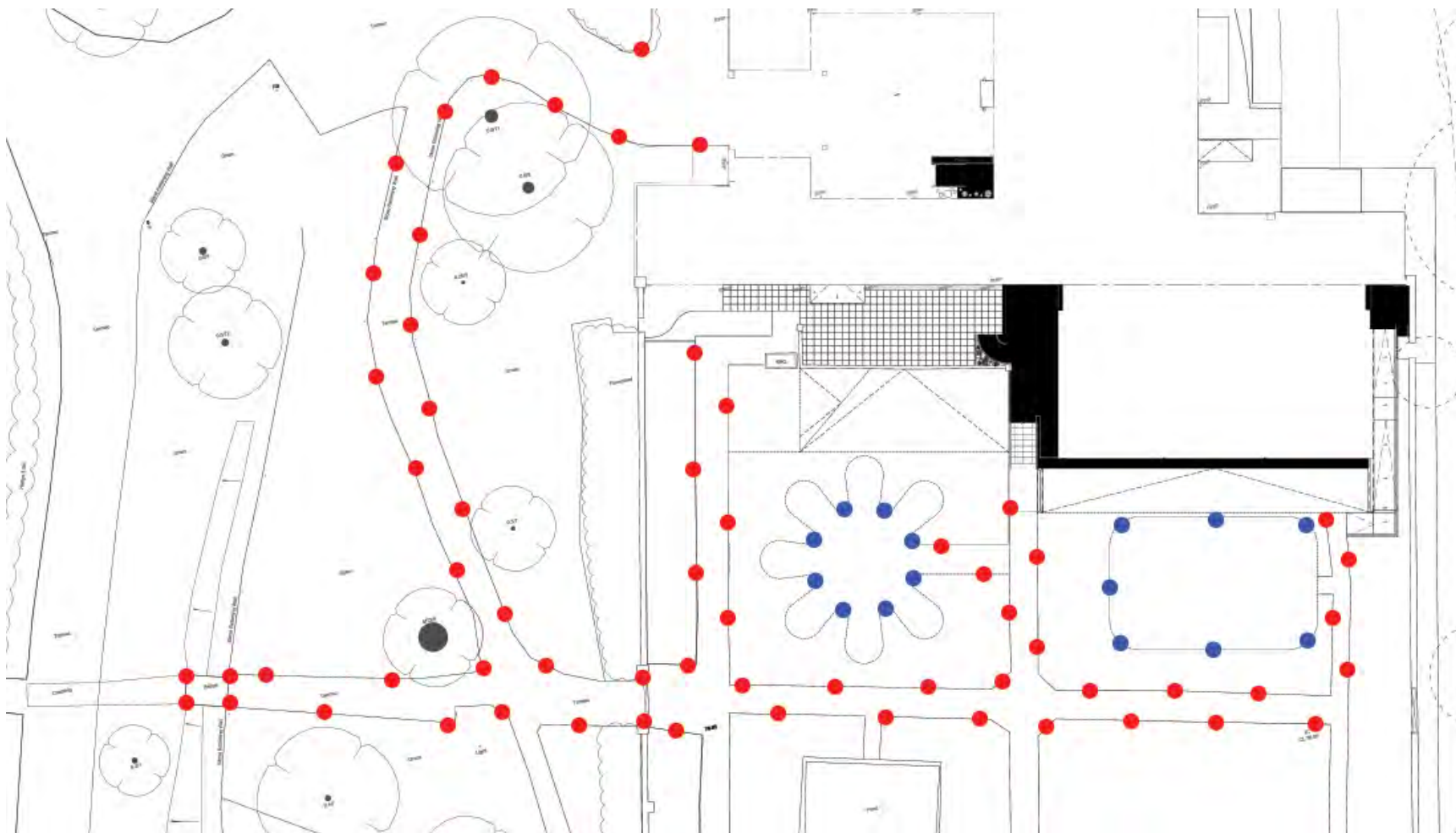
Pathways illumination provided by low level bollards with an asymmetric light distribution to control light only on pathways. The light source is concealed for a glare free downward only light.

Walled garden seating terraces illuminated by low level pole mounted twin head spike lights with adjustable heads directed downward.

Light sources to be warm white 2200K-2700K colour temperature.

Lux levels on pathways are averaging 20-25lux in the following calculations, dropping below 0.2 lux within 5m of pathways.

