



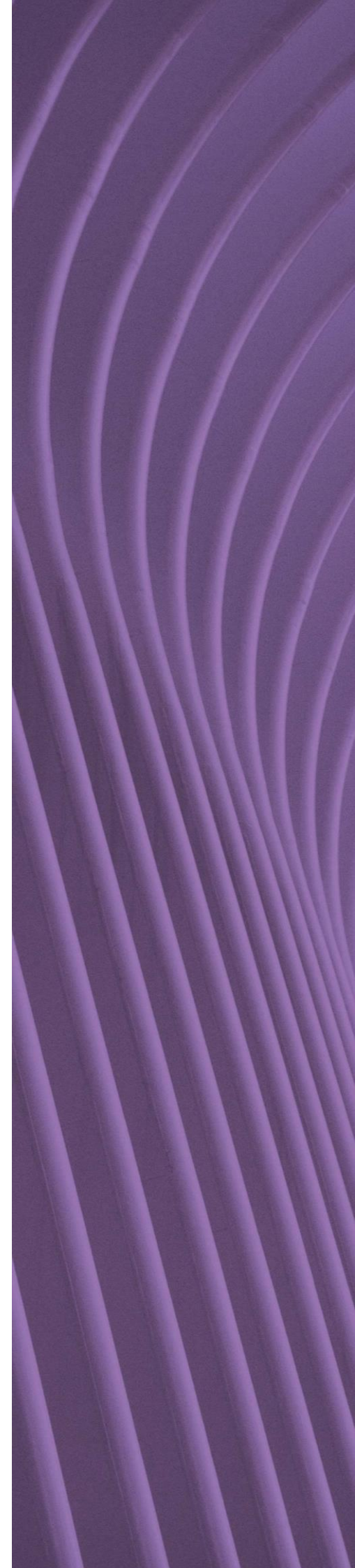
156 West End Lane
External Lighting Report
10th August 2022

In collaboration with

astir.

Inspiring Built
Environments

MEP
Sustainability
Building Physics



Revision	Date	Details	Author	Checked
Rev A	10/11/21	Issue For Comment	DC	AB
Rev B	25/11/21	Updated to suit client comments	DC	AB
Rev C	03/12/21	Updated to suit client comments	DC	AB
Rev D	07/01/22	Updated to suit client comments	DC	AB
Rev E	10/08/22	Amendments in response to statutory consultation comments	DC	AB

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1. Executive Summary

This lighting strategy has been prepared to discharge Condition 11 of planning permission dated 14th July 2021 (RN. 2019/4140/P) at 156 West End Lane in West Hampstead.

Condition 11 states:

A lighting strategy shall be submitted to and approved in writing by the Local Planning Authority. Such strategy shall provide details of all external lighting fixtures and fittings and shall demonstrate how their design, location and specification has taken account of community safety and security, reducing light spillage to neighbouring properties, trees and lines of vegetation, and nearby signalling apparatus and/or train drivers vision on approaching trains. the development shall not be occupied until the relevant approved details have been implemented. These works shall be permanently retained and maintained thereafter.

The design goal was to provide adequate horizontal illumination for the external walkways during non-daylight hours which provides a safe method of passage.

Any adverse nuisance spill light and/or glare impact to the surrounding residences has been minimised and controlled while fulfilling the functional needs of the project.

The lighting design proposed provides an optimal combination of luminaire choice, height, location, and controls to achieve the required illumination on the external whilst avoiding light pollution and associated light spill.

The calculations demonstrate no adverse impact to residents above existing ambient values of illumination already in place.

Consultation responses have been received from Design Out Crime Officers of the Metropolitan Police and the Council's Nature Conservation Officer. The responses requested further clarifications, and this amended report now responds to those requests. The following points have now been included within the design from previous revisions.

- Luminaires now 3000K (warm white), previously 4000k (cool white)
- Existing lighting now included within the lighting calculations
- Details on spill light provided.
- Spacing grids provided.



2. Introduction

This Lighting Strategy seeks to provide the necessary details to discharge Condition 11 of planning permission dated 14th July 2021 (RN. 2019/4140/P).

3. Lighting Objectives

The objective of this lighting report is to present the proposed lighting strategy for the West End Lane project. The final outcome will be the balanced use of light throughout the external areas, providing a welcoming, safe, and sustainable lighting installation.

This Lighting Report sets out the essential Design and Technical Guidelines which will be followed across this project. It has been developed in conjunction with the Client and associated design team members.

The most successful external lighting designs allow each element to be satisfactorily illuminated whilst acknowledging the needs of adjoining buildings, streets, spaces, and adjacent railway line.

The lighting to the buildings and surrounding area will be designed according to the following criteria.

- Character and Ambiance
- Balance
- Legibility and Way Finding
- Sustainability
- Safety and Security
- Buildability



Character and Ambiance

Lighting will support and enhance the character of the development during the hours of darkness – providing a welcoming environment consisting of a series of buildings, streets, and spaces.

Balance

Each of the different external spaces will have different lighting requirements to provide the appropriate level of night-time ambiance.

Legibility and Way Finding

Lighting will be designed to encourage the exploration of public areas with consistent quality, permitting instinctive navigation and orientation.

