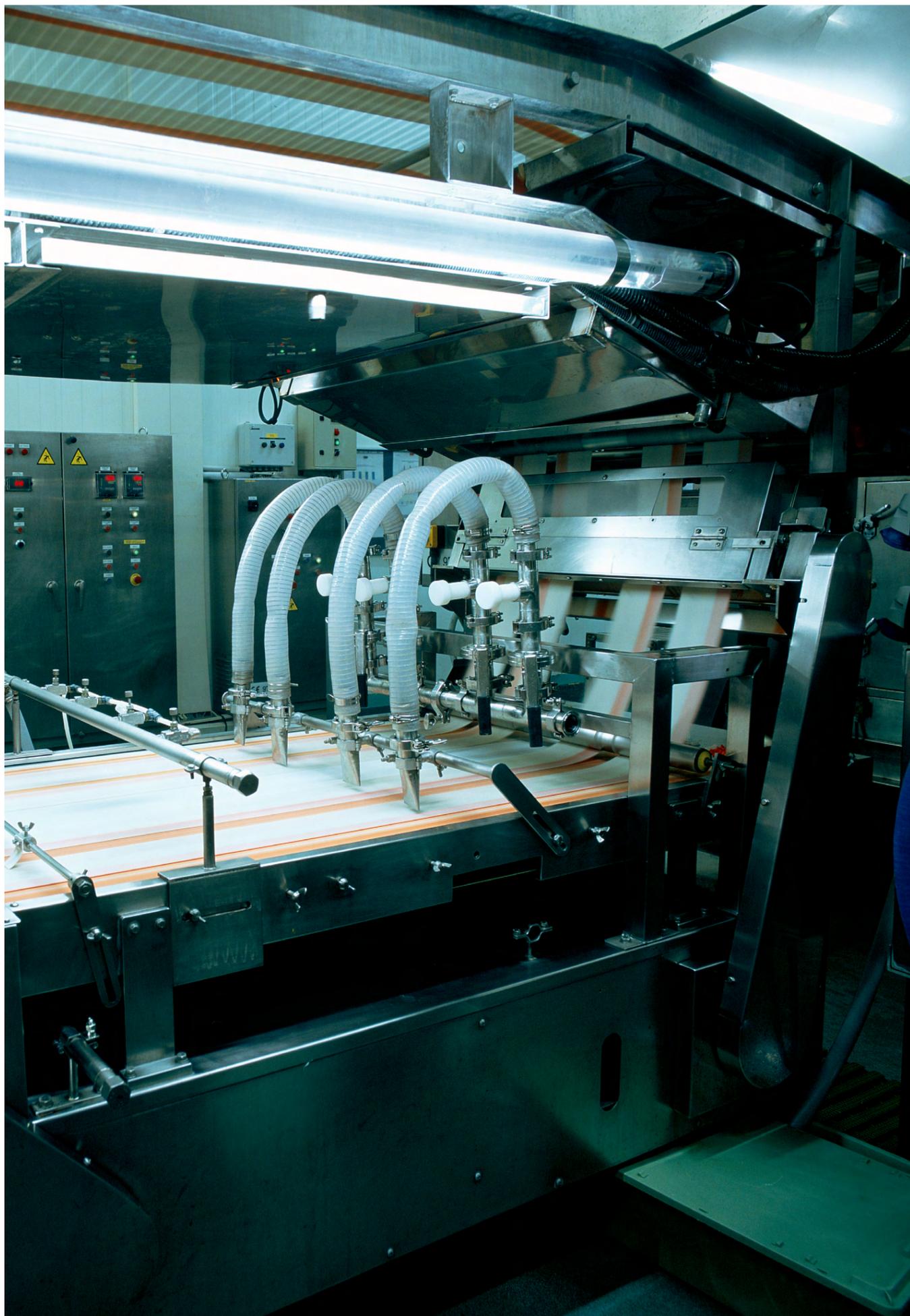# Lighting for industrial refrigeration

Sammode

Lighting solutions for industrial refrigeration

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.
They offer five aspects garanteeing the reliability of a long-term investment.

