



designed

Professional LED
Lighting Catalogue

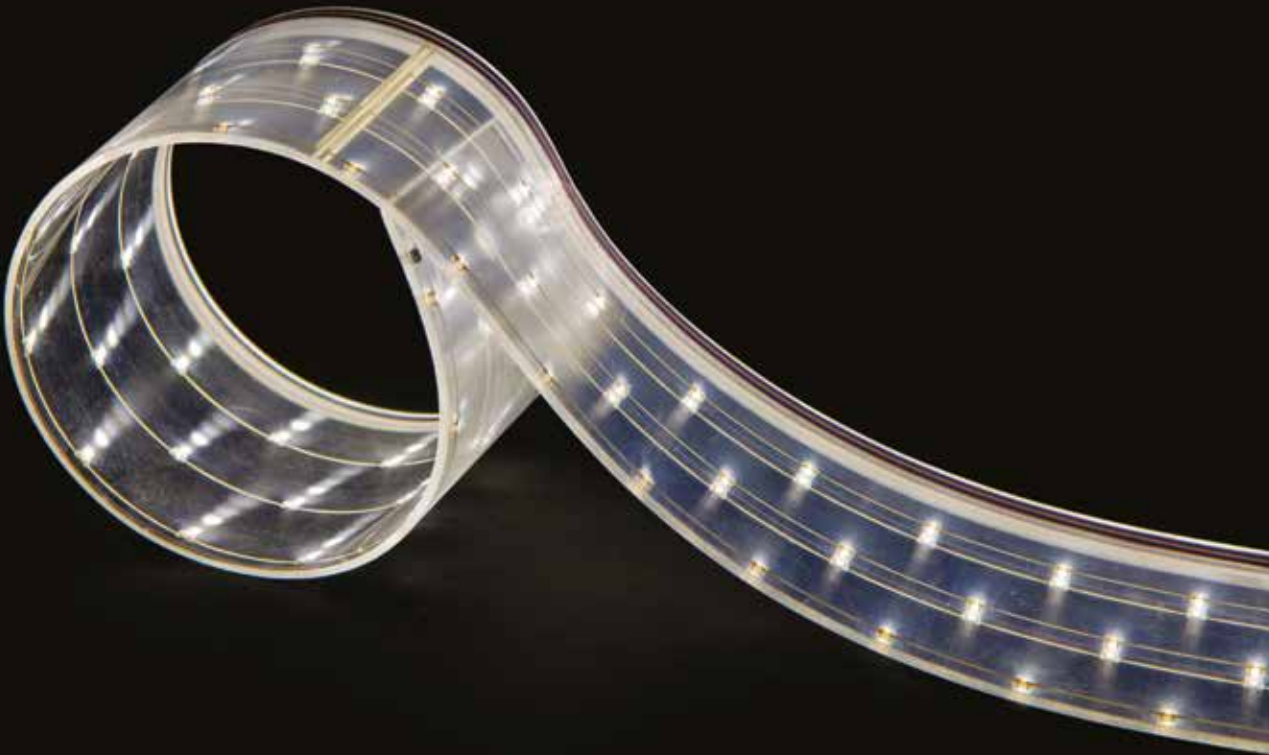
Defy convention...

www.designedproducts.com



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It is all about you...

In previous updates we have been extremely pleased to reference the awards and industry recognition our amazing LED Light Tile technology has achieved. We've also taken a great deal of satisfaction bringing Ikea Greentech into the Design LED family of shareholders and strategic partners alongside OSRAM GmbH. We were, and still are, delighted to have launched our range of shelf and backlighting products to critical acclaim.

However.

This year is already different for the team. Amidst the fast and furious development of the company and indeed the industry, our business goal for this year is about only one thing - you - the customer.



Stuart Bain

Now, more than ever we are listening to what our customers and the market is saying to us. Really listening, and then matching what we hear as clear business needs, with the unique differentiation of our patented technology. By doing so we deliver not just lighting components, but market driven solutions that meet and exceed these needs, and go on to provide our customers with clear competitive advantage and differentiation in their own applications and projects.

At a practical level, and to help deliver this goal, amongst many other things, we are significantly increasing our applications engineering and internal sales capacity to deal with your enquiries and valuable projects.

We are increasing our manufacturing capacity by a factor of twenty and driving cost through volume and intelligent cost reducing initiatives.

Most significantly, in April this year our Design and Prototyping centre will open offering fast turnaround, low cost customised solutions.

Why - because that's what you, the customer is asking for. More innovation, more differentiation, better performance, and clear competitive advantage in another-wise commodity driven market.

Once again I thank you for your valuable insights into what you need in a modern lighting market utilising unique technology and, if you don't see a solution in the catalogue but think we can change a few things to suit, remember just how customisable our technology is.

Let us know and we will be here listening, and ready to help.

