Lighting for industrial refrigeration

INDUSTRY

FOOD PROCESSING
Sammode

Functional and aesthetic, durable and economical, efficient and reliable, Sammode luminaires are made to last. Optimised down to the last detail, they offer users durability and exceptional resistance at minimal operating cost.

Long-lasting lighting

EXPERTISE AND RELIABILITY
Sammode is an industrial business, independent and family-run. For four generations, we have been building up unique know-how on how to provide light in the harshest environments, in the most demanding conditions and in the most difficult places. Since its creation in 1927, Sammode has been synonymous with technical, durable and reliable lighting.

INTEGRATED PRODUCTION
Historically, at Sammode, we design and manufacture functional luminaires that are renowned for their performance, quality and low cost of ownership. We are constantly perfecting them, improving their design, selecting the best materials and integrating new technologies after testing them in our laboratory. Because we control the entire production chain, without using any subcontractors, we ensure flawless quality. Our luminaires are characterised by strength, durability, reliability and adaptability. This is what gives us our reputation.

LISTENING AND COMMITMENT
As a personal business we place a high value on individual commitment. We demonstrate our commitment to our customers by listening and analysing their needs, developing relevant solutions, making the right choices and minimising the cost of ownership. We advise them and find appropriate solutions to their problems, while taking account of their technical and budgetary constraints.

RESPECT FOR THE ENVIRONMENT
Historically, our environmental policy is as simple as it is unsurprising: we choose recyclable materials, reject throwaways and planned obsolescence, maintain and repair our luminaires piece by piece, reduce waste, manufacture in Europe and minimise transport. For each project, we help our customers to reduce their energy consumption and use of resources.
8 reasons for choosing our luminaires

ECONOMY

Our luminaires for industrial refrigeration lighting are fitted with the latest generation LED modules. They have reduced operating costs and a lower cost of ownership, with maximum light output from the moment they are switched on, an exceptionally long service life and low power consumption.

STRENGTH

Our luminaires are designed to provide Shock resistance IK10 and to withstand vibration. This is the guarantee of a profitable long-term investment.

SEALING

Most of our fixtures are sealed to IP68 and IP69K standards, i.e. they are sealed against dust, vapours and liquids. Their tubular shape prevents the build up of dirt on their exteriors. The lack of the build up of dirt internally ensures maximum light output over time. Fittings to IP69K resist high-pressure jetting.

RESISTANCE

Our luminaires are resistant to chemicals (detergents, fats and hydrocarbons) and corrosion thanks to a choice of durable materials: stainless steel and co-extruded polycarbonate/methacrylate.

PERFORMANCE

Our luminaires are equipped with light sources that offer the best performance for any given temperature range. This provides optimal illumination while reducing the total number of luminaires needed and the energy consumed.

MAINTENANCE

Our luminaires are fitted with quick-release systems that facilitate assembly, disassembly and off-site maintenance. Interruptions to production and the risk of falling objects are reduced, maintenance is simplified and speeded up.

WARRANTY

All our luminaires are guaranteed for 5 years, a sign of our confidence in the quality of our products.

DURABILITY

Our lights are made to last, unlike throwaways. Whether it is the light source, the electronic circuits or the mechanical structure, each piece is built to last and can be replaced.
Industrial refrigeration lighting requires special precautions, especially in the food processing industry. We offer luminaires that are ideal for cold storage rooms and other refrigerated areas.

Lighting in the cold

ENERGY EFFICIENCY
Light generates heat which must be removed by the refrigeration system. Particular attention has to be paid to the energy efficiency of the light source, because losses count double: heat generated during the production of light and the energy needed for its removal by the refrigeration system.

We have selected high-efficiency LED modules to reduce the energy consumption associated with lighting. Unlike fluorescent tubes, they reach maximum light output immediately. It is therefore not necessary to overspecify their size to reach the required light output.

ON/OFF CYCLES
Access to cold storage rooms and other chilled areas is usually for short periods, with frequent on/off cycles, often controlled by motion sensors. Maximum immediate light output and tolerance to repeated cycling are thus essential.

Today’s LED technology provides better tolerance to repeated cycling and thus significantly reduces maintenance costs. Maximum light output is available immediately, so that the installation can be sized for the minimum power that is needed.

HYGIENE
Industrial refrigeration lighting is often found in the food processing industry. Therefore, hygiene requirements add to the physical demands for operation in the cold: resistance to cleaning agents and corrosion, easy to clean, anti-condensation design, etc.

Sammode sealed tube luminaires reduce dirt deposition and the use of resistive materials (stainless steel and co-extruded polycarbonate/methacrylate) are highly resistant to cleaning agents and cleaning with a high pressure jet. Sammode luminaires are suitable for the storage of food and comply the following standards: 2002/72/EC, 2004/1/EC, 2004/19/EC, 2005/79/EC, 2007/19/EC.

THE MEANING OF CO-EXTRUSION

Craftsmanship
MAINTENANCE
Maintenance, robustness and service life are important cost factors that must be considered in the economic analysis of the lifecycle of a luminaire. In the cold storage of food, it is also necessary to avoid contamination by falling objects.
Sammode has optimised the maintenance of its luminaires through the use of spring-loaded fixing straps and disconnectable plugs. Installation and replacement are quick and easy. In addition, all Sammode luminaires are shock-resistant to IK10. They incorporate LED modules which, thanks to their long service life (> 50,000 h), lengthen service intervals, thus reducing operating costs.

