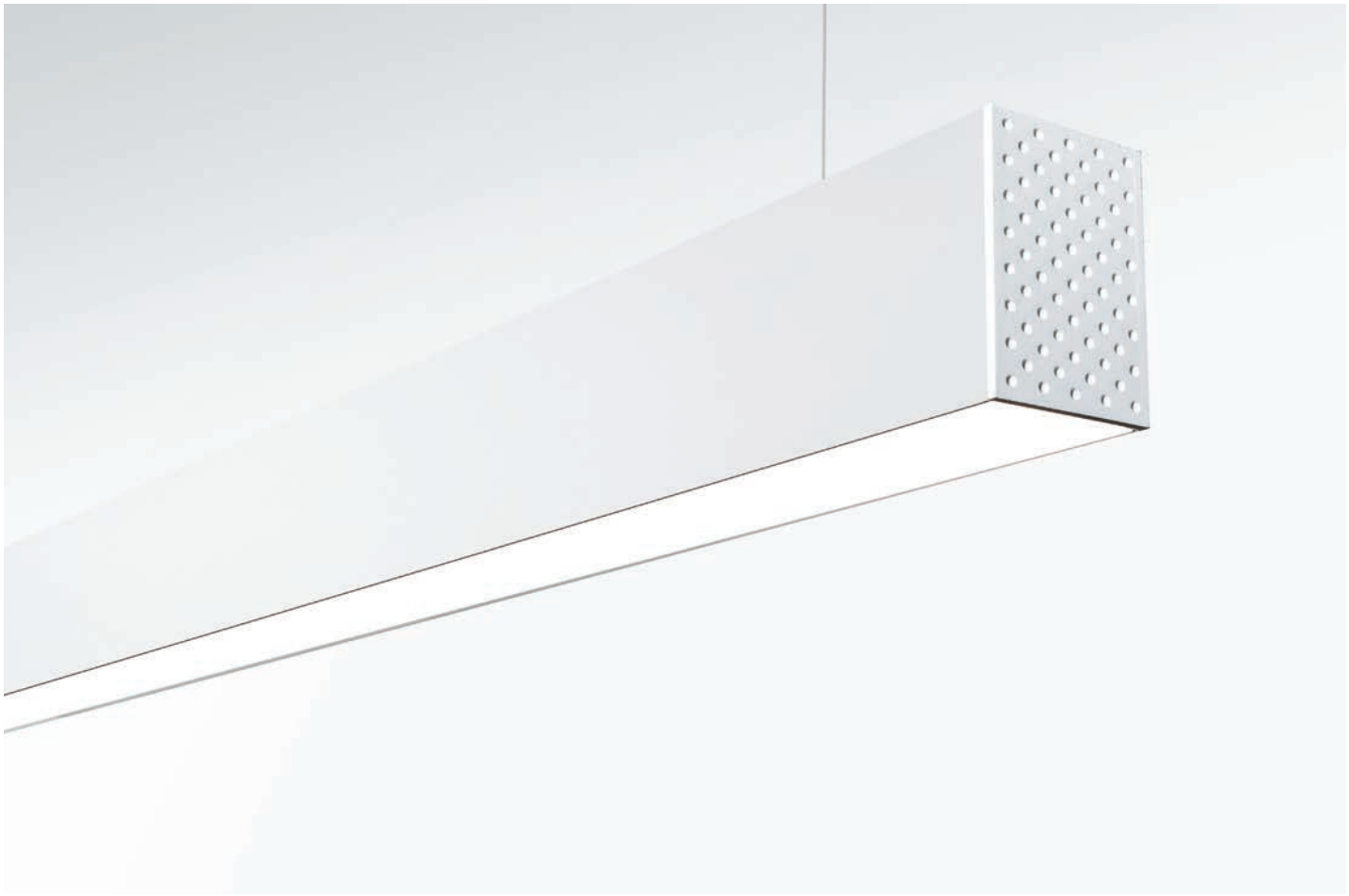


NORMALIT

Linnea

LINNEA is a linear luminaire built with an extruded aluminium profile for suspended installation, installation mounted to the ceiling or recessed installation.

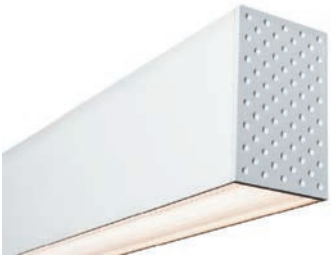
It stands out thanks to its minimal design and its microprismatic diffuder which generates very homogeneous lighting with optimal visual comfort.

