

LED lighting for stable and farmyard

Animal-friendly - sustainable - economical



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Your expert in animal-appropriate LED lighting

LED lighting by Kerbl – the right light for every space

Comfort for animals and humans

There are many factors at play when it comes to the right lighting for animals and humans. The light spectrum and the light distribution in particular have a huge influence on the biological effects, and so on the fertility, immune system, welfare, activity, growth and performance of your animals. And yet the working conditions of farmers and vets can also be significantly improved with the right lighting.



Your expert in animal-appropriate LED lighting

Made for long-lasting use in harsh environments!

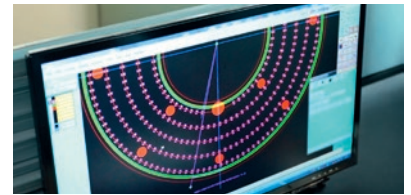
Put your trust in Kerbl's experience: Our lights were specially developed for lasting use in stables and similarly demanding environments.

As well as high stress due to humidity and dust, lights in stables are exposed to a lot of chemicals in the ambient air and due to cleaning processes. In particular, lights have to be able to withstand high concentrations of ammonia.

Therefore, to ensure a long service life, we focus our efforts on the technical design, the use of suitable electronic components and materials, and high-quality workmanship of our LED lights.

And we don't just rely on our own expertise – we also put our products through special safety and load tests by independent and recognised testing institutes such as TÜV Süd and the DLG Test Lab.

Our HiLED Premium Farmer and MultiLED Premium Farmer and FarmTUBE lights have passed ammonia resistance tests at the DLG testing laboratory!



LED indoor spotlight

8-year warranty



MultiLED Pro

8-year warranty



FarmPRO

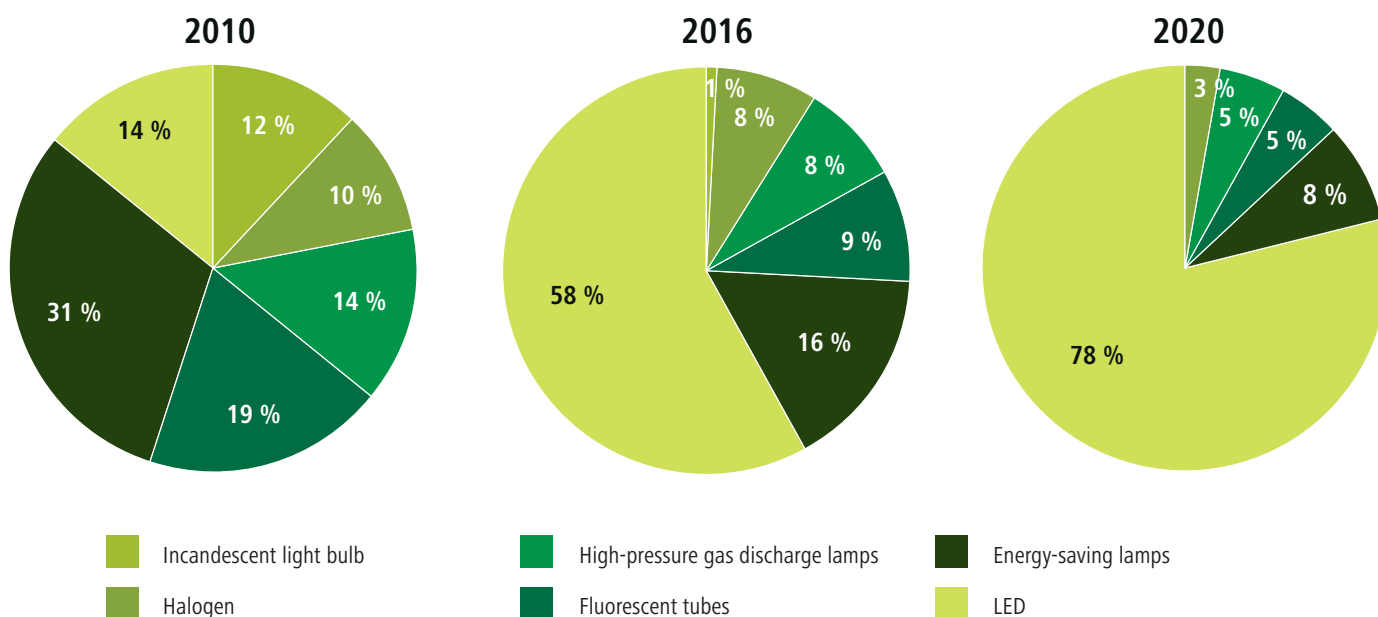
5-year warranty



Economic and environmentally friendly operation

Not all LEDs are made equal. The details matter when it comes to taking full advantage of the potential savings in terms of costs and energy consumption. A high light output and optimised light distribution reduce the number of lamps required. At the same time, it's also what's inside that counts if you want to enjoy your lighting for a long time, as this ultimately affects the life and maintenance costs.

The new standard with many advantages



Source: McKinsey

The triumphant advance of the LED

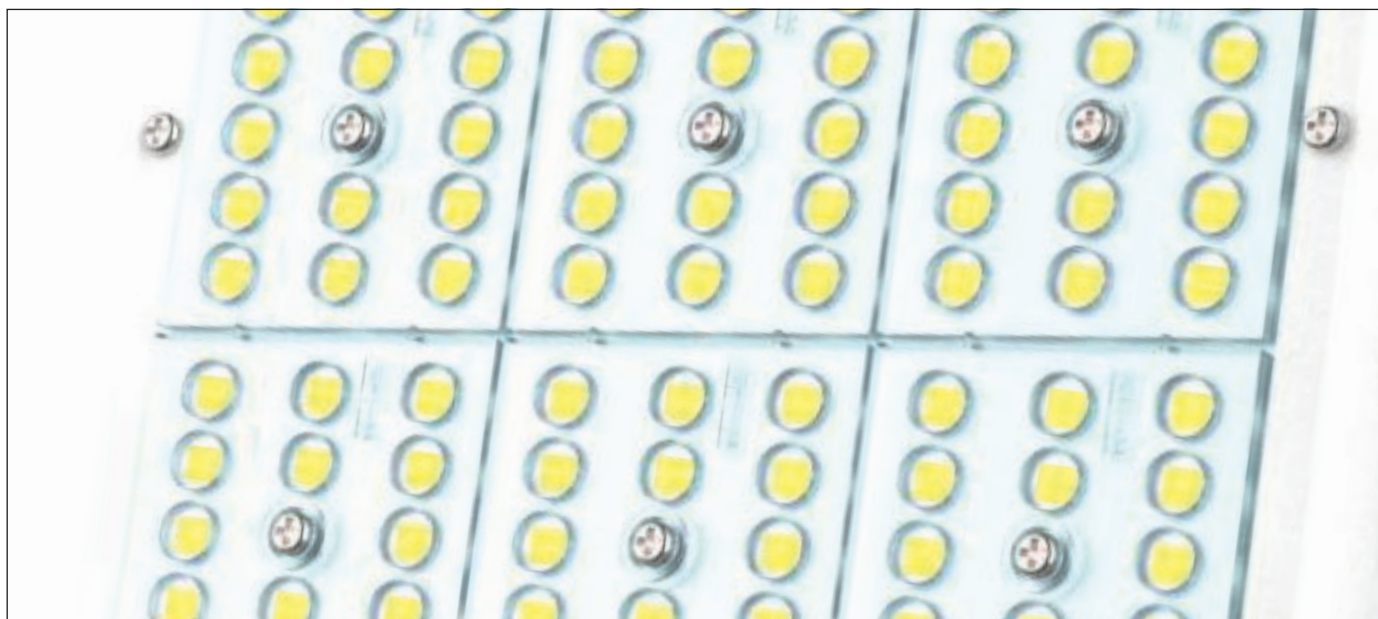
The lighting market is currently undergoing a massive upheaval. While the classic light bulb has already disappeared from the market, other traditional lighting sources such as halogen, energy-saving and discharge lamps are more and more being replaced by more modern technologies.

The European Union is taking a leading role in this: With Directive 2009/125/EC (Ecodesign Directive), the legal framework has been created for the eco-design of energy-related products such as those used for lighting systems. Inefficient products are supposed to be gradually phased out of the market.

And due to its high energy efficiency and life span, LED technology has emerged as the clear winner in this area. In 2011, the share of LED products in the global lighting system market was still at 12 %; however, according to a study by the McKinsey consulting firm, this share is now over 70 % – the triumphant advance of LED is thus rapid and unstoppable.

