

Sammode lights the ham smokeries of a cooked meats company, the ripening stores of a cheese producer, the cellars of a champagne house, the cutting rooms of an abattoir, the clean rooms of a pharmaceutical laboratory, the malting floor of a maltings, the production facilities of a ready meal manufacturer...

AG 1.01

General lighting



Sammode

Food processing industry

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Sammode Food processing industry

General lighting

Functional, durable, efficient and dependable, Sammode luminaires are made to last. Optimised down to the smallest detail, they offer users an exceptionally long and robust working life at minimal operating cost.

Values and expertise

Durability and dependability

For four generations, we have developed a unique level of experience in bringing light into the most critical locations and most severe environments under the most demanding conditions. Established in 1927, Sammode is now synonymous with high-durability, high-dependability technical lighting. Our expertise covers every link in the lighting chain, from design to manufacture, which means that we can guarantee to provide the best quality of lighting in all environments between -60 °C and +200 °C.

Experience and local presence

Our strength is built on almost 90 years of service to lighting. We are also an independent family business on the human scale. Combined with our proud history, this structure makes us efficient and responsive, and gives us the capability to take onboard the real-life needs of our customers and interpret them immediately to design and manufacture precisely the right product for the job.

Robustness and adaptability

We design and manufacture functional lighting that has always been appreciated for its performance, quality and low operating cost. We continually refine all our products by improving their design, selecting the best-possible materials and incorporating new technologies validated by our own laboratory. The key characteristics of our luminaires are robustness, longevity, dependability and adaptability.

100% French design and manufacture

Based in the Vosges region throughout our history, we manufacture 100% French luminaires. We control every link in the production chain, and are committed to a rolling programme of investment in upgrading our facilities. We source only components manufactured in Europe, and work closely with our partners to refine our luminaires, reduce their environmental footprint and limit transport distances.

Attentiveness and commitment

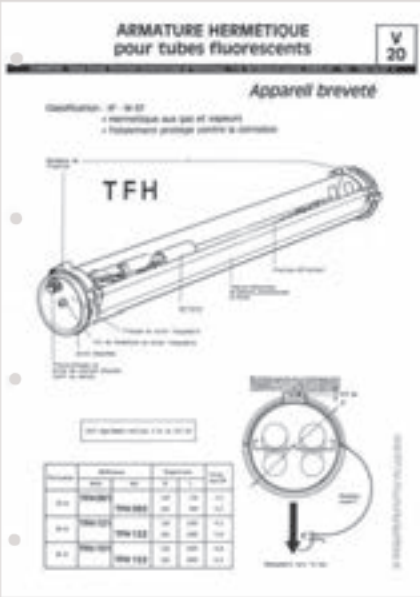
As a family business on the human scale, we place great value on individual commitment. Listening attentively to customer requirements, analysing their needs, ensuring that our customers make the right choices and minimising cost of ownership: our teams are dedicated to serving customers, advising them and finding the most appropriate solutions for their problems within their precise technical and budgetary constraints.



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1. *L'éclairage de qualité* (High-quality lighting) general catalogue No. 1 (1927).
2. Lighting for damp environments from the 1938 catalogue.
3. A page from the 1968 Sammode catalogue.



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4. Sealing of Darwin lamp tubes.
5. Luminaire assembly. The Sammode production plant at Châtillon-sur-Saône in the Vosges region of France.



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6. Photometric measurement.
7. Seal testing. The Sammode test laboratory in Paris.

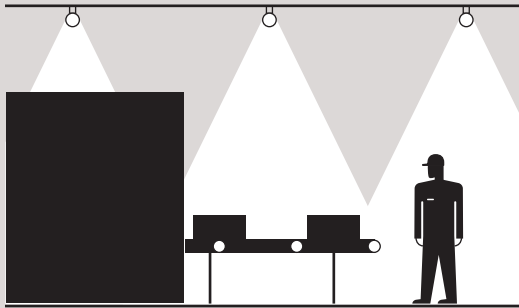
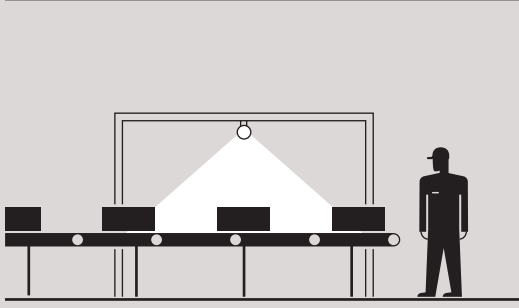
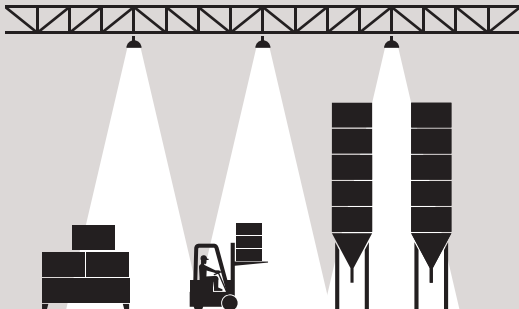
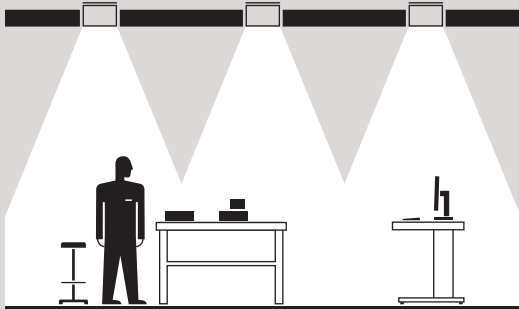
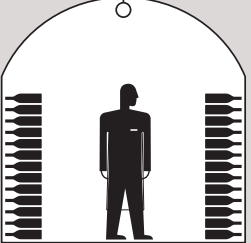
Sustainable lighting

Respect for the environment	Our environmental policy has always been clear and simple: we reject the idea of throwaway products and planned obsolescence, we select recyclable materials, prefer maintenance and component-by-component renovation, and reduce waste to the minimum. We understand that by designing efficient, dependable products, we limit production and reduce the need for maintenance. For every project we undertake, we help our customers to limit their energy consumption and use of natural resources.	
Innovation	Our continual commitment to research and the creation of new lighting solutions is motivated by technological progress and solving the individual problems specific to each customer. A demanding approach to technical issues is central to this commitment, as is minute attention to detail in design and manufacture, both of which contribute to meeting an exacting set of product functionality and durability criteria. Often invisible to the naked eye, these innovations always deliver improved performance.	
LED technologies	The development of light-emitting diodes (LEDs) is both a major technological revolution and a significant challenge for lighting manufacturers. Our Research & Innovation Department has been working for a decade on these new lighting systems. They offer enormous opportunities in terms of functionality, lighting precision and light control, as well as the promise of even greater energy savings.	LED
Quality	Our luminaires are created from the highest quality materials and incorporate electrical and electronic components selected in our laboratories for their ability to meet the most demanding specifications. The exacting quality and inspection processes developed over many years and applied to our products for ATEX environments and NF AEAS emergency lighting are also applied to our luminaires for the food processing industry: assembled with enormous attention to detail in our Châtillon-sur-Saône production plant, they are individually inspected and tested. Each then has its own individual serial number to guarantee full unit and component traceability.	
5-year guarantee	We design, manufacture and install lighting that is built to last: the absolute opposite of the throwaway mentality and programmed obsolescence. From the light source itself to the electronic circuits that control it and its mechanical structure, every component is designed to stand the test of time and be replaceable. This commitment to luminaire quality and durability is backed by our 5-year guarantee of 24/7 operation, which applies to all our ranges.	5 YEARS GUARANTEE

Robustness	Designed to withstand IK10 impacts and high levels of vibration on the basis of specially developed construction principles and high-quality materials, our luminaires maintain their mechanical integrity throughout their life, thereby removing any glass-related risk.	IK10
Ingress protection	Our luminaires carry the IP68 ingress protection rating (hermetically sealed against dust, vapours and liquids) and the IP69K high-pressure water protection rating. The absence of internal dirt build-up guarantees maximum long-term light flow.	IP68-69K
Resistance	Our luminaires are resistant to chemical attack (from detergents, greases and hydrocarbons) and corrosion, thanks to the use of resistant materials, such as stainless steel and co-extruded polycarbonate/PMMA.	
Maintenance	Our luminaires are supplied with rapid fixing systems to facilitate installation, removal and off-site maintenance. Production downtime and the risk of falling objects are therefore reduced, at the same time as making maintenance simpler and faster.	
Durability	Our luminaires are made to last. Light source, electronic circuits and mechanical structure: every component is designed to last and be replaceable.	
Performance	Installation scheduling, selection of the right components for each application, light source positioning and layout, and overall energy consumption: our solutions optimise space lighting performance in accordance with individual requirements and budgets.	

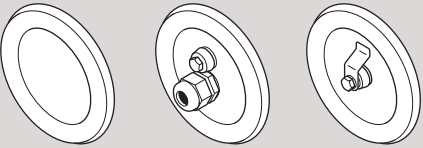
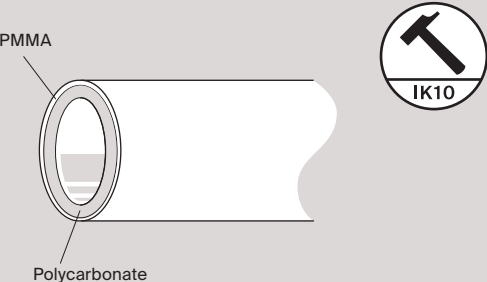
The different types of lighting

Each type of installation requires the use of luminaires with specific individual characteristics. Installations for particularly high spaces, clean rooms, cellar lighting, task lighting and general lighting... Whatever the application, our luminaires offer exceptional longevity and meet the full spectrum of regulatory and functional requirements.

General lighting	<p>For industrial process environments</p> <ul style="list-style-type: none">• with a floor area in excess of 20 m²• less than 7 metres high• with a lighting level above 150 lx <p>Appropriate general lighting, compliant with all current quality standards and requirements (HACCP, IFS, etc.), contributes to production team wellbeing, reduces fatigue and contributes to efficiency.</p>	
Task lighting	<p>Task lighting is appropriate for spaces less than 20 m² in floor area and less than 3 metres in height. In the majority of cases, it complements general lighting in smaller or confined spaces. These luminaires are subject to frequent on/off cycles involving a large number of switching operations, and achieve optimum lighting efficiency quickly. Our LED lighting solutions deliver the perfect response to these requirements.</p>	
Hall lighting	<p>The much greater floor-to-ceiling height (7-15m) of food industry production halls requires the installation of effective lighting units that can be installed, cleaned and maintained easily to ensure compliance with hygiene regulations. Our range of luminaires dedicated to this application are also resistant to vibration, ambient humidity, detergent cleaning materials and extreme fluctuations in temperature.</p>	
Clean rooms	<p>The very high safety and hygiene requirements applying to clean rooms impose specific precautions in terms of their lighting. Totally stripped back and sterile, with rounded wall corners and seamless surfaces with no areas where contamination could possibly accumulate, clean rooms require hermetically sealed lighting solutions that can be easily disinfected and maintained from above via walkable ceilings.</p>	
Cellar lighting	<p>In large-scale wineries, the cellars are as much production facilities as they are showcases of winemaking expertise. Lighting these spaces involves reconciling the architecture of the spaces with the needs of the wine and the requirements imposed by employment legislation. As a result, the lighting here is discreet, functional, secure, causes no alteration to the wines and requires minimal maintenance to ensure the safest possible working conditions for cellar staff.</p>	

Materials

Our luminaires meet high technical and quality standards, and are manufactured exclusively from the highest quality and strongest materials. They deliver exceptionally long working life under these operating conditions, and maintain compliance with all current quality standards and requirements (HACCP, IFS, etc.).

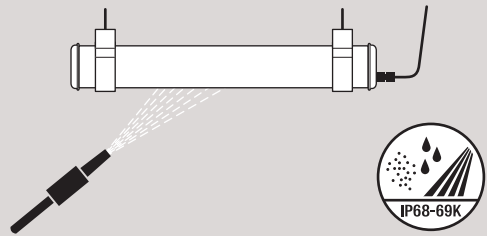
External metal components	<p>Stainless steel</p> <p>We offer two grades of food grade stainless steel for all external components (end caps, mounting straps, etc.):</p> <ul style="list-style-type: none">• 304 L stainless steel, suitable for most food processing applications• 316 L marine-grade stainless steel to resolve the issues raised by use in extreme conditions, and especially corrosive conditions like those found in marine environments.	
Diffusers	<p>We have developed a composite diffuser that offers a particularly high level of resistance to the aggressive conditions specific to food processing industry production facilities. It takes the form of a polycarbonate housing with a totally integral thin-layer coextrusion of PMMA. This detergent-resistant PMMA layer complies with all regulations regarding plastic materials and objects coming into contact with foodstuffs (European directives 2002/72/EC, 2004/19/EC, 2005/79/EC and 2007/19/EC). Our innovative process, which combines the chemical resistance of PMMA with the mechanical characteristics of polycarbonate (IK10 impact resistance), gives our luminaires an ideal level of protection for use in food processing industry environments.</p>	

The strength of a tubular system

It was in 1967 that Sammode perfected the iconic TFH, Hermetic Fluorescent Tube luminaire, that would rapidly establish the reputation of the company. The design appears simple: a tube closed at both ends by a stainless steel cap. Continually improved and perfected, this concept is in reality a distillation of high technology and expertise.

Ingress protection

A number of fundamental principles lie behind the ingress protection designed into our tubular luminaires, as a result of which they comply with IP68 in terms of immersion in still water, and IP69K in terms of high-pressure water protection.



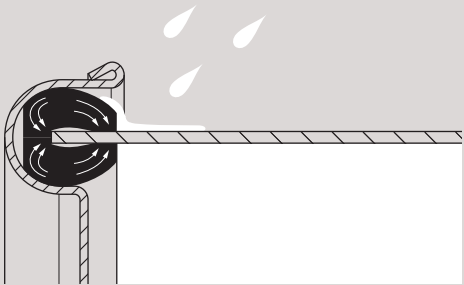
Minimum length

The longer the seal, the greater the risk of infiltration: our tubular luminaires are sealed at each end of the tube, thereby minimising the sealing area.



Even sealing

The entire surface of the seal must be evenly compressed, and that compression must remain constant over time: the use of a single central stainless steel screw ensures even distribution of effort across the full seal seating surface. The special shape of the press-formed 1/2 ring seal housing creates a triple seal.



Constant sealing performance

Elastic deformation of the stainless steel end cap absorbs the expansion and mechanical stresses imposed on the casing of the luminaire throughout its working life. The materials used for our seals (sulphur-free EPDM, silicone, etc.) have been selected for their high level of resistance to chemical attack, and ensure that the ingress protection seal is maintained long term regardless of external conditions in terms of thermal shock or mechanical impact.

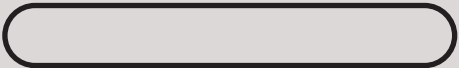
Mechanical strength

The tubular body improves the mechanical strength of its basic materials by distributing mechanical stresses more effectively to create a heavy-duty level of rigidity. The absence of any longitudinal seal plane also ensures the consistent cohesion of the material and increases its impact resistance. These factors combine to ensure that the composite body versions of our luminaires achieve an exceptional level of impact resistance (IK10–20 joules) that guarantees their continued performance over time.



The limitations of traditional sealed luminaires

Originally designed for storage area or project site lighting, the traditional products offered by other manufacturers reveal their limitations in the demanding environments created by food industry processes. They comprise two sections produced using different materials: a ceiling-mounted casing containing the gear tray, and a transparent diffuser. This configuration makes them sensitive to heat fluctuations and mechanical impacts, which can cause relative distortion, resulting in compromised seal performance and the loss of closing clips. The long length of seal and its uneven compression as a result of using clips make it impossible to guarantee a long-term seal, and lead to electrical malfunctions due to the ingress of water or damp atmospheres.



Traditional luminaire seal measuring approx. 2.7 metres



Sammode tubular seal

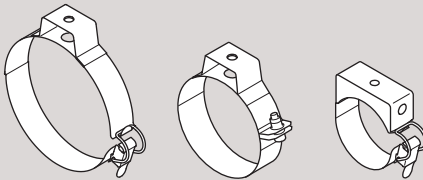
Wiring

The heat emitted by the lamps and their associated gear, combined with external temperature fluctuations, cause accelerated ageing of insulation, which may in turn result in random triggering of earth protection trips. This is the reason why the internal wiring used in all our luminaires has silicon insulation woven with glass fibre. With its ability to withstand constant temperatures of up to 180° C, the silicone ensures a long working life for the installation, while the glass fibre ensures that the wiring retains its mechanical integrity.

Fixings

Practical issues

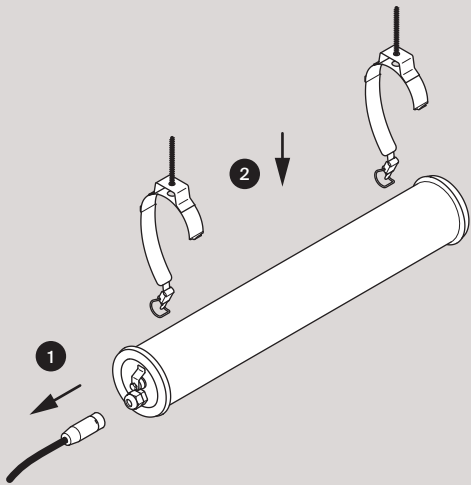
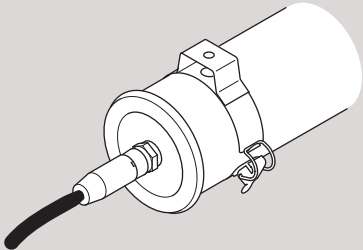
All our luminaires use wraparound strap fixings to facilitate rapid fixing and removal. We offer the option of a series of technical strap fixings covering an enormous variety of uses: these include a screwed closure for luminaire security, an impact-resistant version for luminaires subject to severe mechanical stresses, and an articulated version where maintaining the luminaire requires it to be tilted.



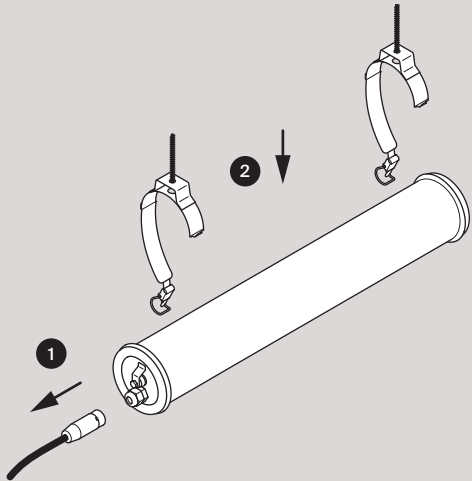
Technical issues

Tubes are at risk of radial mechanical and shear stresses, which may lead to cracking over time. This is why component geometry, wraparound strap elasticity, strap thickness and weld location have all been optimised to eliminate any risk to the diffuser. Elastic deformation of the mounting straps therefore absorbs the dimensional variances produced by the thermal shocks and mechanical impacts to which the body of the luminaire is subject throughout its working life.

Plugable connector	<p>Our tubular luminaires are fitted with an IP68/IP69K plug-in connector for rapid disconnection.</p>
	<p>Heavy duty Manufactured from ultra-strong and durable materials (polyamide body, nickel plated brass base and locking ring, etc.), this connector has been specially developed to match our housings in terms of quality. It therefore withstands the most aggressive chemical environments and mechanical impacts, and operates within a very wide temperature range (-40 °C to +90 °C).</p>
	<p>Convenient This connector is extremely easy to install, thanks to its screw ring locking system and screwed connector terminals. Fitted to an LED luminaire, it avoids the need to open the unit by using “plug and play” installation. Together with the toggle clamp mounting that enables the luminaire to be removed without tools, the pluggable connector makes it very simple to carry out maintenance operations outside the process area. It therefore removes the “glass risk”, despite the use of standard fluorescent tubes.</p>
Vibration	<p>Vibration resistance compliant with IEC 60068-2-6 Our ranges of industrial tubular luminaires have successfully completed the vibration resistance tests conducted by the external L2EC laboratory and defined in the extreme conditions of use section of the EN 60598-1 standard: the luminaire is secured to a vibration generator in the most unfavourable normal installation position, and is then subject to calibrated vibrations for a period of 30 minutes (amplitude 0.35 mm, frequency levels 10 Hz, 55 Hz and 10 Hz, and scan speed of one octave per minute). On completion of this test, no luminaire component capable of compromising safety should have been loosened. This aspect of resistance is improved on our SCREW type mechanical housing luminaires with special electronic power supply for industrial applications.</p>



<h1>The IFS / BRC standards</h1>	
<p>The luminaires we have developed specifically to light food industry processes can contribute to the IFS and/or BRC compliance status of your facility.</p>	
General information	<p>IFS (International Featured Standards) is a collection of internationally recognised standards demonstrating that IFS-certified companies provide products and/or services that comply fully with the specifications agreed with their customers in order to deliver continual improvements in food product safety and quality.</p> <p>The BRC (British Retail Consortium) standard evaluates food processing company quality management standards in the UK market to guarantee the safety of retailer own-brand food products.</p> <p>Both sets of standards are designed to assess the ability of a food processing facility to manufacture high-quality products safely. They do not apply to products in isolation, but to products within a given environment. So a given product cannot be certified as IFS or BRC compliant, but it can contribute to the overall IFS or BRC compliance of a food production facility.</p>
Lighting requirements	<p>The following requirements apply to lighting in food processing environments:</p> <ul style="list-style-type: none">• All light fittings must be shatterproof and designed specifically to minimise the risk of glass breakage• All working areas must be correctly lit
Our solutions	<p>The combination of our luminaire design principles and the careful selection of materials (stainless steel, special food industry polycarbonate diffusers protected by a layer of co-extruded polymethyl methacrylate, etc.) results in assured mechanical integrity for the full working life of the luminaire in terms of resistance to impact, aggressive detergents and pressure cleaning (IP69K).</p> <p>Our luminaires are supplied with wraparound strap fixings and sealed plug-in connectors to facilitate removal. Regular maintenance can therefore be carried out easily outside the process environment, removing any glass-related risks and minimising downtime.</p> <p>Our sales and lighting design office teams are always available to help you identify the most appropriate product for your requirements.</p>



LED working life

The working life of a traditional lighting system extends to the failure of a certain percentage of its sources. There is no reason why a well-designed LED system should cease to function, even if it leads eventually to the loss of luminous flux. Rather than give a strict lifespan for an LED system, it is more useful to describe its behaviour over time.

Operational life

This is expressed as follows:
Operational life (in thousands of hours, or Kh) Lx By, where x = remaining luminous flux as a percentage of initial flux y = percentage of LEDs unlikely to maintain this value.

LED system performance is usually described on the basis of 50 Kh of operation: 50 Kh L70 B50 therefore means that after 50,000 operating hours, at least 50% of the LEDs in the system will maintain at least 70% of their original flux.

Influencing factors

The behaviour over time of an LED, and therefore that of the system in which it is fitted, is influenced by multiple factors, the most important of which are:

- Temperature: LEDs produce not only light, but also a large amount of heat. It is essential that this heat is dissipated within the lighting system using the basic principle that says “the colder the LED, the more effective and brighter it is and the longer its life will be”.
- The power supply: the amount of heat emitted by an LED module may be reduced by minimising its power supply current. The use of a current level specifically recommended for LEDs is therefore essential.
- Chemical pollution: some chemical compounds (chlorine-based, sulphur-based, saline atmospheres, etc.) and humidity are incompatible with the electronic circuits, connections and components used in LED systems. These are therefore protected from exposure using a high-IP housing system designed to cope with such environments.

The Sammode commitment

Our extensive expertise in LED technology and installation has been amassed over many years. Which is why we are committed to delivering an operating life of 50 kh L80 B50 across all our ranges, regardless of recommended operating temperature range. This commitment sets one of the highest standards in the market, and imposes an uncompromising level of detailed technical expertise during the design of our luminaires. This means that we systematically opt for:

- robust components and suitable power supply solutions
- the most appropriate materials and efficient heat dissipation methods that are proven to be effective at the highest operating temperatures,

• a high level of protection by using a proven, fully-sealed housing appropriate for the environment concerned

• temperature testing of all luminaires.

Our principle is simple: the right components properly installed in the right housing.

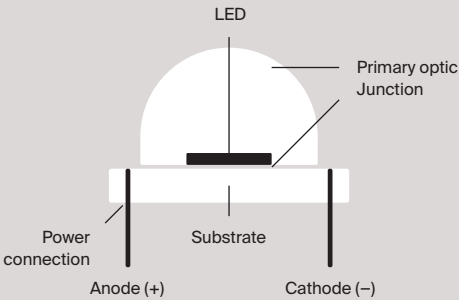
The resulting techniques and processes are what substantiate the excellent reputation we have built over many years of serving the lighting market in the food processing industry. So today, our 5-Year Warranty applies to every one of our products, regardless of their application or light source technology.

LED technology

Thermal management

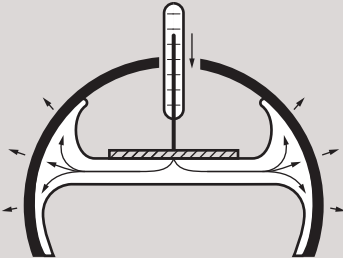
Managing the heat emitted by a luminaire has a significant effect on the performance of the light source and the control of its drivers.

Phenomena
An LED is a semiconductor that emits blue light when a direct current is passed through the active layer–or junction–in the forward bias direction. This blue light is converted by a photoluminescent powder. Depending on the performance of the LED, 35-40% of the energy is converted into visible light containing no infra-red, and 60-65% into heat within the component. This heat must be dissipated. Excessive junction temperature can considerably reduce semiconductor lifespan (by up to 50% for a 10 °C variation), significant loss of luminous flux and a colorimetricshift.



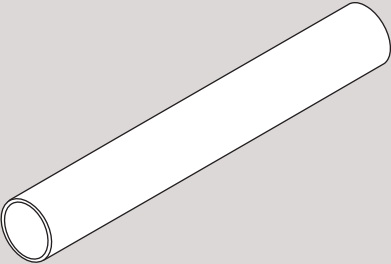
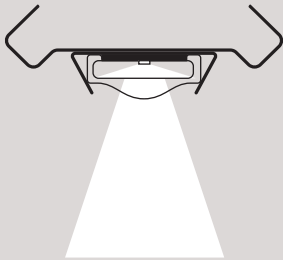
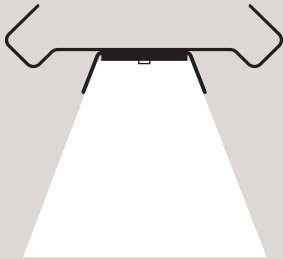
Our strategy
The gear trays used for our LED modules contain passive aluminium heat sinks to provide direct and even conduction of heat. We create thermal barriers between LED modules and power supplies in order to limit their reciprocal heating effect. The offset mounting of our luminaires by using wraparound strap fixings to stand them slightly off from the surface to which they are fitted creates an airflow that helps to dissipate the heat generated. Lastly, we use only superior quality LED modules powered by precisely the right level of current to ensure maximum lifespan under specified conditions.

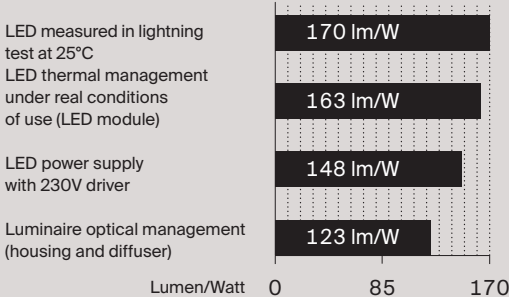
Special high-temperature modules
These modules contain a ceramic LED housing that improves heat dissipation direct from the junction, and also use a PCB material that conducts heat more effectively. At like-for-like length and the same level of luminous flux, these modules contain more LEDs than standard modules: the individual LEDs are therefore driven at a lower level, thereby increasing their resistance to temperature.



Validation testing
We conduct many tests and thermal simulations in our laboratory in order to ensure temperature qualification for all our luminaires. Our controlled climate facility uses thermal sensors to measure the most critical points of our luminaires.

Key characteristics of LEDs

Optical management	Compared with standard fluorescent lamps, LEDs require a different approach to optical management, given their small size and high luminance (around 1million cd/m²).
	<div><div><div>Diffuse extensive optics</div><div>This light distribution pattern is suitable for the majority of general process lighting applications. As a result, careful optical design, light diffusion, avoiding direct eye exposure and reducing the glare of these bright on-demand sources becomes essential. Our diffuse optical systems disperse the light emitted by the source in such a way that the source itself is not visible to the user: the result is an increase in the visible area of lighting in combination with reduced luminance. We have developed satin-finish diffusers that achieve exactly the right balance between performance and comfort. The distance between source and diffuser is a key optical parameter, so the degree of diffuser opalescence varies with product diameter.</div></div><div></div></div>
	<div><div><div>Intensive optics</div><div>These optics direct light accurately to illuminate clearly defined areas. However, they are specific to a small number of special applications that impose a need for careful positioning of the visual fields of those people working in the room concerned. For example, our high-level ceiling fittings for use in high-level solutions are fitted with intensive optics that use a high-transmission (97%) semitransparent PMMA linear lens with a beam angle of 60°.</div></div><div></div></div>
	<div><div><div>Light mixing chamber</div><div>LEDs emit monochromatic (blue) light, so it is necessary to convert a part of this wavelength to cover the full visible spectrum. To achieve this, a photoluminescent powder is applied to a substrate, such as glass or silicon, located a fixed distance from the LED. But this process can create a number of defects (edge effects) at the base level that are perceived as variations in colour temperature. All our LED luminaires are fitted with a light mixing chamber that eliminates these effects by creating multiple reflections. The light mixing chamber also has two other functions that improve overall photometric efficiency: reducing shadows cast by connectors or wiring inside the luminaire, and limiting indirect luminous flux.</div></div><div></div></div>

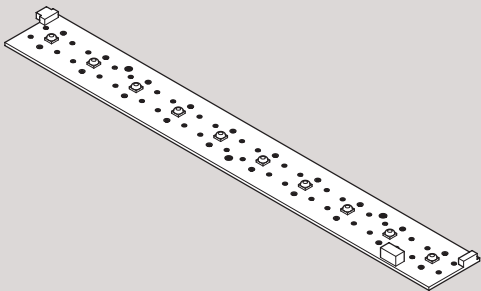
Obsolete benchmarks	The NF EN 13032 standard specifies that the performance of a fluorescent luminaire is determined by its luminous flux compared with that of the bare lamp at an ambient temperature of 25 °C for both. It indicates the efficiency of the luminaire for a given quantity of light as a percentage. However, the complexity of the LED market makes this concept obsolete, since each manufacturer uses either LEDs only, standard modules or its own modules, and the resulting “luminaire optical system” varies considerably depending on the level of LED integration. Promoting 100% efficiency on the photometric curves for LED luminaires is clearly meaningless, as is any comparison between fluorescent luminaires and LED luminaires. Furthermore, the PR NF EN 13032-4 standard requires only measurements for luminaires, making no distinction between light sources.	
System efficiency	Correct sizing therefore relies only on system (or total) efficiency of the luminaire, as defined by the relationship between the luminaire output flux (in lumens) and its power consumption (in watts). It represents the quantity of energy to be injected into a luminaire in order to obtain a given level of luminous flux. This concept therefore takes account of the entire system: the LED used, its integration into the module, its power supply, the impact of thermal and optical management, etc.	
Total luminous flux and data transparency	The luminous flux value is essential for comparing the LED luminaires offered by different suppliers. Some LED luminous flux and efficiency values at a temperature of 25 °C may become meaningless in real-life, because the performance delivered by an LED solution depends on many factors (cooling, power supply, optical system, etc.). Our technical datasheets clearly indicate the total luminous flux of our luminaires expressed in lumens, together with their actual power consumption in watts. These values are measured completely transparently using the most demanding configuration within the operating temperature range.	<div>Illustration for a Napier</div> <div><div>LED measured in lightning test at 25°C</div><div>LED thermal management under real conditions of use (LED module)</div><div>LED power supply with 230V driver</div><div>Luminaire optical management (housing and diffuser)</div></div> <div></div>
Comparison and limitations	Relevant for comparing luminaires that use different technologies, total efficiency is, however, useful only for luminaires that are very similar in terms of their function and light distribution. The best practical approach is to conduct a lighting study that takes account of the photometric aspects of the products and the characteristics of the rooms in which they are used (dimensions, volumes, light reflection ratios, etc.) to produce a given level of lighting, and compare the total amount of power consumed.	

LED modules

Our business culture is based on a rejection of throwaway products: we have always designed luminaires that have an exceptionally long working life, and are easily removable for future maintenance. Given the rapid advances in LED technology and our commitment to maintaining these values that our customers so appreciate, we have implemented a twin strategy.

Proprietary LED modules

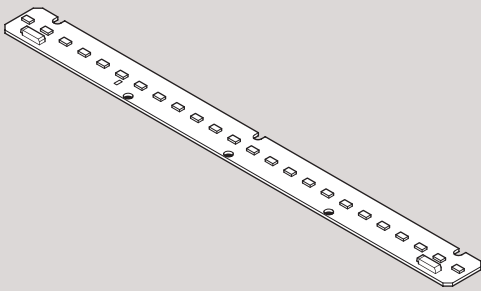
We use this type of module in niche applications where the market offers no suitable or sufficiently robust solution. We then create a special module containing the appropriate LED electronics for the application concerned. As a pioneer in LED solutions for industrial environments, it was in 2009 that we developed lighting modules capable of operation at temperatures as low as -60 °C. Our central light source and machine lighting luminaires are also fitted with special modules. Our manufacturing expertise allows us to guarantee our customers a rolling programme of platform upgrades with long-term availability of new, higher performance components.



Sammode proprietary module

Community (Zhaga compatible) LED modules

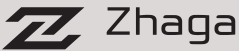
These standard format modules are selected for their high level of quality. They are built in accordance with a shared specification to guarantee the interchangeability of modules from different manufacturers. Being able to draw on different suppliers of interchangeable LED modules allows us to ensure the availability of our lighting solutions and their long-term maintenance. And since these products are standard, their high-volume manufacture makes our solutions more affordable, at the same time as enabling their forward development to take advantage of the increased performance delivered by the latest generation of LED modules.



Community module

Zhaga

Zhaga is an international consortium of lighting and electronics companies formed in February 2010, which prepares industry standard specifications to ensure the interchangeability of LED light sources from different manufacturers. The resulting standards define the factors governing interface compatibility in terms of LED module dimensions, mechanical properties and photometric, thermal and electrical characteristics. Its aim is ultimately to transfer to the International Electrotechnical Commission (IEC) the process of managing the international standardisation of these specifications. They do not address LED module performance, quality or design, which remain specific to each manufacturer to ensure a full range of product options, from range entry to premium.



Our partners

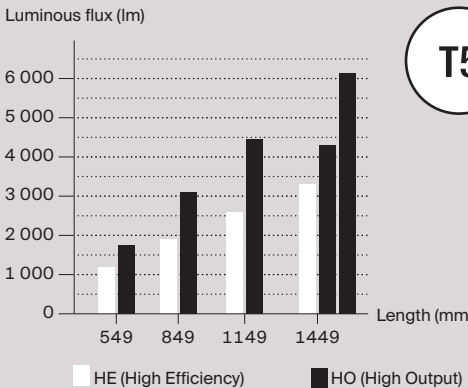
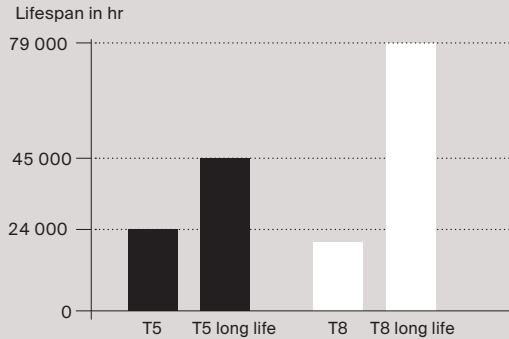
Our approach to quality has always been uncompromising, and we use only superior quality modules supplied by leading manufacturers or partners, all of which are European companies. Our in-depth knowledge of our own products and their heat dissipation capabilities, and a decade of experience in designing LED modules for use in challenging environments, make us highly critical and selective when it comes to suppliers. Our Research & Innovation department selects only those companies prepared to provide us with transparent technical data, and we never introduce new components until they have passed a battery of qualification and endurance tests conducted in our own laboratory.

Photobiological safety

The EN 62471 standard	For each type of light source used, this standard defines the specifications to be complied with in order to avoid health risks that apply predominantly to the eyes and skin. Nevertheless, they contain a high intensity of blue light that poses a potential Blue Light Hazard, which can cause irreversible damage to the retina if viewed directly for prolonged periods. The likelihood of this risk becoming a reality depends on multiple factors, including the power of the LED, its colour temperature, its light distribution pattern and distance from the luminaire. To help users evaluate these risks clearly, EN 62471 subdivides lamps and casings into four risk groups.	Group 0 No Risk	No photobiological hazard, even when viewed continually
		Group 1 Low Risk	Direct vision of the source limited to 10,000 sec. maximum (approx. 3 hr.)
		Group 2 Moderate Risk	Direct vision of the source limited to 100 sec. maximum
		Group 3 High Risk	Direct vision of the source limited to 0.25 sec. maximum, i.e. less than the natural eye protection reflex
Obligations			
From risk level 2 onwards, the CE marking must show the level of photobiological safety, but only level 3 imposes the need for user protection measures, since correct use of the luminaires concerned suffices at the other levels. Although a user does not generally look at a light source for long periods, a technician must be able to check light sources for correct operation in complete safety.			
Our products	The LED modules used in our products pose a level of photobiological hazard risk that falls either into Risk Group 0 or 1. They therefore pose no risk under normal conditions of use. Since these LED sources are also protected by a lens or diffuser, their luminance is clipped.		

Fluorescent sources

Given their good performance in terms of lifespan and light efficiency, good range of colours and reasonable price, fluorescent sources have for decades provided the lighting of choice for general industrial use.

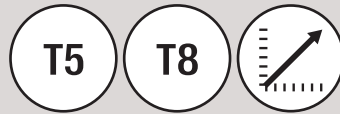
<div>Linear tubes</div>	<div>T8 Tubes</div> <p>Providing the ultimate light source for industrial applications, this proven technology offers the best compromise between robustness, efficiency and lifespan. Compatible with ferromagnetic gear, these 26 mm diameter tubes create lighting solutions that can cope with ambient temperatures of up to 70 °C. However, their efficiency falls off very significantly at temperatures approaching 0 °C.</p>	<div>T8</div>															
	<div>T5 Tubes</div> <p>Designed originally for commercial applications, the smaller 16 mm diameter of these tubes makes them ideal for luminaires with a more directional photometric profile. However, this smaller size makes them more sensitive to vibration and temperature fluctuations. Each length is available in two different luminous flux versions:</p> <ul style="list-style-type: none"> • The HE (High Efficiency) versions optimise luminous efficiency (lm/W) at the expense of lower luminous flux • The HO (High Output) versions deliver higher linear flow in exchange for a level of efficiency comparable to that of the T8 tube. 	<div>T5</div>  <table border="1"> <caption>Luminous flux (lm) vs Length (mm) for T5 tubes</caption> <thead> <tr> <th>Length (mm)</th> <th>HE (High Efficiency) (lm)</th> <th>HO (High Output) (lm)</th> </tr> </thead> <tbody> <tr> <td>549</td> <td>~1100</td> <td>~1600</td> </tr> <tr> <td>849</td> <td>~2000</td> <td>~3000</td> </tr> <tr> <td>1149</td> <td>~2500</td> <td>~4300</td> </tr> <tr> <td>1449</td> <td>~3400</td> <td>~4200</td> </tr> </tbody> </table>	Length (mm)	HE (High Efficiency) (lm)	HO (High Output) (lm)	549	~1100	~1600	849	~2000	~3000	1149	~2500	~4300	1449	~3400	~4200
Length (mm)	HE (High Efficiency) (lm)	HO (High Output) (lm)															
549	~1100	~1600															
849	~2000	~3000															
1149	~2500	~4300															
1449	~3400	~4200															
<div>Compact fluorescent lamps</div>	<p>These 2G11 4-pin lamps offer high-density luminous flux at a shorter length, resulting in powerful, but extremely compact, lamps. They are most frequently used for task lighting solutions. However, this high-density flux creates a higher level of glare and a more restricted operating temperature range.</p>	<div>2G11</div>															
<div>Special lamps</div>	<div>Long-life lamps</div> <p>Equivalent in terms of luminous flux, these lamps have lifespans comparable to those offered by LED solutions, and are therefore longer than those offered by standard lamps. They offer the advantage of lower maintenance costs and waste generation as a direct result of the longer replacement intervals. They are ideal where relamping is costly (at extreme height, difficult access, etc.) or disruptive to the production process (tunnels, production lines, etc.).</p>	 <table border="1"> <caption>Lifespan in hr</caption> <thead> <tr> <th>Tube Type</th> <th>Lifespan (hr)</th> </tr> </thead> <tbody> <tr> <td>T5</td> <td>~24,000</td> </tr> <tr> <td>T5 long life</td> <td>~45,000</td> </tr> <tr> <td>T8</td> <td>~20,000</td> </tr> <tr> <td>T8 long life</td> <td>~79,000</td> </tr> </tbody> </table>	Tube Type	Lifespan (hr)	T5	~24,000	T5 long life	~45,000	T8	~20,000	T8 long life	~79,000					
Tube Type	Lifespan (hr)																
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T8	~20,000																
T8 long life	~79,000																

Power supplies

Essential luminaire components, power supplies can optimise unit life when they are carefully selected to suit their operating environment.

Eco lamps

These tubes deliver substantial savings in power consumption (up to 10% less than standard tubes) with no effect on lighting performance. Available only in T5 and T8 versions, they offer an economical alternative to LED technology.

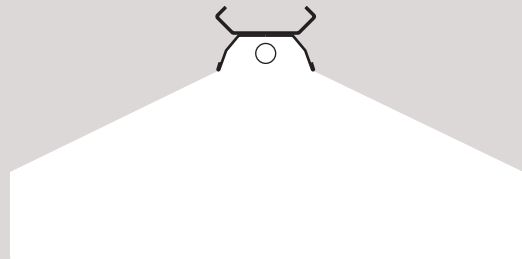


Reflectors

We offer a broad range of technical reflectors in mirror-finish aluminium sheet to cover the majority of industrial lighting challenges.

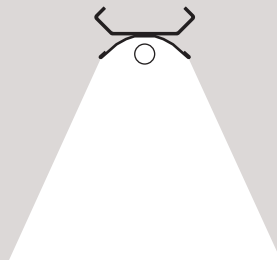
Extensive reflectors

These high-efficiency specular aluminium reflectors have an unusually wide angle of spread. They are perfectly suited to providing an even spread of general lighting for installation below 5 m in height.



Intensive reflectors

These mirror finish aluminium reflectors have a narrow angle of spread to concentrate the luminous flux. This type of directional lighting is indicated for corridors, public areas, specific areas or shelving.



Diffuse optics

Our white powder-coated gear trays are particularly effective reflectors for creating a diffuse light. They are recommended for use in rooms with white ceilings below 3 m in height, where they boost the perceived light level and increase visual comfort by minimising luminance contrast between the ceiling and walls. Less dazzling than traditional mirror finish reflectors because they are non-directional, they are ideal for vertically mounted luminaires.

Standard electronic power supplies

Referred to as drivers when used with LED technology, and standard electronic ballasts when used with fluorescent technologies, their role is to step down the mains supply voltage to provide the most appropriate current/voltage profile for the lighting source concerned.

Electronic ballasts

We use only A2 energy rated hot cathode ballasts, which offer the lowest power consumption in the market. By preheating the electrodes, this type of ballast limits the start-up current, thereby extending lamp lifespan. Pre-heating also reduces the dependency of lamp lifespan on the number of on/off switching operations. These ballasts automatically cut off the power from defective lamps and avoid end-of-life lamp flashing by using a high-frequency supply ($> 40 \text{ kHz}$).

Drivers

We have selected drivers that offer high-efficiency AC/DC conversion and good power factors to ensure energy-efficient (lm/W) LED/driver combinations. These so-called “constant current drivers” generate the current characteristics required to operate LEDs. It is essential to use the right power supply for the LEDs concerned to avoid damaging the various components: the resulting assembly is referred to as an LED light engine. In practical terms, an LED module can be powered by a range of different currents, but variations will modify its characteristics: the lower the current, the less luminous flux it generates, but the higher its efficiency; conversely, the higher the current, the more luminous flux it generates, but the lower its efficiency and the shorter its lifespan. This power supply strategy is central to our expertise.

Limits

Standard electronic power supplies are efficient components, but are also fragile, and their lifespan depends on the ambient temperature and the quality of the mains current. Exceeding the recommended operating temperature for a luminaire by 10°C can halve its lifespan. Nevertheless, it is possible to create long-life lighting solutions that use these power supplies, but only up to an ambient temperature of 30°C for fluorescent luminaires or 35°C for LED luminaires.

Mains electrical interference	<p>The faults and fluctuations that can occur in industrial mains power supplies can damage luminaire gear not specifically designed to withstand them. Such faults and fluctuations take a number of different forms.</p>
	<p>Transient voltage surges</p> <p>Although the recommendation is to distribute loads over all its phases, a 3-phase supply can be sensitive to operational factors: an imbalance due to the temporary shut-down of a powerful machine on one of the phases (up to 320 V), incorrect voltage regulation by the power supply company, which occurs frequently where the energy source is intermittent (wind power, tidal power, etc.: in countries engaged in a process of energy transition, such as the UK and Germany, the voltage regulation systems originally designed for constant energy generating systems are not 100% compatible with renewables), etc. Voltage surges can also be triggered by fluctuating high power loads (motor startup, etc.).</p>
	<p>Voltage peaks</p> <p>In a steady-state power supply network, the sudden stoppage of a powerful machine can trigger a voltage peak: the absence of current is then compensated for by an abrupt increase in voltage (of up to 4 kV) in that phase, which can feed back to the network. Other causes of voltage peaks include the switching from an AC supply to a DC supply, the use of a generator set and the indirect effects of electric arcing elsewhere in the industrial facility, etc. Lightning striking an installation directly or indirectly can also inject a voltage peak into the protective earth common to all parts of the building.</p>
Special industrial power supplies	<p>Robust electronic power supplies are designed to operate in environments that are challenging in terms of their permissible ambient temperature range, electrical system issues, vibration, etc. They can be installed on the same power line as ferromagnetic gear.</p>
	<p>Power supply network resilience</p> <p>The components used in these power supplies are subject to a stringent selection process. They use exceptionally robust input filters to protect them against transient voltage peaks of up to 4 kV. They can also withstand voltage surges of 320 V AC (up to 1 hour for fluorescent versions, and up to 48 hours for LED versions).</p>

	<p>Optimum thermal management</p> <p>Thermal management is optimised to enable use at high ambient temperatures. The larger format of these power supplies compared with standard power supplies effectively reduces component temperature by 50%. Added to which, the critical components are separated as far as possible from internal heat sources.</p>
	<p>Vibration resilience</p> <p>Particular care is taken to component positioning and fixing to obtain an exceptional level of resistance to vibration and permanent mechanical loadings.</p>
	<p>Limits</p> <p>The T5 and T8 fluorescent versions are available only for high-power luminaires, i.e. those intended to provide general lighting (IND version). Lighting solutions using these IND versions of fluorescent or LED luminaires are durable for ambient temperatures of up to 40 °C. Used in conjunction with special modules and appropriate thermal management, they can operate at temperatures up to 55 °C with no effect on their lifespan.</p>
Ferromagnetic power supplies	<p>Some extreme conditions are too challenging even for the most robust electronic power supplies. Extremely high temperatures increase the failure rate of electronic components. In ambient temperatures above 55 °C, ferromagnetic ballasts are the only possibility.</p>
	<p>Heavy duty</p> <p>Available only for T8 fluorescent tubes, ferromagnetic power supplies benefit from a particularly simple and robust design which allows them to cope with high temperatures, mains power supply interference (at the risk of damaging the lamp) and high amplitude vibrations. The main component of a so-called “inductive” electromagnetic ballast is a winding.</p>

	<p>Limits</p> <p>A starter is essential to lighting fluorescent lamps, and its power is boosted by the use of a condenser. Tubes powered by a 50 Hz supply flicker at a frequency of 100 Hz, which although invisible to the eye, has a perceptible stroboscopic effect that can cause dizziness and fatigue. The “duo” mounting used in our luminaires attenuates this effect, and also enables our luminaires to operate at ambient temperatures of 70 °C. We use only “very low loss’ B1 class ballasts.</p>
<p>Commission Regulation (EC) No. 245/2009 Part 3</p>	<p>Regulation EC 245/2009 (as modified by EC 347/2010) refers to implementation of Directive 2005/32/EC–the EuP (Energy using Products) directive–with regard to eco-design requirements for lighting products used in industry. It imposes a tiered series of efficiency and performance criteria, as well as obligations governing information and marking.</p> <p>Permitted use for special purposes</p> <p>Contrary to what is frequently reported, the third stage, which will come into effect in April 2017, will not prohibit the use of ferromagnetic power supplies, but will limit that use to very specific applications. However, given the efficiency of ferromagnetic technology, a number of exemptions are planned. As a result, (EU) regulation 1194/2012 contains exemptions for “special purpose products” that “have to withstand extreme physical conditions (such as vibrations or temperatures below -20 °C or above 50 °C)”. Directive 2006/42/ EC permits the use of ferromagnetic ballast products for applications in the nuclear industry. This is consistent with technical choices made by ourselves a long time ago.</p> <p>Assured continuity of supply</p> <p>The special partnerships we maintain with our suppliers mean that we can give a commitment to supply ferromagnetic ballast luminaires that comply fully with current regulations after 2017 and in future decades. Our sales teams are there to help our customers in selecting appropriate equipment in accordance with this regulation.</p>



1

1. Clean room



1



2

1, 2. Ham cooking and packaging



1

1-6. Petit Billy cheese
production line
Triballat
Noyal-sur-Vilaine
France



2



3







1

1-3. Prunier meat products
Connerré
France



2





1



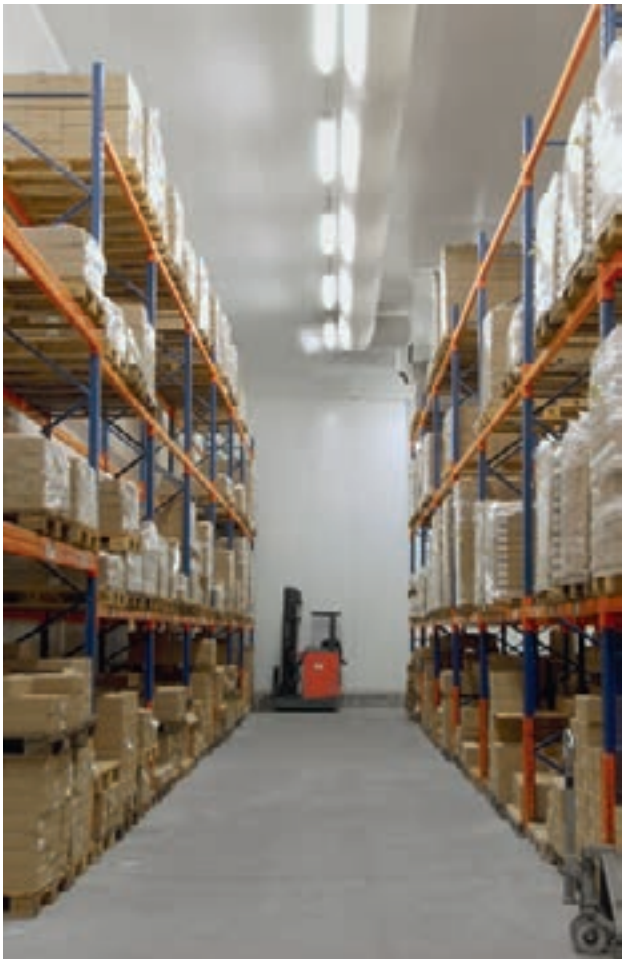
2

1. Luxlait
Luxembourg

2. Vegetable fast freezer
Belgium



1



2



3



4

1-2. Nestlé
Beauvais
France

3. La Fromagée Jean Yves
Bordier
Saint Malo
France

4. Abattoir
Australia



1



2



1



2



3



4

1. Santa Margarita winery
Italy

2, 3. Château Romanin cellar
Saint-Rémy-de-Provence
France

4. Stéphane Ogier cellar
Côte-Rôtie
Ampuis
France



1



2

1, 2. Nestlé
Itancourt
France



1

General lighting

These particularly powerful products are used to provide high levels of lighting for large spaces in order to carry out everyday industrial activities with maximum comfort and efficiency.

