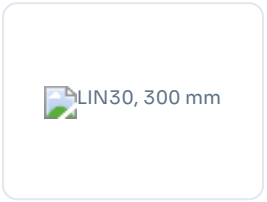
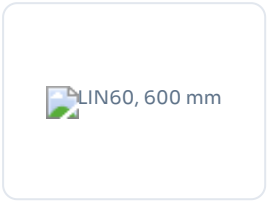
INDUSTRIAL LINEAR LED LUMINAIRE

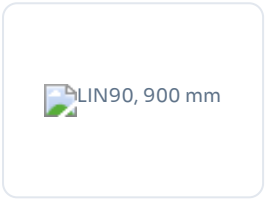
Linear



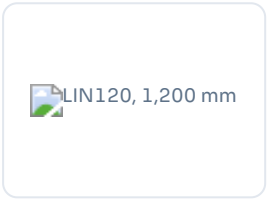
LIN30
300 mm
6,400 lm · 30 W



LIN60
600 mm
12,800 lm · 60 W



LIN90
900 mm
19,200 lm · 90 W



LIN120
1,200 mm
25,600 lm · 120 W

All four lengths, shown at equal frame size and not to scale. The four share one housing profile, one bracket and one optic set.

CE · IP69K · IK09 · Class II · C5 ISO 9223 · Ta −45 … +50 °C · 90–305 VAC · 24 VDC · DALI-2 · 0–10 V · PWM · NFC · linkable · internal driver · 5-year warranty

213 lumens per watt in a cast aluminium housing rated IP69K and IK09. The Linear is for the places where a tube shaped IP69K fitting with plastic end caps does not last: washdown, vibration, impact and cold. Four lengths, in AC and in 24 V DC, and linkable into a continuous run.

LUMINOUS FLUX	POWER	EFFICACY
6,400–25,600 lm	30–120 W	213 lm/W

INGRESS	IMPACT	LENGTHS
IP69K	IK09	300–1200 mm

Values apply to the AC version without optics at 6500 K, Ta 25 °C, including driver consumption. The optic versions carry a small loss and are stated separately in the specification.

WHY IT IS SPECIFIED

A cast housing instead of an extrusion with end caps. The caps are where water gets in under a pressure washer and the plastic is where the impact damage starts. Cast aluminium also carries the heat away from the LED, which is why the efficacy is what it is.

213 lm per watt, the highest in the range. In a cold store or a distribution centre the lighting runs most of the year. The difference between 150 and 213 lumens per watt is the whole business case.

Sixteen versions, including high temperature. Four lengths in AC and in 24 V DC, and the same four again as HT to +120 °C. One product covers a wash line, a drying tunnel and a picking aisle.

WHERE IT IS USED

- Food and beverage process lines with daily washdown
- Production lines and conveyor runs
- Warehouse and picking aisles
- Cold store aisles and freezer corridors
- Machine and process line mounting
- Inspection and packing lines
- Car park decks and undercroft parking
- Corridors, walkways and service tunnels
- Vehicle wash and inspection bays
- Pharmaceutical and clean process areas
- Retrofit of fluorescent and tube style battens

VERSIONS

	LIN30	LIN60	LIN90	LIN120
Length	300 mm	600 mm	900 mm	1,200 mm
Flux AC	6,400 lm	12,800 lm	19,200 lm	25,600 lm
Flux DC	5,600 lm	11,200 lm	16,700 lm	22,300 lm
Power	30 W	60 W	90 W	120 W
Weight	3.45 kg	5.05 kg	6.8 kg	8.4 kg

The number in the type name is the length in centimetres, not the wattage. A high temperature version of all four lengths is covered by the **Linear HT** datasheet.

Light output and optics

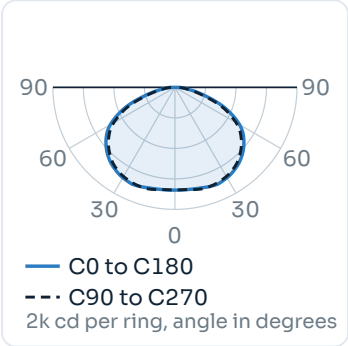
Values apply to the LIN120 at Ta 25 °C, including driver consumption. The Linear is supplied without optics as standard, which is where the 213 lm per watt comes from; the optic versions trade a little output for control.