LED lighting for stable and farmyard

This development has obviously also made its way to the stable door and beyond because the advantages of this technology are so overwhelming. Even we are convinced of the benefits of LED lighting and currently offer a select product line for agricultural use. Take a look at our diverse range of products and see for yourself!



The new standard with many advantages

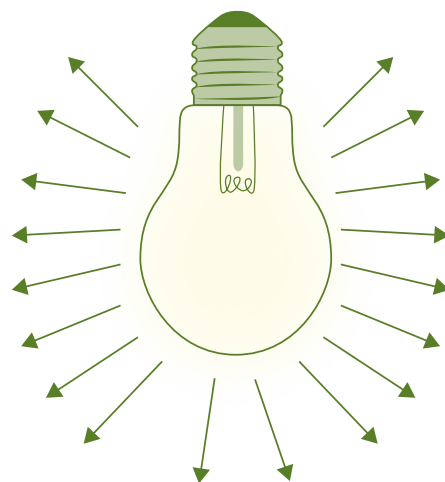
Basic lighting technology terms

Nowadays it is not enough to judge the light output of a lamp or bulb by just the wattage. What is more important is the luminous flux (lumens) as well as the luminous efficacy (lumens per watts).

Luminous flux

Unit: Lumens (lm)

The luminous flux characterises the total amount of light given off by a light source in all directions. This is an important criterion when comparing luminaires.



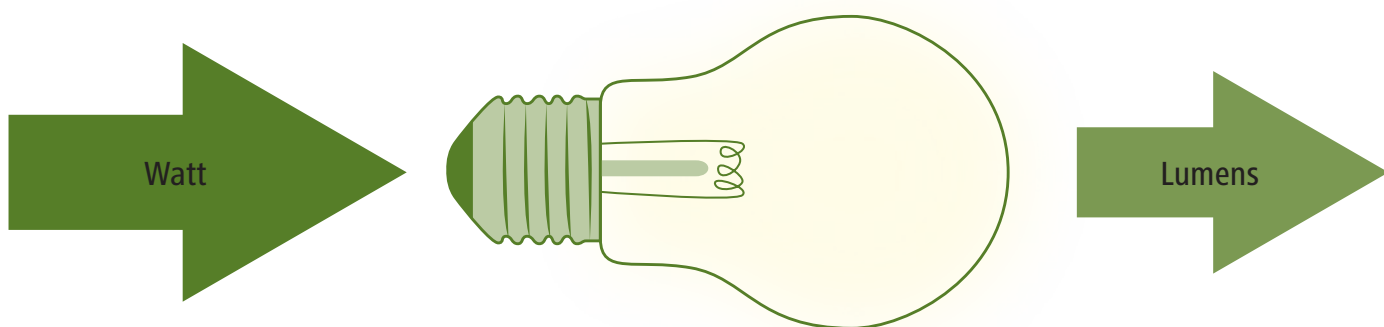
Example

A 100 watt bulb generates a luminous flux of approx. 1000 lumens.

Luminous efficacy

Unit: Lumens per watt (lm/W)

The luminous efficacy characterises the level of effectiveness of a light source and is calculated from the relationship of the luminous flux to the recorded output.



Examples

Classic light bulb	approx. 10 lm/W
Halogen spotlight	approx. 18 lm/W
LED chip	up to 200 lm/W

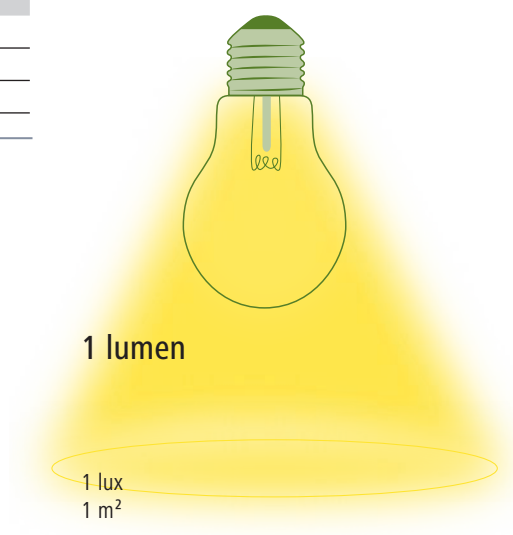
Lighting strength

Unit: Lux (lx)

1 Lux = 1 lm/m²

The lighting strength characterises the luminous flux striking a specific surface. It is ultimately the deciding measure for evaluating the brightness at a specific point in the space.

The greater distance away the light source is located, the larger the illuminated surface and correspondingly the lower the lighting strength will be. The measurement of the lighting strength in the stable should take place at eye level.



The advantages at a glance

LED technology in the stable pays off

LEDs operate at a high level of effectiveness and are extremely efficient. Their luminous efficacy is thus especially high.

The investment costs for new equipment or a conversion are currently still normally higher when compared to conventional lighting technology; however these costs will pay for themselves over a short amount of time due to the considerable savings in operating costs – when all is said and done, you will be saving real cash, day after day!

LED lights with industrially manufactured LED chips have, for example, approx. a 5 x higher luminous efficacy than conventional halogen lights. Though it is true that modern discharge lamps (fluorescent lamps, metal

halide lamps) also achieve high luminous efficacy; however, you have to take into account here that the light is given off in all directions and despite reflectors, a portion of that light is „lost.“ In contrast, LEDs emit light downward at a defined angle of, e.g. 120° – therefore, the light reaches where it is really needed.

90 % less energy costs at the same light output

Comparison of LED and halogen spotlights

Example: Burning life 4 hours per day (1,460 hours per year)



A good 50-Watt LED spotlight will be just as bright as a 500-Watt halogen spotlight, but will use approx. 90 % less power.

Luminaire	light current per spotlight	annual electricity costs (based on € 0.35/kW)
500-Watt halogen spotlight (18 lm/W)	9000 lumens (500 watt x 18 lm/W)	219,00 €
50-Watt LED spotlight (160 lm/W)	8,000 lumens (50 Watt x 160 lm/W)	21,90 €
Annual electricity cost savings:		197,10 €

High service life

LED chips have a very long service life up to 100,000 hours. In continual operation, that amounts to approx. 6 years; at 8 hours of daily operation, this amounts to over 17 years. Costs for maintenance and lamp replacement are also reduced to a minimum.

LED chips also do not simply fail, but rather begin to lose their brightness over time (degradation). Reputable providers normally offer a „useful life duration“ according to EU Regulation 2019/2020. For example, the information „L70“ indicates that the LED chip will still achieve 70 % of its original light output after 50,000 hours.

The life span of an LED chip depends, among other things, on the operating and ambient temperature: The better the heat dissipation and the lower the ambient temperature, the slower the ageing process.

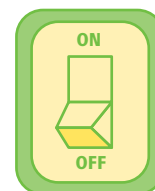
Examples

LED chip	up to	100.000 h
Modern fluorescent lamp	approx.	18.000 h
Halogen lamp	approx.	2.000 h
Light bulb	approx.	1.000 h

The advantages at a glance

High switching capacity

On – Off – On – Off ... Contrary to energy-saving and fluorescent lamps, the robust light emitting diode is practically impervious to frequent switching on/off. Thus they are also well-suited for switch intensive operation on motion detectors.



Immediate full light output

Energy-saving and discharge lamps require a „warm-up time“ of almost a few minutes to reach full brightness. With LEDs, this scenario is a thing of the past because they offer immediate 100 % light output when turned on.



Full light output even at low temperatures

LEDs also operate extremely efficiently at low temperatures and are, therefore, ideal for use in outside areas or in unheated buildings. For example, while an LED tube continues to emit its full light output at an ambient temperature of 0 °C, a typical fluorescent tube, which is designed for ambient temperatures of 20 °C, only emits 40-60 % of its max. value.



Does not attract insects

Insect eyes contrary to human eyes are especially sensitive to ultraviolet radiation (UV). While the mercury vapour high pressure lamps frequently used in the past acted like a vacuum cleaner sucking up millions of insects due to its high share of UV, the light emitted by LEDs are very insect-friendly – it contains practically no UV radiation.



No additional heat input

The light emitted by an LED remains cool – compare that to thermal radiators such as halogen or incandescent light bulb lamps for which a large portion of the energy is output in infrared radiation and thus in heat. The electronics of LEDs due in fact produce heat; however, this is not emitted in the direction of the object being illuminated.