SERVICE LIFE
Our corporate culture has always been rooted in a quest for uncompromising quality. We design our luminaires for exceptionally long service life. We strive for excellence and for that we rely on a full understanding of our materials and manufacturing processes, advanced technology and rejection of throwaways and planned obsolescence.
Each luminaire is easily removable for maintenance in a workshop. Spare parts are available for all the items in our catalogue.

SPRING-LOADED FIXING STRAPS

DISCONNECTABLE PLUGS
The various types of lighting

GENERAL LIGHTING

General lighting relates to cold storage rooms:
- covering a large floor area (> 20 m²)
- having a high ceiling (< 7 m)
- needing significant illumination (> 150 lx)

Suitable lighting can contribute to employees’ well-being as well as reducing fatigue and increasing staff efficiency. Luminaires suitable for use in the cold reduce the power consumption of the installation and the operating costs.

RECOMMENDED LIGHTING

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TASK LIGHTING

Task lighting is characterised by small areas to be illuminated (< 20 m²) and low height (< 3 m). This is usually lighting that is in addition to the general lighting, suitable for small cold rooms or confined spaces, such as tunnel freezers.

Task lighting is often subject to frequent on/off cycles. Luminaires must quickly reach the necessary light output and tolerate many on/off cycles. LED light sources meet these requirements and are therefore particularly suitable for task lighting in cold environments.

LUMINOUS FLUX AT -30 °C

Luminous flux relative to the ambient temperature 20 °C (%)

LED and fluorescent light fittings with gear units and tubes suitable for freezing environments.
PROVIDE LIGHT WHERE IT IS NEEDED AND MINIMISE LOSSES

HIGH-CEILING LIGHTING
High storage rooms (7-15 m) with a large floor area (> 20 m²), equipped with high shelves (racked cold stores) require specialized lighting in order to limit light losses and provide illumination where necessary. These luminaires must have optimized photometric polar diagrams to limit the number of luminaires needed to achieve a given illumination, thus reducing the lighting’s energy consumption.

EMERGENCY LIGHTING
Emergency lighting is mandatory and must meet current standards. In cold rooms, the following points should be considered:
- Emergency lighting should reach 50% of its nominal output within 5 seconds (EN 60598-2-22). Therefore, the use of fluorescent tubes is banned.
- On the other hand, LED Light sources are well suited to the cold with an output that increases as the temperature decreases.
- Batteries in stand-alone emergency lights do not operate below 0°C. A Central battery system is needed.
Sammode offers a complete range of luminaires for industrial refrigeration lighting down to -60 °C. For each application we have designed ranges of LED fittings which are the most effective over a given temperature range.

**Product guide**

**GENERAL LIGHTING**
General lighting solutions for:
- floor areas greater than 20 m²
- ceiling heights less than 7 m

**TASK LIGHTING**
Ranges of compact luminaires to achieve:
- lighting small cold rooms (below 20 m² floor area)
- lighting tunnel freezers
- lighting supplementary working areas
HIGH-CEILING LIGHTING
Lighting solutions at height for:
■ floor areas greater than 20 m²
■ heights from 7 to 15 m

EMERGENCY LIGHTING
For central battery systems, compliant with EN 60 598-2-22
■ open area or escape route lighting
■ maintained or non-maintained

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General lighting
Amundsen 100

**GENERAL LIGHTING**

- Optimum temp.: -20°C to 0°C
- Technology: LED
- Light output: 2775 to 5550 lm

**OPTIONS**

- **FINISHINGS**
  - End caps and fixing straps in 316L stainless steel

- **FIXINGS**
  - Reinforced spring-loaded fixing straps (BRS)

- **ACCESSORIES**
  - Spacers (5 or 20 cm) for fire safety standards

**KEY FEATURES**

- Plug and Play installation with disconnectable plug
- Designed for frequent on/off cycles
- Infrequent maintenance
- Resistant to detergents
- Durable and maintainable luminaires

**PRINCIPAL PART NUMBERS**

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<tr>
<th>Light output * (lm)</th>
<th>Designation</th>
<th>Part No.</th>
<th>Cons. (W)</th>
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* Flux leaving the luminaire

**SPECIFICATIONS**

**TECHNICAL FEATURES**

- Light source: High efficiency LED modules (133 lm/W)
- Optics: Light mixing chamber, Special satinised LED diffuser
- Thermal management: Aluminium heat sink
- Electronic equipment: Constant current output driver, non-dimmable
- Power supply: 220-240 V 50/60 Hz
- Electrical class: Class I
- Operating temperature: -25 °C to +35 °C
- Connection: Disconnectable plug, cable Ø 8-10 mm (3 x 1.5 mm²)
- Fixing: 2 spring-loaded stainless steel fixing straps
- Method of construction: Single-piece housing with reinforced seal, Patented drawer opening system

**MATERIALS**

- Diffuser: Special food processing housing in polycarbonate protected with a layer of co-extruded methacrylate
- End caps, fixing straps, etc.: 304L stainless steel
- Gaskets: EPDM

**STANDARDS**

- Sealing: IP68 and IP69K
- Shock resistance: IK10
- Fire resistance: 650°C
Amundsen 133

GENERAL LIGHTING

Optimum temp. -20°C to +0 °C
Technology LED
Light output 5550 to 11100 lm

PRINCIPAL PART NUMBERS

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LIKE FOR LIKE REPLACEMENT VERSIONS
Equivalent to 2 x 36 W T8

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* Flux leaving the luminaire