As a new product, the range is increased with a LINNEA MIXTO version, with direct / Indirect lighting.

LED CE DALI

Versions

Linnea



Linnea Mixto

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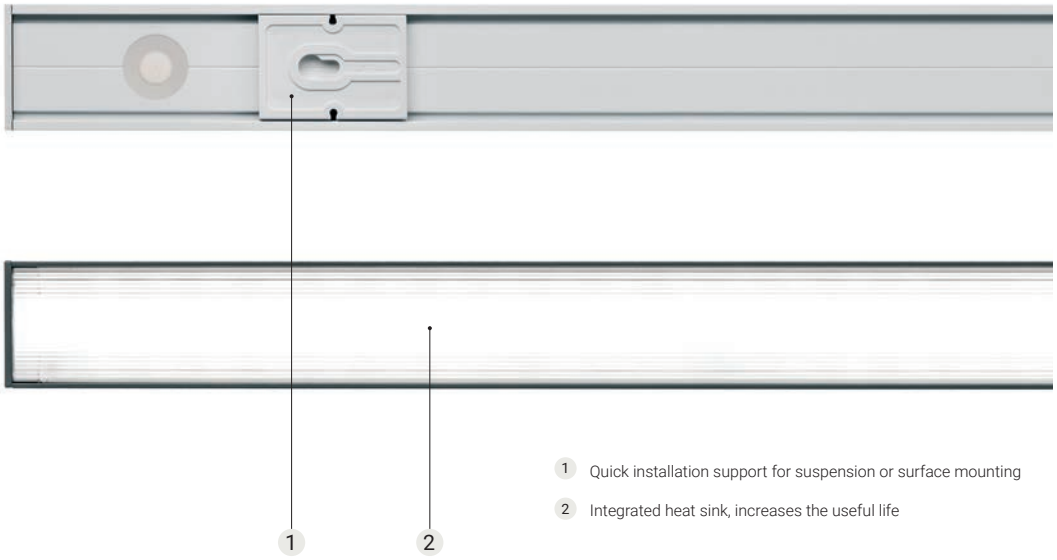
Linnea

Structures

	Linnea	Linnea Mixto
Installation	Ceiling surface mounted Ceiling suspended mounted Recessed in the ceiling	Ceiling suspended mounted
Diffuser	⊗	⊗
Light source	LED	LED
Photobiological safety	0	0
UGR	19	19
CRI	>80	>80
MacAdam ellipse	3	3
Beam angle range	90-101	
Power range (W)	26,8-57	46,9-104,5
Consumption range (W)	29,5-62,7	52,6-114,9
Colour temperature (ºK)	3000 | 4000	3000 | 4000
Light range	3720-9000	6510-16500
Power factor	0,95	0,95
Efficiency (%)	61,1	64,6
Expectancy	60000 h L70B10	60000 h L70B10
DALI Option	✓	✓
Continuous function 24h	✓	✓
IP	20-44	30
Class	I	I