Yours with kindest regards

A handwritten signature in black ink that reads "SBain". The letters are fluid and connected, with a large 'S' and 'B'.

Stuart Bain

Chief Executive Officer

stuart.bain@designledproducts.com

Award winning technology, demonstrated in four game-changing product families, developed into complete application based solutions, delivering clear and unique user benefits.

The **world's thinnest shelf lighting solutions*** **Edinburgh** and **Clyde** enable our customers to create breath-taking new lighting solutions which can be fully integrated into furniture and complete lighting systems. Additionally, world class system efficiency is delivered with no compromise on a high quality of illumination by guiding the light specifically where the user wants it.

Quick and easy integration into existing installations, as well as the creation of new shelf lighting solutions is facilitated by a new, complete range of accessories for Edinburgh and Clyde.

Further optimisation of **Ness** and **Lomond** has provided the platform for these products to create the next generation of the **world thinnest & most flexible backlighting solutions***.

High levels of uniformity and leading system efficiency are available in either single, double sided or curved formats for signage and architectural installations. Additionally, utilising an innovative new optical design, these products can also be provided in a novel borderless backlighting solution.

To make sure that our backlighting products can be quickly and easy installed, we offer a complete range of installation accessories that support the refurbishment of existing installations as well as the creating of new backlighting solutions.

Our new Design & Prototyping Centre combines our 10 years of experience in the creation of tailored and bespoke lighting solutions, with our game changing technology, offering total customisation of shape, size, colour and beam angle distribution. The complete in house competence and capacity for the design and the production of customised solutions is the basis for quick innovation cycles and guarantees our customers the fastest possible time to market to make sure they stay ahead of the competition.

May I offer you the opportunity to contact myself or the Design LED Products Team to identify the best way to support you to shape the lighting world of the future?

With Kindest Regards,



Wolfgang Andorfer

Chief Sales and Marketing Officer

wolfgang.andorfer@designledproducts.com



Wolfgang Andorfer

*With the integrated optics in Design LED Products' patented technology

Get in touch

We are waiting to hear from you

“At Design LED Products Ltd we take pride in building our customer relationships and work closely with our customers to deliver an outstanding customer service experience. Please contact us directly to discuss your enquiry”

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Technology

Design LED are launching a range of professional lighting products, which utilise our light tile technology. The light tile technology uniquely integrates LEDs and optics in a thin and mechanically flexible form factor delivering efficient lighting solutions.

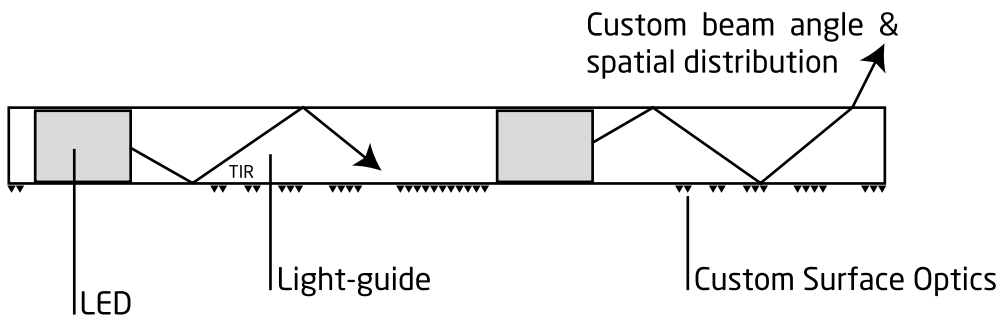
We achieve this by building on an internationally patented Technology Platform which integrates low cost, low profile LED's into an extremely thin, highly efficient, flexible and transparent tile, or panel of light. Importantly these light tiles also include **integrated optics**, reducing thickness, materials, cost and optical losses.

Main Benefits

- Extremely thin and mechanically flexible
- Built-in and customisable optics, including narrow beam light intensity distribution (LID)
- The tile can be transparent
- Heat is distributed across the area, so no external heat sink is required
- High optical efficiency ~90%
- Light output can be single or double sided
- Modular and cuttable
- A range of high efficacy LEDs with high CRI & range of CCT
- Designed, Engineered and Manufactured in the UK
- Granted patents in US, China and Europe