Natural colour perception

In dairy cattle farming, a high and natural colour rendering is required for the colour differentiation between blood, urine and milk, especially in treatment areas, sick stalls and calving bays.

The quality of the colour rendering is expressed in terms of the Ra value. The maximum possible value is 100. A Ra value of > 75 is recommended. Contrary to LEDs, sodium vapour lamps, for example, have a very poor colour rendering (Ra 20-50).



Environmentally-friendly and safe operation

Due to its high energy efficiency, the CO2 pollution is correspondingly low. Operation is completely safe and disposal can be made via community collection centres because LED lights do not contain any mercury. Naturally, all of our products meet the requirements of Guideline 2011/65/EU regarding limiting the use of certain hazardous substances in electric and electronic devices (RoHS).

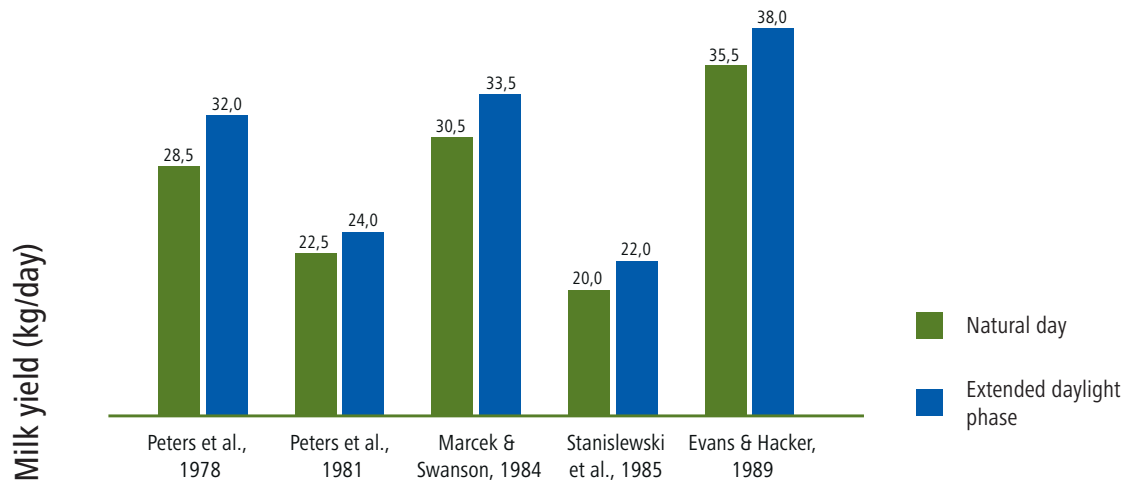


More milk through more light

Lighting duration, lighting intensity and light colour all have a major impact on lactation, fertility and the well-being of animals. In dairy cattle farming, lighting management, therefore, is extremely important.

Scientific studies have shown that daily milk production can be increased 5-15 % on average during long daylight phases with 16 hours of light and 8 hours of darkness. However, this requires a uniform lighting strength of 150-200 lux.

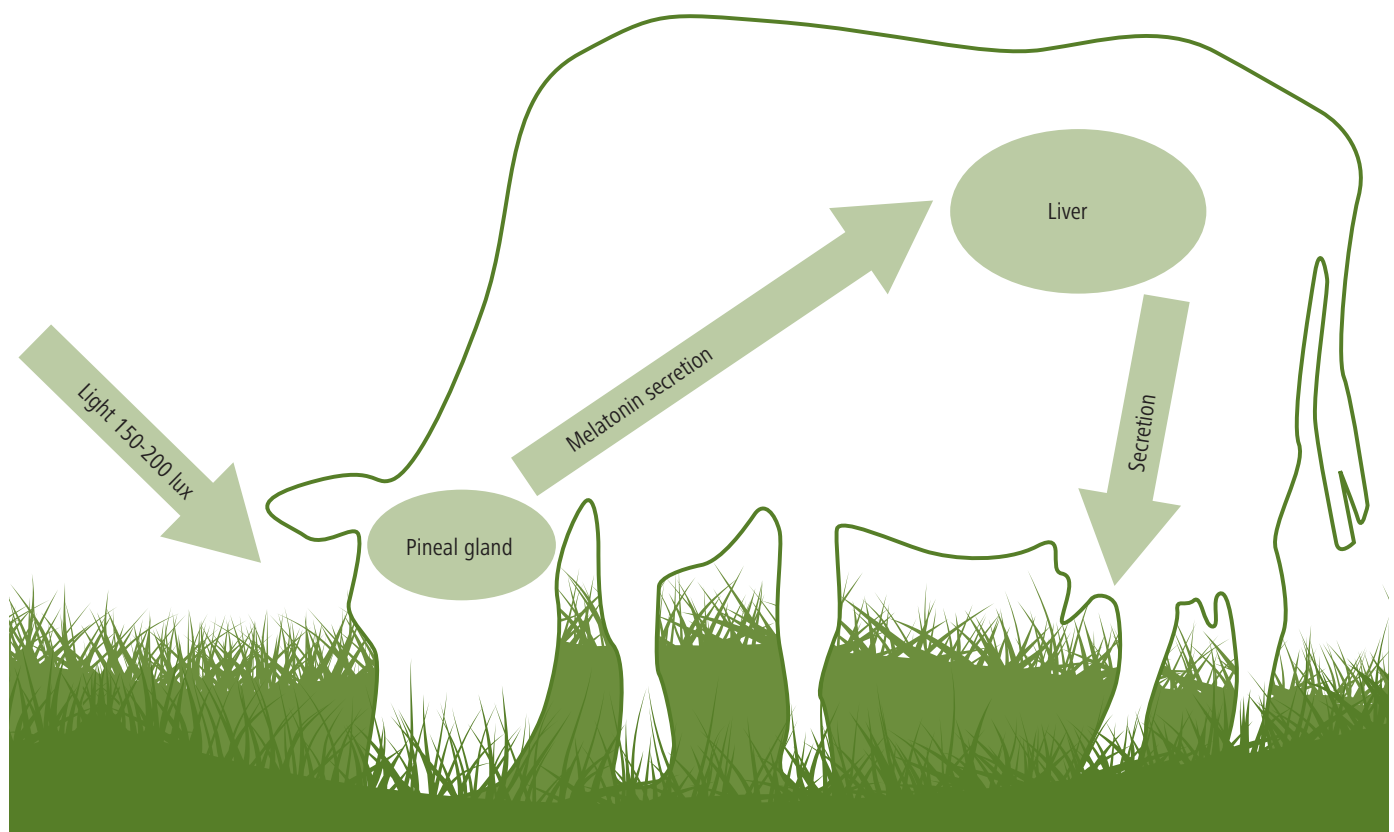
Source: Bayerische Landesanstalt für Landwirtschaft (LfL), LfL-Information „Licht und Lichtprogramme in der Rinderhaltung“ (Light and lighting programmes in cattle husbandry), February 2012



Source: Bayerische Landesanstalt für Landwirtschaft (LfL), LfL-Information „Licht und Lichtprogramme in der Rinderhaltung“ (Light and lighting programmes in cattle husbandry), February 2012

How does this work?

Light signals are sent to the pineal gland via the animal's eyes. A higher amount of light reduces the secretion of the hormone melatonin from the pineal gland, whereby the liver is stimulated to produce the IGF-1 hormone. This leads to increased activity for the cow, increased appetite and increased milk production.



Young cattle

An increase in the light intensity with 16 hours of light and 8 hours of darkness also has a positive effect on young cattle. An increased amount of light encourages activity and appetite, and accelerates the growth of the animal.

Dry cows

For dry cows, daylight phases with 8 hours of light and 16 hours of darkness are helpful. This leads to higher milk yield when lactation starts again. It also has a positive effect on feed intake and the immune system. Thus it is recommended to keep dry cows in a separate stable.

Lactating cows	Young cattle	Dry cows
150-200 lux	150-200 lux	150-200 lux
16 h of light	16 h of light	8 h of light
8 h of darkness	8 h of darkness	16 h of darkness



Influence on colour temperature

The colour temperature of a light source also has a significant influence on biorhythms. In this case, a basic distinction is made between warm white (< 3300 K), neutral white and daylight white (> 5300 K).

The higher the colour temperature, the higher the blue/green portion in the spectral composition of the light. Because the brightness perceived by cattle eyes is highest in the blue/green range, the use of lights with a higher colour temperature is recommended in order to achieve a productivity increase.