⊗ Microprismatic diffuser



1 Quick installation support for suspension or surface mounting

2 Integrated heat sink, increases the useful life

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Linnea

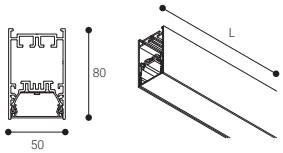
Structures

Linnea

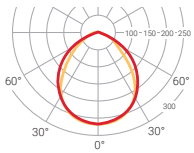
Ceiling surface mounted

Ceiling suspended mounted

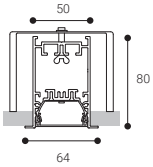
Recessed in the ceiling

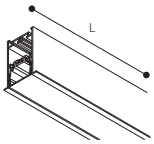


Microprismatic diffuser

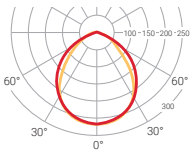


C0-C180
C90-C270
η=61%





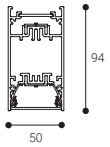
Microprismatic diffuser

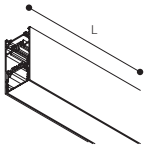


C0-C180
C90-C270
η=61%

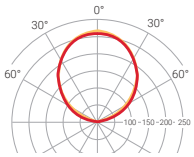
Linnea Mixto

Ceiling suspended mounted



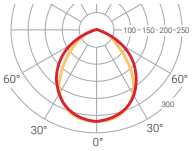


Indirect lighting



C0-C180
C90-C270
η=68%

Direct lighting



C0-C180
C90-C270
η=61%

Linnea

Structures

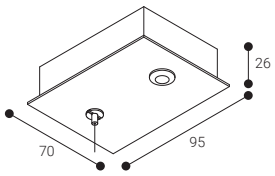
Accessories

Suspension accessory

	L (m)
1029L2	2
1029L4	4

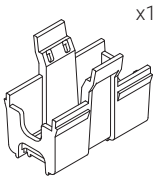
Connection box and power supply cable

		POWER SUPPLY CABLE LENGHT	COLOUR
	ETC1029B	2	○
	ETC1029G	2	●
	ETC10294MB	4	○
	ETC10294MG	4	●
DALI	ETC10295PB	2	○
DALI	ETC10295PG	2	●
DALI	ETC10295P4MB	4	○
DALI	ETC10295P4MG	4	●



Joining accessory

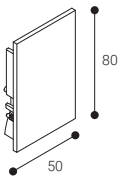
		COLOUR
	LI014	○
DALI	LI0145P	○



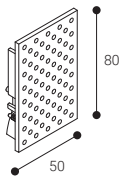
End cover Linnea

	COLOUR
LI015B	○
LI015G	●
LI016B	○
LI016G	●

LI015



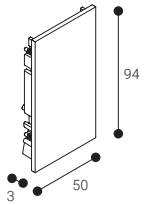
LI016



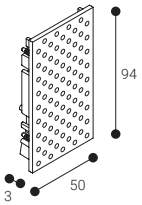
End cover Linnea Mixto

	COLOUR
LM015B	○
LM015G	●
LM016B	○
LM016G	●

LM015

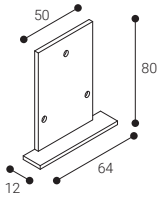


LM016



End cover reccessed model

	COLOUR
LE016B	○
LE016G	●



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Photobiological security

The European Norm for photobiological security (EN 62471) establishes a number of criteria to determine if a luminaire entails any risk of eye or skin damages.

This regulation determines four photobiological risk groups:

GROUP OF RISK	
RG0	Risk free
RG1*	Low risk
RG2	Moderate risk
RG3	High risk

* Time under 3 h.

Flickering

Also known as **periodical blinking or the light source of a luminaire** (stroboscopic effect), it is present in alomost all the artificial light sources and is caused by the looping ouf the output current in the LED driver.

This rate below makes it possible to measure the significance of the problem:

- A flickering under 15% prevents dizziness, nausea and headaches.
- Under 8% this flickering is not considered to be harmful (according to IEEESA-1789-2015).

Led expectation

The expectation of useful life of the LED has been defined by an indicator such as the one shown at the right of this page. In the mentioned example, at 60,000h, 90% of the luminaires will have an output equal to or greater than 70% of the nominal value.

60.000 h · L70 B10

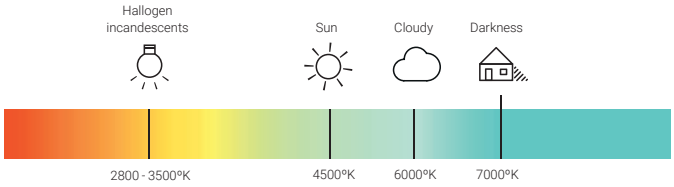
Hours

% of incidences

% of light against the initial value

Colour temperature

The colour emitted by a light source in comparison with the light that a black body heated at a specific temperature would emit. For this reason, this colur temperature is expressed in kelvin, in spite of not reflecting specifically a temperature. There are basically three groups:



Warm light
3500ºK or lower temperature colour.
It is equivalent to the light produced by incandescent and hallogen lamps in the past. It is recommendable for retail stores, fruit shops, bakeries, groceries and butcheries (in these two latests it is even more common a light in a pink tone). For domestic lighting it is recommended to use this type of light in rooms such as the living room or the bedrooms, places for **rest and relax**.

Neutral light
Temperature ranges from 3800ºK and 4500ºK.
According to the experts this is the most natural light. It can be installed in any environment not requiring any special tone that the other two categories could provide.

Cold light
Colour temperatures above 5000ºK.
It is equivalent to the light in a very sunny or cloudy day. One of the advantages of the cold light is the higher lumen output, which creates a perception of higher luminosity. This type of light is recommended for fish markets and jeweleries. For homes, it is very common to find it in kitchens and toilets. However the experts in make up always recommend cold lights as they offer an advantage, which is that they provide a better chromatic range.

Light performance η

It indicates the real flux. Defines the luminic efficiency of a luminaire.

Lower lumen output, better efficiency