Sustainability

The selection of good quality, efficient light sources and lighting equipment and the intelligent use of a site wide control system will ensure satisfactory lighting is always provided. Running and maintenance costs will be consistently reduced, and light pollution minimised through considerate design and installation.

Safety and Security

The careful balance and contribution of lighting from a variety of locations and sources creates a cohesive visual environment, allowing residents and visitors to easily navigate the site with peace of mind. Lighting will be designed to support the technical requirements of CCTV coverage.

Buildability

By creating a master plan of how the building and external spaces will be illuminated, lighting equipment, and supporting cabling infrastructures can be integrated in the most efficient locations, reducing lighting equipment quantities and building complexity. Robust, long life lighting equipment will be specified and all fittings will to be easy to install and maintain.



4. Designers

The design has been carried out in line with BS 5489:2020 and CIBSE Lighting Guide 6. All luminaire have been based on a maintenance factor of 0.8.

The deign has been carried out by;

Kingfisher Lighting Ltd

Ratcher Way,
Forest Town,
Mansfield
NG19 0FS

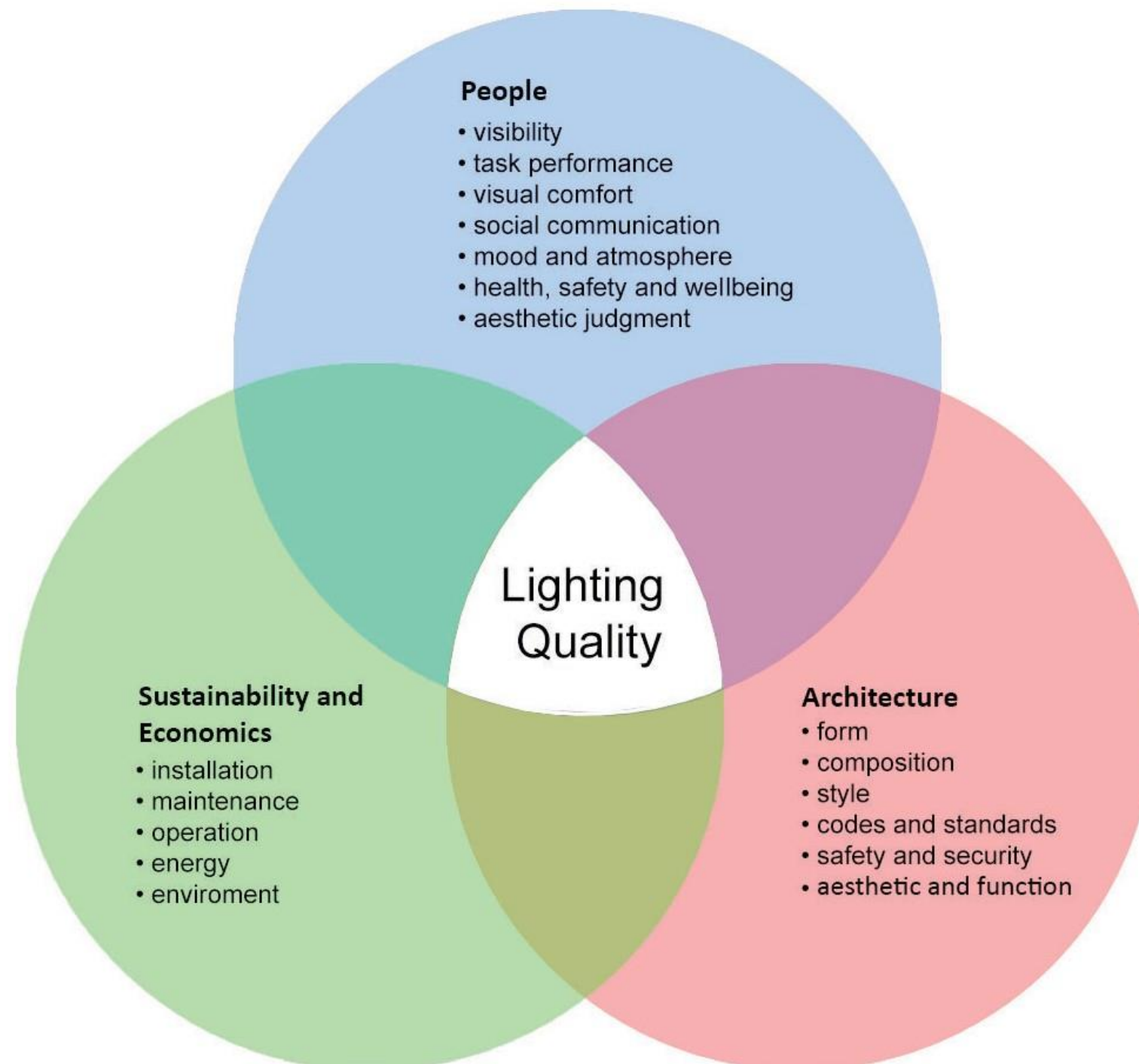
The Lighting Asylum

6-7 Links Yard
29 Spelman Street
Spitalfields
London
E1 5LX

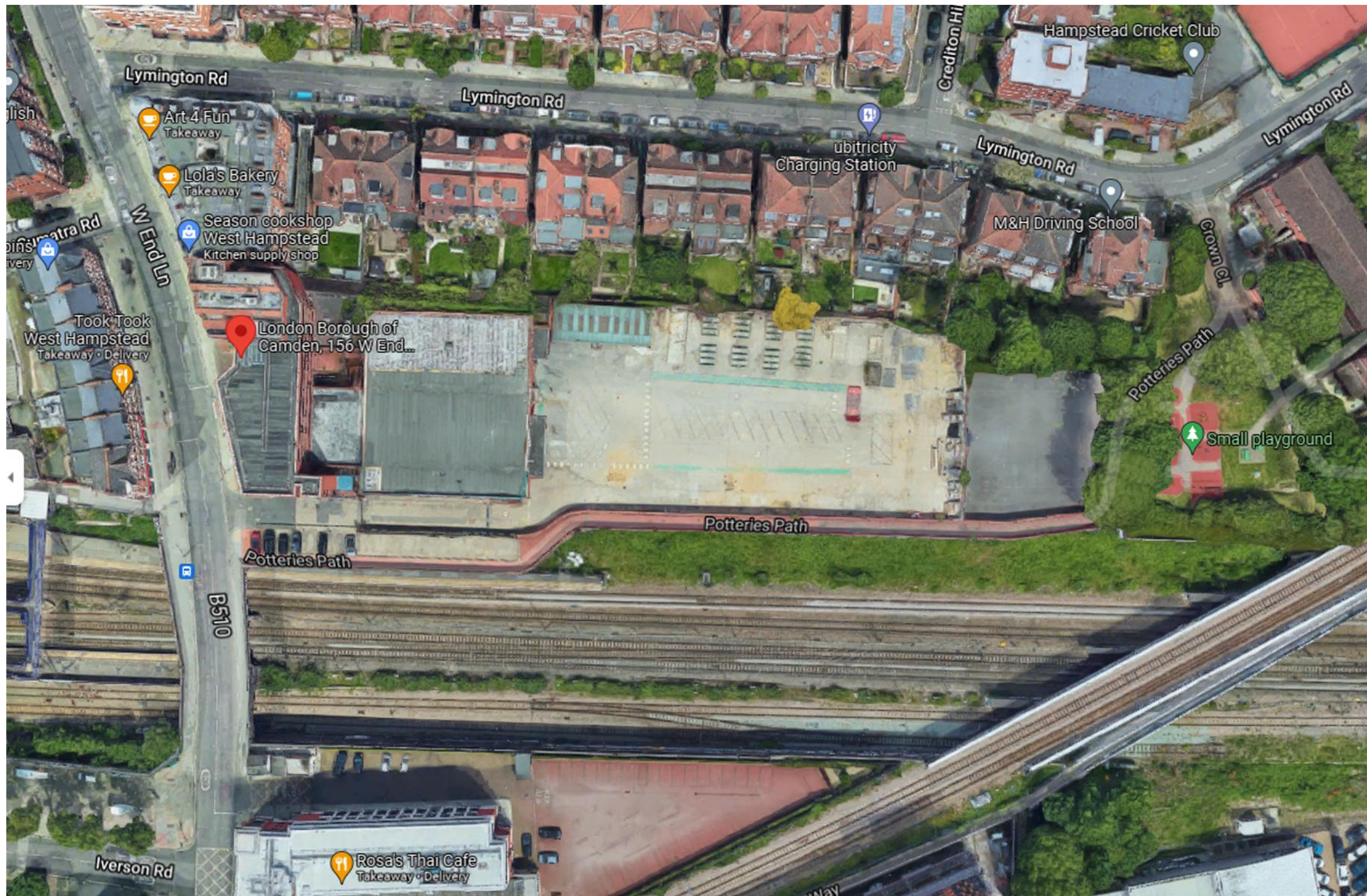
FHP Ltd

Brewery Wharf,
1A Brewery Pl,
Leeds
LS10 1NE

5. Lighting Layers



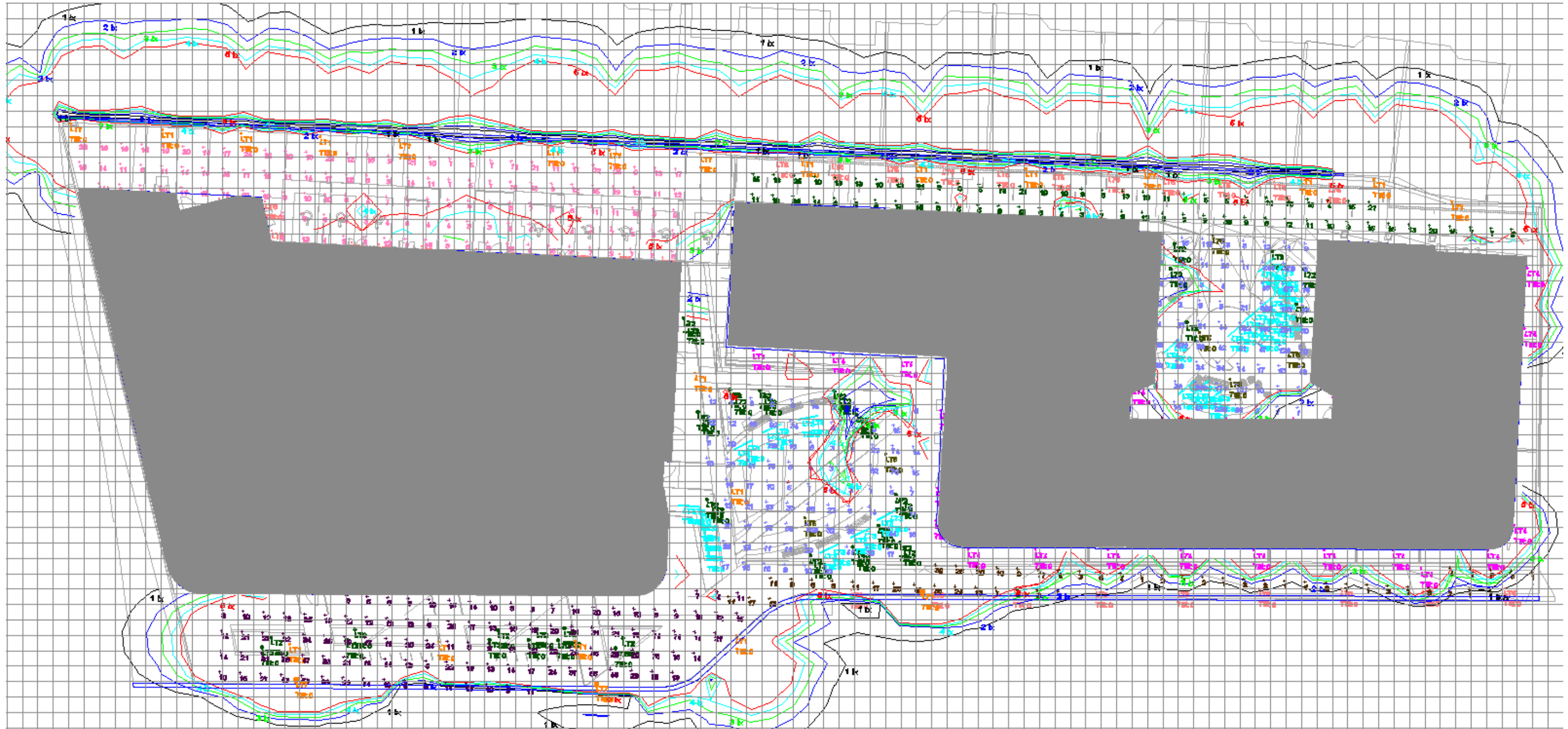
6. Location Plan



External Lux Plots Ground



- All luminaires changed to 3000k (warm white) from 4000K
- Existing lighting now included within calculations
- Spacing grid added at 1.5m spacing