These lighting solutions are designed for:

- floor area is greater than 20 m²
- ceiling heights below 7 m

Demanding environments 51

Durable lighting solutions specially designed to withstand impacts, storms, humid atmospheres, jet washers, UV radiation, etc.

Extreme environments 67

Durable lighting solutions specially designed to withstand high levels of continual vibration, chemical attack, exposure to impact, storms, saline mist corrosion, abrasion, etc.

General lighting

Demanding environments

Tmax	Ranges	Sources	Tmax	Energy performance	Page
Standard electrical systems					
30 – 35 °C	Pascal 100	LED	35 °C	●●●●	54
	Pascal 133	LED	35 °C	●●●●	55
	Darwin 100 T8	T8	30 °C	●●●	56
	Darwin 133 T8	T8	30 °C	●●●	57
	Darwin 100 T5	T5	30 °C	●●	58
	Darwin 133 T5	T5	30 °C	●●	59
High-risk electrical systems					
40 °C	Carnot 100	LED	40 °C	●●●●	60
	Carnot 133	LED	40 °C	●●●●	61
	Darwin 100 IND T8	T8	40 °C	●●●	62
	Darwin 133 IND T8	T8	40 °C	●●●	63
	Darwin 100 IND T5	T5	40 °C	●●	64
	Darwin 133 IND T5	T5	40 °C	●●	65

Lighting for demanding environments

Developed out of our long-term expertise in challenging environments, our permanent lighting solutions are suited to all types of industrial environment.

Resistance

Our luminaires installed in demanding environments are resistant:

- to impacts
- to frequent handling
- to humid atmospheres
- to saline environments
- to traditional detergents
- to intensive daily pressure washing

Relamping and cleaning are facilitated to comply with the most stringent hygiene conditions.

The SLIDE system


Easy maintenance

Installers and maintenance teams benefit from an incredibly simple sealed luminaire solution: the user-friendly patented SLIDE system. This gear tray guide system facilitates light source changes with no need to remove the product. The result is the shortest ultra-sealed luminaire maintenance times in the market.



A heavy-duty casing

Since this luminaire is closed by a single centrally located stainless steel screw, a consistent pressure is applied to the entire surface of the seal to guarantee a perfect hermetic seal (IP68/IP69K). The composite coextruded polycarbonate/PMMA diffuser combines exceptional resistance to hydrocarbons and solar UV radiation with high impact resistance (IK10). The combination of housing specifications and material quality guarantee a long luminaire lifespan, and therefore long-term permanence of the installation.



Fluorescent lamps

T8 lamps

These are the most commonly used light sources, and offer the best compromise between robustness, efficiency and lifespan. These are also the only lamps to provide lighting solutions for ambient temperatures of up to 70 °C.

T5 lamps


These sources consume slightly more energy, but are particularly well suited to applications using powerful luminaires with directional photometry. The HO (High Output) versions significantly reduce luminaire dimensions, at the same time as delivering lighting performance similar to that of a T8 lamp.

T8

T5

LED

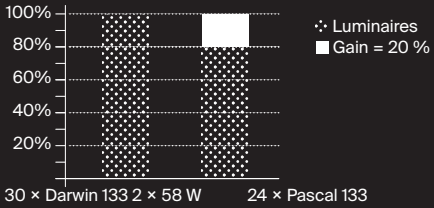
LED technology offers the highest level of energy efficiency. It is therefore recommended for luminaires that must reach the required luminous flux rapidly and tolerate a high number of on/off switching operations. We offer lighting solutions that operate at temperatures of up to 40 °C without compromising their lifespan, and which are free from the size constraints of traditional lighting sources. Our two innovative approaches are suitable for all types of installation.



New installation versions

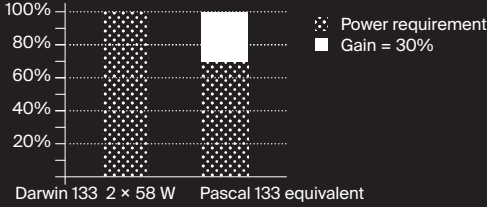
The new installation versions are sized to deliver the same luminous flux as a traditional installation, but with fewer luminaires: the lighting level and uniformity are identical, but with lower power consumption. For example, achieving the regulatory average lighting level of 200 lux with a new installation in a 25 m × 10 m × 3 m space represents a reduction of:

- 35% in energy consumption
- 20% in products to be purchased and installed
- 20% in power supply points to be installed
- 20% in products to be maintained and cleaned




Retrofit and like-for-like replacement versions

To avoid the need to redesign installation layout simply in order to optimise the existing system, we offer Retrofit versions that simply replace existing luminaires to deliver identical lighting at lower power consumption.




Mains electrical interference

The faults and fluctuations that can occur in industrial mains power supplies (3-phase imbalance, frequent voltage fluctuations, etc.) can damage luminaire gear not specifically designed to withstand them. Our products for “high-risk electrical systems” contain robust electronic power supplies that are specifically protected against mains electrical interference and withstand voltage peaks of up to 4 kV and voltage surges of up to 320 V. They can also coexist with ferromagnetic products on the same electrical system.



Temperatures

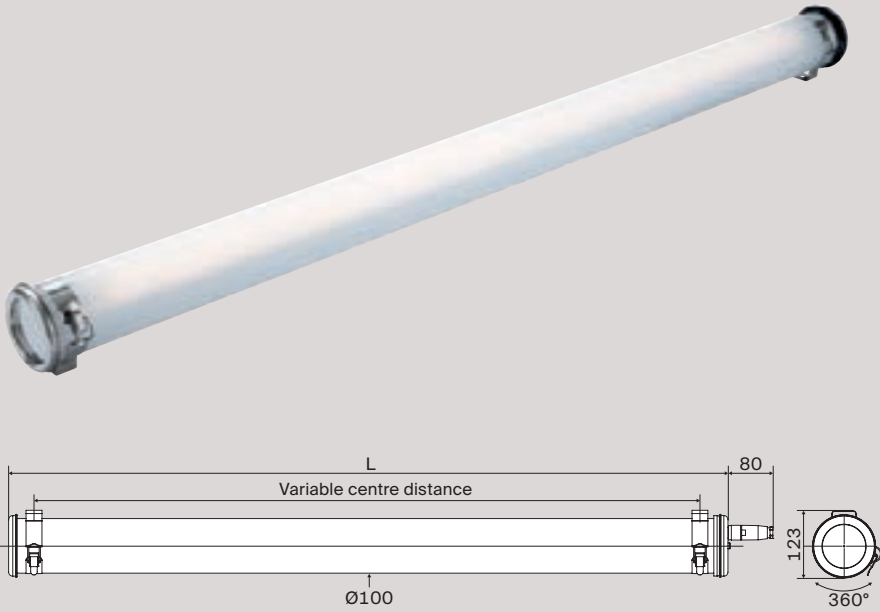
The IND versions of our fluorescent luminaires and our Carnot LED range contain robust electronic power supplies whose thermal management has been optimised for operation at temperatures up to 40 °C with no effect on their lifespan.



Pascal 100

Technology	LED
Temp. opt.	Positive cold
Light output	2775 to 5550 lm

AF0921



Key features

Plug&Play-installation by disconnectable Plug
Suitable for repeated switching on and off
Resists aggressive detergents
Long maintenance intervals
Durable and maintainable luminaire



Options

Finishings		
End caps and fixing straps in Stainless Steel 316 L	MR	
Housing		
Housing in Polycarbonate	PO	
Fixings		
Reinforced fixing straps with HSHC screw	BRV	
Shock-resistant fixing straps with HSHC screw	BAC	
Cable entries (black polyamide)		
1 cable gland–Ø cable: 5 to 12 mm	113	
1 cable gland–Ø cable: 7 to 14 mm	116	
2 cable glands–Ø cable: 5 to 12 mm	213	
2 cable glands–Ø cable: 7 to 14 mm	216	
Cable entries (nickel-coated brass)		
1 cable gland–Ø cable: 5 to 14 mm	113 LN	
2 cable glands–Ø cable: 5 to 14 mm	213 LN	
Disconnectable output cords with IP68 Plug (length 0,80 m)		
Output cord with a 3 pole WIELAND Plug	CW3	
Accessories		
Spacer kit (5 or 20 cm) for fire safety standards		

Principal part numbers

Lumens	Designation	Part No.	Cons. (W)	Optic	T (K)	L (mm)
Versions for new installations						
3700	PAS100 14H830 POME PS3 SA BRS	4160 5067	31		3000	1318
	PAS100 14H840 POME PS3 SA BRS	4160 5022			4000	
5550	PAS100 16H830 POME PS3 SA BRS	4160 5115	46		3000	1850
	PAS100 16H840 POME PS3 SA BRS	4160 5116			4000	
Retrofit versions: Like-for-like replacement						
Equivalent to 1 × 36 W T8						
2775	PAS100 13H830 POME PS3 SA BRS	4160 5117	23		3000	1018
	PAS100 13H840 POME PS3 SA BRS	4160 5023			4000	
Equivalent to 1 × 58 W T8						
4625	PAS100 15H830 POME PS3 SA BRS	4160 5118	39		3000	1618
	PAS100 15H840 POME PS3 SA BRS	4160 5119			4000	

* Light output of the luminaire

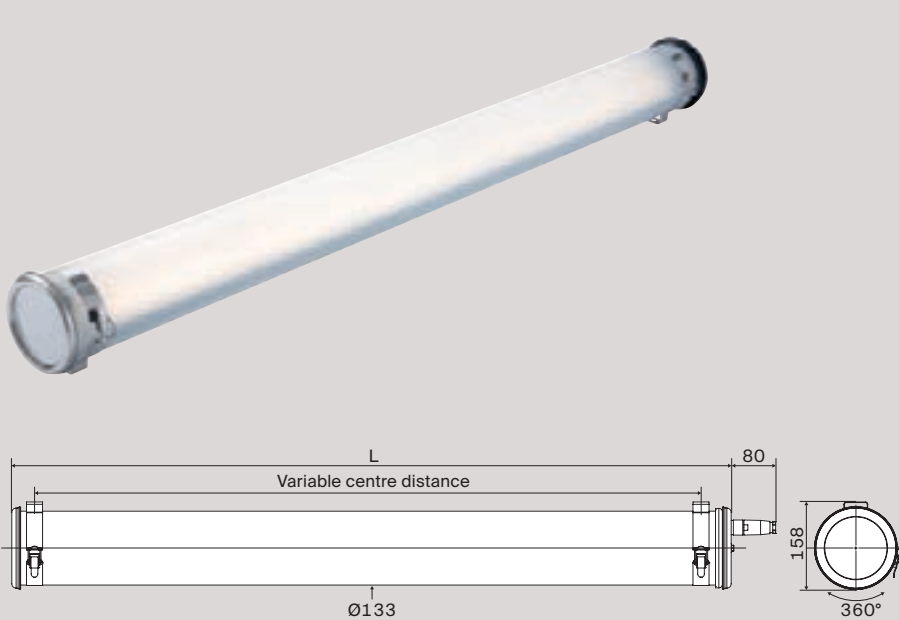
Specifications

Technical data	
Light source	<ul style="list-style-type: none">High efficiency LED modules (155 lm/W)50 000 h L80/B50 at max. operating temperatureReplaceable LED modulesCRI> 80
Optic	<ul style="list-style-type: none">Light mixing chamberSatin Diffuser to minimise glare
Heat management	Heatsink in aluminium
Control Gear	Constant Current Driver (non-dimmable)
Power supply	220-240 V 50/60 Hz
Electrical class	Class I
Operating temperature	-20 °C to +35 °C
Connection	Disconnectable Plug Ø cable 8–10 mm (3 × 1,5 mm²)
Fixing	2 Stainless Steel fixing straps with Spring Clip
Method of Construction	<ul style="list-style-type: none">Housing in one piece with reinforced imperviousnessPatented SLIDE opening system
Materials	
Housing	Polycarbonate with protective coextruded PMMA layer
End caps, fixing straps...	Stainless Steel 304 L
Gaskets	EPDM
Standards	
Imperviousness	IP66, IP68 and IP69K
Shock resistance	IK10
Fire resistance	650 °C
Vibration resistance	Meets the standard EN 60598-1 (tested according to CEI 60068-2-6)

Pascal 133

Technology	LED
Temp. opt.	Positive cold
Light output	5550 to 11100 lm

AF0921



Key features

Plug&Play-installation by disconnectable Plug
Suitable for repeated switching on and off
Resists aggressive detergents
Long maintenance intervals
Durable and maintainable luminaire



Options

Finishings	
End caps and fixing straps in Stainless Steel 316 L	MR
Housing	
Housing in Polycarbonate	PO
Fixings	
Reinforced fixing straps with HSHC screw	BRV
Shock-resistant fixing straps with HSHC screw	BAC
Cable entries (black polyamide)	
1 cable gland–Ø cable: 5 to 12 mm	113
1 cable gland–Ø cable: 7 to 14 mm	116
2 cable glands–Ø cable: 5 to 12 mm	213
2 cable glands–Ø cable: 7 to 14 mm	216
Cable entries (nickel-coated brass)	
1 cable gland–Ø cable: 5 to 14 mm	113 LN
2 cable glands–Ø cable: 5 to 14 mm	213 LN
Disconnectable output cords with IP68 Plug (length 0,80 m)	
Output cord with a 3 pole WIELAND Plug	CW3
Accessories	
Spacer kit (5 or 20 cm) for fire safety standards	

Principal part numbers

Lumens	Designation	Part No.	Cons. (W)	Optic	T (K)	L (mm)
Versions for new installations						
7400	PAS133 24H830 POME PS3 SA BRS	2260 0280	63		3000	1295
	PAS133 24H840 POME PS3 SA BRS	2260 5043			4000	
11100	PAS133 26H830 POME PS3 SA BRS	2260 5079	92		3000	1850
	PAS133 26H840 POME PS3 SA BRS	2260 5066			4000	
Retrofit versions: Like-for-like replacement						
Equivalent to 2 × 36 W T8						
5550	PAS133 23H830 POME PS3 SA BRS	2260 5080	46		3000	995
	PAS133 23H840 POME PS3 SA BRS	2260 5031			4000	
Equivalent to 2 × 58 W T8						
9250	PAS133 25H830 POME PS3 SA BRS	2260 5081	78		3000	1595
	PAS133 25H840 POME PS3 SA BRS	2260 5082			4000	

* Light output of the luminaire

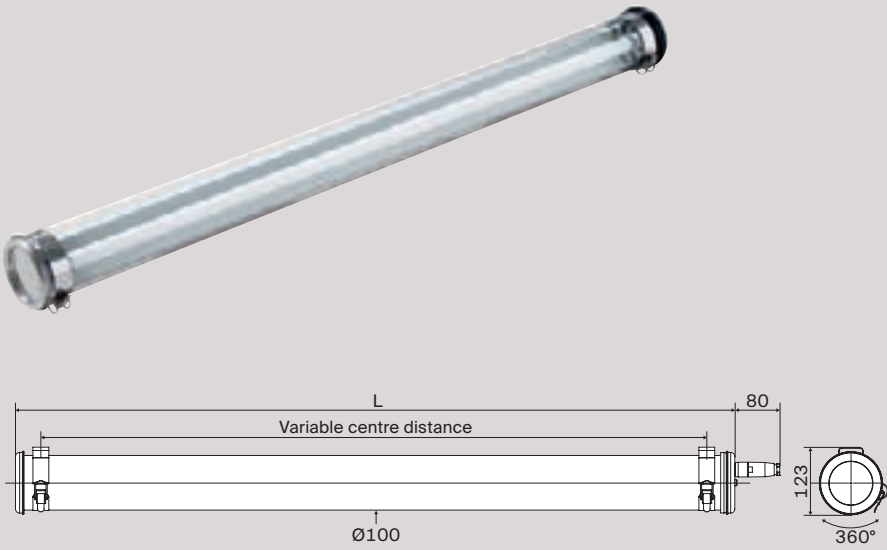
Specifications

Technical data	
Light source	<ul style="list-style-type: none">High efficiency LED modules (155 lm/W)50 000 h L80/B50 at max. operating temperatureReplaceable LED modulesCRI> 80
Optic	<ul style="list-style-type: none">Light mixing chamberSatin Diffuser to minimise glare
Heat management	Heatsink in aluminium
Control Gear	Constant Current Driver (non-dimmable)
Power supply	220-240 V 50/60 Hz
Electrical class	Class I
Operating temperature	-20 °C to +35 °C
Connection	Disconnectable Plug Ø cable 8–10 mm (3 × 1,5 mm²)
Fixing	2 Stainless Steel fixing straps with Spring Clip
Method of Construction	<ul style="list-style-type: none">Housing in one piece with reinforced imperviousnessPatented SLIDE opening system
Materials	
Housing	Polycarbonate with protective coextruded PMMA layer
End caps, fixing straps...	Stainless Steel 304 L
Gaskets	EPDM
Standards	
Imperviousness	IP66, IP68 and IP69K
Shock resistance	IK10
Fire resistance	650 °C
Vibration resistance	Meets the standard EN 60598-1 (tested according to CEI 60068-2-6)

Darwin 100 T8

Technology	T8
Max. temp.	30 °C
Power	1 × 36 W and 1 × 58 W

AF0921



Key features

Plug&Play-installation by disconnectable Plug
Resists aggressive detergents
Easy cleaning
Easy lamp change
Durable and maintainable luminaire



Options

Finishings		
End caps and fixing straps in Stainless Steel 316 L	MR	
Housing		
Housing in Polycarbonate	PO	
Fixings		
Reinforced fixing straps with HSHC screw	BRV	
Shock-resistant fixing straps with HSHC screw	BAC	
Hinged fixing straps for maintenance by tilting	BAR	
Cable entries (black polyamide)		
1 cable gland–Ø cable: 5 to 12 mm	113	
1 cable gland–Ø cable: 7 to 14 mm	116	
2 cable glands–Ø cable: 5 to 12 mm	213	
2 cable glands–Ø cable: 7 to 14 mm	216	
Cable entries (nickel-coated brass)		
1 cable gland–Ø cable: 5 to 14 mm	113 LN	
2 cable glands–Ø cable: 5 to 14 mm	213 LN	
Disconnectable output cords with IP68 Plug (length 0,80 m)		
Output cord with a 3 pole WIELAND Plug	CW3	
Accessories		
Spacer kit (5 or 20 cm) for fire safety standards		

Principal part numbers

Power	Designation	Part No.	Optic	L (mm)
Versions without reflector				
1 × 36 W	DAR100 136E G13 POME PS3 BRS	4102 5699		1318
1 × 58 W	DAR100 158E G13 POME PS3 BRS	4102 5702		1618
Versions with extensive reflector				
1 × 36 W	DAR100 136E G13 POME PS3 RE BRS	4102 5700		1318
1 × 58 W	DAR100 158E G13 POME PS3 RE BRS	4102 5621		1618
Versions with intensive reflector				
1 × 36 W	DAR100 136E G13 POME PS3 RI BRS	4102 5701		1318
1 × 58 W	DAR100 158E G13 POME PS3 RI BRS	4102 5703		1618

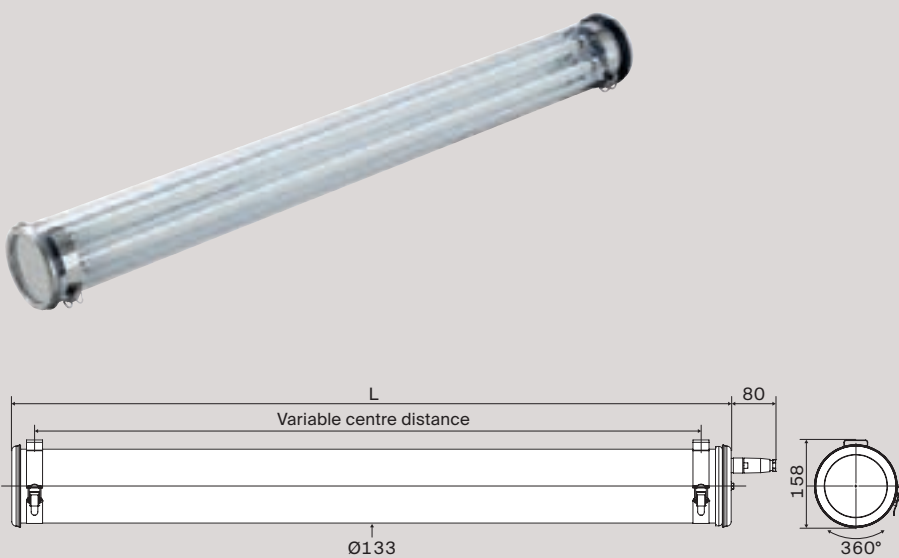
Specifications

Technical data	
Light source	1x T8 lamp, not included
Optic	<ul style="list-style-type: none">White powder coated gear tray serving as reflector for diffuse general lightingExtensive reflector (wide beam) in anodised aluminum sheetIntensive reflector (narrow beam) in anodised aluminium sheet
Control Gear	Hot cathode electronic Control Gear (EEI A2)
Power supply	220-240 V 50/60 Hz
Electrical class	Class I
Operating temperature	-20 °C to +30 °C
Connection	Disconnectable Plug Ø cable 8–10 mm (3 × 1,5 mm²)
Fixing	2 Stainless Steel fixing straps with Spring Clip
Method of Construction	<ul style="list-style-type: none">Housing in one piece with reinforced imperviousnessPatented SLIDE opening system
Materials	
Housing	Polycarbonate with protective coextruded PMMA layer
End caps, fixing straps...	Stainless Steel 304 L
Gaskets	EPDM
Standards	
Imperviousness	IP66, IP68 and IP69K
Shock resistance	IK10
Fire resistance	650 °C
Vibration resistance	Meets the standard EN 60598-1 (tested according to CEI 60068-2-6)

Darwin 133 T8

Technology	T8
Max. temp.	30 °C
Power	2 × 36 W and 2 × 58 W

AF0921



Key features

Plug&Play-installation by disconnectable Plug
Resists aggressive detergents
Easy cleaning
Easy lamp change
Durable and maintainable luminaire



Options

Finishings		
End caps and fixing straps in Stainless Steel 316 L	MR	
Housing		
Housing in Polycarbonate	PO	
Fixings		
Reinforced fixing straps with HSHC screw	BRV	
Shock-resistant fixing straps with HSHC screw	BAC	
Hinged fixing straps for maintenance by tilting	BAR	
Cable entries (black polyamide)		
1 cable gland–Ø cable: 5 to 12 mm	113	
1 cable gland–Ø cable: 7 to 14 mm	116	
2 cable glands–Ø cable: 5 to 12 mm	213	
2 cable glands–Ø cable: 7 to 14 mm	216	
Cable entries (nickel-coated brass)		
1 cable gland–Ø cable: 5 to 14 mm	113 LN	
2 cable glands–Ø cable: 5 to 14 mm	213 LN	
Disconnectable output cords with IP68 Plug (length 0,80 m)		
Output cord with a 3 pole WIELAND Plug	CW3	
Accessories		
Spacer kit (5 or 20 cm) for fire safety standards		

Principal part numbers

Power	Designation	Part No.	Optic	L (mm)
Versions without reflector				
2 × 36 W	DAR133 236E G13 POME PS3 BRS	2202 5048		1355
2 × 58 W	DAR133 258E G13 POME PS3 BRS	2202 5050		1655
Versions with extensive reflector				
2 × 36 W	DAR133 236E G13 POME PS3 RE BRS	2202 5049		1355
2 × 58 W	DAR133 258E G13 POME PS3 RE BRS	2202 5051		1655

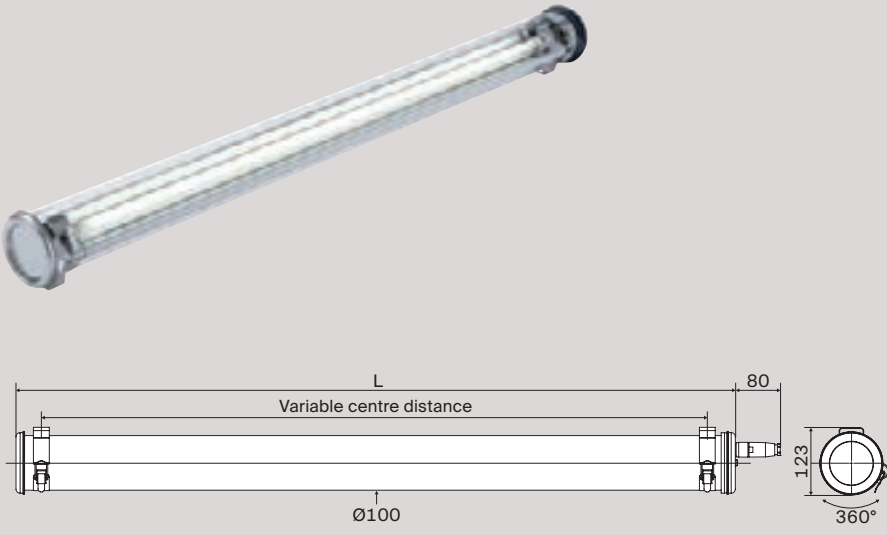
Specifications

Technical data	
Light source	2x T8 lamps, not included
Optic	<ul style="list-style-type: none">White powder coated gear tray serving as reflector for diffuse general lightingExtensive reflector (wide beam) in anodised aluminum sheet
Control Gear	Hot cathode electronic Control Gear (EEI A2)
Power supply	220-240 V 50/60 Hz
Electrical class	Class I
Operating temperature	-20 °C to +30 °C
Connection	Disconnectable Plug Ø cable 8–10 mm (3 × 1,5 mm²)
Fixing	2 Stainless Steel fixing straps with Spring Clip
Method of Construction	<ul style="list-style-type: none">Housing in one piece with reinforced imperviousnessPatented SLIDE opening system
Materials	
Housing	Polycarbonate with protective coextruded PMMA layer
End caps, fixing straps...	Stainless Steel 304 L
Gaskets	EPDM
Standards	
Imperviousness	IP66, IP68 and IP69K
Shock resistance	IK10
Fire resistance	650 °C
Vibration resistance	Meets the standard EN 60598-1 (tested according to CEI 60068-2-6)

Darwin 100 T5

Technology	T5
Max. temp.	30 °C
Power	1 × 39 W to 1 × 80 W

AF0921



Key features

Plug&Play-installation by disconnectable Plug
Resists aggressive detergents
Easy cleaning
Easy lamp change
Durable and maintainable luminaire



Options

Finishings		
End caps and fixing straps in Stainless Steel 316 L	MR	
Housing		
Housing in Polycarbonate	PO	
Fixings		
Reinforced fixing straps with HSHC screw	BRV	
Shock-resistant fixing straps with HSHC screw	BAC	
Hinged fixing straps for maintenance by tilting	BAR	
Cable entries (black polyamide)		
1 cable gland–Ø cable: 5 to 12 mm	113	
1 cable gland–Ø cable: 7 to 14 mm	116	
2 cable glands–Ø cable: 5 to 12 mm	213	
2 cable glands–Ø cable: 7 to 14 mm	216	
Cable entries (nickel-coated brass)		
1 cable gland–Ø cable: 5 to 14 mm	113 LN	
2 cable glands–Ø cable: 5 to 14 mm	213 LN	
Disconnectable output cords with IP68 Plug (length 0,80 m)		
Output cord with a 3 pole WIELAND Plug	CW3	
Accessories		
Spacer kit (5 or 20 cm) for fire safety standards		

Principal part numbers

Power	Designation	Part No.	Optic	L (mm)
Versions with extensive reflector				
1 × 39 W	DAR100 139E G5 POME PS3 RE BRS	4151 5091		1018
1 × 54 W	DAR100 154E G5 POME PS3 RE BRS	4151 5090		1318
1 × 49 W	DAR100 149E G5 POME PS3 RE BRS	4151 5176		1618
1 × 80 W	DAR100 180E G5 POME PS3 RE BRS	4151 5179		
Versions with intensive reflector				
1 × 39 W	DAR100 139E G5 POME PS3 RI BRS	4151 5175		1018
1 × 54 W	DAR100 154E G5 POME PS3 RI BRS	4151 5178		1318
1 × 49 W	DAR100 149E G5 POME PS3 RI BRS	4151 5177		1618
1 × 80 W	DAR100 180E G5 POME PS3 RI BRS	4151 5180		

Available for 21, 28, and 35 W T5 lamps

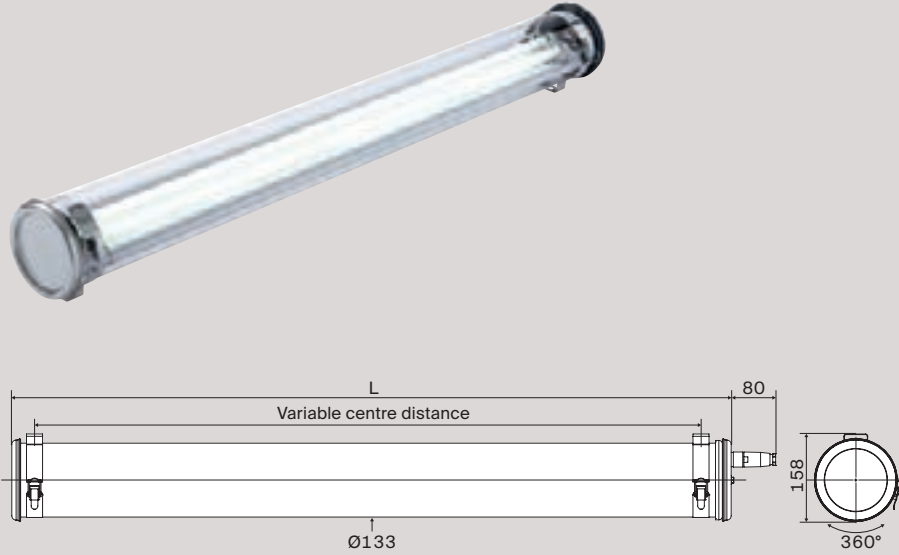
Specifications

Technical data	
Light source	1x T5 lamp, not included
Optic	Reflector in anodised aluminium: <ul style="list-style-type: none">intensive (narrow beam)extensive (large beam)
Control Gear	Hot cathode electronic Control Gear (EEI A2)
Power supply	220–240 V 50/60 Hz
Electrical class	Class I
Operating temperature	-20 °C to +30 °C
Connection	Disconnectable Plug Ø cable 8–10 mm (3 × 1,5 mm²)
Fixing	2 Stainless Steel fixing straps with Spring Clip
Method of Construction	<ul style="list-style-type: none">Housing in one piece with reinforced imperviousnessPatented SLIDE opening system
Materials	
Housing	Polycarbonate with protective coextruded PMMA layer
End caps, fixing straps...	Stainless Steel 304 L
Gaskets	EPDM
Standards	
Imperviousness	IP66, IP68 and IP69K
Shock resistance	IK10
Fire resistance	650 °C
Vibration resistance	Meets the standard EN 60598-1 (tested according to CEI 60068-2-6)

Darwin 133 T5

Technology	T5
Max. temp.	30 °C
Power	2 × 39 W to 2 × 80 W

AF0921



Key features

Plug&Play-installation by disconnectable Plug
Resists aggressive detergents
Easy cleaning
Easy lamp change
Durable and maintainable luminaire



Options

Finishings		
End caps and fixing straps in Stainless Steel 316 L	MR	
Housing		
Housing in Polycarbonate	PO	
Fixings		
Reinforced fixing straps with HSHC screw	BRV	
Shock-resistant fixing straps with HSHC screw	BAC	
Hinged fixing straps for maintenance by tilting	BAR	
Cable entries (black polyamide)		
1 cable gland–Ø cable: 5 to 12 mm	113	
1 cable gland–Ø cable: 7 to 14 mm	116	
2 cable glands–Ø cable: 5 to 12 mm	213	
2 cable glands–Ø cable: 7 to 14 mm	216	
Cable entries (nickel-coated brass)		
1 cable gland–Ø cable: 5 to 14 mm	113 LN	
2 cable glands–Ø cable: 5 to 14 mm	213 LN	
Disconnectable output cords with IP68 Plug (length 0,80 m)		
Output cord with a 3 pole WIELAND Plug	CW3	
Accessories		
Spacer kit (5 or 20 cm) for fire safety standards		

Principal part numbers

Power	Designation	Part No.	Optic	L (mm)
Versions with extensive reflector				
2 × 39 W	DAR133 239E G5 POME PS3 RE BRS	2251 5091		995
2 × 54 W	DAR133 254E G5 POME PS3 RE BRS	2251 5093		1295
2 × 49 W	DAR133 249E G5 POME PS3 RE BRS	2251 5092		1595
2 × 80 W	DAR133 280E G5 POME PS3 RE BRS	2251 5094		

Available for 21, 28, and 35 W T5 lamps

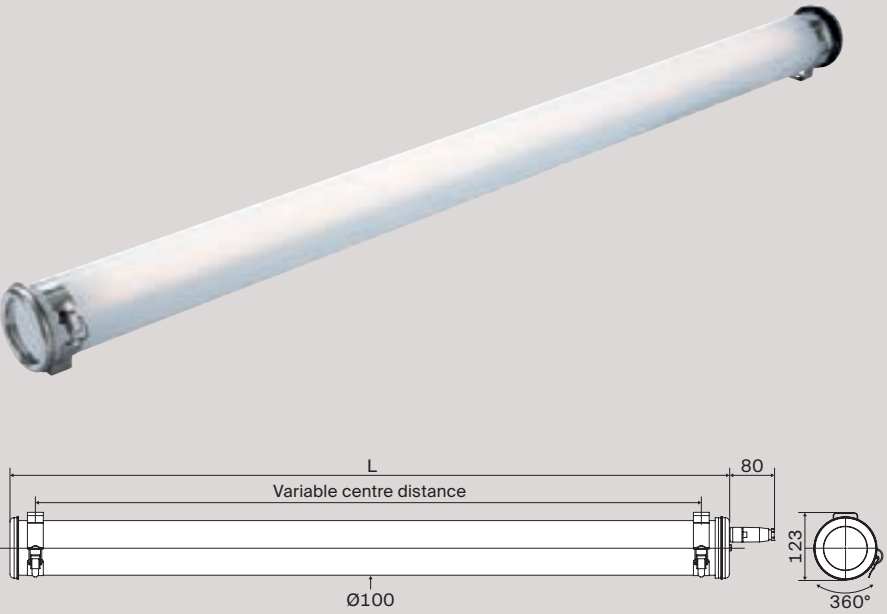
Specifications

Technical data	
Light source	2x T5 lamps, not included
Optic	Reflector in anodised aluminium: <ul style="list-style-type: none">extensive (large beam)
Control Gear	Hot cathode electronic Control Gear (EEI A2)
Power supply	220–240 V 50/60 Hz
Electrical class	Class I
Operating temperature	-20 °C to +30 °C
Connection	Disconnectable Plug Ø cable 8–10 mm (3 × 1,5 mm²)
Fixing	2 Stainless Steel fixing straps with Spring Clip
Method of Construction	<ul style="list-style-type: none">Housing in one piece with reinforced imperviousnessPatented SLIDE opening system
Materials	
Housing	Polycarbonate with protective coextruded PMMA layer
End caps, fixing straps...	Stainless Steel 304 L
Gaskets	EPDM
Standards	
Imperviousness	IP66, IP68 and IP69K
Shock resistance	IK10
Fire resistance	650 °C
Vibration resistance	Meets the standard EN 60598-1 (tested according to CEI 60068-2-6)

Carnot 100

Technology	LED
Temp. opt.	Positive cold
Light output	2775 to 5550 lm
Control Gear	“Industry” rated

AF0921



Key features





Plug&Play-installation by disconnectable Plug
Suitable for repeated switching on and off
Resists aggressive detergents
Long maintenance intervals
Durable and maintainable luminaire



Options

Finishings		
End caps and fixing straps in Stainless Steel 316 L	MR	
Housing		
Housing in Polycarbonate	PO	
Cable entries (black polyamide)		
1 cable gland–Ø cable: 5 to 12 mm	113	
1 cable gland–Ø cable: 7 to 14 mm	116	
2 cable glands–Ø cable: 5 to 12 mm	213	
2 cable glands–Ø cable: 7 to 14 mm	216	
Cable entries (nickel-coated brass)		
1 cable gland–Ø cable: 5 to 14 mm	113 LN	
2 cable glands–Ø cable: 5 to 14 mm	213 LN	
Disconnectable output cords with IP68 Plug (length 0,80 m)		
Output cord with a 3 pole WIELAND Plug	CW3	
Accessories		
Spacer kit (5 or 20 cm) for fire safety standards		

Principal part numbers

Lumens	Designation	Part No.	Cons. (W)	Optic	T (K)	L (mm)	
Versions for new installations							
3700	CAR100 14H830 POME PS3 SA BRS	3102 0050	33		3000	1318	
	CAR100 14H840 POME PS3 SA BRS	3102 0060			4000		
5550	CAR100 16H830 POME PS3 SA BRS	3102 0090	49		3000	1850	
	CAR100 16H840 POME PS3 SA BRS	3102 0100			4000		
Retrofit versions: Like-for-like replacement							
Equivalent to 1 x 36 W T8							
2775	CAR100 13H830 POME PS3 SA BRS	3102 0030	25		3000	1018	
	CAR100 13H840 POME PS3 SA BRS	3102 0040			4000		
Equivalent to 1 x 58 W T8							
4625	CAR100 15H830 POME PS3 SA BRS	3102 0070	41		3000	1618	
	CAR100 15H840 POME PS3 SA BRS	3102 0080			4000		

* Light output of the luminaire

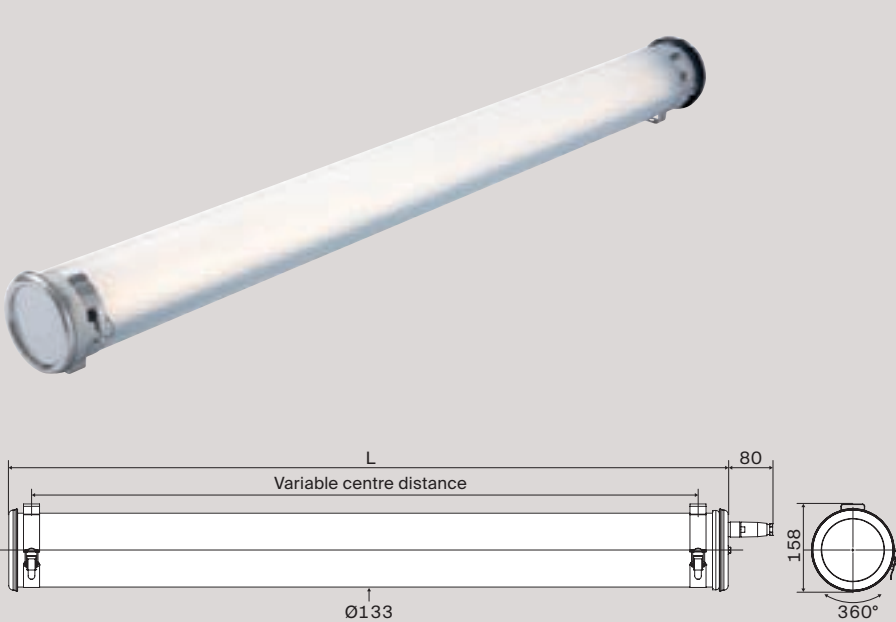
Specifications

Technical data	
Light source	<ul style="list-style-type: none">High efficiency LED modules (160 lm/W)50 000 h L80/B50 at max. operating temperatureReplaceable LED modulesCRI> 80
Optic	<ul style="list-style-type: none">Light mixing chamberSatin Diffuser to minimise glare
Heat management	Heatsink in aluminium
Control Gear	<ul style="list-style-type: none">Resistant electronic driver, “Industry” rated (non-dimmable)Resistance to voltage surge: 320 V AC, 48 hSupports voltage peaks <4 kV
Power supply	220–240 V 50/60 Hz
Electrical class	Class I
Operating temperature	-20 °C to +40 °C
Connection	Disconnectable Plug Ø cable 8–10 mm (3 × 1,5 mm²)
Fixing	2 Stainless Steel fixing straps with Spring Clip
Method of Construction	<ul style="list-style-type: none">Housing in one piece with reinforced imperviousnessPatented SLIDE opening system
Materials	
Housing	Polycarbonate with protective coextruded PMMA layer
End caps, fixing straps...	Stainless Steel 304 L
Gaskets	EPDM
Standards	
Imperviousness	IP66, IP68 and IP69K
Shock resistance	IK10
Fire resistance	650 °C
Vibration resistance	Meets the standard EN 60598-1 (tested according to CEI 60068-2-6)

Carnot 133

Technology	LED
Temp. opt.	Positive cold
Light output	5550 to 11100 lm
Control Gear	“Industry” rated

AF0921



Key features

Plug&Play-installation by disconnectable Plug
Suitable for repeated switching on and off
Resists aggressive detergents
Long maintenance intervals
Durable and maintainable luminaire



Options

Finishings	
End caps and fixing straps in Stainless Steel 316 L	MR
Housing	
Housing in Polycarbonate	PO
Cable entries (black polyamide)	
1 cable gland–Ø cable: 5 to 12 mm	113
1 cable gland–Ø cable: 7 to 14 mm	116
2 cable glands–Ø cable: 5 to 12 mm	213
2 cable glands–Ø cable: 7 to 14 mm	216
Cable entries (nickel-coated brass)	
1 cable gland–Ø cable: 5 to 14 mm	113 LN
2 cable glands–Ø cable: 5 to 14 mm	213 LN
Disconnectable output cords with IP68 Plug (length 0,80 m)	
Output cord with a 3 pole WIELAND Plug	CW3
Accessories	
Spacer kit (5 or 20 cm) for fire safety standards	

Specifications

Lumens	Designation	Part No.	Cons. (W)	Optic	T (K)	L (mm)
Versions for new installations						
7400	CAR133 24H830 POME PS3 SA BRS	3202 0030	65		3000	1295
	CAR133 24H840 POME PS3 SA BRS	3202 0040			4000	
11100	CAR133 26H830 POME PS3 SA BRS	3202 0070	95		3000	1850
	CAR133 26H840 POME PS3 SA BRS	3202 0080			4000	
Retrofit versions: Like-for-like replacement						
Equivalent to 2 × 36 W T8						
5550	CAR133 23H830 POME PS3 SA BRS	3202 0010	49		3000	995
	CAR133 23H840 POME PS3 SA BRS	3202 0020			4000	
Equivalent to 2 × 58 W T8						
9250	CAR133 25H830 POME PS3 SA BRS	3202 0050	81		3000	1595
	CAR133 25H840 POME PS3 SA BRS	3202 0060			4000	

* Light output of the luminaire

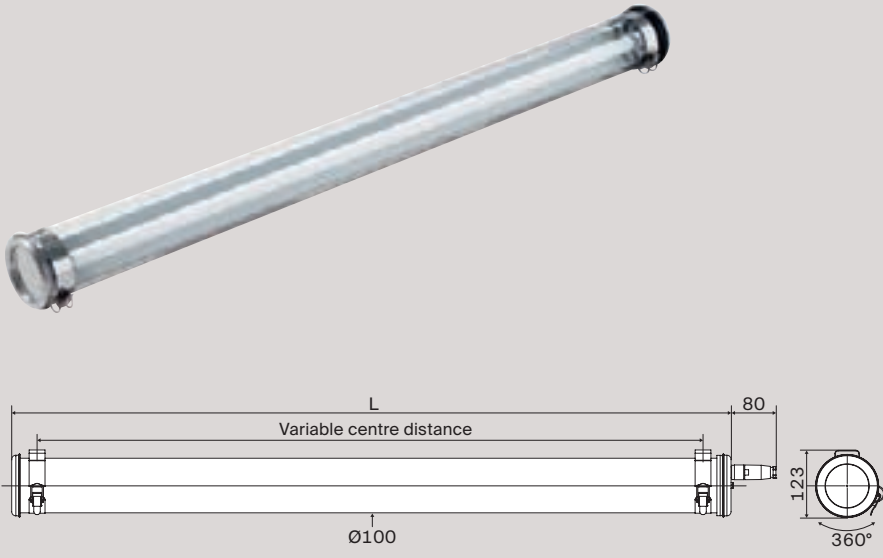
Specifications

Technical data	
Light source	<ul style="list-style-type: none">High efficiency LED modules (160 lm/W)50 000 h L80/B50 at max. operating temperatureReplaceable LED modulesCRI> 80
Optic	<ul style="list-style-type: none">Light mixing chamberSatin Diffuser to minimise glare
Heat management	Heatsink in aluminium
Control Gear	<ul style="list-style-type: none">Resistant electronic driver, “Industry” rated (non-dimmable)Resistance to voltage surge: 320 V AC, 48 hSupports voltage peaks <4 kV
Power supply	220–240 V 50/60 Hz
Electrical class	Class I
Operating temperature	-20 °C to +40 °C
Connection	Disconnectable Plug Ø cable 8–10 mm (3 × 1,5 mm²)
Fixing	2 Stainless Steel fixing straps with Spring Clip
Method of Construction	<ul style="list-style-type: none">Housing in one piece with reinforced imperviousnessPatented SLIDE opening system
Materials	
Housing	Polycarbonate with protective coextruded PMMA layer
End caps, fixing straps...	Stainless Steel 304 L
Gaskets	EPDM
Standards	
Imperviousness	IP66, IP68 and IP69K
Shock resistance	IK10
Fire resistance	650 °C
Vibration resistance	Meets the standard EN 60598-1 (tested according to CEI 60068-2-6)

Darwin 100 IND T8

Technology	T8
Max. temp.	40 °C
Power	1 × 36 W and 1 × 58 W
Control Gear	“Industry” rated

AF0921



Key features

Plug&Play-installation by disconnectable Plug
Resists aggressive detergents
Easy cleaning
Easy lamp change
Durable and maintainable luminaire



Options

Finishings	
End caps and fixing straps in Stainless Steel 316 L	MR
Housing	
Housing in Polycarbonate	PO
Cable entries (black polyamide)	
1 cable gland–Ø cable: 5 to 12 mm	113
1 cable gland–Ø cable: 7 to 14 mm	116
2 cable glands–Ø cable: 5 to 12 mm	213
2 cable glands–Ø cable: 7 to 14 mm	216
Cable entries (nickel-coated brass)	
1 cable gland–Ø cable: 5 to 14 mm	113 LN
2 cable glands–Ø cable: 5 to 14 mm	213 LN
Disconnectable output cords with IP68 Plug (length 0,80 m)	
Output cord with a 3 pole WIELAND Plug	CW3
Accessories	
Spacer kit (5 or 20 cm) for fire safety standards	

