

**Roblon**

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## Retail showcase lighting



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An integrated Roblon fibre optic solution gives you absolute freedom to design any kind of lighting for any kind of display item in any kind of display case in any kind of retail store. At the same time it gives you absolute control of every tiny detail and nuance in colour, shadow and light.

The Roblon light generators ensure precision colour temperature control, which means the lighting can be balanced perfectly in relation to the display. There is very high colour rendering for the full colour spectrum, with CRI values above 90 being typical.

Concealed lenses in Roblon fittings mean no glare from light points and no reflections on any case surfaces, even glass. The light can be controlled with millimetre-precision, which means light never strays.

Light fittings are inside the cabinet, not outside. This means there is no distracting glare on the outer glass surface or around the showcase. There is only precision control of light, shadows and focus inside the case and on each individual item on display.

Many fittings can be run off one single light source, creating multiple points of light which can be cast in many directions inside the case. This can be used to create an immense sparkling effect which brings out every facet of every individual item on display.

General wash and precision accent lighting can be perfectly balanced in the same case and even run off one single light generator. This means that the perfect ambience can be created for the overall display while individual light is cast precisely to enhance even the tiniest of details on individual items in the same case.

'It was obvious which was the display case with fibre optics. Under fluorescent light, the diamonds had looked a bit pink. Now the rocks looked nice and crisp and white. The diamonds looked like they were on fire.'

Dan Haydt  
President  
Visual Lighting Technologies  
California, USA



'We have been designing display cases since 1836. We have an obligation to meet very high standards. Roblon's performance meets those standards.'

We have the same feeling about quality and the same flexible attitude. I am glad we recommended a lighting company that was good for us and good for the client.'

Till Hahn  
Managing Director  
Glasbau Hahn  
Frankfurt, Germany



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'With the fibre optic solution, there was no heat, no in-case maintenance and only one light bulb. When you have hundreds of things perfectly arranged in a display case, you really don't want to go mucking about in the case again.'

David Grill  
Lighting Designer  
David Grill Associates  
New York, USA

Cold light means perfect conditions for in-case temperature and humidity control. No heat in the showcase means no heat to damage or to dry out precious display items. And no heat means no air circulation, which means no dust circulation. The cabinet interior stays clean and the display stays dust-free, which minimises the need to open the case for cleaning.

No infrared radiation and no ultraviolet rays are emitted. Absence of UV rays ensures that precious and valuable items are protected. Absence of IR radiation removes the risk of heat exposure and reduces the need for noisy, energy-consuming air conditioning.

There is only one point of maintenance, and it is always outside the cabinet's display area. The light generator is completely hidden from view yet easily accessible. It has one single lamp, which means very little and very easy maintenance. No special expertise is needed, so any member of staff can easily change the lamp.



Roblon's very discreet fittings range in size from small to simply tiny, which maximises space in the in-case display area. They blend elegantly in, even in all-glass cases. So the lighting technology goes unnoticed and the entire focus is on the merchandise.

The unusually flexible functionality built in to Roblon fittings means that light focus and beam angles can easily be adjusted, focused, directed, readjusted, refocused and redirected any time. So any time the display is changed, the lighting can easily be changed too.

Exceptional design emanates from every tiny detail in every fitting, which means that every fitting visually matches the high quality of the highest quality merchandise.

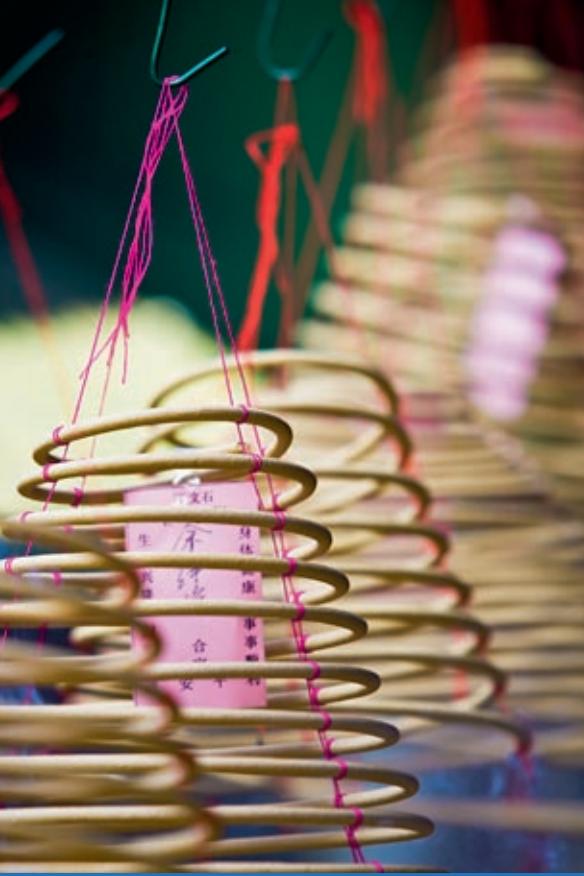
Customisable fittings and customisable solutions mean that any kind of light can be designed to suit any kind of product, any kind of showcase, any kind of interior design and any kind of retail store.