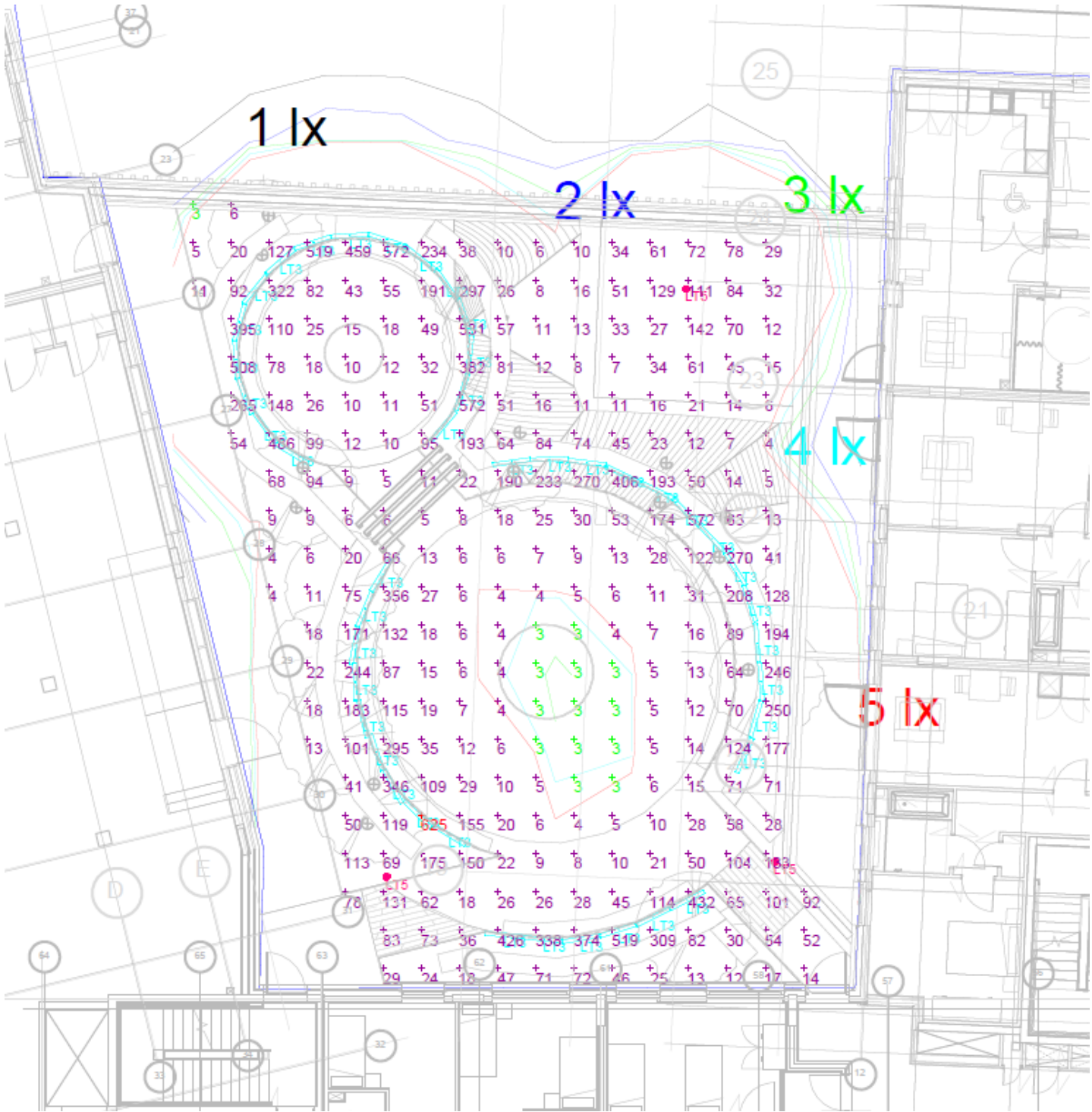
Luminaire Schedule					
Symbol	Qty	Label	Arrangement	LLF	Description
●	21	LT1	SINGLE	0.900	27w LED 3000K Soul 180 3.5m high bollard (0864002A-840-16)
●	42	LT2	SINGLE	0.900	4w LED 3000K Inground 110 Short Uplighter with medium 24" beam
●	43	LT3	SINGLE	0.900	10w Cinep Top flex 3000k (1m)
●	29	LT4	SINGLE	0.900	6w LED 3000K Tula with single direction comfort optic and 80° beam wall mounted at 1.9m
