

**PROPOSED EXTERIOR LIGHTING SPECIFICATION  
FOR  
2-6 SOUTHAMPTON ROW  
Document Ref: 5130-SP02 Rev C**

**ISSUED FOR CONSTRUCTION**



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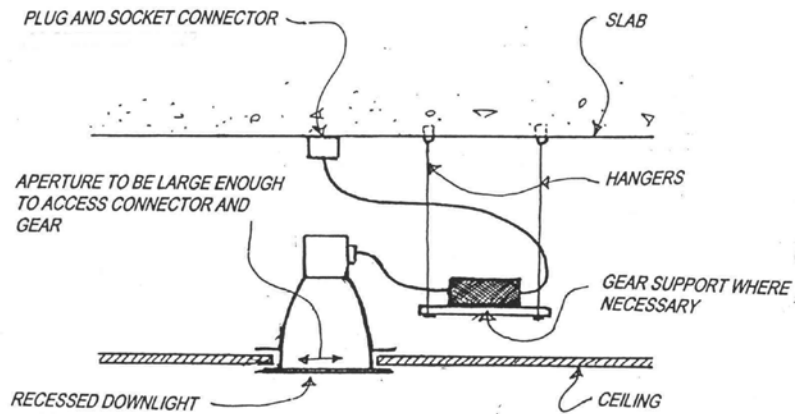
- General notes
- Key to exterior luminaire types
- Luminaire specification sheets
- Appendices – Additional Driver Information
  - Appendix A: Fairy string lights installation instructions & Dimmer Module Specification
- Key to luminaire mounting details
- Luminaire mounting detail sheets
- Transformer specification notes
- Lighting control schedule

## GENERAL SPECIFICATION NOTES

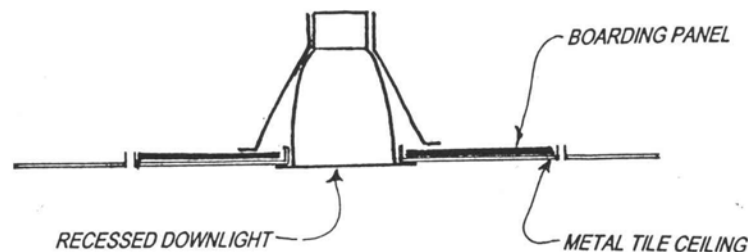
1. This specification is to be read in conjunction with all LDI drawings pre-fixed with 5130.
2. This specification is copyright Lighting Design International Limited 2016.
3. All electrical installations to conform to :
  - i) IEE wiring regulations 17<sup>th</sup> Edition and amendments,
  - ii) the regulations / standards of the country involved,
  - iii) any standards stipulated by the services engineers.
4. All work is to conform to appropriate building regulations and codes of practice, or as directed by the local authority.
5. Wiring between luminaire control gear and the main body of the luminaire itself is to be sized and supplied by the electrical engineer / contractor unless otherwise agreed with the luminaire manufacturer directly.
6. In consideration of both voltage drop and the high amperage on the secondary side in extra low voltage circuits (i.e. not exceeding 50Volts AC) specific reference is to be made to cable and luminaire manufacturers' recommendations before costing for cable runs.
7. Co-ordinated ceiling / floor / landscaping plans are to be produced by the architect / interior designer / engineer for approval by LDI.
8. Positions of any elements which may interfere with the location of a light fitting marked on a drawing are to be notified to the designers. The trade contractor is to co-ordinate and site verify all luminaire positions. In the instance of downlighters, the contractor is to check for recess depth and width (by drilling a hole and using a piece of wire if necessary) prior to cutting holes and ordering light fittings.
9. The electrical contractor is to be responsible for the cabling installations.
10. This specification incorporates only those lighting elements that are specified by LDI.
11. This specification incorporates lighting elements only. Non-lighting elements that are indicated in mounting details are to be specified by others.
12. Any discrepancies in this specification or on site are to be reported to the designers.
13. Luminaires, switches, sockets etc. should not be fitted until the walls / floors / ceilings have been painted / finished.
14. The contractor is to check delivery of all lighting equipment as soon as possible to ensure items are ordered to suit the building programme.
15. Where working samples are required by the client for comment and approval, the contractor is to obtain these well in advance of final ordering dates.
16. Alternative luminaires to those specified will only be considered by LDI if required by the client and on submission of full technical data / test certificates and working samples.
17. Lamp types must be exactly as specified (manufacturer, range, rating, beam angle, colour temperature, quality, etc.), unless agreed with LDI.

**GENERAL SPECIFICATION NOTES continued...**

18. Where alternative lamp types are approved for use, e.g. less efficient/higher wattage lamps than those specified, it is the contractor's responsibility to ensure that all associated control gear including transformers, ballasts and dimming equipment is compatible and sized accordingly.
19. Luminaire quantities are to be taken from the drawings.
20. All cabling and conduits are to be concealed and switch plates and sockets flush mounted unless otherwise agreed with the designers.
21. Ballasts, transformers, control gear and emergency battery packs for downlights (where the above are not integral) are to be mounted in the ceiling void through downlighter cutouts (unless otherwise stated). Non-combustible platforms are to be provided in the ceiling by the contractor to take the weight of these items where necessary (refer to concept sketch below). Where equipment is rested on ceilings the contractor is to verify with the architect that the weight load is acceptable.



22. Downlights mounted within metal ceiling panels may require non-combustible backing panels to support the weight of the luminaire and prevent the panel from sagging (refer to concept sketch below).



## **GENERAL SPECIFICATION NOTES continued...**

23. Where directional downlighters are mounted in plasterboard ceilings, the upper side of the ceiling around the apertures is to be chamfered if necessary to allow the downlighters to achieve full tilt angle.
24. Ceilings in which downlights and their control gear (i.e. transformers / ballasts) are located are to be well ventilated to prevent the overheating of lamps and transformers. Luminaires should not be surrounded by insulating material in walls, floors or ceilings. Specific clearance requirements can be obtained from luminaire / transformer manufacturers.
25. The main contractor / architect is to check with the fire officer / district surveyor whether fire boxes or hoods are required in order to retain the fire rating of the ceiling.
26. Circular openings for downlights must be accurately drilled using a tank cutter or similar. Ragged, hand sawn holes, visible around the edges of a downlighter's bezel will not be acceptable.
27. All cable routes are to be agreed by the architects / interior designers / landscape architects and engineers.
28. All exterior lighting and lights within wet areas are to be connected to an RCD (Residual Current Device) or as advised by M&E consultant.
29. The means of gaining access to luminaire positions for installation and maintenance and the location of harness anchor bolts has to be agreed with the design team.
30. The contractor must install luminaires to the manufacturer's instructions to ensure the specified IP ratings are achieved.
31. The contractor is to provide access and personnel to help adjust and lock off luminaires as necessary during the snagging/commissioning stages of the project.
32. Where pre-set architectural lighting control systems are specified, attendance by the control system manufacturer is to be allowed for to assist LDI designers during the final commissioning stages of the project.
33. The installation of the enclosed scheme will be considered incomplete until Lighting Design International have visited site, checked the installation of luminaires and set up/commissioned adjustable luminaires and control systems.

## 5130 2-6 SOUTHAMPTON ROW

### KEY TO LUMINAIRE TYPES

EL1	DELETED
EL2	IP-rated floor recessed LED uplight – 7W 10° 2700K
EL3	Low output linear LED at high level – 10W/m 2700K
EL4A	Small surface mounted spotlight (narrow)– 6.9W 2700K
EL4B	Small surface mounted spotlight (medium) – 6.9W 2700K
EL5A	Small Surface mounted spotlight (narrow) – 10W 10° 2700K
EL5B	Small Surface mounted spotlight (custom flat mounting plate) – 10W 10° 2700K
EL5C	Small Surface mounted spotlight (medium) – 10W 30° 2700K
EL6	Medium Surface mounted spotlight – 16W 10° 2700K
EL7A	Large Surface mounted spotlight (narrow) – 28W 10° 2700K
EL7B	Large Surface mounted spotlight (medium) – 28W 16° 2700K
EL8	Fairy string lights integrated to exterior tree structure - 2400K
EL9A	Mini surface mounted spotlight – 2.3W 17.9° 2700K
EL9B	Mini spiked uplights to green wall in terrace – 2.3W 47x8° 2700K
EL10	Small Surface mounted spotlight to statue – 6.9W 47x8° 2700K
EL11	Surface mounted spotlight on arm – 6.9W 8x47° 2700K
EL12	DELETED
EL13	High output linear LED at high level – 15.4W/m 2700K
EL14	Wall recessed floor washers to steps in terrace – 1.7W 31° 2400K

### NOTES:

- EL references represent luminaires that are specified by Lighting Design International and are detailed in the specification sheets that follow.
- For details on all other luminaires/lighting elements not mentioned in the above (e.g decorative wall lanterns, 5 amp sockets) refer to other consultant's specification documentation.

## LUMINAIRE SPECIFICATION SHEETS

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**PROJECT:** 2-6 Southampton Row  
**LUMINAIRE REF:** EL2

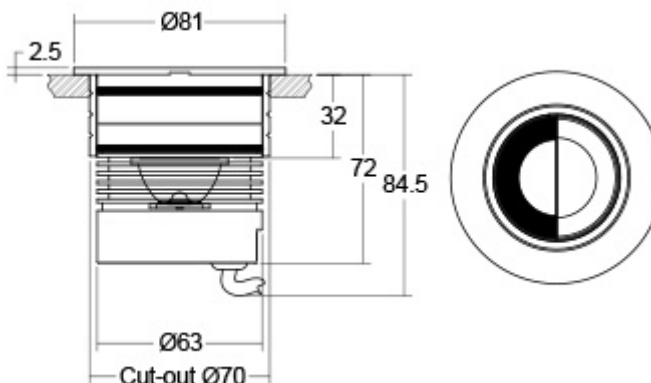
**DOCUMENT NO:** 5130-SP02-Rev C  
**ISSUE DATE:** 15.01.16

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### ILLUSTRATION:



### DIMENSIONS:



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**LUMINAIRE DESCRIPTION/PURPOSE:** IP-rated floor recessed LED uplight

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**LUMINAIRE ORDER CODE/FINISHES:** Light Graphix LD151 – 500mA, Warm white 2700°K, narrow beam 10° + non-dimmable driver

**Product code:** LD151-500/LWW27/10/FINISH\*/484S + non-dimmable driver\*\*

**Finish:** Stainless steel– To be confirmed with architects

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**MANUFACTURER:** Light Graphix  
**ADDRESS:** 20 Bourne Road Industrial Park  
Crayford  
Kent  
DA1 4BZ

**SUPPLIER:**  
**EMAIL:** Robert@lightgraphix.biz

**CONTACT:** Robert Buxton  
**TEL:** 01322 527629

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**CUTOUT SIZE:** ø70mm      **RECESS DEPTH:** 85mm      **MOUNTING:** Recessed

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**LAMP TYPE:** LED 2700°K      **WATTS:** 7W      **DRIVER:** 500mA, 1-10V dimmable      **BEAM:** 10°

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**LAMP MANUFACTURER:** Integral      **ORDER CODE:** N/A

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### NOTES:

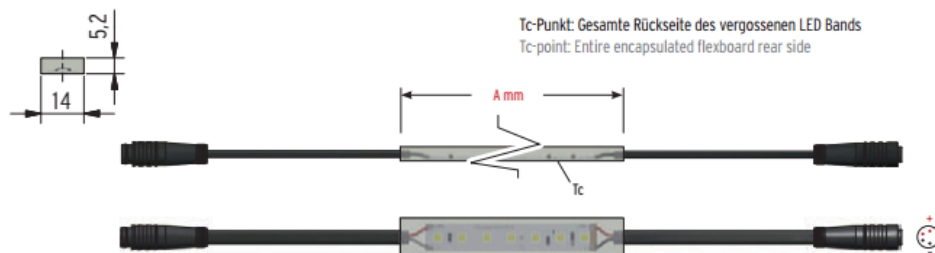
- This fitting is to be supplied with remote 500mA, 1-10V dimmable drivers.
  - A separate 1-10v cable is required from fitting to control system.
  - \*\* Driver type to be confirmed Light Graphix based on fitting quantity & driver locations.
  - The exact location of the drivers is to be determined by the project services engineers.
  - All drivers require access and ventilation as stated in manufacturers details.
  - **Junction boxes are to be kept to a minimum and mounted out of sight.**
  - Cabling is to be neatly fixed down out of sight wherever possible (All details to be confirmed with contractor).
  - LDI recommend spare fittings are ordered for future use if required (to be confirmed by client).
  - Exact offsets of light indicated on dwg 5130-15 & 5130-16.
  - Glare shield should be positioned parallel to the wall facing away from the wall allowing the light to skim up the surface.
  - **Refer to additional LED specification notes at back of this document.**
-