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# Jewellery SHOWS ITS TRUE COLOURS



'Other lighting couldn't do the same job. Conventional lighting is not focused, it doesn't spotlight the product like this. When I want to promote jewellery - a diamond, a very small diamond, perhaps - then I want to spotlight it. I want to show it off, to bring out its best. I want to make sure customers see it and to create desire in their hearts.'

Lawrence Han, Lighting Specialist  
Krislite, Singapore



When young Balage Porolis de Silva left Ceylon for Singapore in 1872, he possessed only 'an iron will and a few precious stones tucked next to his heart'.

Today, authenticity and an impeccable eye for detail are his legacy at BP de Silva Jewellers, which serves international royalty and distinguished customers at stores in Malaysia, Sri Lanka and the legendary Raffles Hotel in Singapore.

Mr. BP de Silva was one of the first jewellers in the world to offer a guarantee of satisfaction and his philosophy of honesty and high-quality craftsmanship remains true

today, says Serene Cheah, manager of the Raffles Hotel store.

'Our clients trust us because we have been creating beautiful jewellery for over 135 years,' she says. 'This is our greatest legacy. By owning a piece of jewellery from BP de Silva, our clients become part of this profound legacy and naturally these jewels become heirlooms for the next generation.'

The founder's quest for perfection is carried on today by a handpicked team of artisans from Switzerland to Singapore.

'All good designers must have a passion for their chosen field,' says Richard Chan, Chief

Operating Officer for BP de Silva.

'In the case of jewellery, the designer must understand jewellery trends and, because gemstones are small in nature, have an eye for detail.'

An eye for detail is also crucial to the design of BP de Silva stores and showcases. Corporate design standards must be upheld in a way which is functional and attractive but which doesn't overshadow the jewellery.

'Lighting is very important for visual presentation,' says Serene Cheah. Discreet Roblon Light Tube fittings for niches and showcases are consistent with BP de Silva's

image as an upscale, high-end boutique jeweller, she says. The jewellery is showcased in true colour and, because the light generates no heat, it is ideal for precious gems.

'Hassle-free maintenance and hidden wiring give the boutique an overall sleek and professional image,' she adds. 'Fibre optics is a wonderful concept for jewellery or any other high-value items.'

Strong, clean, true-colour lighting with no visible wiring is an important consideration, says Richard Chan.

'Overall, a successful sale is a result of many factors such as company image, merchandise quality and design, competitive pricing, staff professionalism and a conducive shopping environment which includes the best lighting system.'

A relaxing shopping environment is important not just to BP de Silva but to its customers. 'At the end of the day, a jeweller sells jewellery. We only offer quality merchandise, and we always want our customers to have a memorable shopping experience.'



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'Roblon lighting is an investment in sales. There's no need to open display cases, there's no replacement of bulbs, and nobody needs to touch the jewellery. And there's no heat. Customers get annoyed if it's too hot. Fibre optics make sure the customer is very comfortable. If they're not comfortable, they hurry along. And if they hurry along, then they are not lingering to buy something.'

Lawrence Han, Lighting Specialist  
Krislite, Singapore

FL 150-3 B



All products used:  
pages 18-19



'This solution is simple yet effective. We could achieve the kind of object light that no other kind of lighting provides. The cabinets are small, Light Tube is simple and the light is consistent. The design and corporate requirements were the same for BP de Silva's Penang and Raffles stores, but the showcases were different. Roblon's specifications held true. It was quick and easy to get exactly the same light in both stores.'