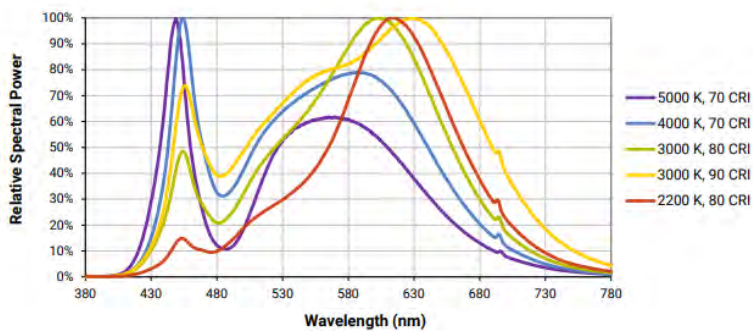
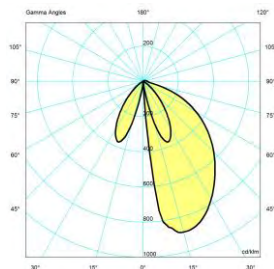
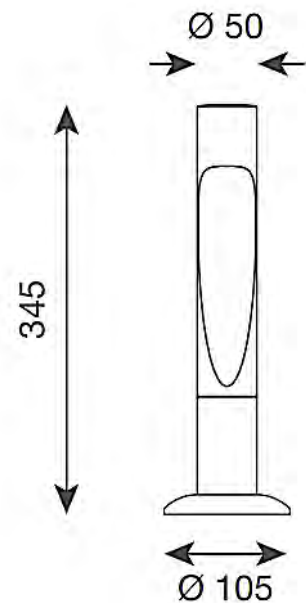
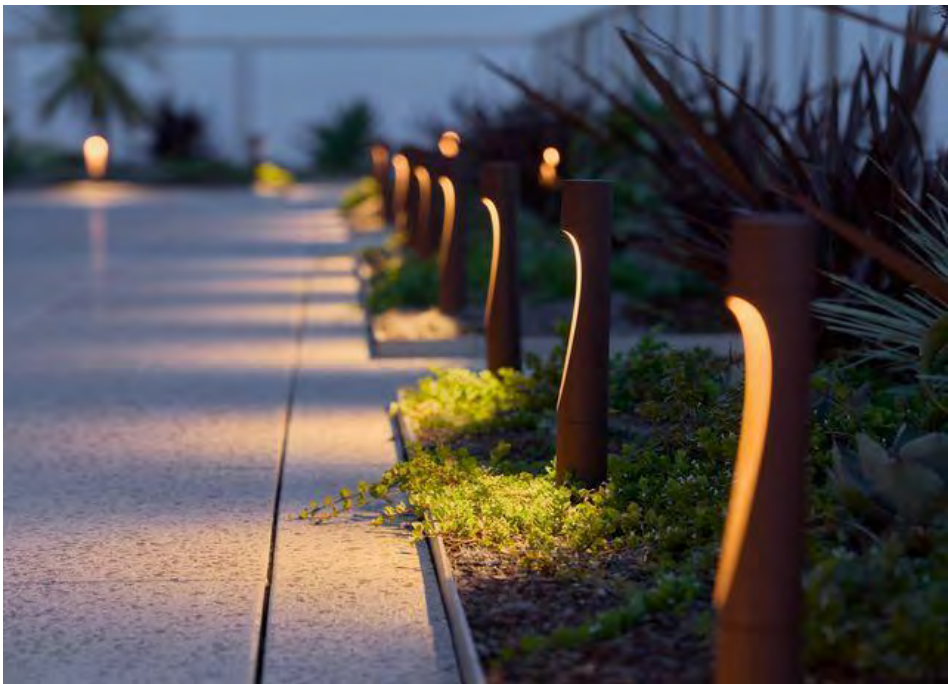
All landscaping lighting to be controlled via switching with designated programmable smart timeclocks.



- EXC
- EXD

Pathway and garden - lighting layout

Fitting EXC



Light source :

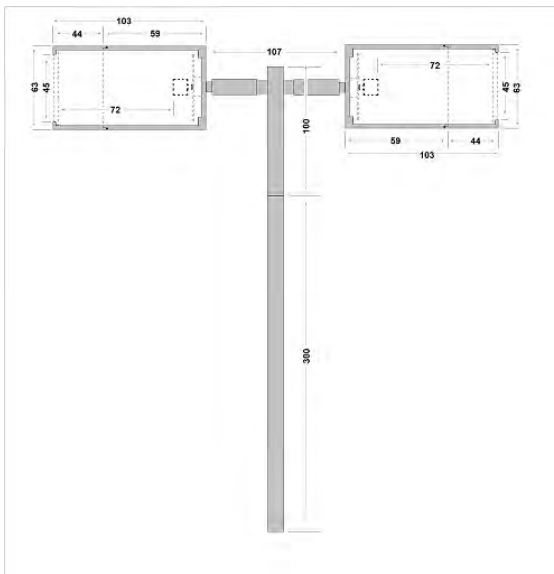
LED 2700K CRI90 230V 6.5W 215lm

Control:

Remote electronic LED driver Non-dimmable

To be controlled via smart timeclock

Fitting EXD



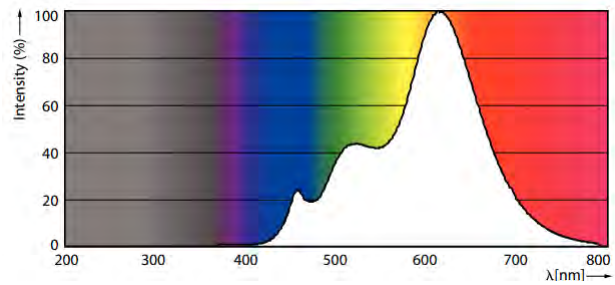
Light source :

LED 2700K CRI92 12V 7.5W 485lm

Control:

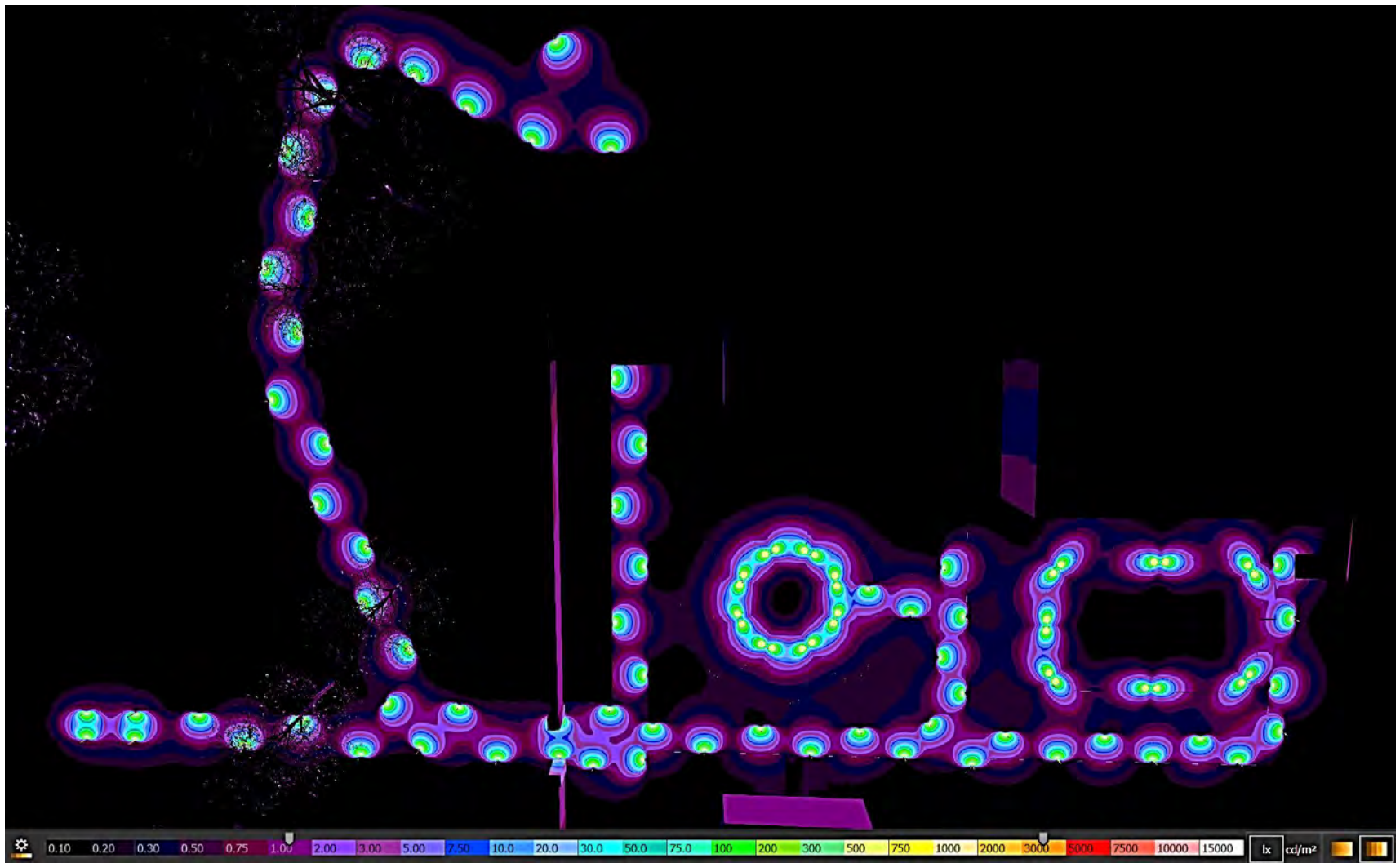
Remote electronic LED driver Non-dimmable