LEDs with a colour temperature of at least 5,300 K are, therefore, extremely well-suited for this. For humans, this also promotes mental and physical performance and prevents the eyes from quickly becoming fatigued.

LED lights meets all of these requirements

LED lights are especially well-suited for new stable construction and the renovation of old stables in order to achieve optimal milk and/or growth output. And when it comes to service life and efficiency, LED lights are superior to all other variants. The higher the annual number of operating hours, the greater the importance of this advantage.



Conversion to LED technology

Investment calculation using a dairy stable as an example

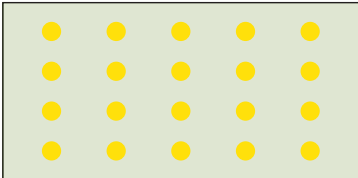
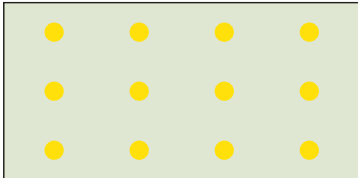
Halogen metal halide lamps (HQI/HIE) are frequently the first choice for stable lighting due to their relatively good luminous efficacy and colour rendering. The following example shows, however, that a conversion to LED technology can pay for itself quite quickly.

Dairy stable with 40 x 24 metres

Installation height of the lights 6 metres

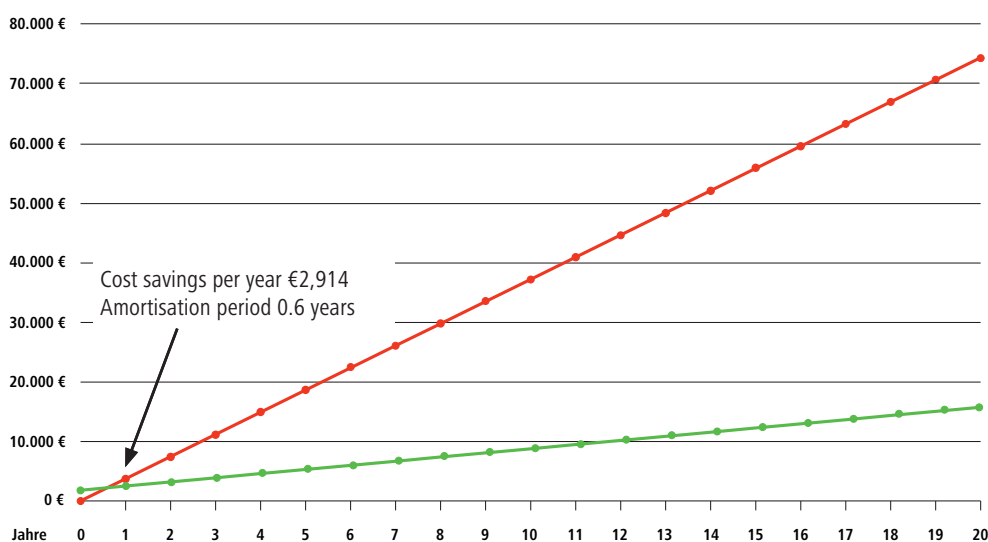
Average lighting strength approx. 200 lux

Average burning life of 6 hours per day

Type of luminaire	Before: Halogen-metal vapour 250 W	After: LED Indoor Spotlight 150 W
Power consumption	272 watts (incl. ballast)	150 watts
Service life of the light source	approx. 11,000 hours (= 5 years at a burning life of 6 h/day)	approx. 100,000 hours (= 45 years at a burning life of 6 h/day)
Required number of lights for 200 lux		
Total connected load in the stable	5440 watts	1800 watts
Energy consumption per year (2190 h)	11.913,60 kWh	3.942 kWh
Investment costs for 12 LED lights		1.668 €
Energy costs per year (€0.20 /kWh)	3.574,08 €	788,40 €
Costs for lamp replacement, annualised	128 €	
Total costs per year	3.702,08 €	788,40 €

cost savings per year	2.914 €
Amortisation period	0.6 years
total cost savings after 20 years	58.280 €

Cost trend over 20 years



(red = HQI, green = LED)





LED light HiLED Premium Farmer

The LED light, featuring top-quality materials, electronics and workmanship and specially developed for agriculture and demanding conditions, provides additional benefits in terms of safety, resilience and working life.

- resistant to ammonia (DLG-tested) • an insulated LED driver with integrated overload, short-circuit, and no-load protection provides additional safety for the LEDs, and extends their working life • optimised light spectrum promotes fertility, immune system, animal well-being and performance • high colour rendering index for a particularly natural colour perception of e.g. blood, urine, milk or other illuminated objects • extremely efficient through high lumen output • special heat sink shape for optimised heat dissipation • protected against powerful water jets and dust-proof (IP65 protection class) • flicker-free, so also suitable for animals with high visual acuity • cover made from hardened glass • with D marking according to DIN EN 60598-2-24, therefore suitable for areas at risk of fires due to combustible dusts or fibres (hay storage, feed, litter, etc.) • suitable for outdoor use • GS-tested • 8-year warranty

New product

NEW

8-year warranty

8




Top Quality




KERBL
HiLED
✓ Resistance to ammonia
DLG Test Report 7537



Technical data	345910
Voltage	100 - 277 V AC
Mains frequency	50 - 60 Hz
Luminous efficacy	160 lm/W
Light angle (half intensity angle)	120 °
Chip service life (L70)	> 100.000 h
LED type	SMD
Dimming function	1...10 V, 10 V PWM, 0 - 100 kΩ resistance
Material	Die-cast aluminium with anti-corrosion coating / tempered glass / stainless steel
Operating ambient temperature	-30 - 50 °C
Colour rendering (CRI)	Ra > 80
Power factor	> 0,9
Protection class	IP65

Ref. no.	Output	Length	Width	Height	Dimming function	Luminous flux	Colour temperature		€
345910	100 W	14,9 cm	25,3 cm	25,3 cm	dimnable	16.000 lm	5.700 K	1/8	
345911	150 W	15,5 cm	30,8 cm	30,8 cm	dimnable	24.000 lm	5.700 K	1/4	
345912	200 W	16 cm	35,4 cm	35,4 cm	dimnable	32.000 lm	5.700 K	1/4	
345913	240 W	16 cm	40,5 cm	40,5 cm	dimnable	38.400 lm	5.700 K	1/4	

Ref. no.	Description	Colour	Material	suitable for		€
345914	Mounting bracket for ceiling and wall mounting LED Light HiLed Premium Farmer	black	metal	345910	1/10	
345915	Mounting bracket for ceiling and wall mounting LED Light HiLed Premium Farmer	black	metal	345911	1/10	
345916	Mounting bracket for ceiling and wall mounting LED Light HiLed Premium Farmer	black	metal	345912	1/10	
345917	Mounting bracket for ceiling and wall mounting LED Light HiLed Premium Farmer	black	metal	345913	1/10	



LED light HiLED Pro

The high-quality LED light is suitable for agriculture as well as for many other applications in trade and industry.

- resistant to ammonia
- extremely efficient through high lumen output
- special heat sink shape for optimised heat dissipation
- protected against powerful water jets and dust-proof (IP65 protection class)
- flicker-free, so also suitable for animals with high visual acuity
- cover made from hardened glass
- with D marking according to DIN EN 60598-2-24, therefore suitable for areas at risk of fires due to combustible dusts or fibres (hay storage, feed, litter, etc.)
- suitable for outdoor use
- 5-year warranty

New product


NEW


5-year warranty

5



Technical data	345920
Voltage	100 - 277 V AC
Mains frequency	50 - 60 Hz
Luminous efficacy	160 lm/W
Light angle (half intensity angle)	120 °
Chip service life (L70)	> 80.000 h
LED type	SMD
Dimming function	1...10 V, 10 V PWM, 0 - 100 kΩ resistance
Material	Die-cast aluminium with anti-corrosion coating / tempered glass / stainless steel
Operating ambient temperature	-30 - 50 °C
Colour rendering (CRI)	Ra > 80
Power factor	> 0,9
Protection class	IP65

Ref. no.	Output	Length	Width	Height	Dimming function	Luminous flux	Colour temperature		€
345920	100 W	15,5 cm	23,8 cm	23,8 cm	dimnable	16.000 lm	5.700 K	1/8	
345921	150 W	16,2 cm	25,5 cm	25,5 cm	dimnable	24.000 lm	5.700 K	1/8	
345922	200 W	16,6 cm	29,9 cm	29,9 cm	dimnable	32.000 lm	5.700 K	1/4	

Ref. no.	Description	Colour	Material		€
345923	Mounting bracket for ceiling and wall mounting LED Light HiLED Pro	black	metal	1/20	



LED light HiLED Evo

The compact LED light is the perfect choice for particularly cost-effective illumination in many areas of application in moderately used industrial buildings, as well as in commerce and industry.