Principal part numbers

Power	Designation	Part No.	Optic	L (mm)
Versions without reflector				
1 × 36 W	DAR100 136I G13 POME PS3 BRS	4102 5690		1318
1 × 58 W	DAR100 158I G13 POME PS3 BRS	4102 5693		1618
Versions with extensive reflector				
1 × 36 W	DAR100 136I G13 POME PS3 RE BRS	4102 5691		1318
1 × 58 W	DAR100 158I G13 POME PS3 RE BRS	4102 5694		1618
Versions with intensive reflector				
1 × 36 W	DAR100 136I G13 POME PS3 RI BRS	4102 5692		1318
1 × 58 W	DAR100 158I G13 POME PS3 RI BRS	4102 5695		1618

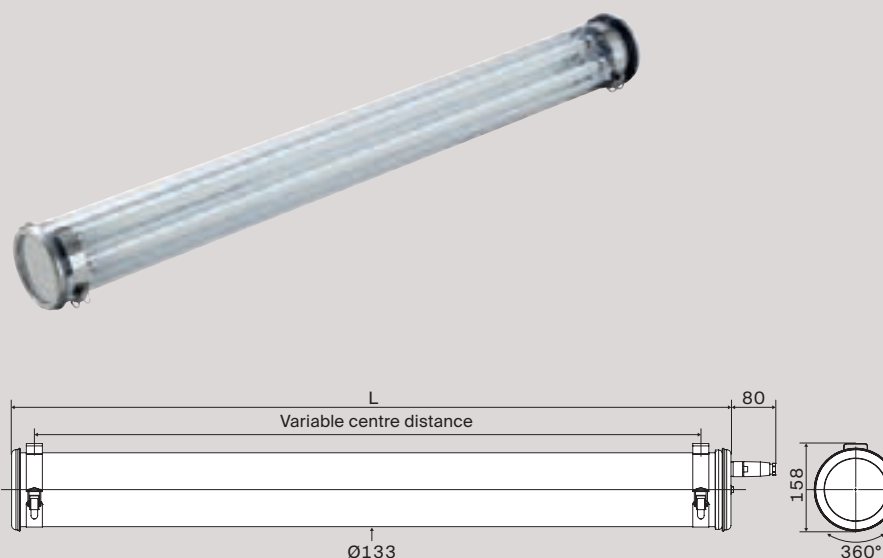
Specifications

Technical data	
Light source	1x T8 lamp, not included
Optic	<ul style="list-style-type: none">White powder coated gear tray serving as reflector for diffuse general lightingExtensive reflector (wide beam) in anodised aluminum sheetIntensive reflector (narrow beam) in anodised aluminium sheet
Control Gear	<ul style="list-style-type: none">Resistant electronic Control Gear, “Industry” rated (EEI A2)Resistance to voltage surges: 320 V AC, 1 hSupports voltage peaks <4 kV
Power supply	220-240 V 50/60 Hz
Electrical class	Class I
Operating temperature	-20 °C to +40 °C
Connection	Disconnectable Plug Ø cable 8–10 mm (3 × 1,5 mm²)
Fixing	2 Stainless Steel fixing straps with Spring Clip
Method of Construction	<ul style="list-style-type: none">Housing in one piece with reinforced imperviousnessPatented SLIDE opening system
Materials	
Housing	Polycarbonate with protective coextruded PMMA layer
End caps, fixing straps...	Stainless Steel 304 L
Gaskets	EPDM
Standards	
Imperviousness	IP66, IP68 and IP69K
Shock resistance	IK10
Fire resistance	650 °C
Vibration resistance	Meets the standard EN 60598-1 (tested according to CEI 60068-2-6)

Darwin 133 IND T8

Technology	T8
Max. temp.	40 °C
Power	2 × 36 W and 2 × 58 W
Control Gear	“Industry” rated

AF0921



Key features

Plug&Play-installation by disconnectable Plug
Resists aggressive detergents
Easy cleaning
Easy lamp change
Durable and maintainable luminaire



Options

Finishings	
End caps and fixing straps in Stainless Steel 316 L	MR
Housing	
Housing in Polycarbonate	PO
Cable entries (black polyamide)	
1 cable gland–Ø cable: 5 to 12 mm	113
1 cable gland–Ø cable: 7 to 14 mm	116
2 cable glands–Ø cable: 5 to 12 mm	213
2 cable glands–Ø cable: 7 to 14 mm	216
Cable entries (nickel-coated brass)	
1 cable gland–Ø cable: 5 to 14 mm	113 LN
2 cable glands–Ø cable: 5 to 14 mm	213 LN
Disconnectable output cords with IP68 Plug (length 0,80 m)	
Output cord with a 3 pole WIELAND Plug	CW3
Accessories	
Spacer kit (5 or 20 cm) for fire safety standards	

Principal part numbers

Power	Designation	Part No.	Optic	L (mm)
Versions without reflector				
2 × 36 W	DAR133 236I G13 POME PS3 BRS	2202 5042		1355
2 × 58 W	DAR133 258I G13 POME PS3 BRS	2202 5044		1655
Versions with extensive reflector				
2 × 36 W	DAR133 236I G13 POME PS3 RE BRS	2202 5043		1355
2 × 58 W	DAR133 258I G13 POME PS3 RE BRS	2202 5045		1655

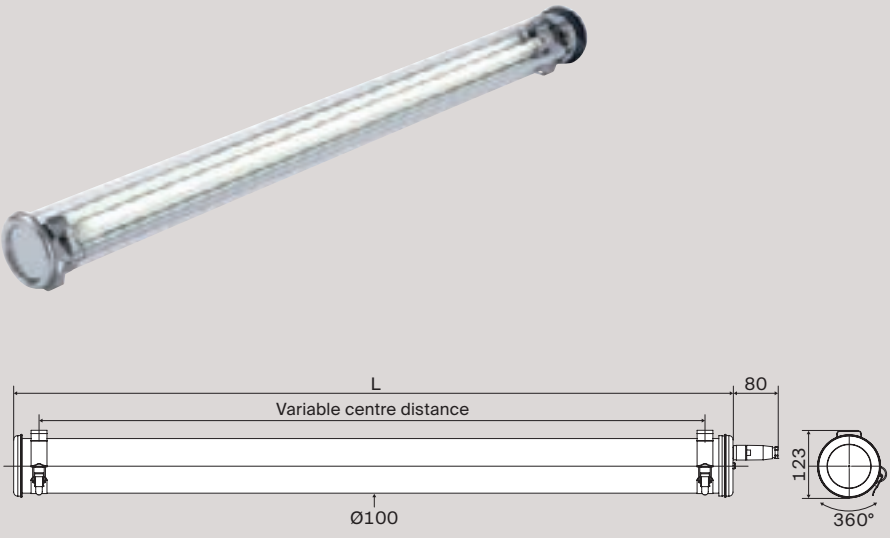
Specifications

Technical data	
Light source	2x T8 lamps, not included
Optic	<ul style="list-style-type: none">White powder coated gear tray serving as reflector for diffuse general lightingExtensive reflector (wide beam) in anodised aluminum sheet
Control Gear	<ul style="list-style-type: none">Resistant electronic Control Gear, “Industry” rated (EEI A2)Resistance to voltage surges: 320 V AC, 1 hSupports voltage peaks <4 kV
Power supply	220-240 V 50/60 Hz
Electrical class	Class I
Operating temperature	-20 °C to +40 °C
Connection	Disconnectable Plug Ø cable 8–10 mm (3 × 1,5 mm²)
Fixing	2 Stainless Steel fixing straps with Spring Clip
Method of Construction	<ul style="list-style-type: none">Housing in one piece with reinforced imperviousnessPatented SLIDE opening system
Materials	
Housing	Polycarbonate with protective coextruded PMMA layer
End caps, fixing straps...	Stainless Steel 304 L
Gaskets	EPDM
Standards	
Imperviousness	IP66, IP68 and IP69K
Shock resistance	IK10
Fire resistance	650 °C
Vibration resistance	Meets the standard EN 60598-1 (tested according to CEI 60068-2-6)

Darwin 100 IND T5

Technology	T5
Max. temp.	40 °C
Power	1 × 49 W to 1 × 80 W
Control Gear	“Industry” rated

AF0921



Key features



Plug&Play-installation by disconnectable Plug
Resists aggressive detergents
Easy cleaning
Easy lamp change
Durable and maintainable luminaire



Options

Finishings		
End caps and fixing straps in Stainless Steel 316 L	MR	
Housing		
Housing in Polycarbonate	PO	
Cable entries (black polyamide)		
1 cable gland–Ø cable: 5 to 12 mm	113	
1 cable gland–Ø cable: 7 to 14 mm	116	
2 cable glands–Ø cable: 5 to 12 mm	213	
2 cable glands–Ø cable: 7 to 14 mm	216	
Cable entries (nickel-coated brass)		
1 cable gland–Ø cable: 5 to 14 mm	113 LN	
2 cable glands–Ø cable: 5 to 14 mm	213 LN	
Disconnectable output cords with IP68 Plug (length 0,80 m)		
Output cord with a 3 pole WIELAND Plug	CW3	
Accessories		
Spacer kit (5 or 20 cm) for fire safety standards		

Principal part numbers

Power	Designation	Part No.	Optic	L (mm)
Versions with extensive reflector				
1 × 54 W	DAR100 154I G5 POME PS3 RE BRS	4151 5168		1318
1 × 49 W	DAR100 149I G5 POME PS3 RE BRS	4151 5166		1618
1 × 80 W	DAR100 180I G5 POME PS3 RE BRS	4151 5170		
Versions with intensive reflector				
1 × 54 W	DAR100 154I G5 POME PS3 RI BRS	4151 5169		1318
1 × 49 W	DAR100 149I G5 POME PS3 RI BRS	4151 5167		1618
1 × 80 W	DAR100 180I G5 POME PS3 RI BRS	4151 5171		

Specifications

Technical data	
Light source	1x T5 lamp, not included
Optic	Reflector in anodised aluminium: <ul style="list-style-type: none">intensive (narrow beam)extensive (large beam)
Control Gear	<ul style="list-style-type: none">Resistant electronic Control Gear, “Industry” rated (EEI A2)Resistance to voltage surges: 320 V AC, 1 hSupports voltage peaks <4 kV
Power supply	220-240 V 50/60 Hz
Electrical class	Class I
Operating temperature	-20 °C to +40 °C
Connection	Disconnectable Plug Ø cable 8-10 mm (3 × 1,5 mm²)
Fixing	2 Stainless Steel fixing straps with Spring Clip
Method of Construction	<ul style="list-style-type: none">Housing in one piece with reinforced imperviousnessPatented SLIDE opening system
Materials	
Housing	Polycarbonate with protective coextruded PMMA layer
End caps, fixing straps...	Stainless Steel 304 L
Gaskets	EPDM
Standards	
Imperviousness	IP66, IP68 and IP69K
Shock resistance	IK10
Fire resistance	650 °C
Vibration resistance	Meets the standard EN 60598-1 (tested according to CEI 60068-2-6)

Darwin 133 IND T5

Technology	T5
Max. temp.	40 °C
Power	2 × 49 W to 2 × 80 W
Control Gear	“Industry” rated

AF0921



Key features

Plug&Play-installation by disconnectable Plug
Resists aggressive detergents
Easy cleaning
Easy lamp change
Durable and maintainable luminaire



Options

Finishings		
End caps and fixing straps in Stainless Steel 316 L	MR	
Housing		
Housing in Polycarbonate	PO	
Cable entries (black polyamide)		
1 cable gland–Ø cable: 5 to 12 mm	113	
1 cable gland–Ø cable: 7 to 14 mm	116	
2 cable glands–Ø cable: 5 to 12 mm	213	
2 cable glands–Ø cable: 7 to 14 mm	216	
Cable entries (nickel-coated brass)		
1 cable gland–Ø cable: 5 to 14 mm	113 LN	
2 cable glands–Ø cable: 5 to 14 mm	213 LN	
Disconnectable output cords with IP68 Plug (length 0,80 m)		
Output cord with a 3 pole WIELAND Plug	CW3	
Accessories		
Spacer kit (5 or 20 cm) for fire safety standards		

Principal part numbers

Power	Designation	Part No.	Optic	L (mm)
Versions with extensive reflector				
2 × 54 W	DAR133 254I G5 POME PS3 RE BRS	2251 5087		1295
2 × 49 W	DAR133 249I G5 POME PS3 RE BRS	2251 5086		1595
2 × 80 W	DAR133 280I G5 POME PS3 RE BRS	2251 5088		

Specifications

Technical data	
Light source	2x T5 lamps, not included
Optic	Reflector in anodised aluminium: <ul style="list-style-type: none">extensive (large beam)
Control Gear	<ul style="list-style-type: none">Resistant electronic Control Gear, “Industry” rated (EEI A2)Resistance to voltage surges: 320 V AC, 1 hSupports voltage peaks <4 kV
Power supply	220-240 V 50/60 Hz
Electrical class	Class I
Operating temperature	-20 °C to +40 °C
Connection	Disconnectable Plug Ø cable 8-10 mm (3 × 1,5 mm²)
Fixing	2 Stainless Steel fixing straps with Spring Clip
Method of Construction	<ul style="list-style-type: none">Housing in one piece with reinforced imperviousnessPatented SLIDE opening system
Materials	
Housing	Polycarbonate with protective coextruded PMMA layer
End caps, fixing straps...	Stainless Steel 304 L
Gaskets	EPDM
Standards	
Imperviousness	IP66, IP68 and IP69K
Shock resistance	IK10
Fire resistance	650 °C
Vibration resistance	Meets the standard EN 60598-1 (tested according to CEI 60068-2-6)

General lighting

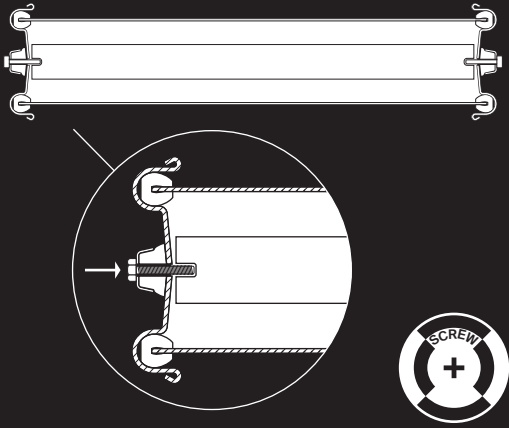

Extreme environments

Luminaires with coextruded polycarbonate/PMMA diffusers



Tmax	Ranges	Sources	Tmax	Energy performance	Page
Standard electrical systems					
30 – 35 °C	Stevin 100	LED	35 °C	●●●●	72
	Stevin 133	LED	35 °C	●●●●	73
	Einstein 100 T8	T8	30 °C	●●●	74
	Einstein 133 T8	T8	30 °C	●●●	75
	Einstein 100 T5	T5	30 °C	●●	76
	Einstein 133 T5	T5	30 °C	●●	77
High-risk electrical systems and high-intensity vibration					
40 °C	Cugnot 100	LED	40 °C	●●●●	78
	Cugnot 133	LED	40 °C	●●●●	79
	Einstein 100 IND T8	T8	40 °C	●●●	80
	Einstein 133 IND T8	T8	40 °C	●●●	81
	Einstein 100 IND T5	T5	40 °C	●●	82
	Einstein 133 IND T5	T5	40 °C	●●	83
55 – 70 °C	Bunsen 100	LED	55 °C	●●●●	84
	Bunsen 133	LED	55 °C	●●●●	85
	Einstein 100 HT	T8	70 °C	●	86
	Einstein 133 HT	T8	60 °C	●	87

Lighting for extreme environments

Our lighting solutions deliver exceptionally long working life under extreme operating conditions, thanks to their housing system and specially designed components.

Resistance	<p>Our luminaires installed in extreme environments are resistant:</p> <ul style="list-style-type: none">• to high levels of continual vibration• to particularly corrosive bactericidal agents• to abrasion• to high temperatures or wide variations in temperature <p>These stresses can cause premature damage to materials, followed by the spontaneous failure of standard equipment. Other factors, such as availability, bulk and accessibility, also require luminaire maintenance to be reduced to the minimum level achievable.</p>
The SCREW system	<div><div><p>A single-piece housing</p><p>A simple mechanical assembly of ultra-strong materials, the SCREW construction principle makes our products true single-piece housings offering high mechanical strength and chemical resistance. The diffuser and gear tray are held in compression by stainless steel end caps that make the system immune to impacts (IK10) and vibration. The luminaire is closed by the axial tightening of two stainless steel screws that apply a consistent pressure to the entire surface of the seal to guarantee a perfect hermetic seal (IP68/IP69K). Throughout their life, the elastic deformation of the stainless steel end caps absorbs the expansion and mechanical stresses imposed on the casing of the luminaire. This ensures that it remains sealed long-term in the event of thermal shock or mechanical impact, independently of external conditions.</p></div><div></div></div>
The right diffuser for every application	<div><p>Our composite coextruded polycarbonate/PMMA diffuser combines exceptional resistance to chemical attack with high impact resistance (IK10), and complies with all regulations regarding plastic materials and objects coming into contact with foodstuffs (European directives 2002/72/EC, 2004/19/EC, 2005/79/EC and 2007/19/EC). Its tubular shape also reduces external dirt accumulation and facilitates cleaning.</p></div> <div></div>

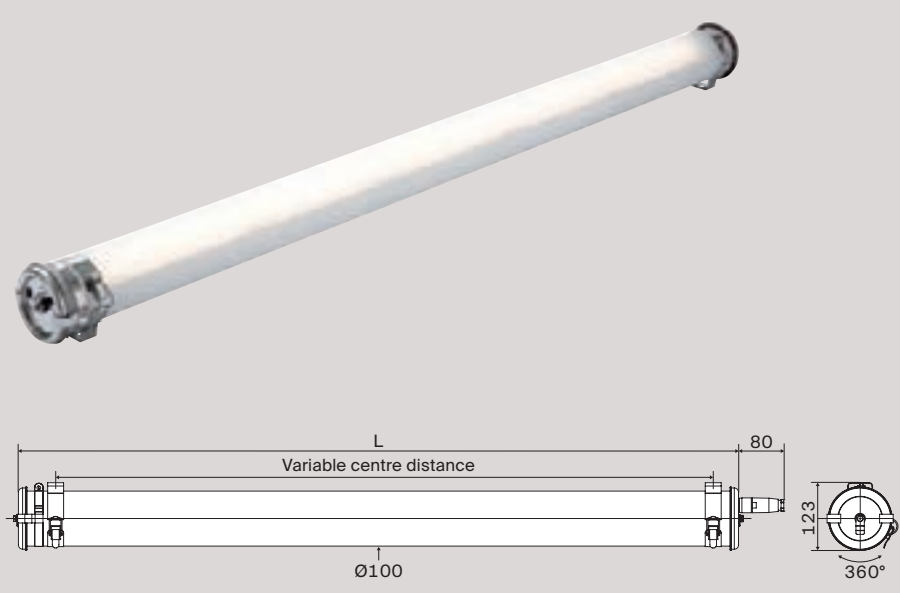
LED	<p>LED technology offers the highest level of energy efficiency. It is therefore recommended for luminaires that must reach the required luminous flux rapidly and tolerate a high number of on/off switching operations. We offer lighting solutions that operate at temperatures of up to 40 °C without compromising their lifespan, and which are free from the size constraints of traditional lighting sources. Our two innovative approaches are suitable for all types of installation.</p> <p>New installation versions</p> <p>The new installation versions are sized to deliver the same luminous flux as a traditional installation, but with fewer luminaires: the lighting level and uniformity are identical, but with lower power consumption. For example, achieving the regulatory average lighting level of 200 lux with a new installation in a 25 m × 10 m × 3 m space represents a reduction of:</p> <ul style="list-style-type: none">• 35% in energy consumption• 20% in products to be purchased and installed• 20% in power supply points to be installed• 20% in products to be maintained and cleaned <p>Retrofit and like-for-like replacement versions</p> <p>To avoid the need to redesign installation layout simply in order to optimise the existing system, we offer Retrofit versions that simply replace existing luminaires to deliver identical lighting at lower power consumption.</p>	<div><div><p>30 × Einstein 133 2 × 58 W 24 × Stevin 133</p></div><div></div></div>
Fluorescent lamps	<p>T8 lamps</p> <p>These are the most commonly used light sources and offer the best compromise between robustness, efficiency and lifespan. These are also the only lamps to provide lighting solutions for ambient temperatures of up to 70 °C.</p> <p>T5 lamps</p> <p>These sources consume slightly more energy, but are particularly well suited to applications using powerful luminaires with directional photometry. The HO (High Output) versions significantly reduce luminaire dimensions, at the same time as delivering lighting performance similar to that of a T8 lamp.</p>	<div><div><p>Einstein 133 2 × 58 W Stevin 133 equivalent</p></div><div><div> </div></div></div>

Mains electrical interference	<p>The faults and fluctuations that can occur in industrial mains power supplies (3-phase imbalance, frequent voltage fluctuations, etc.) can damage luminaire gear not specifically designed to withstand them. Our products for “high-risk electrical systems” contain robust electronic power supplies that are specifically protected against mains electrical interference and withstand voltage peaks of up to 4 kV and voltage surges of up to 320 V. They can also coexist with ferromagnetic products on the same electrical system.</p>	
Temperatures	<p>The IND versions of our LED and fluorescent solutions contain robust electronic power supplies enabling operation in ambient temperatures of up to 40 °C. Above that level, our LED luminaires are manufactured using high-temperature modules that use a special thermal management system to operate at temperatures of up to 55 °C with no effect on their lifespan. HT fluorescent versions using ferromagnetic gear are used in lighting solutions that can cope with ambient temperatures of up to 70 °C.</p>	
Vibration resistance	<p>All our luminaires offer a high level of resistance to vibrations, but we also offer an even higher level of resistance with the IND and HT versions of our fluorescent luminaires. In the same way as our LED luminaires, they contain robust power supplies specifically designed for this purpose.</p>	

Stevin 100

Technology	LED
Temp. opt.	Positive cold
Light output	2775 to 5550 lm

AF0921



Key features

Plug&Play-installation by disconnectable Plug
Resists aggressive detergents
Vibration resistance
Very high resistance to corrosion
Long maintenance intervals
Durable and maintainable luminaire



Options

Finishings	
End caps and fixing straps in Stainless Steel 316 L	MR
Housing	
Housing in Polycarbonate	PO
Fixings	
Reinforced fixing straps with HSHC screw	BRV
Shock-resistant fixing straps with HSHC screw	BAC
Cable entries (black polyamide)	
1 cable gland–Ø cable: 5 to 12 mm	113
1 cable gland–Ø cable: 7 to 14 mm	116
2 cable glands–Ø cable: 5 to 12 mm	213
2 cable glands–Ø cable: 7 to 14 mm	216
Cable entries (nickel-coated brass)	
1 cable gland–Ø cable: 5 to 14 mm	113 LN
2 cable glands–Ø cable: 5 to 14 mm	213 LN
Disconnectable output cords with IP68 Plug (length 0,80 m)	
Output cord with a 3 pole WIELAND Plug	CW3
Accessories	
Spacer kit (5 or 20 cm) for fire safety standards	

Principal part numbers

Lumens	Designation	Part No.	Cons. (W)	Optic	T (K)	L (mm)	
Versions for new installations							
3700	STE100 14H830 POME PS3 SA BRS	3101 0050	31		3000	1307	
	STE100 14H840 POME PS3 SA BRS	3101 0060			4000		
5550	STE100 16H830 POME PS3 SA BRS	3101 0090	46		3000	1850	
	STE100 16H840 POME PS3 SA BRS	3101 0100			4000		
Retrofit versions: Like-for-like replacement							
Equivalent to 1 × 36 W T8							
2775	STE100 13H830 POME PS3 SA BRS	3101 0030	23		3000	1007	
	STE100 13H840 POME PS3 SA BRS	3101 0040			4000		
Equivalent to 1 × 58 W T8							
4625	STE100 15H830 POME PS3 SA BRS	3101 0070	39		3000	1607	
	STE100 15H840 POME PS3 SA BRS	3101 0080			4000		

* Light output of the luminaire

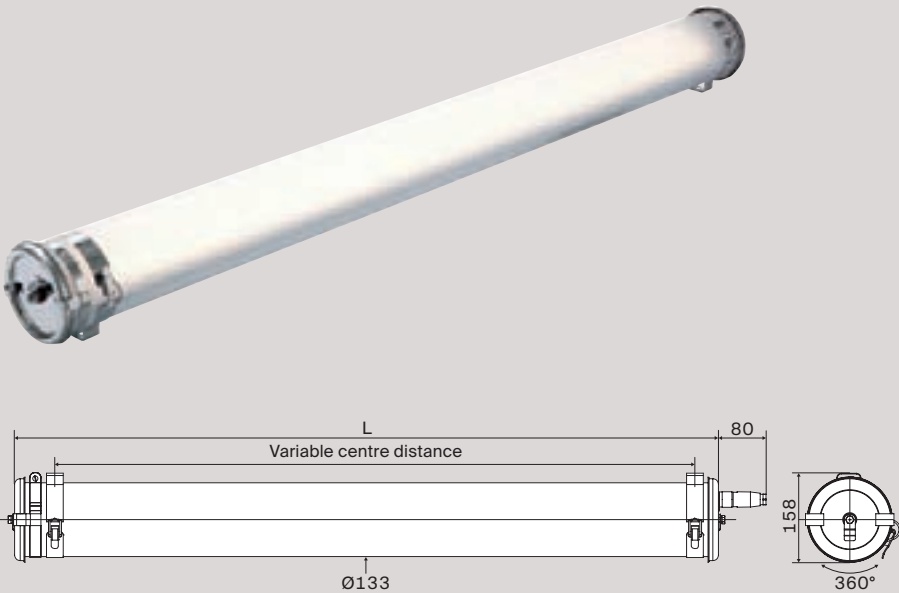
Specifications

Technical data	
Light source	<ul style="list-style-type: none">High efficiency LED modules (155 lm/W)50 000 h L80/B50 at max. operating temperatureReplaceable LED modulesCRI> 80
Optic	<ul style="list-style-type: none">Light mixing chamberSatin Diffuser to minimise glare
Heat management	Heatsink in aluminium
Control Gear	Constant Current Driver (non-dimmable)
Power supply	220-240 V 50/60 Hz
Electrical class	Class I
Operating temperature	-20 °C to +35 °C
Connection	Disconnectable Plug Ø cable 8–10 mm (3 × 1,5 mm²)
Fixing	2 Stainless Steel fixing straps with Spring Clip
Method of Construction	<ul style="list-style-type: none">Housing in one piece with high mechanical and chemical resistanceLong-lasting imperviousness by axial screw fitting
Materials	
Housing	Polycarbonate with protective coextruded PMMA layer
End caps, fixing straps...	Stainless Steel 304 L
Gaskets	EPDM
Standards	
Imperviousness	IP66, IP68 and IP69K
Shock resistance	IK10
Fire resistance	650 °C
Vibration resistance	Meets the standard EN 60598-1 (tested according to CEI 60068-2-6)

Stevin 133

Technology	LED
Temp. opt.	Positive cold
Light output	5550 to 11100 lm

AF0921



Key features





Plug&Play-installation by disconnectable Plug
Resists aggressive detergents
Vibration resistance
Very high resistance to corrosion
Long maintenance intervals
Durable and maintainable luminaire



Options

Finishings	
End caps and fixing straps in Stainless Steel 316 L	MR
Housing	
Housing in Polycarbonate	PO
Fixings	
Reinforced fixing straps with HSHC screw	BRV
Shock-resistant fixing straps with HSHC screw	BAC
Cable entries (black polyamide)	
1 cable gland–Ø cable: 5 to 12 mm	113
1 cable gland–Ø cable: 7 to 14 mm	116
2 cable glands–Ø cable: 5 to 12 mm	213
2 cable glands–Ø cable: 7 to 14 mm	216
Cable entries (nickel-coated brass)	
1 cable gland–Ø cable: 5 to 14 mm	113 LN
2 cable glands–Ø cable: 5 to 14 mm	213 LN
Disconnectable output cords with IP68 Plug (length 0,80 m)	
Output cord with a 3 pole WIELAND Plug	CW3
Accessories	
Spacer kit (5 or 20 cm) for fire safety standards	

Principal part numbers

Lumens	Designation	Part No.	Cons. (W)	Optic	T (K)	L (mm)	
Versions for new installations							
7400	STE133 24H830 POME PS3 SA BRS	3201 0030	63		3000	1287	
	STE133 24H840 POME PS3 SA BRS	3201 0040			4000		
11100	STE133 26H830 POME PS3 SA BRS	3201 0070	92		3000	1850	
	STE133 26H840 POME PS3 SA BRS	3201 0080			4000		
Retrofit versions: Like-for-like replacement							
Equivalent to 2 × 36 W T8							
5550	STE133 23H830 POME PS3 SA BRS	3201 0010	46		3000	987	
	STE133 23H840 POME PS3 SA BRS	3201 0020			4000		
Equivalent to 2 × 58 W T8							
9250	STE133 25H830 POME PS3 SA BRS	3201 0050	78		3000	1587	
	STE133 25H840 POME PS3 SA BRS	3201 0060			4000		

* Light output of the luminaire

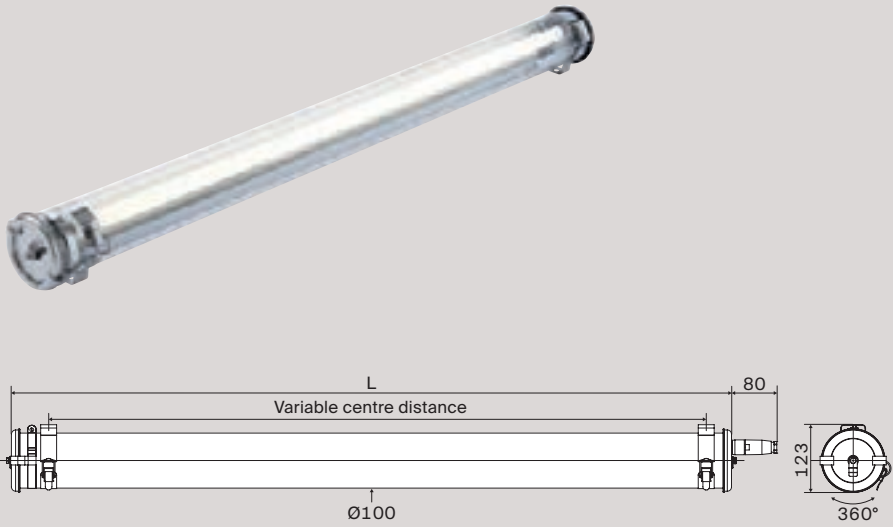
Specifications

Technical data	
Light source	<ul style="list-style-type: none">High efficiency LED modules (155 lm/W)50 000 h L80/B50 at max. operating temperatureReplaceable LED modulesCRI> 80
Optic	<ul style="list-style-type: none">Light mixing chamberSatin Diffuser to minimise glare
Heat management	Heatsink in aluminium
Control Gear	Constant Current Driver (non-dimmable)
Power supply	220-240 V 50/60 Hz
Electrical class	Class I
Operating temperature	-20 °C to +35 °C
Connection	Disconnectable Plug Ø cable 8–10 mm (3 × 1,5 mm²)
Fixing	2 Stainless Steel fixing straps with Spring Clip
Method of Construction	<ul style="list-style-type: none">Housing in one piece with high mechanical and chemical resistanceLong-lasting imperviousness by axial screw fitting
Materials	
Housing	Polycarbonate with protective coextruded PMMA layer
End caps, fixing straps...	Stainless Steel 304 L
Gaskets	EPDM
Standards	
Imperviousness	IP66, IP68 and IP69K
Shock resistance	IK10
Fire resistance	650 °C
Vibration resistance	Meets the standard EN 60598-1 (tested according to CEI 60068-2-6)

Einstein 100 T8

Technology	T8
Max. temp.	30 °C
Power	1 × 36 W and 1 × 58 W

AF0921



Key features

Plug&Play-installation by disconnectable Plug
Resists aggressive detergents
Vibration resistance
Very high resistance to corrosion
Durable and maintainable luminaire



Options

Finishings	
End caps and fixing straps in Stainless Steel 316 L	MR
Housing	
Housing in Polycarbonate	PO
Fixings	
Reinforced fixing straps with HSHC screw	BRV
Shock-resistant fixing straps with HSHC screw	BAC
Cable entries (black polyamide)	
1 cable gland–Ø cable: 5 to 12 mm	113
1 cable gland–Ø cable: 7 to 14 mm	116
2 cable glands–Ø cable: 5 to 12 mm	213
2 cable glands–Ø cable: 7 to 14 mm	216
Cable entries (nickel-coated brass)	
1 cable gland–Ø cable: 5 to 14 mm	113 LN
2 cable glands–Ø cable: 5 to 14 mm	213 LN
Disconnectable output cords with IP68 Plug (length 0,80 m)	
Output cord with a 3 pole WIELAND Plug	CW3
Accessories	
Spacer kit (5 or 20 cm) for fire safety standards	

Principal part numbers

Power	Designation	Part No.	Optic	L (mm)
Versions without reflector				
1 × 36 W	EIN100 136E G13 POME PS3 BRS	1502 5054		1307
1 × 58 W	EIN100 158E G13 POME PS3 BRS	1502 5057		1607
Versions with extensive reflector				
1 × 36 W	EIN100 136E G13 POME PS3 RE BRS	1502 5055		1307
1 × 58 W	EIN100 158E G13 POME PS3 RE BRS	1502 5058		1607
Versions with intensive reflector				
1 × 36 W	EIN100 136E G13 POME PS3 RI BRS	1502 5056		1307
1 × 58 W	EIN100 158E G13 POME PS3 RI BRS	1502 5059		1607

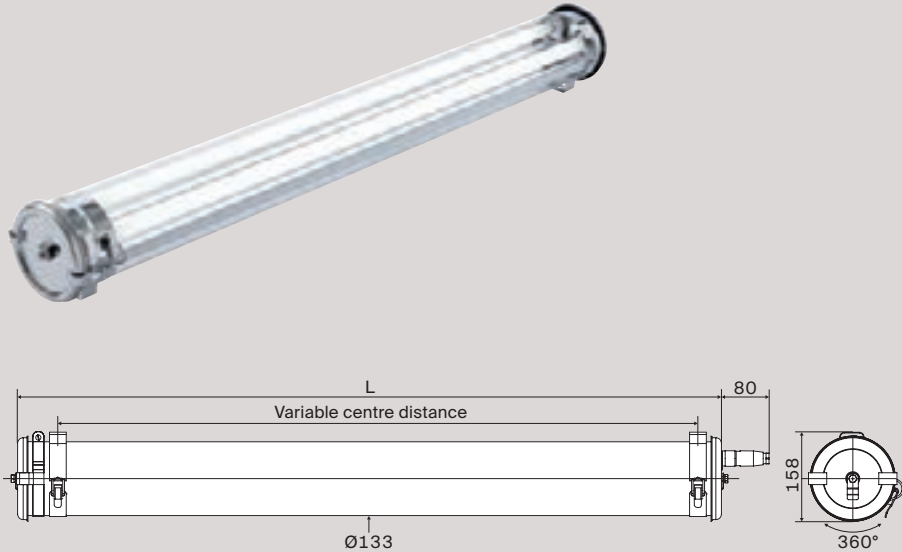
Specifications

Technical data	
Light source	1x T8 lamp, not included
Optic	<ul style="list-style-type: none">• White powder coated gear tray serving as reflector for diffuse general lighting• Extensive reflector (wide beam) in anodised aluminum sheet• Intensive reflector (narrow beam) in anodised aluminium sheet
Control Gear	Hot cathode electronic Control Gear (EEI A2)
Power supply	220-240 V 50/60 Hz
Electrical class	Class I
Operating temperature	-20 °C to +30 °C
Connection	Disconnectable Plug Ø cable 8–10 mm (3 × 1,5 mm²)
Fixing	2 Stainless Steel fixing straps with Spring Clip
Method of Construction	<ul style="list-style-type: none">• Housing in one piece with high mechanical and chemical resistance• Long-lasting imperviousness by axial screw fitting
Materials	
Housing	Polycarbonate with protective coextruded PMMA layer
End caps, fixing straps...	Stainless Steel 304 L
Gaskets	EPDM
Standards	
Imperviousness	IP66, IP68 and IP69K
Shock resistance	IK10
Fire resistance	650 °C
Vibration resistance	Meets the standard EN 60598-1 (tested according to CEI 60068-2-6)

Einstein 133 T8

Technology	T8
Max. temp.	30 °C
Power	2 × 36 W and 2 × 58 W

AF0921



Key features

Plug&Play-installation by disconnectable Plug
Resists aggressive detergents
Vibration resistance
Very high resistance to corrosion
Durable and maintainable luminaire



Options

Finishings	
End caps and fixing straps in Stainless Steel 316 L	MR
Housing	
Housing in Polycarbonate	PO
Fixings	
Reinforced fixing straps with HSHC screw	BRV
Shock-resistant fixing straps with HSHC screw	BAC
Cable entries (black polyamide)	
1 cable gland–Ø cable: 5 to 12 mm	113
1 cable gland–Ø cable: 7 to 14 mm	116
2 cable glands–Ø cable: 5 to 12 mm	213
2 cable glands–Ø cable: 7 to 14 mm	216
Cable entries (nickel-coated brass)	
1 cable gland–Ø cable: 5 to 14 mm	113 LN
2 cable glands–Ø cable: 5 to 14 mm	213 LN
Disconnectable output cords with IP68 Plug (length 0,80 m)	
Output cord with a 3 pole WIELAND Plug	CW3
Accessories	
Spacer kit (5 or 20 cm) for fire safety standards	

Principal part numbers

Power	Designation	Part No.	Optic	L (mm)
Versions without reflector				
2 × 36 W	EIN133 236E G13 POME PS3 BRS	1602 5064		1287
2 × 58 W	EIN133 258E G13 POME PS3 BRS	1602 5008		1587
Versions with extensive reflector				
2 × 36 W	EIN133 236E G13 POME PS3 RE BRS	1602 5065		1287
2 × 58 W	EIN133 258E G13 POME PS3 RE BRS	1602 5066		1587

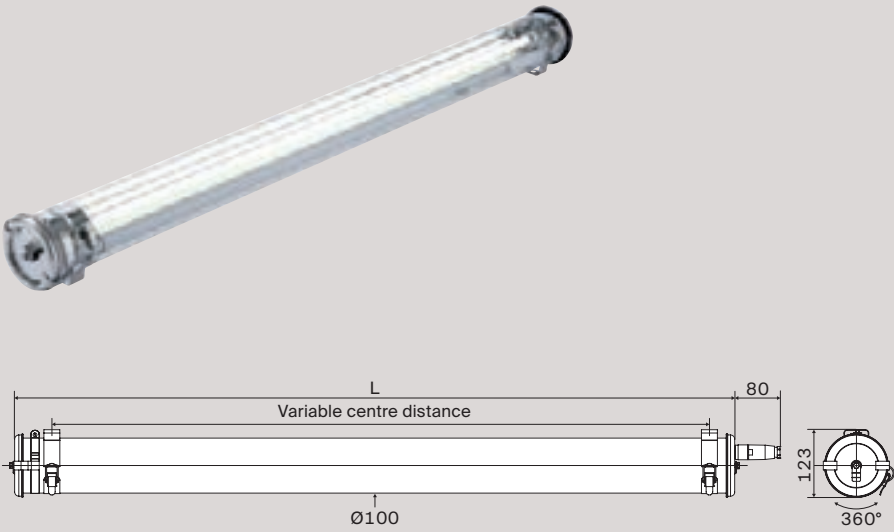
Specifications

Technical data	
Light source	2x T8 lamps, not included
Optic	<ul style="list-style-type: none">• White powder coated gear tray serving as reflector for diffuse general lighting• Extensive reflector (wide beam) in anodised aluminum sheet
Control Gear	Hot cathode electronic Control Gear (EEI A2)
Power supply	220-240 V 50/60 Hz
Electrical class	Class I
Operating temperature	-20 °C to +30 °C
Connection	Disconnectable Plug Ø cable 8–10 mm (3 × 1,5 mm²)
Fixing	2 Stainless Steel fixing straps with Spring Clip
Method of Construction	<ul style="list-style-type: none">• Housing in one piece with high mechanical and chemical resistance• Long-lasting imperviousness by axial screw fitting
Materials	
Housing	Polycarbonate with protective coextruded PMMA layer
End caps, fixing straps...	Stainless Steel 304 L
Gaskets	EPDM
Standards	
Imperviousness	IP66, IP68 and IP69K
Shock resistance	IK10
Fire resistance	650 °C
Vibration resistance	Meets the standard EN 60598-1 (tested according to CEI 60068-2-6)

Einstein 100 T5

Technology	T5
Max. temp.	30 °C
Power	1 × 39 W to 1 × 80 W

AF0921



Key features

Plug&Play-installation by disconnectable Plug
Resists aggressive detergents
Vibration resistance
Very high resistance to corrosion
Durable and maintainable luminaire



Options

Finishings		
End caps and fixing straps in Stainless Steel 316 L	MR	
Housing		
Housing in Polycarbonate	PO	
Fixings		
Reinforced fixing straps with HSHC screw	BRV	
Shock-resistant fixing straps with HSHC screw	BAC	
Cable entries (black polyamide)		
1 cable gland–Ø cable: 5 to 12 mm	113	
1 cable gland–Ø cable: 7 to 14 mm	116	
2 cable glands–Ø cable: 5 to 12 mm	213	
2 cable glands–Ø cable: 7 to 14 mm	216	
Cable entries (nickel-coated brass)		
1 cable gland–Ø cable: 5 to 14 mm	113 LN	
2 cable glands–Ø cable: 5 to 14 mm	213 LN	
Disconnectable output cords with IP68 Plug (length 0,80 m)		
Output cord with a 3 pole WIELAND Plug	CW3	
Accessories		
Spacer kit (5 or 20 cm) for fire safety standards		

Principal part numbers

Power	Designation	Part No.	Optic	L (mm)
Versions with extensive reflector				
1 × 39 W	EIN100 139E G5 POME PS3 RE BRS	1551 5003		1007
1 × 54 W	EIN100 154E G5 POME PS3 RE BRS	1551 5002		1307
1 × 49 W	EIN100 149E G5 POME PS3 RE BRS	1551 5057		1607
1 × 80 W	EIN100 180E G5 POME PS3 RE BRS	1551 5060		
Versions with intensive reflector				
1 × 39 W	EIN100 139E G5 POME PS3 RI BRS	1551 5056		1007
1 × 54 W	EIN100 154E G5 POME PS3 RI BRS	1551 5059		1307
1 × 49 W	EIN100 149E G5 POME PS3 RI BRS	1551 5058		1607
1 × 80 W	EIN100 180E G5 POME PS3 RI BRS	1551 5061		

Available for 21, 28, and 35W T5 lamps

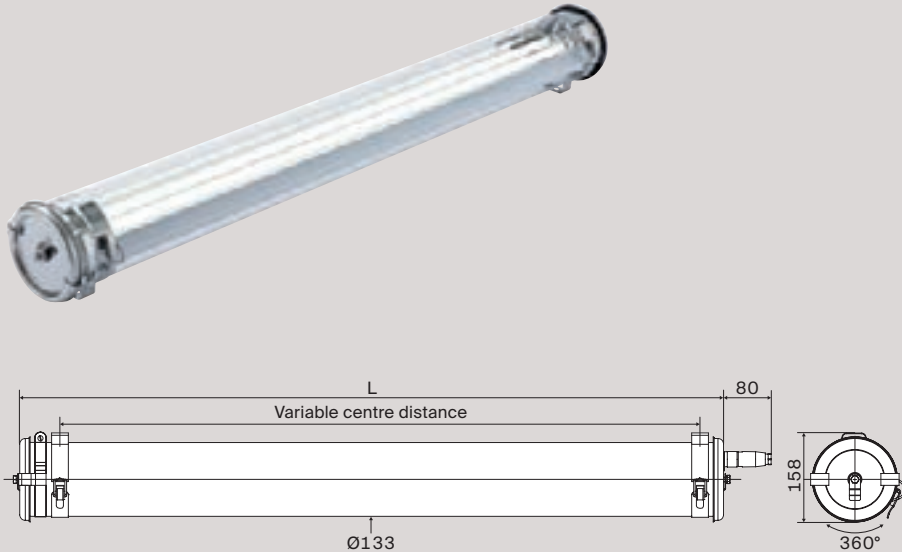
Specifications

Technical data	
Light source	1x T5 lamp, not included
Optic	Reflector in anodised aluminium: <ul style="list-style-type: none">intensive (narrow beam)extensive (large beam)
Control Gear	Hot cathode electronic Control Gear (EEI A2)
Power supply	220–240 V 50/60 Hz
Electrical class	Class I
Operating temperature	-20 °C to +30 °C
Connection	Disconnectable Plug Ø cable 8–10 mm (3 × 1,5 mm²)
Fixing	2 Stainless Steel fixing straps with Spring Clip
Method of Construction	<ul style="list-style-type: none">Housing in one piece with high mechanical and chemical resistanceLong-lasting imperviousness by axial screw fitting
Materials	
Housing	Polycarbonate with protective coextruded PMMA layer
End caps, fixing straps...	Stainless Steel 304 L
Gaskets	EPDM
Standards	
Imperviousness	IP66, IP68 and IP69K
Shock resistance	IK10
Fire resistance	650 °C
Vibration resistance	Meets the standard EN 60598-1 (tested according to CEI 60068-2-6)

Einstein 133 T5

Technology	T5
Max. temp.	30 °C
Power	2 × 39 W to 2 × 80 W

AF0921



Key features

Plug&Play-installation by disconnectable Plug
Resists aggressive detergents
Vibration resistance
Very high resistance to corrosion
Durable and maintainable luminaire



Options

Finishings	
End caps and fixing straps in Stainless Steel 316 L	MR
Housing	
Housing in Polycarbonate	PO
Fixings	
Reinforced fixing straps with HSHC screw	BRV
Shock-resistant fixing straps with HSHC screw	BAC
Cable entries (black polyamide)	
1 cable gland–Ø cable: 5 to 12 mm	113
1 cable gland–Ø cable: 7 to 14 mm	116
2 cable glands–Ø cable: 5 to 12 mm	213
2 cable glands–Ø cable: 7 to 14 mm	216
Cable entries (nickel-coated brass)	
1 cable gland–Ø cable: 5 to 14 mm	113 LN
2 cable glands–Ø cable: 5 to 14 mm	213 LN
Disconnectable output cords with IP68 Plug (length 0,80 m)	
Output cord with a 3 pole WIELAND Plug	CW3
Accessories	
Spacer kit (5 or 20 cm) for fire safety standards	

Principal part numbers

Power	Designation	Part No.	Optic	L (mm)
Versions with extensive reflector				
2 × 39 W	EIN133 239E G5 POME PS3 RE BRS	1651 5067		987
2 × 54 W	EIN133 254E G5 POME PS3 RE BRS	1651 5071		1287
2 × 49 W	EIN133 249E G5 POME PS3 RE BRS	1651 5069		1587
2 × 80 W	EIN133 280E G5 POME PS3 RE BRS	1651 5073		
Versions with intensive reflector				
2 × 39 W	EIN133 239E G5 POME PS3 RI BRS	1651 5068		987
2 × 54 W	EIN133 254E G5 POME PS3 RI BRS	1651 5072		1287
2 × 49 W	EIN133 249E G5 POME PS3 RI BRS	1651 5070		1587
2 × 80 W	EIN133 280E G5 POME PS3 RI BRS	1651 5074		

Available for 21, 28, and 35W T5 lamps

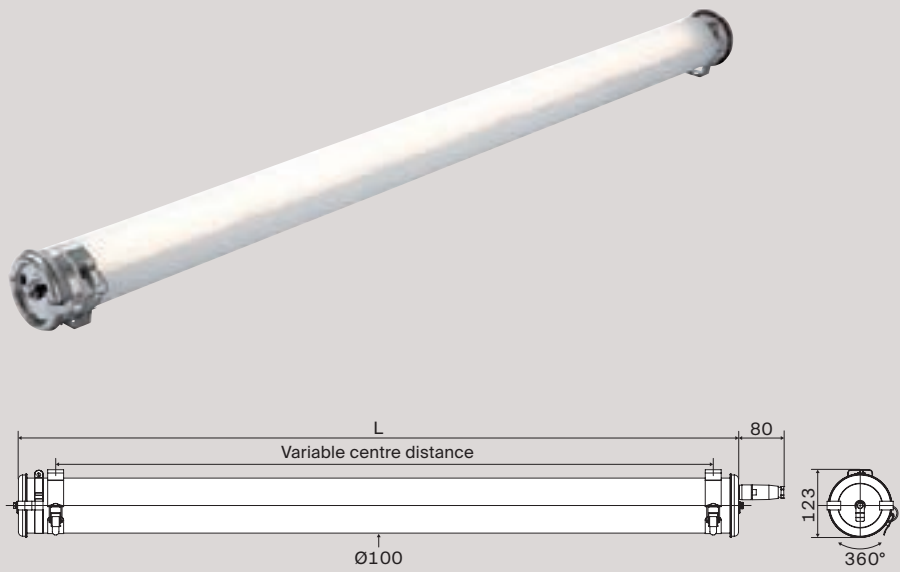
Specifications

Technical data	
Light source	2x T5 lamps, not included
Optic	Reflector in anodised aluminium: <ul style="list-style-type: none">intensive (narrow beam)extensive (large beam)
Control Gear	Hot cathode electronic Control Gear (EEI A2)
Power supply	220–240 V 50/60 Hz
Electrical class	Class I
Operating temperature	-20 °C to +30 °C
Connection	Disconnectable Plug Ø cable 8–10 mm (3 × 1,5 mm²)
Fixing	2 Stainless Steel fixing straps with Spring Clip
Method of Construction	<ul style="list-style-type: none">Housing in one piece with high mechanical and chemical resistanceLong-lasting imperviousness by axial screw fitting
Materials	
Housing	Polycarbonate with protective coextruded PMMA layer
End caps, fixing straps...	Stainless Steel 304 L
Gaskets	EPDM
Standards	
Imperviousness	IP66, IP68 and IP69K
Shock resistance	IK10
Fire resistance	650 °C
Vibration resistance	Meets the standard EN 60598-1 (tested according to CEI 60068-2-6)