## LUMINAIRE SPECIFICATION SHEETS

**PROJECT:** 2-6 Southampton Row  
**LUMINAIRE REF:** EL3

**DOCUMENT NO:** 5130-SP02-Rev C  
**ISSUE DATE:** 15.01.16

### ILLUSTRATION/DIMENSIONS:



$$A = N \times 62,5 + 19; N = 1 \dots 80; A_{\min} = 1 \times 62,5 + 19 = 81,5; A_{\max} = 80 \times 62,5 + 19 = 5.019$$



**LUMINAIRE DESCRIPTION/PURPOSE:** Low output Linear LED strip at high level

**LUMINAIRE ORDER CODE/FINISHES:** Architectural FX VarioLED Flex Hydra HD10 IP67 W825 IP67 + 1-10V dimmable driver + female connectors (total quantity TBC by manufacturer before ordering)

**MANUFACTURER:** LED Linear  
**ADDRESS:**

**SUPPLIER:** Architectural FX  
Unit 13 & 14, Longshot Lane,  
Bracknell,  
RG12 1RL  
United Kingdom

**CONTACT:** Chris Skelley (c.skelley@architecturalfx.co.uk)

**TEL:** +44 (0) 1344 291536

**FAX:** +44 (0) 1344 307602

**CUTOUT SIZE:** N/A

**RECESS DEPTH:** N/A

**MOUNTING:** See detail

**LAMP TYPE:** LED, 2500°K

**WATTS:** 10W/m

**CAP:** N/A

**BEAM:** N/A

**LAMP MANUFACTURER:** Integral

**ORDER CODE:** N/A

### NOTES:

- These lights are to be fed by remote 1-10V dimmable drivers, reference OT 120 220-240 DIM. Driver dimensions: 250L x 60W x 39H. Each driver can feed up to 26 metres of lighting.
- Driver locations are to be determined. Drivers to be sited in dry locations. The maximum length of encapsulated LED strip supplied is 5m. The encapsulated LED is available in multiples of 81.5mm. These lights require a separate 1-10V cable running from the lighting control system to the drivers.
- Colour temperature to be confirmed pending adjacent material finish and colour.
- Mounting profile and/or lenses/diffusers may be required – to be confirmed.
- Refer to provisional LDI mounting details and Architect's details.
- Final colour temperature to be 2400K – Sample of colour to be sent to LDI for approval before ordering.
- Testing of product on site to confirm fitting before ordering.
- This fittings is rated to IP67.
- Refer to LED notes towards the end of this document. These are for the attention of the contractor and manufacturer.



## LUMINAIRE SPECIFICATION SHEETS

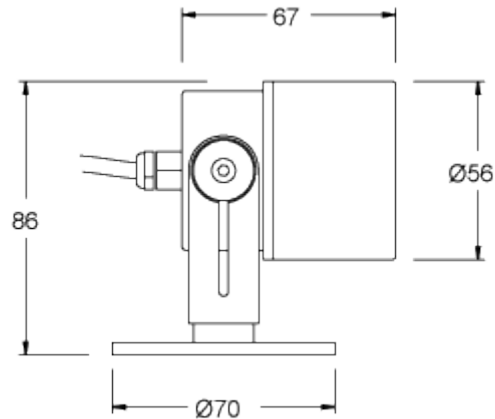
**PROJECT:** 2-6 Southampton Row  
**LUMINAIRE REF:** EL4A

**DOCUMENT NO:** 5130-SP02-Rev C  
**ISSUE DATE:** 15.01.16

**ILLUSTRATION:**



**DIMENSIONS:**



**LUMINAIRE DESCRIPTION/PURPOSE:** Small surface mounted spotlight (narrow)

**LUMINAIRE ORDER CODE/FINISHES:** Frog Type M, 2700K 12° beam, IP66 rated with ultra-secure locking pan & 90° tilt, 6.9W at 700mA, remote waterproof exterior dimmable 1-10V drivers.

**Finish:** RAL colour to match stone façade (To be confirmed by Interior Designer)

**MANUFACTURER:** Mike Stoane Lighting  
**ADDRESS:** 20 Dryden Road  
Bilston Glen Industrial Estate  
Loanhead  
Midlothian  
EH20 9LZ, UK

**CONTACT:** Ruairidh McGlynn **EMAIL:** Ruairidh@mikestoanelighting.com

**TEL:** +44 (0) 131 440 1313 **FAX:** +44 (0) 131 440 0049

**CUTOUT SIZE:** N/A **RECESS DEPTH:** N/A **MOUNTING:** Surface

**LAMP TYPE:** LED 2700°K **WATTS:** 6.9W **BEAM:** 12° **DRIVER:** 700mA

**LAMP MANUFACTURER:** Integral to fitting **ORDER CODE:** N/A

**NOTES:**

- This fitting requires a dimmable 1-10V 700mA driver, driver located in dry location remotely or in exterior location in an IP rated enclosure. Exact specification and location of drivers TBC with the electrical engineer in conjunction with the design team.
- A separate 1-10v cable is required from fitting to control system.
- Cable spec to be confirmed with Mike Stoane Lighting prior to first fix/order of fitting.
- Fitting to be ordered with mounting bracket.
- This fitting is rated to IP66.
- **Refer to additional LED notes towards back of document these are for the attention of the contractor.**

## LUMINAIRE SPECIFICATION SHEETS

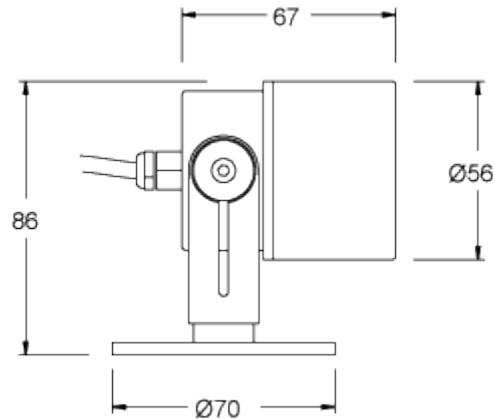
**PROJECT:** 2-6 Southampton Row  
**LUMINAIRE REF:** EL4B

**DOCUMENT NO:** 5130-SP02-Rev C  
**ISSUE DATE:** 15.01.16

### ILLUSTRATION:



### DIMENSIONS:



**LUMINAIRE DESCRIPTION/PURPOSE:** Small surface mounted spotlight (medium)

**LUMINAIRE ORDER CODE/FINISHES:** Frog Type M, 2700K 34° beam, IP66 rated with ultra-secure locking pan & 90° tilt, 6.9W at 700mA, remote waterproof exterior dimmable 1-10V drivers.

**Finish:** RAL colour to match stone façade (To be confirmed by Interior Designer)

**MANUFACTURER:** Mike Stoane Lighting  
**ADDRESS:** 20 Dryden Road  
Bilston Glen Industrial Estate  
Loanhead  
Midlothian  
EH20 9LZ, UK

**CONTACT:** Ruairidh McGlynn **EMAIL:** Ruairidh@mikestoanelighting.com

**TEL:** +44 (0) 131 440 1313 **FAX:** +44 (0) 131 440 0049

**CUTOUT SIZE:** N/A **RECESS DEPTH:** N/A **MOUNTING:** Surface

**LAMP TYPE:** LED 2700°K **WATTS:** 6.9W **BEAM:** 34° **DRIVER:** 700mA

**LAMP MANUFACTURER:** Integral to fitting **ORDER CODE:** N/A

### NOTES:

- This fitting requires a dimmable 1-10V 700mA driver, driver located in dry location remotely or in exterior location in an IP rated enclosure. Exact specification and location of drivers TBC with the electrical engineer in conjunction with the design team.
- A separate 1-10v cable is required from fitting to control system.
- Cable spec to be confirmed with Mike Stoane Lighting prior to first fix/order of fitting.
- Fitting to be ordered with mounting bracket.
- This fitting is rated to IP66.
- **Refer to additional LED notes towards back of document these are for the attention of the contractor.**

## LUMINAIRE SPECIFICATION SHEETS

**PROJECT:** 2-6 Southampton Row  
**LUMINAIRE REF:** EL5A

**DOCUMENT NO:** 5130-SP02-Rev C  
**ISSUE DATE:** 15.01.16

### ILLUSTRATION:

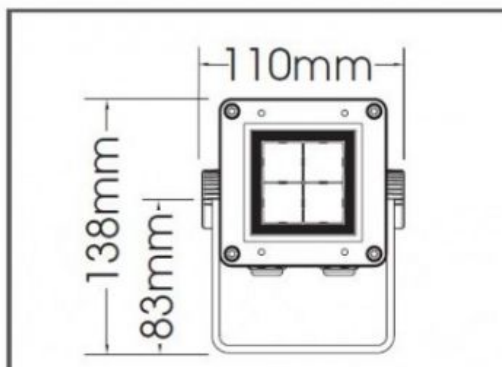


Plaza 10

### DIMENSIONS:

#### Plaza 10

9 Watt LED downlight delivering genuine  
35 tungsten halogen output performance



**LUMINAIRE DESCRIPTION/PURPOSE:** Small Surface mounted spotlight (narrow)

**LUMINAIRE ORDER CODE/FINISHES:** ACDC Plaza 10

ACDC/1185/10/RAL/27/10R/LVR/WAB/DIM + 1-10V driver additional 4m electrical termination

**Finish:** RAL colour to match stone façade (To be confirmed by Interior Designer)

**MANUFACTURER:** ACDC

**ADDRESS:** Innovation Works  
Gisburn Road  
Barrowford  
Lancashire  
BB9 8NB

**CONTACT:** Simon Perks (sperks@acdclighting.co.uk)

**TEL:** +44 (0) 845 862 6400

**FAX:** +44 (0) 845 862 6401

**DIMENSIONS:** 110mmx138mmx107mm    **RECESS DEPTH:** N/A    **MOUNTING:** Surface

**LAMP TYPE:** LED 2700°K CRI 85    **WATTS:** 10W    **BEAM:** 10°    **DRIVER:** 700mA  
697 lumens

**LAMP MANUFACTURER:** Integral to fitting

**ORDER CODE:** N/A

### NOTES:

- This fitting requires a dimmable 1-10V 700mA driver, driver located in dry location remotely or in exterior location in an IP rated enclosure. Exact specification and location of drivers TBC with the electrical engineer in conjunction with the design team.
- Contractor to ensure compatibility between the light fitting and the control system.
- A separate 1-10v cable is required from fitting to control system.
- Cable spec to be confirmed with ACDC prior to first fix/order of fitting.
- This fitting is rated to IP66.
- **Refer to additional LED notes towards back of document these are for the attention of the contractor.**

## LUMINAIRE SPECIFICATION SHEETS

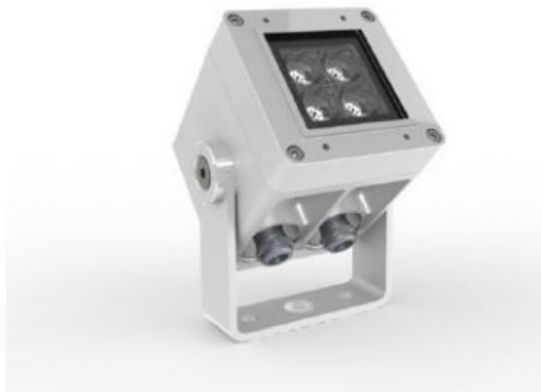
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**PROJECT:** 2-6 Southampton Row  
**LUMINAIRE REF:** EL5B

**DOCUMENT NO:** 5130-SP02-Rev C  
**ISSUE DATE:** 15.01.16

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### ILLUSTRATION:

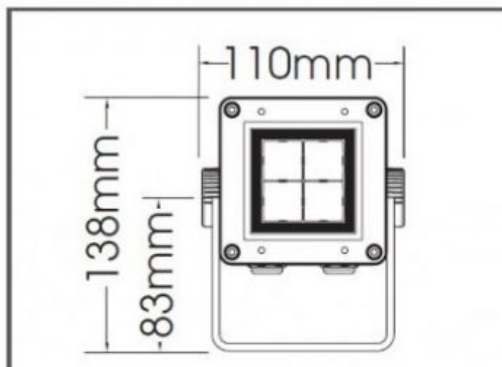


Plaza 10

### DIMENSIONS:

#### Plaza 10

9 Watt LED downlight delivering genuine  
35 tungsten halogen output performance



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**LUMINAIRE DESCRIPTION/PURPOSE:** Small surface mounted spotlight (custom flat mounting plate)

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**LUMINAIRE ORDER CODE/FINISHES:** ACDC Plaza 10

ACDC/1185/10/RAL/27/10R/LVR/WAB/DIM + 1-10V driver, with custom flat mounting plate + additional 4m electrical termination