Resistant to thermal and mechanical impacts even at very low temperature:

- Single-piece housing principle to absorb thermal expansionand mechanical stress
- Robust casing resisting IK10 mechanical impacts
- Resistance to vibrations according IEC 60068-2-6
- Robust power supply conceived for an intensive operation at low temperatures

Designed to meet hygiene requirements in the food industry:

- Absolute and durable imperviousness IP68/IP69K
- Absence of frost formation
- High resistance to chemical detergent agressions thanks to a coextruded polycarbonate and methacrylate housing

Optimized to limit the consumption of your installation:

- Optical solutions conceived for each of your application to optimise the number of lights
- High efficient LED modules allowing to lower energy consumption related to lighting
- Compatible with detector cell use

Assurance of a long-term commitment

With its experience in extreme environments, Sammode provides you with durable solutions up to 8 years warranty in use 24h / 24.

A partner at your side

- Diagnosis of your installation with regard to your constraints
- Definition of the best technical solution
- Lighting study to optimise your installation

Our sales and lighting design office teams are always available to answer your questions and help you identify the most appropriate product for your requirements.

Lighting solutions dedicated to food process

IFS, BRC and HACCP standards

The Sammode light fitting are designed to fullfill the requirements of the IFS, BRC and HACCP standards for lighting application in the process of certification:

- All work areas must be correctly illuminated.

- All lighting equipment must be protected by anti-burst protection and must be designed to minimise the risks of any breakage of glass.

Security and easy cleaning
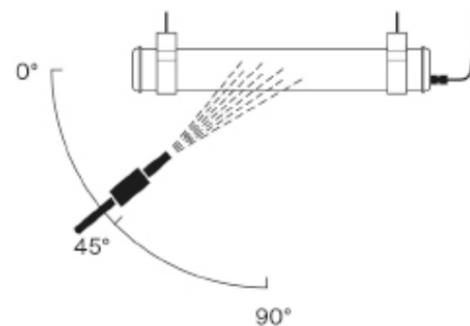
Our luminaires conception and the choice of materials enable our lighting solutions to resist to impacts, detergent factors and high pressure cleaning (IP69K).

They benefit from a unique envelop which resists impacts and chemical agressions. The envelop is composed of a polycarbonate diffuser with an integrated coextruded PMMA layer.

The alliance of mechanical polycarbonate (IK10) characteristics and PMMA chemical resistance provides the ideal protection during cleaning and maintenance stages of your site.

This PMMA layer resists to detergent factors and complies with requirements for objects and materials made with plastic that are intended to be in touch with agri-food commodities (Europe : 2002/72/EC, 2004/19/EC, 2005/79/EC et 2007/19/EC).
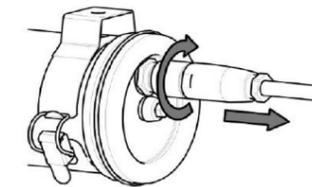
PMMA

Polycarbonate
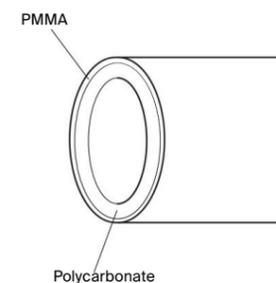
Easy implementation and maintenance
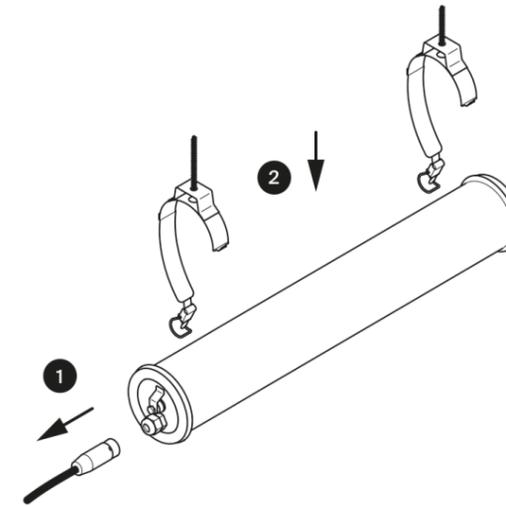
Fixing straps and plug system makes the light fitting easy to maintain outside the process zone:

- Facilitated maintenance (fast opening of the brackets and unpluggable power outlets) outside the process zone

- No loss of pieces

Sustainable and maintable luminaires
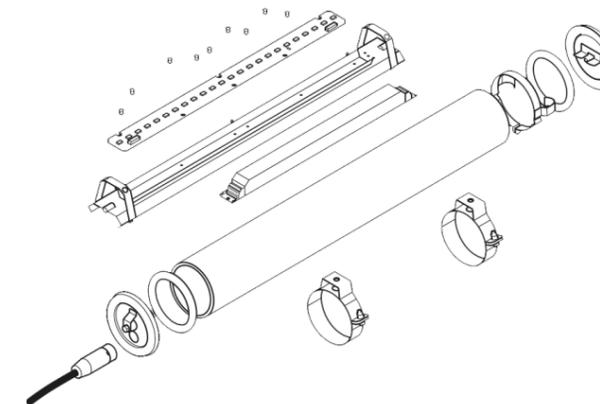
- As a designer and manufacturer, Sammode is fully commited to providing long-term, reliable solutions with durable and upgradable luminaires.

- Light sources, electronic circuit and mechanical structure: each component is designed to last and can be replaced.

A complete range of lighting solutions for refrigeration industry

Blast freezing tunnels and deep freezing process zone: Bering 100
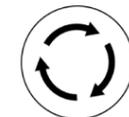
- Weak volume and installation flexibility

- High resistance to impacts and vibrations

- Perfectly suitable for intensive cleaning processes

- 8-year guarantee

Storage warehouses, cold rooms: Bering 133

- Ideal for cold room general lighting up to 7 meters

- Large choice of powers and sizes of luminaires to optimise the number of lights and consumption.

- Up to 80% energy saving compare to a fluorescent solution and 100% of the luminous flux when switched on

- 8-year guarantee

High heights, shelvings: Barents

- Light ouput of 13 700 lumen

- Intensive linear lens

- 8-year guarantee

- A powerful and efficient solution for lighting shelvings

Sustainable lighting

As each areas of your process is specific, we provide you with solutions according to your requirements.

Temperatures	Environments	Solutions
General lighting		
	Cold processes Deep-freezing	Bering 100
down to -40°C	Cold rooms Up to 7 meters	Bering 133
	Cold rooms Shelvings from 7 to 15 meters high	Barents 133
down to -60°C	Very low temperature areas	Celsius 70
Emergency lighting		
down to -20°C	Low temperature areas	Maxwell LSC
down to -60°C	Very low temperature areas	Maxwell LSC BT

Bering 100

Technology	LED
Temperature	down to -40 °C
Light output	1850 to 5550 lm
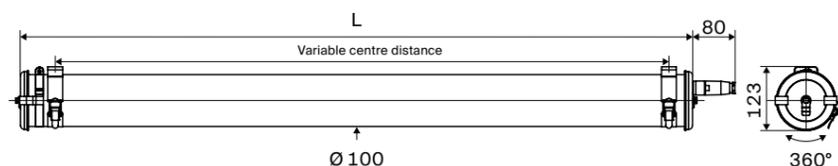
Key features

Plug&Play-installation by disconnectable plug
Resists thermal impacts
Resists aggressive detergents
Resists impacts and vibrations
Durable and maintainable luminaire