●	6	LT5	SINGLE	0.900	19w LED 3000K Soul 180 1m high bollard with Radial distribution (0864003A+740+16)
●	36	LT6	SINGLE	0.900	4w LED 3000K Thunder 55 with one way optic



External Lux Plots West Block Podium




- All Luminaires changed to 3000k (warm white) from 4000k

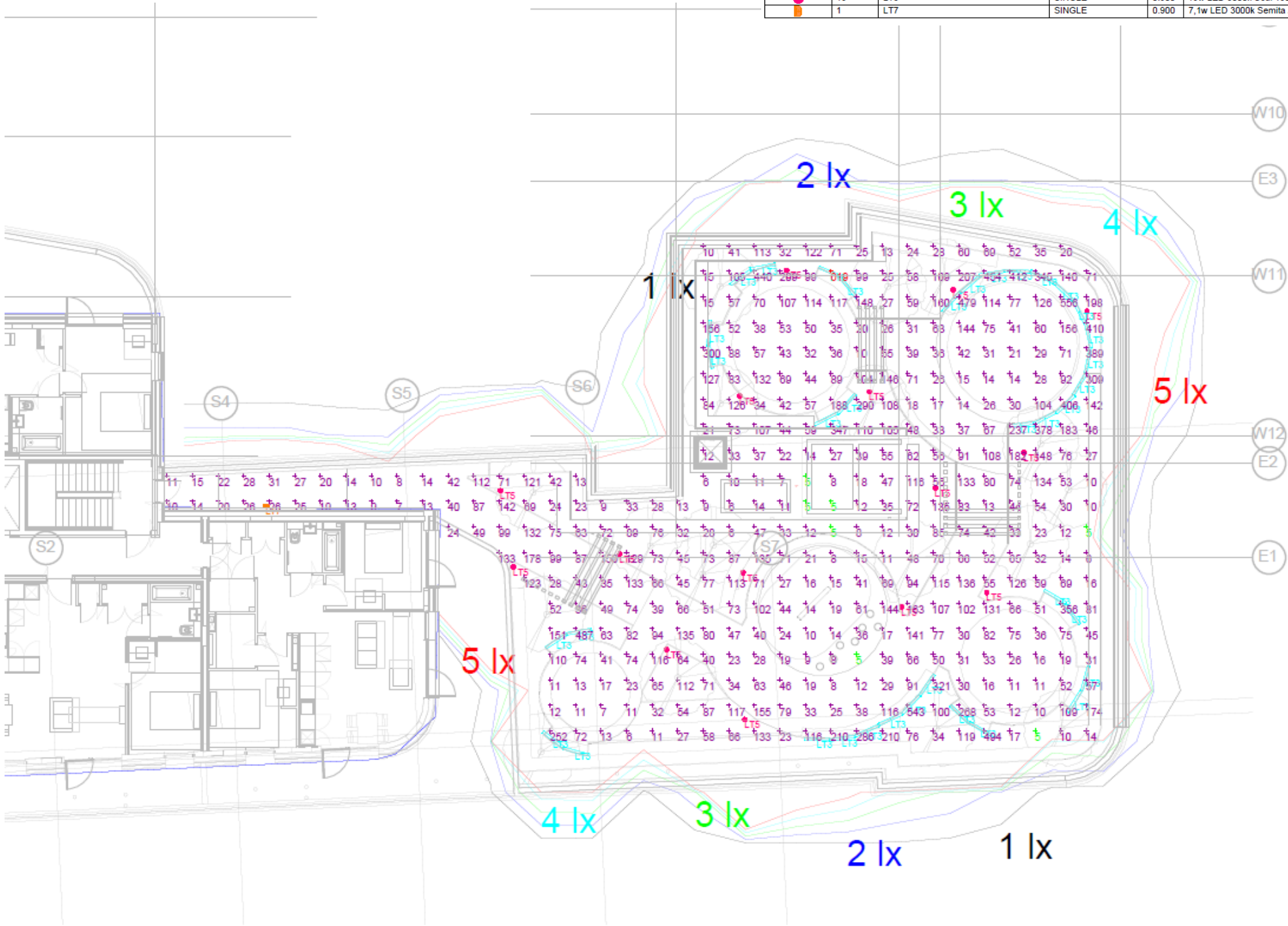
Luminaire Schedule					
Symbol	Qty	Label	Arrangement	LLF	Description
	81	LT3	SINGLE	0.900	10w Cinep side flex 3000k (1m)
	18	LT5	SINGLE	0.900	19w LED 3000k Soul 180 1m high bollard with Radial distribution