**Finish:** RAL colour to match stone façade (To be confirmed by Interior Designer)

---

**MANUFACTURER:** ACDC

**ADDRESS:** Innovation Works  
Gisburn Road  
Barrowford  
Lancashire  
BB9 8NB

**CONTACT:** Simon Perks (sperks@acdclighting.co.uk)

**TEL:** +44 (0) 845 862 6400

**FAX:** +44 (0) 845 862 6401

---

**DIMENSIONS:** 110mmx138mmx107mm    **RECESS DEPTH:** N/A    **MOUNTING:** Surface

---

**LAMP TYPE:** LED 2700°K CRI 85    **WATTS:** 10W    **BEAM:** 10°    **DRIVER:** 700mA  
697 lumens

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**LAMP MANUFACTURER:** Integral to fitting

**ORDER CODE:** N/A

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### NOTES:

- This fitting requires a dimmable 1-10V 700mA driver, driver located in dry location remotely or in exterior location in an IP rated enclosure. Exact specification and location of drivers TBC with the electrical engineer in conjunction with the design team.
  - Contractor to ensure compatibility between the light fitting and the control system.
  - A separate 1-10v cable is required from fitting to control system.
  - Cable spec to be confirmed with ACDC prior to first fix/order of fitting.
  - This fitting is rated to IP66.
  - Refer to LDI provisional mounting detail 5130-DE01
  - **Refer to additional LED notes towards back of document these are for the attention of the contractor.**
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## LUMINAIRE SPECIFICATION SHEETS

**PROJECT:** 2-6 Southampton Row  
**LUMINAIRE REF:** EL5C

**DOCUMENT NO:** 5130-SP02-Rev C  
**ISSUE DATE:** 15.01.16

### ILLUSTRATION:

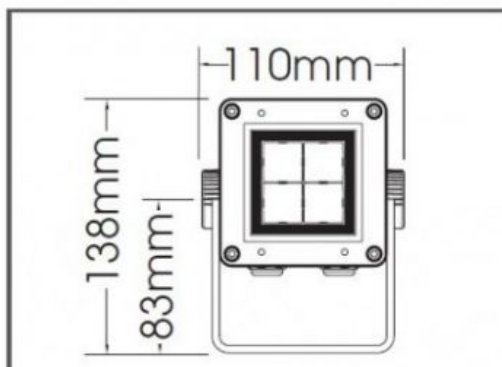


Plaza 10

### DIMENSIONS:

#### Plaza 10

9 Watt LED downlight delivering genuine  
35 tungsten halogen output performance



**LUMINAIRE DESCRIPTION/PURPOSE:** Small surface mounted spotlight (medium)

**LUMINAIRE ORDER CODE/FINISHES:** ACDC Plaza 10

ACDC/1185/10/RAL/27/30R/LVR/WAB/DIM + 1-10V driver additional 4m electrical termination

**Finish:** RAL colour to match stone façade (To be confirmed by Interior Designer)

**MANUFACTURER:** ACDC

**ADDRESS:** Innovation Works  
Gisburn Road  
Barrowford  
Lancashire  
BB9 8NB

**CONTACT:** Simon Perks (sperks@acdclighting.co.uk)

**TEL:** +44 (0) 845 862 6400

**FAX:** +44 (0) 845 862 6401

**DIMENSIONS:** 110mmx138mmx107mm    **RECESS DEPTH:** N/A    **MOUNTING:** Surface

**LAMP TYPE:** LED 2700°K CRI 85    **WATTS:** 9W    **BEAM:** 30°    **DRIVER:** 700mA  
697 lumens

**LAMP MANUFACTURER:** Integral to fitting

**ORDER CODE:** N/A

### NOTES:

- This fitting requires a dimmable 1-10V 700mA driver, driver located in dry location remotely or in exterior location in an IP rated enclosure. Exact specification and location of drivers TBC with the electrical engineer in conjunction with the design team.
- Contractor to ensure compatibility between the light fitting and the control system.
- A separate 1-10v cable is required from fitting to control system.
- Cable spec to be confirmed with ACDC prior to first fix/order of fitting.
- This fitting is rated to IP66.
- **Refer to additional LED notes towards back of document these are for the attention of the contractor.**

## LUMINAIRE SPECIFICATION SHEETS

**PROJECT:** 2-6 Southampton Row  
**LUMINAIRE REF:** EL6

**DOCUMENT NO:** 5130-SP02-Rev C  
**ISSUE DATE:** 15.01.16

### ILLUSTRATION:

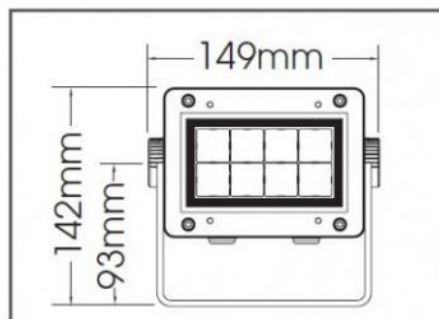


Plaza 20

### DIMENSIONS:

#### Plaza 20

15 Watt LED floodlight delivering genuine  
20 Watt metal halide output performance



**LUMINAIRE DESCRIPTION/PURPOSE:** Medium Surface mounted spotlight

**LUMINAIRE ORDER CODE/FINISHES:** ACDC Plaza 20

ACDC/1185/20/RAL/27/10R/LVR/WAB/DIM + 1-10V driver additional 4m electrical termination

**Finish:** RAL colour to match stone façade.

**MANUFACTURER:** ACDC  
**ADDRESS:** Innovation Works  
Gisburn Road  
Barrowford  
Lancashire  
BB9 8NB

**CONTACT:** Simon Perks (sperks@acdclighting.co.uk)

**TEL:** +44 (0) 845 862 6400

**FAX:** +44 (0) 845 862 6401

**DIMENSIONS:** 110mmx138mmx107mm **RECESS DEPTH:** N/A **MOUNTING:** Surface

**LAMP TYPE:** LED 2700°K CRI 85 **WATTS:** 16W **BEAM:** 10° **DRIVER:** 700mA  
1035 lumens

**LAMP MANUFACTURER:** Integral to fitting

**ORDER CODE:** N/A

### NOTES:

- This fitting requires a dimmable 1-10V 700mA driver, driver located in dry location remotely or in exterior location in an IP rated enclosure. Exact specification and location of drivers TBC with the electrical engineer in conjunction with the design team.
- Refer to LDI mounting details 5130-DE03.
- Contractor to ensure compatibility between the light fitting and the control system.
- A separate 1-10v cable is required from fitting to control system.
- Cable spec to be confirmed with ACDC prior to first fix/order of fitting.
- This fitting is rated to IP66.
- **Refer to additional LED notes towards back of document these are for the attention of the contractor.**

## LUMINAIRE SPECIFICATION SHEETS

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**PROJECT:** 2-6 Southampton Row  
**LUMINAIRE REF:** EL7A

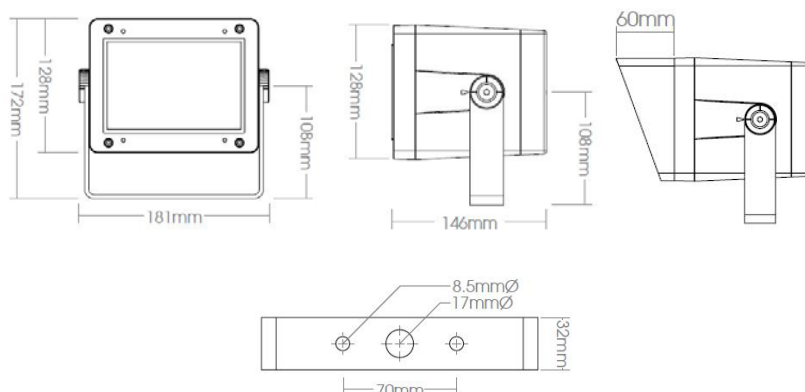
**DOCUMENT NO:** 5130-SP02-Rev C  
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**ILLUSTRATION:**



**DIMENSIONS:**



\*Model shown is without cowl

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**LUMINAIRE DESCRIPTION/PURPOSE:** Large surface mounted uplight (narrow)

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**LUMINAIRE ORDER CODE/FINISHES:** ACDC Plaza 35 with narrow beam 10° beam, 2700°K LED, additional 4m electrical termination, dimmable, Wall bracket + Cowl accessory  
**Product code:** ACDC1185 / 35 / RAL / 27 / 10R / DIM / WAB / COL Finish: RAL to match stone façade, exact colour to be confirmed with architects

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**MANUFACTURER:** ACDC Lighting  
**ADDRESS:** Innovation Works  
Gisburn Road  
Barrowford  
Lancashire  
BB9 8NB

**SUPPLIER:**

**CONTACT:** Simon Perks  
**TEL:** +44 (0)786 643 2366

**EMAIL:** sperks@acdclighting.co.uk

---

**CUTOUT SIZE:** N/A    **RECESS DEPTH:** N/A    **MOUNTING:** Surface mounted in existing positions

---

**LAMP TYPE:** LED 2700°K    **WATTS:** 28W    **DRIVER:** 700mA    **BEAM:** 10°

---

**LAMP MANUFACTURER:** Integral    **ORDER CODE:** N/A

---

**NOTES:**

- This fitting has an ingress protection rating of IP66
  - This fitting is supplied with an integral driver.
  - Non-standard RAL finishes will involve additional cost and will reflect total order quantity.
  - A separate 1-10v cable is required from fitting to control system.
  - Each fitting has a dual cable entry for through wiring.
  - Junction boxes to be kept to a minimum & mounted out of sight.
  - Cabling is to be neatly fixed down out of sight wherever possible (All details to be confirmed with contractor).
  - LDI recommend spare fittings are ordered for future use if required (to be confirmed by client).
  - **Refer to additional LED specification notes at back of this document.**
-

## LUMINAIRE SPECIFICATION SHEETS

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**PROJECT:** 2-6 Southampton Row  
**LUMINAIRE REF:** EL7B

**DOCUMENT NO:** 5130-SP02-Rev C  
**ISSUE DATE:** 15.01.16

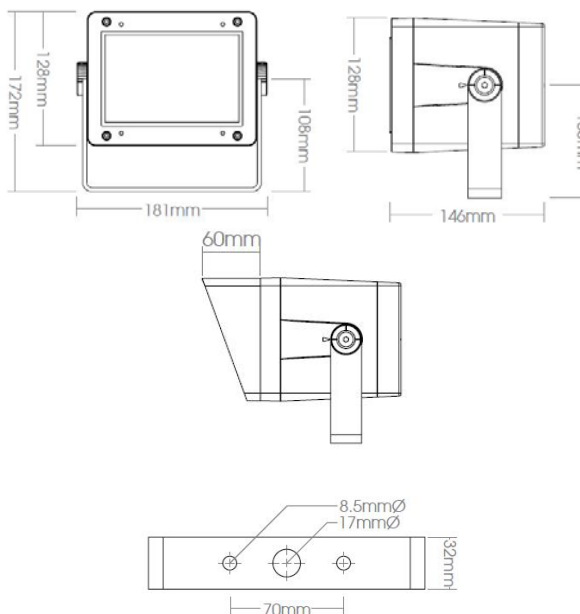
---

### ILLUSTRATION:



\*Model shown is without cowl

### DIMENSIONS:



---

**LUMINAIRE DESCRIPTION/PURPOSE:** Large surface mounted uplight (medium)

---

**LUMINAIRE ORDER CODE/FINISHES:** ACDC Plaza 35 with medium beam 16° beam, 2700°K LED, additional 4m electrical termination, dimmable, Wall bracket + Cowl accessory  
**Product code:** ACDC1185 / 35 / RAL / 27 / 16R / DIM / WAB / COL Finish: RAL to match stone façade, exact colour to be confirmed with architects

---

**MANUFACTURER:** ACDC Lighting  
**ADDRESS:** Innovation Works  
Gisburn Road  
Barrowford  
Lancashire  
BB9 8NB

**SUPPLIER:**

**CONTACT:** Simon Perks  
**TEL:** +44 (0)786 643 2366

**EMAIL:** sperks@acdclighting.co.uk

---

**CUTOUT SIZE:** N/A    **RECESS DEPTH:** N/A    **MOUNTING:** Surface mounted in existing positions

---

**LAMP TYPE:** LED 2700°K    **WATTS:** 28W    **DRIVER:** 700mA    **BEAM:** 16°

---

**LAMP MANUFACTURER:** Integral    **ORDER CODE:** N/A

---

### NOTES:

- This fitting has an ingress protection rating of IP66
  - This fitting is supplied with an integral driver.
  - Non-standard RAL finishes will involve additional cost and will reflect total order quantity.
  - Each fitting has a dual cable entry for through wiring.
  - A separate 1-10v cable is required from fitting to control system.
  - Junction boxes to be kept to a minimum & mounted out of sight.
  - Cabling is to be neatly fixed down out of sight wherever possible (All details to be confirmed with contractor).
  - LDI recommend spare fittings are ordered for future use if required (to be confirmed by client).
  - **Refer to additional LED specification notes at back of this document.**
-



## LUMINAIRE SPECIFICATION SHEETS

**PROJECT:** 2-6 Southampton Row  
**LUMINAIRE REF:** EL8

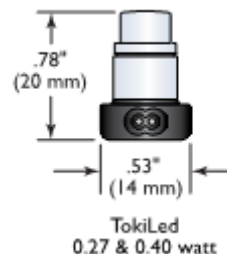
**DOCUMENT NO:** 5130-SP02-Rev C  
**ISSUE DATE:** 15.01.16