Principal part numbers

Lumens * (lm)	Designation	Part No.	Cons. (W)	L (mm)
1850	BER100 12H840 POME PS3 SA BRS	1560 5021	17	708
2775	BER100 13H840 POME PS3 SA BRS	1560 5022	24	1018
3700	BER100 14H840 POME PS3 SA BRS	1560 5025	32	1318
4625	BER100 15H840 POME PS3 SA BRS	1560 5026	40	1618
5550	BER100 16H840 POME PS3 SA BRS	1560 5029	47	1850

* Light output of the luminaire

Options

Color temperature
5000K	850

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

Accessories

Spacer kit for APSAD standards	p.14
4-outlet IP68 junction box	p.14

Specifications

Technical data
Light source	Removable drivers and high efficiency modules 70 000 h L80/B50 at max. operating temperature CRI > 80
Optic	Light mixing chamber Special LED satin diffuser
Heat management	Heatsink in aluminium
Color temperature	4000K
Control gear	Constant current output driver (non-dimmable)
Power supply	220-240 V 50/60 Hz
Electrical class	Class I
Operating temperature	-40 °C to +25 °C
Connection	Disconnectable plug Ø cable 8–10 mm (3 × 1,5 mm²)
Fixing	2 reinforced stainless steel fixing straps
Method of Construction	Housing in one piece with reinforced imperviousness Long-lasting imperviousness by axial screw fitting

Materials
Housing	Polycarbonate with protective coextruded PMMA layer
End caps, fixing straps	Stainless steel 304 L
Gaskets	Silicone

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)

Bering 133

Technology	LED
Temperature	down to -40 °C
Light output	5550 to 11100 lm
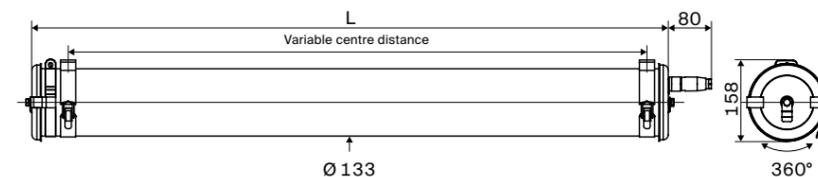
Key features

Plug&Play-installation by disconnectable plug
Suitable for repeated switching on and off
Suitable for high volumes areas
Durable and maintainable luminaire

Principal part numbers

Lumens * (lm)	Designation	Part No.	Cons. (W)	L (mm)
5550	BER133 23H840 POME PS3 SA BRS	1660 5015	47	995
7400	BER133 24H840 POME PS3 SA BRS	1660 5018	62	1295
9250	BER133 25H840 POME PS3 SA BRS	1660 5019	77	1595
11100	BER133 26H840 POME PS3 SA BRS	1660 5022	92	1850

* Light output of the luminaire

Options

Color temperature
5000K	850

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

Accessories

Spacer kit for APSAD standards	p.14
4-outlet IP68 junction box	p.14

Specifications

Technical data
Light source	Removable drivers and high efficiency modules 70 000 h L80/B50 at max. operating temperature CRI > 80
Optic	Light mixing chamber Special LED satin diffuser
Heat management	Heatsink in aluminium
Color temperature	4000K
Control gear	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 Ø cable 8–10 mm (3 × 1,5 mm²)
Fixing	2 reinforced stainless steel fixing straps
Method of Construction	Housing in one piece with reinforced imperviousness Long-lasting imperviousness by axial screw fitting

Materials
Housing	Polycarbonate with protective coextruded PMMA layer
End caps, fixing straps, ...	Stainless steel 304 L
Gaskets	Silicone

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)

Barents 133

Technology	LED
Temperature	down to -40 °C
Light output	13700 lm
Beam	Directional
Height	7 to 15 m
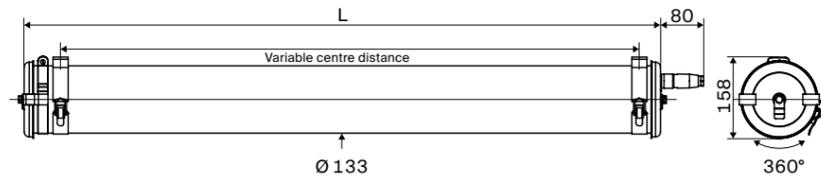
L
80
Variable centre distance
158
Ø 133
360°