- not recommended for use in stalls/stables with high concentrations of ammonia
- extremely efficient through high lumen output
- compact and efficient design
- protected against water jets and dust-proof (IP66 protection class)
- Cover made from polycarbonate
- 3-year warranty

New product


NEW

3-year warranty

3

Technical data

Voltage	100 - 240 V AC
Mains frequency	50 - 60 Hz
Luminous efficacy	150 lm/W
Light angle (half intensity angle)	120 °
Chip service life (L70)	> 50.000 h
LED type	SMD
Dimming function	1...10 V, 10 V PWM, 0 - 100 kΩ resistance
Material	Die-cast aluminium with anti-corrosion coating / Polycarbonate / stainless steel
Operating ambient temperature	-30 - 50 °C
Colour rendering (CRI)	Ra > 80
Power factor	> 0,9
Protection class	IP66

Ref. no.	Output	Length	Width	Height	Dimming function	Luminous flux	Colour temperature		€
345930	75 W	15,8 cm	26,5 cm	26,5 cm	dimming	11.250 lm	5.700 K	1/2	
345931	125 W	15,8 cm	26,5 cm	26,5 cm	dimming	18.750 lm	5.700 K	1/2	
345932	175 W	16 cm	30 cm	30 cm	dimming	26.250 lm	5.700 K	1/2	

Ref. no.	Description	Colour	Material		€
345933	Mounting bracket for ceiling and wall mounting LED Light HiLED Evo	black	metal	1/36	



LED light MultiLED Premium Farmer

The LED light, featuring top-quality materials, electronics and workmanship and specially developed for agriculture and demanding conditions, provides additional benefits in terms of safety, resilience and working life. With the individually rotatable modules, the light offers customisable light distribution and can be used extremely variably as a floodlight or high bay floodlight.

- resistant to ammonia (DLG-tested)
- an insulated LED driver with integrated overload, short-circuit, and no-load protection provides additional safety for the LEDs, and extends their working life
- extremely efficient through high lumen output
- special heat sink shape for optimised heat dissipation
- protected against powerful water jets and dust-proof (IP65 protection class)
- flicker-free, so also suitable for animals with high visual acuity
- cover made from hardened glass
- with D marking according to DIN EN 60598-2-24, therefore suitable for areas at risk of fires due to combustible dusts or fibres (hay storage, feed, litter, etc.)
- suitable for outdoor use
- GS-tested
- 8-year warranty

345970



345971



Technical data	345970
Voltage	100 - 277 V AC
Mains frequency	50 - 60 Hz
Luminous efficacy	160 lm/W
Light angle (half intensity angle)	120 °
Chip service life (L70)	> 100.000 h
LED type	SMD
Dimming function	1...10 V, 10 V PWM, 0 - 100 kΩ resistance
Material	Die-cast aluminium with anti-corrosion coating / tempered glass / stainless steel
Operating ambient temperature	-40 - 50 °C
Colour rendering (CRI)	Ra > 80
Power factor	> 0,9
Protection class	IP65

New product

NEW

8-year warranty

8



Top Quality



KERBL
MULTILED
✓ Resistance to ammonia
DLG Test Report 7538

Ref. no.	Description	Output	Length	Width	Height	Dimming function	Luminous flux	Colour temperature		€
345970	2 swivel modules	150 W	12,7 cm	35,3 cm	30 cm	dimmable	19.500 lm	5.700 K	1/4	
345971	4 swivel modules	300 W	12,7 cm	58 cm	30 cm	dimmable	48.000 lm	5.700 K	1/2	



345975

LED light MultiLED Pro

The high-quality LED light is suitable for agriculture as well as for many other applications in trade and industry. With the individually rotatable modules, the light offers customisable light distribution and can be used extremely variably as a floodlight or high bay floodlight.

- resistant to ammonia
- extremely efficient through high lumen output
- special heat sink shape for optimised heat dissipation
- protected against powerful water jets and dust-proof (IP65 protection class)
- flicker-free, so also suitable for animals with high visual acuity
- cover made from hardened glass
- with D marking according to DIN EN 60598-2-24, therefore suitable for areas at risk of fires due to combustible dusts or fibres (hay storage, feed, litter, etc.)
- suitable for outdoor use
- 5-year warranty



345976



Technical data	345975
Voltage	100 - 277 V AC
Mains frequency	50 - 60 Hz
Luminous efficacy	160 lm/W
Light angle (half intensity angle)	120 °
Chip service life (L70)	> 80.000 h
LED type	SMD
Dimming function	1...10 V, 10 V PWM, 0 - 100 kΩ resistance
Material	Die-cast aluminium with anti-corrosion coating / tempered glass / stainless steel
Operating ambient temperature	-40 - 50 °C
Colour rendering (CRI)	Ra > 80
Power factor	> 0,9
Protection class	IP65

New product

NEW

5-year warranty

5

Ref. no.	Description	Output	Length	Width	Height	Dimming function	Luminous flux	Colour temperature		€
345975	2 swivel modules	150 W	12,7 cm	35,3 cm	30 cm	dimnable	19.500 lm	5.700 K	1/4	
345976	3 swivel modules	225 W	13,5 cm	44,1 cm	30 cm	dimnable	36.000 lm	5.700 K	1/3	

Stable and Yard Lighting

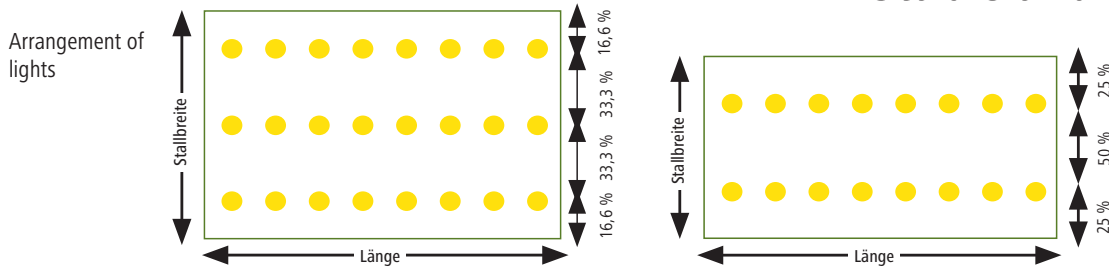
calculator for LED indoor spotlights

The following overview contains recommendations for the luminaire type, number and arrangement for different illumination intensities as a function of the building dimensions and the suspension height of the luminaires. The values are chosen in such a way that a sufficiently uniform illumination ($E_{\min} / E_{\text{average}} \geq 0.4$) is achieved on the entire surface.

Please note that the actual number of luminaires required depends on individual circumstances and may deviate from these specifications. In principle, also other constellations with regard to luminaire selection, arrangement and suspension height can be useful. If you have any questions, please contact our consulting team.