Cugnot 100

Technology	LED
Temp. opt.	Positive cold
Light output	2775 to 5550 lm
Control Gear	“Industry” rated

AF0921



Key features





Plug&Play-installation by disconnectable Plug
Resists aggressive detergents
Very high resistance to vibrations
Very high resistance to corrosion
Long maintenance intervals
Durable and maintainable luminaire



Options

Finishings	
End caps and fixing straps in Stainless Steel 316 L	MR
Housing	
Housing in Polycarbonate	PO
Cable entries (black polyamide)	
1 cable gland–Ø cable: 5 to 12 mm	113
1 cable gland–Ø cable: 7 to 14 mm	116
2 cable glands–Ø cable: 5 to 12 mm	213
2 cable glands–Ø cable: 7 to 14 mm	216
Cable entries (nickel-coated brass)	
1 cable gland–Ø cable: 5 to 14 mm	113 LN
2 cable glands–Ø cable: 5 to 14 mm	213 LN
Disconnectable output cords with IP68 Plug (length 0,80 m)	
Output cord with a 3 pole WIELAND Plug	CW3
Accessories	
Spacer kit (5 or 20 cm) for fire safety standards	

Principal part numbers

Lumens	Designation	Part No.	Cons. (W)	Optic	T (K)	L (mm)
Versions for new installations						
3700	CUG100 14H830 POME PS3 SA BRS	3103 0050	33		3000	1307
	CUG100 14H840 POME PS3 SA BRS	3103 0060			4000	
5550	CUG100 16H830 POME PS3 SA BRS	3103 0090	49		3000	1850
	CUG100 16H840 POME PS3 SA BRS	3103 0100			4000	
Retrofit versions: Like-for-like replacement						
Equivalent to 1 × 36 W T8						
2775	CUG100 13H830 POME PS3 SA BRS	3103 0030	25		3000	1007
	CUG100 13H840 POME PS3 SA BRS	3103 0040			4000	
Equivalent to 1 × 58 W T8						
4625	CUG100 15H830 POME PS3 SA BRS	3103 0070	41		3000	1607
	CUG100 15H840 POME PS3 SA BRS	3103 0080			4000	

* Light output of the luminaire

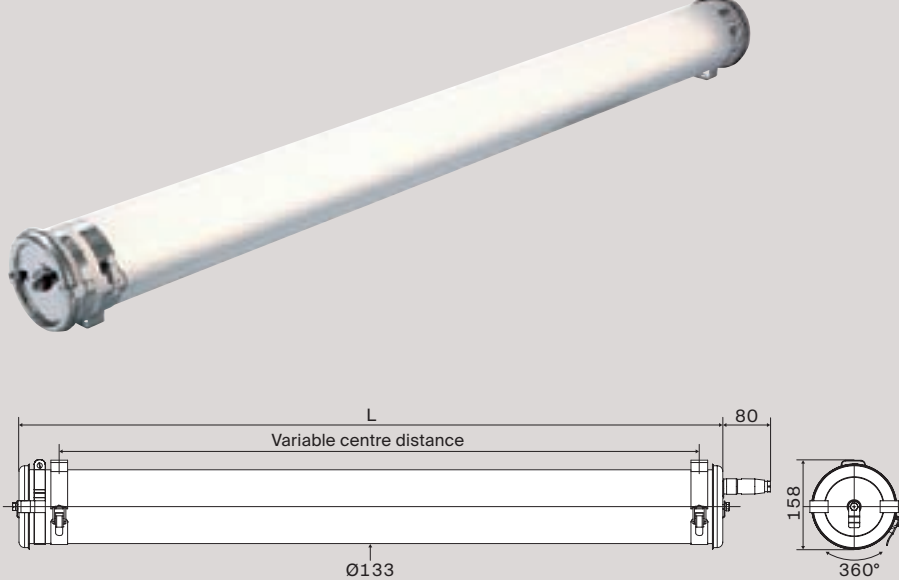
Specifications

Technical data	
Light source	<ul style="list-style-type: none">High efficiency LED modules (160 lm/W)50 000 h L80/B50 at max. operating temperatureReplaceable LED modulesCRI> 80
Optic	<ul style="list-style-type: none">Light mixing chamberSatin Diffuser to minimise glare
Heat management	Heatsink in aluminium
Control Gear	<ul style="list-style-type: none">Resistant electronic driver, “Industry” rated (non-dimmable)Resistance to voltage surge: 320 V AC, 48 hSupports voltage peaks <4 kV
Power supply	220–240 V 50/60 Hz
Electrical class	Class I
Operating temperature	-20 °C to +40 °C
Connection	Disconnectable Plug Ø cable 8–10 mm (3 × 1,5 mm²)
Fixing	2 Stainless Steel fixing straps with Spring Clip
Method of Construction	<ul style="list-style-type: none">Housing in one piece with high mechanical and chemical resistanceLong-lasting imperviousness by axial screw fitting
Materials	
Housing	Polycarbonate with protective coextruded PMMA layer
End caps, fixing straps...	Stainless Steel 304 L
Gaskets	EPDM
Standards	
Imperviousness	IP66, IP68 and IP69K
Shock resistance	IK10
Fire resistance	650 °C
Vibration resistance	Meets the standard EN 60598-1 (tested according to CEI 60068-2-6)

Cugnot 133

Technology	LED
Temp. opt.	Positive cold
Light output	5550 to 11100 lm
Control Gear	“Industry” rated

AF0921



Key features

Plug&Play-installation by disconnectable Plug
Resists aggressive detergents
Very high resistance to vibrations
Very high resistance to corrosion
Long maintenance intervals
Durable and maintainable luminaire



Options

Finishings	
End caps and fixing straps in Stainless Steel 316 L	MR
Housing	
Housing in Polycarbonate	PO
Cable entries (black polyamide)	
1 cable gland–Ø cable: 5 to 12 mm	113
1 cable gland–Ø cable: 7 to 14 mm	116
2 cable glands–Ø cable: 5 to 12 mm	213
2 cable glands–Ø cable: 7 to 14 mm	216
Cable entries (nickel-coated brass)	
1 cable gland–Ø cable: 5 to 14 mm	113 LN
2 cable glands–Ø cable: 5 to 14 mm	213 LN
Disconnectable output cords with IP68 Plug (length 0,80 m)	
Output cord with a 3 pole WIELAND Plug	CW3
Accessories	
Spacer kit (5 or 20 cm) for fire safety standards	

Principal part numbers

Lumens	Designation	Part No.	Cons. (W)	Optic	T (K)	L (mm)
Versions for new installations						
7400	CUG133 24H830 POME PS3 SA BRS	3203 0030	65		3000	1287
	CUG133 24H840 POME PS3 SA BRS	3203 0040			4000	
11100	CUG133 26H830 POME PS3 SA BRS	3203 0070	95		3000	1850
	CUG133 26H840 POME PS3 SA BRS	3203 0080			4000	
Retrofit versions: Like-for-like replacement						
Equivalent to 2 × 36 W T8						
5550	CUG133 23H830 POME PS3 SA BRS	3203 0010	49		3000	987
	CUG133 23H840 POME PS3 SA BRS	3203 0020			4000	
Equivalent to 2 × 58 W T8						
9250	CUG133 25H830 POME PS3 SA BRS	3203 0050	81		3000	1587
	CUG133 25H840 POME PS3 SA BRS	3203 0060			4000	

* Light output of the luminaire

Specifications

Technical data	
Light source	<ul style="list-style-type: none">High efficiency LED modules (160 lm/W)50 000 h L80/B50 at max. operating temperatureReplaceable LED modulesCRI> 80
Optic	<ul style="list-style-type: none">Light mixing chamberSatin Diffuser to minimise glare
Heat management	Heatsink in aluminium
Control Gear	<ul style="list-style-type: none">Resistant electronic driver, “Industry” rated (non-dimmable)Resistance to voltage surge: 320 V AC, 48 hSupports voltage peaks <4 kV
Power supply	220–240 V 50/60 Hz
Electrical class	Class I
Operating temperature	-20 °C to +40 °C
Connection	Disconnectable Plug Ø cable 8–10 mm (3 × 1,5 mm²)
Fixing	2 Stainless Steel fixing straps with Spring Clip
Method of Construction	<ul style="list-style-type: none">Housing in one piece with high mechanical and chemical resistanceLong-lasting imperviousness by axial screw fitting
Materials	
Housing	Polycarbonate with protective coextruded PMMA layer
End caps, fixing straps...	Stainless Steel 304 L
Gaskets	EPDM
Standards	
Imperviousness	IP66, IP68 and IP69K
Shock resistance	IK10
Fire resistance	650 °C
Vibration resistance	Meets the standard EN 60598-1 (tested according to CEI 60068-2-6)

Einstein 100 IND T8

Technology	T8
Max. temp.	40 °C
Power	1 × 36 W and 1 × 58 W
Control Gear	“Industry” rated

AF0921



Key features

Plug&Play-installation by disconnectable Plug
Resists aggressive detergents
Very high resistance to vibrations
Very high resistance to corrosion
Durable and maintainable luminaire



Options

Finishings	
End caps and fixing straps in Stainless Steel 316 L	MR
Housing	
Housing in Polycarbonate	PO
Cable entries (black polyamide)	
1 cable gland–Ø cable: 5 to 12 mm	113
1 cable gland–Ø cable: 7 to 14 mm	116
2 cable glands–Ø cable: 5 to 12 mm	213
2 cable glands–Ø cable: 7 to 14 mm	216
Cable entries (nickel-coated brass)	
1 cable gland–Ø cable: 5 to 14 mm	113 LN
2 cable glands–Ø cable: 5 to 14 mm	213 LN
Disconnectable output cords with IP68 Plug (length 0,80 m)	
Output cord with a 3 pole WIELAND Plug	CW3
Accessories	
Spacer kit (5 or 20 cm) for fire safety standards	

Principal part numbers

Power	Designation	Part No.	Optic	L (mm)
Versions without reflector				
1 × 36 W	EIN100 136I G13 POME PS3 BRS	6502 0281		1307
1 × 58 W	EIN100 158I G13 POME PS3 BRS	6502 0291		1607
Versions with extensive reflector				
1 × 36 W	EIN100 136I G13 POME PS3 RE BRS	1502 5050		1307
1 × 58 W	EIN100 158I G13 POME PS3 RE BRS	1502 5051		1607
Versions with intensive reflector				
1 × 36 W	EIN100 136I G13 POME 113 RI BRS	1502 5048		1307
1 × 58 W	EIN100 158I G13 POME 113 RI BRS	1502 5049		1607

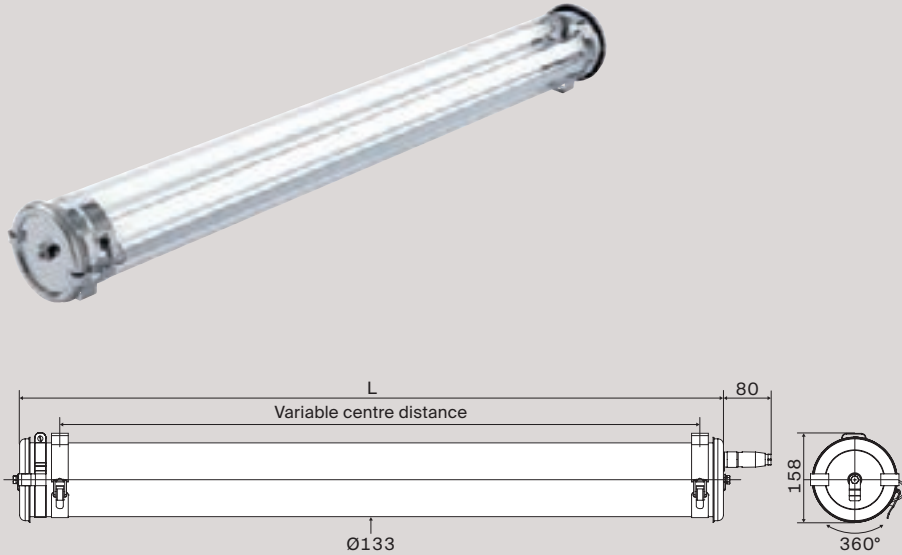
Specifications

Technical data	
Light source	1x T8 lamp, not included
Optic	<ul style="list-style-type: none">White powder coated gear tray serving as reflector for diffuse general lightingExtensive reflector (wide beam) in anodised aluminum sheet
Control Gear	<ul style="list-style-type: none">Resistant electronic Control Gear, “Industry” rated (EEI A2)Resistance to voltage surges: 320 V AC, 1 hSupports voltage peaks <4 kV
Power supply	220-240 V 50/60 Hz
Electrical class	Class I
Operating temperature	-20 °C to +40 °C
Connection	Disconnectable Plug Ø cable 8–10 mm (3 × 1,5 mm²)
Fixing	2 Stainless Steel fixing straps with Spring Clip
Method of Construction	<ul style="list-style-type: none">Housing in one piece with high mechanical and chemical resistanceLong-lasting imperviousness by axial screw fitting
Materials	
Housing	Polycarbonate with protective coextruded PMMA layer
End caps, fixing straps...	Stainless Steel 304 L
Gaskets	EPDM
Standards	
Imperviousness	IP66, IP68 and IP69K
Shock resistance	IK10
Fire resistance	650 °C
Vibration resistance	Meets the standard EN 60598-1 (tested according to CEI 60068-2-6)

Einstein 133 IND T8

Technology	T8
Max. temp.	40 °C
Power	2 × 36 W and 2 × 58 W
Control Gear	“Industry” rated

AF0921



Key features

Plug&Play-installation by disconnectable Plug
Resists aggressive detergents
Very high resistance to vibrations
Very high resistance to corrosion
Durable and maintainable luminaire



Options

Finishings	
End caps and fixing straps in Stainless Steel 316 L	MR
Housing	
Housing in Polycarbonate	PO
Cable entries (black polyamide)	
1 cable gland–Ø cable: 5 to 12 mm	113
1 cable gland–Ø cable: 7 to 14 mm	116
2 cable glands–Ø cable: 5 to 12 mm	213
2 cable glands–Ø cable: 7 to 14 mm	216
Cable entries (nickel-coated brass)	
1 cable gland–Ø cable: 5 to 14 mm	113 LN
2 cable glands–Ø cable: 5 to 14 mm	213 LN
Disconnectable output cords with IP68 Plug (length 0,80 m)	
Output cord with a 3 pole WIELAND Plug	CW3
Accessories	
Spacer kit (5 or 20 cm) for fire safety standards	

Principal part numbers

Power	Designation	Part No.	Optic	L (mm)
Versions without reflector				
2 × 36 W	EIN133 236I G13 POME PS3 BRS	6602 0191		1287
2 × 58 W	EIN133 258I G13 POME PS3 BRS	6602 0201		1587
Versions with extensive reflector				
2 × 36 W	EIN133 236I G13 POME PS3 RE BRS	1602 5060		1287
2 × 58 W	EIN133 258I G13 POME PS3 RE BRS	1602 5061		1587

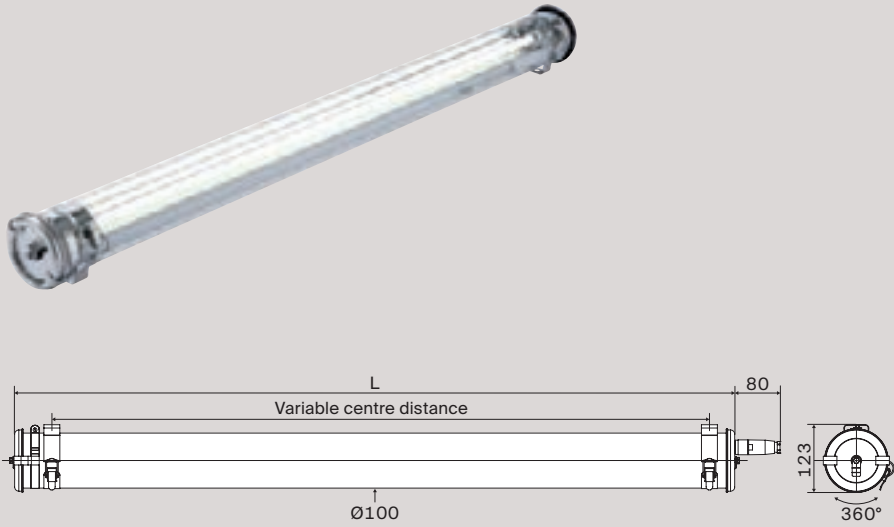
Specifications

Technical data	
Light source	2x T8 lamps, not included
Optic	<ul style="list-style-type: none">White powder coated gear tray serving as reflector for diffuse general lightingExtensive reflector (wide beam) in anodised aluminum sheet
Control Gear	<ul style="list-style-type: none">Resistant electronic Control Gear, “Industry” rated (EEI A2)Resistance to voltage surges: 320 V AC, 1 hSupports voltage peaks <4 kV
Power supply	220-240 V 50/60 Hz
Electrical class	Class I
Operating temperature	-20 °C to +40 °C
Connection	Disconnectable Plug Ø cable 8–10 mm (3 × 1,5 mm²)
Fixing	2 Stainless Steel fixing straps with Spring Clip
Method of Construction	<ul style="list-style-type: none">Housing in one piece with high mechanical and chemical resistanceLong-lasting imperviousness by axial screw fitting
Materials	
Housing	Polycarbonate with protective coextruded PMMA layer
End caps, fixing straps...	Stainless Steel 304 L
Gaskets	EPDM
Standards	
Imperviousness	IP66, IP68 and IP69K
Shock resistance	IK10
Fire resistance	650 °C
Vibration resistance	Meets the standard EN 60598-1 (tested according to CEI 60068-2-6)

Einstein 100 IND T5

Technology	T5
Max. temp.	40 °C
Power	1 × 49 W to 1 × 80 W
Control Gear	“Industry” rated

AF0921



Key features



Plug&Play-installation by disconnectable Plug
Resists aggressive detergents
Very high resistance to vibrations
Very high resistance to corrosion
Durable and maintainable luminaire



Options

Finishings	
End caps and fixing straps in Stainless Steel 316 L	MR
Housing	
Housing in Polycarbonate	PO
Cable entries (black polyamide)	
1 cable gland–Ø cable: 5 to 12 mm	113
1 cable gland–Ø cable: 7 to 14 mm	116
2 cable glands–Ø cable: 5 to 12 mm	213
2 cable glands–Ø cable: 7 to 14 mm	216
Cable entries (nickel-coated brass)	
1 cable gland–Ø cable: 5 to 14 mm	113 LN
2 cable glands–Ø cable: 5 to 14 mm	213 LN
Disconnectable output cords with IP68 Plug (length 0,80 m)	
Output cord with a 3 pole WIELAND Plug	CW3
Accessories	
Spacer kit (5 or 20 cm) for fire safety standards	

Principal part numbers

Power	Designation	Part No.	Optic	L (mm)
Versions with extensive reflector				
1 × 54 W	EIN100 154I G5 POME PS3 RE BRS	1551 5048		1307
1 × 49 W	EIN100 149I G5 POME PS3 RE BRS	1551 5046		1607
1 × 80 W	EIN100 180I G5 POME PS3 RE BRS	1551 5050		
Versions with intensive reflector				
1 × 54 W	EIN100 154I G5 POME PS3 RI BRS	1551 5049		1307
1 × 49 W	EIN100 149I G5 POME PS3 RI BRS	1551 5047		1607
1 × 80 W	EIN100 180I G5 POME PS3 RI BRS	1551 5051		

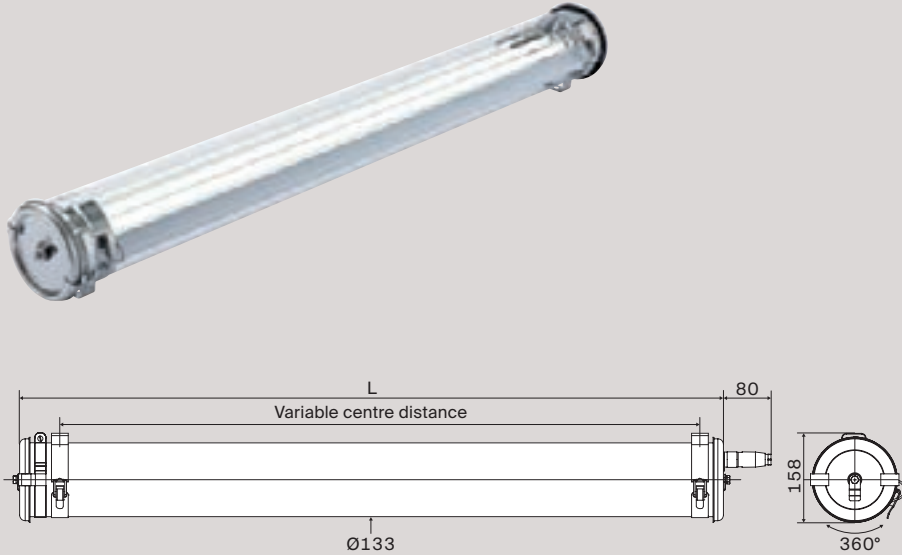
Specifications

Technical data	
Light source	1x T5 lamp, not included
Optic	Reflector in anodised aluminium: <ul style="list-style-type: none">intensive (narrow beam)extensive (large beam)
Control Gear	<ul style="list-style-type: none">Resistant electronic Control Gear, “Industry” rated (EEI A2)Resistance to voltage surges: 320 V AC, 1 hSupports voltage peaks <4 kV
Power supply	220-240 V 50/60 Hz
Electrical class	Class I
Operating temperature	-20 °C to +40 °C
Connection	Disconnectable Plug Ø cable 8-10 mm (3 × 1,5 mm²)
Fixing	2 Stainless Steel fixing straps with Spring Clip
Method of Construction	<ul style="list-style-type: none">Housing in one piece with high mechanical and chemical resistanceLong-lasting imperviousness by axial screw fitting
Materials	
Housing	Polycarbonate with protective coextruded PMMA layer
End caps, fixing straps...	Stainless Steel 304 L
Gaskets	EPDM
Standards	
Imperviousness	IP66, IP68 and IP69K
Shock resistance	IK10
Fire resistance	650 °C
Vibration resistance	Meets the standard EN 60598-1 (tested according to CEI 60068-2-6)

Einstein 133 IND T5

Technology	T5
Max. temp.	40 °C
Power	2 × 49 W to 2 × 80 W
Control Gear	“Industry” rated

AF0921



Key features



Plug&Play-installation by disconnectable Plug
Resists aggressive detergents
Very high resistance to vibrations
Very high resistance to corrosion
Durable and maintainable luminaire



Options

Finishings	
End caps and fixing straps in Stainless Steel 316 L	MR
Housing	
Housing in Polycarbonate	PO
Cable entries (black polyamide)	
1 cable gland–Ø cable: 5 to 12 mm	113
1 cable gland–Ø cable: 7 to 14 mm	116
2 cable glands–Ø cable: 5 to 12 mm	213
2 cable glands–Ø cable: 7 to 14 mm	216
Cable entries (nickel-coated brass)	
1 cable gland–Ø cable: 5 to 14 mm	113 LN
2 cable glands–Ø cable: 5 to 14 mm	213 LN
Disconnectable output cords with IP68 Plug (length 0,80 m)	
Output cord with a 3 pole WIELAND Plug	CW3
Accessories	
Spacer kit (5 or 20 cm) for fire safety standards	

Principal part numbers

Power	Designation	Part No.	Optic	L (mm)
Versions with extensive reflector				
2 × 54 W	EIN133 254I G5 POME PS3 RE BRS	1651 5059		1287
2 × 49 W	EIN133 249I G5 POME PS3 RE BRS	1651 5057		1587
2 × 80 W	EIN133 280I G5 POME PS3 RE BRS	1651 5061		
Versions with intensive reflector				
2 × 54 W	EIN133 254I G5 POME PS3 RI BRS	1651 5060		1287
2 × 49 W	EIN133 249I G5 POME PS3 RI BRS	1651 5058		1587
2 × 80 W	EIN133 280I G5 POME PS3 RI BRS	1651 5062		

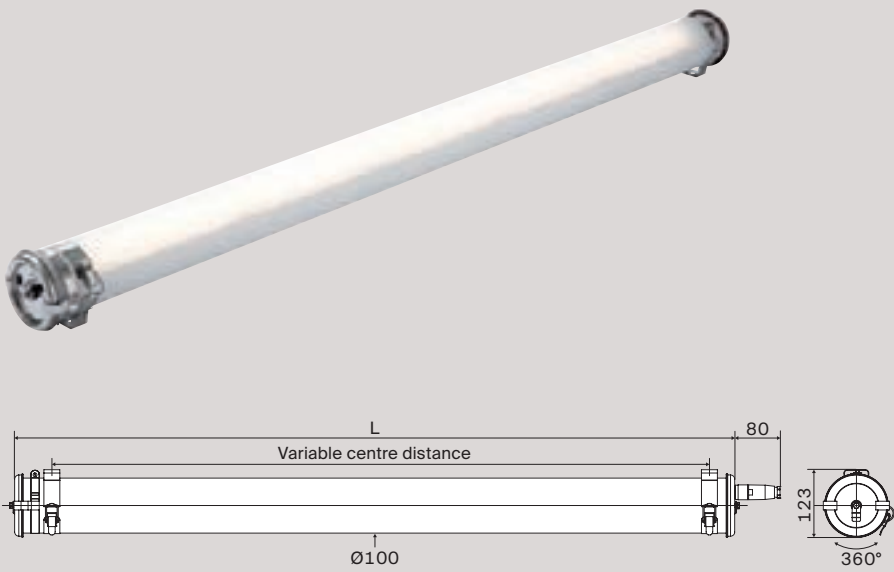
Specifications

Technical data	
Light source	2x T5 lamps, not included
Optic	Reflector in anodised aluminium: <ul style="list-style-type: none">intensive (narrow beam)extensive (large beam)
Control Gear	<ul style="list-style-type: none">Resistant electronic Control Gear, “Industry” rated (EEI A2)Resistance to voltage surges: 320 V AC, 1 hSupports voltage peaks <4 kV
Power supply	220-240 V 50/60 Hz
Electrical class	Class I
Operating temperature	-20 °C to +40 °C
Connection	Disconnectable Plug Ø cable 8-10 mm (3 × 1,5 mm²)
Fixing	2 Stainless Steel fixing straps with Spring Clip
Method of Construction	<ul style="list-style-type: none">Housing in one piece with high mechanical and chemical resistanceLong-lasting imperviousness by axial screw fitting
Materials	
Housing	Polycarbonate with protective coextruded PMMA layer
End caps, fixing straps...	Stainless Steel 304 L
Gaskets	EPDM
Standards	
Imperviousness	IP66, IP68 and IP69K
Shock resistance	IK10
Fire resistance	650 °C
Vibration resistance	Meets the standard EN 60598-1 (tested according to CEI 60068-2-6)

Bunsen 100

Technology	LED
Max. temp.	55 °C
Light output	2775 to 5550 lm
Control Gear	“Industry” rated

AF0921



Key features





Plug&Play-installation by disconnectable Plug
Resists aggressive detergents
Very high resistance to vibrations
Very high resistance to corrosion
Long maintenance intervals
Durable and maintainable luminaire



Options

Finishings	
End caps and fixing straps in Stainless Steel 316 L	MR
Housing	
Housing in Polycarbonate	PO
Cable entries (black polyamide)	
1 cable gland–Ø cable: 5 to 12 mm	113
1 cable gland–Ø cable: 7 to 14 mm	116
2 cable glands–Ø cable: 5 to 12 mm	213
2 cable glands–Ø cable: 7 to 14 mm	216
Cable entries (nickel-coated brass)	
1 cable gland–Ø cable: 5 to 14 mm	113 LN
2 cable glands–Ø cable: 5 to 14 mm	213 LN
Disconnectable output cords with IP68 Plug (length 0,80 m)	
Output cord with a 3 pole WIELAND Plug	CW3
Accessories	
Spacer kit (5 or 20 cm) for fire safety standards	

Principal part numbers

Lumens	Designation	Part No.	Cons. (W)	Optic	T (K)	L (mm)
Versions for new installations						
3700	BUN100 14H830 POME PS3 SA BRS	3105 0050	33		3000	1307
	BUN100 14H840 POME PS3 SA BRS	3105 0060			4000	
5550	BUN100 16H830 POME PS3 SA BRS	3105 0090	50		3000	1850
	BUN100 16H840 POME PS3 SA BRS	3105 0100			4000	
Retrofit versions: Like-for-like replacement						
Equivalent to 1 × 36 W T8						
2775	BUN100 13H830 POME PS3 SA BRS	3105 0030	25		3000	1007
	BUN100 13H840 POME PS3 SA BRS	3105 0040			4000	
Equivalent to 1 × 58 W T8						
4625	BUN100 15H830 POME PS3 SA BRS	3105 0070	43		3000	1607
	BUN100 15H840 POME PS3 SA BRS	3105 0080			4000	

* Light output of the luminaire

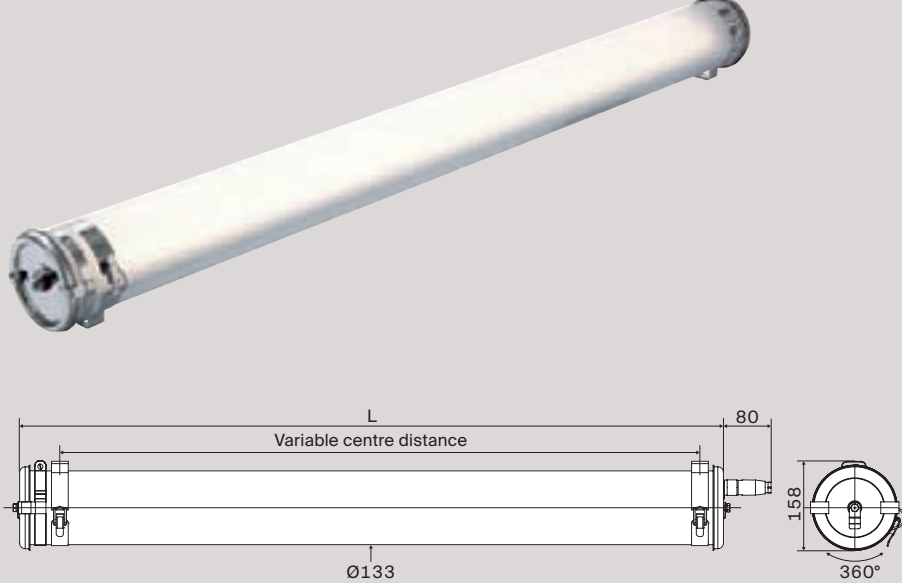
Specifications

Technical data	
Light source	<ul style="list-style-type: none">• High efficiency LED modules (155 lm/W)• LED modules for high temperature• 50 000 h L80/B50 at max. operating temperature• Replaceable LED modules• CRI> 80
Optic	<ul style="list-style-type: none">• Light mixing chamber• Satin Diffuser to minimise glare
Heat management	Heatsink in aluminium
Control Gear	<ul style="list-style-type: none">• Electronic driver for high temperature (non-dimmable)• Resistance to voltage surge: 320 V AC, 48 h• Supports voltage peaks <4 kV
Power supply	220-240 V 50/60 Hz
Electrical class	Class I
Operating temperature	-20 °C to +55 °C
Connection	Disconnectable Plug Ø cable 8–10 mm (3 × 1,5 mm²)
Fixing	2 Stainless Steel fixing straps with Spring Clip
Method of Construction	<ul style="list-style-type: none">• Housing in one piece with high mechanical and chemical resistance• Long-lasting imperviousness by axial screw fitting
Materials	
Housing	Polycarbonate with protective coextruded PMMA layer
End caps, fixing straps...	Stainless Steel 304 L
Gaskets	EPDM
Standards	
Imperviousness	IP66, IP68 and IP69K
Shock resistance	IK10
Fire resistance	650 °C
Vibration resistance	Meets the standard EN 60598-1 (tested according to CEI 60068-2-6)

Bunsen 133

Technology	LED
Max. temp.	55 °C
Light output	5550 to 11100 lm
Control Gear	“Industry” rated

AF0921



Key features





Plug&Play-installation by disconnectable Plug
Resists aggressive detergents
Very high resistance to vibrations
Very high resistance to corrosion
Long maintenance intervals
Durable and maintainable luminaire



Options

Finishings	
End caps and fixing straps in Stainless Steel 316 L	MR
Housing	
Housing in Polycarbonate	PO
Cable entries (black polyamide)	
1 cable gland–Ø cable: 5 to 12 mm	113
1 cable gland–Ø cable: 7 to 14 mm	116
2 cable glands–Ø cable: 5 to 12 mm	213
2 cable glands–Ø cable: 7 to 14 mm	216
Cable entries (nickel-coated brass)	
1 cable gland–Ø cable: 5 to 14 mm	113 LN
2 cable glands–Ø cable: 5 to 14 mm	213 LN
Disconnectable output cords with IP68 Plug (length 0,80 m)	
Output cord with a 3 pole WIELAND Plug	CW3
Accessories	
Spacer kit (5 or 20 cm) for fire safety standards	

Principal part numbers

Lumens	Designation	Part No.	Cons. (W)	Optic	T (K)	L (mm)
Versions for new installations						
7400	BUN133 24H830 POME PS3 SA BRS	3205 0030	66		3000	1287
	BUN133 24H840 POME PS3 SA BRS	3205 0040			4000	
11100	BUN133 26H830 POME PS3 SA BRS	3205 0070	96		3000	1850
	BUN133 26H840 POME PS3 SA BRS	3205 0080			4000	
Retrofit versions: Like-for-like replacement						
Equivalent to 2 × 36 W T8						
5550	BUN133 23H830 POME PS3 SA BRS	3205 0010	50		3000	987
	BUN133 23H840 POME PS3 SA BRS	3205 0020			4000	
Equivalent to 2 × 58 W T8						
9250	BUN133 25H830 POME PS3 SA BRS	3205 0050	80		3000	1587
	BUN133 25H840 POME PS3 SA BRS	3205 0060			4000	

* Light output of the luminaire

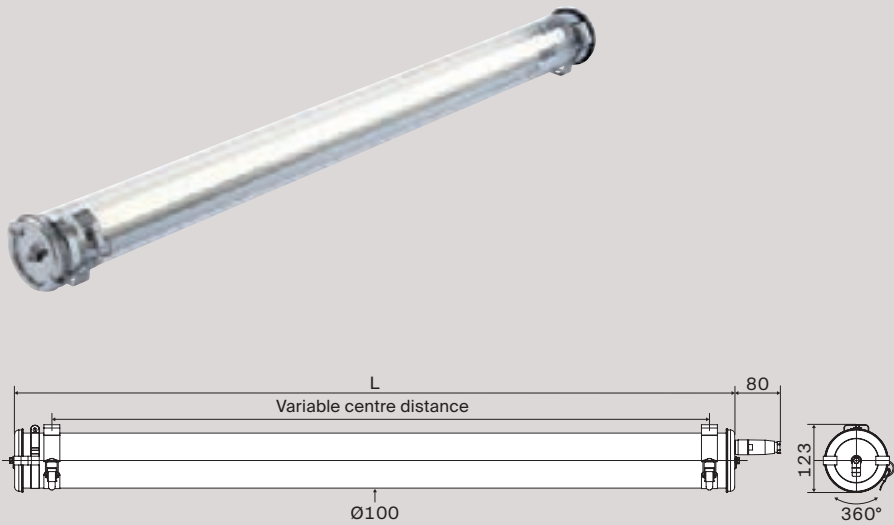
Specifications

Technical data	
Light source	<ul style="list-style-type: none">• High efficiency LED modules (155 lm/W)• LED modules for high temperature• 50 000 h L80/B50 at max. operating temperature• Replaceable LED modules• CRI> 80
Optic	<ul style="list-style-type: none">• Light mixing chamber• Satin Diffuser to minimise glare
Heat management	Heatsink in aluminium
Control Gear	<ul style="list-style-type: none">• Electronic driver for high temperature (non-dimmable)• Resistance to voltage surge: 320 V AC, 48 h• Supports voltage peaks <4 kV
Power supply	220-240 V 50/60 Hz
Electrical class	Class I
Operating temperature	-20 °C to +55 °C
Connection	Disconnectable Plug Ø cable 8–10 mm (3 × 1,5 mm²)
Fixing	2 Stainless Steel fixing straps with Spring Clip
Method of Construction	<ul style="list-style-type: none">• Housing in one piece with high mechanical and chemical resistance• Long-lasting imperviousness by axial screw fitting
Materials	
Housing	Polycarbonate with protective coextruded PMMA layer
End caps, fixing straps...	Stainless Steel 304 L
Gaskets	EPDM
Standards	
Imperviousness	IP66, IP68 and IP69K
Shock resistance	IK10
Fire resistance	650 °C
Vibration resistance	Meets the standard EN 60598-1 (tested according to CEI 60068-2-6)

Einstein 100 HT

Technology	T8
Max. temp.	70 °C
Power	1 × 36 W and 1 × 58 W

AF0921



Key features

Plug&Play-installation by disconnectable Plug
Resists aggressive detergents
Very high resistance to vibrations
Very high resistance to corrosion
Durable and maintainable luminaire



Options

Finishings	
End caps and fixing straps in Stainless Steel 316 L	MR
Housing	
Housing in Polycarbonate	PO
Cable entries (black polyamide)	
1 cable gland–Ø cable: 5 to 12 mm	113
1 cable gland–Ø cable: 7 to 14 mm	116
2 cable glands–Ø cable: 5 to 12 mm	213
2 cable glands–Ø cable: 7 to 14 mm	216
Cable entries (nickel-coated brass)	
1 cable gland–Ø cable: 5 to 14 mm	113 LN
2 cable glands–Ø cable: 5 to 14 mm	213 LN
Accessories	
Spacer kit (5 or 20 cm) for fire safety standards	

Principal part numbers

Power	Designation	Part No.	Optic	L (mm)
Versions without reflector				
1 × 36 W	EIN100 136C G13 POME PS3 BRS	1501 5062		1307
1 × 58 W	EIN100 158C G13 POME PS3 BRS	6501 0131		1607
Versions with extensive reflector				
1 × 36 W	EIN100 136C G13 POME PS3 RE BRS	1501 5063		1307
1 × 58 W	EIN100 158C G13 POME PS3 RE BRS	6501 0151		1607
Versions with intensive reflector				
1 × 36 W	EIN100 136C G13 POME PS3 RI BRS	1501 5064		1307
1 × 58 W	EIN100 158C G13 POME PS3 RI BRS	1501 5065		1607

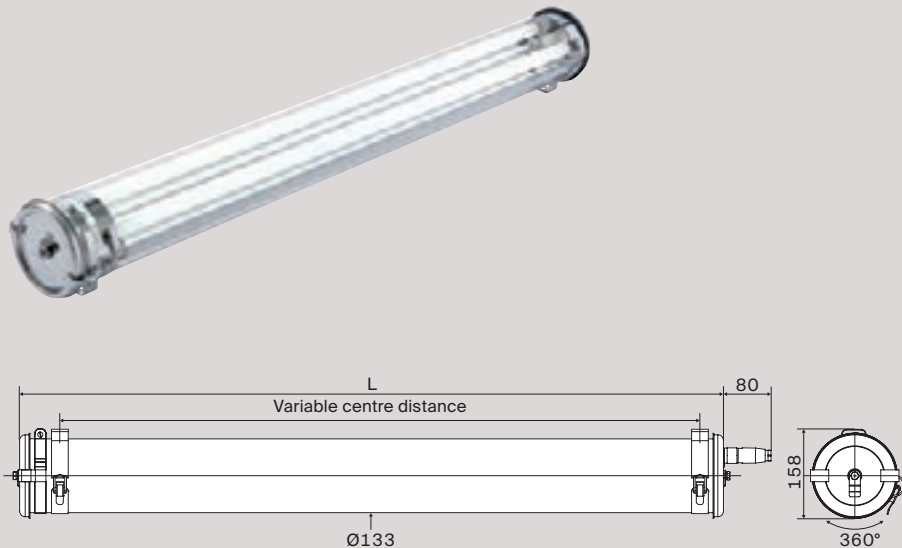
Specifications

Technical data	
Light source	1x T8 lamp, not included
Optic	<ul style="list-style-type: none">White powder coated gear tray serving as reflector for diffuse general lightingExtensive reflector (wide beam) in anodised aluminum sheetIntensive reflector (narrow beam) in anodised aluminium sheet
Control Gear	Ferromagnetic Control Gear with very low losses (EEI B1)
Power supply	230 V 50 Hz
Electrical class	Class I
Operating temperature	-20 °C to +70 °C
Connection	Disconnectable Plug Ø cable 8–10 mm (3 × 1,5 mm²)
Fixing	2 reinforced Stainless Steel fixing straps
Method of Construction	<ul style="list-style-type: none">Housing in one piece with high mechanical and chemical resistanceLong-lasting imperviousness by axial screw fitting
Materials	
Housing	Polycarbonate with protective coextruded PMMA layer
End caps, fixing straps...	Stainless Steel 304 L
Gaskets	EPDM
Standards	
Imperviousness	IP66, IP68 and IP69K
Shock resistance	IK10
Fire resistance	650 °C
Vibration resistance	Meets the standard EN 60598-1 (tested according to CEI 60068-2-6)

Einstein 133 HT

Technology	T8
Max. temp.	60 °C
Power	2 × 36 W and 2 × 58 W

AF0921



Key features

Plug&Play-installation by disconnectable Plug
Resists aggressive detergents
Very high resistance to vibrations
Very high resistance to corrosion
Durable and maintainable luminaire



Options

Finishings	
End caps and fixing straps in Stainless Steel 316 L	MR
Housing	
Housing in Polycarbonate	PO
Cable entries (black polyamide)	
1 cable gland–Ø cable: 5 to 12 mm	113
1 cable gland–Ø cable: 7 to 14 mm	116
2 cable glands–Ø cable: 5 to 12 mm	213
2 cable glands–Ø cable: 7 to 14 mm	216
Cable entries (nickel-coated brass)	
1 cable gland–Ø cable: 5 to 14 mm	113 LN
2 cable glands–Ø cable: 5 to 14 mm	213 LN
Accessories	
Spacer kit (5 or 20 cm) for fire safety standards	

Principal part numbers

Power	Designation	Part No.	Optic	L (mm)
Versions without reflector				
2 × 36 W	EIN133 236C G13 POME PS3 BRS	6601 0101		1287
2 × 58 W	EIN133 258C G13 POME PS3 BRS	6601 0111		1587
Versions with extensive reflector				
2 × 36 W	EIN133 236C G13 POME PS3 RE BRS	1601 5065		1287
2 × 58 W	EIN133 258C G13 POME PS3 RE BRS	6601 0131		1587

Specifications

Technical data	
Light source	2x T8 lamps, not included
Optic	<ul style="list-style-type: none">White powder coated gear tray serving as reflector for diffuse general lightingExtensive reflector (wide beam) in anodised aluminum sheet
Control Gear	Ferromagnetic Control Gear with very low losses (EEI B1)
Power supply	230 V 50 Hz
Electrical class	Class I
Operating temperature	-20 °C to +60 °C
Connection	Disconnectable Plug Ø cable 8–10 mm (3 × 1,5 mm²)
Fixing	2 reinforced Stainless Steel fixing straps
Method of Construction	<ul style="list-style-type: none">Housing in one piece with high mechanical and chemical resistanceLong-lasting imperviousness by axial screw fitting
Materials	
Housing	Polycarbonate with protective coextruded PMMA layer
End caps, fixing straps...	Stainless Steel 304 L
Gaskets	EPDM
Standards	
Imperviousness	IP66, IP68 and IP69K
Shock resistance	IK10
Fire resistance	650 °C
Vibration resistance	Meets the standard EN 60598-1 (tested according to CEI 60068-2-6)

Task lighting

The reduced size of these products means that they can be installed in confined spaces and easily orientated towards the area to be lit. They offer the best compromise between exactly the right quantity of light and physical bulk.

These lighting solutions are designed for:

- lighting small production spaces (floor areas below 20 m²)
- additional lighting for working areas

Demanding environments 107

Permanent lighting solutions specially designed to withstand impacts, storms, humid atmospheres, jet washers, UV radiation, etc.

Extreme environments 119

Permanent lighting solutions specially designed to withstand high levels of continual vibration, chemical attack, cope with exposure to impact, storms, saline mist corrosion, abrasion, etc.

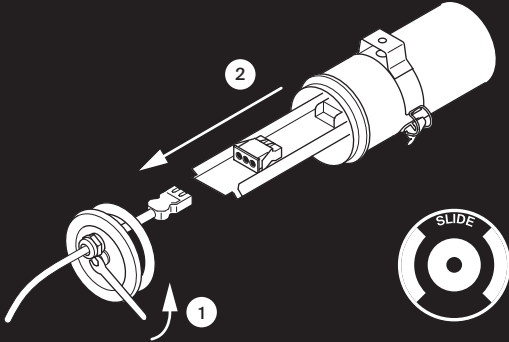

Task lighting







Demanding environments

Tmax	Ranges	Sources	Quantity of light	Compactness	T°max	Energy performance	Page
Standard electrical systems							
30 – 35°C	Pascal 100	LED	●●	●●	35°C	●●●●	110
	Darwin 100 T8	T8	●	●●	35°C	●●●	111
	Darwin 100 T5	T5	●	●●	30°C	●●	112
	Darwin 133 T8	T8	●●	●	30°C	●●●	113
	Darwin 133 T5	T5	●●●	●	30°C	●●	114
	Darwin 100 FC	2G11	●●●	●●●	30°C	●●	115
High-risk electrical systems							
40°C	Carnot 100	LED	●●	●●	40°C	●●●●	116

Lighting in demanding environments

Permanent lighting solutions specially designed to withstand impacts, storms, humid atmospheres, jet washers, UV radiation, etc.