To be controlled via smart timeclock

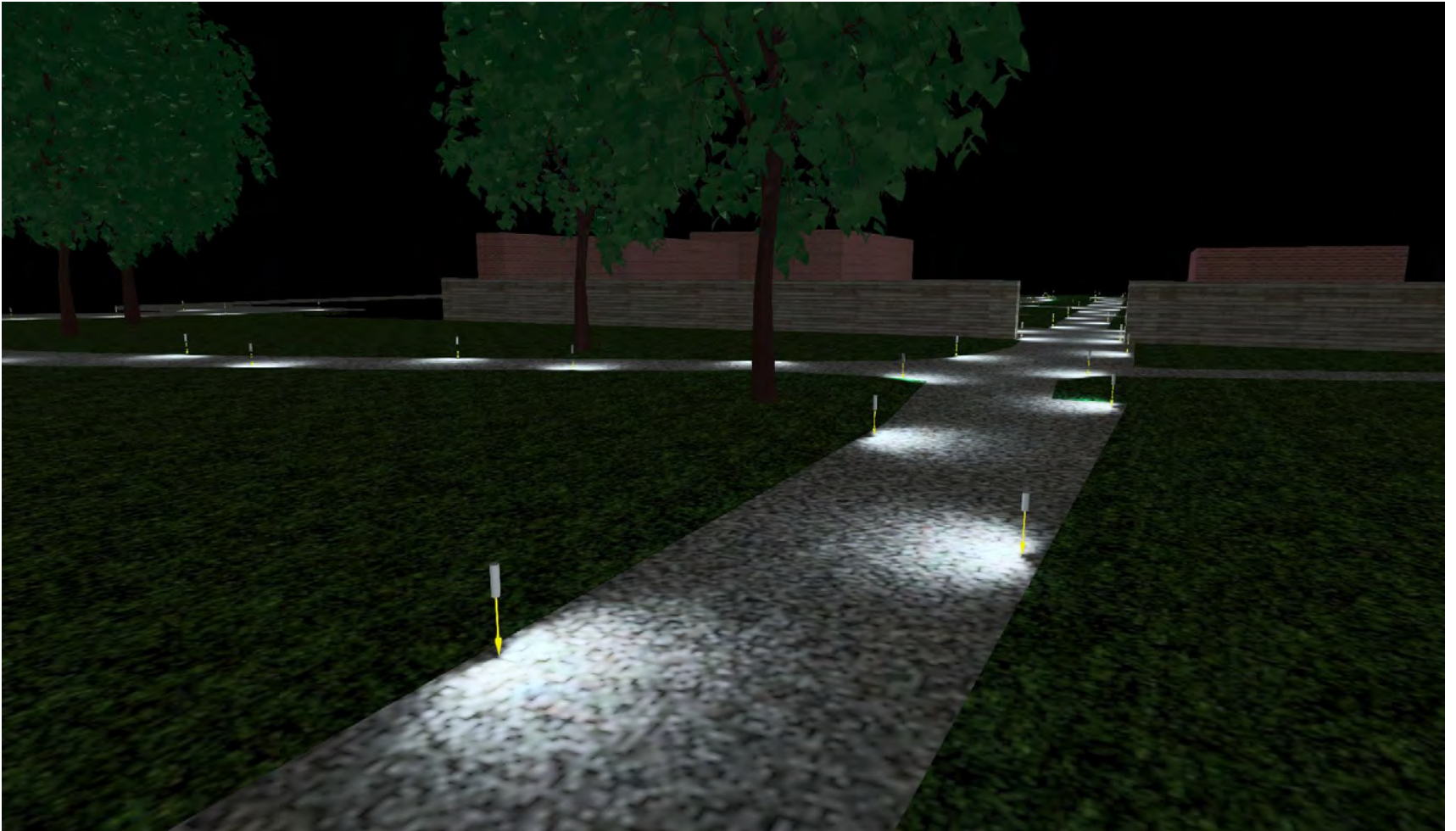




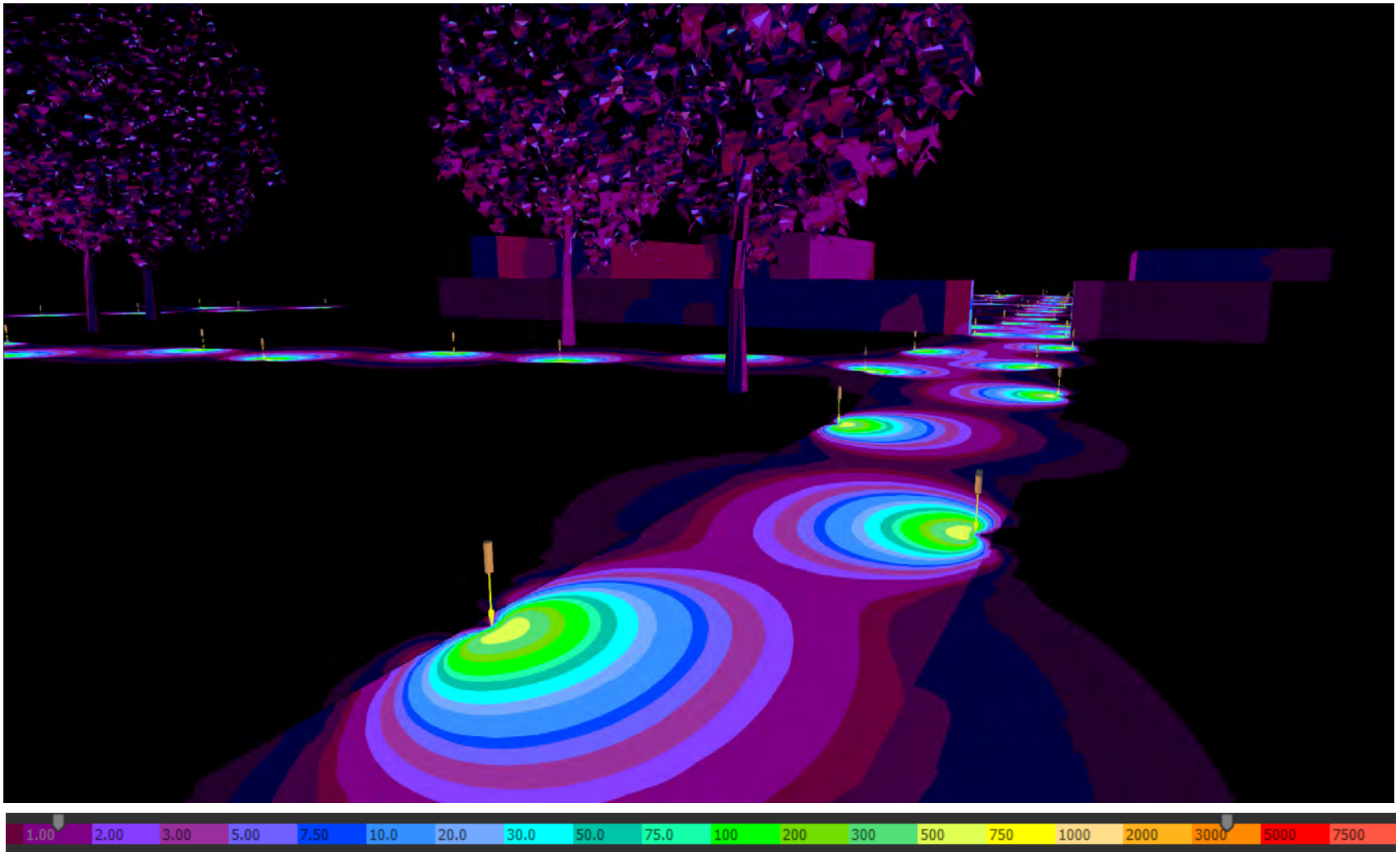
Light spread visualisation



Lux level pseudo colours at ground level



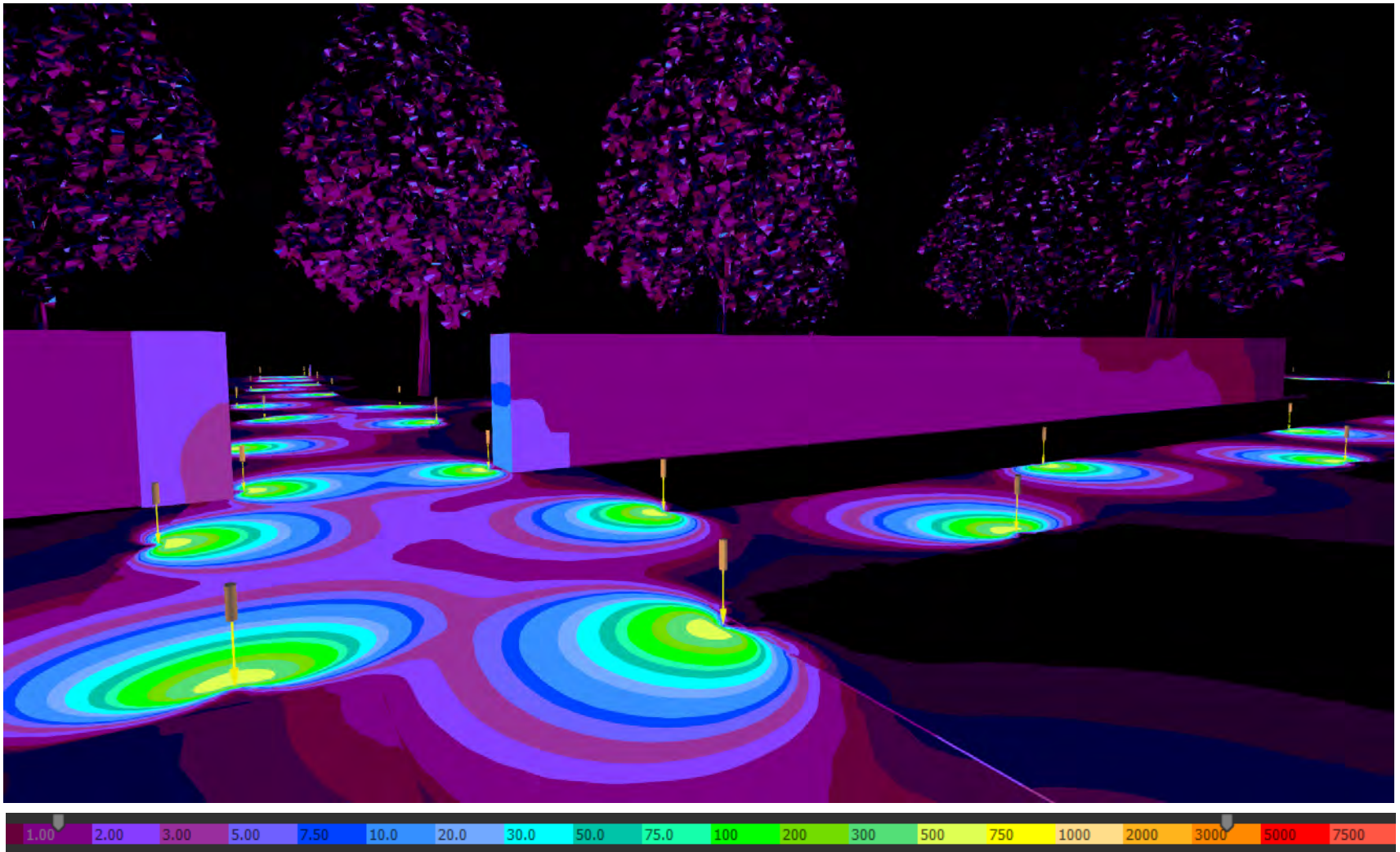