Lawrence Han, Lighting Specialist  
Krislite, Singapore





# Design peaks in Beverly Hills

Conjuring up an entire universe of Nordic mountains and water and light in less than 240 m<sup>2</sup> of retail space is quite a feat.

Making sure that the most discreet little diamond in the same space outshines all that Nordic grandeur is an even greater one.

Scandinavia's striking landscape inspired Pritzker Prize-winning architect Tadao Ando's dramatic interior for Georg Jensen on Beverly Hills' most famous shopping street.

'Being on Rodeo Drive among the most luxurious brands is a fantastic opportunity for Georg Jensen,' says Renaud Manceron, Senior International Visual Merchandising Manager at the Danish jewellers.

'Surprising customers with a one-off concept by this great Japanese architect was a key element in differentiating ourselves, in being recognised and admired as a great Scandinavian design brand.'

**'We wanted to be different, to make a statement. We wanted to make sure people were astonished when they walked in.'**

The architecture ensures that Georg Jensen's own jewellery astonishes too, and that the jewellery is always the most important thing in the room.

'The design is very organic and fluid,' says Risa Misawa, Store Manager. 'It's like the jewellery is floating in water.'

The iconic jewellery is showcased in 48 surprising display cases, custom-made in a collaboration between Tadao Ando, Georg Jensen, Swedish-based shopfitters M2 and Danish-based Roblon.

Inspired by solid blocks of ice, they are acrylic 'because it is totally transparent, more so than glass', explains Mikael Svenungsson of M2. Absolute transparency was further ensured by making them sealed and frameless with an innovative elevation mechanism which raises the hood 30 cm when you need to take jewellery out.

'The cases are very small and there is only a small amount of jewellery in each,' says Mr. Svenungsson. 'That meant the lights had to be really, really discreet. You can't have a big lamp in the corner of a small and completely transparent unit. You wouldn't be able to see the jewellery.'

'It was also a difficult lighting challenge because of the elevation, because suddenly the jewellery is moving around and there are engines and pistons going. We couldn't

Light Tube



All products used:  
pages 18-19

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'Most of the time, people don't actually realise there are lights in the showcases. The design allows the jewellery to be there in its purest form. Nothing disturbs the jewellery.'

Risa Misawa  
Manager  
Georg Jensen Rodeo Drive





have lighting cables getting tangled up in the mechanism.'

A customised Roblon fibre optic solution was thus chosen, with four tiny corner fittings in each showcase, no visible cables, and no need to ever do maintenance inside the sealed blocks. Unlike Ando's store design and the beautiful jewellery, the lighting goes, therefore, quite unnoticed.

'Georg Jensen jewellery is wearable art,' says Risa Misawa. 'The lighting puts the focus on the jewellery, on the watches, on the silverware. Every piece is different and that allows us to tell a story in every display case.'

'The whole store is an amazing phenomenon. Three cultures meet and the idea is minimalist. Rodeo Drive is known for being very ostentatious but this is very different. People get drawn in by the aesthetics. They walk in and they just say 'oh my goodness'.'





'The small details are crucial. Customers are going to compare us with competitors, so we can't do things by half. They have to see quality, not just in the jewellery but in the whole store. The small details matter.'

Renaud Manceron  
Senior International Visual  
Merchandising Manager  
Georg Jensen



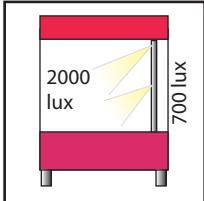
PAGE 14-15



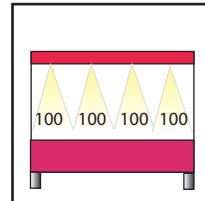
'We couldn't have done this with LED. The lights had to be really, really discreet. Ideally, we needed a lighting solution with light but no lamp.'

Mikael Svenungsson  
Company owner  
M2 Shopfitters  
Rydöbruk, Sweden

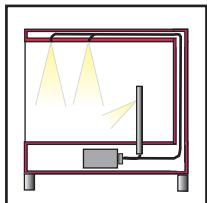
## Designing lighting



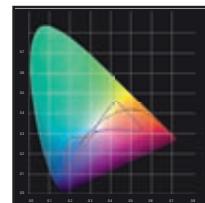
The best lighting effects are usually achieved when the in-case light level is 3-5 times the level of the surrounding ambient light. The optimum lux level depends on ambient light levels and on how daylight affects the room. In retail situations, the best lux level will typically be in the 1200-2500 lux range.