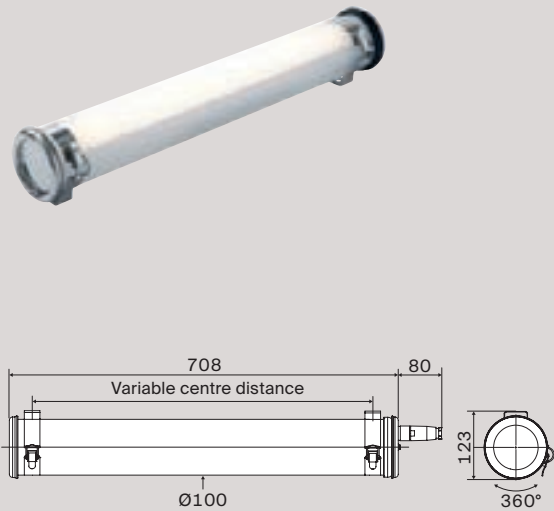
Resistance	<div>Our luminaires installed in demanding environments are resistant:</div> <ul style="list-style-type: none">• to impacts• to frequent handling• to humid atmospheres• to saline atmospheres• to daily jet washing
The SLIDE system	<div><div><div><div>Easy maintenance</div><div>Installers and maintenance teams benefit from an incredibly simple sealed luminaire solution: the user-friendly patented SLIDE system. This gear tray guide system facilitates light source changes with no need to remove the product. The result is the shortest ultra-sealed luminaire maintenance times in the market.</div></div><div></div></div></div>
A heavy-duty casing	<div><div><div>Since this luminaire is closed by a single centrally located stainless steel screw, a consistent pressure is applied to the entire surface of the seal to guarantee a perfect hermetic seal (IP68/ IP69K). The composite coextruded polycarbonate/ PMMA diffuser combines exceptional resistance to hydrocarbons and solar UV radiation with high impact resistance (IK10). The combination of housing specifications and material quality guarantees a long luminaire lifespan, and therefore long-term permanence of the installation.</div><div></div></div></div>

LED	<div>LED technology offers the highest level of energy efficiency. It is therefore recommended for luminaires that must reach the required luminous flux rapidly and tolerate a high number of on/off switching operations. We offer lighting solutions that operate at temperatures of up to 40 °C without compromising their lifespan.</div>	
Fluorescent lamps	<div><div><div>T8 lamps</div><div>These are the most commonly used light sources and offer the best compromise between robustness, efficiency and lifespan. These are also the only lamps to provide lighting solutions for ambient temperatures of up to 70 °C.</div></div></div>	
	<div><div><div>T5 lamps</div><div>These sources are particularly well suited to applications using powerful luminaires with directional photometry. Their luminous flux is more than 30% higher than that of a T8 lamp of the same length.</div></div></div>	
Compact fluorescent lamps	<div>These lamps offer the highest density of luminous flux at a shorter length, and the luminaires that use them are the most compact of all. Over short distances, they emit twice as much light as T5 lamps.</div>	
Electrical interference	<div>The faults and fluctuations that can occur in industrial mains power supplies (3-phase imbalance, frequent voltage fluctuations, etc.) can damage luminaire gear not specifically designed to withstand them. Our products for “high-risk electrical systems” contain robust electronic power supplies that are specifically protected against mains electrical interference and withstand voltage peaks of up to 4 kV and voltage surges of up to 320 V. They can also coexist with ferromagnetic products on the same electrical system.</div>	
Temperatures	<div>The Carnot range contains robust electronic power supplies whose thermal management has been optimised for operation at temperatures up to 40 °C with no effect on their lifespan.</div>	

Pascal 100

Technology	LED
Temp. opt.	Positive cold
Light output	1850 lm

AF0921



Key features

Plug&Play-installation by disconnectable Plug
Suitable for repeated switching on and off
Resists aggressive detergents
Long maintenance intervals
Durable and maintainable luminaire



Options

Finishings		
End caps and fixing straps in Stainless Steel 316 L	MR	
Housing		
Housing in Polycarbonate	PO	
Fixings		
Reinforced fixing straps with HSHC screw	BRV	
Shock-resistant fixing straps with HSHC screw	BAC	
Cable entries (black polyamide)		
1 cable gland–Ø cable: 5 to 12 mm	113	
1 cable gland–Ø cable: 7 to 14 mm	116	
2 cable glands–Ø cable: 5 to 12 mm	213	
2 cable glands–Ø cable: 7 to 14 mm	216	
Cable entries (nickel-coated brass)		
1 cable gland–Ø cable: 5 to 14 mm	113 LN	
2 cable glands–Ø cable: 5 to 14 mm	213 LN	
Disconnectable output cords with IP68 Plug (length 0,80 m)		
Output cord with a 3 pole WIELAND Plug	CW3	
Accessories		
Spacer kit (5 or 20 cm) for fire safety standards		

Principal part numbers

Lumens	Designation	Part No.	Cons. (W)	Optic	T (K)	L (mm)
1850	PAS100 12H830 POME PS3 SA BRS	4160 0311	16		3000	708
	PAS100 12H840 POME PS3 SA BRS	4160 5095			4000	

* Light output of the luminaire

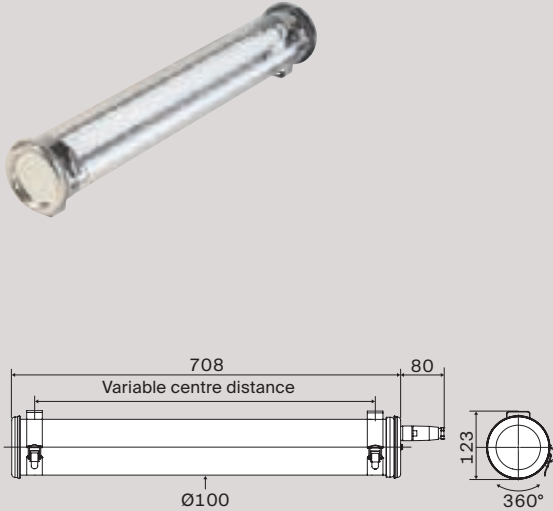
Specifications

Technical data	
Light source	<ul style="list-style-type: none">• High efficiency LED modules (155 lm/W)• 50 000 h L80/B50 at max. operating temperature• Replaceable LED modules• CRI> 80
Optic	<ul style="list-style-type: none">• Light mixing chamber• Satin Diffuser to minimise glare
Heat management	Heatsink in aluminium
Control Gear	Constant Current Driver (non-dimmable)
Power supply	220–240 V 50/60 Hz
Electrical class	Class I
Operating temperature	-20 °C to +35 °C
Connection	Disconnectable Plug Ø cable 8–10 mm (3 × 1,5 mm²)
Fixing	2 Stainless Steel fixing straps with Spring Clip
Method of Construction	<ul style="list-style-type: none">• Housing in one piece with reinforced imperviousness• Patented SLIDE opening system
Materials	
Housing	Polycarbonate with protective coextruded PMMA layer
End caps, fixing straps...	Stainless Steel 304 L
Gaskets	EPDM
Standards	
Imperviousness	IP66, IP68 and IP69K
Shock resistance	IK10
Fire resistance	650 °C
Vibration resistance	Meets the standard EN 60598-1 (tested according to CEI 60068-2-6)

Darwin 100 T8

Technology	T8
Max. temp.	30 °C
Power	1 × 18 W

AF0921



Key features

Plug&Play-installation by disconnectable Plug
Resists aggressive detergents
Easy cleaning
Easy lamp change
Durable and maintainable luminaire



Options

Finishings	
End caps and fixing straps in Stainless Steel 316 L	MR
Housing	
Housing in Polycarbonate	PO
Fixings	
Reinforced fixing straps with HSHC screw	BRV
Shock-resistant fixing straps with HSHC screw	BAC
Hinged fixing straps for maintenance by tilting	BAR
Cable entries (black polyamide)	
1 cable gland–Ø cable: 5 to 12 mm	113
1 cable gland–Ø cable: 7 to 14 mm	116
2 cable glands–Ø cable: 5 to 12 mm	213
2 cable glands–Ø cable: 7 to 14 mm	216
Cable entries (nickel-coated brass)	
1 cable gland–Ø cable: 5 to 14 mm	113 LN
2 cable glands–Ø cable: 5 to 14 mm	213 LN
Disconnectable output cords with IP68 Plug (length 0,80 m)	
Output cord with a 3 pole WIELAND Plug	CW3
Accessories	
Spacer kit (5 or 20 cm) for fire safety standards	

Principal part numbers

Power	Designation	Part No.	Optic	L (mm)
Versions without reflector				
1 × 18 W	DAR100 118E G13 POME PS3 BRS	4102 5696		708
Versions with extensive reflector				
1 × 18 W	DAR100 118E G13 POME PS3 RE BRS	4102 5697		708
Versions with intensive reflector				
1 × 18 W	DAR100 118E G13 POME PS3 RI BRS	4102 5698		708

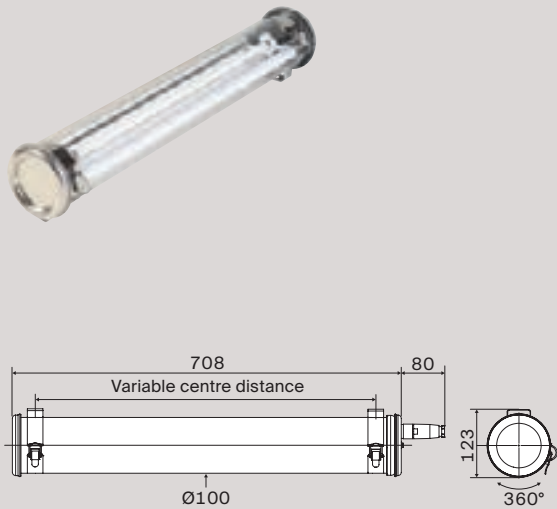
Specifications

Technical data	
Light source	1x T8 lamp, not included
Optic	<ul style="list-style-type: none">• White powder coated gear tray serving as reflector for diffuse general lighting• Extensive reflector (wide beam) in anodised aluminum sheet• Intensive reflector (narrow beam) in anodised aluminium sheet
Control Gear	Hot cathode electronic Control Gear (EEI A2)
Power supply	220–240 V 50/60 Hz
Electrical class	Class I
Operating temperature	-20 °C to +30 °C
Connection	Disconnectable Plug Ø cable 8–10 mm (3 × 1,5 mm²)
Fixing	2 Stainless Steel fixing straps with Spring Clip
Method of Construction	<ul style="list-style-type: none">• Housing in one piece with reinforced imperviousness• Patented SLIDE opening system
Materials	
Housing	Polycarbonate with protective coextruded PMMA layer
End caps, fixing straps...	Stainless Steel 304 L
Gaskets	EPDM
Standards	
Imperviousness	IP66, IP68 and IP69K
Shock resistance	IK10
Fire resistance	650 °C
Vibration resistance	Meets the standard EN 60598-1 (tested according to CEI 60068-2-6)

Darwin 100 T5

Technology	T5
Max. temp.	30 °C
Power	1 × 14 W and 1 × 24 W

AF0921



Key features

Plug&Play-installation by disconnectable Plug
Resists aggressive detergents
Easy cleaning
Easy lamp change
Durable and maintainable luminaire



Options

Finishings		
End caps and fixing straps in Stainless Steel 316 L	MR	
Housing		
Housing in Polycarbonate	PO	
Fixings		
Reinforced fixing straps with HSHC screw	BRV	
Shock-resistant fixing straps with HSHC screw	BAC	
Hinged fixing straps for maintenance by tilting	BAR	
Cable entries (black polyamide)		
1 cable gland–Ø cable: 5 to 12 mm	113	
1 cable gland–Ø cable: 7 to 14 mm	116	
2 cable glands–Ø cable: 5 to 12 mm	213	
2 cable glands–Ø cable: 7 to 14 mm	216	
Cable entries (nickel-coated brass)		
1 cable gland–Ø cable: 5 to 14 mm	113 LN	
2 cable glands–Ø cable: 5 to 14 mm	213 LN	
Disconnectable output cords with IP68 Plug (length 0,80 m)		
Output cord with a 3 pole WIELAND Plug	CW3	
Accessories		
Spacer kit (5 or 20 cm) for fire safety standards		

Principal part numbers

Power	Designation	Part No.	Optic	L (mm)
Versions with extensive reflector				
1 × 14 W	DAR100 114E G5 POME PS3 RE BRS	4151 5172		708
1 × 24 W	DAR100 124E G5 POME PS3 RE BRS	4151 5136		
Versions with intensive reflector				
1 × 14 W	DAR100 114E G5 POME PS3 RI BRS	4151 5173		708
1 × 24 W	DAR100 124E G5 POME PS3 RI BRS	4151 5174		

Available for 21, 28, and 35 W T5 lamps

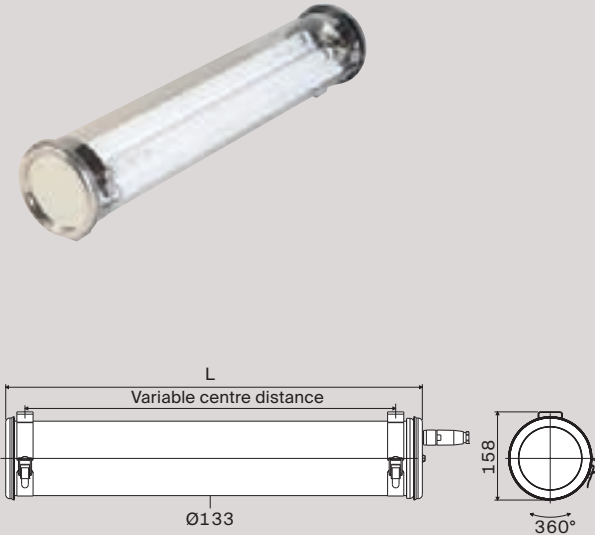
Specifications

Technical data	
Light source	1x T5 lamp, not included
Optic	Reflector in anodised aluminium: <ul style="list-style-type: none">intensive (narrow beam)extensive (large beam)
Control Gear	Hot cathode electronic Control Gear (EEI A2)
Power supply	220-240 V 50/60 Hz
Electrical class	Class I
Operating temperature	-20 °C to +30 °C
Connection	Disconnectable Plug Ø cable 8-10 mm (3 × 1,5 mm²)
Fixing	2 Stainless Steel fixing straps with Spring Clip
Method of Construction	<ul style="list-style-type: none">Housing in one piece with reinforced imperviousnessPatented SLIDE opening system
Materials	
Housing	Polycarbonate with protective coextruded PMMA layer
End caps, fixing straps...	Stainless Steel 304 L
Gaskets	EPDM
Standards	
Imperviousness	IP66, IP68 and IP69K
Shock resistance	IK10
Fire resistance	650 °C
Vibration resistance	Meets the standard EN 60598-1 (tested according to CEI 60068-2-6)

Darwin 133 T8

Technology	T8
Max. temp.	30 °C
Power	2 × 18 W

AF0921



Key features

Plug&Play-installation by disconnectable Plug
Resists aggressive detergents
Easy cleaning
Easy lamp change
Durable and maintainable luminaire



Options

Finishings		
End caps and fixing straps in Stainless Steel 316 L	MR	
Housing		
Housing in Polycarbonate	PO	
Fixings		
Reinforced fixing straps with HSHC screw	BRV	
Shock-resistant fixing straps with HSHC screw	BAC	
Hinged fixing straps for maintenance by tilting	BAR	
Cable entries (black polyamide)		
1 cable gland–Ø cable: 5 to 12 mm	113	
1 cable gland–Ø cable: 7 to 14 mm	116	
2 cable glands–Ø cable: 5 to 12 mm	213	
2 cable glands–Ø cable: 7 to 14 mm	216	
Cable entries (nickel-coated brass)		
1 cable gland–Ø cable: 5 to 14 mm	113 LN	
2 cable glands–Ø cable: 5 to 14 mm	213 LN	
Disconnectable output cords with IP68 Plug (length 0,80 m)		
Output cord with a 3 pole WIELAND Plug	CW3	
Accessories		
Spacer kit (5 or 20 cm) for fire safety standards		

Principal part numbers

Power	Designation	Part No.	Optic	L (mm)
Versions without reflector				
2 × 18 W	DAR133 218E G13 POME PS3 BRS	2202 5046		745
Versions with extensive reflector				
2 × 18 W	DAR133 218E G13 POME PS3 RE BRS	2202 5047		745

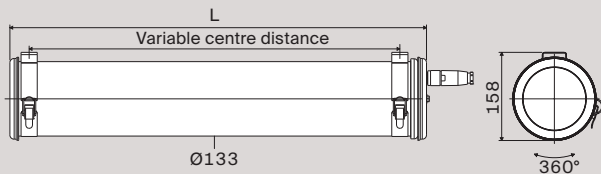
Specifications

Technical data	
Light source	2x T8 lamps, not included
Optic	<ul style="list-style-type: none">White powder coated gear tray serving as reflector for diffuse general lightingExtensive reflector (wide beam) in anodised aluminum sheet
Control Gear	Hot cathode electronic Control Gear (EEI A2)
Power supply	220-240 V 50/60 Hz
Electrical class	Class I
Operating temperature	-20 °C to +30 °C
Connection	Disconnectable Plug Ø cable 8-10 mm (3 × 1,5 mm²)
Fixing	2 Stainless Steel fixing straps with Spring Clip
Method of Construction	<ul style="list-style-type: none">Housing in one piece with reinforced imperviousnessPatented SLIDE opening system
Materials	
Housing	Polycarbonate with protective coextruded PMMA layer
End caps, fixing straps...	Stainless Steel 304 L
Gaskets	EPDM
Standards	
Imperviousness	IP66, IP68 and IP69K
Shock resistance	IK10
Fire resistance	650 °C
Vibration resistance	Meets the standard EN 60598-1 (tested according to CEI 60068-2-6)

Darwin 133 T5

Technology	T5
Max. temp.	30 °C
Power	2 × 14 W and 2 × 24 W

AF0921



Key features


Plug&Play-installation by disconnectable Plug
Resists aggressive detergents
Easy cleaning
Easy lamp change
Durable and maintainable luminaire



Options

Finishings		
End caps and fixing straps in Stainless Steel 316 L	MR	
Housing		
Housing in Polycarbonate	PO	
Fixings		
Reinforced fixing straps with HSHC screw	BRV	
Shock-resistant fixing straps with HSHC screw	BAC	
Hinged fixing straps for maintenance by tilting	BAR	
Cable entries (black polyamide)		
1 cable gland–Ø cable: 5 to 12 mm	113	
1 cable gland–Ø cable: 7 to 14 mm	116	
2 cable glands–Ø cable: 5 to 12 mm	213	
2 cable glands–Ø cable: 7 to 14 mm	216	
Cable entries (nickel-coated brass)		
1 cable gland–Ø cable: 5 to 14 mm	113 LN	
2 cable glands–Ø cable: 5 to 14 mm	213 LN	
Disconnectable output cords with IP68 Plug (length 0,80 m)		
Output cord with a 3 pole WIELAND Plug	CW3	
Accessories		
Spacer kit (5 or 20 cm) for fire safety standards		

Principal part numbers

Power	Designation	Part No.	Optic	L (mm)
Versions with extensive reflector				
2 × 14 W	DAR133 214E G5 POME PS3 RE BRS	2251 5089		685
2 × 24 W	DAR133 224E G5 POME PS3 RE BRS	2251 5090		
Available for 21, 28, and 35 W T5 lamps				

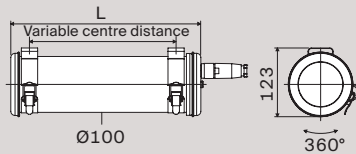
Specifications

Technical data	
Light source	2x T5 lamps, not included
Optic	Reflector in anodised aluminium: <ul style="list-style-type: none">extensive (large beam)
Control Gear	Hot cathode electronic Control Gear (EEI A2)
Power supply	220-240 V 50/60 Hz
Electrical class	Class I
Operating temperature	-20 °C to +30 °C
Connection	Disconnectable Plug Ø cable 8–10 mm (3 × 1,5 mm²)
Fixing	2 Stainless Steel fixing straps with Spring Clip
Method of Construction	<ul style="list-style-type: none">Housing in one piece with reinforced imperviousnessPatented SLIDE opening system
Materials	
Housing	Polycarbonate with protective coextruded PMMA layer
End caps, fixing straps...	Stainless Steel 304 L
Gaskets	EPDM
Standards	
Imperviousness	IP66, IP68 and IP69K
Shock resistance	IK10
Fire resistance	650 °C
Vibration resistance	Meets the standard EN 60598-1 (tested according to CEI 60068-2-6)

Darwin 100 FC

Technology	2G11 fluorescent lamp
Max. temp.	30 °C
Power	1 × 18 W to 1 × 40 W

AF0921



Key features




Plug&Play-installation by disconnectable Plug
Resists aggressive detergents
Easy cleaning
Easy lamp change
Durable and maintainable luminaire



Options

Finishings		
End caps and fixing straps in Stainless Steel 316 L	MR	
Housing		
Housing in Polycarbonate	PO	
Fixings		
Reinforced fixing straps with HSHC screw	BRV	
Shock-resistant fixing straps with HSHC screw	BAC	
Cable entries (black polyamide)		
1 cable gland–Ø cable: 5 to 12 mm	113	
1 cable gland–Ø cable: 7 to 14 mm	116	
2 cable glands–Ø cable: 5 to 12 mm	213	
2 cable glands–Ø cable: 7 to 14 mm	216	
Cable entries (nickel-coated brass)		
1 cable gland–Ø cable: 5 to 14 mm	113 LN	
2 cable glands–Ø cable: 5 to 14 mm	213 LN	
Disconnectable output cords with IP68 Plug (length 0,80 m)		
Output cord with a 3 pole WIELAND Plug	CW3	

Principal part numbers

Power	Designation	Part No.	Optic	L (mm)
Versions without reflector				
1 × 18W	DAR100 118E 2G11 POME PS3 BRS	4112 5048		340
1 × 24W	DAR100 124E 2G11 POME PS3 BRS	4112 5051		448
1 × 36W	DAR100 136E 2G11 POME PS3 BRS	4112 5054		530
1 × 40W	DAR100 140E 2G11 POME PS3 BRS	4112 5057		650
Versions with extensive reflector				
1 × 18W	DAR100 118E 2G11 POME PS3 RE BRS	4112 5049		340
1 × 24W	DAR100 124E 2G11 POME PS3 RE BRS	4112 5052		448
1 × 36W	DAR100 136E 2G11 POME PS3 RE BRS	4112 5055		530
1 × 40W	DAR100 140E 2G11 POME PS3 RE BRS	4112 5058		650
Satinised versions for diffuse lighting				
1 × 18W	DAR100 118E 2G11 POME PS3 SA BRS	4112 5050		340
1 × 24W	DAR100 124E 2G11 POME PS3 SA BRS	4112 5053		448
1 × 36W	DAR100 136E 2G11 POME PS3 SA BRS	4112 5056		530
1 × 40W	DAR100 140E 2G11 POME PS3 SA BRS	4112 5059		650
When used vertically, the lamp cap must be on the bottom				

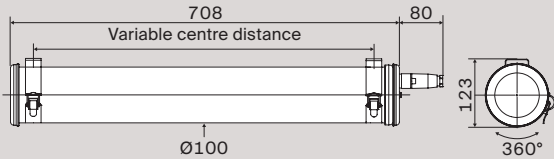
Specifications

Technical data	
Light source	1x 2G11compact fluorescent lamp, not included
Optic	<ul style="list-style-type: none">White powder coated gear tray serving as reflector for diffuse general lightingExtensive reflector (wide beam) in anodised aluminum sheetSatin-finish housing for diffuse lighting
Control Gear	Hot cathode electronic Control Gear (EEI A2)
Power supply	220-240 V 50/60 Hz
Electrical class	Class I
Operating temperature	-20 °C to +30 °C
Connection	Disconnectable Plug Ø cable 8–10 mm (3 × 1,5 mm²)
Fixing	2 Stainless Steel fixing straps with Spring Clip
Method of Construction	<ul style="list-style-type: none">Housing in one piece with reinforced imperviousnessPatented SLIDE opening system
Materials	
Housing	Polycarbonate with protective coextruded PMMA layer
End caps, fixing straps...	Stainless Steel 304 L
Gaskets	EPDM
Standards	
Imperviousness	IP66, IP68 and IP69K
Shock resistance	IK10
Fire resistance	650 °C
Vibration resistance	Meets the standard EN 60598-1 (tested according to CEI 60068-2-6)

Carnot 100

Technology	LED
Temp. opt.	Positive cold
Light output	1850 lm
Control Gear	“Industry” rated

AF0921



Key features

Plug&Play-installation by disconnectable Plug
Suitable for repeated switching on and off
Resists aggressive detergents
Long maintenance intervals
Durable and maintainable luminaire



Options

Finishings		
End caps and fixing straps in Stainless Steel 316 L	MR	
Housing		
Housing in Polycarbonate	PO	
Cable entries (black polyamide)		
1 cable gland–Ø cable: 5 to 12 mm	113	
1 cable gland–Ø cable: 7 to 14 mm	116	
2 cable glands–Ø cable: 5 to 12 mm	213	
2 cable glands–Ø cable: 7 to 14 mm	216	
Cable entries (nickel-coated brass)		
1 cable gland–Ø cable: 5 to 14 mm	113 LN	
2 cable glands–Ø cable: 5 to 14 mm	213 LN	
Disconnectable output cords with IP68 Plug (length 0,80 m)		
Output cord with a 3 pole WIELAND Plug	CW3	
Accessories		
Spacer kit (5 or 20 cm) for fire safety standards		

Principal part numbers

Lumens	Designation	Part No.	Cons. (W)	Optic	T (K)	L (mm)
1850	CAR100 12H830 POME PS3 SA BRS	3102 0010	17		3000	708
	CAR100 12H840 POME PS3 SA BRS	3102 0020			4000	

* Light output of the luminaire

Specifications

Technical data	
Light source	<ul style="list-style-type: none">• High efficiency LED modules (160 lm/W)• 50 000 h L80/B50 at max. operating temperature• Replaceable LED modules• CRI> 80
Optic	<ul style="list-style-type: none">• Light mixing chamber• Satin Diffuser to minimise glare
Heat management	Heatsink in aluminium
Control Gear	<ul style="list-style-type: none">• Resistant electronic driver, “Industry” rated (non-dimmable)• Resistance to voltage surge: 320 V AC, 48 h• Supports voltage peaks <4 kV
Power supply	220-240 V 50/60 Hz
Electrical class	Class I
Operating temperature	-20 °C to +40 °C
Connection	Disconnectable Plug Ø cable 8–10 mm (3 x 1,5 mm²)
Fixing	2 Stainless Steel fixing straps with Spring Clip
Method of Construction	<ul style="list-style-type: none">• Housing in one piece with reinforced imperviousness• Patented SLIDE opening system
Materials	
Housing	Polycarbonate with protective coextruded PMMA layer
End caps, fixing straps...	Stainless Steel 304 L
Gaskets	EPDM
Standards	
Imperviousness	IP66, IP68 and IP69K
Shock resistance	IK10
Fire resistance	650 °C
Vibration resistance	Meets the standard EN 60598-1 (tested according to CEI 60068-2-6)

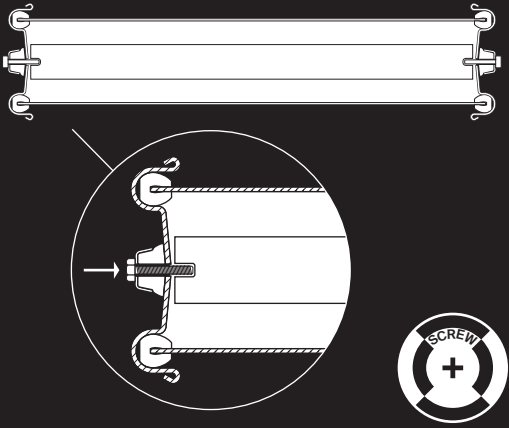

Task lighting






Extreme environments

Tmax	Ranges	Sources	Quantity of light	Compactness	Tmax	Energy Performance	Page
Standard electrical systems							
30 – 35 °C	Stevin 100	LED	● ●	● ●	35 °C	● ● ● ●	122
	Einstein 100 T8	T8	●	● ●	30 °C	● ● ●	123
	Einstein 100 T5	T5	●	● ●	30 °C	● ●	124
	Einstein 133 T8	T8	● ●	●	30 °C	● ● ●	125
	Einstein 133 T5	T5	● ● ●	●	30 °C	● ●	126
	Hooke 100	2G11	● ● ●	● ● ●	30 °C	● ● ●	127
High-risk electrical systems and high-intensity vibration							
40 °C	Cugnot 100	LED	● ●	● ●	40 °C	● ● ● ●	128
55 – 70 °C	Hooke 100 HT	2G11	● ● ●	● ● ●	50 °C	● ● ●	129
	Bunsen 100	LED	● ●	● ●	55 °C	● ● ● ●	130
	Einstein 100 HT	T8	●	● ●	70 °C	● ●	131
	Einstein 133 HT	T8	● ●	● ● ●	60 °C	●	132

Lighting for extreme environments

Our lighting solutions deliver exceptionally long working life under extreme operating conditions, thanks to their housing system and specially designed components.

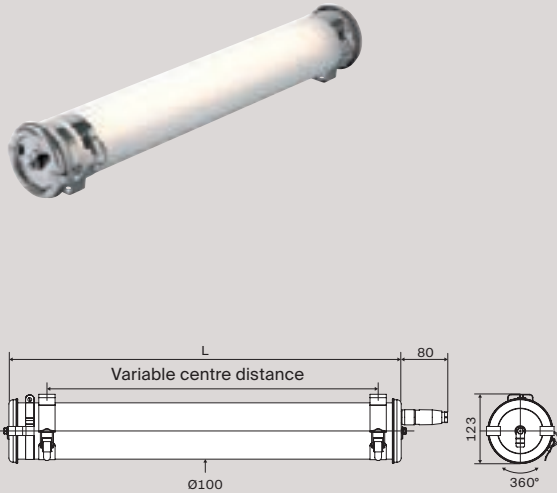
Resistance	<p>Our luminaires installed in extreme environments are resistant:</p> <ul style="list-style-type: none">to high levels of continual vibrationto exceptionally corrosive bactericidal agentsto abrasionto high temperatures or to wide variations in temperature <p>These stresses can cause premature damage to materials, followed by the spontaneous failure of standard equipment. Other factors, such as availability, bulk and accessibility, also require luminaire maintenance to be reduced to the minimum level achievable.</p>
The SCREW system	<div><div><p>A single-piece housing</p><p>A simple mechanical assembly of ultra-strong materials, the SCREW construction principle makes our products true single-piece housings offering high mechanical strength and chemical resistance. The diffuser and gear tray are held in compression by stainless steel end caps that make the system immune to impacts (IK10) and vibration. The luminaire is closed by the axial tightening of two stainless steel screws that apply a consistent pressure to the entire surface of the seal to guarantee a perfect hermetic seal (IP68/IP69K). Throughout their life, the elastic deformation of the stainless steel end caps absorbs the expansion and mechanical stresses imposed on the casing of the luminaire. This ensures that it remains sealed long term in the event of thermal shock or mechanical impact, independently of external conditions.</p></div><div></div></div>
The right diffuser for every application	<div><p>Our composite coextruded polycarbonate/PMMA diffuser combines exceptional resistance to chemical attack with high impact resistance (IK10), and complies with all regulations regarding plastic materials and objects coming into contact with foodstuffs (European directives 2002/72/EC, 2004/19/EC, 2005/79/EC and 2007/19/EC). Its tubular shape also reduces external dirt accumulation and facilitates cleaning.</p></div> <div></div>
LED	<p>LED technology offers the highest level of energy efficiency. It is therefore recommended for luminaires that must reach the required luminous flux rapidly and tolerate a high number of on/off switching operations. We offer lighting solutions that operate at temperatures of up to +55 °C without compromising their lifespan.</p>

Fluorescent lamps	<p>T8 lamps</p> <p>These are the most commonly used light sources, and offer the best compromise between robustness, efficiency and lifespan. These are also the only lamps to provide lighting solutions for ambient temperatures of up to 70 °C.</p>	
	<p>T5 lamps</p> <p>These sources are particularly well suited to applications using powerful luminaires with directional photometry. Their luminous flux is more than 30% higher than that of a T8 lamp of the same length.</p>	
Compact fluorescent lamps	<p>These lamps offer the highest density of luminous flux at a shorter length, and the luminaires that use them are the most compact of all. Over short distances, they emit twice as much light as T5 lamps.</p>	
Mains electrical interference	<p>The faults and fluctuations that can occur in industrial mains power supplies (3-phase imbalance, frequent voltage fluctuations, etc.) can damage luminaire gear not specifically designed to withstand them. Our products for “high-risk electrical systems” contain robust electronic power supplies that are specifically protected against mains electrical interference and withstand voltage peaks of up to 4 kV and voltage surges of up to 320 V. They can also coexist with ferromagnetic products on the same electrical system.</p>	
Temperatures	<p>Our Cugnot LED solution contains robust electronic power supplies enabling operation in ambient temperatures of up to 40°C. Above that level, our LED luminaires are manufactured using high-temperature modules that use a special thermal management system to operate at temperatures of up to +55 °C with no effect on their lifespan. HT fluorescent versions using ferromagnetic gear are used in lighting solutions that can cope with ambient temperatures of up to 70 °C.</p>	
Vibration resistance	<p>All our luminaires offer a high level of resistance to vibrations, but we also offer an even higher level of resistance with the HT versions of our fluorescent luminaires. In the same way as our LED luminaires, they contain robust power supplies specifically designed for this purpose.</p>	

Stevin 100

Technology	LED
Temp. opt.	Positive cold
Light output	1850 lm

AF0921



Key features

Plug&Play-installation by disconnectable Plug
Resists aggressive detergents
Vibration resistance
Very high resistance to corrosion
Long maintenance intervals
Durable and maintainable luminaire



Options

Finishings	
End caps and fixing straps in Stainless Steel 316 L	MR
Housing	
Housing in Polycarbonate	PO
Fixings	
Reinforced fixing straps with HSHC screw	BRV
Shock-resistant fixing straps with HSHC screw	BAC
Cable entries (black polyamide)	
1 cable gland–Ø cable: 5 to 12 mm	113
1 cable gland–Ø cable: 7 to 14 mm	116
2 cable glands–Ø cable: 5 to 12 mm	213
2 cable glands–Ø cable: 7 to 14 mm	216
Cable entries (nickel-coated brass)	
1 cable gland–Ø cable: 5 to 14 mm	113 LN
2 cable glands–Ø cable: 5 to 14 mm	213 LN
Disconnectable output cords with IP68 Plug (length 0,80 m)	
Output cord with a 3 pole WIELAND Plug	CW3
Accessories	
Spacer kit (5 or 20 cm) for fire safety standards	

Principal part numbers

Lumens	Designation	Part No.	Cons. (W)	Optic	T (K)	L (mm)
1850	STE100 12H830 POME PS3 SA BRS	3101 0010	16		3000	697
	STE100 12H840 POME PS3 SA BRS	3101 0020			4000	

* Light output of the luminaire

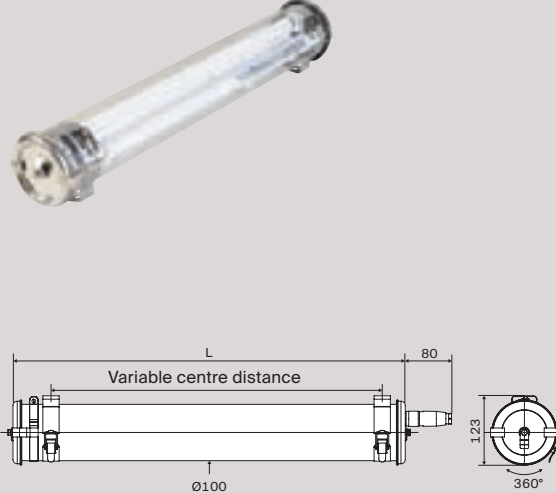
Specifications

Technical data	
Light source	<ul style="list-style-type: none">• High efficiency LED modules (155 lm/W)• 50 000 h L80/B50 at max. operating temperature• Replaceable LED modules• CRI> 80
Optic	<ul style="list-style-type: none">• Light mixing chamber• Satin Diffuser to minimise glare
Heat management	Heatsink in aluminium
Control Gear	Constant Current Driver (non-dimmable)
Power supply	220-240 V 50/60 Hz
Electrical class	Class I
Operating temperature	-20 °C to +35 °C
Connection	Disconnectable Plug Ø cable 8–10 mm (3 × 1,5 mm²)
Fixing	2 Stainless Steel fixing straps with Spring Clip
Method of Construction	<ul style="list-style-type: none">• Housing in one piece with high mechanical and chemical resistance• Long-lasting imperviousness by axial screw fitting
Materials	
Housing	Polycarbonate with protective coextruded PMMA layer
End caps, fixing straps...	Stainless Steel 304 L
Gaskets	EPDM
Standards	
Imperviousness	IP66, IP68 and IP69K
Shock resistance	IK10
Fire resistance	650 °C
Vibration resistance	Meets the standard EN 60598-1 (tested according to CEI 60068-2-6)

Einstein 100 T8

Technology	T8
Max. temp.	30 °C
Power	1 × 18 W

AF0921



Key features

Plug&Play-installation by disconnectable Plug
Resists aggressive detergents
Vibration resistance
Very high resistance to corrosion
Durable and maintainable luminaire



Options

Finishings	
End caps and fixing straps in Stainless Steel 316 L	MR
Housing	
Housing in Polycarbonate	PO
Fixings	
Reinforced fixing straps with HSHC screw	BRV
Shock-resistant fixing straps with HSHC screw	BAC
Cable entries (black polyamide)	
1 cable gland–Ø cable: 5 to 12 mm	113
1 cable gland–Ø cable: 7 to 14 mm	116
2 cable glands–Ø cable: 5 to 12 mm	213
2 cable glands–Ø cable: 7 to 14 mm	216
Cable entries (nickel-coated brass)	
1 cable gland–Ø cable: 5 to 14 mm	113 LN
2 cable glands–Ø cable: 5 to 14 mm	213 LN
Disconnectable output cords with IP68 Plug (length 0,80 m)	
Output cord with a 3 pole WIELAND Plug	CW3
Accessories	
Spacer kit (5 or 20 cm) for fire safety standards	

Principal part numbers

Power	Designation	Part No.	Optic	L (mm)
Versions without reflector				
1 × 18 W	EIN100 118E G13 POME PS3 BRS	1502 5016		697
Versions with extensive reflector				
1 × 18 W	EIN100 118E G13 POME PS3 RE BRS	1502 5052		697
Versions with intensive reflector				
1 × 18 W	EIN100 118E G13 POME PS3 RI BRS	1502 5053		697

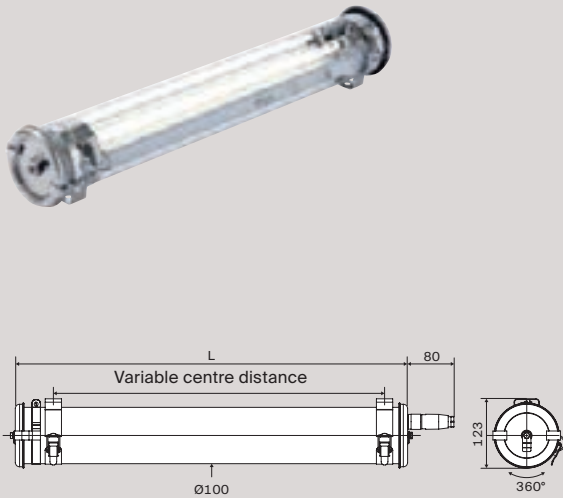
Specifications

Technical data	
Light source	1x T8 lamp, not included
Optic	<ul style="list-style-type: none">• White powder coated gear tray serving as reflector for diffuse general lighting• Extensive reflector (wide beam) in anodised aluminum sheet• Intensive reflector (narrow beam) in anodised aluminium sheet
Control Gear	Hot cathode electronic Control Gear (EEI A2)
Power supply	220-240 V 50/60 Hz
Electrical class	Class I
Operating temperature	-20 °C to +30 °C
Connection	Disconnectable Plug Ø cable 8–10 mm (3 × 1,5 mm²)
Fixing	2 Stainless Steel fixing straps with Spring Clip
Method of Construction	<ul style="list-style-type: none">• Housing in one piece with high mechanical and chemical resistance• Long-lasting imperviousness by axial screw fitting
Materials	
Housing	Polycarbonate with protective coextruded PMMA layer
End caps, fixing straps...	Stainless Steel 304 L
Gaskets	EPDM
Standards	
Imperviousness	IP66, IP68 and IP69K
Shock resistance	IK10
Fire resistance	650 °C
Vibration resistance	Meets the standard EN 60598-1 (tested according to CEI 60068-2-6)

Einstein 100 T5

Technology	T5
Max. temp.	30 °C
Power	1 × 14 W and 1 × 24 W

AF0921



Key features

Plug&Play-installation by disconnectable Plug
Resists aggressive detergents
Vibration resistance
Very high resistance to corrosion
Durable and maintainable luminaire



Options

Finishings		
End caps and fixing straps in Stainless Steel 316 L	MR	
Housing		
Housing in Polycarbonate	PO	
Fixings		
Reinforced fixing straps with HSHC screw	BRV	
Shock-resistant fixing straps with HSHC screw	BAC	
Cable entries (black polyamide)		
1 cable gland–Ø cable: 5 to 12 mm	113	
1 cable gland–Ø cable: 7 to 14 mm	116	
2 cable glands–Ø cable: 5 to 12 mm	213	
2 cable glands–Ø cable: 7 to 14 mm	216	
Cable entries (nickel-coated brass)		
1 cable gland–Ø cable: 5 to 14 mm	113 LN	
2 cable glands–Ø cable: 5 to 14 mm	213 LN	
Disconnectable output cords with IP68 Plug (length 0,80 m)		
Output cord with a 3 pole WIELAND Plug	CW3	
Accessories		
Spacer kit (5 or 20 cm) for fire safety standards		

Principal part numbers

Power	Designation	Part No.	Optic	L (mm)
Versions with extensive reflector				
1 × 14 W	EIN100 114E G5 POME PS3 RE BRS	1551 5052		697
1 × 24 W	EIN100 124E G5 POME PS3 RE BRS	1551 5054		
Versions with intensive reflector				
1 × 14 W	EIN100 114E G5 POME PS3 RI BRS	1551 5053		697
1 × 24 W	EIN100 124E G5 POME PS3 RI BRS	1551 5055		

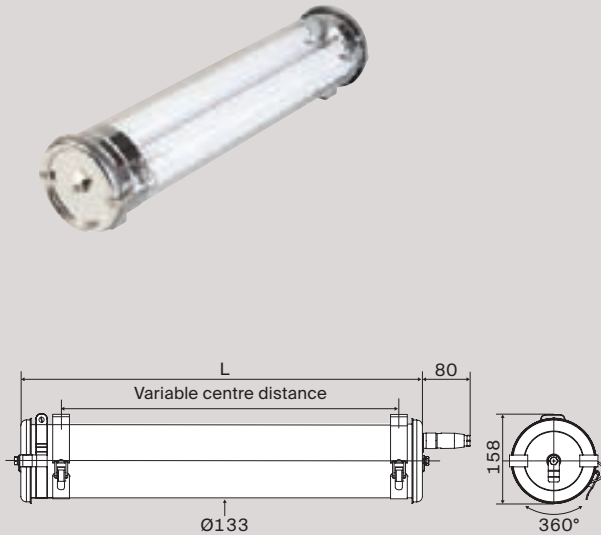
Specifications

Technical data	
Light source	1x T5 lamp, not included
Optic	Reflector in anodised aluminium: <ul style="list-style-type: none">intensive (narrow beam)extensive (large beam)
Control Gear	Hot cathode electronic Control Gear (EEI A2)
Power supply	220-240 V 50/60 Hz
Electrical class	Class I
Operating temperature	-20 °C to +30 °C
Connection	Disconnectable Plug Ø cable 8-10 mm (3 × 1,5 mm²)
Fixing	2 Stainless Steel fixing straps with Spring Clip
Method of Construction	<ul style="list-style-type: none">Housing in one piece with high mechanical and chemical resistanceLong-lasting imperviousness by axial screw fitting
Materials	
Housing	Polycarbonate with protective coextruded PMMA layer
End caps, fixing straps...	Stainless Steel 304 L
Gaskets	EPDM
Standards	
Imperviousness	IP66, IP68 and IP69K
Shock resistance	IK10
Fire resistance	650 °C
Vibration resistance	Meets the standard EN 60598-1 (tested according to CEI 60068-2-6)

Einstein 133 T8

Technology	T8
Max. temp.	30 °C
Power	2 × 18 W

AF0921



Key features

Plug&Play-installation by disconnectable Plug
Resists aggressive detergents
Vibration resistance
Very high resistance to corrosion
Durable and maintainable luminaire



Options

Finishings		
End caps and fixing straps in Stainless Steel 316 L	MR	
Housing		
Housing in Polycarbonate	PO	
Fixings		
Reinforced fixing straps with HSHC screw	BRV	
Shock-resistant fixing straps with HSHC screw	BAC	
Cable entries (black polyamide)		
1 cable gland–Ø cable: 5 to 12 mm	113	
1 cable gland–Ø cable: 7 to 14 mm	116	
2 cable glands–Ø cable: 5 to 12 mm	213	
2 cable glands–Ø cable: 7 to 14 mm	216	
Cable entries (nickel-coated brass)		
1 cable gland–Ø cable: 5 to 14 mm	113 LN	
2 cable glands–Ø cable: 5 to 14 mm	213 LN	
Disconnectable output cords with IP68 Plug (length 0,80 m)		
Output cord with a 3 pole WIELAND Plug	CW3	
Accessories		
Spacer kit (5 or 20 cm) for fire safety standards		

Principal part numbers

Power	Designation	Part No.	Optic	L (mm)
Versions without reflector				
2 × 18 W	EIN133 218E G13 POME PS3 BRS	1602 5062		677
Versions with extensive reflector				
2 × 18 W	EIN133 218E G13 POME PS3 RE BRS	1602 5063		677

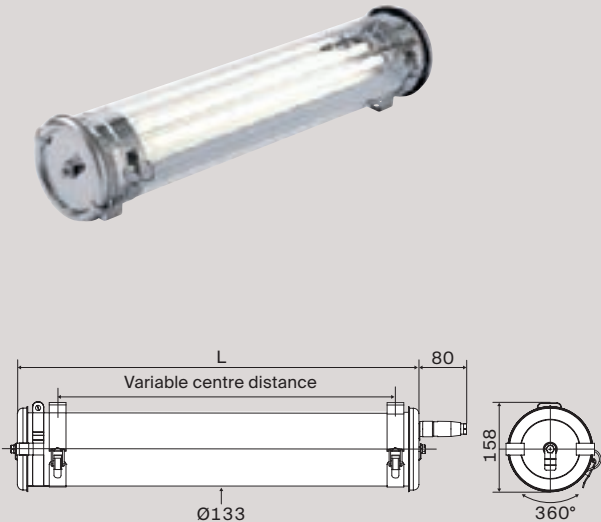
Specifications

Technical data	
Light source	2x T8 lamps, not included
Optic	<ul style="list-style-type: none">White powder coated gear tray serving as reflector for diffuse general lightingExtensive reflector (wide beam) in anodised aluminum sheet
Control Gear	Hot cathode electronic Control Gear (EEI A2)
Power supply	220-240 V 50/60 Hz
Electrical class	Class I
Operating temperature	-20 °C to +30 °C
Connection	Disconnectable Plug Ø cable 8-10 mm (3 × 1,5 mm²)
Fixing	2 Stainless Steel fixing straps with Spring Clip
Method of Construction	<ul style="list-style-type: none">Housing in one piece with high mechanical and chemical resistanceLong-lasting imperviousness by axial screw fitting
Materials	
Housing	Polycarbonate with protective coextruded PMMA layer
End caps, fixing straps...	Stainless Steel 304 L
Gaskets	EPDM
Standards	
Imperviousness	IP66, IP68 and IP69K
Shock resistance	IK10
Fire resistance	650 °C
Vibration resistance	Meets the standard EN 60598-1 (tested according to CEI 60068-2-6)

Einstein 133 T5

Technology	T5
Max. temp.	30 °C
Power	2 × 14 W and 2 × 24 W

AF0921



Key features

Plug&Play-installation by disconnectable Plug
Resists aggressive detergents
Vibration resistance
Very high resistance to corrosion
Durable and maintainable luminaire



Options

Finishings		
End caps and fixing straps in Stainless Steel 316 L	MR	
Housing		
Housing in Polycarbonate	PO	
Fixings		
Reinforced fixing straps with HSHC screw	BRV	
Shock-resistant fixing straps with HSHC screw	BAC	
Cable entries (black polyamide)		
1 cable gland–Ø cable: 5 to 12 mm	113	
1 cable gland–Ø cable: 7 to 14 mm	116	
2 cable glands–Ø cable: 5 to 12 mm	213	
2 cable glands–Ø cable: 7 to 14 mm	216	
Cable entries (nickel-coated brass)		
1 cable gland–Ø cable: 5 to 14 mm	113 LN	
2 cable glands–Ø cable: 5 to 14 mm	213 LN	
Disconnectable output cords with IP68 Plug (length 0,80 m)		
Output cord with a 3 pole WIELAND Plug	CW3	
Accessories		
Spacer kit (5 or 20 cm) for fire safety standards		

Principal part numbers

Power	Designation	Part No.	Optic	L (mm)
Versions with extensive reflector				
2 × 14 W	EIN133 214E G5 POME PS3 RE BRS	1651 5063		677
2 × 24 W	EIN133 224E G5 POME PS3 RE BRS	1651 5065		
Versions with intensive reflector				
2 × 14 W	EIN133 214E G5 POME PS3 RI BRS	1651 5064		677
2 × 24 W	EIN133 224E G5 POME PS3 RI BRS	1651 5066		

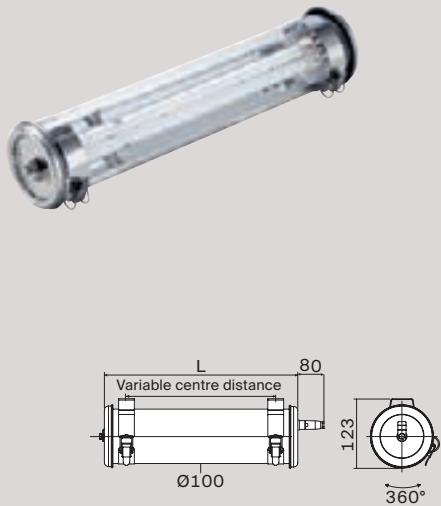
Specifications

Technical data	
Light source	2x T5 lamps, not included
Optic	Reflector in anodised aluminium: <ul style="list-style-type: none">intensive (narrow beam)extensive (large beam)
Control Gear	Hot cathode electronic Control Gear (EEI A2)
Power supply	220-240 V 50/60 Hz
Electrical class	Class I
Operating temperature	-20 °C to +30 °C
Connection	Disconnectable Plug Ø cable 8-10 mm (3 × 1,5 mm²)
Fixing	2 Stainless Steel fixing straps with Spring Clip
Method of Construction	<ul style="list-style-type: none">Housing in one piece with high mechanical and chemical resistanceLong-lasting imperviousness by axial screw fitting
Materials	
Housing	Polycarbonate with protective coextruded PMMA layer
End caps, fixing straps...	Stainless Steel 304 L
Gaskets	EPDM
Standards	
Imperviousness	IP66, IP68 and IP69K
Shock resistance	IK10
Fire resistance	650 °C
Vibration resistance	Meets the standard EN 60598-1 (tested according to CEI 60068-2-6)

Hooke 100

Technology	2G11 fluorescent lamp
Max. temp.	30 °C
Power	1 × 18 W to 1 × 40 W

AF0921



Key features

Plug&Play-installation by disconnectable Plug
Resists aggressive detergents
Vibration resistance
Very high resistance to corrosion
Durable and maintainable luminaire



Options

Finishings		
End caps and fixing straps in Stainless Steel 316 L	MR	
Housing		
Housing in Polycarbonate	PO	
Fixings		
Reinforced fixing straps with HSHC screw	BRV	
Shock-resistant fixing straps with HSHC screw	BAC	
Cable entries (black polyamide)		
1 cable gland–Ø cable: 5 to 12 mm	113	
1 cable gland–Ø cable: 7 to 14 mm	116	
2 cable glands–Ø cable: 5 to 12 mm	213	
2 cable glands–Ø cable: 7 to 14 mm	216	
Cable entries (nickel-coated brass)		
1 cable gland–Ø cable: 5 to 14 mm	113 LN	
2 cable glands–Ø cable: 5 to 14 mm	213 LN	
Disconnectable output cords with IP68 Plug (length 0,80 m)		
Output cord with a 3 pole WIELAND Plug	CW3	