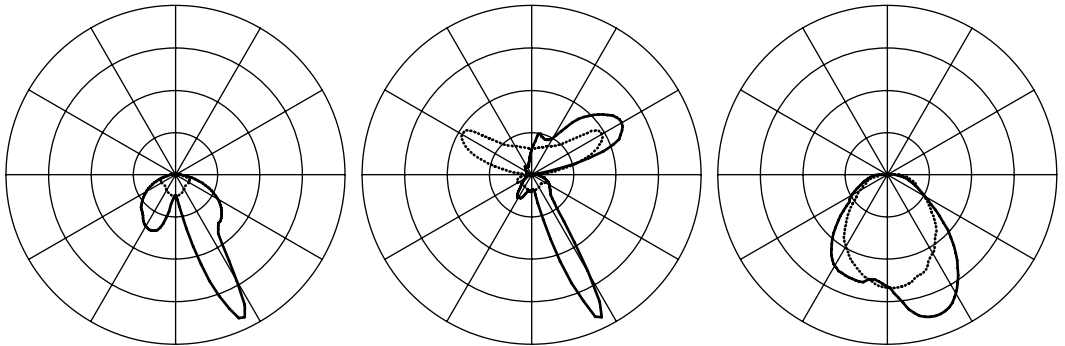
Technology Overview

- A 2-D LED array in a multi-layer structure
- Encapsulation of LEDs maximises optical coupling
- Coupled light is reflected from the optical medium interface by total internal reflection (TIR)
- Surface features disrupt TIR and extract light
- Control of pattern and form of surface features provides control of relative light extraction
 - Use of prismatic films delivers a highly asymmetrical light intensity distribution for general lighting applications
 - Planarisation of prismatic film provides LID control to support backlighting applications
- High optical efficiency, ~90%
- Passed standard testing, including blue/UV material stability
- Good thermal management is inherent



Technology Advantage

High efficacy LEDs encapsulated in a thin light-guide which is mechanically flexible. Optics on light-guide surface enables both narrow ($>10^\circ$) asymmetric beam angle control for lighting and uniform illumination for backlighting.



*Customisable Light Intensity Distributions (LID)
delivering light where you want it*

Excellence in Research

The products developed by the company have their basis in a strong Research and Development infrastructure. We believe that this excellent capability will maintain the high level of innovation in the company and lead to further product improvements and new ranges.

- In-house optical test and rapid prototyping laboratories
- Strong research partnerships with top universities, research institutes and technology companies.
- Participation in large collaborative EU framework 7 programmes
- Successful completion of government funded development programmes

Shelf Lighting

*The world's thinnest shelf lighting solutions**

The supremely thin **Shelf Product** range delivers very high quality product illumination, with no shadowing, from an efficient and super-slim lighting system.

We believe this portfolio represents the world's thinnest shelf lighting solutions, delivered in two options as either a high quality module in rigid and ultra-slim luminaire design or flexible tile for superb integration.

These products are named after our beautiful Scottish Castles in luminaire design, and Scottish Rivers in flexible format.

Edinburgh Castle is amongst the most compact, beautiful and enduring of any in Europe, and it is a fitting name for our premier shelf product, **Edinburgh**, with its elegant design.

Clyde, our flexible shelf product is named after one of Scotland's most famous rivers - long, winding and integrated into the very fabric of the hard working community in Western Scotland.

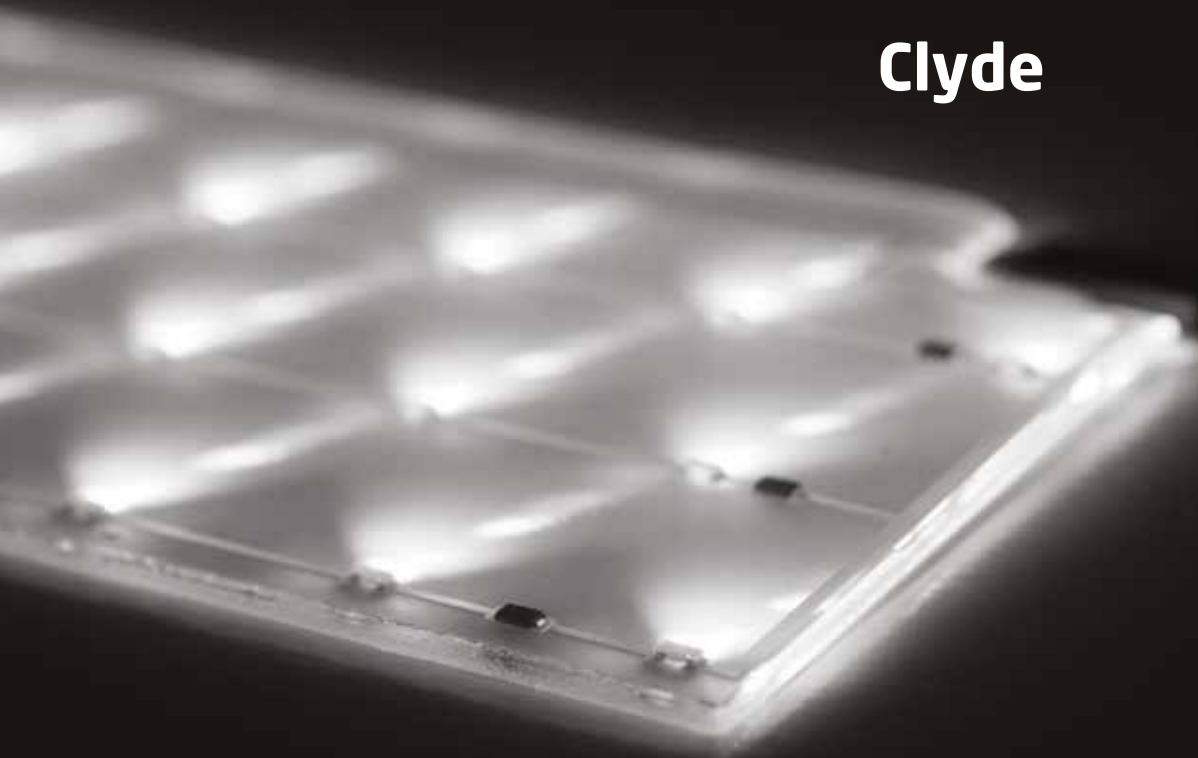
In addition to their amazing form factor and design, each of these products are highly customisable in size, shape, output and, importantly, beam angle distribution, which is a key feature of the integrated optics utilised in Design LED technology.