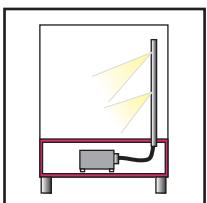
Roblon fibre harnesses give maximum light efficiency. They are randomised for unrivalled uniformity of light, which ensures that lighting is absolutely constant at all points throughout a showcase.



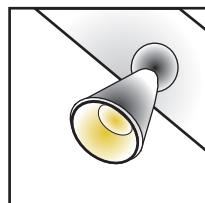
Highly functional fittings which can be tilted, focused and adjusted with millimetre-precision ensure that accent lighting is rigorously precise, bringing out the tiniest, finest individual details of each separate display item. With an integrated Roblon solution, general wash and precision accent lighting can be perfectly balanced in the same case and even run off one single light generator.



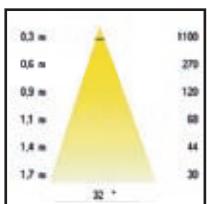
The right colour temperature can always be achieved and precisely fine-tuned by combining Roblon light generators and CTC filters in various ways.



Roblon fittings, fibre harnesses and light generators are combined in one integrated solution. Considerations when designing display case lighting include the best place to hide fibre harnesses and light generators, ventilation requirements for the light generator compartment, and the recommended fibre bending radius.



Fittings can be combined variously in one solution. Adjustable and tiltable fittings give precision light control. Concealed lenses eliminate glare. Fittings can be placed at the most optimal location within the case and light beams can be adjusted with absolute precision, so light and shadow can be minimised and maximised as desired.



The Roblon Lux Calculator is a unique software programme with which you can customise lighting solutions and calculate precise lux values, beam angles and beam diameters in a matter of seconds.

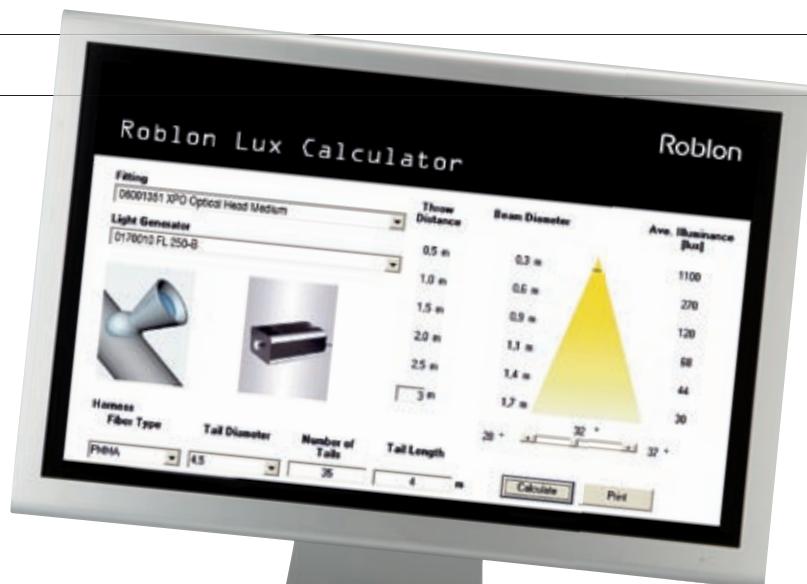
It takes just another few seconds to print your calculations and to save them electronically

in files that can be emailed to colleagues and clients, and also imported back into the Lux Calculator any time.

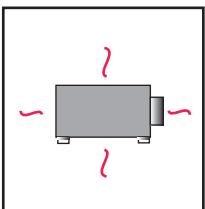
Your calculations can also be saved as IES files that are compatible with other professional light planning and 3D design programmes including DIALux and Visual.

## Roblon Lux Calculator

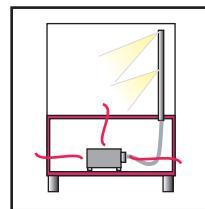
Roblon Lux Calculator is a free programme that can be downloaded from [www.roblon.com](http://www.roblon.com).