SPECIFICATIONS

TECHNICAL FEATURES

Light source
- High efficiency LED modules (133 lm/W)
- 50 000H L80/B50
- Replaceable modules
- CRI > 80

Optics
- Light mixing chamber
- Special satinised LED diffuser

Thermal management
- Aluminium heat sink

Electronic equipment
- Constant current output driver, non-dimmable

Power supply
- 220–240 V 50/60 Hz

Electrical class
- Class I

Operating temperature
- -25 °C to +35 °C

Connection
- Disconnectable plug, cable Ø 8–10 mm (3 x 1.5 mm²)

Fixing
- 2 spring-loaded stainless steel fixing straps

Method of construction
- Single-piece housing with reinforced seal
- Patented drawer opening system

MATERIALS

Diffuser
- Special food processing housing in polycarbonate protected with a layer of co-extruded methacrylate

End caps, fixing straps, etc.
- 304L stainless steel

Gaskets
- EPDM

STANDARDS

Sealing
- IP68 and IP69K

Shock resistance
- IK10

Fire resistance
- 650°C

KEY FEATURES

- Plug and Play installation with disconnectable plug
- Designed for frequent on/off cycles
- Infrequent maintenance
- Resistant to detergents
- Durable and maintainable luminaires

OPTIONS

FINISHINGS
- End caps and fixing straps in 316L stainless steel

FIXINGS
- Reinforced spring-loaded fixing straps

ACCESSORIES
- Spacers (5 or 20 cm) for fire safety standards
Bering 100

GENERAL LIGHTING

Optimum temp. -35 °C to -20 °C
Technology LED
Light output 2775 to 4625 lm

OPTIONS

FINISHINGS
End caps and fixing straps in 316L stainless steel

FIXINGS
Reinforced spring-loaded fixing straps

ACCESSORIES
Spacers (5 or 20 cm) for fire safety standards

KEY FEATURES

- Plug and Play installation with disconnectable plug
- Designed for frequent on/off cycles
- Infrequent maintenance
- Resistant to detergents
- Durable and maintainable luminaires

OPTIONS

FINISHINGS
End caps and fixing straps in 316L stainless steel

FIXINGS
Reinforced spring-loaded fixing straps

ACCESSORIES
Spacers (5 or 20 cm) for fire safety standards

PRINCIPAL PART NUMBERS

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SPECIFICATIONS

TECHNICAL FEATURES

Light source
- High efficiency LED modules (133 lm/W)
- 50 000h L80/B50
- Replaceable modules
- CRI > 80

Optics
- Light mixing chamber
- Special satinised LED diffuser

Thermal management
Aluminium heat sink

Electronic equipment
Special cold operation constant current output driver, non-dimmable

Power supply
220-240V 50/60 Hz

Electrical class
Class I

Operating temperature
-40 °C to +35 °C

Connection
Disconnectable plug, cable Ø 8-10 mm [3 x 1.5 mm²]

Fixing
2 spring-loaded stainless steel fixing straps

Method of construction
- Single-piece housing with high mechanical and chemical resistance
- Long-term sealing maintained by axial screwing

MATERIALS

Diffuser
Special food processing housing in polycarbonate protected with a layer of co-extruded methacylate

End caps, fixing straps, etc.
304L stainless steel

Gaskets
Silicone

STANDARDS

Sealing
IP68 and IP69K

Shock resistance
IK10

Fire resistance
650 °C

Variable centre distance L

80

Ø100

360°
GENERAL LIGHTING

Bering 133

Optimum temp.  -35 °C to -20 °C  
Technology  LED  
Light output  5550 to 9250 lm

PRINCIPAL PART NUMBERS

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* Flux leaving the luminaire

SPECIFICATIONS

TECHNICAL FEATURES

- Light source: High efficiency LED modules (133 lm/W)
- Optics: Light mixing chamber, Special satinised LED diffuser
- Thermal management: Aluminium heat sink
- Electronic equipment: Special cold operation constant current output driver, non-dimmable
- Power supply: 220-240V 50/60 Hz
- Electrical class: Class I
- Operating temperature: -40 °C to +35 °C
- Connection: Disconnectable plug, cable Ø 8-10 mm (3 x 1.5 mm²)
- Fixing: 2 spring-loaded stainless steel fixing straps
- Method of construction: Single-piece housing with high mechanical and chemical resistance

MATERIALS

- Diffuser: Special food processing housing in polycarbonate protected with a layer of co-extruded methacrylate
- End caps, fixing straps, etc.: 304L stainless steel
- Gaskets: Silicone

STANDARDS

- Sealing: IP68 and IP69K
- Shock resistance: IK10
- Fire resistance: 650 °C

OPTIONS

FINISHINGS  End caps and fixing straps in 316L MR stainless steel
FIXINGS  Reinforced spring-loaded fixing straps BRS
ACCESSORIES  Spacers (5 or 20 cm) for fire safety standards

KEY FEATURES

- Plug and Play installation with disconnectable plug
- Designed for frequent on/off cycles
- Infrequent maintenance
- Resistant to detergents
- Durable and maintainable luminaires

5 YEAR LED

Variable centre distance

133
**GENERAL LIGHTING**

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<tr>
<th>Feature</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Optimum temp.</td>
<td>-60 °C to -35°C</td>
</tr>
<tr>
<td>Technology</td>
<td>LED</td>
</tr>
<tr>
<td>Light output</td>
<td>2224 lm</td>
</tr>
<tr>
<td>Power supply</td>
<td>24V DC</td>
</tr>
</tbody>
</table>