*With the integrated optics in Design LED Products' patented technology

Edinburgh



Clyde

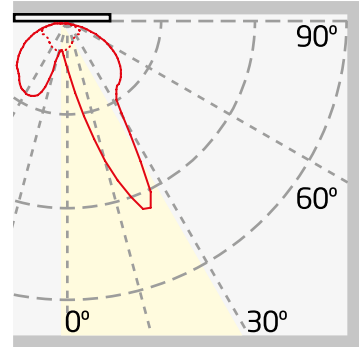


Shelf Lighting - Clyde

*The world's thinnest shelf lighting solution at only 2 mm**

Product Benefits

- Unique design & form factor
- Integrated optics
- World class efficacy, 125 lm/w
- High quality product illumination
- No glare, no multi-shadow artefacts
- Robust & easy to install in length up to 10 m
- Smart control options available



*delivering light
where you want it*

Areas of Application

Integration into luminaires, or recessed integration into furniture for:

- Shelf/cupboard lighting
- Undercabinet lighting
- Kitchens
- Workbenches
- Shelf displays, showcases, sales counters



Approvals

- CE, ENEC (in preparation)



Total Customisation
available on demand

Product Code

EAN

CL4707-30K-OS-063-A1 506043368 0144

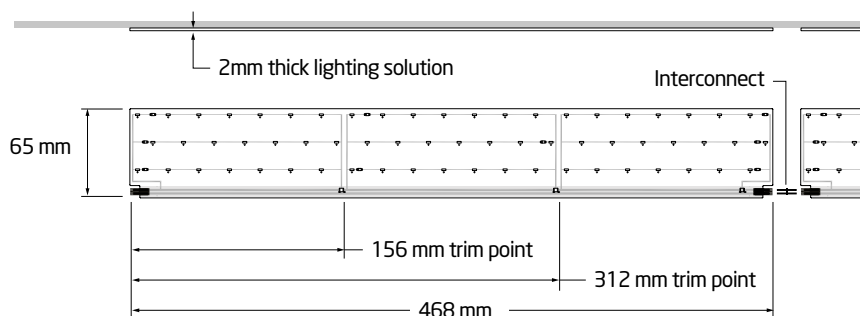
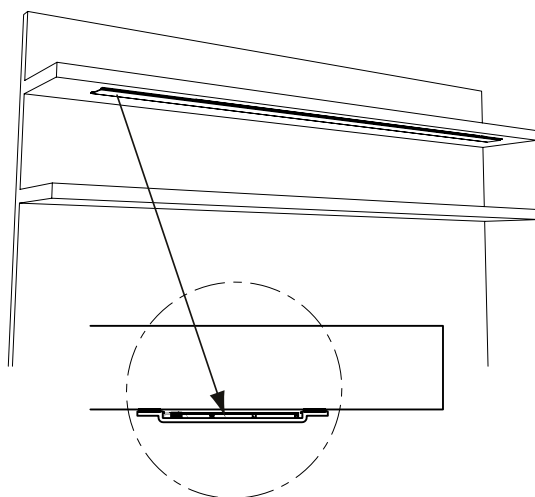
CL4707-40K-OS-063-A1 506043368 0151

*With the integrated optics in Design LED Products' patented technology

Installation

The Clyde installation system with integrated diffuser enables quick and easy installation and ensures homogeneous illumination.

Modules may be connected sequentially, and a maximum of 20 modules driven from a single recommended ECG. LED modules can be trimmed to 156 / 312 mm lengths, and to 21 / 42 mm module widths.