### ILLUSTRATION:



### DIMENSIONS:

The LEDs to have a spacing of 210mm



**LUMINAIRE DESCRIPTION/PURPOSE:** Fairy string lights integrated to exterior tree structure

**LUMINAIRE ORDER CODE/FINISHES:** Tokistar – Lightstring FL series with black cable, 210mm spacing of Ultra Bright Warm White (2400K) LEDs with silicon caps (ref: **FLBK-210-WW-UB-WP**) + Tokistar LED driver 8Vdc \* + Dimmer module + Installation accessories \*\*

**MANUFACTURER:** Tokistar  
**ADDRESS:**

**SUPPLIER:** Light Projects  
23 Jacob Street  
London SE1 2BG

**CONTACT** Charlie Wadsworth **EMAIL:** caw@lightprojects.co.uk

:

**TEL:** 020 7231 8282 **FAX:** 020 7237 4342

**CUTOUT SIZE:** N/A **RECESS DEPTH:** N/A **MOUNTING:** Wrapped around tree branches

**LAMP TYPE\*:** LED 2400K \* **WATTS:** 0.4W per module **VOLTS:** 24V **BEAM:** N/A

**LAMP MANUFACTURER:** Integral **ORDER CODE:** N/A

### NOTES:

- Fitting to be supplied with a Tokistar LED driver. Driver reference to be confirmed by Light Projects and is dependent on total electrical load of individual runs of product. To minimize voltage drop and keep conductors safely within their rating the supplier is to advice on the maximum lengths shown for each independent fixture. For 210mm spacing maximum run is 17m. The exact locations of the drivers are to be confirmed by the project services engineers and the contractor. Access and ventilation required. Refer to **APPENDIX A** for installation instructions & dimmer module specification.
- \* The manufacturer is responsible for ensuring that all LEDs supplied, are from the same manufacturer's production batch and have been compared visually to ensure the same colour appearance throughout the installation.
- \*\* Clear elastic nursery tape (**NSY-TP**) may be used to secure Lightstrings to branches without prohibiting plant growth. All details to be confirmed by the installer with help from the lighting supplier. Lightstrings may be cut to size on site. Vinyl end caps insulate the end of the wire (**EC-FL**).
- LDI recommends that the client orders spare lamps/luminaires to keep in store for maintenance purposes.
- Refer to LED specification notes towards the end of this document. These are for the attention of the contractor and the manufacturer.

**PROVISIONAL ONLY – ALL DETAILS TO BE CONFIRMED  
WITH TREE CANOPY DIMENSIONS**

## LUMINAIRE SPECIFICATION SHEETS

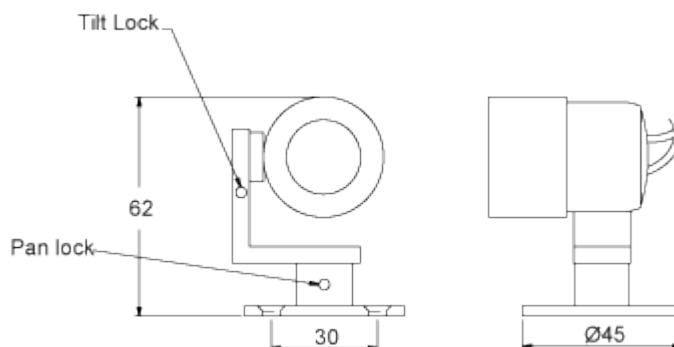
**PROJECT:** 2-6 Southampton Row  
**LUMINAIRE REF:** EL9A

**DOCUMENT NO:** 5130-SP02-Rev C  
**ISSUE DATE:** 15.01.16

### ILLUSTRATION:



### DIMENSIONS:



**LUMINAIRE DESCRIPTION/PURPOSE:** Mini surface mounted spotlight

**LUMINAIRE ORDER CODE:** Mike Stoane Lighting, Tadpole, 2700K, 17.9° + anti-glare snoot slash + L bracket + 1-10V dimmable driver

**FINISH:** RAL to match stone façade colour TBC with architect

**MANUFACTURER:** Mike Stoane  
Lighting

**ADDRESS:** 20 Dryden Road  
Bilston Glen Industrial Estate  
Loanhead, Midlothian, Scotland, EH20 9LZ

**CONTACT:** Ruairidh McGlynn **EMAIL:** Ruairidh@mikestoanelighting.com

**TEL:** +44 (0) 131 440 1313 **FAX:** +44 (0) 131 440 0049

**CUTOUT SIZE:** n/a

**RECESS DEPTH:** n/a

**MOUNTING:** Surface

**LAMP TYPE:** LED, 2700K

**WATTS:** 2.3W

**DRIVER:** 700Ma 1-10V

**BEAM:** 17.9°

**LAMP MANUFACTURER:** n/a

**ORDER CODE:** lamp integral to fitting

### NOTES:

- These fittings are to be fed by a number of 700mA 1-10V dimmable drivers. Groupings, power ratings, IP rating and locations to be determined by the M&E contractor on site with advice from the manufacturer. Interior located remote driver and can run up to 8 fittings within 40m range.
- Contractor to ensure compatibility between the light fitting and the control system.
- Cable spec to be confirmed with manufacturer prior to first fix/order of fitting.
- Ingress protection rating IP66.
- A separate 1-10v cable is required from fitting to control system.
- Refer to provisional LDI mounting detail 5130-DE04.
- Ensure correct polarity as wiring incorrectly will damage the LED (Black cable -ve, Red cable +ve).
- Cable thickness must be calculated to avoid voltage drop, refer to manufacturer's recommendations.
- **Refer to LED specification notes towards the end of this document. These are for the attention of the contractor and the manufacturer.**

## LUMINAIRE SPECIFICATION SHEETS

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**PROJECT:** 2-6 Southampton Row  
**LUMINAIRE REF:** EL9B

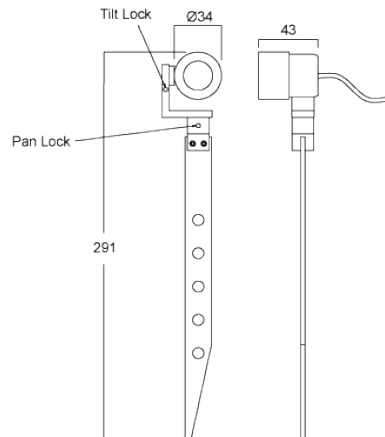
**DOCUMENT NO:** 5130-SP02-Rev C  
**ISSUE DATE:** 15.01.16

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### ILLUSTRATION:



### DIMENSIONS:



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**LUMINAIRE DESCRIPTION/PURPOSE:** Mini spiked uplights to green wall in terrace

---

**LUMINAIRE ORDER CODE:** Mike Stoane Lighting, Tadple Spike, 2700K, 48x8°+ anti-glare snoot slash cut + L bracket onto stainless steel ground spike  
**FINISH:** Black hard anodised.

---

**MANUFACTURER:** Mike Stoane Lighting      **SUPPLIER:**

**ADDRESS:** 20 Dryden Road  
Bilston Glen Industrial Estate  
Loanhead, Midlothian,  
Scotland, EH20 9LZ

**CONTACT:** Ruairidh McGlynn      **EMAIL:** Ruairidh@mikestoanelighting.com

**TEL:** +44 (0) 131 440 1313      **FAX:** +44 131 440 0049

---

**CUTOUT SIZE:** n/a

**RECESS DEPTH:** n/a

**MOUNTING:** ground spike

---

**LAMP TYPE:** LED, 2700K

**WATTS:** 2.3W

**DRIVER:** 700mA 1-10v  
dimmable

**BEAM:** 48x8°

---

**LAMP MANUFACTURER:** n/a

**ORDER CODE:** lamp integral to fitting

---

### NOTES:

- These fittings are to be fed by a number of 0-10v dimmable drivers. Groupings, power ratings, IP rating and locations to be determined by the M&E contractor on site with advice from the manufacturer. Interior located remote driver and can run up to 8 fittings within 40m range.
  - Contractor to ensure compatibility between the light fitting and the control system.
  - Ingress protection rating IP66.
  - A separate 1-10v cable is required from fitting to control system.
  - Ensure correct polarity as wiring incorrectly will damage the LED (Black cable -ve, Red cable +ve).
  - Cable thickness must be calculated to avoid voltage drop, refer to manufacturer's recommendations.
  - **Junction boxes are to be kept to a minimum and mounted out of sight.**
  - Ground spike length to be confirmed with planter depth.
  - Cabling is to be neatly fixed down out of sight wherever possible (All details to be confirmed with Architect).
  - LDI recommend spare fittings are ordered for future use if required (to be confirmed by client).
  - **Refer to LED specification notes towards the end of this document. These are for the attention of the contractor and the manufacturer.**
-

## LUMINAIRE SPECIFICATION SHEETS

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**PROJECT:** 2-6 Southampton Row  
**LUMINAIRE REF:** EL10

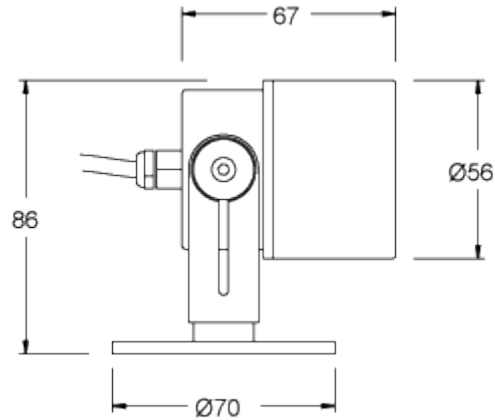
**DOCUMENT NO:** 5130-SP02-Rev C  
**ISSUE DATE:** 15.01.16

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### ILLUSTRATION:



### DIMENSIONS:



---

**LUMINAIRE DESCRIPTION/PURPOSE:** Small surface mounted spotlight to statue

---

**LUMINAIRE ORDER CODE/FINISHES:** Frog, 2700K 47x8° elliptical beam, IP66 rated with ultra secure locking pan & 90° tilt, 6.9W at 700mA, remote waterproof exterior dimmable 1-10V drivers.

**Finish:** RAL colour to match stone façade (To be confirmed by architect)

---

**MANUFACTURER:** Mike Stoane Lighting  
**ADDRESS:** 20 Dryden Road  
Bilston Glen Industrial Estate  
Loanhead  
Midlothian  
EH20 9LZ, UK

**CONTACT:** Ruairidh McGlynn **EMAIL:** Ruairidh@mikestoanelighting.com

**TEL:** +44 (0) 131 440 1313 **FAX:** +44 (0) 131 440 0049

---

**CUTOUT SIZE:** N/A

**RECESS DEPTH:** N/A

**MOUNTING:** Surface

---

**LAMP TYPE:** LED 2700°K

**WATTS:** 6.9W

**BEAM:** 47x8°

**DRIVER:** 700mA

---

**LAMP MANUFACTURER:** Integral to fitting

**ORDER CODE:** N/A

---

### NOTES:

- This fitting requires a dimmable 1-10V 700mA driver, driver located in dry location remotely or in exterior location in an IP rated enclosure. Exact specification and location of drivers TBC with the electrical engineer in conjunction with the design team.
  - A separate 1-10v cable is required from fitting to control system.
  - Cable spec to be confirmed with Mike Stoane Lighting prior to first fix/order of fitting.
  - Fitting to be ordered with mounting bracket.
  - This fitting is rated to IP66.
  - Testing of beam angles to be done on site before ordering.
  - **Refer to additional LED notes towards back of document these are for the attention of the contractor.**
-

LUMINAIRE SPECIFICATION SHEETS

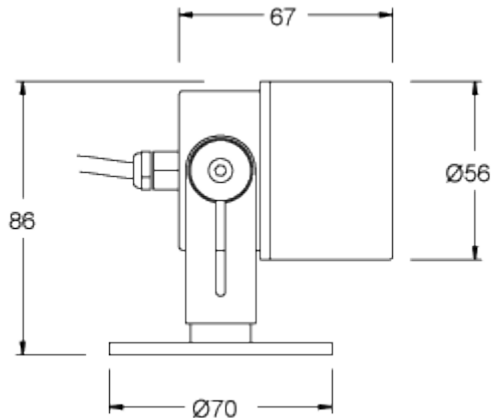
PROJECT: 2-6 Southampton Row  
LUMINAIRE REF: EL11

DOCUMENT NO: 5130-SP02-Rev C  
ISSUE DATE: 15.01.16

ILLUSTRATION:



DIMENSIONS:



LUMINAIRE DESCRIPTION/PURPOSE: Surface mounted spotlight on arm

LUMINAIRE ORDER CODE/FINISHES: Frog, 2700K 8x47° elliptical orthogonal beam, IP66 rated with ultra secure locking pan & 90° tilt, 6.9W at 700mA, remote waterproof exterior dimmable 1-10V drivers and custom made arm bracket – length 150mm  
Finish: RAL colour to match stone façade (To be confirmed by architect)