**KEY FEATURES**
- Plug and Play installation with disconnectable plug
- Designed for frequent on/off cycles
- Infrequent maintenance
- Resistant to detergents
- Durable and maintainable luminaires

**OPTIONS**

**FINISHINGS**
- End caps and fixing straps in 316L stainless steel

**ACCESSORIES**
- Spacers (5 or 20 cm) for fire safety standards

**KEY FEATURES**
- Plug and Play installation with disconnectable plug
- Designed for frequent on/off cycles
- Infrequent maintenance
- Resistant to detergents
- Durable and maintainable luminaires

**OPTIONS**

**FINISHINGS**
- End caps and fixing straps in 316L stainless steel

**ACCESSORIES**
- Spacers (5 or 20 cm) for fire safety standards

**PRINCIPAL PART NUMBERS**

<table>
<thead>
<tr>
<th>Light output * (lm)</th>
<th>Designation</th>
<th>Part No.</th>
<th>Cons. (W)</th>
<th>Optics</th>
<th>T (°K)</th>
<th>L (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2224</td>
<td>CEL70 24DC 6M6L10 POME PS2 SA</td>
<td>6430 0060</td>
<td>55</td>
<td></td>
<td>4100</td>
<td>1613</td>
</tr>
</tbody>
</table>

* Flux leaving the luminaire

**SPECIFICATIONS**

**TECHNICAL FEATURES**
- Light source: LED modules for extreme cold developed by Sammode
- Optimized for 50 000H L80/B50
- Replaceable modules
- Optics: Special satinised LED diffuser
- Thermal management: Aluminium heat sink
- Power supply: 24V DC min 26V DC max
- Electrical class: Class III
- Operating temperature: -60 °C to +25 °C
- Connection: Disconnectable plug, cable Ø 8-10 mm (2 x 1.5 mm²)
- Fixing: 2 spring-loaded stainless steel fixing straps
- Method of construction: Single-piece housing with reinforced sealing through radial expansion of the gasket
- Closure by tightening the nut under the cable gland

**MATERIALS**
- Diffuser: Special food processing housing in polycarbonate protected with a layer of co-extruded methacrylate
- End caps, fixing straps, etc.: 304L stainless steel
- Gaskets: EPDM

**STANDARDS**
- Sealing: IP68 and IP69K
- Shock resistance: IK10
- Fire resistance: 650 °C
Task lighting
Amundsen 100

**TASK LIGHTING**

- Optimum temp.: -20 °C to +0 °C
- Technology: LED
- Light output: 1850 lm

**KEY FEATURES**
- Plug and Play installation with disconnectable plug
- Designed for frequent on/off cycles
- Infrequent maintenance
- Resistant to detergents
- Durable and maintainable luminaires

**OPTIONS**

- **FINISHINGS**
  - End caps and fixing straps in 316L stainless steel
- **FIXINGS**
  - Reinforced spring-loaded fixing straps
- **ACCESSORIES**
  - Spacers (5 or 20 cm) for fire safety standards

**SPECIFICATIONS**

**TECHNICAL FEATURES**

- **Light source**
  - High efficiency LED modules [133 lm/W]
  - 50,000H L80/B50
  - Replaceable modules
  - CRI > 80
- **Optics**
  - Light mixing chamber
  - Special satinised LED diffuser
- **Thermal management**
  - Aluminium heat sink
- **Electronic equipment**
  - Driver à sortie en courant constant, non gradable
- **Power supply**
  - 220-240 V 50/60 Hz
- **Electrical class**
  - Class I
- **Operating temperature**
  - -25 °C to +35 °C
- **Connection**
  - Disconnectable plug, cable Ø 8-10 mm (3 x 1.5 mm²)
- **Fixing**
  - 2 spring-loaded stainless steel fixing straps
- **Method of construction**
  - Single-piece housing with reinforced seal
  - Patented drawer opening system

**MATERIALS**

- **Diffuser**
  - Special food processing housing in polycarbonate protected with a layer of co-extruded methacrylate
- **End caps, fixing straps, etc.**
  - 304L stainless steel
- **Gaskets**
  - EPDM

**STANDARDS**

- **Sealing**
  - IP68 and IP69K
- **Shock resistance**
  - IK10
- **Fire resistance**
  - 650 °C

**PRINCIPAL PART NUMBERS**

<table>
<thead>
<tr>
<th>Light output * (lm)</th>
<th>Designation</th>
<th>Part No.</th>
<th>Cons. (W)</th>
<th>Optics</th>
<th>T (°K)</th>
<th>L (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1850</td>
<td>AMU100 12H830 POME PS3 SA</td>
<td>4170 0090</td>
<td>18</td>
<td></td>
<td>3000</td>
<td>708</td>
</tr>
<tr>
<td></td>
<td>AMU100 12H840 POME PS3 SA</td>
<td>4170 0100</td>
<td></td>
<td></td>
<td>4000</td>
<td></td>
</tr>
</tbody>
</table>

* Flux leaving the luminaire

**Optimum temp.** -20 °C to 0 °C

**Technology** LED

**Light output** 1850 lm
**Bering 100**

**PRINCIPAL PART NUMBERS**

<table>
<thead>
<tr>
<th>Light output * (lm)</th>
<th>Designation</th>
<th>Part No.</th>
<th>Cons. (W)</th>
<th>Optics</th>
<th>T (°K)</th>
<th>L (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1850</td>
<td>BER100 12H830 POME P53 SA</td>
<td>1560 0010</td>
<td>21</td>
<td></td>
<td>3000</td>
<td>697</td>
</tr>
<tr>
<td></td>
<td>BER100 12H840 POME P53 SA</td>
<td>1560 0020</td>
<td></td>
<td></td>
<td>4000</td>
<td></td>
</tr>
</tbody>
</table>