3D View 1



3D View 1 - lux level pseudo colours



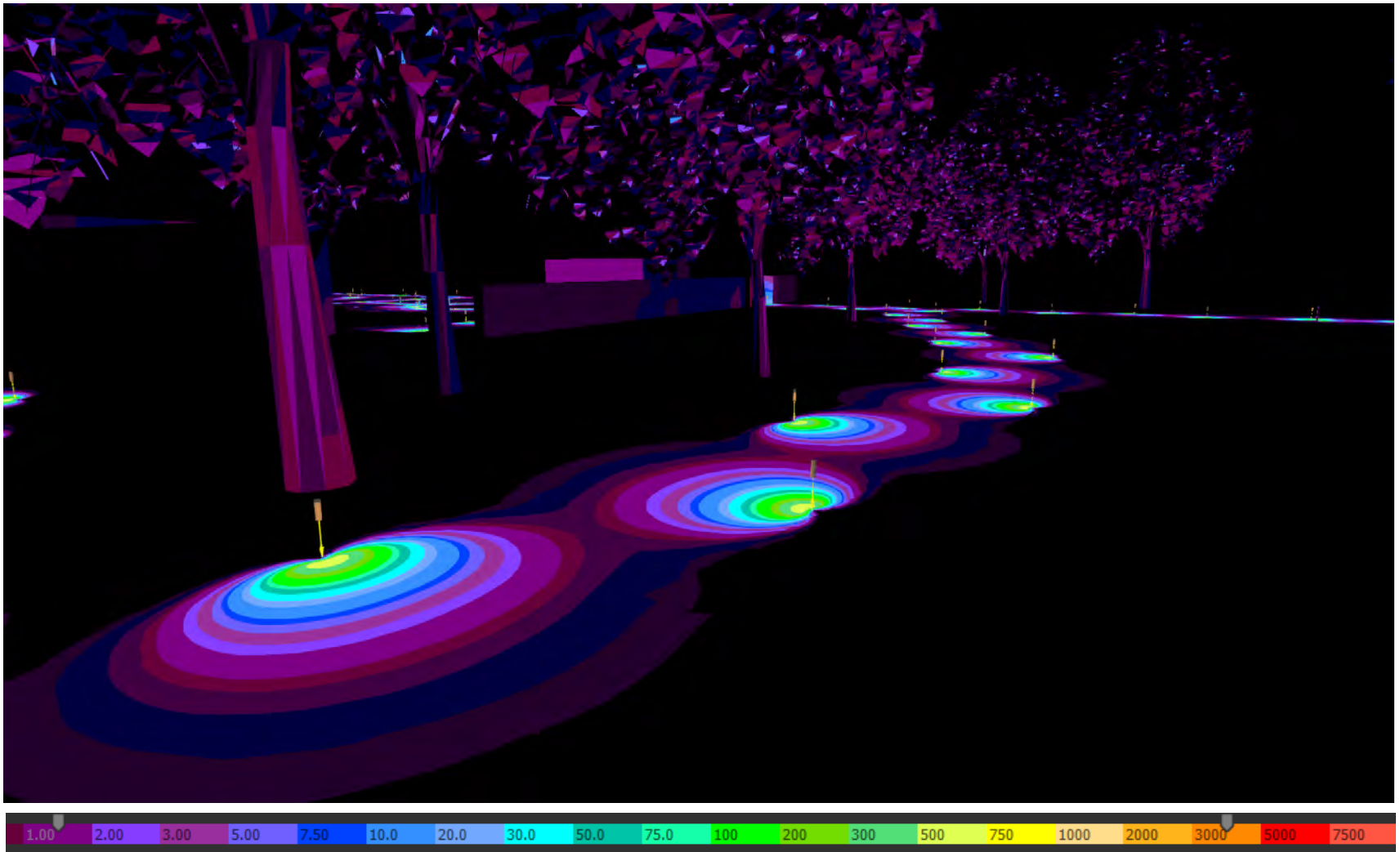
3D View 2



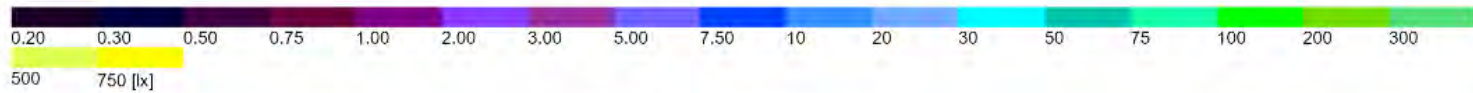
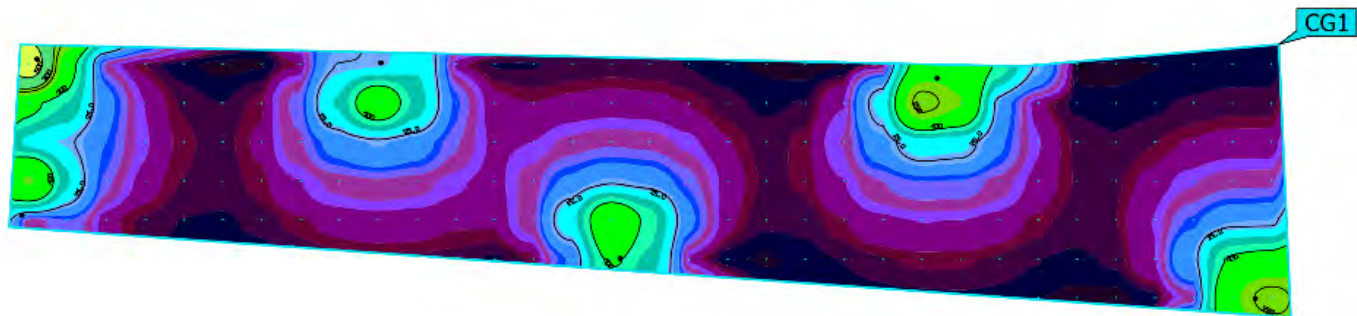
3D View 2 - lux level pseudo colours



3D View 3



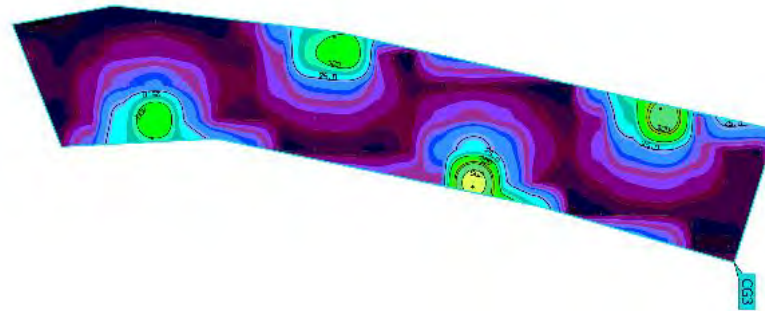
3D View 3 - lux level pseudo colours



Properties	$\bar{E}$	E_{min}	E_{max}	$U_o (g_1)$	g_2	Index
Calculation surface 1 Perpendicular illuminance Height: 0.000 m	20.8 lx	0.19 lx	640 lx	0.009	0.000	CG1