Key features

Plug&Play-installation by disconnectable plug

Suitable for repeated switching on and off

Suitable optic for high height with shelvings
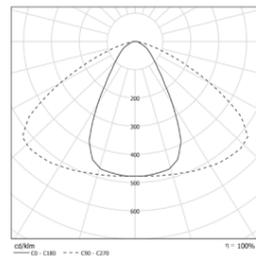
Durable and maintainable luminaire

LED + 8 GUARANTEE YEARS

Specifications

Lumens *	Designation	Part No.	Cons. (W)	L (mm)
13700	BAR133 16H840 POME PS3 BRS	3210 0020	125	1850

* Light output of the luminaire

Options

Color temperature

5000K	850

Finishings

End caps and fixing straps in stainless steel 316 L	MR

Accessories

Spacer kit for APSAD standards	p.14

beam angle
64x125°

Specifications

Technical data

Light source	Removable drivers and high efficiency modules LED HO Modules 70 000 h L80/B50 at max. operating temperature CRI > 80
Optic	Light mixing chamber Intensive linear lens for high heights lighting
Heat management	Heatsink in aluminium
Color temperature	4000K
Control gear	Constant current output driver (non-dimmable)
Power supply	220-240 V 50/60 Hz
Electrical class	Class I
Operating temperature	-40 °C to +25 °C
Connection	Disconnectable plug Ø cable 8–10 mm (3 × 1,5 mm²)
Fixing	2 reinforced stainless steel fixing straps
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	Silicone

Standards

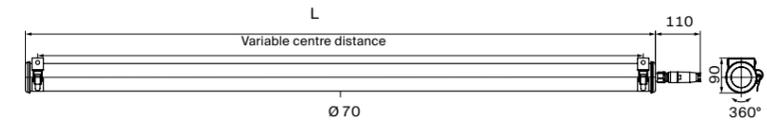| Imperviousness	IP66, IP68 and IP69K
Shock resistance	IK10
Fire resistance	650 °C
Vibration resistance	Meets the standard EN 60598-1 (tested according to CEI 60068-2-6)

Celsius 70 W

Technology	LED
Temp. opt.	down to -60 °C
Light output	740 à 2515 lm
Power supply	24 V DC

Satin version

Intensive version

L
110
Variable centre distance
90
Ø 70
360°

Key features

Plug&Play-installation by disconnectable plug

Suitable for repeated switching on and off

Resists aggressive detergents

Long maintenance intervals
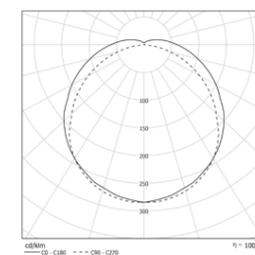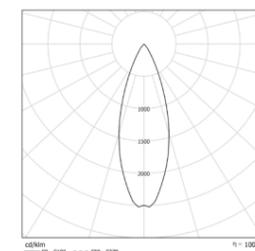
Durable and maintainable luminaire

LED + 5 GUARANTEE YEARS

Options

Finishings

End caps and fixing straps in stainless steel 316 L	MR

Accessories

Spacer kit for APSAD standards	p.14

Satin version

Intensive version
beam angle 35°

Principal part numbers

Lumens *	Designation	Part No.	Conso. (W)	L (mm)
satin version for accent lighting				
740	CEL70 24DC 2M6 L10 POME PS2 SA	6430 0050	18	613
satin version for general lighting				
2225	CEL70 24DC 6M6 L10 POME PS2 SA	6430 0060	55	1613
Intensive version for high shelving lighting				
2515	CEL70 24DC 6M6 L10 POME PS2 W	6430 0080	55	1613