		100 Lux**				200 Lux*				
100 W HiLED Premium Farmer / Pro	Width	20 m		30 m		Width	20 m		30 m	
	Height*	5 m	6 m	5 m	6 m	Height*	5 m	6 m	5 m	6 m
	Length					Length				
	30 m	-	3 & 2	-	3 x 3	30 m	4 x 3	4 + 3 + 4	4 x 3	5 x 3
	40 m	-	4 & 3	-	3 x 3	40 m	4 x 3	4 x 3	4 x 4	5 x 4
	50 m	4 & 3	4 x 2	4 + 3 + 4	4 x 3	50 m	4 x 4	4 x 4	5 x 4	6 x 4
	60 m	4 & 3	4 x 2	5 + 4 + 5	5 x 3	60 m	6 x 3	6 x 3	7 x 4	7 x 4
	70 m	6 & 4	6 x 2	6 + 5 + 6	6 x 3	70 m	7 + 6 + 7	7 + 6 + 7	8 x 4	8 x 4
	80 m	6 & 5	6 x 2	7 + 6 + 7	7 x 3	80 m	8 x 3	8 x 3	9 x 4	9 x 4
	150 W HiLED Premium Farmer / Pro	Width	20 m		30 m		Width	20 m		30 m
Height*		6m	8m	6m	8m	Height*	6m	8m	6m	8m
Length						Length				
30 m		-	-	-	-	30 m	3 x 2	3 x 2	3 x 3	3 x 3
40 m		-	3 x 2	-	3 x 2	40 m	4 x 2	4 x 2	4 x 3	4 x 3
50 m		4 & 3	4 x 2	4 & 3	4 x 2	50 m	5 x 2	5 x 2	5 x 3	5 x 3
60 m		4 & 3	4 x 2	4 & 3	5 x 2	60 m	6 x 2	6 x 2	5 x 3	6 x 3
70 m		5 & 4	5 x 2	5 & 4	5 x 2	70 m	7 x 2	7 x 2	6 x 3	7 x 3
80 m		5 & 4	5 x 2	5 & 4	6 x 2	80 m	7 x 2	8 x 2	7 x 3	8 x 3
200 W HiLED Premium Farmer / Pro		Width	20 m		30 m		Width	20 m		30 m
	Height*	6m	8m	6m	8m	Height*	6m	8m	6m	8m
	Length					Length				
	30 m	-	-	-	2 x 2	30 m	3 & 2	3 x 2	3 x 2	3 x 2
	40 m	-	-	3 & 2	3 & 2	40 m	3 x 2	3 x 2	3 x 3	3 x 3
	50 m	-	-	3 x 2	3 x 2	50 m	4 x 2	4 x 2	4 x 3	4 x 3
	60 m	-	-	3 x 2	4 & 3	60 m	5 & 4	5 x 2	4 x 3	4 x 3
	70 m	-	-	4 x 2	4 x 2	70 m	5 x 2	6 x 2	5 x 3	5 x 3
	80 m	-	-	4 x 2	5 x 2	80 m	6 x 2	6 x 2	6 x 3	6 x 3
	240 W HiLED Premium Farmer	Width	20 m		30 m		Width	20 m		30 m
Height*		8m	10m	8m	10m	Height*	8m	10m	8m	10m
Length						Length				
30 m		-	-	-	-	30 m	3 & 2	3 x 2	3 x 2	3 + 2 + 3
40 m		-	-	-	-	40 m	3 x 2	4 & 3	4 x 2	3 x 3
50 m		-	-	-	-	50 m	4 x 2	4 x 2	5 x 2	4 x 3
60 m		-	-	-	-	60 m	5 & 4	5 x 2	6 x 2	5 x 3
70 m		-	-	-	-	70 m	5 x 2	6 x 2	5 x 3	6 x 3
80 m		-	-	-	-	80 m	6 x 2	7 x 2	6 x 3	6 x 3
150 W MultiLED Premium Farmer / Pro		Width	20 m		30 m		Width	20 m		30 m
	Height*	6m	8m	6m	8m	Height*	6m	8m	6m	8m
	Length					Length				
	30 m	-	2 x 2	-	3 x 2	30 m	3 x 2	4 x 2	3 x 3	4 x 3
	40 m	-	3 x 2	-	3 x 2	40 m	4 x 2	5 x 2	4 x 3	4 x 3
	50 m	-	4 x 2	-	3 x 3	50 m	5 x 2	6 x 2	5 x 3	6 x 3
	60 m	-	4 x 2	-	4 x 3	60 m	6 x 2	7 x 2	6 x 3	7 x 3
	70 m	-	5 x 2	-	5 x 3	70 m	7 x 2	8 x 2	7 x 3	7 x 3
	80 m	-	5 x 2	-	5 x 3	80 m	8 x 2	9 x 2	8 x 3	8 x 3

Stable and Yard Lighting



		100 Lux**				200 Lux*			
225 W MultiLED Pro	Width	20 m		30 m		Width	20 m		30 m
	Height*	7m	9m	7m	9m	Height*	7m	9m	7m 9m
	Length					Length			
	30 m	2 x 1	2 x 1	2 & 1	2 x 2	30 m	2 x 2	3 & 2	3 x 2 3 x 2
	40 m	3 x 1	3 x 1	2 x 2	2 x 2	40 m	3 x 2	3 x 2	4 x 2 4 x 2
	50 m	4 x 1	4 x 1	3 & 2	3 x 2	50 m	3 x 2	4 x 2	5 x 2 5 x 2
	60 m	4 x 1	4 x 1	3 x 3	3 x 2	60 m	4 x 2	4 x 2	5 x 2 6 x 2
	70 m	5 x 1	5 x 1	4 & 3	4 x 2	70 m	5 x 2	5 x 2	6 x 2 7 x 2
	80 m	6 x 1	6 x 1	4 x 4	4 x 2	80 m	5 x 2	6 x 2	7 x 2 8 x 2
300 W MultiLED Premium Farmer	Width	20 m		30 m		Width	20 m		30 m
	Height*	8m	10m	8m	10m	Height*	8m	10m	8m 10m
	Length					Length			
	30 m	2 x 1	3 x 1	2 x 2	2 x 2	30 m	5 x 1	3 x 2	4 x 2 3 x 3
	40 m	3 x 1	4 x 1	2 x 2	3 x 2	40 m	6 x 1	4 x 2	3 x 3 3 x 3
	50 m	4 x 1	4 x 1	3 x 2	3 x 2	50 m	8 x 1	4 x 2	4 x 3 4 x 3
	60 m	5 x 1	5 x 1	3 x 2	4 x 2	60 m	9 x 1	5 x 2	5 x 3 5 x 3
	70 m	6 x 1	6 x 1	4 x 2	4 x 2	70 m	10 x 1	6 x 2	5 x 3 6 x 3
	80 m	6 x 1	7 x 1	4 x 2	5 x 2	80 m	12 x 1	7 x 2	6 x 3 6 x 3
75 W HiLED Evo	Width	20 m		30 m		Width	20 m		30 m
	Height*	5 m	6 m	5 m	6 m	Height*	5 m	6 m	5 m 6 m
	Length					Length			
	30 m	3 x 2	3 x 2	3 x 3	3 x 3	30 m	5 x 3	5 x 3	5 x 4 5 x 4
	40 m	4 x 2	5 & 4	4 x 3	4 x 3	40 m	6 + 5 + 6	6 x 3	6 x 4 6 x 5
	50 m	5 x 2	5 x 2	6 x 3	6 x 3	50 m	5 x 4	6 x 4	7 x 5 7 x 5
	60 m	6 x 2	7 x 2	7 x 3	7 x 3	60 m	7 x 4	6 x 5	7 x 6 7 x 6
	70 m	7 x 2	7 x 2	8 x 3	8 x 3	70 m	8 x 4	8 x 5	8 x 4 9 x 4
	80 m	8 x 2	8 x 2	9 x 3	9 x 3	80 m	9 x 4	9 x 4	10 x 4 10 x 4
125 W HiLED Evo	Width	20 m		30 m		Width	20 m		30 m
	Height*	5 m	6 m	5 m	6 m	Height*	5 m	6 m	5 m 6 m
	Length					Length			
	30 m	2 x 2	2 x 2	3 x 2	3 x 2	30 m	4 x 2	4 x 2	4 x 3 4 x 3
	40 m	3 & 2	3 x 2	4 x 2	4 x 2	40 m	5 x 2	5 x 2	4 x 4 4 x 4
	50 m	4 x 2	4 x 2	5 x 2	4 & 3	50 m	5 x 2	5 + 4 + 5	5 x 4 5 x 4
	60 m	4 x 2	4 x 2	6 x 2	6 x 2	60 m	5 x 3	5 x 3	6 x 4 6 x 4
	70 m	5 x 2	5 x 2	5 x 2	5 x 2	70 m	6 x 3	6 x 3	6 x 4 7 x 4
	80 m	6 x 2	6 x 2	5 x 3	5 x 3	80 m	7 x 3	7 x 3	7 x 4 8 x 4
175 W HiLED Evo	Width	20 m		30 m		Width	20 m		30 m
	Height*	6m	8m	6m	8m	Height*	6m	8m	6m 8m
	Length					Length			
	30 m		3 x 1	2 x 2	2 x 2	30 m	3 x 2	3 x 2	3 x 3 3 x 3
	40 m	3 x 1	3 & 2	3 x 2	3 x 2	40 m	4 x 2	4 x 2	4 x 3 4 x 3
	50 m	3 & 2	3 x 2	4 & 3	4 x 2	50 m	5 x 2	5 x 2	5 x 3 5 x 3
	60 m	3 x 2	3 x 2	4 & 3	4 x 2	60 m	6 x 2	6 x 2	6 x 3 6 x 3
	70 m	3 & 3	4 x 2	5 x 2	5 x 2	70 m	7 x 2	7 x 2	7 x 3 7 x 3
	80 m	5 & 4	5 & 4	6 & 5	6 x 2	80 m	8 x 2	8 x 2	8 x 3 8 x 3

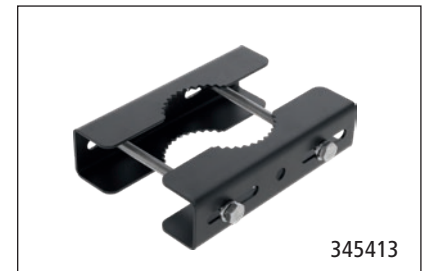
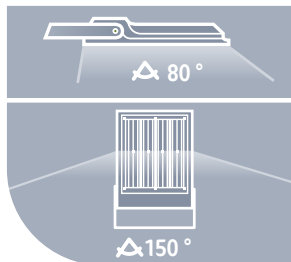


LED Flood Light Comfort Pro

The integrated lens optics of the high-quality LED floodlight provide extremely homogeneous illumination, and at the same time reduce glare and light/shade contrasts. This makes it ideal for the focused, convenient illumination of riding areas and other spaces indoors and outdoors.