Utilisation profile: DIALux presetting (5.1.4 Standard (outdoor transportation area))

Sample area 1 calculation results



Properties	$\bar{E}$	E_{min}	E_{max}	$U_o (g_r)$	g_z	Index
Calculation surface 3 Perpendicular illuminance Height: 0.000 m	22.2 lx	0.16 lx	725 lx	0.007	0.000	CG3

Utilisation profile: DIALux presetting (5.1.4 Standard (outdoor transportation area))

Sample area 2 calculation results

Building mounted illumination

Illumination to the courtyard, upper café terrace and front of house building perimeter path is provided by a combination of building mounted feature wall lights and low-level wall recessed step lights.

All front of house exterior lights are fully dimmable via the architectural control system which also allows for control via an astronomical timeclock. Switching and dimming can therefore be programmed through the year as required relative to sunrise and sunset and trading hours. The use of PIR sensors is therefore not considered necessary particularly where areas are likely to be in constant use during trading of the restaurant and switching on and off likely to be more obtrusive to wildlife.

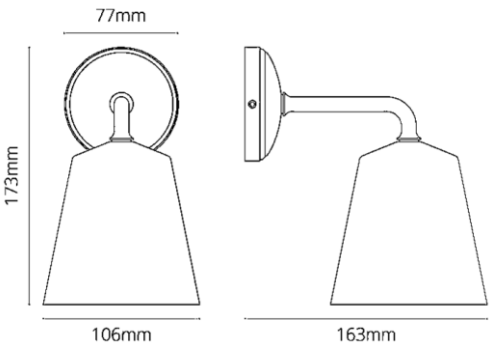
Luminaires specified with downward only light distribution and very low wattage for subtle lit effect.

Due to the nature of the decorative wall lights no photometrics are available to be able to model light distribution. However, the light is controlled in a metal shade and the lamp is not visible for minimal glare. The step light has an eyelid cowl so all light is downward and a black interior ensures low glare.

Light sources to be very warm white 2200K colour temperature.



Building façade / stairs - lighting layout



Light source :

LED 2200K CRI95 230V 3W 130lm

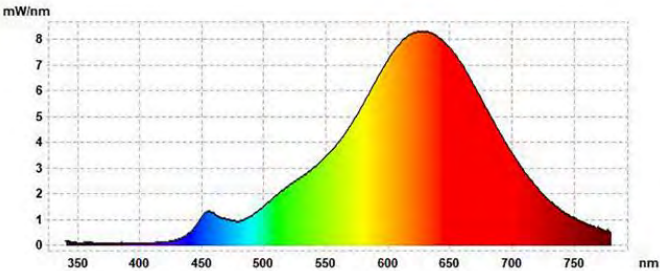
Control:

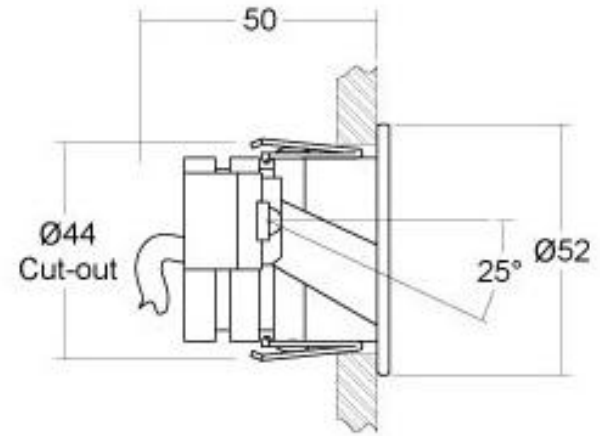
To be controlled via architectural dimming system



PERFORMANCE

Lifetime	25,000 hours
Starting time	<0.5 sec
Voltage	220v-240v
Hz	50/60 Hz
Rated current	11mA
In-rush current	18mA at 230V
Power factor	>0.9
Operating temperature	-20°C to +40°C
Energy Efficiency	56.7 lm/W
Energy Class	G (G -> A scale)
Beam Angle	360°
IP rating	IP40





Specially produced for a bulwark on a yacht, the LD57 was designed to have no glare. The LED is hidden from view by a black anodized shield and whilst the lack of a lens means output is lower, it is adequate for gentle deck and steplighting without any glare from the lightsource. We recommend the LD57 be run at 700mA (LD57-700).