* Flux leaving the luminaire

**SPECIFICATIONS**

**TECHNICAL FEATURES**

- **Light source**: High efficiency LED modules (133 lm/W)
- **50 000H L80/B50**
- Replaceable modules
- **CRI > 80**

- **Optics**: Light mixing chamber
- Special satinised LED diffuser

- **Thermal management**: Aluminium heat sink
- **Electronic equipment**: Special cold operation constant current output driver, non-dimmable
- **Power supply**: 220-240 V 50/60 Hz
- **Electrical class**: Class I
- **Operating temperature**: -40 °C to +35 °C
- **Connection**: Disconnectable plug, cable Ø 8–10 mm (3 x 1.5 mm²)
- **Fixing**: 2 spring-loaded stainless steel fixing straps

- **Method of construction**: Single-piece housing with high mechanical and chemical resistance
- Long-term sealing maintained by axial screwing

**MATERIALS**

- **Diffuser**: Special food processing housing in polycarbonate protected with a layer of co-extruded methacrylate
- **End caps, fixing straps, etc.**: 304L stainless steel
- **Gaskets**: Silicone

**STANDARDS**

- **Sealing**: IP68 and IP69K
- **Shock resistance**: IK10
- **Fire resistance**: 650 °C

**OPTIONS**

**FINISHINGS**

- End caps and fixing straps in 316L MR stainless steel

**FIXINGS**

- Reinforced spring-loaded fixing straps BRS

**ACCESSORIES**

- Spacers (5 or 20 cm) for fire safety standards

**KEY FEATURES**

- Plug and Play installation with disconnectable plug
- Designed for frequent on/off cycles
- Infrequent maintenance
- Resistant to detergents
- Durable and maintainable luminaires

**TASK LIGHTING**

<table>
<thead>
<tr>
<th>Optimum temp.</th>
<th>-35 °C to -20 °C</th>
</tr>
</thead>
<tbody>
<tr>
<td>Technology</td>
<td>LED</td>
</tr>
<tr>
<td>Light output</td>
<td>1850 lm</td>
</tr>
</tbody>
</table>
Celsius 70 SA 613 mm

**TASK LIGHTING**

Optimum temp. **-60 °C to -35°C**
Technology **LED**
Light output **741 lm**
Power supply **24V DC**

**KEY FEATURES**

- Plug and Play installation with disconnectable plug
- Designed for frequent on/off cycles
- Infrequent maintenance
- Resistant to detergents
- Durable and maintainable luminaires

**OPTIONS**

- **FINISHINGS**
  - End caps and fixing straps in 316L stainless steel
- **ACCESSORIES**
  - Spacers (5 or 20 cm) for fire safety standards

**PRINCIPAL PART NUMBERS**

<table>
<thead>
<tr>
<th>Light output * (lm)</th>
<th>Designation</th>
<th>Part No.</th>
<th>Cons. (W)</th>
<th>Optics</th>
<th>T (°K)</th>
<th>L (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>741</td>
<td>CEL70 24DC 2MAL10 POME PS2 SA</td>
<td>6430 0050</td>
<td>18</td>
<td>4000</td>
<td>613</td>
<td></td>
</tr>
</tbody>
</table>

*Flux leaving the luminaire

**SPECIFICATIONS**

**TECHNICAL FEATURES**

- **Light source**
  - LED modules for extreme cold developed by Sammode
  - 50 000H L80/B50
  - Replaceable modules
- **Optics**
  - Special satinised LED diffuser
- **Thermal management**
  - Aluminium heat sink
- **Power supply**
  - 24V DC min 26V DC max
- **Electrical class**
  - Class III
- **Operating temperature**
  - -60 °C to +25 °C
- **Connection**
  - Disconnectable plug, cable Ø 8-10 mm (2 x 1.5 mm²)
- **Fixing**
  - 2 spring-loaded stainless steel fixing straps
- **Method of construction**
  - Single-piece housing with reinforced sealing through radial expansion of the gasket
  - Closure by tightening the nut under the cable gland

**MATERIALS**

- **Diffuser**
  - Special food processing housing in polycarbonate protected with a layer of co-extruded methacrylate
- **End caps, fixing straps, etc.**
  - 304L stainless steel
- **Gaskets**
  - EPDM

**STANDARDS**

- **Sealing**
  - IP68 and IP69K
- **Shock resistance**
  - IK10
- **Fire resistance**
  - 650 °C

---

**KEY FEATURES**

- Plug and Play installation with disconnectable plug
- Designed for frequent on/off cycles
- Infrequent maintenance
- Resistant to detergents
- Durable and maintainable luminaires

**OPTIONS**

- **FINISHINGS**
  - End caps and fixing straps in 316L stainless steel
- **ACCESSORIES**
  - Spacers (5 or 20 cm) for fire safety standards
High-ceiling lighting
Hudson

**HIGH-CEILING LIGHTING**

Optimum temp. **-35 °C to +0°C**
Technology **LED**
Light output **7520 to 7990 lm**

**KEY FEATURES**
- Plug and Play installation with disconnectable plug
- Designed for frequent on/off cycles
- Infrequent maintenance
- Resistant to detergents
- Durable and maintainable luminaires