BEAM CHARACTERISTICS

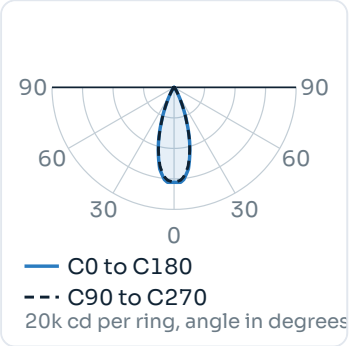
Optic	Distribution	Beam angle 50 % of peak	Field angle 10 % of peak	Typical use
No optic	Very wide, diffuse	136°	168°	The standard build. Aisles, corridors, process lines at low height
30°	Narrow, symmetric	36°	58°	High bay and deep racking, where the run is high above the aisle
60°	Wide, symmetric	71°	97°	The general purpose optic for aisles and conveyor runs
90°	Very wide, symmetric	–	–	Low mounting height over a wide working area
120°	Very wide, symmetric	–	–	Very low mounting height, machine and enclosure interiors

The Linear without optics reaches 213 lumens per watt precisely because there is no optic in front of the LED to take light away. The optic versions are specified where the shape of the space demands control: a high racking aisle wastes a wide distribution on the racking sides. Both are the same housing and the same length.

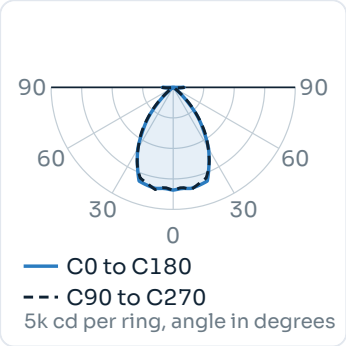
LIGHT DISTRIBUTION



No optic, standard build



30° narrow



60° wide

OBTRUSIVE LIGHT

ULOR at 0° tilt	**0 %**
Linking	Linkable into a continuous run
Amber 2200 K	Available, for light sensitive surroundings

The Linear is normally an indoor luminaire, but the diffuse front and the 0 % upward light output ratio also make it usable under a canopy or on an external walkway without adding to the sky glow of a site. Where the position is outdoors and open, the DarkLicht range is the correct answer.

COLOUR AND CONSISTENCY

Colour temperatures	6500 K, 5000 K, 4000 K, 2700 K, amber 2200 K
Flux at 6500 K	Identical to 4000 K
Bi-colour	4000 K with amber 2200 K, switchable in operation
Colour rendering	Ra > 70 standard, optionally 80 or 90
Colour consistency	MacAdam step 3 or better
LED service life	TM-21 L90B05 > 360,000 h at 50 °C
Linking	Luminaires can be linked into a continuous run
Run length	Depends on the wattage and the cable. Calculated by JEL on request

Full specification

All values apply to the standard configuration at 25 °C ambient, including lens losses and driver consumption. A hyphen means the entry does not apply to that version.

	LIN30	LIN60	LIN90	LIN120
PERFORMANCE				
Luminous flux AC	6,400 lm	12,800 lm	19,200 lm	25,600 lm
Luminous flux DC	5,600 lm	11,200 lm	16,700 lm	22,300 lm
Power consumption	30 W	60 W	90 W	120 W
Efficacy AC	213 lm/W	213 lm/W	213 lm/W	213 lm/W
Efficacy DC	187 lm/W	187 lm/W	186 lm/W	186 lm/W
ELECTRICAL AND DRIVER				
Supply voltage range	90–305 VAC, or 9–32 VDC			
Current draw AC	0.13 to 0.11 A at 220 to 277 V	0.26 to 0.22 A	0.41 to 0.32 A	0.52 to 0.44 A
Current draw DC	1.25 A at 24 V	2.5 A at 24 V	3.75 A at 24 V	5.0 A at 24 V
Driver	AC: internal BLD075	AC: internal BLD075	AC: internal BLD120	AC: internal BLD120
Dimming	0–10 V, PWM, DALI-2, or over NFC on AC. DC on request			
CONSTRUCTION				
Housing	Cast aluminium, less than 0.08 % copper. One piece, no end caps			
Surface finish	Conversion layer plus 2-layer titanium-based e-coating			
Bracket	Aluminium, less than 0.08 % copper, 0° to 45° in seven locked positions			
Front	Diffuse chemically hardened glass, or diffuse borosilicate, IK09			
Protection class	Class II			
Ingress protection	IP66, IP67, IP68 and IP69K, each class tested separately			
Impact resistance	IK09 (IEC 62262)			
Corrosion class	C5 industrial and marine (ISO 9223)			
DURABILITY AND DIMENSIONS				
Ambient temperature	−45 to +50 °C			
LED service life	TM-21 L90B05 > 360,000 h at 50 °C			
Cable and termination	Optional, H07BQ-F			
Linking	Linkable into a continuous run. Luminaires per supply depend on the wattage and the cable and are calculated by JEL on request			
Dimensions	134 × 102 × 350 mm	134 × 102 × 650 mm	134 × 102 × 950 mm	134 × 102 × 1250 mm
Weight	3.45 kg	5.05 kg	6.8 kg	8.4 kg
Warranty	5 years on the complete luminaire			

The luminaires can be linked into a continuous line. How many can be carried on one supply depends on the wattage and the cable, and JEL calculates it for the actual run on request. That calculation is part of the quotation rather than something to work out on site.