Principal part numbers

Power	Designation	Part No.	Optic	L (mm)
Versions without reflector				
1 × 18 W	HOO100 118E 2G11 POME PS3 BRS	1563 0130		357
1 × 24 W	HOO100 124E 2G11 POME PS3 BRS	1563 0140		436
1 × 36 W	HOO100 136E 2G11 POME PS3 BRS	1563 0150		519
1 × 40 W	HOO100 140E 2G11 POME PS3 BRS	1563 0160		600
Versions with extensive reflector				
1 × 18 W	HOO100 118E 2G11 POME PS3 RE BRS	1563 0170		357
1 × 24 W	HOO100 124E 2G11 POME PS3 RE BRS	1563 0180		436
1 × 36 W	HOO100 136E 2G11 POME PS3 RE BRS	1563 0190		519
1 × 40 W	HOO100 140E 2G11 POME PS3 RE BRS	1563 0200		600
Satinised versions for diffuse lighting				
1 × 18 W	HOO100 118E 2G11 POME PS3 SA BRS	1563 0210		357
1 × 24 W	HOO100 124E 2G11 POME PS3 SA BRS	1563 0220		436
1 × 36 W	HOO100 136E 2G11 POME PS3 SA BRS	1563 0230		519
1 × 40 W	HOO100 140E 2G11 POME PS3 SA BRS	1563 0240		600

When used vertically, the lamp cap must be on the bottom

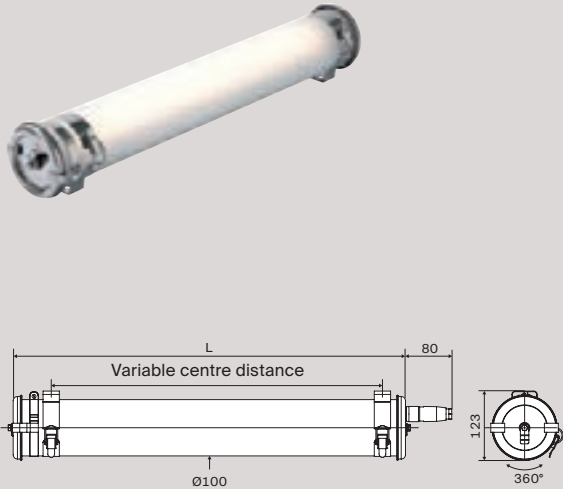
Specifications

Technical data	
Light source	1x 2G11compact fluorescent lamp, not included
Optic	<ul style="list-style-type: none">White powder coated gear tray serving as reflector for diffuse general lightingExtensive reflector (wide beam) in anodised aluminum sheetSatin-finish housing for diffuse lighting
Control Gear	Hot cathode electronic Control Gear (EEI A2)
Power supply	220-240 V 50/60 Hz
Electrical class	Class I
Operating temperature	-20 °C to +30 °C
Connection	Disconnectable Plug Ø cable 8-10 mm (3 × 1,5 mm²)
Fixing	2 Stainless Steel fixing straps with Spring Clip
Method of Construction	<ul style="list-style-type: none">Housing in one piece with high mechanical and chemical resistanceLong-lasting imperviousness by axial screw fitting
Materials	
Housing	Polycarbonate with protective coextruded PMMA layer
End caps, fixing straps...	Stainless Steel 304 L
Gaskets	EPDM
Standards	
Imperviousness	IP66, IP68 and IP69K
Shock resistance	IK10
Fire resistance	650 °C
Vibration resistance	Meets the standard EN 60598-1 (tested according to CEI 60068-2-6)

Cugnot 100

Technology	LED
Temp. opt.	Positive cold
Light output	1850 lm
Control Gear	“Industry” rated

AF0921



Key features

Plug&Play-installation by disconnectable Plug
Resists aggressive detergents
Very high resistance to vibrations
Very high resistance to corrosion
Long maintenance intervals
Durable and maintainable luminaire



Options

Finishings	
End caps and fixing straps in Stainless Steel 316 L	MR
Housing	
Housing in Polycarbonate	PO
Cable entries (black polyamide)	
1 cable gland–Ø cable: 5 to 12 mm	113
1 cable gland–Ø cable: 7 to 14 mm	116
2 cable glands–Ø cable: 5 to 12 mm	213
2 cable glands–Ø cable: 7 to 14 mm	216
Cable entries (nickel-coated brass)	
1 cable gland–Ø cable: 5 to 14 mm	113 LN
2 cable glands–Ø cable: 5 to 14 mm	213 LN
Disconnectable output cords with IP68 Plug (length 0,80 m)	
Output cord with a 3 pole WIELAND Plug	CW3
Accessories	
Spacer kit (5 or 20 cm) for fire safety standards	

Principal part numbers

Lumens	Designation	Part No.	Cons. (W)	Optic	T (K)	L (mm)
1850	CUG100 12H830 POME PS3 SA BRS	3103 0010	17		3000	697
	CUG100 12H840 POME PS3 SA BRS	3103 0020			4000	

* Light output of the luminaire

Specifications

Technical data	
Light source	<ul style="list-style-type: none">High efficiency LED modules (160 lm/W)50 000 h L80/B50 at max. operating temperatureReplaceable LED modulesCRI> 80
Optic	<ul style="list-style-type: none">Light mixing chamberSatin Diffuser to minimise glare
Heat management	Heatsink in aluminium
Control Gear	<ul style="list-style-type: none">Resistant electronic driver, “Industry” rated (non-dimmable)Resistance to voltage surge: 320 V AC, 48 hSupports voltage peaks <4 kV
Power supply	220-240 V 50/60 Hz
Electrical class	Class I
Operating temperature	-20 °C to +40 °C
Connection	Disconnectable Plug Ø cable 8–10 mm (3 × 1,5 mm²)
Fixing	2 Stainless Steel fixing straps with Spring Clip
Method of Construction	<ul style="list-style-type: none">Housing in one piece with high mechanical and chemical resistanceLong-lasting imperviousness by axial screw fitting
Materials	
Housing	Polycarbonate with protective coextruded PMMA layer
End caps, fixing straps...	Stainless Steel 304 L
Gaskets	EPDM
Standards	
Imperviousness	IP66, IP68 and IP69K
Shock resistance	IK10
Fire resistance	650 °C
Vibration resistance	Meets the standard EN 60598-1 (tested according to CEI 60068-2-6)

Hooke 100 HT

Technology	2G11 fluorescent lamp
Max. temp.	50 °C
Power	1 × 18 W and 1 × 36 W

AF0921



Key features

Plug&Play-installation by disconnectable Plug
Resists aggressive detergents
Very high resistance to vibrations
Very high resistance to corrosion
Durable and maintainable luminaire



Options

Finishings	
End caps and fixing straps in Stainless Steel 316 L	MR
Housing	
Housing in Polycarbonate	PO
Cable entries (black polyamide)	
1 cable gland–Ø cable: 5 to 12 mm	113
1 cable gland–Ø cable: 7 to 14 mm	116
2 cable glands–Ø cable: 5 to 12 mm	213
2 cable glands–Ø cable: 7 to 14 mm	216
Cable entries (nickel-coated brass)	
1 cable gland–Ø cable: 5 to 14 mm	113 LN
2 cable glands–Ø cable: 5 to 14 mm	213 LN

Principal part numbers

Power	Designation	Part No.	Optic	L (mm)
Versions without reflector				
1 × 18W	HOO100 118C 2G11 POME PS3 BRS	1561 0070		357
1 × 36W	HOO100 136C 2G11 POME PS3 BRS	1561 0080		519
Versions with extensive reflector				
1 × 18W	HOO100 118C 2G11 POME PS3 RE BRS	1561 0090		357
1 × 36W	HOO100 136C 2G11 POME PS3 RE BRS	1561 0100		519
Satinised versions for diffuse lighting				
1 × 18W	HOO100 118C 2G11 POME PS3 SA BRS	1561 0110		357
1 × 36W	HOO100 136C 2G11 POME PS3 SA BRS	1561 0120		519

When used vertically, the lamp cap must be on the bottom

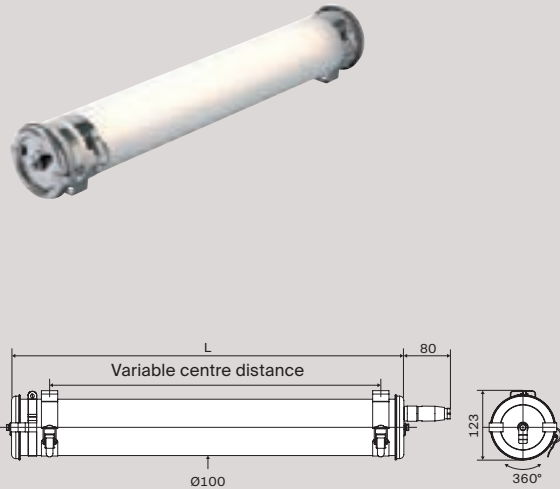
Specifications

Technical data	
Light source	1x 2G11compact fluorescent lamp, not included
Optic	<ul style="list-style-type: none">White powder coated gear tray serving as reflector for diffuse general lightingExtensive reflector (wide beam) in anodised aluminum sheetSatin-finish housing for diffuse lighting
Control Gear	Ferromagnetic Control Gear with very low losses (EEI B1)
Power supply	230 V 50 Hz
Electrical class	Class I
Operating temperature	-20 °C to +50 °C
Connection	Disconnectable Plug Ø cable 8–10 mm (3 × 1,5 mm²)
Fixing	2 Stainless Steel fixing straps with Spring Clip
Method of Construction	<ul style="list-style-type: none">Housing in one piece with high mechanical and chemical resistanceLong-lasting imperviousness by axial screw fitting
Materials	
Housing	Polycarbonate with protective coextruded PMMA layer
End caps, fixing straps...	Stainless Steel 304 L
Gaskets	EPDM
Standards	
Imperviousness	IP66, IP68 and IP69K
Shock resistance	IK10
Fire resistance	650 °C
Vibration resistance	Meets the standard EN 60598-1 (tested according to CEI 60068-2-6)

Bunsen 100

Technology	LED
Max. temp.	55 °C
Light output	1850 lm
Control Gear	“Industry” rated

AF0921



Key features

Plug&Play-installation by disconnectable Plug
Resists aggressive detergents
Very high resistance to vibrations
Very high resistance to corrosion
Long maintenance intervals
Durable and maintainable luminaire



Options

Finishings	
End caps and fixing straps in Stainless Steel 316 L	MR
Housing	
Housing in Polycarbonate	PO
Cable entries (black polyamide)	
1 cable gland–Ø cable: 5 to 12 mm	113
1 cable gland–Ø cable: 7 to 14 mm	116
2 cable glands–Ø cable: 5 to 12 mm	213
2 cable glands–Ø cable: 7 to 14 mm	216
Cable entries (nickel-coated brass)	
1 cable gland–Ø cable: 5 to 14 mm	113 LN
2 cable glands–Ø cable: 5 to 14 mm	213 LN
Disconnectable output cords with IP68 Plug (length 0,80 m)	
Output cord with a 3 pole WIELAND Plug	CW3
Accessories	
Spacer kit (5 or 20 cm) for fire safety standards	

Principal part numbers

Lumens	Designation	Part No.	Cons. (W)	Optic	T (K)	L (mm)
1850	BUN100 12H830 POME PS3 SA BRS	3105 0010	17		3000	697
	BUN100 12H840 POME PS3 SA BRS	3105 0020			4000	

* Light output of the luminaire

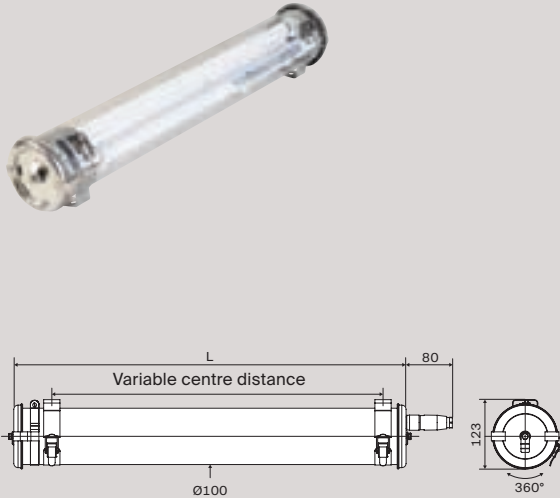
Specifications

Technical data	
Light source	<ul style="list-style-type: none">• High efficiency LED modules (155 lm/W)• LED modules for high temperature• 50 000 h L80/B50 at max. operating temperature• Replaceable LED modules• CRI> 80
Optic	<ul style="list-style-type: none">• Light mixing chamber• Satin Diffuser to minimise glare
Heat management	Heatsink in aluminium
Control Gear	<ul style="list-style-type: none">• Electronic driver for high temperature (non-dimmable)• Resistance to voltage surge: 320 V AC, 48 h• Supports voltage peaks <4 kV
Power supply	220-240 V 50/60 Hz
Electrical class	Class I
Operating temperature	-20 °C to +55 °C
Connection	Disconnectable Plug Ø cable 8–10 mm (3 × 1,5 mm²)
Fixing	2 Stainless Steel fixing straps with Spring Clip
Method of Construction	<ul style="list-style-type: none">• Housing in one piece with high mechanical and chemical resistance• Long-lasting imperviousness by axial screw fitting
Materials	
Housing	Polycarbonate with protective coextruded PMMA layer
End caps, fixing straps...	Stainless Steel 304 L
Gaskets	EPDM
Standards	
Imperviousness	IP66, IP68 and IP69K
Shock resistance	IK10
Fire resistance	650 °C
Vibration resistance	Meets the standard EN 60598-1 (tested according to CEI 60068-2-6)

Einstein 100 HT

Technology	T8
Max. temp.	70 °C
Power	1 × 18 W

AF0921



Key features

Plug&Play-installation by disconnectable Plug
Resists aggressive detergents
Very high resistance to vibrations
Very high resistance to corrosion
Durable and maintainable luminaire



Options

Finishings	
End caps and fixing straps in Stainless Steel 316 L	MR
Housing	
Housing in Polycarbonate	PO
Cable entries (black polyamide)	
1 cable gland–Ø cable: 5 to 12 mm	113
1 cable gland–Ø cable: 7 to 14 mm	116
2 cable glands–Ø cable: 5 to 12 mm	213
2 cable glands–Ø cable: 7 to 14 mm	216
Cable entries (nickel-coated brass)	
1 cable gland–Ø cable: 5 to 14 mm	113 LN
2 cable glands–Ø cable: 5 to 14 mm	213 LN
Accessories	
Spacer kit (5 or 20 cm) for fire safety standards	

Principal part numbers

Power	Designation	Part No.	Optic	L (mm)
Versions without reflector				
1 × 18 W	EIN100 118C G13 POME PS3 BRS	1501 5060		697
Versions with extensive reflector				
1 × 18 W	EIN100 118C G13 POME PS3 RE BRS	1501 5001		697
Versions with intensive reflector				
1 × 18 W	EIN100 118C G13 POME PS3 RI BRS	1501 5061		697

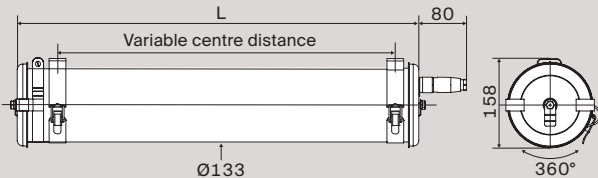
Specifications

Technical data	
Light source	1x T8 lamp, not included
Optic	<ul style="list-style-type: none">• White powder coated gear tray serving as reflector for diffuse general lighting• Extensive reflector (wide beam) in anodised aluminum sheet• Intensive reflector (narrow beam) in anodised aluminium sheet
Control Gear	Ferromagnetic Control Gear with very low losses (EEI B1)
Power supply	230 V 50 Hz
Electrical class	Class I
Operating temperature	-20 °C to +70 °C
Connection	Disconnectable Plug Ø cable 8–10 mm (3 × 1,5 mm²)
Fixing	2 reinforced Stainless Steel fixing straps
Method of Construction	<ul style="list-style-type: none">• Housing in one piece with high mechanical and chemical resistance• Long-lasting imperviousness by axial screw fitting
Materials	
Housing	Polycarbonate with protective coextruded PMMA layer
End caps, fixing straps...	Stainless Steel 304 L
Gaskets	EPDM
Standards	
Imperviousness	IP66, IP68 and IP69K
Shock resistance	IK10
Fire resistance	650 °C
Vibration resistance	Meets the standard EN 60598-1 (tested according to CEI 60068-2-6)

Einstein 133 HT

Technology	T8
Max. temp.	60 °C
Power	2 × 18 W

AF0921



Key features

Plug&Play-installation by disconnectable Plug
Resists aggressive detergents
Very high resistance to vibrations
Very high resistance to corrosion
Durable and maintainable luminaire



Options

Finishings	
End caps and fixing straps in Stainless Steel 316 L	MR
Housing	
Housing in Polycarbonate	PO
Cable entries (black polyamide)	
1 cable gland–Ø cable: 5 to 12 mm	113
1 cable gland–Ø cable: 7 to 14 mm	116
2 cable glands–Ø cable: 5 to 12 mm	213
2 cable glands–Ø cable: 7 to 14 mm	216
Cable entries (nickel-coated brass)	
1 cable gland–Ø cable: 5 to 14 mm	113 LN
2 cable glands–Ø cable: 5 to 14 mm	213 LN
Accessories	
Spacer kit (5 or 20 cm) for fire safety standards	

Principal part numbers

Power	Designation	Part No.	Optic	L (mm)
Versions without reflector				
2 × 18 W	EIN133 218C G13 POME PS3 BRS	1601 5063		677
Versions with extensive reflector				
2 × 18 W	EIN133 218C G13 POME PS3 RE BRS	1601 5064		677

Specifications

Technical data	
Light source	2x T8 lamps, not included
Optic	<ul style="list-style-type: none">White powder coated gear tray serving as reflector for diffuse general lightingExtensive reflector (wide beam) in anodised aluminum sheet
Control Gear	Ferromagnetic Control Gear with very low losses (EEI B1)
Power supply	230 V 50 Hz
Electrical class	Class I
Operating temperature	-20 °C to +60 °C
Connection	Disconnectable Plug Ø cable 8–10 mm (3 × 1,5 mm²)
Fixing	2 reinforced Stainless Steel fixing straps
Method of Construction	<ul style="list-style-type: none">Housing in one piece with high mechanical and chemical resistanceLong-lasting imperviousness by axial screw fitting
Materials	
Housing	Polycarbonate with protective coextruded PMMA layer
End caps, fixing straps...	Stainless Steel 304 L
Gaskets	EPDM
Standards	
Imperviousness	IP66, IP68 and IP69K
Shock resistance	IK10
Fire resistance	650 °C
Vibration resistance	Meets the standard EN 60598-1 (tested according to CEI 60068-2-6)

Hall lighting

Robust high-power lighting solutions for food industry production halls up to 10 m in height.

Ceiling fittings

Ranges	Sources	Gear unit	Tmax	Energy performance	Pages
Fresnel 133	LED	Robust	50 °C	●●●	146

Floodlights

Ranges	Sources	Gear unit	Tmax	Energy performance	Pages
Huygens	E40	Integrated	40 °C	●	147
Huygens SEP	E40	Separated, max 40 m	40 °C	●	150

Lighting for production halls

The extreme height of large-scale food industry production halls presents a very real challenge for lighting, which must not only comply fully with all the relevant standards, but must also be easy to fit, clean and maintain to comply with the very highest standards of hygiene.

Ceiling fittings

Our Fresnel 133 range offers LED lighting solutions that are particularly suitable for the most severe food industry production hall environments.



Heavy duty casing

Our ceiling fittings use the SCREW construction principle to guarantee a perfect hermetic seal (IP68/IP69K), and boast heavy duty mechanical strength thanks to its axially tightened closure. Their composite coextruded polycarbonate/PMMA diffuser combines exceptional resistance to detergents with high impact resistance (IK10). They maintain their mechanical integrity throughout their life, thereby removing any glass-related risk. Their tubular shape reduces external dirt accumulation and facilitates cleaning.



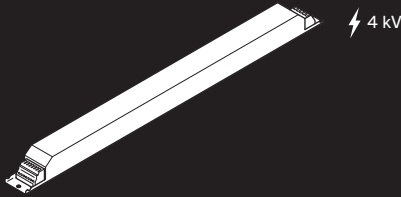
Special light engine

To obtain standard-compliant lighting levels at high temperatures, we have selected a dedicated light engine: High-efficiency LED modules specially designed to withstand high temperatures, combined with an intensive optical system to optimise photometric properties. Module thermal management is provided by a passive aluminium heatsink to provide guaranteed operation of 50,000 hours L80 B50 at 50 °C.



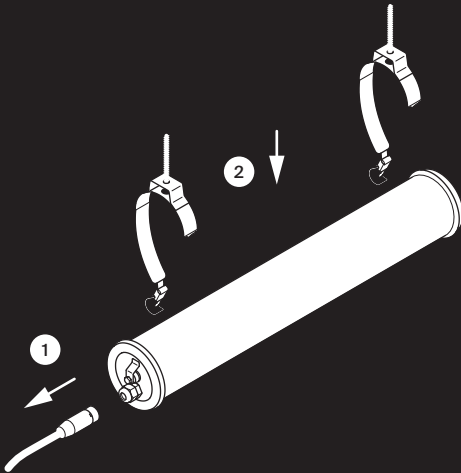
Robust electronic power supplies

Our products contain robust electronic power supplies that are specifically protected against mains electrical interference (3-phase imbalance, voltage peaks, frequent voltage fluctuations, etc.) and high-intensity mechanical vibration. Rigorous selection of their components ensures operation at temperatures of up to +50 °C without compromising lifespan.



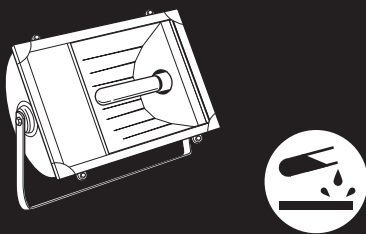
Rapid installation and easy maintenance

The conditions in which luminaires are used (accessibility, high temperatures, resulting interruptions to production, etc.) and the cost involved in their use require installation and maintenance to be simple and rapid. Fully aware of these constraints, we offer the Fresnel 133 range, whose high-strength, long-life products reduce the need for maintenance. They are lightweight and easy to secure in place using two single-screw wraparound spring-loaded fixing straps, and their plug-in connector system means that they do not have to be opened for wiring.



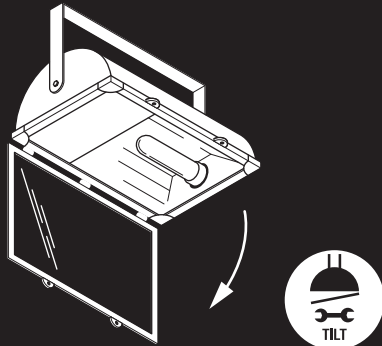
Floodlights

Decades of experience, much of it in the food industry environment, have enabled us to develop floodlights that offer unrivalled corrosion resistance.



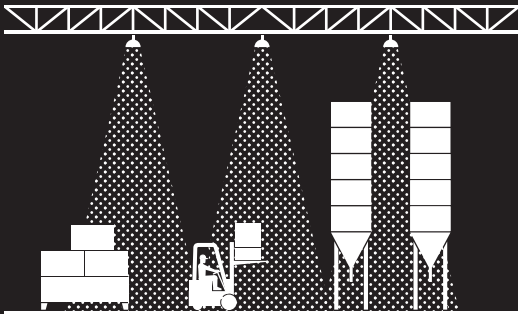
A construction principle: the TILT system

The TILT system comprises a robust housing in combination with a half-cylindrical body, a 304 L stainless steel closure (316 L available as an option) and tempered safety glass protection permanently bonded to its frame. The fact that the glass is mounted on 2 stainless steel hinges makes for simple access and rapid relamping. The gear is accessed via the hinged tray. Our floodlights are fitted with on/off phase pressure balancing membranes to facilitate opening.



Optics

We offer a broad choice of mirror-finish aluminium reflectors: intensive (narrow beam), extensive (broad beam) and semi-intensive (intermediate beam). This range covers the great majority of lighting requirements. These optics are protected by polycarbonate lenses, which maintain their mechanical integrity throughout their life, thereby removing any glass-related risk.



Products

Huygens

The High Pressure Sodium (HPS) lamp version in the Huygens range uses the most standard of industrial light sources.



Huygens SEP

For High Pressure Sodium (HPS), this product enables the gear to be located remotely up to 40 m from the lamp to facilitate maintenance operations.



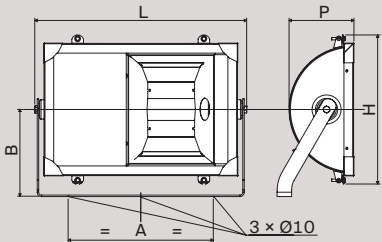
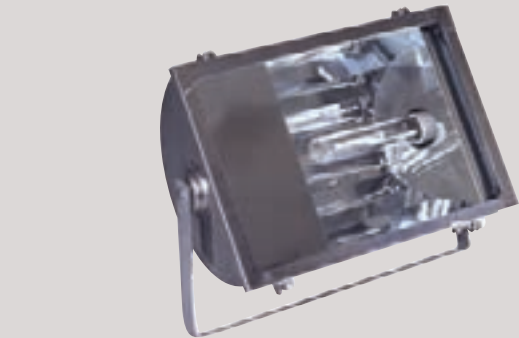
Our products are trusted by all these companies

ArcelorMittal Steel	E.ON	Keroman	Marine nationale
Comilog	Nantes Saint-Nazaire	Koniambo Nickel	française
DCNS	Port	Malteurop	Tata Steel
EDF	Intermalta	MacGregor	Yara

Huygens

Technology	HPS E40
Max. temp.	40 °C
Power	1 × 100 W to 1 × 400 W

AF0629






Size	L	H	P	A	B
HUY2	520	310	129	300	180
HUY3	570	410	178	400	240
HUY4	660	465	207	400	250

Key features

- Access to the lamp by opening the front
- Food-safe
- Resistant to aggressive chemical environments
- Durable and maintainable luminaire



Principal part numbers

Power	Designation	Part No.	Optic	Size
Versions with extensive reflector				
1 × 100 W	HUY2-N 100 SHP E40 113 LN RE GPO	1202 5013		HUY2
1 × 150 W	HUY2-N 150 SHP E40 113 LN RE GPO	1202 5016		
1 × 250 W	HUY3-N 250 SHP E40 113 LN RE GPO	1203 5010		HUY3
1 × 400 W	HUY4-N 400 SHP E40 113 LN RE GPO	1204 5018		HUY4
Versions with semi-intensive reflector				
1 × 100 W	HUY2-N 100 SHP E40 113 LN RSI GPO	1202 5015		HUY2
1 × 150 W	HUY2-N 150 SHP E40 113 LN RSI GPO	1202 5018		
1 × 250 W	HUY3-N 250 SHP E40 113 LN RSI GPO	1203 5012		HUY3
1 × 400 W	HUY4-N 400 SHP E40 113 LN RSI GPO	1204 5020		HUY4
Versions with intensive reflector				
1 × 100 W	HUY2-N 100 SHP E40 113 LN RI GPO	1202 5014		HUY2
1 × 150 W	HUY2-N 150 SHP E40 113 LN RI GPO	1202 5017		
1 × 250 W	HUY3-N 250 SHP E40 113 LN RI GPO	1203 5011		HUY3
1 × 400 W	HUY4-N 400 SHP E40 113 LN RI GPO	1204 5019		HUY4

Protective cover in Polycarbonate incompatible with the use of metal halide lamps

Options

Finishings	
Casing, mounting bracket and frame in Stainless Steel 316 L	MR
Optics	
External black louvre grill	GDN
Fixings	
Yoke mount for ceiling fixing	PL
Yoke mount locking and one-way screws (HUY3 and HUY4)	RV

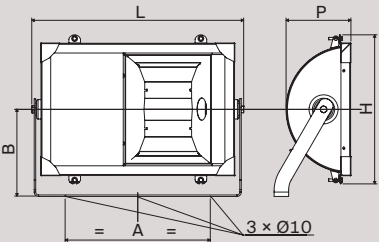
Specifications

Technical data	
Light source	1x E40 high pressure sodium lamp (HPS), not included
Optic	Reflector in anodised aluminium: <ul style="list-style-type: none">intensive (narrow beam)extensive (large beam)Semi-intensive (average beam)
Control Gear	Ferromagnetic Control Gear with starter
Power supply	230 V 50 Hz
Electrical class	Class I
Operating temperature	-30 °C to +40 °C
Connection	Cable gland in nickel-coated brass for Ø cable 5–14 mm (3 × 2,5 mm²)
Fixing	<ul style="list-style-type: none">Wall mounting bracket (orientation over 180°)Fixing in three points (3 holes Ø10 mm)
Method of Construction	<ul style="list-style-type: none">Access to the lamp by opening the frontStainless Steel housing in form of a half cylinderFrame with 2 Stainless Steel hingesTilttable gear trayDiaphragm for pressure balancing while switching on and off
Materials	
Protective cover	<ul style="list-style-type: none">Lamp side: tempered safety glassOutside: Polycarbonate
End caps, fixing straps...	Stainless Steel 304 L
Gaskets	Silicone
Standards	
Imperviousness	IP65
Shock resistance	IK07
Fire resistance	850 °C

Huygens SEP

Technology	HPS E40
Max. temp.	40 °C
Power	1 × 250 W and 1 × 400 W
Control Gear	Max. distance: 40 m

AF0629






Size	L	H	P	A	B
HUY3	570	410	178	400	240
HUY4	660	465	207	400	250

Key features

Access to the lamp by opening the front
Food-safe
Resistant to aggressive chemical environments
Durable and maintainable luminaire



Principal part numbers

Power	Designation	Part No.	Optic	Size
Versions with extensive reflector				
1 × 250 W	HUY3-N 250 E40 113 LN RE GPO	1203 5016		HUY3
1 × 400 W	HUY4-N 400 E40 113 LN RE GPO	1204 5028		HUY4
Versions with semi-intensive reflector				
1 × 250 W	HUY3-N 250 E40 113 LN RSI GPO	1203 5017		HUY3
1 × 400 W	HUY4-N 400 E40 113 LN RSI GPO	1204 5029		HUY4
Versions with intensive reflector				
1 × 250 W	HUY3-N 250 E40 113 LN RI GPO	1203 5018		HUY3
1 × 400 W	HUY4-N 400 E40 113 LN RI GPO	1204 5030		HUY4
Protective cover in Polycarbonate incompatible with the use of metal halide lamps				
Mounting box for Control Gears to be ordered separately:				
Mounting box EDISON				
Mounting box for floodlight for 250 W HPS lamp				
1 × 250 W	EDIS 250 SHP-IM 213	1702 0100		
Mounting box for floodlight for 400 W HPS lamp				
1 × 400 W	EDIS 400 SHP-IM 213	1702 0110		
Max. distance between floodlight and mounting box: 40 m for 100 pF/m cables				

Options

Finishings	
Casing, mounting bracket and frame in Stainless Steel 316 L	MR
Optics	
External black louvre grill	GDN
Fixings	
Yoke mount for ceiling fixing	PL
Yoke mount locking and one-way screws	RV

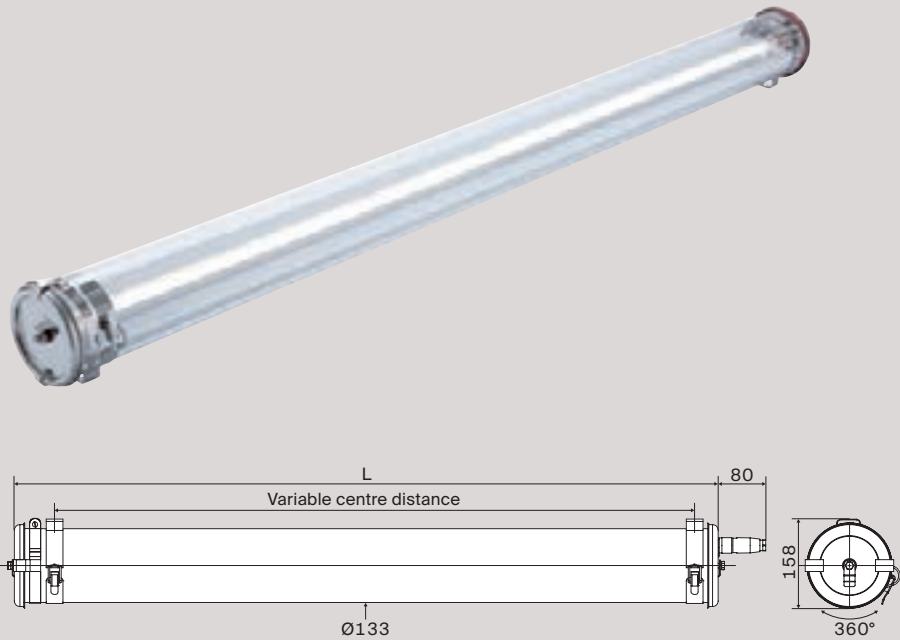
Specifications

Technical data	
Light source	1x E40 high pressure sodium lamp (HPS), not included
Optic	Reflector in anodised aluminium: <ul style="list-style-type: none">intensive (narrow beam)extensive (large beam)Semi-intensive (average beam)
Control Gear	<ul style="list-style-type: none">Control Gear in sepearate boxFerromagnetic Control Gear with starterIgnition voltage 1,8-2,3 kV / 3-4 kV
Power supply	230 V 50 Hz
Electrical class	Class I
Operating temperature	-10 °C à +40 °C
Connection	Floodlight: <ul style="list-style-type: none">Cable gland in nickel-coated brass for Ø cable 5–14 mm (3 × 2,5 mm²) Mounting box separate: <ul style="list-style-type: none">2 cable glands in black polyamide for Ø cable 5 to 12 mm (3 × 4 mm²)
Fixing	<ul style="list-style-type: none">Wall mounting bracket (orientation over 180°)Fixing in three points (3 holes Ø10 mm)
Method of Construction	<ul style="list-style-type: none">Access to the lamp by opening the frontStainless Steel housing in form of a half cylinderFrame with 2 Stainless Steel hingesDiaphragm for pressure balancing while switching on and off
Materials	
Protective cover	<ul style="list-style-type: none">Lamp side: tempered safety glassOutside: Polycarbonate
End caps, fixing straps...	Stainless Steel 304 L
Gaskets	Silicone
Mounting box	Glass fibre reinforced polyester
Standards	
Imperviousness	Floodlight: IP65 / Mounting box: IP67
Shock resistance	Floodlight: IK07 / Mounting box: IK10
Fire resistance	850 °C

Fresnel 133

Technology	LED
Max. temp.	50 °C
Light output	9500 lm
Control Gear	“Industry” rated

AF0921



Key features

Plug&Play-installation by disconnectable Plug
Food-safe
Resists aggressive detergents
Very high resistance to corrosion
Durable and maintainable luminaire



Options

Finishings	
End caps and fixing straps in Stainless Steel 316 L	MR
Housing	
Housing in Polycarbonate	PO
Accessories	
Spacer kit (5 or 20 cm) for fire safety standards	

Specifications

Lumens	Designation	Part No.	Cons. (W)	Optic	T (K)	L (mm)
9500	FRE133 16H830 POME PS3 BRS	3211 0010	81		3000	1850
	FRE133 16H840 POME PS3 BRS	3211 0020			4000	

* Light output of the luminaire

Specifications

Technical data	
Light source	<ul style="list-style-type: none">• High efficiency LED modules (145 lm/W)• LED modules for high temperature• 50 000 h L80/B50 at max. operating temperature• Replaceable LED modules• CRI> 80
Optic	<ul style="list-style-type: none">• Light mixing chamber• Intensive linear lens
Heat management	Heatsink in aluminium
Control Gear	<ul style="list-style-type: none">• Resistant electronic driver, “Industry” rated (non-dimmable)• Resistance to voltage surge: 320 V AC, 48 h• Supports voltage peaks <4 kV
Power supply	220-240 V 50/60 Hz
Electrical class	Class I
Operating temperature	-20 °C to +50 °C
Connection	Disconnectable Plug Ø cable 8–10 mm (3 × 1,5 mm²)
Fixing	2 reinforced Stainless Steel fixing straps
Method of Construction	<ul style="list-style-type: none">• Housing in one piece with high mechanical and chemical resistance• Long-lasting imperviousness by axial screw fitting
Materials	
Housing	Polycarbonate with protective coextruded PMMA layer
End caps, fixing straps...	Stainless Steel 304 L
Gaskets	EPDM
Standards	
Imperviousness	IP66, IP68 and IP69K
Shock resistance	IK10
Fire resistance	650 °C
Vibration resistance	Meets the standard EN 60598-1 (tested according to CEI 60068-2-6)

Clean rooms

Clean room lighting solutions that are maintained from above via walkable ceilings.

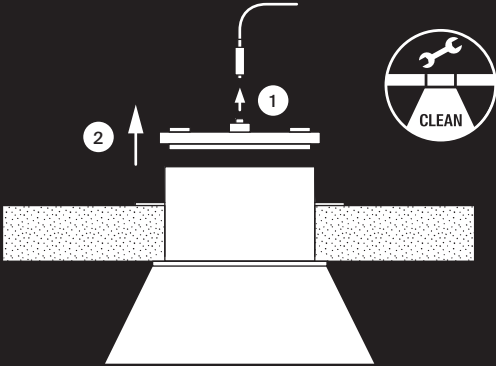
Ranges	Sources	Quantity of light	Energy performance	Pages
Calmette	LED	●●	●●●●	186
Pasteur T8	T8	●	●●●	188
Pasteur T5	T5	●●	●●	189

Lighting for clean rooms

Clean rooms (as defined by the ISO 14644-1 standard) are used in high-technology industries, such as electronics, micromechanics, biogenetics, chemicals and pharmaceuticals. They require an optimum level of cleanliness, safety and hygiene.

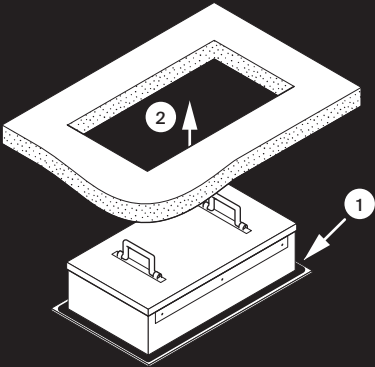
The CLEAN System

We have developed a mechanical system for luminaires to be inset into ceilings and suspended ceilings. These luminaires may be inset into insulation panels with no need for additional fire protection. They are also constructed from two sections of epoxy powder-coated steel: the lower (visible) casing containing the reflectors is closed by a PMMA pane (for increased resistance to detergents) in a stainless steel frame; the upper cover section contains the gear and light sources, as well as acting as a cap.



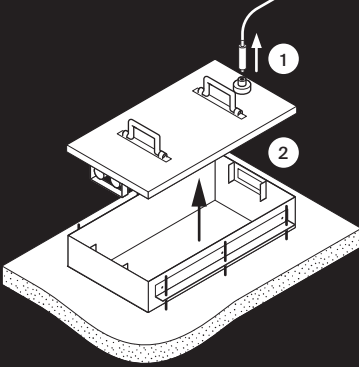
Installation

These luminaires are inserted from below in the supporting ceiling. The interface between the cover and the ceiling is sealed with a bead of silicone. The lower casing is secured within the thickness of the ceiling (max 150 mm) by 2 stainless steel brackets above the ceiling, and by 6 threaded studs.



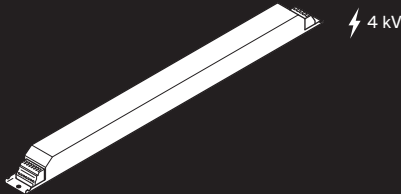
Maintenance

These luminaires are maintained by opening the removable upper cover section containing the gear tray. To facilitate this operation, the tray is fitted with two handles and a sealed plug-in external connector. Since these products are open from above, maintenance work remains outside the production area, and can be carried out in complete safety.



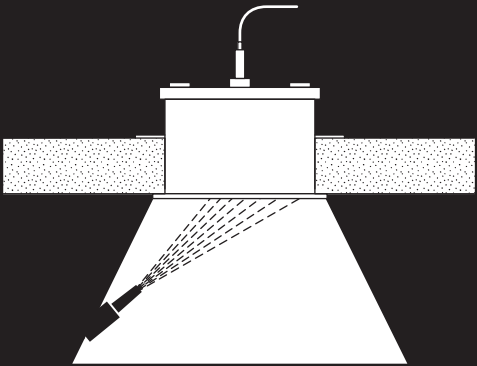
Robust power supplies

Whether they use LED or fluorescent technology, all our luminaires contain robust electronic power supplies that are specifically protected against mains electrical interference (3-phase imbalance, voltage peaks, frequent voltage fluctuations, etc.). Their efficient thermal management and carefully selected components ensure their operation at temperatures of up to +40 °C without compromising lifespan.



Easy cleaning

These totally stripped back and sterile areas, with rounded wall corners, lack of skirtings and seamless surfaces with no areas where contamination could possibly accumulate, are designed to be easily disinfected. The stainless steel framed PMMA pane fitted to our luminaires is completely smooth to facilitate disinfection. In this quest for ultra-cleanliness, the daily use of extremely aggressive cleaning products also demands a highly resistant luminaire casing. Our closure principle ensures an absolute seal (IP68) for the full working life of the luminaire, combined with resistance to aggression by detergents and high pressure jet cleaning.



Products

Pasteur T8

Designed for two T8 fluorescent tubes with G13 fittings, this product uses the standard light sources most commonly found on industrial sites as a result of the excellent energy efficiency delivered by their fluorescent solutions.



Pasteur T5

Designed for two T5 fluorescent tubes with G5 fittings, this product offers a higher level of luminous flux density. It is therefore recommended for higher level installations.



Calmette

This product uses high-efficiency LED (lm/W) modules that reduce lighting energy consumption. Its luminous flux is optimised for applications where the chilled temperature remains above zero, and limits the number of light sources needed to achieve the desired level of lighting. Unaffected by repeated on/off switching cycles, it offers the ideal solution for sensor-controlled lighting.



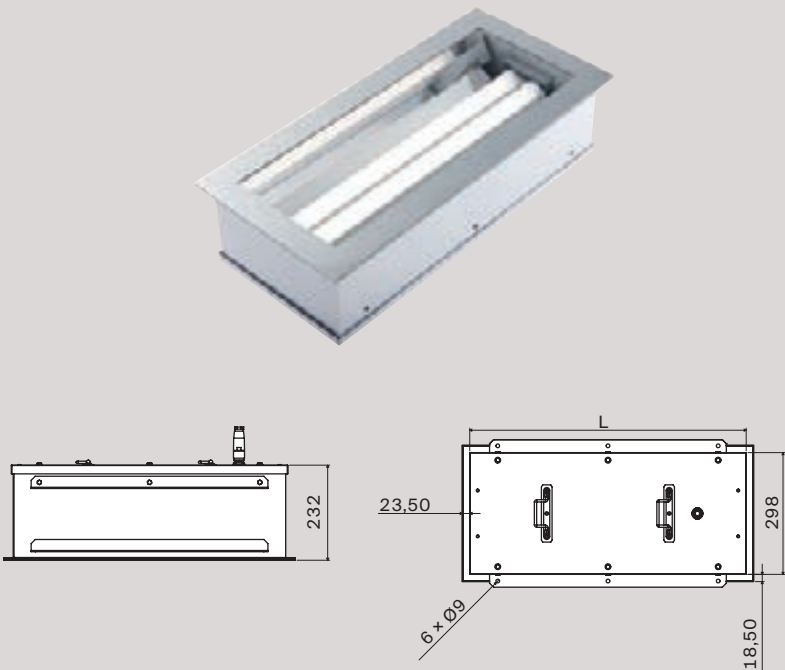
Our products are trusted by all these companies

Brocéliande	Inserm	Nova Sea
Cooperl Arc Atlantique	Laïta	St Sever
Ingredia	Lactalis	UCPA St Priest

Calmette

Technology	LED
Temp. opt.	Positive cold
Light output	3600 to 9000 lm
Maintenance	From above
Control Gear	“Industry” rated

AF0517



Key features

Maintenance outside of the production area
Plug&Play-installation by disconnectable Plug
Resists aggressive detergents
Suitable for repeated switching on and off
Durable and maintainable luminaire



Principal part numbers

Lumens	Designation	Part No.	Cons. (W)	Optic	L (mm)
Versions with protective cover in PMMA (compatible with cleaning agents)					
3600	CAL 22H830 ME PS3	1714 0010	33		677
	CAL 22H840 ME PS3	1714 0020			
7200	CAL 24H830 ME PS3	1714 0030	65		1277
	CAL 24H840 ME PS3	1714 0040			
9000	CAL 25H830 ME PS3	1714 0050	81		1577
	CAL 25H840 ME PS3	1714 0060			
Versions with protective cover in Polycarbonate					
3600	CAL 22H830 PO PS3	1714 0070	33		677
	CAL 22H840 PO PS3	1714 0080			
7200	CAL 24H830 PO PS3	1714 0090	65		1277
	CAL 24H840 PO PS3	1714 0100			
9000	CAL 25H830 PO PS3	1714 0110	81		1577
	CAL 25H840 PO PS3	1714 0120			

Options

Finishings	
Frame in Stainless Steel 316 L	MR

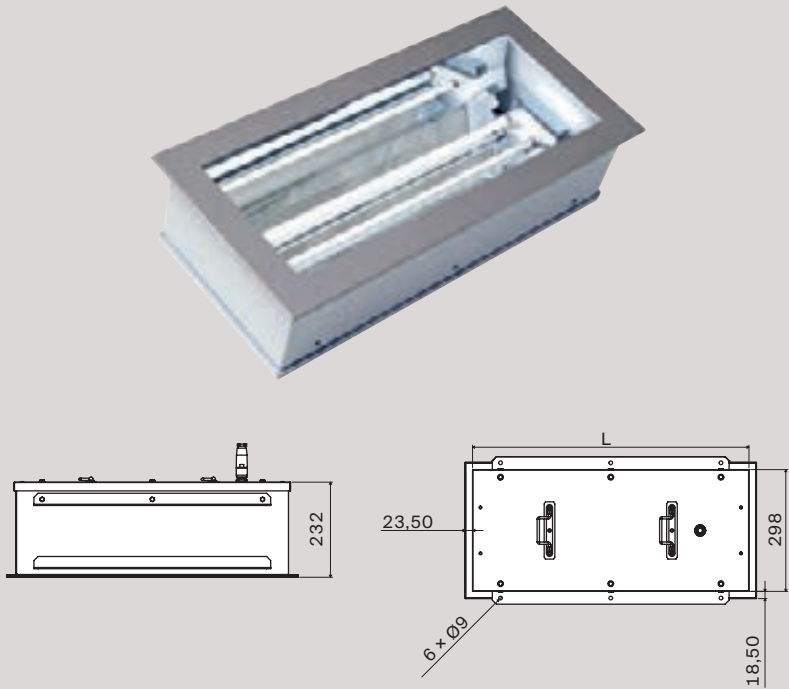
Specifications

Technical data	
Light source	<ul style="list-style-type: none">High efficiency LED modules (160 lm/W)50 000 h L80/B50 at max. operating temperatureReplaceable LED modulesCRI> 80
Optic	<ul style="list-style-type: none">Light mixing chamberOptical distributorReflector in anodised aluminum
Control Gear	<ul style="list-style-type: none">Resistant electronic driver, “Industry” rated (non-dimmable)Resistance to voltage surge: 320 V AC, 48 hSupports voltage peaks <4 kV
Power supply	220-240 V 50/60 Hz
Electrical class	Class I
Operating temperature	-20 °C to +40 °C
Connection	Disconnectable Plug Ø cable 8–10 mm (3 × 1,5 mm²)
Fixing	<ul style="list-style-type: none">Embedding from the bottom into the ceilingThickness of the ceiling: max. 150 mmSealing of the luminaire by a silicone gasket in between the frame and the ceilingPlucking into the ceiling by iron angle sections in Stainless Steel and threaded rods
Method of Construction	<ul style="list-style-type: none">Casing in 2 parts enabling the maintenance from aboveEmbedding by insertion from the bottom into the loadbearing ceilingRemovable top cover with gear tray
Materials	
Protective cover	<ul style="list-style-type: none">PMMA (compatible with cleaning agents)UV-resistant Polycarbonate
End caps, fixing straps...	Stainless Steel 304 L
Casing, top cover	<ul style="list-style-type: none">White coated steel sheetEmbedding in sandwich panels without supplementary fire safety
Gaskets	Neoprene
Standards	
Imperviousness	<ul style="list-style-type: none">Bottom (clean room): IP66, IP68Top (maintenance): IP65
Shock resistance	<ul style="list-style-type: none">Protective cover in PMMA: IK09Protective cover in Polycarbonate: IK10
Fire resistance	<ul style="list-style-type: none">Protective cover in PMMA: 650° CProtective cover in Polycarbonate: 850 °C

Pasteur T8

Technology	T8
Max. temp.	40 °C
Power	2 × 36 W and 2 × 58 W
Maintenance	From above
Control Gear	“Industry” rated

AF0517



Key features

Maintenance outside of the production area
Plug&Play-installation by disconnectable Plug
Resists aggressive detergents
Easy cleaning
Durable and maintainable luminaire



Options

Finishings	
Frame in Stainless Steel 316 L	MR

Principal part numbers

Power	Designation	Part No.	Optic	L (mm)
Versions with protective cover in PMMA (compatible with cleaning agents)				
2 × 36 W	PAST 236I G13 ME PS3 R	1712 0060	☼	1277
2 × 58 W	PAST 258I G13 ME PS3 R	1712 0040	☼	1577
Versions with protective cover in Polycarbonate				
2 × 36 W	PAST 236I G13 PO PS3 R	1712 5003	☼	1277
2 × 58 W	PAST 258I G13 PO PS3 R	1712 5004	☼	1577

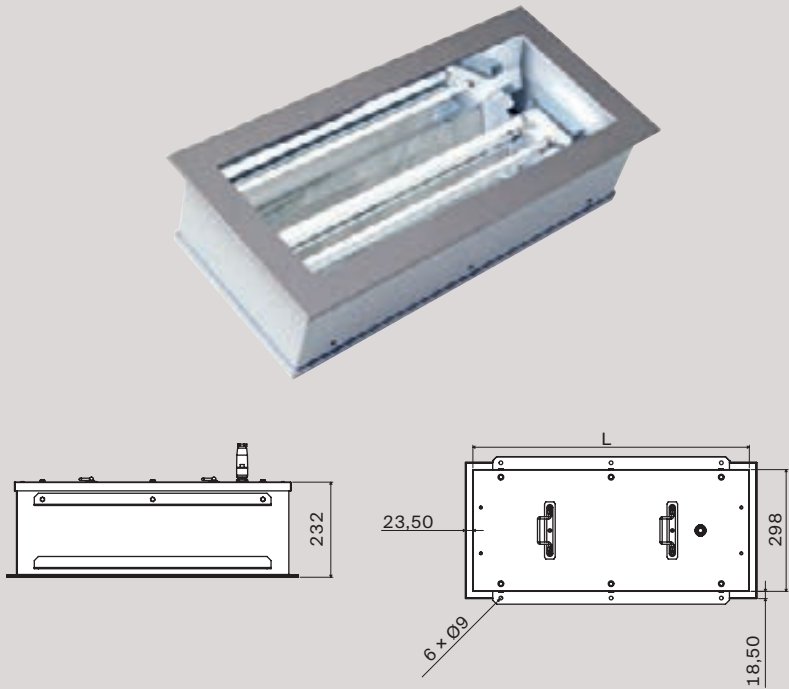
Specifications

Technical data	
Light source	2x T8 lamps, not included
Optic	Reflector in anodised aluminum
Control Gear	<ul style="list-style-type: none">Resistant electronic Control Gear, “Industry” rated (EEI A2)Resistance to voltage surges: 320 V AC, 1 hSupports voltage peaks <4 kV
Power supply	220-240 V 50/60 Hz
Electrical class	Class I
Operating temperature	-20 °C to +40 °C
Connection	Disconnectable Plug Ø cable 8-10 mm (3 × 1,5 mm²)
Fixing	<ul style="list-style-type: none">Embedding from the bottom into the ceilingThickness of the ceiling: max. 150 mmSealing of the luminaire by a silicone gasket in between the frame and the ceilingPlucking into the ceiling by iron angle sections in Stainless Steel and threaded rods
Method of Construction	<ul style="list-style-type: none">Casing in 2 parts enabling the maintenance from aboveEmbedding by insertion from the bottom into the loadbearing ceilingRemovable top cover with gear tray
Materials	
Protective cover	<ul style="list-style-type: none">PMMA (compatible with cleaning agents)UV-resistant Polycarbonate
End caps, fixing straps...	Stainless Steel 304 L
Casing, top cover	<ul style="list-style-type: none">White coated steel sheetEmbedding in sandwich panels without supplementary fire safety
Gaskets	Neoprene
Standards	
Imperviousness	<ul style="list-style-type: none">Bottom (clean room): IP66, IP68Top (maintenance): IP65
Shock resistance	<ul style="list-style-type: none">Protective cover in PMMA: IK09Protective cover in Polycarbonate: IK10
Fire resistance	<ul style="list-style-type: none">Protective cover in PMMA: 650° CProtective cover in Polycarbonate: 850 °C

Pasteur T5

Technology	T5
Max. temp.	40 °C
Power	2 × 49 W to 2 × 80 W
Maintenance	From above
Control Gear	“Industry” rated

AF0713



Key features

Maintenance outside of the production area
Plug&Play-installation by disconnectable Plug
Resists aggressive detergents
Easy cleaning
Durable and maintainable luminaire



Options

Finishings	
Frame in Stainless Steel 316 L	MR

Principal part numbers

Power	Designation	Part No.	Optic	L (mm)
Versions with protective cover in PMMA (compatible with cleaning agents)				
2 × 54 W	PAST 254I G5 ME PS3 R	1713 5010	☼	1277
2 × 49 W	PAST 249I G5 ME PS3 R	1713 5009	☼	1577
2 × 80 W	PAST 280I G5 ME PS3 R	1713 5011		
Versions with protective cover in Polycarbonate				
2 × 54 W	PAST 254I G5 PO PS3 R	1713 5007	☼	1277
2 × 49 W	PAST 249I G5 PO PS3 R	1713 5008	☼	1577
2 × 80 W	PAST 280I G5 PO PS3 R	1712 0070		

Specifications

Technical data	
Light source	2x T5 lamps, not included
Optic	Reflector in anodised aluminum
Control Gear	<ul style="list-style-type: none">Resistant electronic Control Gear, “Industry” rated (EEI A2)Resistance to voltage surges: 320 V AC, 1 hSupports voltage peaks <4 kV
Power supply	220-240 V 50/60 Hz
Electrical class	Class I
Operating temperature	-20 °C to +40 °C
Connection	Disconnectable Plug Ø cable 8-10 mm (3 × 1,5 mm²)
Fixing	<ul style="list-style-type: none">Embedding from the bottom into the ceilingThickness of the ceiling: max. 150 mmSealing of the luminaire by a silicone gasket in between the frame and the ceilingPlucking into the ceiling by iron angle sections in Stainless Steel and threaded rods
Method of Construction	<ul style="list-style-type: none">Casing in 2 parts enabling the maintenance from aboveEmbedding by insertion from the bottom into the loadbearing ceilingRemovable top cover with gear tray
Materials	
Protective cover	<ul style="list-style-type: none">PMMA (compatible with cleaning agents)UV-resistant Polycarbonate
End caps, fixing straps...	Stainless Steel 304 L
Casing, top cover	<ul style="list-style-type: none">White coated steel sheetEmbedding in sandwich panels without supplementary fire safety
Gaskets	Neoprene
Standards	
Imperviousness	<ul style="list-style-type: none">Bottom (clean room): IP66, IP68Top (maintenance): IP65
Shock resistance	<ul style="list-style-type: none">Protective cover in PMMA: IK09Protective cover in Polycarbonate: IK10
Fire resistance	<ul style="list-style-type: none">Protective cover in PMMA: 650° CProtective cover in Polycarbonate: 850 °C

Cellars

Lighting solutions that deliver light spectra specifically designed for winery installation.