External Lux Plots East Block 5th Floor Comunal Terrace

All luminaires changed to 3000k (warm white) from 4000k

Luminaire Schedule					
Symbol	Qty	Label	Arrangement	LLF	Description
	81	LT3	SINGLE	0.900	10w Cinep side flex 3000k (1m)
	18	LT5	SINGLE	0.900	19w LED 3000k Soul 180 1m high bollard with Radial distribution
	1	LT7	SINGLE	0.900	7,1w LED 3000k Semita Arc bulkhead with cycle optic wall mounted at 2.5m



7. Luminaire Selection

Please note all options below include a 3000K option as required.



Kingfisher
Lighting

Datasheet

Soul 180



Product Description

The sleek and stylish Soul bollard comes available in three sizes, and packs a powerful punch. Using a bollard or light pole solution, create the perfect promenade illumination or highlight urban scenes.

Specification Text

The luminaire shall be manufactured from high-pressure die-cast aluminium. It shall have an LED efficacy of up to 82 lm/W and will be capable of producing up to 2,100 luminaire lumens at 4000K with a CRI >80. It shall have an asymmetric forward throw optic and is rated at IP66 and IK07.

Specification

Weight: 8.5 - 25.0kg
Windage: 0.55 - 0.6m²
Material: Die-cast Aluminium
Paint finish: Graphite Grey Finish

Key Features



- 19.0 - 27.0W
- 1,550 - 2,100 Luminaire Lumens
- Efficacy up to 82 lm/W
- 4000K, CRI >80
- Lifetime >60000hr, L80



LED



IP66



IK07



DIM



Control Compatible

Dimensions



All units of measurement in mm.

Optics



Radial 1000mm



Radial 3000mm

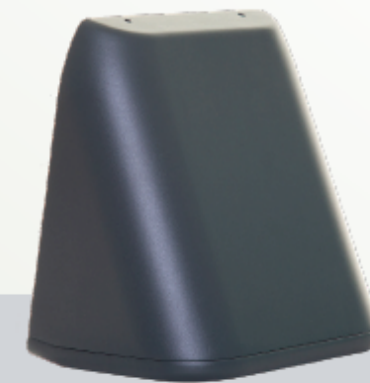


Radial 3500mm



Datasheet

Semita Arc



Product Description

Bring style and functionality to your schemes with Semita Arc.

Specification Text

The luminaire shall be manufactured from high-pressure die-cast aluminium. It shall have an LED efficacy of up to 116.0 lm/W and will be capable of producing up to 1,746 luminaire lumens at 4000K with a CRI >70. It shall have an asymmetric forward throw optic and is rated at IP66 and IK09.

Specify 2700K for IDA compliance.