To download a complete installation guide please visit our website www.designledproducts.com

Product Order Codes

See Page 26
for Product
Order Codes

Product Code*	Voltage (V)	Measured Power (W)	Luminous Flux (lm)	CRI	LED CCT (K)	Luminous Efficacy (lm/W)	LED Lifetime** (hrs)	Weight (g)
CL4707-30K-OS-063-A1	24	3.2	370	>85	3000	115	>50,000	<60
CL4707-40K-OS-063-A1	24	3.2	400	>85	4000	125	>50,000	<60

*Power and interconnect options are available.

**LM80, projected L70, T_s 55°C.



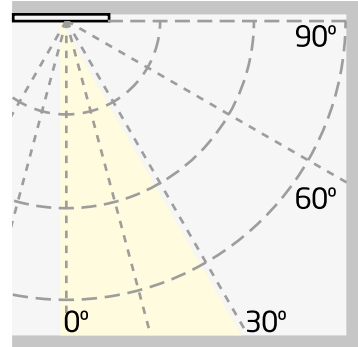
Subject to change without notice. Errors and omissions excepted.

Shelf Lighting - Edinburgh

*The world's thinnest shelf solution in a ultra-slim luminaire design at only 6 mm**

Product Benefits

- Unique design & form factor
- Integrated optics
- World class efficacy, 105 lm/w
- High quality product illumination
- No glare, no multi-shadow artefacts
- Robust & easy to install in length up to 10 m
- Smart control options available



*delivering light
where you want it*

Areas of Application

- Shops - showcases, displays, sales counters
- Undercabinet lighting
- Kitchens
- Workbenches

Approvals

- CE, ENEC (in preparation)



Total Customisation
available on demand



Product Code

EAN

ED5008-30K-OS-063-A1-WN 506043368 0007

ED5008-40K-OS-063-A1-WN 506043368 0014

*With the integrated optics in Design LED Products' patented technology

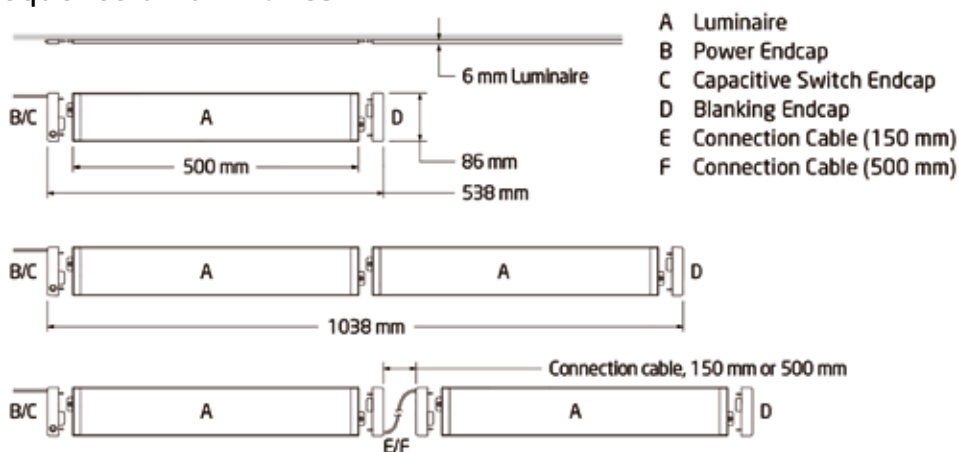
Installation

The Edinburgh product can be connected sequentially, and a maximum of 20 products may be driven from a single recommended ECG.

Each product has supporting endcaps, providing power, an electrical interface or finishing to the sequence of luminaires.

The power inlet module has a capacitive switch option with ON/OFF and 3 stage dimming.

Additional cable interconnects provide the capability to “daisy chain” luminaires around shelf mounting brackets and other obstructions.



12 mm tolerance for fitting to the shelves suggested

To download a complete installation guide please visit our website www.designledproducts.com

Product Order Codes

See Page 26 for Product Order Codes

Product Code*	Voltage (V)	Measured Power (W)	Luminous Flux (lm)	CRI	LED CCT (K)	Luminous Efficacy (lm/W)	LED Lifetime** (hrs)	Weight (g)
ED5008-30K-OS-063-A1-WN	24	3.2	300	>85	3000	95	>50,000	<400
ED5008-40K-OS-063-A1-WN	24	3.2	330	>85	4000	105	>50,000	<400

*Power and interconnect options are available.