**OPTIONS**

<table>
<thead>
<tr>
<th>FINISHINGS</th>
</tr>
</thead>
<tbody>
<tr>
<td>End caps and fixing straps in 316L stainless steel</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ACCESSORIES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spacers (5 or 20 cm) for fire safety standards</td>
</tr>
</tbody>
</table>

Kit for loop in / loop out wiring: 1 WIELAND IP68 3-pole male plug

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**PRINCIPAL PART NUMBERS**

<table>
<thead>
<tr>
<th>Light output * (lm)</th>
<th>Designation</th>
<th>Part No.</th>
<th>Cons. (W)</th>
<th>Optics</th>
<th>T (*K)</th>
<th>L (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>FOR RACK AISLES</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7990</td>
<td>HUDDSON P1</td>
<td>1215 0010</td>
<td>100</td>
<td></td>
<td>4000</td>
<td>861</td>
</tr>
<tr>
<td>FOR MAIN AISLES</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7520</td>
<td>HUDDSON P2</td>
<td>1215 0020</td>
<td>100</td>
<td></td>
<td>4000</td>
<td>861</td>
</tr>
</tbody>
</table>

* Flux leaving the luminaire

---

**SPECIFICATIONS**

**TECHNICAL FEATURES**

<table>
<thead>
<tr>
<th>Light source</th>
<th>+LED modules for extreme cold developed by Sammode</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>+50 000H L80/B50</td>
</tr>
<tr>
<td></td>
<td>+Replaceable modules</td>
</tr>
<tr>
<td>Optics</td>
<td>+P1 Version: Special elliptical lenses for rack aisles</td>
</tr>
<tr>
<td></td>
<td>+P2 Version: Special elliptical lenses for main aisles</td>
</tr>
<tr>
<td>Thermal management</td>
<td>Aluminium heat sink</td>
</tr>
<tr>
<td>Electronic equipment</td>
<td>Special cold operation constant current output driver, non-dimmable</td>
</tr>
<tr>
<td>Power supply</td>
<td>110-240 V 50/60 Hz</td>
</tr>
<tr>
<td>Electrical class</td>
<td>Class I</td>
</tr>
<tr>
<td>Operating temperature</td>
<td>-40 °C to +25 °C</td>
</tr>
<tr>
<td>Connection</td>
<td>Disconnectable plug, cable Ø 10-14 mm (3 x 4 mm²)</td>
</tr>
<tr>
<td>Fixing</td>
<td>4-point fixing (Ø 8 mm)</td>
</tr>
<tr>
<td>Principe de construction</td>
<td>2 detachable optical blocks connected by disconnectable plugs on the support block</td>
</tr>
</tbody>
</table>

**MATERIALS**

<table>
<thead>
<tr>
<th>Diffuser</th>
<th>Special food processing housing in polycarbonate protected with a layer of co-extruded methacrylate</th>
</tr>
</thead>
<tbody>
<tr>
<td>End caps and support block</td>
<td>304L stainless steel</td>
</tr>
<tr>
<td>Gaskets</td>
<td>EPDM</td>
</tr>
</tbody>
</table>

**STANDARDS**

<table>
<thead>
<tr>
<th>Sealing</th>
<th>IP67</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shock resistance</td>
<td>IK10</td>
</tr>
<tr>
<td>Fire resistance</td>
<td>650°C</td>
</tr>
</tbody>
</table>

---

**Hudson**

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Sammode | October 2014
Celsius 70 W

**TECHNICAL FEATURES**

- **Light source**: LED modules for extreme cold developed by Sammode
- **Optics**: Elliptical lenses
- **Thermal management**: Aluminium heat sink
- **Power supply**: 24V DC min 26V DC max
- **Electrical class**: Class III
- **Operating temperature**: -60 °C to +25 °C
- **Connection**: Disconnectable plug, cable Ø 8-10 mm [2 x 1.5 mm²]
- **Method of construction**: Single-piece housing with reinforced sealing through radial expansion of the gasket
  - Closure by tightening the nut under the cable gland

**MATERIALS**

- **Diffuser**: Special food processing housing in polycarbonate protected with a layer of co-extruded methacrylate
- **End caps, fixing straps, etc.**: 304L stainless steel
- **Gaskets**: EPDM

**STANDARDS**

- **Sealing**: IP68 and IP69K
- **Shock resistance**: IK10
- **Fire resistance**: 650 °C

**OPTIONS**

- **FINISHINGS**: End caps and fixing straps in 316L MR stainless steel
- **ACCESSORIES**: Spacers (5 or 20 cm) for fire safety standards

**KEY FEATURES**

- Plug and Play installation with disconnectable plug
- Designed for frequent on/off cycles
- Infrequent maintenance
- Resistant to detergents
- Durable and maintainable luminaires

**PRINCIPAL PART NUMBERS**

<table>
<thead>
<tr>
<th>Light output * (lm)</th>
<th>Designation</th>
<th>Part No.</th>
<th>Cons. (W)</th>
<th>Optics</th>
<th>T (°K)</th>
<th>L (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2514</td>
<td>CEL70 24DC 6M6L10 POME PS2 W</td>
<td>6430 0080</td>
<td>55</td>
<td>4000</td>
<td>1613</td>
<td></td>
</tr>
</tbody>
</table>

*Flux leaving the luminaire*
Emergency lighting
Maxwell 100 LSC AMB

EMERGENCY LIGHTING

Optimum temp. -20 °C to +0°C
Application Open area
Power supply Central battery system
Technology LED
Emergency output 330 lm