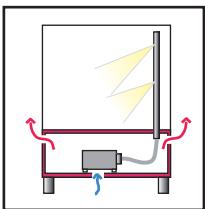
## Light generator placement



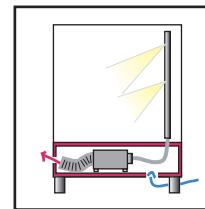
Light generators produce heat. **Correct ventilation** is therefore very important, particularly for generators in closed compartments.



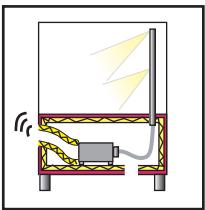
**Closed light generator compartments** are air-tight, which means there must be enough space to allow natural heat transmission through surfaces. Surfaces should not be insulated. The air volume ( $m^3$ ) must always be as recommended.



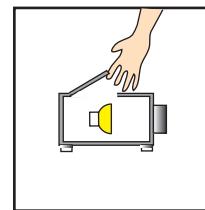
In compartments **where the air volume is lower than recommended**, the thermal rise of hot air is utilised to remove heat so that it does not recirculate inside. The hot air must be directed towards an outlet, preferably via a flexible tube. Heat is removed via cabinet and air grilles. A fan can be installed if additional ventilation is required.



In **exceptionally small compartments**, the light generator must always be directly connected to the outside. Air intake and outlet must be separate. Heat is guided out of the compartment through a flexible tube. It can exit via a louvred grille. Particularly in small compartments, air flow conditions should be tested in advance.



There is **minimal noise or vibration** from a Roblon light generator, and any residual noise or vibration can be further reduced by fitting a sound-absorbing material to the compartment's inner surface or to a plate underneath the generator. Sound insulation conserves heat, so testing is recommended.



Generators must be easily accessible so that fans and filters can be dusted and lamps changed effortlessly. Electrical expertise is not required to change a lamp or a filter. Air filters must be checked and cleaned regularly. **Service manual instructions** must always be followed.

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'LED has a life time of 30,000 hours but then you have to change every light fitting, which can be compared to replacing the entire installation. As LED is not a fully-developed technology, you can't be sure you will get the same light and colour with replacement fittings. With fibre optics, you only have to change one central bulb in a light generator that's

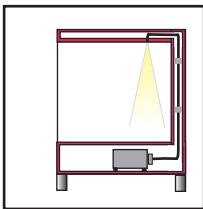
supplying lots of light points. It's simple to change one bulb, and you get the exact same light and colour. And once you've changed the bulb a few times, you've surpassed the life time of LED without having to change the entire installation.'

Jesper Kongshaug  
Lighting Designer  
Copenhagen, Denmark



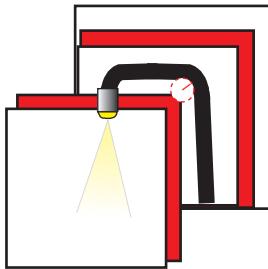
## Fibre harness integration

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Roblon fibre harnesses can be run, unseen, through cabinet cavities, through wall, floor or ceiling cavities, and through track casing.

Roblon fibre optic lighting solutions are highly customisable. They can be integrated retrospectively into existing display cases or into new cases during the design phase. They can be seamlessly integrated into display niches and into table-top, free-standing, built-in and wall-mounted display cases, regardless of case size, shape or material.



The bending radius depends on the fibre dimensions and whether PMMA or glass fibre is used. The exact bending radius for any given fibre can be looked up in Roblon's main catalogue, available on [www.roblon.com](http://www.roblon.com).

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Roblon fibre harnesses are subject to the highest quality control. For example, every single Roblon PMMA fibre is individually tested before being released from the factory.

When designing lighting, Roblon recommends the use of a prototype in order to test under realistic conditions.

The integrated solution is delivered ready for installation. Electrical skills are not required for installation or maintenance.



# The freedom to design, define and control light

## Avant-garde



Cleverly designed to blend completely in with any given surface. Exceptionally well-defined light beams and flexible functionality for fine-tuning light. 360° adjustable. Glare-free lens. Choose wide, medium or focused beams. Ideal for meticulous lighting: create a row of millimetre-perfect light spots or arches; or cast light exactly where you want it on a table, along a wall, through a room, in a display case.



