

Enviroparks EfW Plant 550943 External Lighting Planning report



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Contents

1. Introduction 2

2. Proposed External Lighting 3

3. Temporary External Lighting 5

Appendix A..... 6

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1. Introduction

This report has been put together to describe both the proposed permanent and temporary (lighting required through construction period) External Lighting systems that have been designed for Energy from Waste (EfW) plant being constructed at Energy Production Park, 5th Avenue, Hirwaun Industrial Estate, Hirwaun, Aberdare, Wales.

Once completed, the plant will be operational for 24 hours per day and it will therefore be necessary to provide appropriate external lighting levels to accommodate the specific operational activities.

2. Proposed External Lighting

2.1. Design Criteria

Unless specified separately in the works information document, the minimum maintained illuminance levels for the different types of outdoors spaces/locations shall be designed to comply with the lighting levels as stated in the SLL Lighting Handbook.

As a reference point, the table below details the various outdoor spaces/locations and the maintained average illuminance (Lux) level required:

Type of Location	Maintained Illuminance (Lux)
Car park Area (medium traffic flow)	20
Access Road	10
Walkways	20
Plant Areas – General	20
Loading Bays/Dock Loader (task area)	100

All external luminaires shall be totally enclosed fully weatherproof aluminium enclosure with vandal-proof polycarbonate diffusers having a minimum degree of ingress protection (IP) rating of IP65.

Above each final exit shall have a bulkhead type luminaire to provide general and emergency lighting to all final escape routes.

All external fittings shall be either fixed onto the structure of the building or surrounding fixed plant or column mounted. Fittings that are fixed to the structure shall generally be mounted at maximum of 6m above finished floor level with column mounted fittings being dependant on the area they are illuminating. For reference of column mounted fitting heights, please refer to the legend on the associated/attached layout drawing.

The design of the external lighting system for the proposed development has been undertaken with the above specification in mind. Fittings used within the design have been selected with special consideration taken towards the importance of the Dark Sky classification. Consideration has also been taken to surrounding light spill and the fittings selected within the design have lighting louvres which limit light spill to a minimum.

A proposed External Luminaire schedule is included in Appendix A herewith. A drawing indicating the External lighting Lux Level plots as also been included within Appendix A.

2.2. Lighting Controls

The proposed Lighting Control for the External Lighting system will generally be via sensors local to the lantern or alternatively by time switches controlling a number of fittings. Time switches shall be of the synchronous motor wound clockwork type with a 30 hours spring reserve. The time switch shall also incorporate a test ON/OFF switch which shall not interfere with the time clock and auto winding mechanism.

2.3. Avoiding Conflict with Surrounding Wildlife

The Wildlife Protection Plan, dated February 2017, produced by Pell Frischmann comments on the potential effects of the development on Bats. Section 3.7 of the Wildlife Protection Plan states that,

'It is unlikely that removing bat foraging habitat will have any effect on the conservation status of bats within the local area, due to the plentiful source of alternative sites nearby. Removal of foraging habitat is likely to result in a negligible impact. Landscaping and attenuation measures at the Enviroparks site will create new foraging habitat areas on completion.'

The Wildlife Protection Plan also refers to the need for the scheme to avoid conflict with bat flight lines etc. The Wildlife Protection Plan also states that Lighting will be restricted at the sensitive areas on the northern and western edges of the Application site. This is the case and the design philosophy adopted for the external lighting (in the choice of intensities, standards and fittings, etc.), as described in this technical note, serves to minimise light spills in these areas.

3. Temporary External Lighting

As part of the very first works planned for site, the external lighting columns indicated in the associated drawing (permanent scheme) will be installed to provide an external lighting solution from the outset. All external lighting shall be installed in hours of daylight and feed and controlled from the Gatehouse building (already constructed).

Therefore, the criteria we have designed the permanent external lighting scheme to relating to the Dark Skies requirement, wildlife protection plan, etc... will be maintained.

The lighting system specified above will generally provide the required intensity for the construction areas and will ensure adequate lighting at all times of construction activities. The site operative constructing the building/s will generally only be working during hours of daylight but due to seasonal changes, there may be a need for temporary lighting in some areas to be used local to provide adequate levels of lighting to provide safe working environment. This will be achieved by mobile lighting rigs stored onsite and used as required following a risk assessment for the said task prior to any works being carried out.