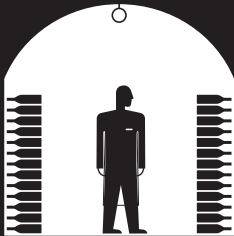
Ranges	Sources	Quantity of light	UV free	Pages
Becquerel	BY22d (LPS)	● ●	ok	133

Cellar lighting

Cellar lighting involves reconciling the architecture of the spaces with the needs of the wine and requirements imposed by employment legislation. This means lighting that is discreet, functional, secure, causes no alteration to the wines and requires minimal maintenance to ensure the safest-possible working conditions for cellar staff.

Light and wine

Wine is no friend of light. Wine in general, and champagne and white wine in particular, is sensitive to natural or artificial light, even for short periods: experts refer to the « taste of light» to describe the unpleasant 'foxy' flavour specific to light-exposed wines which may smell rancid or even of rotten eggs. On the other hand, many phases of the winemaking process (assembly, maturing, storage, etc.) involve manual input requiring functional lighting.

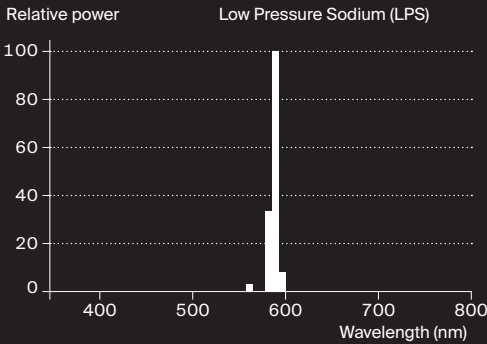


A showcase of winemaking expertise

The majority of leading winemakers now invite their customers to experience the various stages of winemaking through tours of their cellars. Since wine tourism is on the increase, they need a lighting solution that provides a welcoming environment for visitors, at the same time as promoting their production resources: a solution that must be functional, does not compromise the wine, needs minimal maintenance, complies with cellar working conditions legislation and integrates discreetly with the architecture.

A special lighting solution

We have drawn on our experience of working with leading champagne houses to design compact, functional, attractive luminaires that deliver a light spectrum tailored to the needs of the winemaking environment. These luminaires contain low-pressure sodium lamps providing very high efficiency monochromatic yellow light (589 nm). These light sources have no effect whatsoever on the taste of the wine, and the fact that they are fully sealed (in accordance with IP68) avoids any electrical risk or ballast damage that could otherwise occur as a result of the high humidity typical found in cellars.

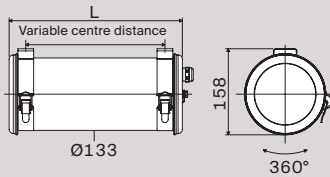


Our products are trusted by	Champagne Bollinger	Champagne Veuve Clicquot	Domaine Freixenet (Spain)
	Champagne Charles de l'Auche	Champagne Vranken	Domaine Santa Margarita (Italy)
	Champagne Moët & Chandon	Château Mouton Rothschild	Maison Stéphane Ogier
	Champagne Nicolas Feuillatte	Château Real d'Or	Whisky Michel Couvreur
	Champagne Pommery	Château Tronquoy Lalande	...
	Champagne Remi Vincent	Domaine Encomienda	
	Champagne Taittinger	de Cervera (Spain)	

Becquerel

Technology	Low pressure sodium (LPS)
Spectrum	No UV emission
Power	1 × 18 W to 1 × 55 W

AF0921



Key features

No reduction of the wine ripening through the light
Impervious luminaire
Small luminaire
Easy cleaning
Durable and maintainable luminaire



Options

Finishings	
End caps and fixing straps in Stainless Steel 316 L	MR
Housing	
Housing in Polycarbonate	PO
Fixings	
Reinforced fixing straps with HSHC screw	BRV
Shock-resistant fixing straps with HSHC screw	BAC
Cable entries (black polyamide)	
1 cable gland–Ø cable: 7 to 14 mm	116
2 cable glands–Ø cable: 5 to 12 mm	213
2 cable glands–Ø cable: 7 to 14 mm	216
Cable entries (nickel-coated brass)	
1 cable gland–Ø cable: 5 to 14 mm	113 LN
2 cable glands–Ø cable: 5 to 14 mm	213 LN
Disconnectable Plug (IP68/IP69K)	
3 pole disconnectable Plug, lockable with a threaded ring	PS3

Principal part numbers

Power	Designation	Part No.	Optic	L (mm)
1 × 18 W	BECQ 18C SBP B22 POME 113 BRS	1614 5004		317
1 × 35 W	BECQ 35C SBP B22 POME 113 BRS	1614 5005		458
1 × 55 W	BECQ 55C SBP B22 POME 113 BRS	1614 5006		558

The minimal cercle of use of low pressure sodium-vapour lamps is: 3 hours "switched on" / 30 minutes "switched off". Only the luminaires BECQUEREL 18 W can being still warm be switched back on without loss of working life of the lamp.








Specifications

Technical data	
Light source	1x BY22d low pressure sodium-vapour lamp, not included
Optic	White powder coated gear tray serving as reflector for diffuse general lighting
Control Gear	Ferromagnetic Control Gear with very low losses (EEI B1)
Power supply	230 V 50 Hz
Electrical class	Class I
Operating temperature	-20 °C to +40 °C
Connection	Cable gland in black polyamid for Ø cable 5–12 mm (3 × 2,5 mm²)
Fixing	2 Stainless Steel fixing straps with Spring Clip
Method of Construction	• Housing in one piece with high mechanical and chemical resistance • Long-lasting imperviousness by axial screw fitting
Materials	
Housing	Polycarbonate with protective coextruded PMMA layer
End caps, fixing straps...	Stainless Steel 304 L
Gaskets	EPDM
Standards	
Imperviousness	IP66, IP68 and IP69K
Shock resistance	IK10
Fire resistance	650 °C







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Options and accessories

To simplify fitting, adaptation and installation safety, Sammode offers all the options and accessories needed to install the right luminaire for your needs.





Fixings	CHC screw reinforced fixing straps	Compatibility	Code	
	<ul style="list-style-type: none">Set of two reinforced screw-clamped stainless steel fixing strapsThis screw closure ensures secure luminaire mountingRecommended for surface-mounted luminairesRecommended where the luminaire is subject to mechanical stress (vibration, etc.)For even greater security, we recommend Torx Tamper-Proof screws that require the use of a suitable tool (code: BRVT)	Ø 100 and Ø 133 tubular ranges, excluding Bunsen, Fresnel and HT	BRV	
	Shock-resistant CHC screw fixing straps	Compatibility	Code	
	<ul style="list-style-type: none">Set of two reinforced screw-clamped stainless steel fixing straps with bracing legsRecommended for surface-mounted luminairesRecommended where the luminaire will be subject to severe mechanical stressesFor even greater security, we recommend Torx Tamper-Proof screws that require the use of a suitable tool (code: BACT)	Ø 100 and Ø 133 tubular ranges: Bunsen, Fresnel and HT	BAC	
	Hinged fixing straps for maintenance by tilting	Compatibility	Code	
	<ul style="list-style-type: none">Set of two raised stainless steel fixing straps, one hinged with a screw closure, and the other fixed with a hasp enabling maintenance to be carried out by tilting the luminaireRecommended for installations where the horizontal free space available is not sufficient to extract the tray.We recommend that this option is used in combination with a plug-in connectorFor even greater security, we recommend Torx Tamper-Proof screws that require the use of a suitable tool (code: BART)	Ø 100 and Ø 133 tubular ranges fitted with the slide system	BAR	
Finishings	Ceiling fixing	Compatibility	Code	
	<ul style="list-style-type: none">Flat stainless steel yoke mount for ceiling fittingAngular movement: 60°	Huygens	PL	
	Yoke mount locking and one-way screws	Compatibility	Code	
	<ul style="list-style-type: none">Yoke mount locking, lamp bracket and support system using one-way screws to lock the floodlight in the required position.Recommended for high-vibration environments	HUY3 et HUY4	RV	
	316 L marine grade stainless steel	Compatibility	Code	
	<ul style="list-style-type: none">Luminaire external metal components in 316 L stainless steel and screws in A4 stainless steel (in the basic option, these are 304 L stainless steel, with screws in A2 stainless steel)Excellent resistance to corrosion by pitting, and specifically recommended for marine applications	All tubular and floodlight ranges	MR	
Optics	External spill shield	Compatibility	Code	
	<ul style="list-style-type: none">Straight-bladed spill shield in black-finished stainless steel mounted perpendicular to the axis of the lamp.Recommended for limiting light in the longitudinal axis of the floodlight	Huygens	GDN	

Spare parts are available for all our luminaires. For orders or additional information, please contact us by phone on +33 (0) 1 43 14 84 90 or e-mail us at enquiry@sammode.com.

Cable entries	1 cable gland in black polyamide for cable Ø: 5 to 12 mm	Compatibility	Code	
	<ul style="list-style-type: none">Luminaires supplied with a cable gland fitted to the end capsCapacities<ul style="list-style-type: none">Cable Ø: 5 to 12 mmTerminal: screw connection, 3 × 2.5 mm²Ingress protection: IP66/IP68/IP69KMaterials: black polyamide 6Recommended for luminaires in contact with acids in sprayed or gaseous form	All	113	
	2 cable glands in black polyamide for cable Ø: 5 to 12 mm	Compatibility	Code	
	<ul style="list-style-type: none">Luminaires supplied with 2 cable glands fitted to the end caps and a 3 × 2.5 mm² two-stage plug-in terminal to enable looped cabling.Capacities<ul style="list-style-type: none">Cable Ø: 5 to 12 mmTerminal: screw connection, 3 × 2.5 mm²Ingress protection: IP66/IP68/IP69KMaterials: black polyamide 6Recommended for luminaires in contact with acids in sprayed or gaseous form	All	213	
	1 cable gland in black polyamide for cable Ø: 7 to 14 mm	Compatibility	Code	
	<ul style="list-style-type: none">Luminaires supplied with a polyamide cable glandCapacities:<ul style="list-style-type: none">Cable Ø: 7 to 14 mmTerminal: screw connection, 3 × 2.5 mm²Ingress protection: IP66/IP68/IP69KMaterials: black polyamide 6Recommended for luminaires in contact with acids in sprayed or gaseous form	All	116	
	2 cable glands in black polyamide for cable Ø: 7 to 14 mm	Compatibility	Code	
	<ul style="list-style-type: none">Luminaires supplied with 2 cable glands fitted to the end caps and a 3 × 2.5 mm² two-stage plug-in terminal to enable looped cablingCapacities:<ul style="list-style-type: none">Cable Ø: 7 to 14 mmTerminal: screw connection, 3 × 2.5 mm²Ingress protection: IP66/IP68/IP69KMaterials: black polyamide 6Recommended for luminaires in contact with acids in sprayed or gaseous form	All	216	
	1 cable gland in nickel plated brass	Compatibility	Code	
	<ul style="list-style-type: none">Luminaires supplied with a double capacity nickel plated brass cable glandCapacities:<ul style="list-style-type: none">Cable Ø: 5 to 14 mmTerminal: screw connection, 3 × 2.5 mm²Ingress protection: IP66/IP68/IP69KMaterials: nickel plated brassRecommended for luminaires used in the presence of mineral oils and/or hydrocarbons	All	113 LN	
	2 cable glands in nickel plated brass	Compatibility	Code	
	<ul style="list-style-type: none">Luminaires supplied with 2 nickel plated cable glands fitted to the end caps and a 3 × 2.5 mm² two-stage plug-in terminal to enable looped cablingCapacities:<ul style="list-style-type: none">Cable Ø: 5 to 14 mmTerminal: screw connection, 3 × 2.5 mm²Ingress protection: IP66/IP68/IP69KMaterials: nickel plated brassRecommended for luminaires used in the presence of mineral oils and/or hydrocarbons	All	213 LN	

IP68/IP69K plug-in connector for Class I luminaires	Compatibility	Code
<ul style="list-style-type: none">• Luminaires supplied with a straight plug-in connector with locking ring• The base is end-cap mounted for Ø 100 and Ø 133 luminaires, and mounted to the cable gland body using an adapter for Ø 70 luminaires.• Female socket supplied non-cabled• Capacities:<ul style="list-style-type: none">– Cable Ø: 8 to 10 mm– Terminal: screwed, 3 × 1.5 mm²• Ingress protection: IP66/IP68/IP69K• Materials:<ul style="list-style-type: none">– Nickel plated brass base and adapter– Polyamide 6 body– Nickel plated brass locking ring• Recommended for off-site maintenance of luminaires and for Plug and Play installations	All tubular ranges	PS3
		
IP68 plug-in cord for Class I luminaires	Compatibility	Code
<ul style="list-style-type: none">• Luminaires fitted with an 80 cm Wieland RST mail cord and non-cabled female socket• Capacities:<ul style="list-style-type: none">– Cable Ø: 6 to 10 mm– Female socket: screw connection, 3 × 4 mm²• Ingress protection: IP66/IP68/IP69K• Materials:<ul style="list-style-type: none">– Contacts: Surface treated brass– Insulating components: PA 66– Seal material: NBR• Recommended for off-site maintenance of luminaires and for Plug and Play installations	All tubular ranges	CW3
		

Accessoires

Raised 304L stainless steel strap fixings for ceiling mounting	Compatibility	Code
<ul style="list-style-type: none">• Kit of 2 raised 304 L stainless steel strap fixings to ceiling-mount luminaires in accordance with the rules set out in technical document APSAD D14-A, i.e. a minimum distance of 20 cm between the equipment and the face of the sandwich panel• Strap fixing screws included	All tubular ranges	PU44277
		
Raised 304L stainless steel strap fixings for wall mounting	Compatibility	Code
<ul style="list-style-type: none">• Kit of 2 raised 304 L stainless steel strap fixings to ceiling-mount luminaires in accordance with the rules set out in technical document APSAD D14-A, i.e. a minimum distance of 20 cm between the equipment and the face of the sandwich panel• Visserie pour fixation des colliers fournie.	All tubular ranges	PU47378
		
Raised 304L stainless steel strap fixings for wall mounting	Compatibility	Code
<ul style="list-style-type: none">• Kit of 2 raised 304 L stainless steel strap fixings to wall-mount luminaires in accordance with the rules set out in technical document APSAD D14-A, i.e. a minimum distance of 5 cm between the equipment and the face of the sandwich panel• Strap fixing screws included	All tubular ranges	PU44278
		
Raised 316L stainless steel strap fixings for wall mounting	Compatibility	Code
<ul style="list-style-type: none">• Kit of 2 raised 316 L stainless steel strap fixings to wall-mount luminaires in accordance with the rules set out in technical document APSAD D14-A, i.e. a minimum distance of 5 cm between the equipment and the face of the sandwich panel• Strap fixing screws included	All tubular ranges	PU45880
		

Materials

Our 50+ years of experience in the design and use of tubular luminaires have led us to select only the most appropriate materials for use in your industrial environments.

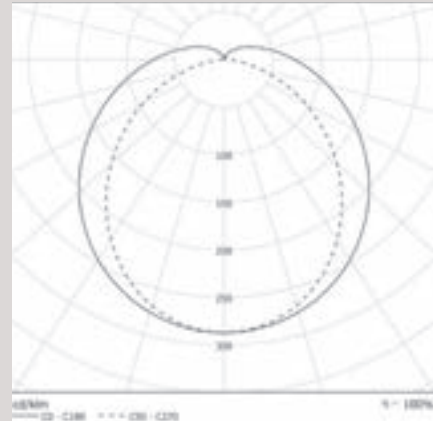
Materials	Features	Special benefits	Precautions and limitations on use
304 L stainless steel		<ul style="list-style-type: none">• Low-carbon chrome-nickel Austenitic stainless steel• Good corrosion resistance, superior to that offered by 304 stainless steel• Good crack resistance• Good mechanical properties	<ul style="list-style-type: none">• Corrosion by pitting in acid or chlorinated environments
316 L stainless steel (MR option)	This grade of stainless steel is particularly resistant to corrosion, and is recommended for marine environments	<ul style="list-style-type: none">• Low-carbon chrome-nickel-molybdenum Austenitic stainless steel• Very good corrosion resistance, especially in acid or chlorinated (marine) environments• Excellent resistance to intergranular corrosion (pitting)• Good crack resistance• Good mechanical properties	
Coextruded polycarbonate/ PMMA (POME option)	This composite diffuser has been specially developed for use in the food processing industry. It features the mechanical impact protection of polycarbonate (IK10 20-joule) in combination with the chemical resistance of PMMA. The external layer of polymethyl methacrylate is resistant to detergents and complies with all regulations regarding plastic materials and objects coming into contact with foodstuffs (European directives 2002/72/EC, 2004/19/EC, 2005/79/EC and 2007/19/EC).	<ul style="list-style-type: none">• Food grade• Excellent mechanical properties: crack resistance, strength and impact resistance• Consistency of key characteristics over a broad temperature range• Dimensional stability• Water vapour impermeability• Good scratch resistance• Good chemical resistance• Good UV resistance	<ul style="list-style-type: none">• Combustible (650 °C in the glow wire test)
Polycarbonate (PO option)	The polycarbonate we use for our tubular diffusers offers the best compromise between mechanical resistance (IK10 20-joule) and fire resistance for food industrial applications	<ul style="list-style-type: none">• Food grade• Consistency of key characteristics over a broad temperature range• Dimensional stability• Water vapour impermeability• Good fire resistance (960 °C in the glow wire test)	<ul style="list-style-type: none">• Attacked by certain detergents and bactericides• Yellowing in outdoor applications• Poor scratch resistance

Material resistance	The following table provides an indication of the degree to which our diffusers resist some of the most commonly encountered chemicals. Ambient temperature and product concentrations and combinations may alter the level of resistance offered by some materials. For this reason, only those tests conducted in the specific environment and in contact with chemicals can validate and guarantee luminaire resistance. Our design office is at your disposal to help you identify the materials best suited to your operating constraints.	
	Body	
	Polycarbonate	Coextruded Polycarbonate/ PMMA
	20 °C	20 °C
Acetic acid (50%)	●●	○
Hydrochloric acid (37%)	○	●
Formic acid (98% +100%)	●●	○
Lactic acid	●	●●
Nitric acid (10%)	●●	●●
Peracetic acid	●●	●●
Sulphuric acid (60%)	○	●
Amino acids	●●	●●
Calcium carbonate	●●	●●
Aluminium chloride	●●	○
Calcium chloride	●●	●●
Ethanol (ethyl alcohol)	○	●●
Formaldehyde (40%)	○	●●
Glycerine	●●	●●
Pork fat	○	●●
Hot cooking fat	●●	○
Methanol	○	●●
Ozone	●●	○
Potassium permanganate	●●	●●
Hydrogen peroxide 35 %	○	●●
Polyhexamethylene	○	●●
Propanediol (Propylene glycol)	●	●●
Sodium chloride	●●	●●
Sodium fluoride	●●	●●
Ammonium sulphate	●●	●●
Copper sulphate	●●	●●
Zinc sulphate	●	●●
Turpentine	●●	○
Carbon tetrachloride	●	○
Urea	●●	○
N.B.: These indications are provided purely for information purposes and refer to an ambient temperature of 20 °C. The table above must be treated as a non-exhaustive guide for which we accept no liability.		●● Resistant ● Fairly resistant ○ Non-resistant

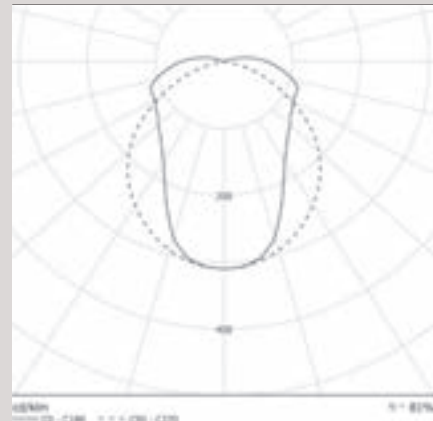
Correct sizing of your installation can make a considerable contribution to energy savings. We are available to help you plan the layout of your installation. Please e-mail us at enquiry@sammode.com

General lighting for demanding environments (cont.)

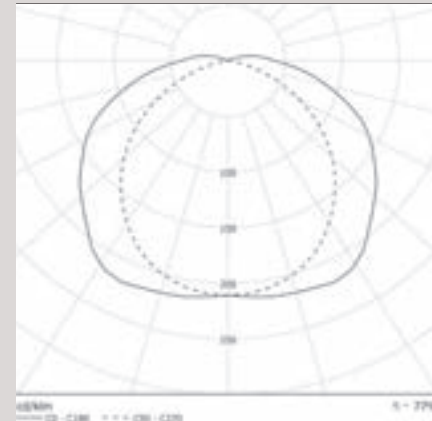
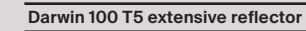
Pascal 133



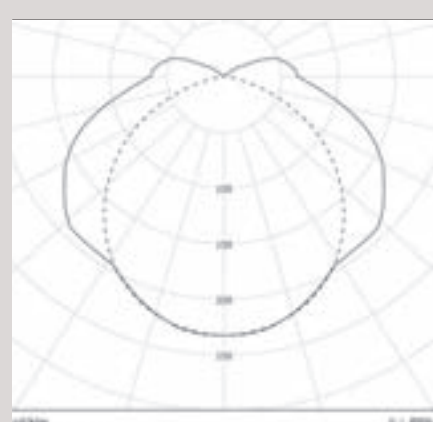
Darwin 100 T8 intensive reflector



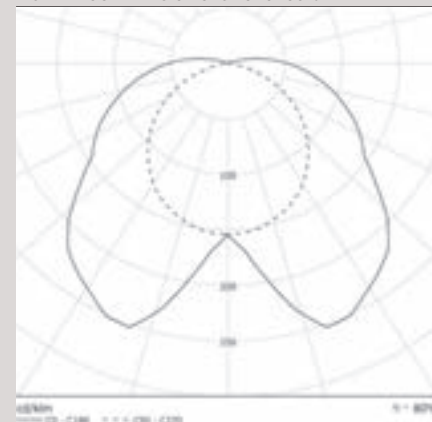
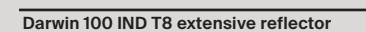
Darwin 100 T5 intensive reflector



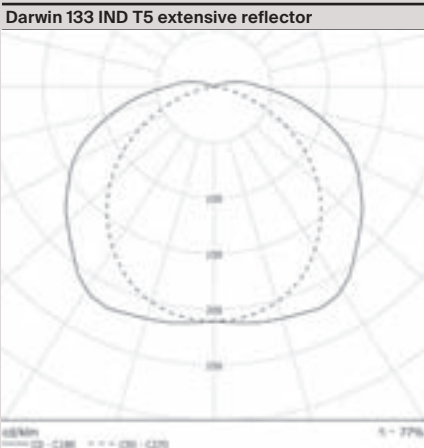
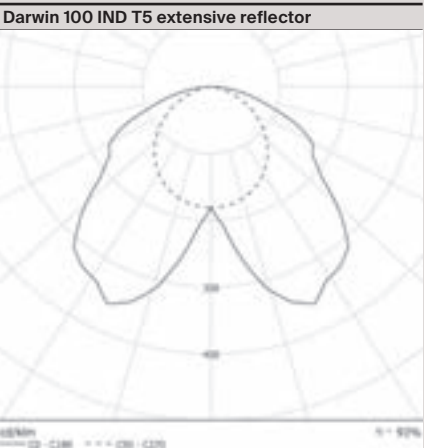
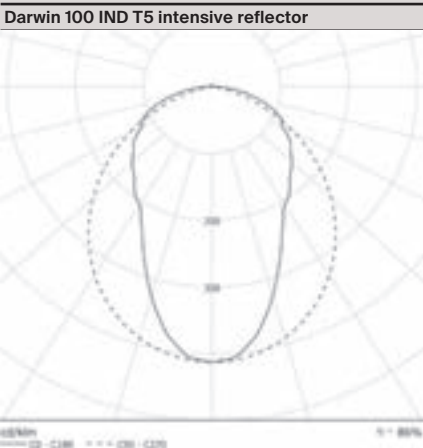
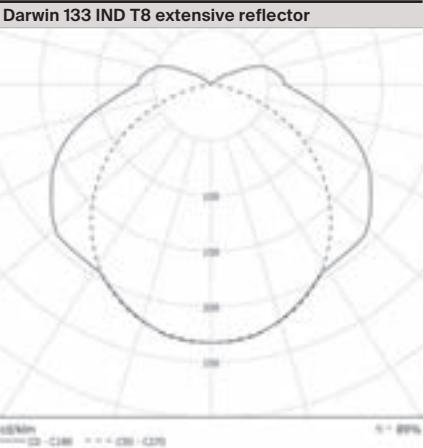
Darwin 133 T8 extensive reflector



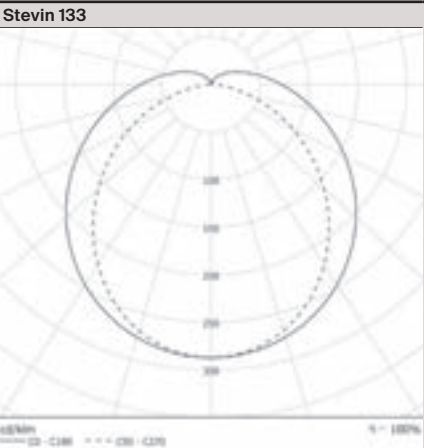
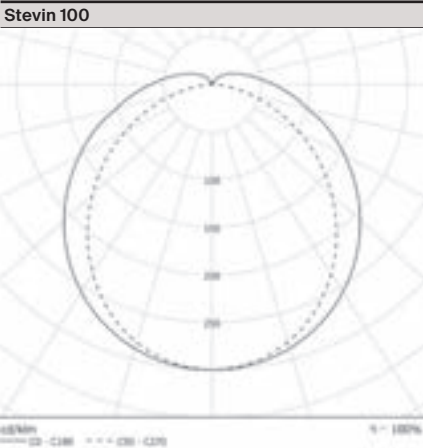
Darwin 100 IND T8 with no reflector



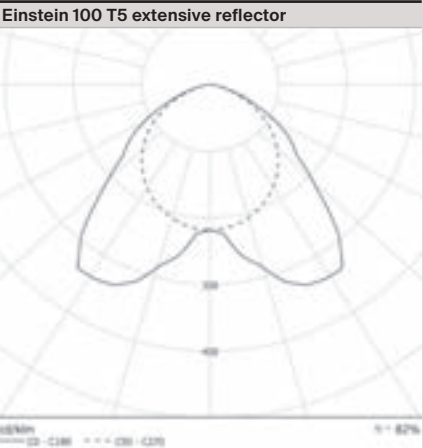
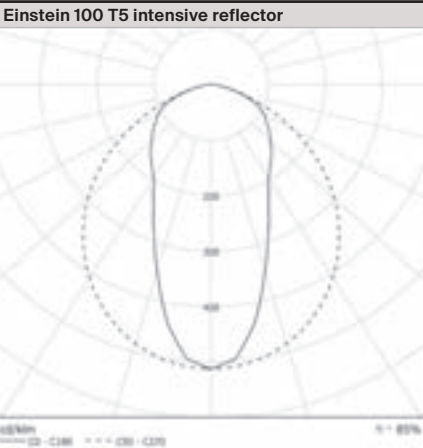
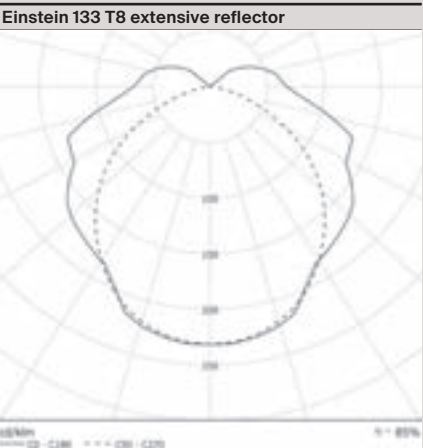
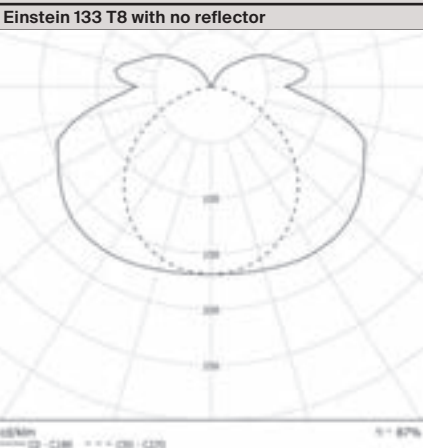
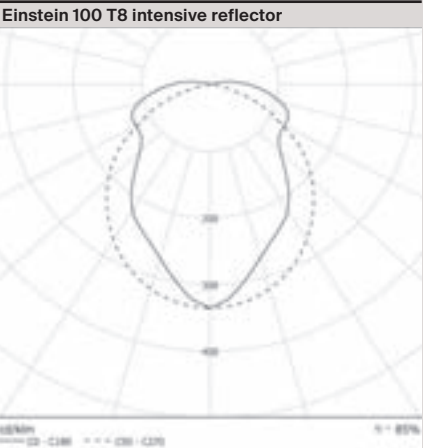
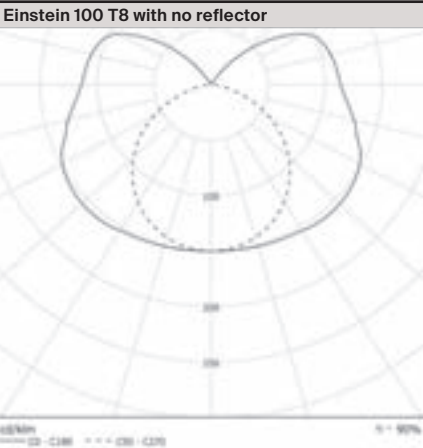
General lighting for demanding environments (cont.)



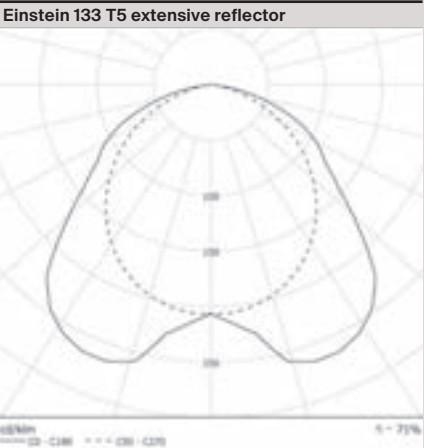
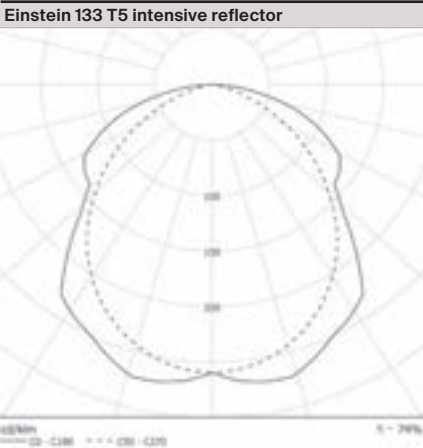
General lighting for extreme environments



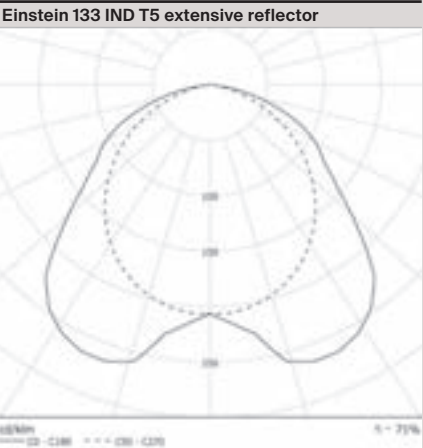
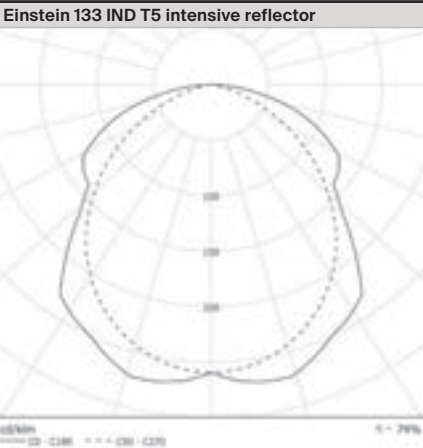
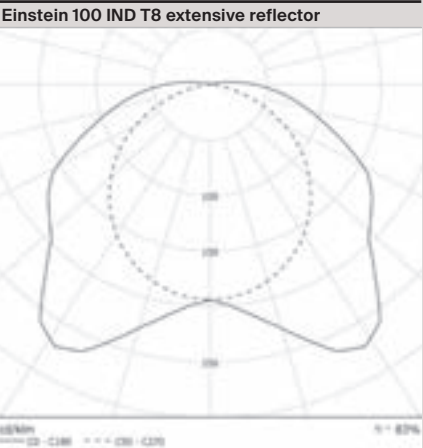
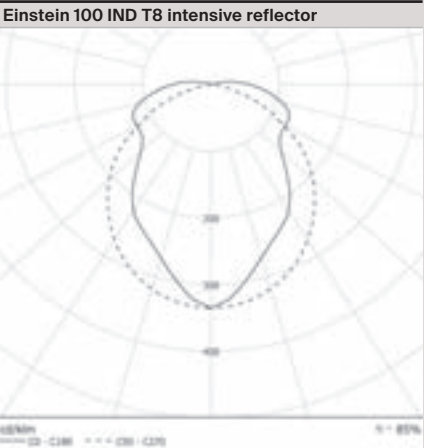
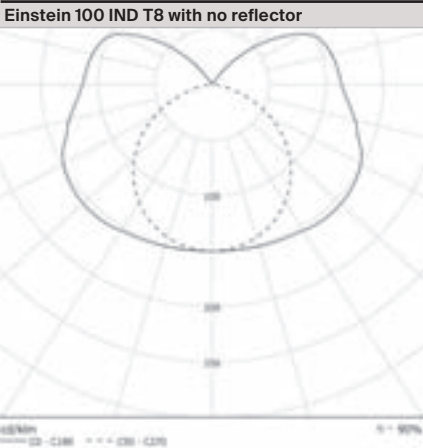
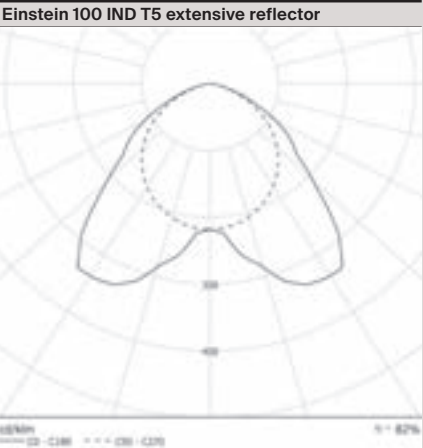
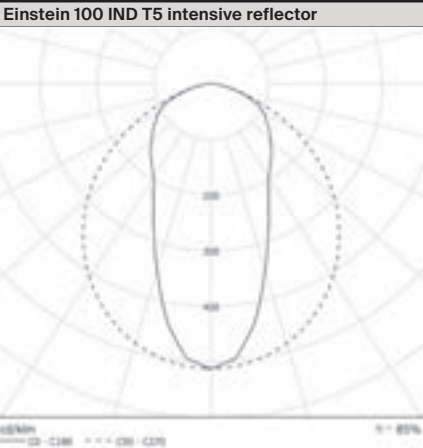
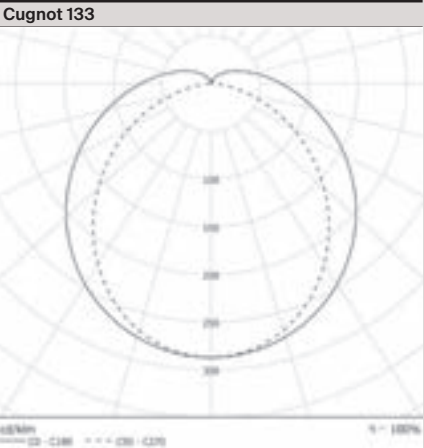
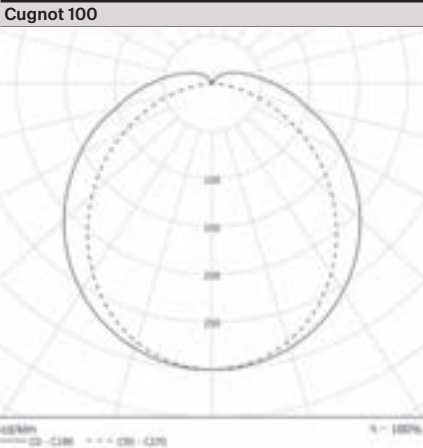
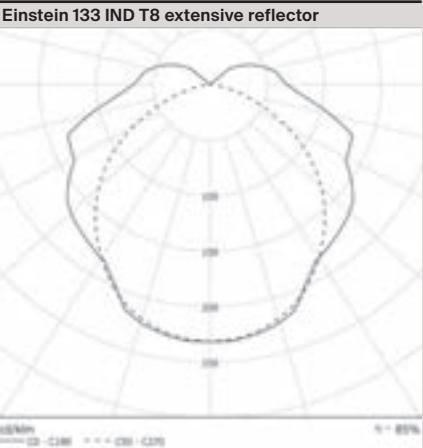
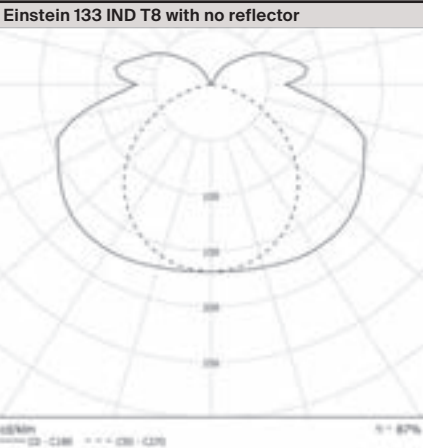
General lighting for extreme environments (cont.)



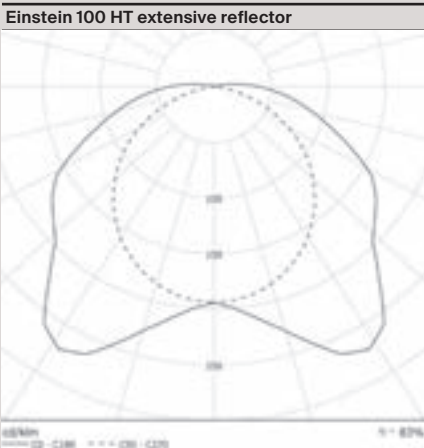
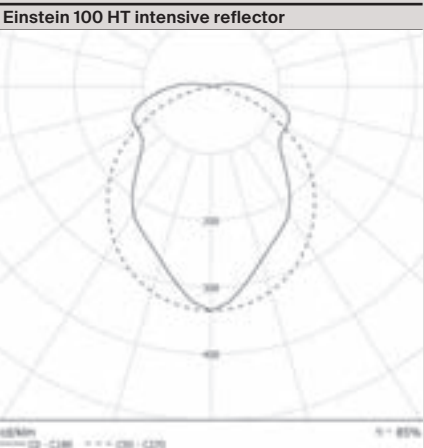
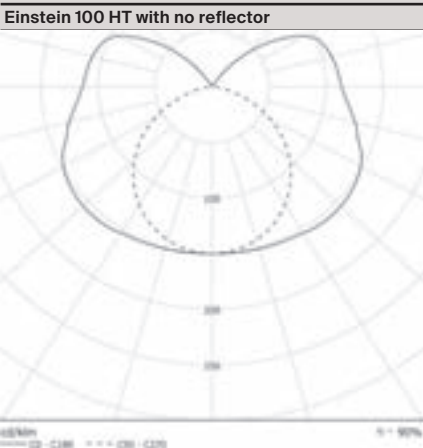
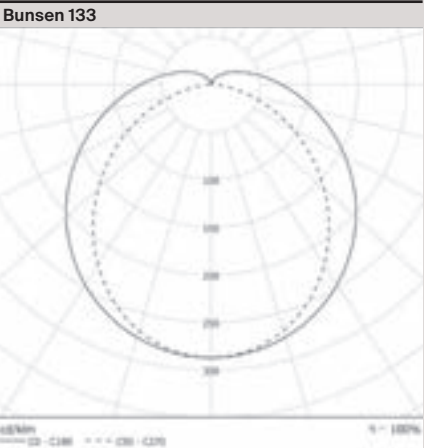
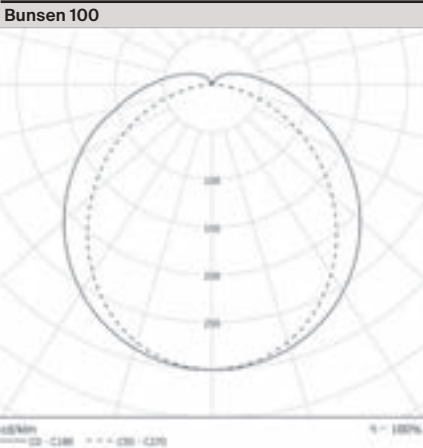
General lighting for extreme environments (cont.)