* Light output of the luminaire

Specifications

Technical data

Light source	Very low temperature LED modules, developed by Sammode 50 000 h L80/B50 at max. operating temperature Replaceable LED modules
Optic	Satin version : satin diffuser specially conceived for LED Intensive version : high performance lenses for high shelving lighting
Heat management	Heatsink in aluminium
Temperature color	4000K
Power supply	24 V DC min 26 V DC max
Electrical class	Class III
Operating temperature	-60 °C to +25 °C
Connection	Disconnectable plug Ø cable 8–10 mm (2 × 1,5 mm²)
Fixing	2 stainless steel fixing straps with spring clip
Method of Construction	Housing in one piece with reinforced imperviousness by radial expansion of the sealing Closing by tightening the nut on the cable gland

Materials

Housing	Polycarbonate with protective coextruded PMMA layer
End caps, fixing straps	Stainless steel 304 L
Gaskets	EPDM

Standards

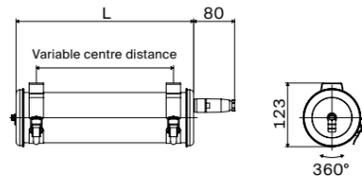| Imperviousness	IP66, IP68 and IP69K
Shock resistance	IK10
Fire resistance	650 °C
Vibration resistance	Meets the standard EN 60598-1 (tested according to CEI 60068-2-6)

Maxwell 100 LSC AMB / EVAC

Technology	LED
Temperature	down to -20 °C
Function	Environment / Escape route
Power supply	Central battery
Emergency output	330 lm / 75lm

Environment version

Evacuation version

Key features

Plug&Play-installation by disconnectable plug
Resists aggressive detergents
Resists impacts
Durable and maintainable luminaire

Options

Finishings

End caps and fixing straps in stainless steel 316 L	MR

Accessories

Spacer kit for APSAD standards	p.14
4-outlet IP68 junction box	p.14

Principal part numbers

Lumens *	Designation	Part No.	Cons. (W) / (VA)	L (mm)
Environment version				
330	MAX100 LSC AMB SA PS3 BRS	1840 5020	8 / 16	357
Evacuation version				
75	MAX100 LSC EVAC SA PS3 BRS	1840 5021	2 / 4	357

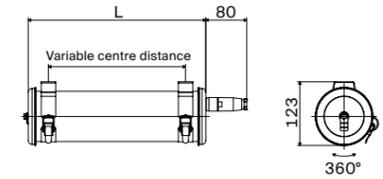* Light output of the luminaire

Specifications

Technical data

Light source	Dismantled LED module developed by Sammode
Optic	Optimum light uniformity: LEDs regularly distributed Special LED satin diffuser
Control gear	Constant current output driver
Color temperature	4000K
Power supply	Compact version: central battery 180-254 V 0/50/60 Hz Intensive version: central battery 220-240 V 0/50 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 reinforced stainless steel fixing straps
Method of Construction	Housing in one piece with high mechanical and chemical resistance Long-lasting imperviousness by axial screw fitting

Materials

Housing	Polycarbonate
End caps, fixing strap	Stainless steel 304 L
Gaskets	EPDM

Standards

imperviousness	IP68
Shock resistance	IK10
Fire resistance	960 °C
Compliant with	EN 60598-1, EN 60598-2-22, NFC 71-802 et NF AEAS
Type	Maintained and non-maintained Evacuation version supplied with 3 standardised labels

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Maxwell 100 LSC BT

Technology	LED
Temperature	down to -60 °C
Function	Escape route
Power supply	Central battery 24 V DC
Emergency output	400 lm

Key features

Plug&Play-installation by disconnectable plug
Resists aggressive detergents
Resists impacts
Durable and maintainable luminaire

Options

Finishings

End caps and fixing straps in stainless steel 316 L	MR

Accessories

Spacer kit for APSAD standards	p.14

Principal part numbers

Lumens *	Designation	Part No.	Cons. (W) / (VA)	L (mm)
400	MAX100 LSC BT 24DC SA PS2 BRS	1836 5004	10	380