Lighting will also be required for safety/security purposes in all construction areas and in and around the site compound area. This lighting will generally be in the form of PIR controlled Halogen lamp fittings mounted at 3m above finished floor level point downwards.








Appendix A




External Luminaire Schedule

Manufacturers Luminaire Datasheets

External Lighting Lux Plot Layout

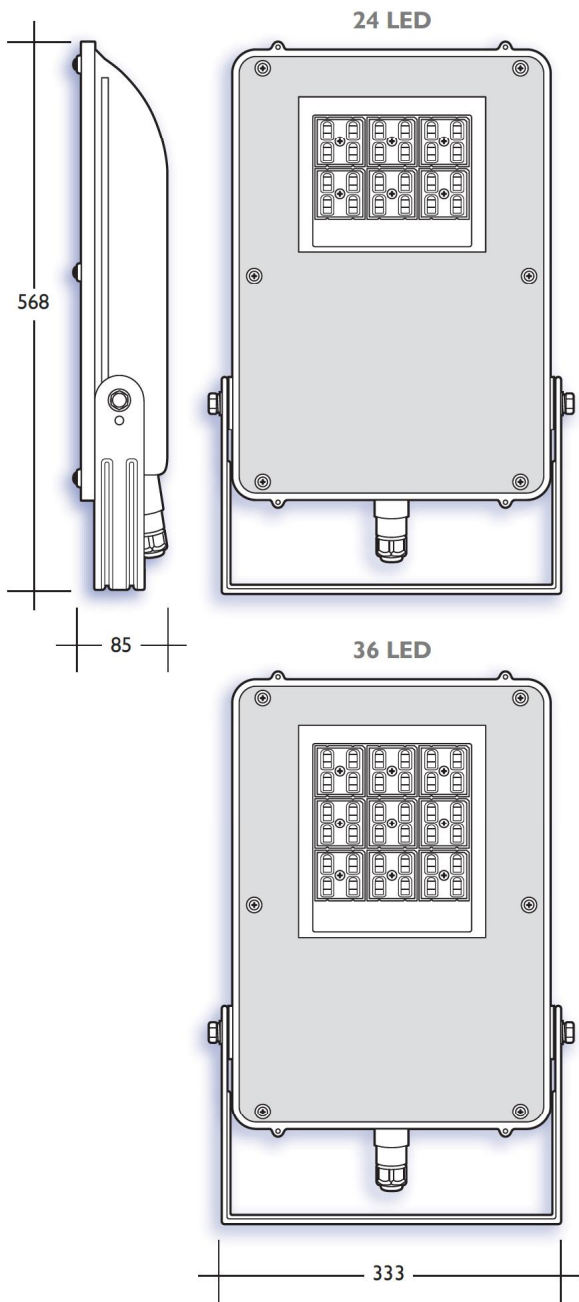
(drawing no: ENV-BYES-EXL-EXT-GA-EXT-0001_RevP01)