Specification

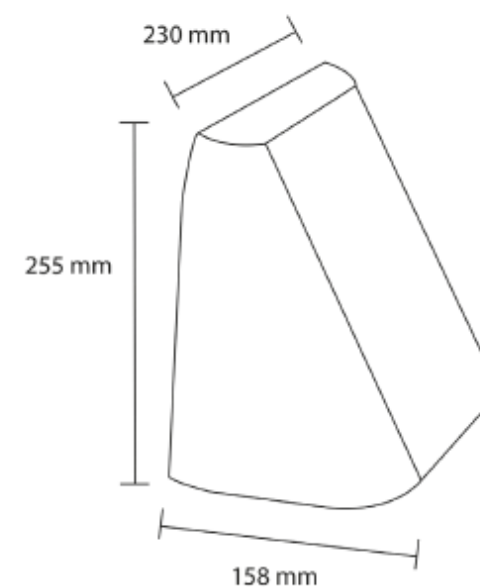
Weight: 3.4kg
Material: Die-cast Aluminium
Paint finish: RAL7016 Anthracite Grey Finish

Key Features

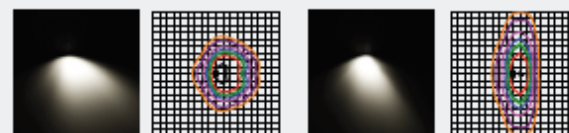
- 7.5 - 15.0W
- 836 - 1,746 Luminaire Lumens
- Efficacy up to 116.0 lm/W
- 4000K, CRI >70
- Lifetime >100,000hr >80



Dimensions

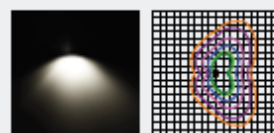


Optics



Flood Light Optic

Path Optic



Street Optic



Datasheet



Inground Series

Product Description

The Inground Series is a versatile solution for all architectural areas. These high quality uplighters come in a variety of sizes with tier one components.

Specification Text

The luminaire shall be manufactured from high-pressure die-cast aluminium. It shall have an LED efficacy of up to 128 lm/W and will be capable of producing up to 2,000 luminaire lumens at 4000K with a CRI >80. It shall have an asymmetric forward throw optic and is rated at IP68 and IK10.

Specification

Weight: 0.3 - 9.7kg
Material: 316L Stainless Steel
Paint finish: Stainless Steel Finish

Key Features

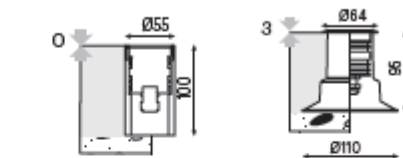


- 2.0 - 20.0W
- 170 - 2,000 Luminaire Lumens
- Efficacy up to 128 lm/W
- 4000K, CRI >80
- Lifetime >60000hr, L80

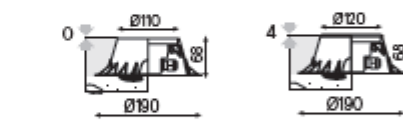


Dimensions

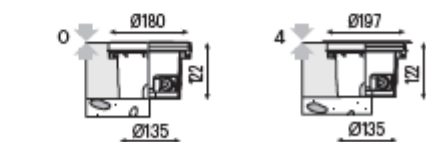
Inground 55
Trim flush with ground



Inground 110 Short
Trim flush with ground

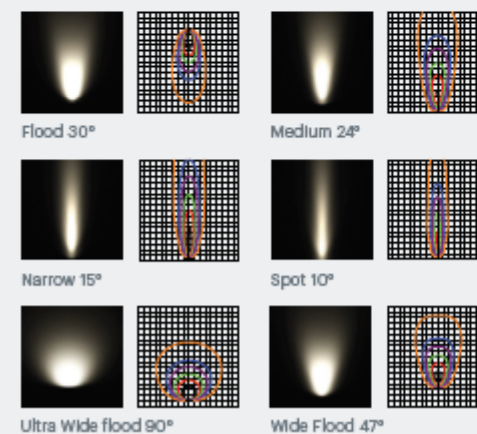


Inground 180 Short
Trim flush with ground



All units of measurement in mm.

Optics





Product Description

Thunder series is the versatile wall mounted luminaire range, ideal for any accent lighting scheme. Recess wall mount to create pathway, architectural and feature illumination.

Specification Text

The luminaire shall be manufactured from high-pressure die-cast aluminium. It shall have an LED efficacy of up to 128 lm/W and will be capable of producing up to 510 luminaire lumens at 4000K with a CRI >80. It shall have an asymmetric forward throw optic and is rated at IP68 and IK08.

Specification

Weight: 0.4 - 1.9kg
Material: 316L Stainless Steel
Die-cast Aluminium
Paint finish: Stainless Steel Finish
Aluminium Silver Finish

Key Features

- 4.0 - 8.0W
- 55 - 510 Luminaire Lumens
- Efficacy up to 128 lm/W
- 4000K, CRI >80
- Lifetime >60000hr, L80

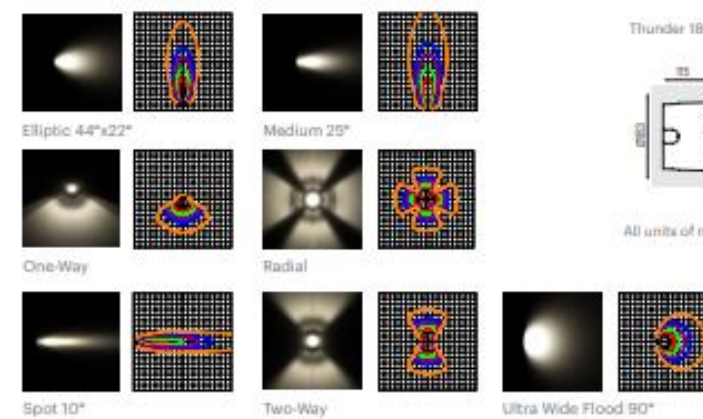
Arcluce



Dimensions



Optics





Datasheet

Cinep



Product Description

Cinep, the flexible and versatile luminaire to suit your architectural lighting schemes.