* Light output of the luminaire

Specifications

Technical data

Light source	Very severe cold LED module developed by Sammode
Optic	Optimum light uniformity: LEDs regularly distributed Special LED satin diffuser
Heat management	Heatsink in aluminium
Temperature color	4000K
Power supply	Central battery 24 V DC
Electrical class	Class III
Operating temperature	-60 °C to +25 °C
Connection	Disconnectable plug Ø cable 8–10 mm (2 × 1,5 mm²)
Fixing	2 reinforced stainless steel fixing straps
Method of Construction	Housing in one piece with high mechanical and chemical resistance Long-lasting imperviousness by axial screw fitting

Materials

Housing	Polycarbonate
End caps, fixing straps	Stainless steel 304 L
Gaskets	EPDM

Standards

Imperviousness	IP68
Shock resistance	IK10
Fire resistance	960 °C
Compliant with	EN 60 598-1, EN 60598-2-22
Type	Maintained and non-maintained Supplied with 3 standardized labels

Options
and accessories

Simplifying the mounting, adapting and making an installation safe, Sammode offers all the options ans accessories you need to complete the installation of the luminaire. Spare parts are available for all our luminaires.

Finishings

316L marine grade stainless steekl	Compatibility	Code
• Luminaire external metal components in 316L stainless steel and screws in A4 stainless steel (in the basic option, these are 304L stainless steel, with screws in A2 stainless steel) • Excellent resistance to corrosion by pitting, and specifically recommended for marine applications	All tubular ranges	MR

Accessories

Raised 304L stainless steel strap fixings for ceiling mounting	Compatibility	Code
• Kit of 2 raised 304L stainless steel strap fixings to ceiling-mount luminaires in accordance with the rules set out in technical document APSAP 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
Stainless steel 316 L also available		PU47378

Raised 304L stainless steel strap fixings for wall mounting	Compatibility	Code
• Kit of 2 raised 304L stainless steel strap fixings to wall-mount luminaires in accordance with the rules set out in technical document APSAP 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
Stainless steel 316 L also available		PU45880

4-outlet IP68 junction box	Compatibility	Code

• High-protection junction box for the connection of between 1 and 3 luminaires
• Capacities:
  – cable diam. 7 to 14 mm
• Ingress protection: IP66/IP68
• Materials:
  – Casing: PA 66
  – Cover trim: SEBS
  – Seals: TPE
• Service temperature: -40°C to +125°C
• Supplied with blanking plugs for unused outlets
• Connection terminal not included
	All tubular ranges except Celsius et Maxwell LSC BT ranges	CP00674

They trust us:

Ardo France	Häagen Dazs
Ardo Belgium	Institut de Sélection animale
Arrive	Intermarché
Bigard	Kerlys
Bonduelle France	Kermad
Bonduelle Hungary	Labeyrie
Cargill	Lactalis
Cephalon France	LDC
Chr Hansen	Mars Chocolat France
Clauger	Mars Petcare & Food France
Clément Faugier	McCain Alimentaire
Cooperl & Kerméné	Monliz Portugal
Dalian Tianbao Green Foods China	Mydibel
Daniel Dessaint Traiteur	Nestlé Diary Products
Danisco	Nestlé Produits Laitiers
Daregal	Novandie
Davigel	Prolainat
Delmotte	Samifi
Doux Frais	Schwan's France
Farm Frites	Senoble
Farmor	SMO International
Favid	Socopa Meat
Gastronome Falleron	Soparvol Industrie Sevrienne
Gastronome Le Bignon	Stevens Koeltechniek Belgium
GEA Aerofreeze Matal	Unité centrale de production alimentaire hospitalière
GEA Refrigeration France	de St Priest
Gelagri	UFM Surgelés
Nantes St. Nazaire Port	Varachaux
Groupe Arrive	...

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