Mechanics, mounting and driver

All drawings are to scale and dimensioned in millimetres. DXF and STEP models are available on request. Dimensions shown are for the LIN120. The LIN30, LIN60 and LIN90 are identical in cross section and bracket; only the length changes, to 300, 600 and 900 mm.

HOUSING AND BRACKET


Maattekening Linear met maatvoering in millimeters

LIN30	134 × 102 × 350 mm, 3.45 kg
LIN60	134 × 102 × 650 mm, 5.05 kg
LIN90	134 × 102 × 950 mm, 6.8 kg
LIN120	134 × 102 × 1250 mm, 8.4 kg
Cross section	134 mm over the bracket, 102 mm high, 125 mm over the base plate. Lengths include the two 30 mm end caps
Bracket	Aluminium, 0° to 45° in seven locked positions
Housing	One cast piece, no end caps to leak

LINKING

Continuous run	Luminaires link into a line
Per supply	Depends on wattage and cable
Calculation	By JEL, on the actual run, at quotation
Why it matters	It decides the cable size and the number of feed points
Cable	Optional H07BQ-F, length on request

MOUNTING AND ACCESSORIES

Bracket	Aluminium, supplied as standard, 0° to 45° in seven locked positions
Cable	Optional, H07BQ-F, length on request
Optics	30°, 60°, 90° or 120°, ordered as a suffix
Borosilicate front	Option, diffuse
Linking set	For a continuous run, specified at quotation
High temperature version	Linear HT to +120 °C. Separate datasheet

INTERNAL DRIVER

LIN30 and LIN60	BLD075, inside the housing
LIN90 and LIN120	BLD120, inside the housing
DC versions	Drivers on board
External box	None on the standard versions
Case temperature	Tc −40 to +90 °C
Lifetime	≥ 100,000 h at Tc 75 °C

Nothing outside the housing. On a process line or in a cold store there is nowhere to put a driver box and nowhere to reach it. The Linear carries its driver inside and is still IP69K.

MOUNTING


Montageschema Linear

Surface	Directly to a ceiling, a machine frame or a rack
Suspended	On wire or rod, bracket 0° to 45° in seven locked positions
Washdown	The bracket and the housing are both rated for the regime
High temperature	Linear HT, with an external driver

Ordering, standards and documents

ORDER CODE

Example **LVAC04-65K**

Linear LIN120, AC, 1,200 mm, 6500 K

LVAC01 … LVAC04	AC, 300, 600, 900 and 1,200 mm, without optics
LVAC05 … LVAC08	AC, same lengths, with optics
LVDC01 … LVDC04	DC, 9–32 VDC, four lengths
LVHT01 … LVHT08	High temperature to +120 °C, see the Linear HT datasheet
65K · 50K · 40K · 27K · 22K	6500 K · 5000 K · 4000 K · 2700 K · amber 2200 K
.30 · .60 · .90 · .120	Optic suffix on the optic versions

The number in the type name is the length in centimetres. Linking, cable length and control protocol are confirmed at quotation.

COMBINATIONS

Optic with any length	Possible
Amber 2200 K with any optic	Possible
Linking with AC	Standard
Borosilicate front	Possible
DC with dimming	On request
High temperature	See the Linear HT

STANDARDS AND VERIFICATION

Subject	Standard	Verification
Luminaire safety	IEC/EN 60598-1, -2-5	In-house test
EMC emission and immunity	EN 55015, EN 61547	Third party test
Ingress	IEC 60529 and ISO 20653. IP66, IP67, IP68, IP69K	In-house test
Impact and vibration	IEC 62262 IK09 · IEC 60068-2-6 at 6 G	In-house test
Shock and corrosion	IEC 60068-2-27 · ISO 9223 class C5, industrial and marine	In-house test
Photometry	IES LM-79, IES files per optic	In-house test
Substances	RoHS, REACH	Self-declaration

BEFORE YOU ORDER

A sample luminaire to hang before you commit to a project quantity.

Five years warranty on the complete luminaire.

A DIALux calculation from our engineers, on your site drawing.

WHERE IT EARNS ITS PLACE

The Linear earns its place in the aisle and on the line. A distribution centre, a cold store or a food plant runs its lighting for most of the year, the shape of the space is a line rather than a field, and the fitting is washed down, knocked and vibrated as part of normal operation. Matching the luminaire to the shape improves what a person can see; matching the housing to the treatment decides whether it is still there in ten years.

QR-code naar de productpagina van de Linear

PRODUCT PAGE

IES files and revision history, DXF and STEP on request, and project references.
jelproducts.nl/en/products/linear-industriele-led-verlichting

Notes. Values are for the standard configuration; a bi-colour or high-CRI build changes the luminous flux and the quotation states the figure that applies. Luminaires per MCB is the manufacturer figure for ABB S200 at 220 V, a guide for engineering and not a substitute for the installation calculation. North American models on request. The JEL range is not ATEX or Ex certified.