- integrated lens optic ensures extremely broad and front-facing lighting
- Light is directed to where it is needed – low light pollution
- Reduces glare and light-shadow contrast
- protected against temporary immersion and dust-proof (IP67 protection class)
- flicker-free, so also suitable for animals with high visual acuity
- cover made from hardened glass
- with integrated mounting bracket and access lines 1.5 m
- Can be mounted on floodlight towers with optional adapter (345413)
- suitable for indoor and outdoor use
- 5-year warranty

extremely wide beam directed forwards



Technical data

Voltage	100 - 277 V AC
Mains frequency	50 - 60 Hz
Luminous efficacy	160 lm/W
Light angle (half intensity angle)	150 °
Chip service life (L70)	> 100.000 h
Dimming function	1...10 V, 10 V PWM, 0 - 100 kΩ resistance
Material	Aluminium, powder-coated / Polycarbonate / stainless steel / tempered glass
Operating ambient temperature	-40 - 50 °C
Colour rendering (CRI)	Ra > 80
Power factor	> 0,9
Impact resistance	IK08
Protection class	IP67

New product

NEW

5-year warranty

5



Top Quality

Ref. no.	Output	Length	Width	Height	Dimming function	Luminous flux	Colour temperature		€
345410	50 W	21,7 cm	32,3 cm	5,1 cm	dimnable	8.000 lm	5.700 K	1/5	
345411	100 W	34,3 cm	36,9 cm	5,6 cm	dimnable	16.000 lm	5.700 K	1/3	
345412	200 W	39,3 cm	42,2 cm	5,8 cm	dimnable	32.000 lm	5.700 K	1/2	
Ref. no.	Description								€
345413	Mounting adapter for flood light towers							1/20	



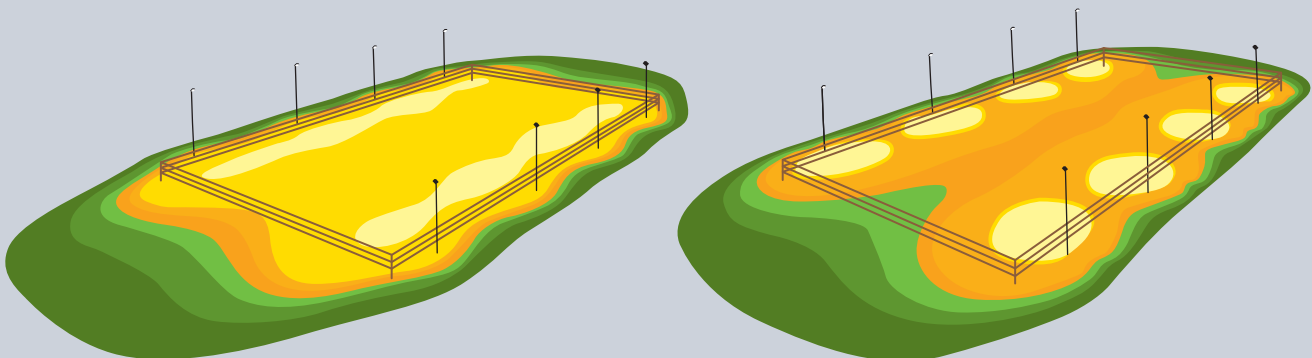
Perfect light for horse and rider with Comfort Pro 200 W

As steppe animals, horses have a high need for light and, as prey animals, have a very wide field of view (340 °). They see in mainly shades of green and blue and only adapt slowly to changes between light and dark. The LED floodlight Comfort Pro 200 W is adapted to these needs and special features and is therefore perfectly suited as a riding arena light. It provides high light intensity within a horse-friendly light spectrum. Homogeneous illumination reduces glare and light/shadow contrast, only directing the light to where it is needed. Perfect lighting for horse and rider! Find out more in the "LED Lighting for Horses" brochure.



lens optic minimises glare and light-shadow contrast

comparison of riding arena illumination of the Comfort Pro 200 W (left) with standard floodlights (right)





Control for LED lighting

This lighting control allows you to switch the artificial lighting on or off, on a timer and regardless of existing daylight, or even achieve a constant light level (e.g. min. 200 lux) through automatic dimming. This means it ensures ideal lighting conditions throughout the day and year while minimising electricity consumption. Comfort for animals and humans!


- controls lighting dependent on time and/or daylight
- four different lighting circuits (groups) can be independently controlled, two of which with a dimming function
- suitable for LED lights with 1...10V interface
- standard surface-mount housing for mounting in the equipment room
- Dust and moisture protection (IP65)
- suitable e.g. for up to 50 150 watt lights (up to 15 lights on the dimmable circuits 1 and 2, and up to 10 lights on circuits 3 and 4)
- supplied with a light sensor (can request up to four light sensors)
- input for up to four button signals
- easy to use with display and three buttons
- with extensive documentation and terminal description
- Housing material: Plastic



easy to install by your electric company

Technical data	
Supply voltage	230 V / 400 V
Fuse	B16 A
Pole Connectors	3-pin
Max. current value per output	16 A
Max. total power circuit 3 and 4	16 A
Number of circuits	4
Number of dimmable circuits	2
Max. switching capacity	11 kVA
Dimming function circuit 1 and 2	1...10 V
Number of max. light sensors	4
Number of max. button signals	4
Protection class	IP65

Ref. no.	Material	Width	Height		€
345000	Plastic	300 mm	450 mm	1	

Ref. no.	Description	Length	Width	Height		€
345001	Sensor for control	11 cm	6,5 cm	3,5 cm	1	



345001

LED oval light, can be controlled as an optional night light (345606) via a separate lighting circuit

Why does lighting need to be controlled?

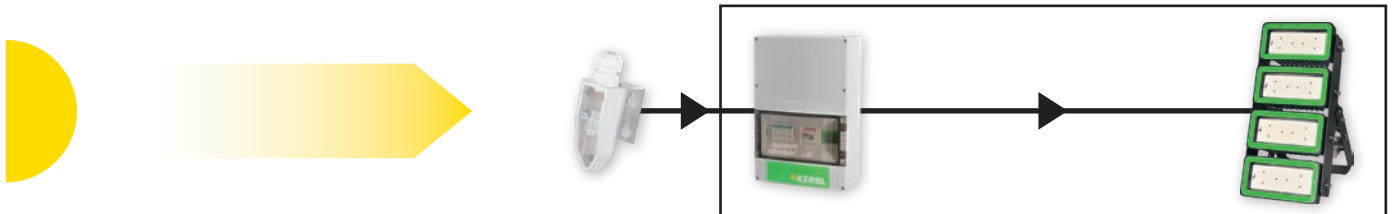
You want to ensure a certain light level (e.g. 200 lux recommended for dairy cattle barns) inside the building. Yet daylight incidence varies greatly throughout the day. Summer days are also generally light and winter days dark. If the lighting is designed to generate the desired brightness in the building at low daylight levels, then it would be too bright at high daylight levels. This would waste energy. You want to generate a long daylight phase in the barn to increase milk production? You certainly don't want to turn on the light very early in the morning and turn it off very late at night every day.

Kerbl's lighting control system has the answer: you can use it to switch the artificial barn lighting on or off with time control and depending on the available daylight, or even achieve a constant lighting level through automatic dimming.

Which control methods are possible?