Specification Text

The luminaire shall be manufactured from UV and high-temperature resistant polyurethane. It shall have an LED efficacy of up to 84.0 lm/W and will be capable of producing up to 4,175 luminaire lumens at 3000K with a CRI >80. It shall have an asymmetric forward throw optic and is rated at IP68 and IK08.

Specification

Weight: 0.4 - 1.4kg
Material: UV and high-temperature resistant polyurethane
Paint finish: White Finish

Key Features

- 10.0 - 50.0W
- 500 - 4,175 Luminaire Lumens
- Efficacy up to 84.0 lm/W
- 3000K, CRI >80
- Lifetime >50,000hr

LED

IP68

IK08

DIM



Control Compatible

Mounting Options

- Surface mount

Optics



Symmetrical 120°



Kingfisher

Lighting

Datasheet

Tula



Product Description

Tula, the small yet impactful wall luminaire ideal for architectural schemes. This versatile luminaire offers single or twin illumination and a range of mounting options.

Specification Text

The luminaire shall be manufactured from high-pressure die-cast aluminium. It shall have an LED efficacy of up to 100 lm/W and will be capable of producing up to 900 luminaire lumens at 4000K with a CRI >80. It shall have an asymmetric forward throw optic and is rated at IP66 and IK07.

Specification

Weight: 0.7 - 0.8kg

Windage: 0.02m²

Material: Die-cast Aluminium

Paint finish: Aluminium Silver Finish

Key Features

Arcluce

- 9.0 - 10.0W
- 650 - 900 Luminaire Lumens
- Efficacy up to 100 lm/W
- 4000K, CRI >80
- Lifetime >60000hr, L80

LED

IP66

IK07

DIM




Control Compatible

Dimensions



All units of measurement in mm.

Optics



Medium 25°

Medium 25° + 25°



Ultra Wide Flood 92°

Ultra Wide Flood 92° + 92°



Wide Flood 48°

Wide Flood 48° + 48°

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8. Summary

Calculation Summary

The below table sets out the levels of illuminance achieved with the proposed design, the table now includes results with the existing light fittings which will be retained included.

Calculation Summary							
Label	CalcType	Units	Avg	Max	Min	Min/Avg	Min/Max
Car Parking	Illuminance	Lux	10.80	52	3	0.28	0.06
Central Courtyard	Illuminance	Lux	20.77	163	1	0.05	0.01
Internal Courtyard	Illuminance	Lux	76.13	605	1	0.01	0.00
Lower Pedestrian Area	Illuminance	Lux	17.92	55	4	0.22	0.07
path at the bottom	Illuminance	Lux	8.75	40	1	0.11	0.03
Roadway	Illuminance	Lux	11.68	39	3	0.26	0.08

Network Rail Impact Review

During discussions with Network Rail a number of considerations were set out for the design to meet which we can confirm have been met. These points are as follows.

- 1. That no green, amber or red lighting will be used (or if used, will not be visible from the railway)
- 2. That no floodlights will be directed at the railway (ordinary lamp standards are not an issue)
- 3. That lighting can be maintained without access on or risk to the railway.
- 4. That there is no high level lighting scheme – wall washers mounted on the top of the blocks would be something that NR would object to, as one example.

We can confirm that all these situations were taken into consideration during the design and avoided. The proposed design will have no effect on the Network Rail line due to the difference in height and the solid parapet wall that will remain to block any light spillage from the newly proposed luminaires. The existing post mounted light fittings have been modelled in the above calculation for reference only. All spillage over the existing parapet wall is achieved solely by the existing post mounted fittings. Please refer to the calculations above which has been modelled with both the proposed and the existing light fittings. Please see the below image which shows the existing fittings against the existing parapet wall.



Existing post mounted light fittings

Resident Impact Review

Roof Top Gardens – The roof top garden lighting that has been shown is to provide an attractive safe outdoor area for the residents. The lighting provides minimal spillage to avoid any nuisance lighting, we have also proposed the use of lighting controls within this area to apply a curfew to the lighting. The proposed lighting controls include the use of photocell and timeclock, this will eliminate the wastage of energy during the day and allow the lighting to be turned off at 11pm.

Ground Floor Lighting – The perimeter of the building has been provided with the above lighting scheme. The purpose of the lighting is to provide a safe way of passage in and out of the building whilst avoiding any nuisance to the neighbouring properties. This has been achieved with the careful selection and positioning of luminaires. The existing post mounted lights are incorporated to provide a safe uniform light, extra feature lighting has been added around the garden areas to create an attractive yet functional space. The lighting shall be controlled via the use of photocells to avoid any wasted energy illuminating the daylight hours.

Each balcony area is provided with a balcony light fitting to provide a safe external space to each apartment. The light fittings will provide a background light to the balcony whilst limiting the spillage.

Extra blocking of light over the above calculations shall be provided by the boundary wall on the North elevation.