Key Features

- LED deep recessed within a black anodised body for no glare
- No optic or reflector
- Minimal aesthetic
- Typical 93 CRI in 3000K warm white
- No visible fixings. Options include spring fixing clips or O-rings and a first fix sleeve
- Integral anti-wicking barrier increases protection against moisture ingress due to incorrect IP rated cable connections
- Available with Switch, 0-10V, DMX, Dali or Mains dimmable drivers

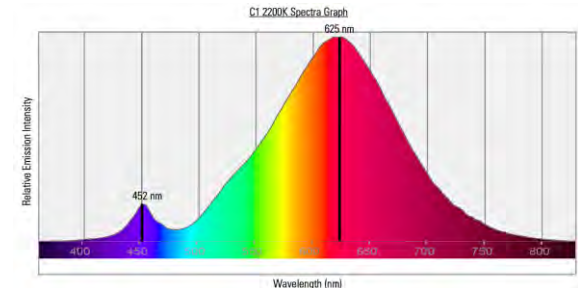
Light source :

LED 2200K CRI93 700mA 2.4W 30lm

Control:

Remote electronic LED driver DALI dimmable

To be controlled via architectural dimming system



Back of house amenity lighting

Illumination provided by a combination of building mounted amenity lights with emergency operation as well as bollards along the access road.

Control via a timeclock as well as photocell.

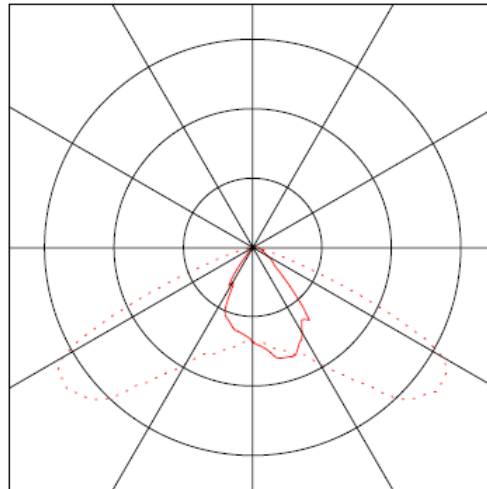
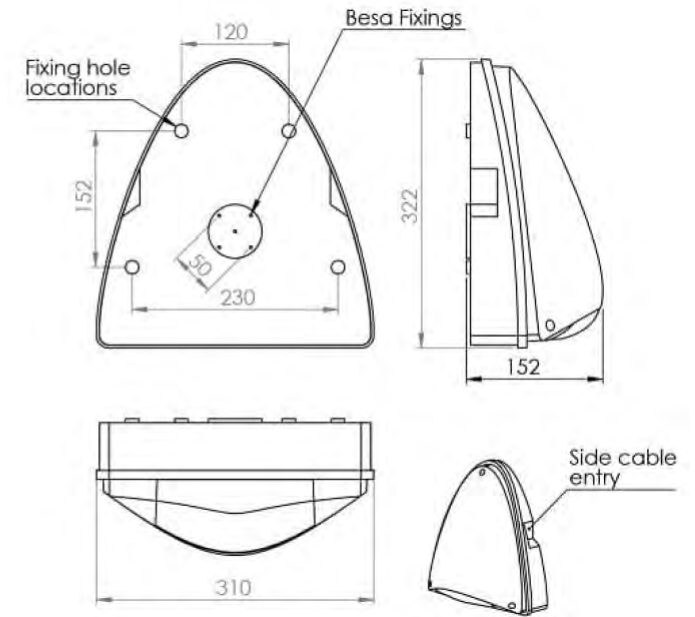
Luminaires specified with downward only light distribution. Light sources to be 3000K and 4000K colour temperature neutral white light.

From lux calculations of isoline plotted on the plan this shows horizontal illuminance drops down to below 1lux around 10m distance away from light fittings.



- Ae
- B

BOH amenity lighting layout

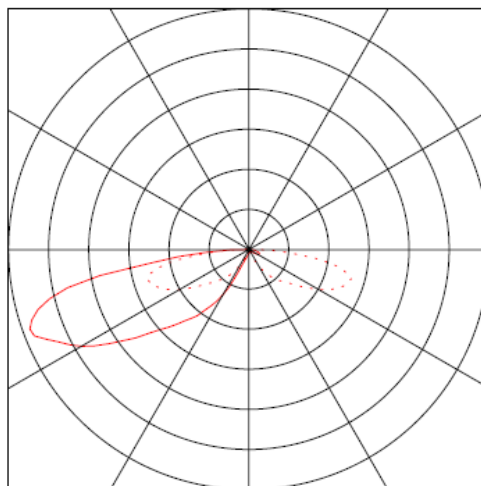
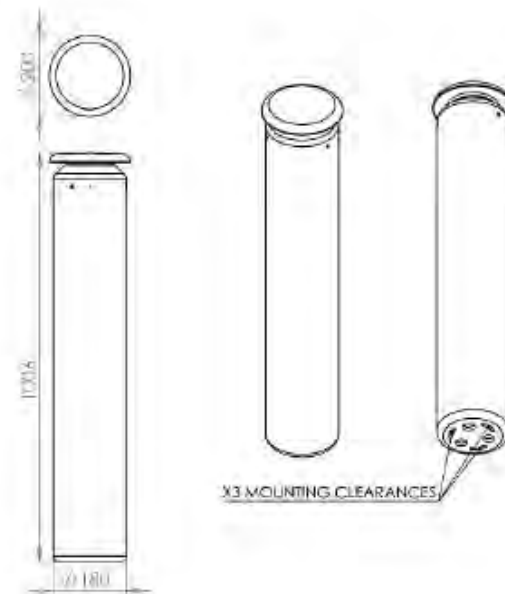


Light source :

LED 4000K 230V 10.8W 1213lm

Control:

To be controlled via timeclock and photocell



Light source :

LED 3000K CRI80 230V 18W 1521lm

Control:

To be controlled via timeclock and photocell



Lux level isolines

Thank You

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