Luminaire Schedule						
Project		Enviroparks, Wales			Job No. 550943	
System		External Lighting - Planning stage				
Type	Qty.	Description	Reference	Net. Price	Picture	
1	8.00	The AMELIA LED FLOODLIGHT is a generalpurpose asymmetric floodlight designed to meet the requirements of commercial and industrial floodlighting. A die cast aluminium housing & frame incorporates 5mm thick tempered glass and wide cooling fins produces excellent temperature control. Excellent resistance to corrosive and saline enviroments is achieved with a polyester powder coated silver finish.	Single Fitting			
			IP65 (4000k) - 47W			
2	27.00	The DILLION LED FLOODLIGHT is a quality general purpose asymmetric floodlight suitable for both commercial & industrial applications. The graphite grey aluminium housing with cooling fins is coated in a polyester resin giving excellent resistance to corrosive and saline environments. The frame incorporates 5mm thick tempered glass diffuser.	Single Fitting			
			DILLON 8528			
			DIL/8528/4			
			IP66 (4000k) - 75W			
3	33.00	The IP67 rated aether LED lattern is designed and manufactured to the highest quality and standards to meet the demands and efficiency requirements of the latest in LED technology. The use of integral electronic drviers and excellent design not only results in excellent performance but also 100,000hrs service lifetime (L90 35°C). The column mounted aluminium housing is supplied in a grey finish as standard and is fitted with a polycarbonate fascia and MIRO 4 aluminium reflectors. Variations include dimmable, twin circuit and two stage lumen outputs with seven lumen outputs to give maximum flexibility.	Single Fitting			
			AETHER 2950			
			AT/2950/4			
			IP67 (4000k) - 25W			
4	7.00	The IP67 rated aether LED lattern is designed and manufactured to the highest quality and standards to meet the demands and efficiency requirements of the latest in LCD technology. The use of integral electronic drviers and excellent design not only results in excellent performance but also 100,000hrs service lifetime (L90 35°C). The column mounted aluminium housing is supplied in a grey finish as standard and is fitted with a polycarbonate fascia and MIRO 4 aluminium reflectors. Variations include dimmable, twin circuit and two stage lumen outputs with seven lumen outputs to give maximum flexibility.	Twin Fitting (2no. Fitting per location)			
			AETHER 2950			
			AT/2950/4 (back to back - twin)			
			IP67 (4000k) - 2x25W			
5	8.00	The IP67 rated aether LED lattern is designed and manufactured to the highest quality and standards to meet the demands and efficiency requirements of the latest in LED technology. The use of integral electronic drviers and excellent design not only results in excellent performance but also 100,000hrs service lifetime (L90 35°C). The column mounted aluminium housing is supplied in a grey finish as standard and is fitted with a polycarbonate fascia and MIRO 4 aluminium reflectors. Variations include dimmable, twin circuit and two stage lumen outputs with seven lumen outputs to give maximum flexibility.	Single Fitting			
			AETHER 8750			
			AT/8750/4 (back to back - twin)			
			IP67 (4000k) - 71W			
6	1.00	The IP67 rated aether LED lattern is designed and manufactured to the highest quality and standards to meet the demands and efficiency requirements of the latest in LED technology. The use of integral electronic drviers and excellent design not only results in excellent performance but also 100,000hrs service lifetime (L90 35°C). The column mounted aluminium housing is supplied in a grey finish as standard and is fitted with a polycarbonate fascia and MIRO 4 aluminium reflectors. Variations include dimmable, twin circuit and two stage lumen outputs with seven lumen outputs to give maximum flexibility.	Twin Fitting (2no. Fitting per location)			
			AETHER - 1x 2950 + 1x 8750			
			1xAT/2950/4 + 1xAT/8750/4 (back to back)			
			IP67 (4000k) 1x25W + 1x71W			

7	1.00	<p>The IP67 rated aether LED lattern is designed and manufactured to the highest quality and standards to meet the demands and efficiency requirements of the latest in LED technology. The use of integral electronic drviers and excellent design not only results in excellent performance but also 100,000hrs service lifetime (L90 35°C). The column mounted aluminium housing is supplied in a grey finish as standard and is fitted with a polycarbonate fascia and MIRO 4 aluminium reflectors. Variations include dimmable, twin circuit and two stage lumen outputs with seven lumen outputs to give maximum flexibility.</p>	Twin Fitting (2no. Fitting per location)		
			AETHER - 1x 2950 + 1x 8750		
			1xAT/2950/4 + 1xAT/8750/4 (twin)		
			IP67 (4000k) 1x25W + 1x71W		
8	1.00	<p>The IP67 rated aether LED lattern is designed and manufactured to the highest quality and standards to meet the demands and efficiency requirements of the latest in LED technology. The use of integral electronic drviers and excellent design not only results in excellent performance but also 100,000hrs service lifetime (L90 35°C). The column mounted aluminium housing is supplied in a grey finish as standard and is fitted with a polycarbonate fascia and MIRO 4 aluminium reflectors. Variations include dimmable, twin circuit and two stage lumen outputs with seven lumen outputs to give maximum flexibility.</p>	Twin Fitting (2no. Fitting per location)		
			AETHER 14250		
			AT/14250/4		
			IP67 (4000k) - 2x122W		
9	2.00	<p>The IP67 rated aether LED lattern is designed and manufactured to the highest quality and standards to meet the demands and efficiency requirements of the latest in LED technology. The use of integral electronic drviers and excellent design not only results in excellent performance but also 100,000hrs service lifetime (L90 35°C). The column mounted aluminium housing is supplied in a grey finish as standard and is fitted with a polycarbonate fascia and MIRO 4 aluminium reflectors. Variations include dimmable, twin circuit and two stage lumen outputs with seven lumen outputs to give maximum flexibility.</p>	N-S-E-W (4no. Fitting per location)		
			AETHER 8750		
			AT/8750/4 (N-S-E-W - 4no. fittings)		
			IP67 (4000k) - 4x71W		
Notes:					
ISSUE/REVISION	P01				
DATE	12.05.2017				
SIGNED	CS				
CHECKED	CW				