MANUFACTURER: Mike Stoane Lighting  
ADDRESS: 20 Dryden Road  
Bilston Glen Industrial Estate  
Loanhead  
Midlothian  
EH20 9LZ, UK

CONTACT: Ruairidh McGlynn EMAIL: Ruairidh@mikestoanelighting.com  
TEL: +44 (0) 131 440 1313 FAX: +44 (0) 131 440 0049

CUTOUT SIZE: N/A RECESS DEPTH: N/A MOUNTING: Surface

LAMP TYPE: LED 2700°K WATTS: 6.9W BEAM: 8x47° DRIVER: 700mA

LAMP MANUFACTURER: Integral to fitting ORDER CODE: N/A

NOTES:

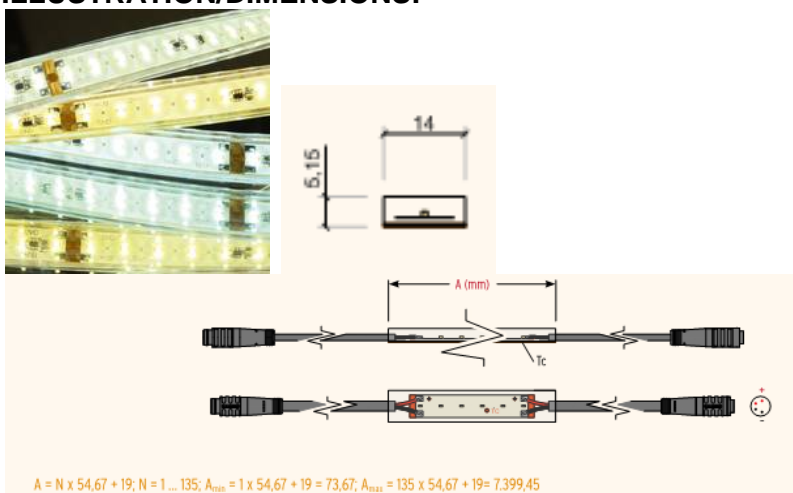
- This fitting requires a dimmable 1-10V 700mA driver, driver located in dry location remotely or in exterior location in an IP rated enclosure. Exact specification and location of drivers TBC with the electrical engineer in conjunction with the design team.
- A separate 1-10v cable is required from fitting to control system.
- Cable spec to be confirmed with Mike Stoane Lighting prior to first fix/order of fitting.
- Fitting to be ordered with mounting bracket and custom made arm bracket – length T.B.C on site before ordering.
- This fitting is rated to IP66.
- Refer to additional LED notes towards back of document these are for the attention of the contractor.

## LUMINAIRE SPECIFICATION SHEETS

PROJECT: 2-6 Southampton Row  
LUMINAIRE REF: EL13

DOCUMENT NO: 5130-SP02-Rev C  
ISSUE DATE: 15.01.16

### ILLUSTRATION/DIMENSIONS:



**LUMINAIRE DESCRIPTION/PURPOSE:** High output Linear LED strip at high level

**LUMINAIRE ORDER CODE/FINISHES:** Architectural FX VarioLED Flex Hydra HD15 IP67 W824 IP67 + 1-10V dimmable driver + female connectors (total quantity TBC by manufacturer before ordering)

**MANUFACTURER:** LED Linear  
**ADDRESS:**

**SUPPLIER:** Architectural FX  
Unit 13 & 14, Longshot Lane,  
Bracknell,  
RG12 1RL  
United Kingdom

**CONTACT:** Chris Skelley (c.skelley@architecturalfx.co.uk)

**TEL:** +44 (0) 1344 291536

**FAX:** +44 (0) 1344 307602

**CUTOUT SIZE:** N/A

**RECESS DEPTH:** N/A

**MOUNTING:** See detail

**LAMP TYPE:** LED, 2700°K

**WATTS:** 15.4W/m

**CAP:** N/A

**BEAM:** N/A

**LAMP MANUFACTURER:** Integral

**ORDER CODE:** N/A

### NOTES:

- These lights are to be fed by remote 1-10V dimmable drivers, reference OT 120 220-240 DIM. Driver dimensions: 250L x 60W x 39H. Each driver can feed up to 26 metres of lighting.
- Driver locations are to be determined. Drivers to be sited in dry locations.
- The maximum length of encapsulated LED strip supplied is 5m. The encapsulated LED is available in multiples of 81.5mm.
- These lights require a separate 1-10V cable running from the lighting control system to the drivers.
- Colour temperature to be confirmed pending adjacent material finish and colour.
- Mounting profile and/or lenses/diffusers may be required – to be confirmed.
- Refer to provisional LDI mounting details 5130-DE02 and Architect's details.
- Final colour temperature to be 2400K – Sample of colour to be sent to LDI for approval before ordering.
- Testing of product on site to confirm fitting before ordering.
- This fittings is rated to IP67.
- **Refer to LED notes towards the end of this document. These are for the attention of the contractor and manufacturer.**

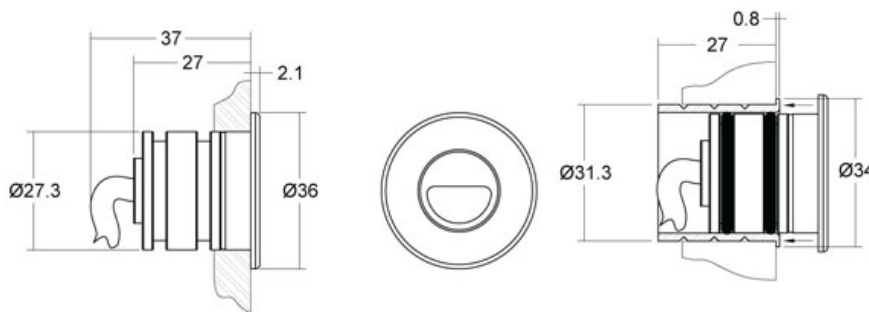
## LUMINAIRE SPECIFICATION SHEETS

**PROJECT:** 2-6 Southampton Row      **DOCUMENT NO:** 5130-SP02-Rev C  
**LUMINAIRE REF:** EL14      **ISSUE DATE:** 15.01.16

### ILLUSTRATION:



### DIMENSIONS:



**LUMINAIRE DESCRIPTION/PURPOSE:** Wall recessed floor washers to steps in terrace

**LUMINAIRE ORDER CODE:** LD42A recessed steplight with 31° beam in 2950K with colour correction filter to match 2400K + 500mA 1-10V driver + first fix sleeve: LD42A-500/LWW/MB/BLACK/480

**FINISH:** Powder coated Black

**MANUFACTURER** Light Graphix  
**ADDRESS:** 20 Bourne Road Industrial Park  
Crayford  
Kent  
DA1 4BZ

**CONTACT:** Rob Buxton      **EMAIL:** robert@lightgraphix.biz  
**TEL:** 01322 527629      **FAX:** 01322 524902

**CUTOUT SIZE:** 31.3mm diameter      **RECESS DEPTH:** 37mm      **MOUNTING:** Recessed

**LAMP TYPE:** LED 2400K      **WATTS:** 1.7W      **DRIVER:** 500mA 1-10V      **BEAM:** 31°

**LAMP MANUFACTURER:** Integral to fitting      **ORDER CODE:** N/A

### NOTES:

- We recommend this fitting is fed by a number of remote 500mA, 1-10V dimmable drivers. The exact number of drivers is to be as advised by the manufacturer depending on groupings in each location. Typically, 1 no. driver can be mounted up to 10m away run in series and supply up to 10 fittings. Exact location of driver to be confirmed by contractor in conjunction with design team
- IP rated driver available for mounting in wet locations
- These lights will require a separate 1-10V control cable running from the lighting control system to the drivers and are to be wired "in series"
- \*Installation accessories are available to order– see above O ring with first fix sleeve (/480)
- This fitting is rated IP68
- Final colour temperature to be 2700K with colour correction filter.
- Final mounting height to be confirmed with stair details provisionally allow 50mm AFFL.
- **Refer to LED specification notes towards the end of this document. These are for the attention of the contractor and the manufacturer.**

**2-6 SOUTHAMPTON ROW**

**KEY TO EXTERIOR LIGHTING MOUNTING DETAIL SHEETS**

5130-DE01 Rev -- Surface mounted uplight to small columns on façade.

5130-DE02 Rev -- Surface mounted linear led to wash moulding.

5130-DE03 Rev -- Surface mounted uplights to large columns.

5130-DE04 Rev -- Surface mounted mini spotlights to stone moulding.



# LUMINAIRE DETAIL SHEET

PROJECT: SOUTHAMPTON ROW

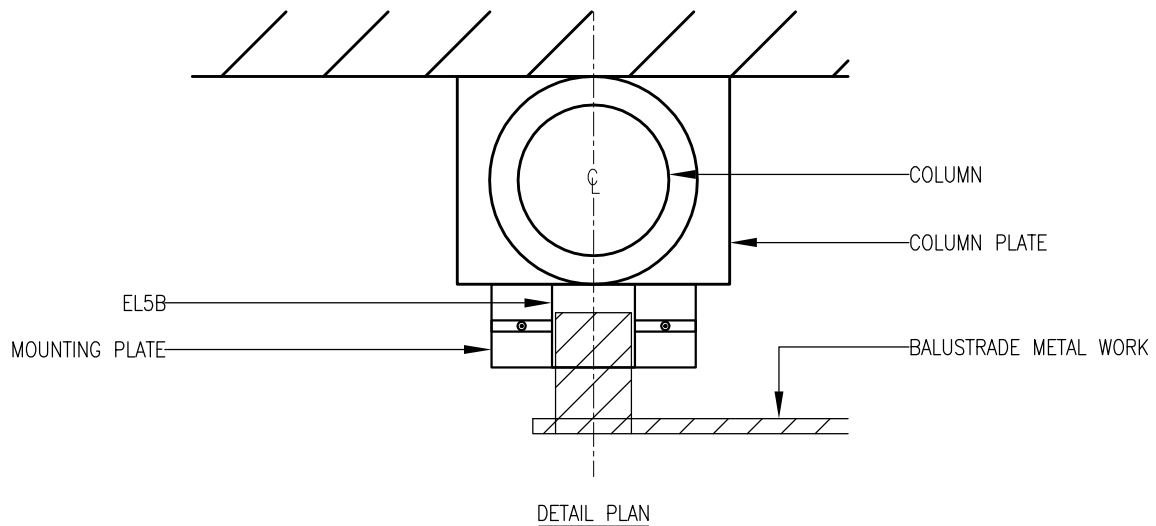
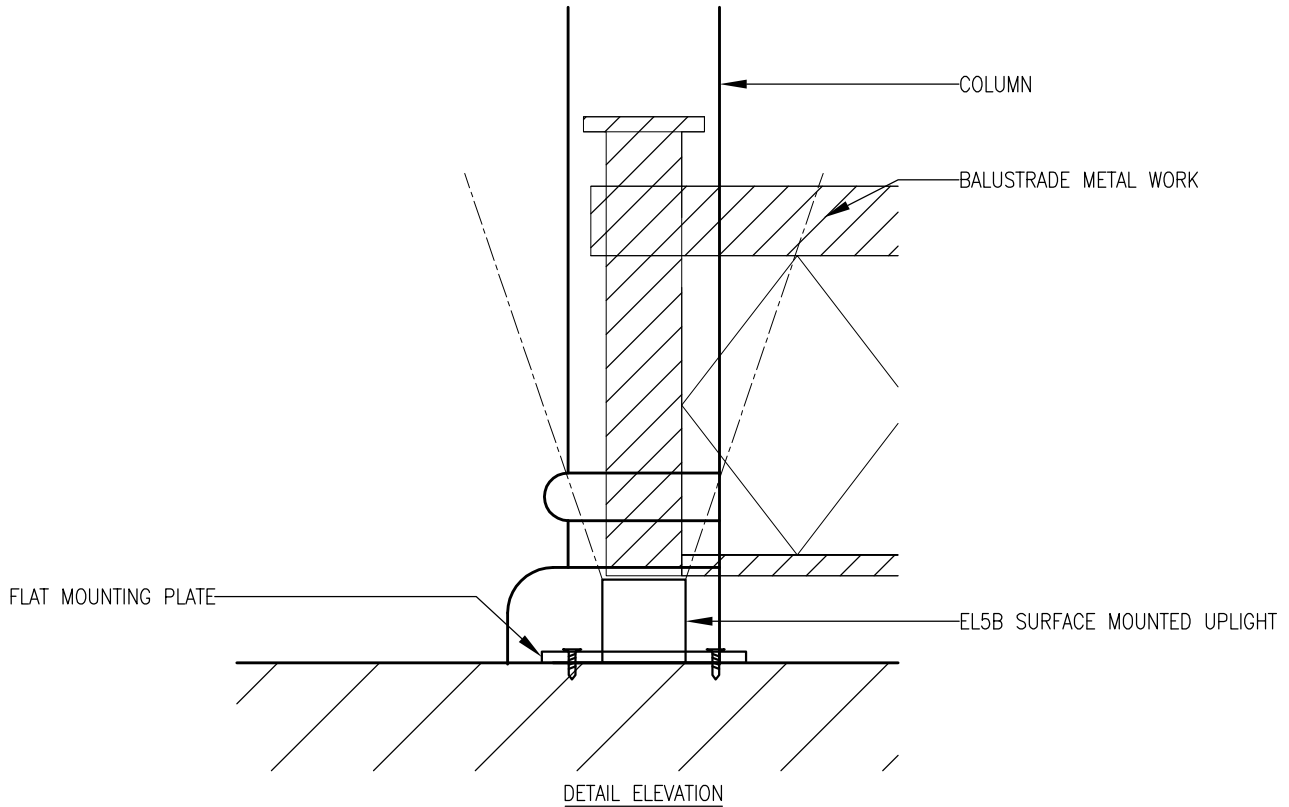
NUMBER: EL5B

DETAIL NO.: 5130-DE01 REV -

ISSUE DATE: 15.01.2016

TITLE: SURFACE MOUNTED UPLIGHT TO SMALL COLUMNS ON FACADE

SCALE: NTS



NOTE:

- JUNCTION BOXES ARE TO BE KEPT TO A MINIMUM AND MOUNTED OUT OF SIGHT.
- CABLING TO BE FIXED DOWN OUT OF SIGHT WHERE POSSIBLE.
- ALL DETAILS TBC WITH ARCHITECT.