**LM80, projected L70, T_s 55°C.



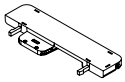
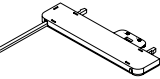
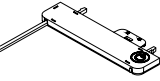
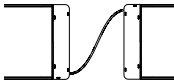

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Sample Kits - Edinburgh

Product Code	Product Description	Luminaire	Power Endcap, white	Capacitive Switch Endcap, white	Blanking Endcap, white	Mounting Kit	EAN
KIT-EDI-30K-WH	Kit Edinburgh, 3000K	1	1	0	1	1	506043368 0021
KIT-EDI-30K-DIM-WH	Kit Edinburgh, 3000K 3 stage dimming	1	0	1	1	1	506043368 0021
KIT-EDI-40K-WH	Kit Edinburgh, 4000K	1	1	0	1	1	506043368 0045
KIT-EDI-40K-DIM-WH	Kit Edinburgh, 4000K 3 stage dimming	1	0	1	1	1	506043368 0052



Shelf Lighting- Accessories

Edinburgh - Accessories

	Product Code	Product Description	Quantity	EAN
	IS-EDI-BE-WH	Blanking Endcap, white	1	506043368 0113
	IS-EDI-PE-WH	Power Endcap, white	1	506043368 0120
	IS-EDI-CS-WH	Capacitive Switch Endcap, white	1	506043368 0137
	IS-EDI-CC500-WH	Connection cable, 500mm	1	506043368 0090
	IS-EDI-CC150-WH	Connection cable, 150mm	1	506043368 0106
	IS-EDI-TRI-TR	Housing trim, translucent white*	1	506043368 0076

*We offer assorted trim options, which are available on demand.

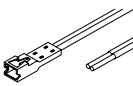
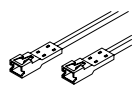
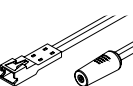

Clyde - Accessories

	Product Code	Product Description	Quantity	EAN
	IS-CLY-DIF	Installation System with integrated Diffuser, 500mm	1	506043368 0168
	IS-CLY-REF	Reflector, 500mm	1	506043368 0175

Clyde & Edinburgh - Accessories

Product Code	Product Description	Quantity	EAN
IS-SHE-SCR	Installation screws	1	506043368 0182
IS-SHE-SAT	Transparent self-adhesive tape	1	506043368 0199
IS-SHE-PF	Push Fastener	1	506043368 0205

Connectors & Cables

	Product Code	Product Description	Quantity	EAN
	7-10011	Input Power Cable Assembly 300mm cable with male connector	1	506043368 0397
	7-10010	Interconnect Cable Assembly 350mm cable with a pair of male connectors	1	506043368 0403
	7-10009	Input Power Cable Assembly 300mm cable with barrel	1	506043368 0410
	7-10014	Interconnect pins	10	506043368 0427

Backlighting & Signage

*The world's thinnest & most flexible backlighting solutions**

The flexible Signage and Backlighting product range delivers very high levels of efficiency and uniformity in a flexible super thin system.

Only this system enables curved backlighting solutions creating a unique, thin design even in convex or concave forms.

We believe this portfolio represents the world's first (and thinnest) double sided, flexible backlighting system, delivered in two options, optimised for performance and cost.

Following our strong heritage, these products are named after our beautiful Scottish Lochs.

Ness is our high density product, named after a very famous loch which is vast, mysterious and legendary for what lies within its depths.

Lomond, our low density product, is suitably named after this internationally recognisable loch, which although slightly less deep than Loch Ness is famed for it's beauty and crystal clear waters.

These products enable fascinating new opportunities to increase sales and profitability in a fiercely competitive industry sector.

*With the integrated optics in Design LED Products' patented technology



Ness



Lomond

Backlighting & Signage - Ness

Supporting high density, high brightness, ultra thin, flat or curved, applications

Product Benefits

- Ultra-thin design
- Mechanically flexible
- World class efficacy, up to 115 lm/W
- High quality uniformity
- Up to 25 cutting options, allowing almost ANY format from a 300 x 400 mm standard tile
- Single and double sided backlighting
- Smart control options available
- Scalable for large area backlighting



Optimised Homogeneity in A2 Configuration

- Optimised, borderless backlighting
- Asymmetrical design

Symmetric A1 Configuration

- Symmetrical design
- Higher number of cutting options than A2



Approvals

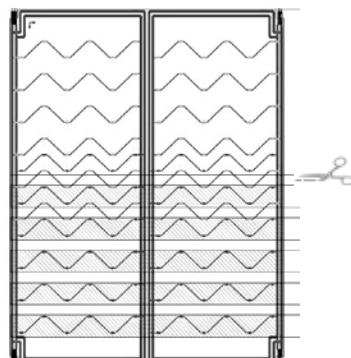
- CE, ENEC (in preparation)



Total Customisation
available on demand

Multi-cutting Options

- Modules can be tiled in a zero-width border arrangement for large area illumination
- LED modules can be trimmed by multiples of the LED chains
- The process of trimming and tiling supports backlighting of almost any form factor



Product Order Codes

See Page 26
for Product
Order Codes

Product Code*	Voltage (V)	Measured Power (W)	Luminous Flux (lm)	CRI	LED CCT (K)	Luminous Efficacy (lm/W)	LED Lifetime** (hrs)	Weight (g)
NE3040-65K-OS-144-A1	24	9.8	1130	>85	6500	115	>50,000	<270
NE3040-65K-SV-144-A1	24	9.8	1050	>85	6500	107	>50,000	<270
NE3040-70K-NI-144-A1	24	9.8	1130	TBC	7000	115	TBC	<200
Optimised Homogeneity								
NE3040-65K-OS-144-A2	24	9.8	1130	>85	6500	115	>50,000	<270
NE3040-65K-SV-144-A2	24	9.8	1050	>85	6500	107	>50,000	<270
NE3040-70K-NI-144-A2	24	9.8	1130	TBC	7000	115	TBC	<200

*Power and interconnect options are available.