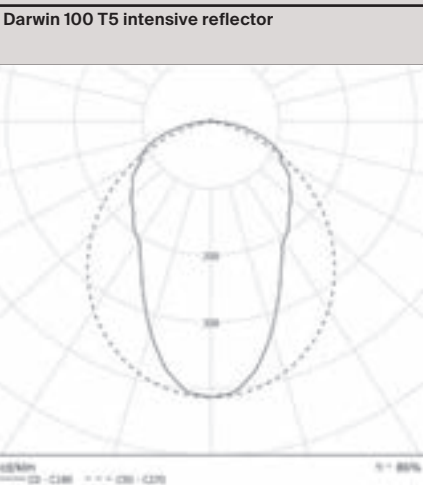
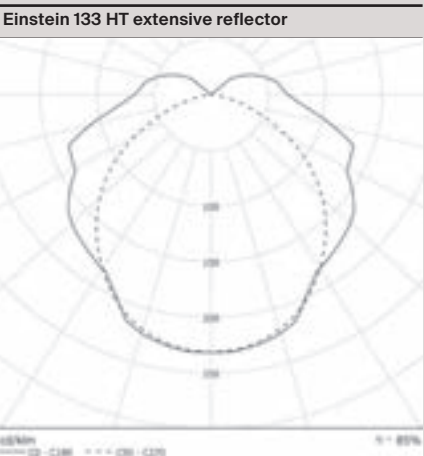
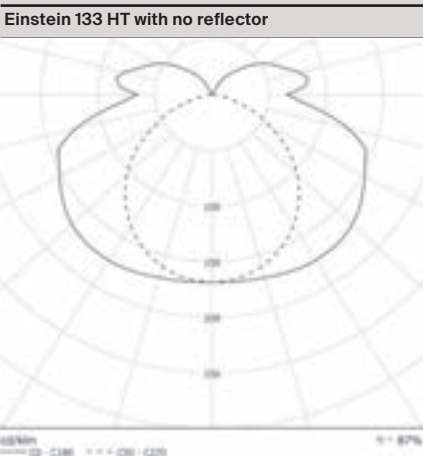
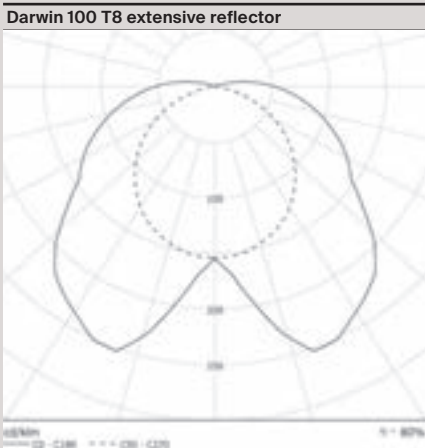
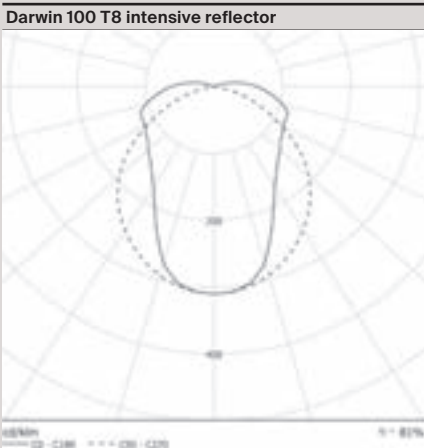
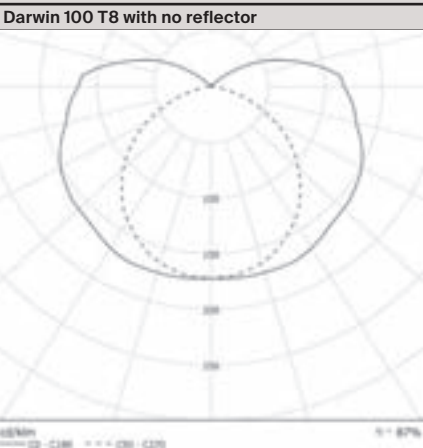
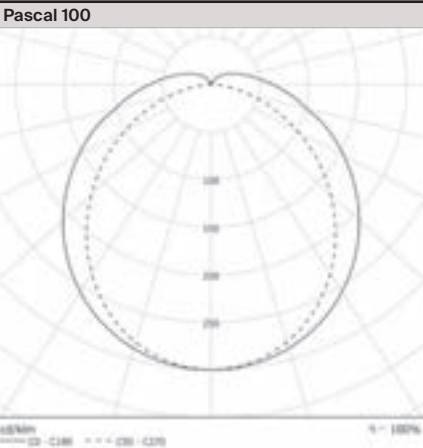
General lighting for extreme environments (cont.)



General lighting for extreme environments (cont.)

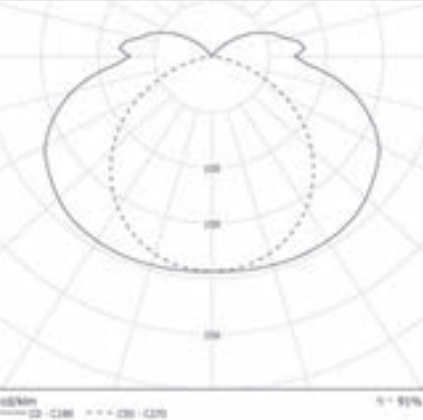


Task lighting for demanding environments

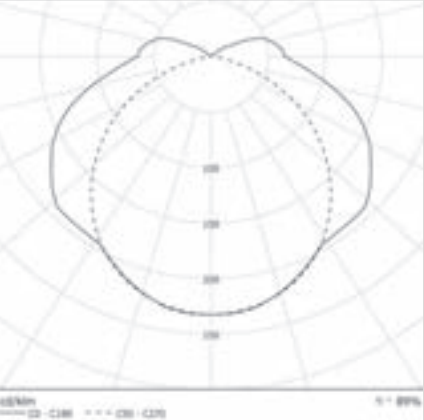


Task lighting for demanding environments (cont.)

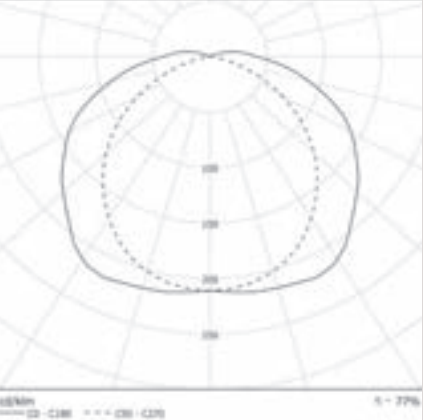
Darwin 133 T8 with no reflector



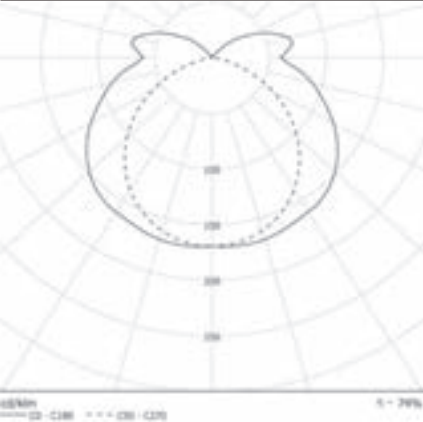
Darwin 133 T8 extensive reflector



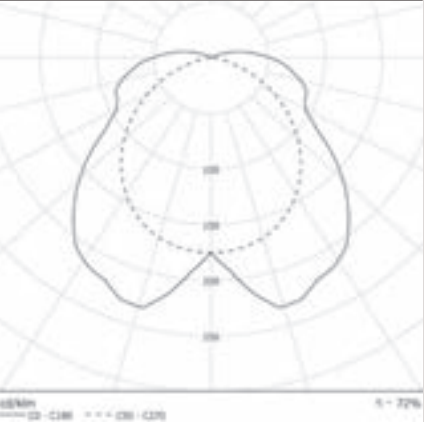
Darwin 133 T5 extensive reflector



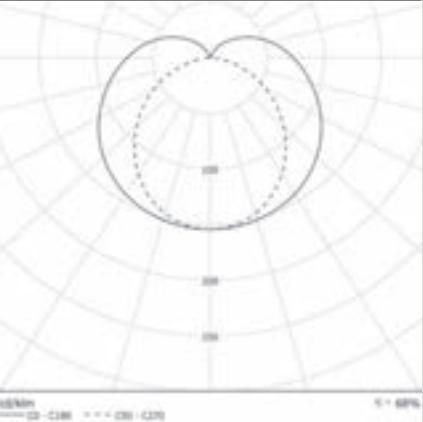
Darwin 100 FC with no reflector



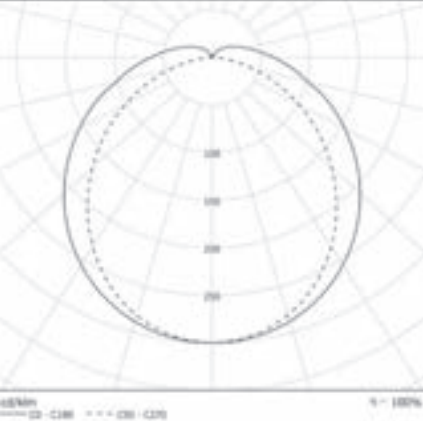
Darwin 100 FC extensive reflector



Darwin 100 FC satin-finish

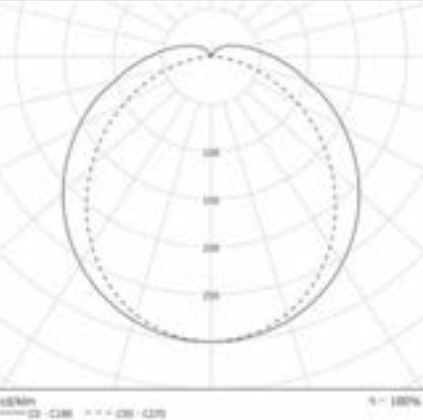


Carnot 100



Task lighting for extreme environments

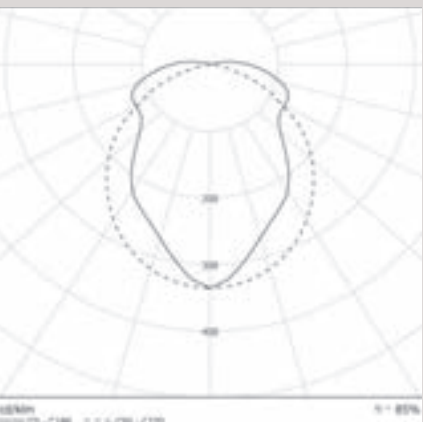
Stevin 100



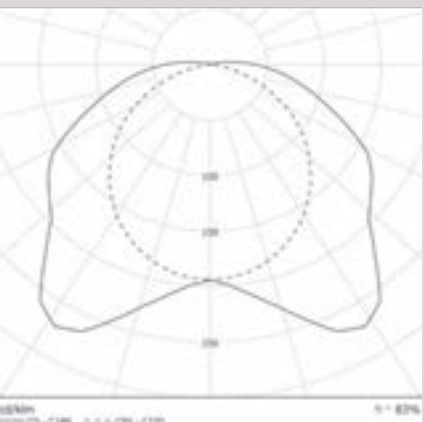
Einstein 100 T8 with no reflector



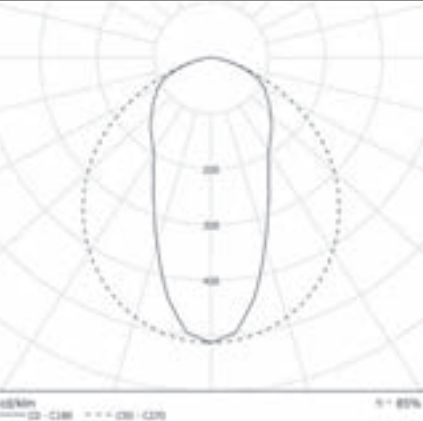
Einstein 100 T8 intensive reflector



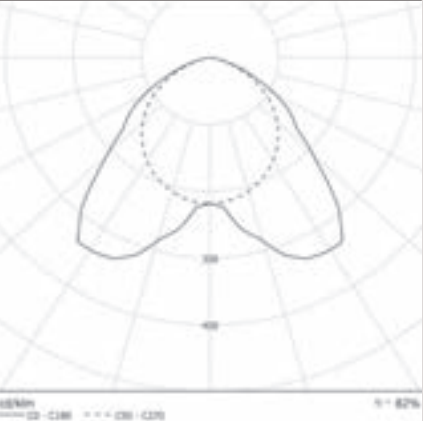
Einstein 100 T8 extensive reflector



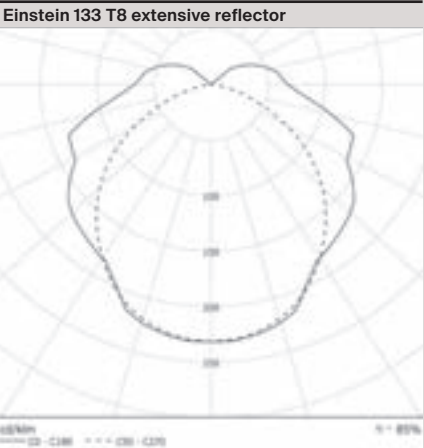
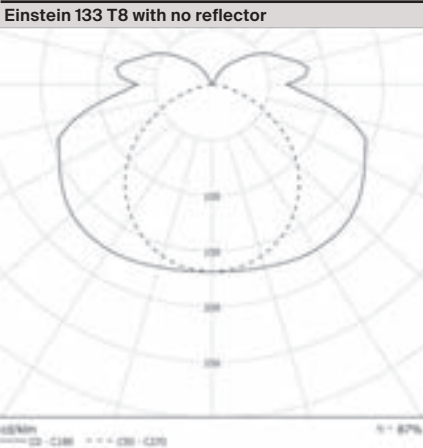
Einstein 100 T5 intensive reflector



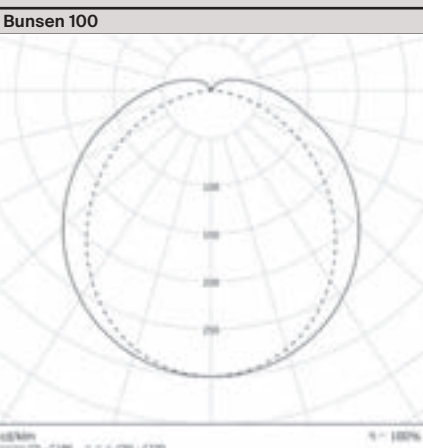
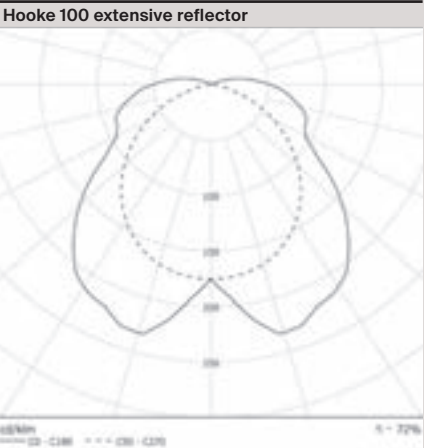
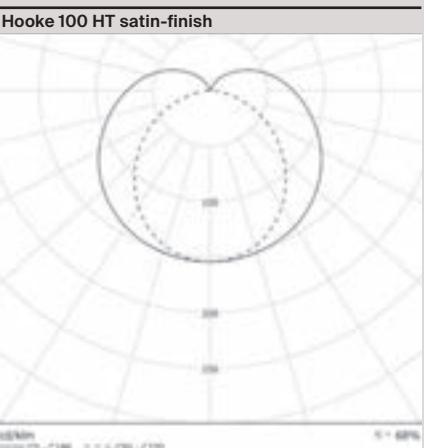
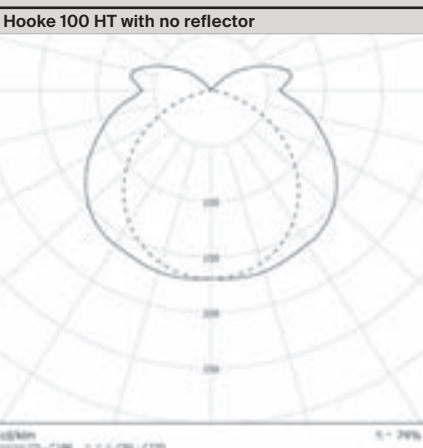
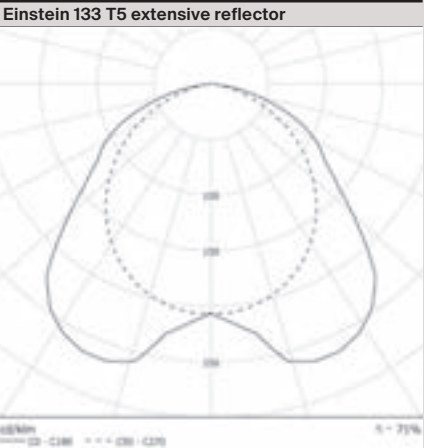
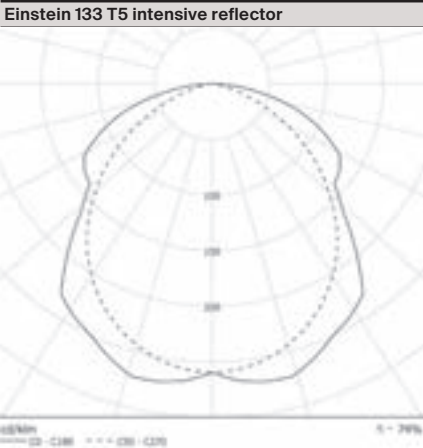
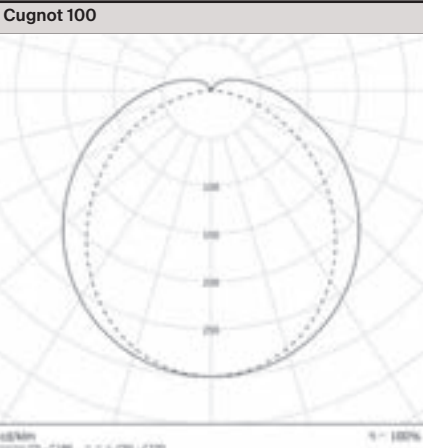
Einstein 100 T5 extensive reflector



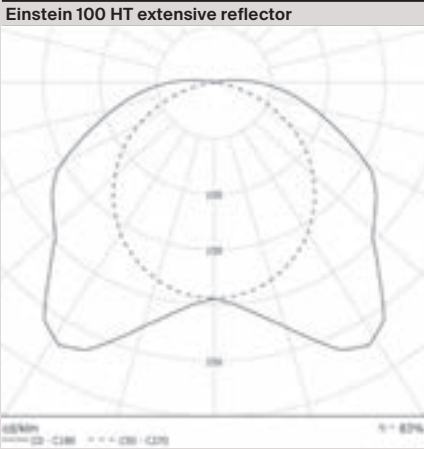
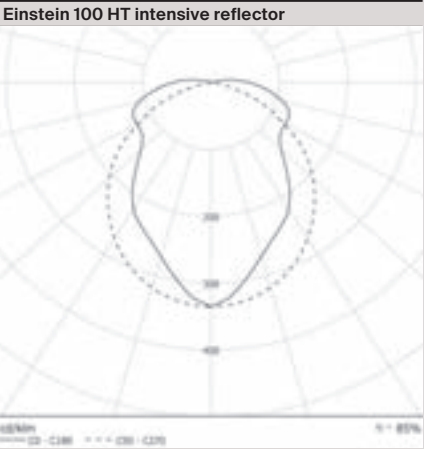
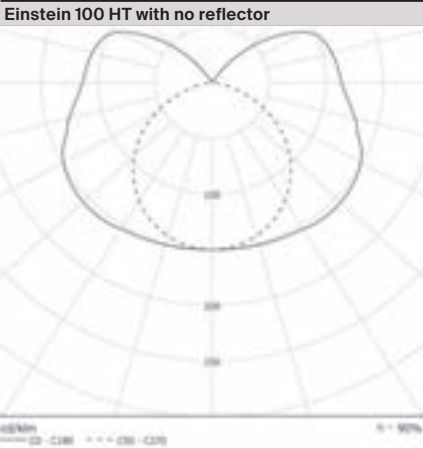
Task lighting for extreme environments (cont.)



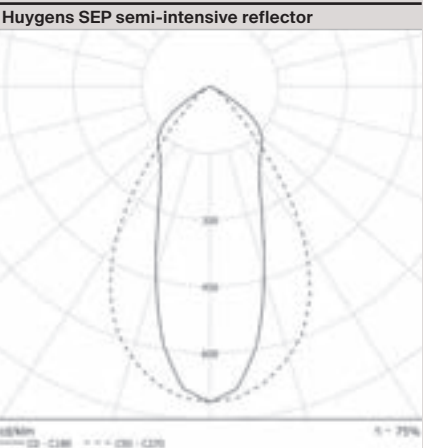
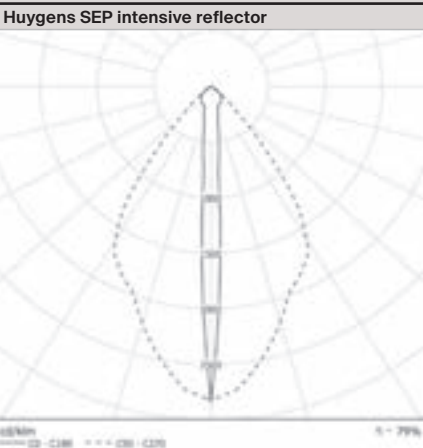
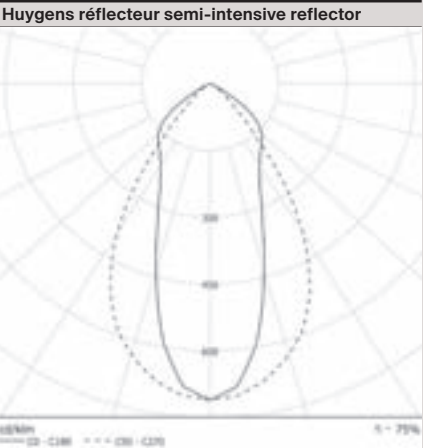
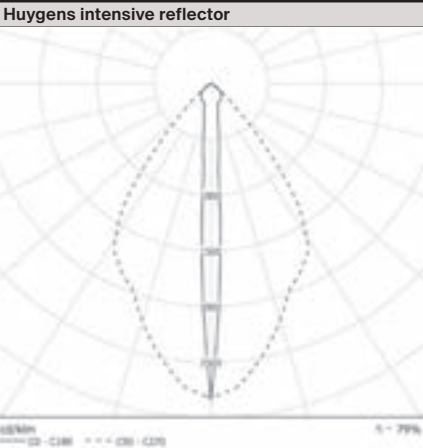
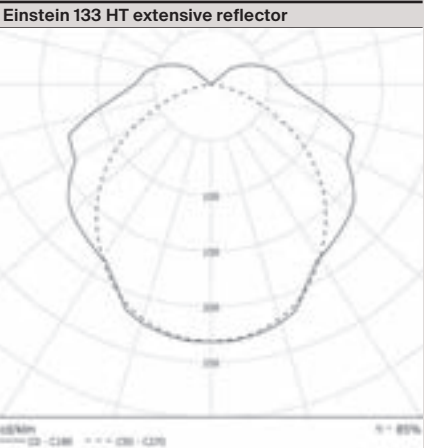
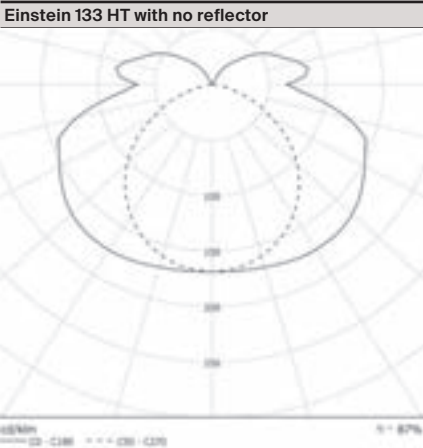
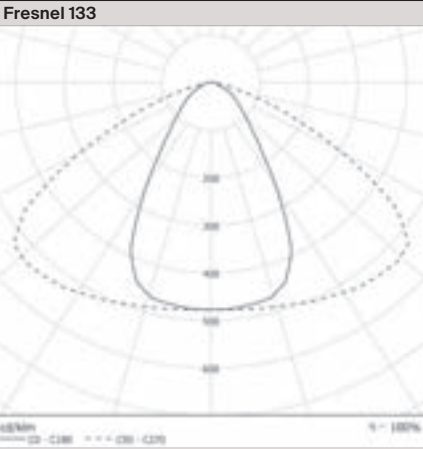
Task lighting for extreme environments (cont.)



Task lighting for extreme environments (cont.)

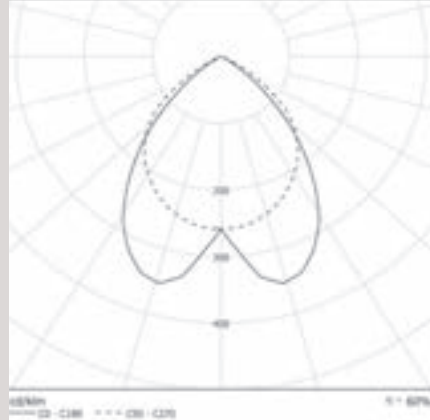


Hall lighting

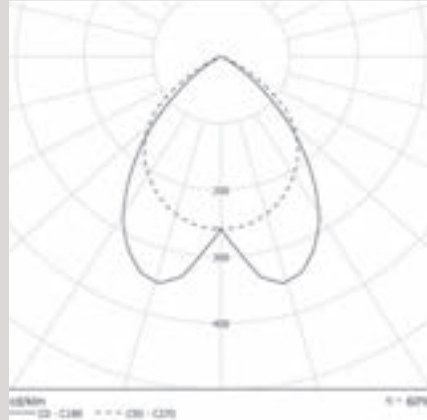


Éclairage basse luminance

Darwin 100 GBL



Darwin 100 GBL IND



Darwin 133 GBL

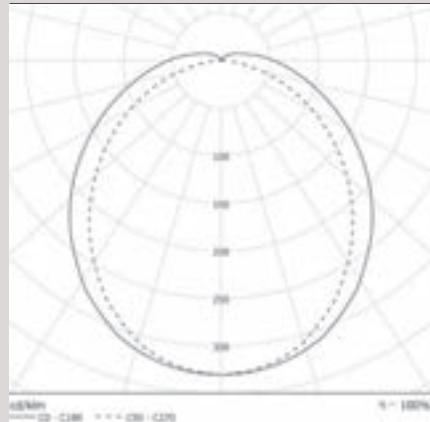


Darwin 133 GBL IND



Compact design

Foucault 70

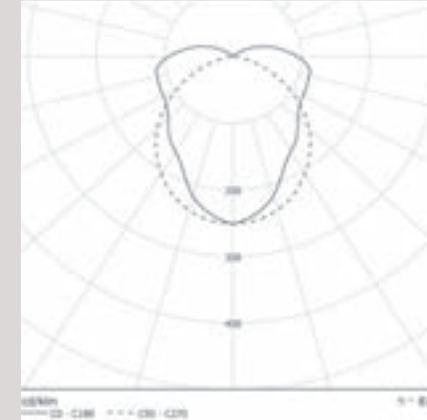


Compact design (cont.)

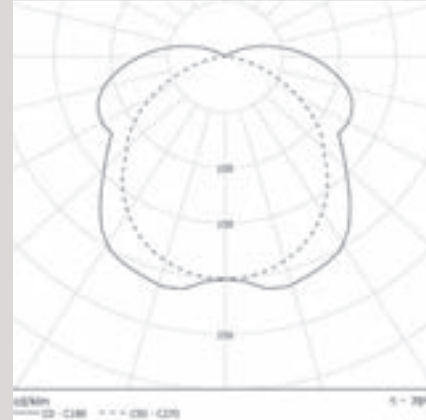
Niepce 70 T8 with no reflector



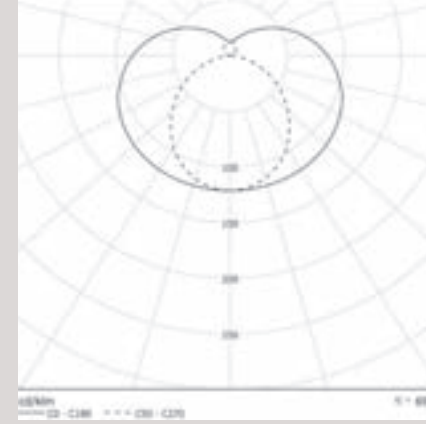
Niepce 70 T8 intensive reflector



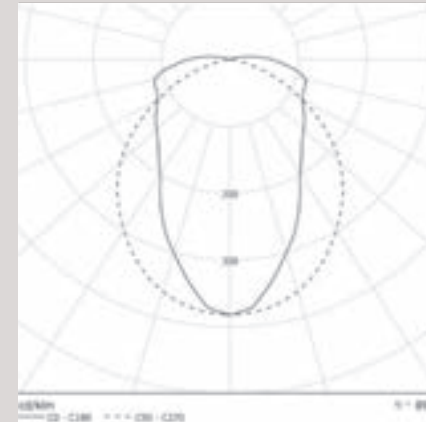
Niepce 70 T8 extensive reflector



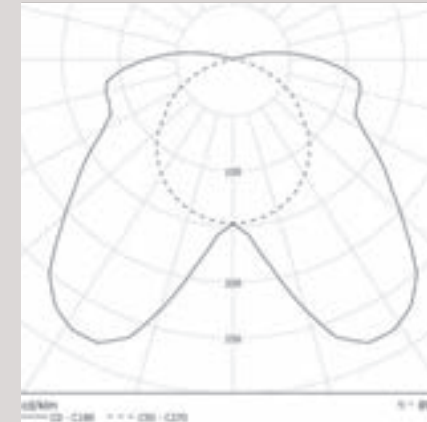
Niepce 70 T8 SA



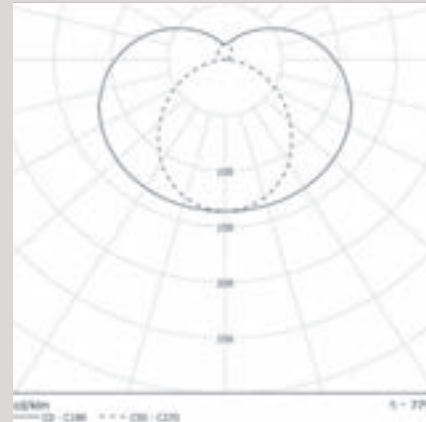
Niepce 70 T5 intensive reflector



Niepce 70 T5 extensive reflector



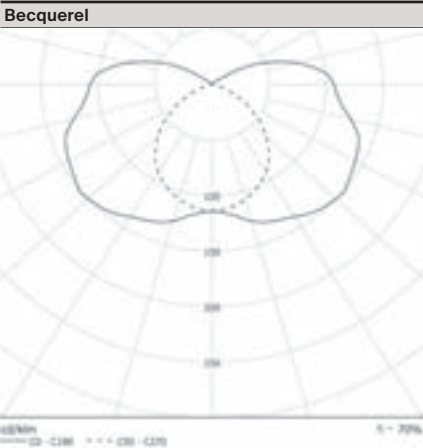
Niepce 70 T5 SA



Clean rooms



Cellars



Lighting levels

This guide sets out the average recommended lighting level for each application. The lighting requirement must be calculated at the location where the task is performed and at the level of the work surface, which is usually 80 cm above the floor (except where indicated otherwise).

Indoor lighting

EN 12464-1 standard of 2011 : Indoor workplaces

Common spaces	Type	Type of use	Lighting level
	Circulation areas	Circulation areas and corridors	100 lux at floor
		Circulation with vehicles on the route	150 lux at floor
		Stairs	100 lux at floor
		Passenger and goods lifts	100 lux
		In front of goods lifts	200 lux
		Loading bays	150 lux
	Store rooms, cold stores	Store and stock rooms : not continuously occupied	100 lux
		Store and stock rooms : continuously occupied	200 lux
		Handling, packaging and shipping areas	300 lux
	Storage rack areas	Gangways : unmanned	20 lux at floor
		Gangways : manned	150 lux at floor
		Control stations	150 lux
		Vertical face of racking [1]	200 lux
		1. portable lighting may be used.	
Industrial activities and crafts	Bakeries	Preparation and baking	300 lux
		Finishing, icing and decoration	500 lux
	Foodstuffs and luxury food industries	Workstations and working areas in breweries and maltings, cask washing and filling, screening, peeling and cooking in canning and chocolate production plants, workstations and working areas in sugar refineries, the drying and working of raw tobacco and the cellar-maturing of wine.	200 lux
		Product sorting and washing, crushing, mixing and packaging	300 lux
		Fruit and vegetable cutting and sorting	300 lux
		Workstations and critical working areas in abattoirs, butchers, dairies, flourmills and the filtering facilities of sugar refineries.	500 lux
		Ready meal production, kitchen work, and cigar/cigarette production	500 lux
		Glass and bottle checking, product inspection, trimming, sorting and decoration	500 lux
		Laboratories	500 lux
		Colour inspection	1000 lux

Outdoor lighting

Norm EN 12464-2 of March 2014 : Outdoor workplaces

Common spaces	Type	Type of use	Lighting level
	Circulation areas	Walkways exclusively for pedestrians	5 lux at floor
		Traffic areas for slow-moving vehicles (max. 10 kph), e.g. bicycles, trucks and excavators	10 lux at floor
		Regular vehicle traffic (max. 40 kph)	20 lux at floor
		Pedestrian passages, vehicle turning, loading and unloading points	50 lux at floor
		Cleaning and maintenance	50 lux at floor
	Industrial sites and storage areas	Short-term handling of large units and raw materials, loading and unloading of solid bulk goods	20 lux
		Continuous handling of large units and raw materials, loading and unloading of freight, lifting and lowering location for cranes, open loading platforms	50 lux
		Reading of addresses, covered loading platforms, use of tools, ordinary reinforcement and casting tasks in concrete plants	100 lux
		Electrical, machinery and pipeline installations with a large lighting requirement, inspection [1]	200 lux
		1. Use local lighting	

Fluorescent lamps*

* Data sourced from leading lamp manufacturers, and subject to change.

The following tables give the maximum power consumption data for our luminaires fitted with fluorescent light sources. CELMA (Federation of National Manufacturers Associations for Luminaires and Electrotechnical components in the European Union) provides a classification of ballasts (or EELs) based on the combined power consumption values of the lamp system + ballast. Sammode has selected only energy-efficient ballasts:



- B1 ferromagnetic ballasts.
- A2 electronic ballasts with reduced losses (min. standard).

Standard lamps

These are the most commonly used lamps

High-intensity discharge lamps*

* Data sourced from leading lamp manufacturers, and subject to change.

	P (W)	Flux (lm)	Colour temp (K)	IRC	Cons. ¹ (W)	Lifespan ² (hr)
Low-pressure sodium lamps, BY22d fitting						
	18	1800	N/A (monochromatic)		25	18 000
	35	4700			45	18 000
	55	7800			63	18 000
Clear tubular high pressure sodium lamps, E40 fitting						
	100	9 000 to 10 700	2000	25	115	24 000 to 40 000
	150	15 000 to 18 000			169	24 000 to 48 000
	250	28 000 to 33 300			278	24 000 to 48 000
	400	48 000 to 57 000			430	24 000 to 48 000

N.B.

1. The consumption figures shown refer to the use of ferromagnetic ballasts. For 70 W, 100 W, 150 W and 250 W lamps: A3 ballast. or 400 W and 1000 W lamps: A2 ballast.

2. The average lifespan of a lamp refers to a mortality rate of 50%.

The following tables give the technical data for the different types of discharge lamp used in our luminaires.

Calculating the luminous flux of a luminaire

The luminous flux of a luminaire (in lumens) is obtained by multiplying the flux of the lamp (s) by the efficiency of the luminaire (available in the Photometric Polar Diagram chapter): $\Phi_{\text{luminaire}} = \Phi_{\text{lamp}} (s) \times \eta$

Example:

Luminous flux of a Darwin 100 T5 with extensive reflector and T5 HO 54 W lamp:

$\Phi_{\text{luminaire}} = 4450 \text{ lm} \times 94\% = 4183 \text{ lm}$

Luminous flux is a simple criterion that enables a first level of comparison between luminaires, particularly comparison of fluorescent products with LED products. However, it is important to bear in mind that luminous flux does not always equate to high light levels in the working area.

So efficient lighting is not just about the quantity of light, but how well the luminous flux is directed. This is referred to as ‘useful flux’, and photometric polar diagrams (charting the spatial distribution of light intensity) remain the most relevant criterion.

Our sales and technical teams are available to assist you in selecting the correct product for your needs.

LED tubes

LED tubes are ready to install and fit the sockets of fluorescent luminaires. Using luminaires specifically designed for LED tubes brings with it certain advantages, but replacing a fluorescent source directly with an LED source compromises the quality, service, comfort and safety of the lighting system.

Safety

Although major manufacturers (Philips, Osram, etc.) offer solutions that remove the risk of electrocution when relamping, many hazardous products are still in use. However, many LED tubes have been withdrawn from the market by the European Union as part of the Rapid Alert System to flag up non-compliance with the Low Voltage Directive 2006/95/EC and the EN 6059 standard.

The benefits

LED sources offer many practical benefits for operators: reduced energy consumption and longer lifespan than traditional sources, simple maintenance and easy end-of-life replacement.

The drawbacks

Replacing fluorescent lamps with LED tubes in existing luminaires invalidates EC certification. Doing so requires the product to be modified: in most cases, the wiring has to be adapted and components within the luminaire replaced or shunted. The liability of the luminaire manufacturer no longer applies, and all warranties are void. Most importantly, the quality of service is reduced, since each luminaire has been optimised for a particular source and light distribution pattern at the design stage. The results include reduced lighting levels, unbalanced spread of light, frequent dazzling, etc.

Our vision

We believe that a luminaire is a coherent assembly of light source, power supply and casing. We have applied this philosophy since 1927 to all our products and in the many applications we offer.

Relamping

A replacement light source should always use the same technology as the original. For example, to improve the performance of a fluorescent luminaire, we offer long-life and energy-efficient fluorescent tubes perfectly matched to the design of the luminaire.

LED luminaires

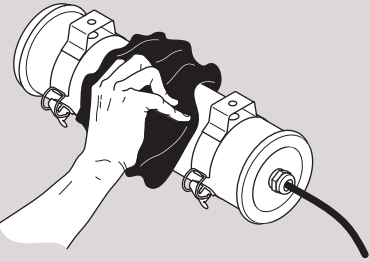
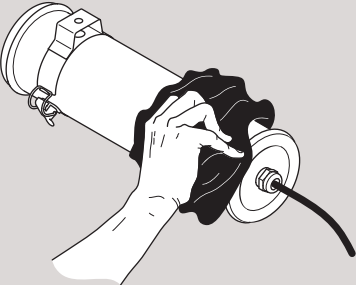
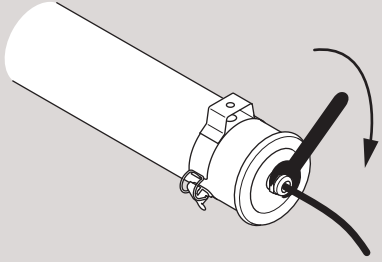
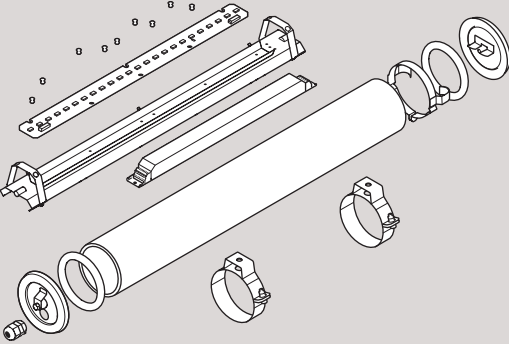
Our LED products are designed around standardised modules selected specifically for their high quality. They therefore benefit long term from the latest generation of components that offer efficient thermal management even in a sealed casing. This optimises the energy efficiency and lifespan, depending on their application. Lastly, our dedicated LED module optical systems cover every lighting need.

Our commitment

Choosing a Sammode luminaire means choosing the best light source in a casing that is completely appropriate for its application. Since every component within the luminaire is easy to maintain, you are assured of the highest-possible level of service continuity.

Maintenance

Throughout our history, we have always maintained a culture of uncompromising quality and design our luminaires for exceptionally long life in the most aggressive environments. Nevertheless, maintaining their characteristics and performance in these environments also relies on the quality of luminaire installation and maintenance.

Diffusers	Regular cleaning of the luminaire avoids the accumulation of surface deposits, and ensures that it retains its original appearance and specifications. The best cleaning method is to use a little soap in warm water with the optional addition of a gentle domestic detergent, and wipe the luminaire using a soft fabric or non-abrasive sponge. The surfaces should then be rinsed with cold water and dried immediately with a soft cloth to avoid residual water marks. Never use abrasive cleaning or highly alkaline materials, and never scrape luminaires using scrapers, razor blades or other sharp tools.	
Stainless steel components	Regular washing of stainless steel components (end caps, fixings, etc.) with clean water improves their resistance and avoids the accumulation of the conductive deposits that result in pitting (galvanic corrosion). It is also preferable to use stainless steel fixings (A2 for use with 304 L, and A4 for use with 316 L) when mounting luminaires and to protect them against molten metal spatter (from arc welding, etc.) and contamination as a result of an unprotected mounting (rust streaking, etc.).	
Ingress protection	The best-possible long-term seal is maintained by following the installation instructions available in our online publications (www.sammode.com). Particular care should be taken to tighten cable glands and their suitability for the type of cable used.	
Spare parts	The simple assembly methods (nuts and bolts, rivets, etc.) used in our luminaires ensure that they can be easily dismantled to facilitate maintenance. From light source (LED modules, etc.) to electronic power supplies, mechanical structure (strap mountings, diffusers, etc.) and consumables (lamps, starters, condensers, sockets, batteries, etc.), every part of the luminaire is designed to last and be replaceable. Spare parts are available for all our luminaires. For orders or additional information, please call us on +33 (0) 1 43 14 84 90 or e-mail us at enquiry@sammode.com.	

Specifications

Ingress Protection (IP)

The IP rating refers to the degree of protection provided by electrical equipment enclosures against the ingress of solid objects and moisture in accordance with EN 60529.

IP X Y

X	Protection against the ingress of solid objects	Y	Protection against the ingress of moisture
0	No protection	0	No protection
1	Objects ≥ 50 mm diameter	1	Vertically falling drops of water
2	Objects ≥ 12.5 mm diameter	2	Direct sprays of water up to 15° from vertical
3	Objects ≥ 2.5 mm diameter	3	Direct sprays of water up to 15° from vertical (rain)
4	Objects ≥ 1.0 mm diameter	4	Water splashed from all directions
5	Protected against dust (no harmful deposit)	5	Low-pressure water jets from all directions
6	Totally protected against dust	6	High-pressure water jets or heavy seas
		7	Temporary immersion
		8	Prolonged immersion at a depth specified by the manufacturer
		9	K* High-pressure steam/water jet cleaning

Sammode floodlights are rated IP 65, and Sammode tubular luminaires are rated IP 66, 68 and 69K. The following tests have been conducted under laboratory conditions in accordance with ISO 20653. Materials and design choices are optimised to maintain this level of ingress protection throughout the life of the luminaire.

Rating	Use	Test procedure
IP65	Indoor	Spraying the enclosure from all practicable directions with a stream of water from a standard-compliant test nozzle. <ul style="list-style-type: none">• Test duration: 3 minutes• Flow rate: 12.5 l/min• Distance between the nozzle and enclosure surface: 2.5 m–3 m• Pressure: 30 kPa
IP66	Outdoor	Spraying the enclosure from all practicable directions with a stream of water from a standard-compliant test nozzle. <ul style="list-style-type: none">• Test duration: 3 minutes• Flow rate: 100 l/min• Distance between the nozzle and enclosure surface: 2.5 m–3 m• Pressure: 100 kPa
IP68	Outdoor	<ul style="list-style-type: none">• Immersion of the luminaire in cold water• Immersion of the luminaire at a depth of 4 m (0.4 Bar)• The luminaire is switched on for 1 hour before commencement of the test• the luminaire is switched off during the test• Immersion duration: 1 hour
IP69K	Pressure washing	Spraying the enclosure with a high-pressure jet of hot water to reproduce food industry cleaning conditions. <ul style="list-style-type: none">• Test duration: 2,5 minutes• Flow rate: 15 l/min• Distance between the nozzle and enclosure surface: 100 and 150 mm• Pressure: 10000 kPa• Water temperature: 80 °C

Up to, and including, the second figure 6, the rating implies compliance with the requirements of all lower numbers.

Impact Resistance (IK)

IK10 for Sammode tubular ranges, and IK09 for cleanroom luminaires with PMMA diffusers. The following tests have been conducted under laboratory conditions in accordance with EN 62 262. Materials and design choices are optimised to maintain this level of impact

resistance throughout the life of the luminaire. The ingress protection levels of our luminaires remain intact following mechanical impact, as long as this remains below the impact energy guaranteed by the IK rating.




IK XX

XX	Protection against the ingress of solid objects
00	No protection
01	Impacts of 0.14 joules impact energy (the energy of a 14 g weight falling 1 m)
02	Impacts of 0.2 joules impact energy (the energy of a 20 g weight falling 1 m)
03	Impacts of 0.35 joules impact energy (the energy of a 35 g weight falling 1 m)
04	Impacts of 0.5 joules impact energy (the energy of a 50 g weight falling 1 m)
05	Impacts of 0.7 joules impact energy (the energy of a 70 g weight falling 1 m)
06	Impacts of 1 joules impact energy (the energy of a 100 g weight falling 1 m)
07	Impacts of 2 joules impact energy (the energy of a 200 g weight falling 1 m)
08	Impacts of 5 joules impact energy (the energy of a 500 g weight falling 1 m)
09	Impacts of 10 joules impact energy (the energy of a 1 kg weight falling 1 m)
10	Impacts of 20 joules impact energy (the energy of a 2 kg weight falling 1 m)

Electrical safety classification

The electrical safety classification defines a level of electrical protection for the user as the basis for measuring the potential risk of a person coming into contact with mains voltage (230 V AC) or any other voltage hazardous to humans (above

50 V in dry surroundings). Sammode luminaires comply with electrical safety classes I, II and III in accordance with EN 60598-1.

Class	Protection	Symbol
Class I	Equipment that is electrically insulated and provided with a connection to earth to protect exposed metal parts that could become live accidentally	
Class II	Equipment that has double or reinforced insulation of its active components (functional and physical insulation) with no earthing of metal parts	
Class III	Operation at very low voltage (<50 V)	

Fire resistance

The glow wire test is governed by the IEC 60695-2-10 standard and is applied to determine whether the luminaire installed in a building could potentially burn and, more importantly, could contribute to the spread of fire. Sammode luminaire diffusers pass the glow wire test at a temperature of 650 °C for the coextruded polycarbonate/polymethyl methacrylate versions, and 960 °C for the polycarbonate versions. The metal luminaire components are deemed non-flammable.All our emergency lighting luminaires pass the glow wire test at 960 °C.

The test consists of applying a wire heated to a fixed temperature (650 °C, 850 °C, 960 °C, etc.) for a fixed period (5 or 30 seconds, for example) and examining the behaviour of the luminaire housing, especially if it catches fire.

Our products are trusted by all these companies and organisations

Adisseo
Al Naseem
Alsace Lait
Bigard
Bodega Cantos de Rueda
Bonduelle
Bongrain-Savencia
Brasserie Rabourdin
Bressor
Bridor
Brioche Pasquier
Cargill
Charbonneaux Brabant
Château Mouton Rothschild
Château Réal d'Or
Château Tronquoy Lalande
Chr. Hansen
Cité Marine
Cloche d'Or
Condigel
Cooperl
Couvée D'Or
Cristal Union
Cuisine Centrale Boulogne-Billancourt
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Danisco
Darégal
E.V.A Entreprise Viandes Abattage

Eker Süt Ürünleri
Eurial
Favid
Feneberg Lebensmittel GmbH
Ferme de la Gontière
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Greenyard Foods
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Lactalis
Laita
Lamb Weston
LDC
Les caves Rivoire-Jacquemin de Montmorot
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Tereos
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Unicer
Varachaux
Vlevy
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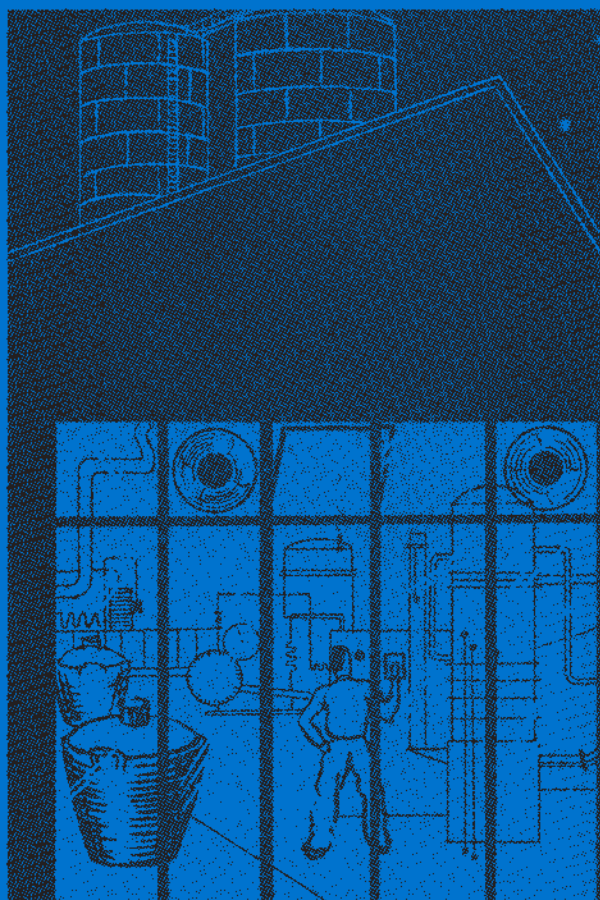
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Products

	General lighting		Task lighting		Hall lighting	Clean rooms	Cellars	LED
	Demanding environments	Extreme environments	Demanding environments	Extreme environments				
Becquerel							133	
Bunsen 100		84		112				●
Bunsen 133		85						●
Calmette						126		●
Carnot 100	60		100					●
Carnot 133	61							●
Cugnot 100		78		110				●
Cugnot 133		79						●
Darwin 100 FC			99					
Darwin 100 IND T5	64							
Darwin 100 IND T8	62							
Darwin 100 T5	58		96					
Darwin 100 T8	56		95					
Darwin 133 IND T5	65							
Darwin 133 IND T8	63							
Darwin 133 T5	59		98					
Darwin 133 T8	57		97					
Einstein 100 HT		86		113				
Einstein 100 IND T5		82						
Einstein 100 IND T8		80						
Einstein 100 T5		76		106				
Einstein 100 T8		74		105				
Einstein 133 HT		87		114				
Einstein 133 IND T5		83						
Einstein 133 IND T8		81						
Einstein 133 T5		77		108				
Einstein 133 T8		75		107				
Fresnel 133					122			●
Hooke 100				109				
Hooke 100 HT				111				
Huygens					118			
Huygens SEP					120			
Pascal 100	54		94					●
Pascal 133	55							●
Pasteur T5						129		
Pasteur T8						128		
Stevin 100		72		104				●
Stevin 133		73						●



Extract
from the 1930
catalogue



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