**PROVISIONAL DETAIL - T.B.C WITH ARCHITECT DETAILS**

# LUMINAIRE DETAIL SHEET

PROJECT: SOUTHAMPTON ROW

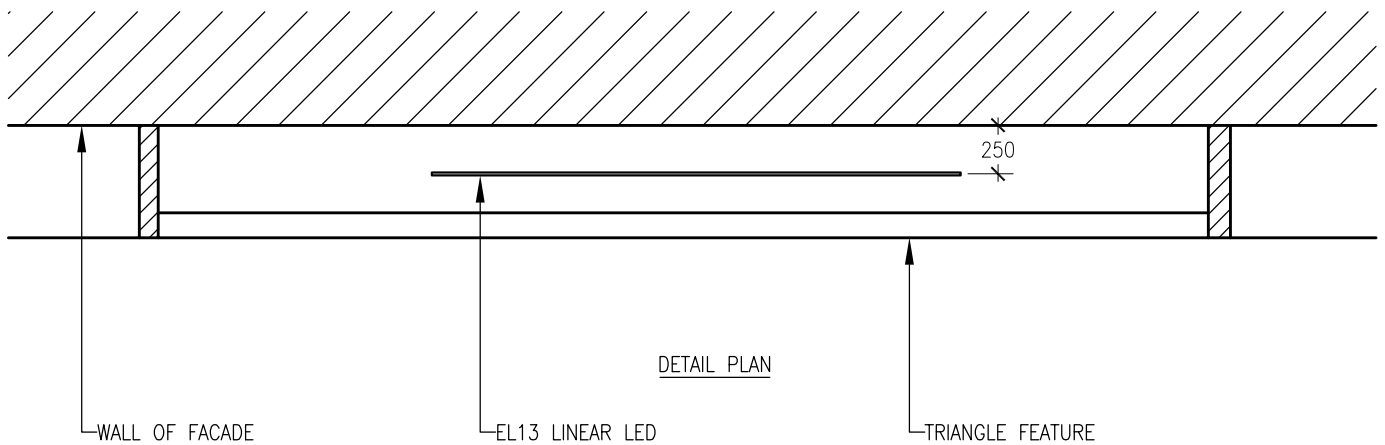
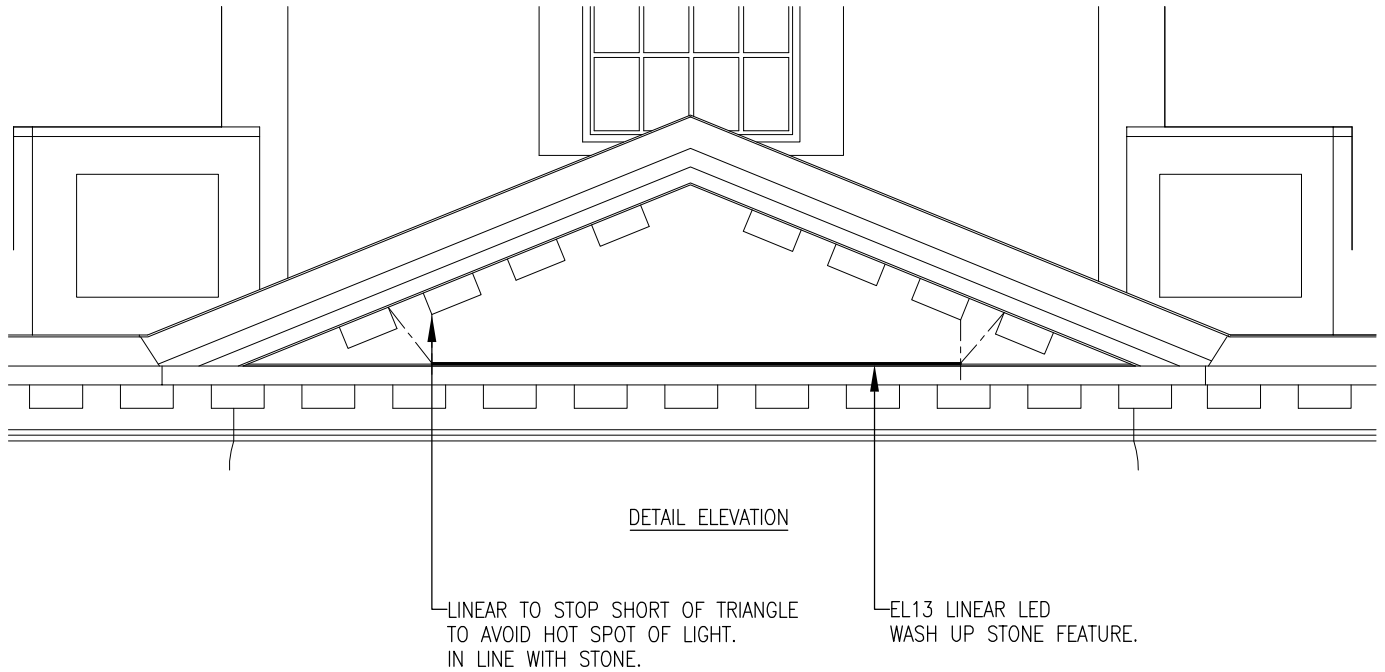
NUMBER: EL13

DETAIL NO.: 5130-DE02 REV -

ISSUE DATE: 15.01.2016

TITLE: SURFACE MOUNTED LINEAR LED TO WASH MOULDING

SCALE: NTS



NOTE:

- JUNCTION BOXES ARE TO BE KEPT TO A MINIMUM AND MOUNTED OUT OF SIGHT.
- CABLING TO BE FIXED DOWN OUT OF SIGHT WHERE POSSIBLE.
- ALL DETAILS TBC WITH ARCHITECT.

**PROVISIONAL DETAIL - T.B.C WITH ARCHITECT DETAILS**

# LUMINAIRE DETAIL SHEET

PROJECT: SOUTHAMPTON ROW

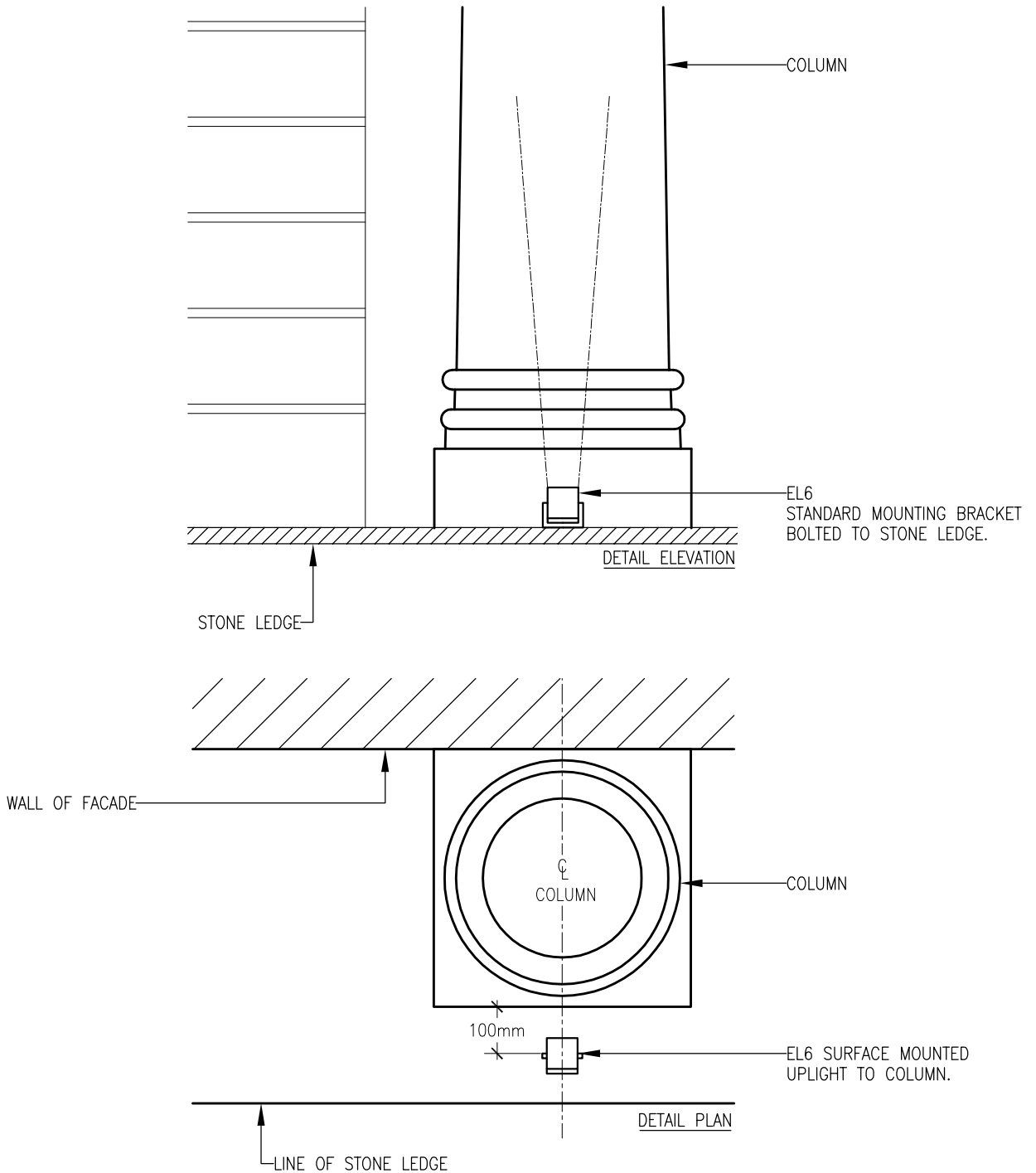
NUMBER: EL6

DETAIL NO.: 5130-DE03 REV –

ISSUE DATE: 15.01.2016

TITLE: SURFACE MOUNTED UPLIGHTS TO LARGE COLUMNS

SCALE: NTS



**NOTE:**

- JUNCTION BOXES ARE TO BE KEPT TO A MINIMUM AND MOUNTED OUT OF SIGHT.
- CABLING TO BE FIXED DOWN OUT OF SIGHT WHERE POSSIBLE.
- ALL DETAILS TBC WITH ARCHITECT.