IP66 IK08

DILLON LED FLOODLIGHTS



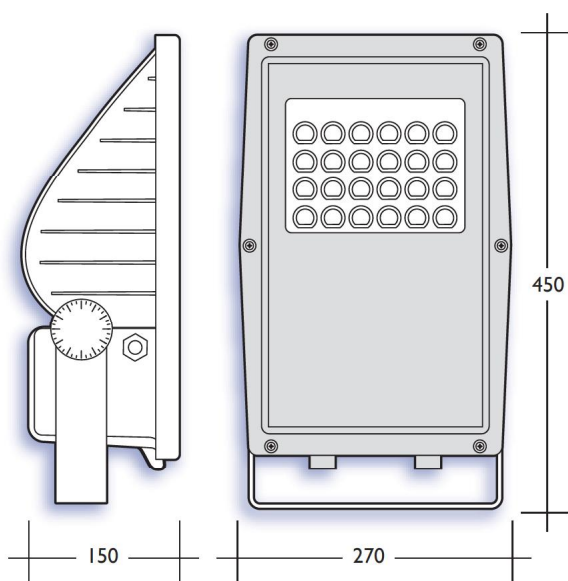
The DILLON LED FLOODLIGHT is a quality general purpose asymmetric floodlight suitable for both commercial and industrial applications.

The graphite grey cast aluminium housing with cooling fins is coated in a polyester resin giving excellent resistance to corrosive and saline environments.

Four lumen outputs are available in a 4000k colour temperature and the led array is contained behind 5mm thick tempered glass.

Part No	Wattage	Lumen output	CCT	CRi	Weight kg
DIL/6030/4	48w	6030 lm	4000k	80	6
DIL/8528/4	75w	8528 lm	4000k	80	6
DIL/12452/4	112w	12452 lm	4000k	80	6.20
DIL/15595/4	156w	15595 lm	4000k	80	6.20