**LM80, projected L70, T_s 55°C.



Product Code	EAN	Product Code	EAN
		<i>Optimised Homogeneity</i>	
NE3040-65K-OS-144-A1	506043368 0212	NE3040-65K-OS-144-A2	506043368 0243
NE3040-65K-SV-144-A1	506043368 0229	NE3040-65K-SV-144-A2	506043368 0250
NE3040-70K-NI-144-A1	506043368 0236	NE3040-70K-NI-144-A2	506043368 0267

Subject to change without notice. Errors and omissions excepted.

Backlighting & Signage - Lomond

Supporting thin, flat or curved, cost optimised, low density backlighting applications

Product Benefits

- Ultra-thin design
- Mechanically flexible
- World class efficacy, up to 115 lm/W
- High quality uniformity
- Up to 6 cutting options, allowing almost multiple formats from a 300 x 400 mm standard tile
- Single and double sided backlighting
- Smart control options available
- Scalable for large area backlighting



Optimised Homogeneity in A2 Configuration

- Optimised, borderless backlighting
- Asymmetrical design

Symmetric A1 Configuration

- Symmetrical design
- Higher number of cutting options than A2



Approvals

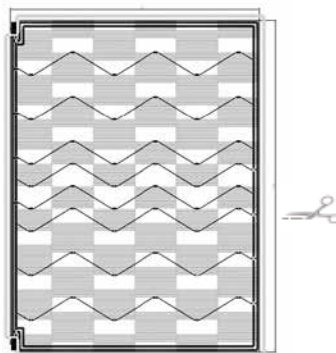
- CE, ENEC (in preparation)



Total Customisation
available on demand

Multi-cutting Options

- Modules can be tiled in a zero-width border arrangement for large area illumination
- LED modules can be trimmed by multiples of the LED chains
- The process of trimming and tiling supports backlighting of almost any form factor



Product Order Codes

See Page 26
for Product
Order Codes

Product Code*	Voltage (V)	Measured Power (W)	Luminous Flux (lm)	CRI	LED CCT (K)	Luminous Efficacy (lm/W)	LED Lifetime** (hrs)	Weight (g)
L03040-65K-0S-042-A1	24	3.8	440	>85	6500	115	>50,000	<270
L03040-65K-SV-042-A1	24	3.8	410	>85	6500	107	>50,000	<270
L03040-70K-NI-042-A1	24	3.8	440	TBC	7000	115	TBC	<200
Optimised Homogeneity								
L03040-65K-0S-048-A2	24	4.3	440	>85	6500	115	>50,000	<270
L03040-65K-SV-048-A2	24	4.3	410	>85	6500	107	>50,000	<270
L03040-70K-NI-048-A2	24	4.3	440	TBC	7000	115	TBC	<200

*Power and interconnect options are available.

**LM80, projected L70, T_s 55°C.








Product Code	EAN	Product Code	EAN
L03040-65K-0S-042-A1	506043368 0274	<i>Optimised Homogeneity</i>	
L03040-65K-SV-042-A1	506043368 0281	L03040-65K-0S-048-A2	506043368 0304
L03040-70K-NI-042-A1	506043368 0298	L03040-65K-SV-048-A2	506043368 0311
		L03040-70K-NI-048-A2	506043368 0328

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Installation Systems

Backlighting & Signage

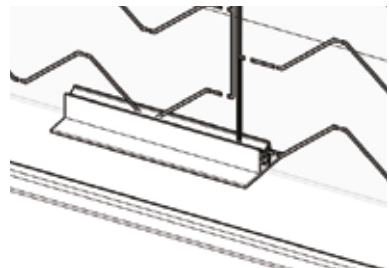
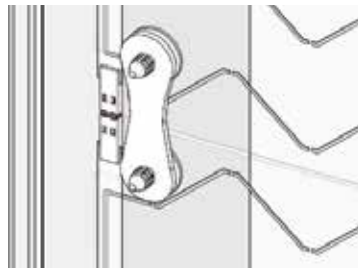
Products