**PROVISIONAL DETAIL - T.B.C WITH ARCHITECT DETAILS**

## LUMINAIRE DETAIL SHEET

PROJECT: SOUTHAMPTON ROW

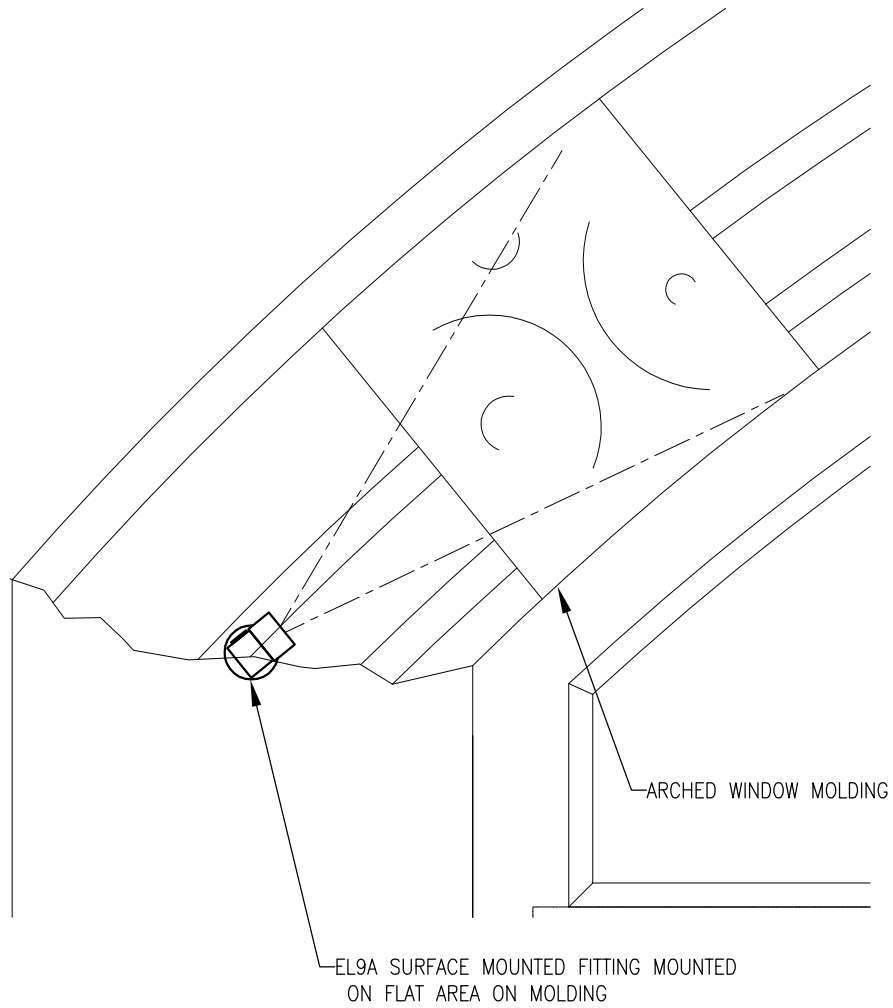
NUMBER: EL9

DETAIL NO.: 5130-DE04 REV –

ISSUE DATE: 15.01.2016

TITLE: SURFACE MOUNTED MINI SPOTLIGHTS TO STONE MOULDING

SCALE: NTS



DETAIL ELEVATION

NOTE:

- JUNCTION BOXES ARE TO BE KEPT TO A MINIMUM AND MOUNTED OUT OF SIGHT.
- CABLING TO BE FIXED DOWN OUT OF SIGHT WHERE POSSIBLE.
- ALL DETAILS TBC WITH ARCHITECT.

**PROVISIONAL DETAIL - T.B.C WITH ARCHITECT DETAILS**

# APPENDIX A

EL8 FAIRY STRING LIGHTS  
INSTALLATION INSTRUCTIONS  
+  
DIMMER MODULE SPECIFICATION  
(SUPPLIER: LIGHT PROJECTS)



# TOKISTAR LIGHTING INSTRUCTION MANUAL

## Fixture Type \_\_\_ - \_\_\_ - \_\_\_ Lightstrings With 8 VDC LEDs

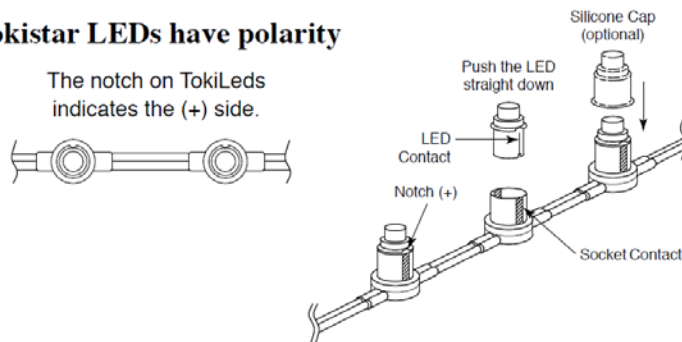
### General Description

Tokistar's Lightstring Series is provided with 8 VDC LEDs. The LEDs are available at 0.10, 0.20, 0.27 and 0.40 watts. Each Lightstring fixture is labeled with its appropriate load.

### ELBK - 60 - WW

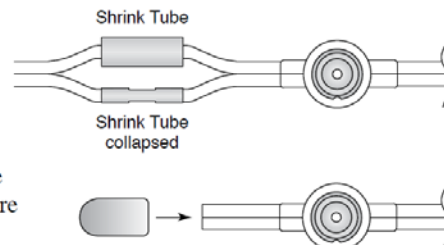
Lightstring Color		Socket Spacing		TokiLeds	
Code	Color	Code	Inches (mm)	Code	Watts/Volts
<b>FLBK</b>	Black	<b>60</b>	2.4" (60 mm)	<b>LW</b>	0.10W / 8VDC
<b>FLWG</b>	Warm Grey <sup>®</sup>	<b>110</b>	4.25" (110 mm)	<b>WW</b>	0.10W / 8VDC
	Warm Grey	<b>160</b>	6.25" (160 mm)	<b>IW</b>	0.10W / 8VDC
	available in 6.25", 8.25" and 12.25"	<b>210</b>	8.25" (210 mm)	<b>WH</b>	0.10W / 8VDC
		<b>310</b>	12.25" (310 mm)	<b>LW-HB</b>	0.20W / 8VDC
		<b>410</b>	16.25" (410 mm)	<b>WW-HB</b>	0.20W / 8VDC
				<b>IW-HB</b>	0.20W / 8VDC
				<b>WH-HB</b>	0.20W / 8VDC
				<b>LW-UB</b>	0.40W / 8VDC
				<b>WW-UB</b>	0.40W / 8VDC
				<b>IW-UB</b>	0.40W / 8VDC
				<b>WH-UB</b>	0.40W / 8VDC
				<b>KLED-WW-SF</b>	0.20W / 8VDC
				<b>KLED-WW-CF</b>	0.20W / 8VDC
				<b>KLED-IW-FF</b>	0.20W / 8VDC
				<b>KLED-IW-SF</b>	0.20W / 8VDC
				<b>KLED-IW-CF</b>	0.20W / 8VDC
				<b>KLED-WH-ST</b>	0.27W / 8VDC
				<b>AM</b>	0.10W / 8VDC
				<b>BL</b>	0.10W / 8VDC
				<b>GR</b>	0.10W / 8VDC
				<b>MG</b>	0.10W / 8VDC
				<b>PL</b>	0.10W / 8VDC
				<b>RD</b>	0.10W / 8VDC

### Tokistar LEDs have polarity



### Power Feeds

Lightstrings may have been provided in bulk to be cut on site. If wire leads need to be soldered to the cut lengths, fit shrink tube over the soldered connections to insulate the conductors.



### End Caps

End Caps insulate the ends of each length of Lightstring. If the fixture is trimmed, an end cap needs to be installed on the cut-end of the fixture with a permanently-bonding adhesive such as silicone.

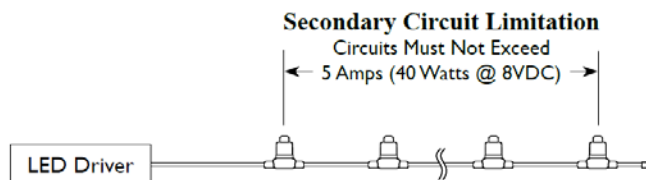
## ⚠ PRECAUTIONS

1. Read all instructions completely before beginning installation.
2. Turn off electricity before beginning installation.
3. All wiring is to be performed by a qualified electrician.
4. Installation must comply with the National Electrical Code, and all applicable codes.
5. Turn main supply to the LED Driver on only after all connections have been made and tested.
6. Use only LED Drivers provided by Tokistar with the system.

## TOKISTAR® LIGHTING

1015 E. Discovery Lane  
Anaheim, CA 92801  
TEL: 714 772 7005 FAX: 714 772 7014  
email: info@tokistar.com Website: tokistar.com

### Secondary Circuit Wiring



### Maximum Run Lengths

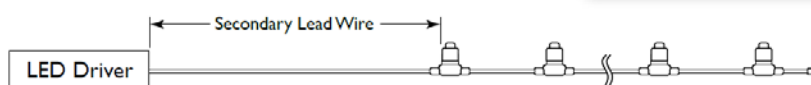
To minimize voltage drop and keep conductors safely within their rating, do not exceed the maximum lengths shown in the chart to the right for each independent length of Lightstring.

Spacing	0.1 Watt LED	0.2 Watt LED	0.27 Watt LED	0.4 Watt LED
2.40" (60 mm)	63' (19 M)	40' (12 M)	30' (9 M)	20' (6 M)
4.25" (110 mm)	84' (26 M)	63' (19 M)	48' (14 M)	36' (11 M)
6.25" (160 mm)	100' (30 M)	75' (23 M)	50' (15 M)	50' (15 M)
8.25" (210 mm)	116' (36 M)	87' (26 M)	65' (20 M)	56' (17 M)
12.25" (310 mm)	142' (43 M)	106' (32 M)	80' (24 M)	70' (21 M)
16.25" (410 mm)	164' (50 M)	122' (37 M)	90' (28 M)	82' (25 M)

### Recommended Lead Wire Size

The distance from the LED Driver to the fixture, and the load of the fixture, will determine the proper size of secondary wire. The chart to the right indicates recommended wire size based upon the driver being loaded to its full capacity of 5 Amps/40 Watts.

Secondary Lead Wires	
Wire Size	Wire Length
#16 AWG	12' (3.6 M)
#14 AWG	20' (6.1 M)
#12 AWG	30' (9.1 M)
#10 AWG	45' (13.7 M)



### LED Driver Installation

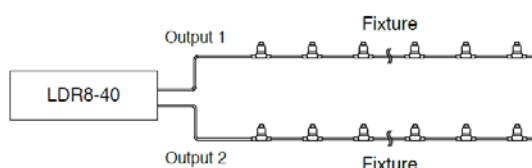
#### LDR8-40

This 40 Watt UL Recognized Class 2 LED Driver converts an AC input into an 8 VDC output. Refer to the manual provided with the LED Driver for detailed installation instructions.



#### LDR8-80

This dual output Class 2 LED Driver has two independent 40 Watt outputs. Refer to the manual provided with the LED Driver for detailed installation instructions.



Tokistar Lightstrings are ETL Listed when operated from our LED Drivers.



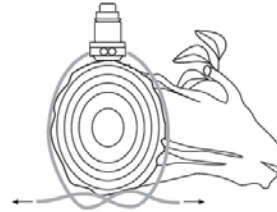
Part#	Input Volts	Output Volts	Output Ratings
LDR8-40	100~240	8VDC	1 @ 5 Amps
LDR8-80	100~240	8VDC	2 @ 5 Amps

## Mounting Fixtures

The proper mounting device is determined by the surface the Lightstring is being attached to.

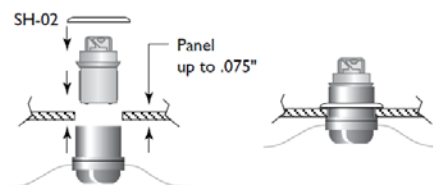
### Option 1 - Part#: NSY-TP

Clear elastic nursery tape may be used to secure Lightstrings to branches without inhibiting growth.



### Option 2 - Part#: SH-02 Stainless Steel Fastener

The SH-02 fastener is used to securely attach Lightstring sockets to panels through a 3/8" Ø hole.



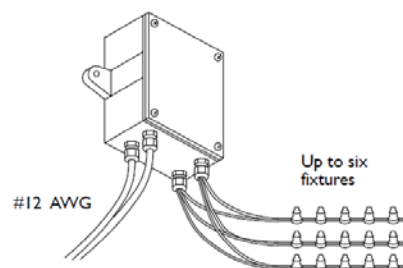
### Part#: EC-FL Vinyl End Caps

Lightstrings may be cut to size on site. Vinyl end caps insulate the end of the wire.



### Part#: HC-10 Junction Box

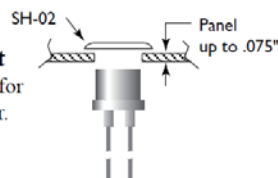
This gasketed junction box accepts #12 AWG Landscape Cable, which may be spliced to 6 independent Lightstring fixtures.



For applications requiring independent points of light, our FL-200 and FL-300 sockets are provided with a 12" lead wire.

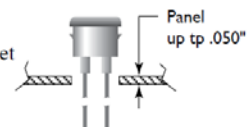
### Part#: FL-200 Socket

This is a back-mount socket for use with the SH-02 fastener.  
Hole size 3/8"Ø.



### Part#: FL-300 Socket

For front-mount applications, this socket remains close to flush to the surface.  
Hole size 3/8"Ø.