IP65 IK08



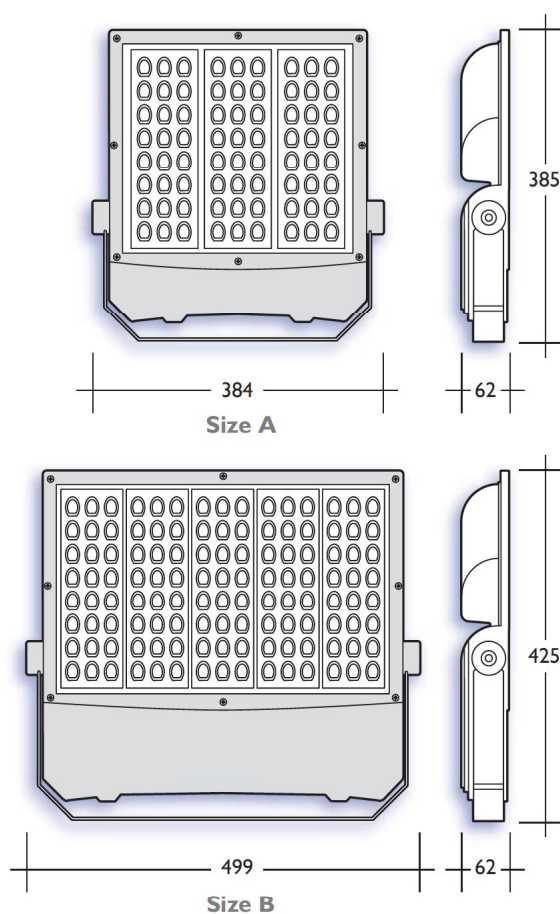
AMELIA & MORGAN LED FLOODLIGHTS



The AMELIA LED FLOODLIGHT is a general purpose asymmetric floodlight designed to meet the requirements of commercial and industrial floodlighting. A die cast aluminium housing and frame incorporates 5mm thick tempered glass and wide cooling fins produces excellent temperature control. Excellent resistance to corrosive and saline environments is achieved with a polyester powder coated silver finish.

Part No	Wattage	Lumen output	CCT	CRi	Weight kg
AM/4315/4	47w	4315 lm	4000k	70	4.9

IP66 IK09



The MORGAN LED FLOODLIGHT is a high output led asymmetric floodlight incorporating two lumen outputs and the latest in led technology. The stylish cast aluminium housing incorporates high output led modules and optics with excellent performance.

Part No	Wattage	Lumen output	CCT	CRi	Weight kg	Size
MOR/14000/4	130w	14000 lm	4000k	70	7.5	A
MOR/23300/4	220w	23330 lm	4000k	70	10	B

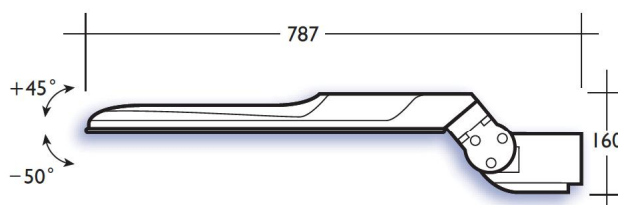
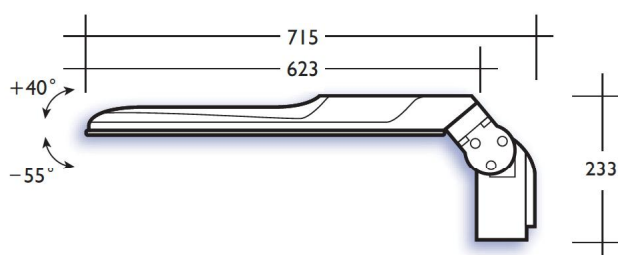
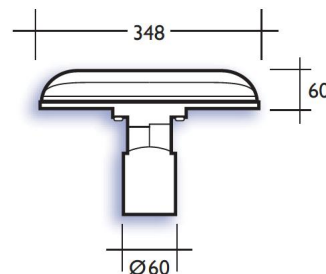
AETHER LED ROAD LANTERN

IP67



The IP67 rated Aether LED lantern is designed and manufactured to the highest quality and standards to meet the demands and efficiency requirements of the latest in led technology.

The use of integral electronic drivers and excellent design not only results in excellent performance but also 100,000 hours service lifetime (L90 35°C). The column mounted aluminium housing is supplied in a grey finish as standard and is fitted with a polycarbonate fascia and MIRO 4 aluminium reflectors. Variations include dimmable, twin circuit and two stage lumen outputs with seven lumen outputs to give maximum flexibility.



Part No.	Watt	Lumen Output	Lumen per Watt	Colour Temp	CRI	Weight kg
AT/2950/4	25	2950	118	4000K	70	8.9
AT/3950/4	35	3950	112	4000K	70	9.4
AT/4950/4	44	4950	112	4000K	70	9.4
AT/7350/4	59	7350	124	4000K	70	9.4
AT/8750/4	71	8750	123	4000K	70	9.4
AT/10850/4	87	10850	124	4000K	70	9.5
AT/14250/4	122	14250	116	4000K	70	9.5

For Dimmable suffix **/DIM**

For Twin Circuit, two stage lumen output suffix **/TC**

ie **AT/8750/4/DIM**

AETHER, 8750 lumen, 4K, Dimmable



Light Distribution Ltd