## Nova



A skilful series of downlights with a unique dimple feature for sharp tilting. 360° adjustable. Tilts 35° all around, and up to 50° at the dimple point. Pioneering button-system lets you freely adjust and lock the beam tilt and dimple point. Choose large, medium or uniquely small fittings. Choose wide, medium or focused beams. Ideal for illumination on walls, in niches and in display cases.

## Jewellery Tube



Casts high-intensity showcase light with absolute precision and absolute flexibility. The slim, discreet design in exclusive finishes and colours ensures that full focus is on the display items, even in the lowest, smallest, all-glass case. 360° adjustable. Tilts 35° all around. Choose wide or focused beams. Choose to illuminate the whole case, or light objects of different types, sizes and heights individually. Ideal for lighting precious gems and jewellery.

## Light Tube



Casts light elegantly downwards in display cases. The slim, discreet design ensures that full focus is on the items displayed. 360° adjustable. Even in the lowest, smallest showcase, it illuminates objects precisely. Choose to illuminate the centre of the case, or highlight several objects individually.

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## Featured projects

**Georg Jensen Jewellers**  
Rodeo Drive, Beverly Hills  
Los Angeles, California, USA  
[www.georgjensen.com](http://www.georgjensen.com)

Light Tube Custom Ø6 fittings (0320 0035)  
FL 2002 B 75W US light generators (0121 0011)  
Roblon PMMA Ø4.5 mm (5200 0552)

*Lighting distributor: [www.visual-lighting.com](http://www.visual-lighting.com)  
Photos: Tom Bonner, California  
Pages 1, 12-14*

**BP de Silva Jewellers**  
Raffles Hotel, Singapore  
[www.bpdessilvajewellers.com](http://www.bpdessilvajewellers.com)

Light Tube Custom Ø5 fittings (0320 0025)  
Light Tube Custom Ø6 fittings (0320 0035)  
FL 150-3 B light generators (0161 0000)  
FL 2002 B 100W light generators (0121 0000)  
Roblon PMMA Ø3 mm (5200 0551)  
Roblon PMMA Ø4.5 mm (5200 0552)

*Lighting distributor: [www.krislite.com](http://www.krislite.com)  
Photos: Rory Daniel, Singapore  
Pages 3-6, 8-11*

**Birgitte Munch Jewellers**  
Frederikshavn, Denmark  
[www.birgitte-munch.dk](http://www.birgitte-munch.dk)

XPO Conduit (0600 0100)  
XPO Light Points (0600 0200)  
XPO Optical Head Focus (0600 0350)  
XPO Optical Head Medium (0600 0351)  
FL 150-3 B light generators (0161 0000)  
Roblon PMMA Ø1 mm (5200 0524)  
Roblon PMMA Ø4.5 mm (5200 0552)

*Photos: Ejgil Lihn, Skovdal & Skovdal, Århus  
Pages 7-8*

## XPO

One lighting system, multiple lighting solutions. Choose discreet light points to create wash lighting. Choose optical heads to highlight specific objects. Or choose to combine both on one conduit. Choose light beam angles, conduit finishes and lengths. Tilt fittings in multiple directions and adjust their focus as often as you want.



## Note

Precision light, beautifully wrapped in a simple, subtle design. High light efficiency. Choose between medium, wide, asymmetric and diffuse light. Choose between miniature, medium and large fittings. Ideal in niches and display cases and also for room lighting.



## Bebop

Ingeniously designed to transform swiftly from recessed to raised. When recessed, blends completely in with any given surface. Any time you want, without using tools, pull the optical head out and position it with millimetre-precision. Available with adjustable focused, medium or wide beams and a glare-free lens. Ideal for galleries, museums and retail outlets where displays, designs and moods change.



## FL 150-3

A uniquely compact, very durable and very quiet light generator. High light efficiency. Extremely long lamp life. Very easy lamp exchange. Easy handling. Specially designed for showcase lighting. With a wide voltage range and multiple international certifications, this one generator can be used anywhere in the world.



See the full range of Roblon fittings on [www.roblon.com](http://www.roblon.com)

# Roblon

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- Product functionality
- Product photos
- Data sheets
- Dimension sketches
- Beam angles
- Mounting instructions
- User manuals
- Compatible accessories
- Spare parts
- Roblon Lux Calculator
- Roblon distributors in over 40 countries

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