Version 1.2



## LIGHT EMITTING DIODE (LED) SPECIFICATION NOTES

1. White LED lamps are to have the CCT specified on individual specification sheets.
2. The luminaire manufacturer is responsible for ensuring that all LEDs supplied, particularly white ones, are from the same manufacturer's production batch, have the same CCT and have been compared *visually* to ensure the same colour appearance throughout the installation.
3. The contractor is to confirm the exact wiring method required by the drivers specified with the manufacturer, prior to first fix/order. Different drivers require different wiring methods between the LEDs and their drivers e.g. constant current drivers (typically 350/700mA) require the LEDs to be wired in *series* and constant/regulated voltage drivers require *parallel* wiring.
4. The contractor should pay attention to the polarity assigned to all cables. As electrical components, LEDs are particularly vulnerable if wired up incorrectly. Any damage is irreversible.
5. When specified as dimmable on individual specification sheets the drivers are to be dimmable down to 1%.
6. Exact driver references, dimensions, groupings and quantities are to be confirmed with the manufacturer unless specified on individual specification sheets.
7. Driver locations are to be confirmed by site engineers prior to order. Typically they can be mounted 10m away from the LED lamps and should be in accessible ventilated locations.
8. The LED controller is supplied by the LED manufacturer and is to be as given on the specification sheet. Its location is to be confirmed by site engineers prior to order and requirements/frequency of access are to be as confirmed by LDI.
9. The extent of the pre-commissioning and on-site programming of the controller is to be discussed with LDI and is to be allowed for in all quotations.
10. The drivers and controller are to be compatible with the lighting control system. The exact dimming/switching protocol is to be confirmed to the LED manufacturer by contractor on order.
11. The contractor is to ensure the compatibility of the drivers and controller and overall lighting control system and the specification of cabling between them prior to first fix/order.
12. LED technology is constantly evolving and luminaire manufacturers keep stocks of specific LED batches for a limited time only for re-lamping/maintenance purposes. For this reason, LDI recommend that several spare LED lamps/luminaires are ordered with the initial order to keep in the client's store for future maintenance purposes.

## **GENERAL TRANSFORMER SPECIFICATION NOTES**

### **GENERAL**

1. All transformers are to be of the highest quality, fully compliant to EC, EMC and LV directives and suitable for the application of extra low voltage lighting.
2. Primary voltage and frequency to be specified by the electrical engineer / contractor.
3. If dimmer controls are not being used, 11.2 - 11.5V transformers are to be employed to promote longer lamp life.
4. If no transformers are specified, then the electrical engineer / contractor is to be responsible for the specification and sourcing of transformers consistent with the requirements in this specification.
5. The ceiling / floor void or other locations in which the transformers are located must be well ventilated in order to prevent the transformers overheating.
6. The electrical engineer / contractor are to check the compatibility between transformers and lighting control system / dimmers, where transformers are not specified.
7. Transformer types as a rule should not to be mixed on the same circuit (i.e. toroidal / laminated and electronic).
8. Note : "Leading edge" electronic transformers i.e. Mode and IBL makes can be mixed and dimmed with toroidal and laminated transformers on hard fired dimming systems.
9. The exact location of transformers is to be determined by the electrical engineer / contractors.
10. Exterior rated transformers are not to be buried directly into the soil as this will cause them to overheat; rather they are buried in shingle, sand or in a wooden box. In all cases access will be required for occasional maintenance.
11. We do not recommend dual-load (i.e. both leading and trailing edge) transformers with pre-set control, hard fired dimmers. Rather, the transformer type should directly match that of the dimming system (leading edge transformer with leading edge dimming system and vice versa)
12. There should be no reasonable limit on the number of transformers that can be connected to a single circuit with the exception of the cabling and supply limitations as laid out in the electrical specification. No interfaces or filters should be required inline to comply with any standards or to correct any issues with transformer dimmability.

### **TOROIDAL / LAMINATED TRANSFORMERS**

1. All transformers must be safe, of high efficiency and have a low winding temperature for cool operation.
2. All primary circuits are to be protected on the primary side of the transformer by high surge fuses by appropriately rated current trips.

3. All wire wound transformers should comply with IEC 742 and EN 60742 from 1992.

#### **TRANSFORMER SPECIFICATION NOTES CONT ....**

4. Transformers are to be self contained in enclosures which adequately protect the contents and prevent the ingress of foreign material.

5. Transformers are to be suitable for operation in ambient temperatures of 45°C.

6. The fabrication and arrangement of transformer construction is to be such that they will not give rise to any audible vibration, especially when dimmed.

7. The ratings indicated for the low voltage secondary circuits are on load requirements at the transformers' terminals, i.e. wire wound transformers should have a 20% loss allowance on top of this.

8. Where multi-circuit transformers have been specified the outgoing loads on each circuit are to be identical.

9. All transformers must be suitable for dimming on the primary side of the windings.

#### **ELECTRONIC TRANSFORMERS**

1. Electronic transformers should not be positioned more than one metre from the luminaire.

2. Electronic transformers are to be wired to the lamps with radio screened cable.

#### **VOLTMASER DIMMABLE INTELLIGENT TRANSFORMERS**

1. These transformers are best used when grouped low voltage fittings require a remote transformer located at a considerable distance from the luminaires.

2. Smooth and constant dimming levels are maintained by "square law" dimming and require an additional 1-10V digital or 0-10V analogue signal control cable to the control system.

3. These transformers provide constant stabilised voltage levels and automatically compensate for cable volt drop on long runs, thereby considerably extending lamp lives compared to conventional toroidal transformers.

#### **RECOMMENDED TRANSFORMER MANUFACTURERS**

Interior electronic transformers

Mode Tel : 01920 462 121 Fax : 01920 466 882

Intram Barwell Tel : 020 8391 5252 Fax : 020 8974 1629

Interior toroidal transformers

Intram Barwell Tel : 020 8391 5252 Fax : 020 8974 1629

Voltmaster Intelligent transformers (Interior & Exterior)

Multiload Technology Tel: 020 7794 9152 Fax: 020 7794 9257

Exterior electronic transformers (leading edge)

Cube Tel : 01442 876676 Fax : 01442 876756

### **TRANSFORMER INFORMATION NOTES:**

- Individual dimmable electronic transformers are preferred for use with extra low voltage downlighters for the following reasons :

- i) small size

- ii) low heat

- iii) low noise

- iv) easily accessible (inline type) through small downlighter cutouts

- v) some models i.e. Mode/IBL incorporate a thermal cutout in case of overheating.

They can also be successfully dimmed with resistive rotary dimmers which avoids de-rating circuits (as with inductive modules) allowing higher loads to be controlled from a module and plate.

- Dimmable Mode / IBL are “leading edge” transformers and can be dimmed with toroidal / laminated transformers on the same hard fired dimmer. This may be required where emergency luminaires have their battery packs incorporating transformers further than one metre away from the luminaire (due to access requirements).
- The disadvantages of electronic transformers are that they cannot withstand high temperatures and they can be more expensive than toroidal types.
- Sub-standard transformers have been known to cause problems when dimmed in quantity e.g. 10 no. transformers on one circuit may cause pulsing or flickering when dimmed. This is usually due to the manufacturer’s desire to keep costs down at the expense of the design.

**NOTES**

The following control schedules should be read in conjunction with the LDI Lighting Control Description and drawings as referred to above.

The loads indicated are based on the rated wattages of the lamps being used and do not account for additional start-up loads required by control components.

Contractor to confirm dimming protocol used by low voltage transformers (e.g. trailing/leading edge) installed with each luminaire type to control system manufacturer to ensure that the correct interfaces are supplied.

The channel breakdown represents the luminaire grouping flexibility required by LDI. The physical wiring and circuiting may differ from this and is to be based on individual manufacturer's control component capacities (confirmed by others) but taking into account these requirements.

Circuits referenced A&B should be wired separately and linked at the dimmer rack allowing flexibility for splitting them more simply in the future if required.

This control schedule is for control information and should not be used for luminaire quantity information alone.

**KEY**

Lx - Luminaire reference number

Cx - Pre-set dimming channel reference number

SWx - Conventional dimming/switching circuit reference

DCS - Circuit controlled via door contact switch integral to joinery

**KEY TO LOAD TYPES**

D - High Intensity Discharge Lamp

LV - Extra Low Voltage

F - Fluorescent or compact fluorescent

T - Tungsten / Tungsten Halogen

CC - Cold cathode (<1000V)

LED - Light emitting diodes

V - Voltage

**KEY TO SWITCHING/DIMMING TYPE**

s - switched circuit

p - phase control dimmed circuit

pt - phase control trailing edge dimmed circuit

pl - phase control leading edge dimmed circuit

0-10 - switched circuit with 1-10V analogue dimming (requires separate 1-10V signal cable)

1-10 - switched circuit with 1-10V analogue dimming (requires separate 1-10V signal cable)

CHANNEL NUMBER	LUMINAIRE REF & DESCRIPTION	LUM WATTAGE	QTY	TOTAL LOAD	LOAD TYPE	DIMMING PROTOCOL	NOTES
<b>EXTERIOR FAÇADE</b>							
EC1	EL2 IP-rated floor recessed LED uplight	7	2	14	LED	1-10V	NB: Small Load
EC2	DELETED						
EC3	Supply for Mini spotlights integrated to wall lanterns	22	2	44	LED	1-10V	
EC4	Supply lighting to canopy glass shades (Main Entrance)	50	12	600	LED / T	p/1-10V	Estimate only, exact load & dimming protocol t.b.c.
EC5	DELETED						
EC6	EL3 Low output linear LED at high level	10	4	40	LED	1-10V	Quantity estimated to nearest 0.5m
EC7	EL4A Small surface mounted spotlight (narrow)	6.9	12	83	LED	1-10V	
EC8	EL9 Mini surface mounted spotlight	2.3	14	32	LED	1-10V	
EC9	Wall mounted decorative lanterns (by others)	150	15	2250	LED / T	p/1-10V	Estimate only, exact load & dimming protocol t.b.c.
EC10	EL5A Small Surface mounted spotlight (narrow)	10	12	120	LED	1-10V	
EC11	EL5A Small Surface mounted spotlight (narrow)	10	32	↓			
*	EL5B Small Surface mounted spotlight (custom flat mounting plate)	10	10	420	LED	1-10V	
EC12	EL6 Medium Surface mounted spotlight	16	6	96	LED	1-10V	
EC13	EL6 Medium Surface mounted spotlight	16	7	112	LED	1-10V	
EC14	EL13 High output linear LED at high level	15.4	8	123	LED	1-10V	Quantity estimated to nearest 0.5m
EC15	EL11 Surface mounted spotlight on arm	6.9	1	7	LED	1-10V	NB: Small Load
EC16	EL10 Small Surface mounted spotlight to statue	6.9	2	14	LED	1-10V	NB: Small Load
EC17	EL11 Surface mounted spotlight on arm	6.9	1	7	LED	1-10V	NB: Small Load
EC18	EL13 High output linear LED at high level	15.4	50	↓			Quantity estimated to nearest 0.5m
*	Supply for future Linear LED lighting	50	2	870	LED	p/1-10V	Estimate only, exact load t.b.c.
EC19	DELETED						
EC20	EL5C Small Surface mounted spotlight (medium)	10	8	80	LED	1-10V	
EC21	Supply for future lighting within high tower	50	1	50	LED	p/1-10V	Estimate only, exact load & dimming protocol t.b.c.
EC22	EL13 High output linear LED at high level	15.4	12	185	LED	1-10V	Quantity estimated to nearest 0.5m
EC23	EL5C Small Surface mounted spotlight (medium)	10	2	20	LED	1-10V	NB: Small Load
EC24	DELETED						
EC25	Supply for future lighting to L'Oscar logo (VIP Entrance)	50	6	300	LED / T	p/1-10V	Estimate only, exact load & dimming protocol t.b.c.
EC26	EL2 IP-rated floor recessed LED uplight	7	4	28	LED	1-10V	
EC27	Supply lighting to canopy glass shades (Restaurant Entr.)	50	7	350	LED / T	p/1-10V	Estimate only, exact load & dimming protocol t.b.c.
EC28	DELETED						
EC29	EL5A Small Surface mounted spotlight (narrow)	10	4	40	LED	1-10V	
EC30	EL5A Small Surface mounted spotlight (narrow)	10	2	20	LED	1-10V	NB: Small Load
EC31	EL7A Large Surface mounted spotlight (narrow)	28	2	56	LED	1-10V	
EC32	EL7B Large Surface mounted spotlight (medium)	28	7	196	LED	1-10V	
EC33	EL4B Small surface mounted spotlight (medium)	6.9	2	14	LED	1-10V	NB: Small Load
EC34	EL4B Small surface mounted spotlight (medium)	6.9	1	7	LED	1-10V	NB: Small Load
Controlled from 1 no. password protected touch screen control panel located at reception desk. Control panel capable of global and independent control of all facades, allowing 4 lighting scenes and off. Plate finish: Antique Brass (to be confirmed by Interior Designer).							
LC	Supply for illuminated menu (VIP Entrance)	50	1	50	LED	p/1-10V	Estimate only, exact load & dimming protocol t.b.c.
LC	Supply for illuminated menu (Restaurant Entrance)	50	1	50	LED	p/1-10V	Estimate only, exact load & dimming protocol t.b.c.