KEY FEATURES
■ Plug and Play installation with disconnectable plug
■ Infrequent maintenance
■ Resistant to detergents
■ Durable and maintainable luminaires

OPTIONS
FINISHINGS
End caps and fixing straps in 316L stainless steel MR
FIXINGS
Reinforced spring-loaded fixing straps BRS
ACCESSORIES
Spacers (5 or 20 cm) for fire safety standards

PRINCIPAL PART NUMBERS

<table>
<thead>
<tr>
<th>Light output * (lm)</th>
<th>Designation</th>
<th>Part No.</th>
<th>Cons. (W) / (VA)</th>
<th>T (°K)</th>
<th>L (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>WITH CABLE GLAND</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>330</td>
<td>MAX100 LSC AMB SA 113LN</td>
<td>1840 0020</td>
<td>7,9 / 16</td>
<td>4000</td>
<td>357</td>
</tr>
<tr>
<td>WITH DISCONNECTABLE PLUG</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>330</td>
<td>MAX100 LSC AMB SA PS3</td>
<td>1840 0040</td>
<td>7,9 / 16</td>
<td>4000</td>
<td>357</td>
</tr>
</tbody>
</table>

* Rated flux leaving the luminaire

SPECIFICATIONS

TECHNICAL FEATURES
Light source  • LED modules developed by Sammode
• L80
• Replaceable modules
Optics  • Optimum light uniformity: 18 LEDs regularly distributed
• Special satinised LED diffuser
Electronic equipment Constant voltage output driver
Power supply 180-254 V 0/50/60 Hz
Electrical class Class I
Operating temperature -20 °C to +40°C
Connection Nickel-plated brass cable gland
Disconnectable plug
Cable Ø  5-14 mm
8-10 mm
Terminal block 3 x 2,5 mm²
3 x 1,5 mm²
Fixing 2 spring-loaded stainless steel fixing straps
Method of construction  • Single-piece housing with high mechanical resistance
• Long-term sealing maintained by axial screwing
MATERIALS
Diffuser Polycarbonate
End caps, fixing straps, etc. 304L stainless steel
Gaskets EPDM
STANDARDS
Sealing IP68 and IP69K
Shock resistance IK10
Fire resistance 940 °C
Compliant with EN 60 598-1, EN 60598-2-22
Type Maintained and non-maintained

Variable centre distance

360° Ø100
Maxwell 100 LSC EVAC

EMERGENCY LIGHTING

Optimum temp. -20 °C +0 °C
Application Escape route
Power supply Central battery system
Technology LED
Emergency output 75 lm

PRINCIPAL PART NUMBERS

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>WITH CABLE GLAND</td>
<td>MAX100 LSC EVAC SA 113 LN</td>
<td>1840 0010</td>
<td>2 / 4</td>
<td>4000</td>
<td>357</td>
</tr>
<tr>
<td>WITH DISCONNECTABLE PLUG</td>
<td>MAX100 LSC EVAC SA PS3</td>
<td>1840 0030</td>
<td>2 / 4</td>
<td>4000</td>
<td>357</td>
</tr>
</tbody>
</table>

* Rated flux leaving the luminaire

SPECIFICATIONS

TECHNICAL FEATURES

- Light source: LED modules developed by Sammode, L80, Replaceable modules
- Optics: Optimum light uniformity: 6 LEDs regularly distributed, Special satinised LED diffuser
- Electronic equipment: Constant current output driver
- Power supply: Central battery system 220-240 V 0/50 Hz
- Electrical class: Class I
- Operating temperature: -20 °C to +40 °C
- Connection: Nickel-plated brass cable gland, Disconnectable plug
- Cable Ø: 5-14 mm, 8-10 mm
- Terminal block: 3 x 2,5 mm², 3 x 1,5 mm²
- Fixing: 2 spring-loaded stainless steel fixing straps
- Method of construction: Single-piece housing with high mechanical resistance, Long-term sealing maintained by axial screwing

MATERIALS

- Diffuser: Polycarbonate
- End caps, fixing straps, etc.: 304L stainless steel
- Gaskets: EPDM

STANDARDS

- Sealing: IP68 and IP69K
- Shock resistance: IK10
- Fire resistance: 940 °C
- Compliant with: EN 60 598-1, EN 60598-2-22
- Type: Maintained and non-maintained

KEY FEATURES

- Plug and Play installation with disconnectable plug
- Infrequent maintenance
- Resistant to detergents
- Durable and maintainable luminaires

OPTIONS

FINISHINGS
End caps and fixing straps in 316L MR stainless steel

FIXINGS
Reinforced spring-loaded fixing BRS

ACCESSORIES
Spacers (5 or 20 cm) for fire safety standards
Maxwell 100 LSC BT

EMERGENCY LIGHTING

Optimum temp.  
-60 °C to -20 °C

Application  
Open area and escape route

Power supply  
Central battery system

Technology  
LED

Emergency output  
400 lm

PRINCIPAL PART NUMBERS

<table>
<thead>
<tr>
<th>Light output * (lm)</th>
<th>Designation</th>
<th>Part No.</th>
<th>Cons. (W)</th>
<th>T (°K)</th>
<th>L (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>WITH CABLE GLAND</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>400</td>
<td>MAX100 LSC BT 24DC SA 113LN</td>
<td>1836 0010</td>
<td>10</td>
<td>4000</td>
<td>380</td>
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<tr>
<td>WITH DISCONNECTABLE PLUG</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>400</td>
<td>MAX100 LSC BT 24DC SA P52</td>
<td>1836 0020</td>
<td>10</td>
<td>4000</td>
<td>380</td>
</tr>
</tbody>
</table>