	Product Code	Product Description	Quantity	EAN
	IS-BAC-4MB-01	4-ways Mounting Bracket	1	506043368 0335
	IS-BAC-2MB-02	2-ways Mounting Bracket	1	506043368 0342
	IS-BAC-PF-03	Push Fastener	1	506043368 0359
	IS-BAC-SG-04	Signage Grip	1	506043368 0366
	IS-BAC-SF-05	Stand-off Fastener	1	506043368 0377

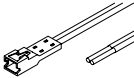
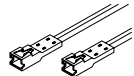
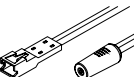

Installation

The mounting solutions for backlighting tiles is simple and versatile:

1. Put required number of tiles together and locate the "Tile Connector" on the tile intersection.
2. Drill one hole per tile through the "Tile Connector" avoiding cutting any tracking and push through one "Push Fastener" per hole.
3. "Signage grip" pieces can be used to support the joined tiles on one or all four sides of the frame.
4. For very thin, but large area light boxes, "Stand-off" pieces can be used to accurately locate the graphic from the light tile.



Connectors & Cables

	Product Code	Product Description	Quantity	EAN
	7-10011	Input Power Cable Assembly 300mm cable with male connector	1	506043368 0397
	7-10010	Interconnect Cable Assembly 350mm cable with a pair of male connectors	1	506043368 0403
	7-10009	Input Power Cable Assembly 300mm cable with barrel	1	506043368 0410
	7-10014	Interconnect pins	10	506043368 0427

Quality

Design LED produce high quality, energy efficient LED lighting products, which supply optimal lighting solutions for customer applications and the environment.

Design LED's products are manufactured in the UK by our established partners. All manufacturing is under pinned by fully accredited **ISO9001**, **TS16949** & **ISO14001** quality and environmental management systems.

All materials are sourced from industry leading suppliers and have undergone rigorous environmental & qualification testing to ensure the final delivered lighting solution exceeds the customers expectation.



Product Order Codes

ED5008-30K-OS-063-A1-WN

Under Shelf

Edinburgh ED
Clyde CL

Backlighting & Signage

Ness NE
Lomond LO

Dimensions*

X, defined by LED chains

300 mm 30
470 mm 47
500 mm 50

Y, defined by direction of in-plane lighting

70 mm 07
80 mm 08
400 mm 40

LED Colour Temperature

3000 K 30K
4000 K 40K
6500 K 65K
7000 K 70K

LED Manufacturer

Osram OS
Nichia NI
Alternate Component SV

LED Quantity*

63 063
84 084
144 144

Product Revision Code

Alphanumeric Code Reference . A1, A2

Housing Colour (if applicable)

White W

Housing Trim Colour (if applicable)

Translucent White T
None N

*Products with dimensions and LED quantities are listed in the product page of this catalogue, with bespoke products available on request.

Total Customisation

Products can be easily re-configured to support a wide variety of lighting and backlighting applications and to meet specific customer requirements.

Mechanical

- A range of Form Factors - size, shape, curved & thin

Optical

- LID control by modification of surface optics
- Angular & spatial distributions
- Single or double sided emission
- Reflector & diffuser options

LED

- Lumen density, efficacy
- Colour - CRI, CCT, white or colour
- Layout & electrical drive
- Package orientation

Electrical

- 24 V dc, 36 V dc, or other voltage
- Constant current operation
- Connector options

Modular

- Cutting, tiling, installation options

Aesthetic

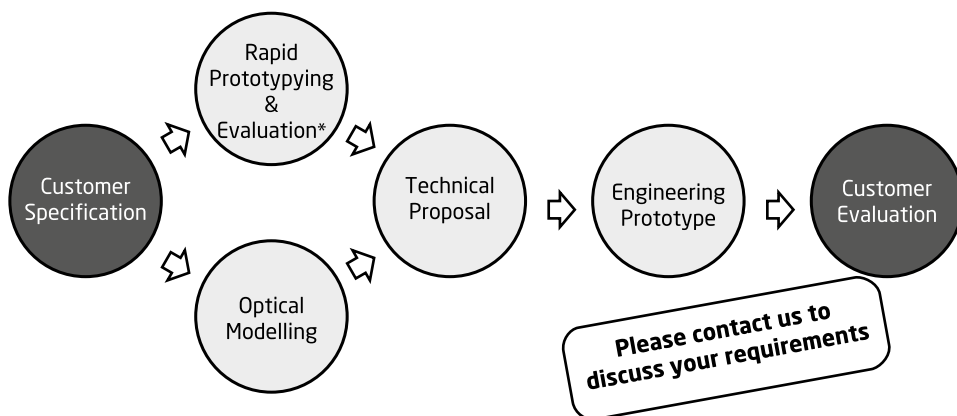
- Appearance and finish

Economic

- Cost optimisation and energy efficiency optimisation

Regulatory

- European and international standards
- IP ratings





designled

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