* Rated flux leaving the luminaire

OPTIONS

FINISHINGS

End caps and fixing straps in 316L stainless steel  
MR

FIXINGS

Reinforced spring-loaded fixing straps  
BRS

ACCESSORIES

Spacers (5 or 20 cm) for fire safety standards

KEY FEATURES

Plug and Play installation with disconnectable plug
Infrequent maintenance
Resistant to detergents
Durable and maintainable luminaires

5 YEAR LED

OPTIONS

FINISHINGS

End caps and fixing straps in 316L stainless steel  
MR

FIXINGS

Reinforced spring-loaded fixing straps  
BRS

ACCESSORIES

Spacers (5 or 20 cm) for fire safety standards

TECHNICAL FEATURES

Light source  
*LED modules for cold operation developed by Sammode
*L80
*Replaceable modules

Optics  
Special satinised LED diffuser

Thermal management  
Aluminium heat sink

Power supply  
24 V DC

Electrical class  
Class III

Operating temperature  
-60 °C to +25 °C

Connection  
Nickel-plated brass cable gland  
Disconnectable plug

Cable Ø  
5-14 mm 8-10mm

Terminal block  
2 x 4 mm² 2 x 1,5mm²

Fixing  
2 spring-loaded stainless steel fixing straps

Method of construction  
*Single-piece housing with high mechanical resistance
*Long-term sealing maintained by axial screwing

MATERIALS

Diffuser  
Polycarbonate

End caps, fixing straps, etc.  
304L stainless steel

Gaskets  
EPDM

STANDARDS

Sealing  
IP68 and IP69K

Shock resistance  
IK10

Fire resistance  
960 °C

Compliant with  
EN 60 598-1, EN 60598-2-22

Type  
Maintained and non-maintained

EMERGENCY LIGHTING
Options and accessories
Simplifying the mounting, adapting and making an installation safe, Sammode offers all the options and accessories you need to complete the installation of the luminaire.

### FIXINGS

**REINFORCED FIXING STRAPS**

- Set of two reinforced spring-loaded stainless steel fixing straps for fast opening and closing.
- Essential for fixing borosilicate glass luminaires.
- Recommended for fixing wall-mounted fixtures.
- Recommended when the fixture is mechanically stressed.

<table>
<thead>
<tr>
<th>COMPATIBILITY</th>
<th>CODE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ø100 and Ø133 tubular ranges</td>
<td>BRS</td>
</tr>
</tbody>
</table>

### FINISHINGS

**MARINE 316L STAINLESS STEEL**

- External metal parts for luminaires in 316L stainless steel and A4 stainless steel screws (base models have these made in 304L stainless steel and A2 stainless steel screws).
- Excellent resistance to pitting corrosion, especially recommended for marine applications.

<table>
<thead>
<tr>
<th>COMPATIBILITY</th>
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<tbody>
<tr>
<td>All tubular ranges and floodlights</td>
<td>MR</td>
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</table>
ACCESSORIES

**SPACERS FOR CEILING MOUNTING OF FIXING STRAPS**

- Kit consists of 2 x 304L stainless steel spacers to fix luminaires to ceilings in accordance with fire safety standards, i.e. a minimum distance of 20 cm between the equipment and the facing of the sandwich panel.
- Hardware supplied for attaching the fixing straps.
- Stainless steel 316L on request.

**COMPATIBILITY**

<table>
<thead>
<tr>
<th>ACCESSORY</th>
<th>COMPATIBILITY</th>
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</thead>
<tbody>
<tr>
<td>SPACERS FOR CEILING MOUNTING OF FIXING STRAPS</td>
<td>All tubular ranges and the Hudson range</td>
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<tr>
<td></td>
<td>PU44277</td>
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</tbody>
</table>

**SPACERS FOR WALL MOUNTING OF FIXING STRAPS**

- Kit consists of 2 x 304L stainless steel spacers to fix luminaires to the surfaces of walls in accordance with fire safety standards, i.e. a minimum distance of 5 cm between the equipment and the facing of the sandwich panel.
- Hardware supplied for attaching the fixing straps.
- Stainless steel 316L on request.

**COMPATIBILITY**

<table>
<thead>
<tr>
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<th>COMPATIBILITY</th>
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</thead>
<tbody>
<tr>
<td>SPACERS FOR WALL MOUNTING OF FIXING STRAPS</td>
<td>All tubular ranges</td>
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<td></td>
<td>PU44278</td>
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</tbody>
</table>

**KIT FOR LOOP IN / LOOP OUT WIRING**

<table>
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<tr>
<th>ACCESSORY</th>
<th>COMPATIBILITY</th>
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</thead>
<tbody>
<tr>
<td>1 x 3-pole male plug</td>
<td>Hudson range</td>
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<td>PU43735</td>
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</tbody>
</table>

SPARE PARTS

Spare parts are available for all our luminaires. For orders or information, please contact us by phone at +33 (0)1 43 14 84 90 or by email to enquiry@sammode.com.
Photometric polar diagrams

GENERAL LIGHTING

AMUNDSEN 100

BERING 100

CELSIUS 70 SA (1613 MM)

AMUNDSEN 133

BERING 133
Sammode is a family business established in 1927, specialising in professional lighting. For four generations we have been designing and manufacturing luminaires for architecture and industry in our factory in the French Vosges. Our lighting solutions are renowned for their quality, performance and durability.