Lighting control with an outdoor light sensor

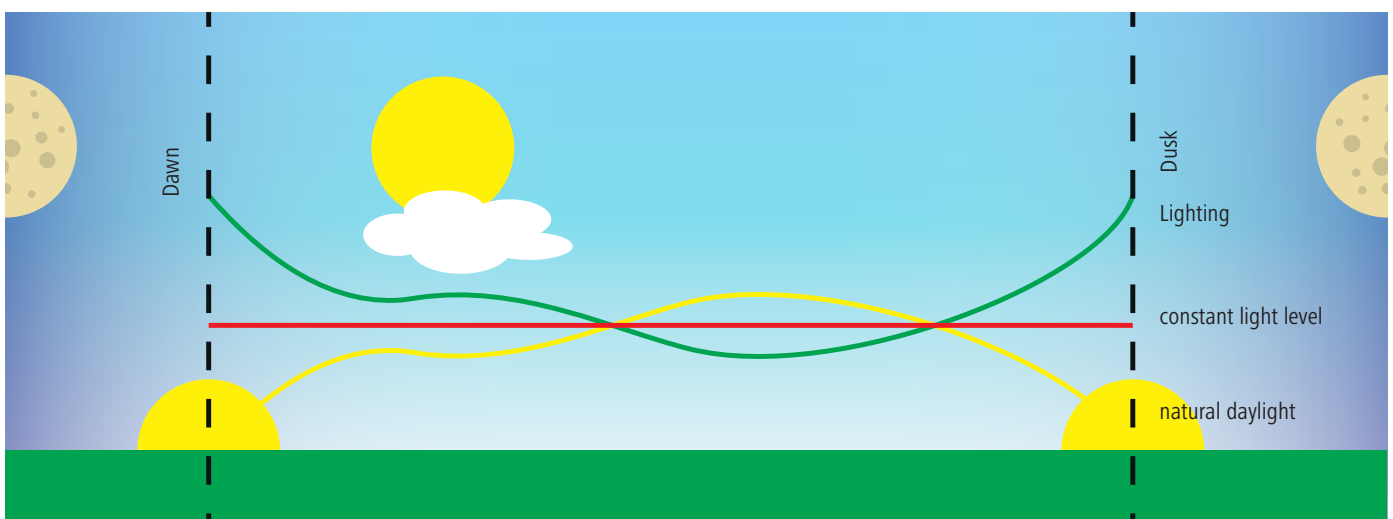
A light sensor measures the brightness outside. If the light sensor detects that the daylight is sufficient, then the lighting inside the building is switched off. If the available daylight falls below a set threshold, the lighting is switched on. If dimmable lamps are used, you can also specify that the lighting is switched on in a dimmed state. In parallel, you can also pre-set the on and off times in the morning and in the evening using a timer.



Lighting control with an internal sensor

The optimum light control set-up can also take account of the influence of the building envelope on the lighting levels inside the building. If, for example, all windows are darkened due to strong sunlight, the lighting inside the building should be switched on regardless. In this case, the light sensor is installed inside the building. The lighting intensity can then be controlled

not only by switching the lights on and off, but also by automatic dimming of the lamps. This creates a constant light level in the building between the specified switch-on and switch-off times.



LED Tubes and Moisture-proof Lights

LED moisture-proof lamp FarmTUBE

• specially developed for use in livestock barns • resistant to ammonia (DLG-tested) • suitable for high-pressure cleaning (protection class IP69K) • flicker-free, so ideally suitable for poultry • uniform and glare-free illumination due to a frosted cover • stable, impact-resistant casing made from extruded PMMA, with stainless steel covers • high energy efficiency • suitable for low to medium-high ceiling heights • with through-wiring and rapid clamps on both sides, for simple series installation • incl. stainless steel installation clips for direct or suspended mounting • with D marking according to DIN EN 60598-2-24, therefore suitable for areas at risk of fires due to combustible dusts or fibres (hay storage, feed, litter, etc.) • GS-tested • 5-year warranty



Technical data	345640	345641	345642
Voltage	220 - 240 V	220 - 240 V	220 - 240 V
Mains frequency	50 - 60 Hz	50 - 60 Hz	50 - 60 Hz
Luminous efficacy	140 lm/W	150 lm/W	150 lm/W
Light angle (half intensity angle)	113 °	113 °	113 °
Chip service life (L70)	> 50.000 h	> 50.000 h	> 50.000 h
Dimming function	1...10 V	1...10 V	1...10 V
Colour rendering (CRI)	Ra > 80	Ra > 80	Ra > 80
Protection class			



New product

NEW



5-year warranty

5

Ref. no.	Output	Length	Width	Height	Dimming function	Luminous flux	Colour temperature		€
345640	20 W	620 mm	86 mm	86 mm	dimnable	2.800 lm	6.000 K	1/4	
345641	40 W	1.220 mm	86 mm	86 mm	dimnable	6.000 lm	6.000 K	1/4	
345642	60 W	1.520 mm	86 mm	86 mm	dimnable	9.000 lm	6.000 K	1/4	

LED moisture-proof lamp FarmLINE

Perfect for rough conditions in wet, moist or dusty environments!

• for lighting stables, riding halls, industrial buildings and warehouses, barns, workshops, etc. • with integrated high-performance LED chips (no fluorescent or LED tubes required) • protected against powerful water jets and dust-proof (IP65 protection class) • with D marking according to DIN EN 60598-2-24, therefore suitable for areas at risk of fires due to combustible dusts or fibres (hay storage, feed, litter, etc.) • stable, shock-resistant housing made from polycarbonate • uniform and glare-free illumination due to a frosted cover • incl. installation clips made of stainless steel • 3-year warranty

Technical data	
Voltage	220 - 240 V AC
Mains frequency	50 - 60 Hz
Luminous efficacy	128 lm/W
Light angle (half intensity angle)	120 °
Chip service life (L70)	> 50.000 h
Material	Polycarbonate / stainless steel
Operating ambient temperature	-20 - 40 °C
Colour rendering (CRI)	Ra > 80
Power factor	> 0,9
Protection class	IP65
Protection class	I



3-year warranty

3



Ref. no.	Output	Length	Width	Height	Dimming function	Luminous flux	Colour temperature		€
345470	25 W	119 cm	9,5 cm	7,5 cm	cannot be dimmed	3.200 lm	6.000 K	1/6	
345471	50 W	149 cm	9,5 cm	7,5 cm	cannot be dimmed	6.400 lm	6.000 K	1/6	

LED Tubes and Moisture-proof Lights

LED moisture-proof lamp SlimLINE

• for lighting stables, riding halls, barns, industrial buildings and warehouses, workshops, cellars, etc. • for low to medium ceiling heights and ideal as a replacement for fluorescent tubes • flicker-free, so ideally suitable for poultry • uniform and glare-free illumination due to a frosted cover • stable, shock-resistant housing made from polycarbonate • protected against water jets and dust-proof (IP66 protection class) • incl. connection cable and stainless steel mounting clips • with D marking according to DIN EN 60598-2-24, therefore suitable for areas at risk of fires due to combustible dusts or fibres (hay storage, feed, litter, etc.) • 3-year warranty

New product

NEW

3-year warranty

3

Technical data

Voltage	220 - 240 V AC
Mains frequency	50 - 60 Hz
Luminous efficacy	140 lm/W
Light angle (half intensity angle)	120 °
Chip service life (L70)	> 50.000 h
Material	Polycarbonate / stainless steel
Operating ambient temperature	-20 - 40 °C
Colour rendering (CRI)	Ra > 80
Power factor	> 0,9
Protection class	IP66



Ref. no.	Output	Length	Width	Height	Dimming function	Luminous flux	Colour temperature		€
345461	35 W	120 cm	5,2 cm	5,4 cm	cannot be dimmed	4.900 lm	6.000 K	1/12	
345462	45 W	150 cm	5,2 cm	5,4 cm	cannot be dimmed	6.300 lm	6.000 K	1/12	

Moisture-proof diffuser light with LED tubes

• 2 LED tubes (each 22 Watt, 150 cm) included in the scope of delivery (TÜV-GS certified) • no bridging starter required • protected against powerful water jets and dust-proof (IP65 protection class) • break-resistant housing made from ABS with PC cover • incl. mounting material and mounting clips made from stainless steel • Through-wiring 3 x 1.5 mm² • bilateral cable conduit M20 • only suitable for T8 LED tubes

Technical data

Voltage	220 - 240 V
Mains frequency	50 - 60 Hz
Colour rendering (CRI)	Ra > 80
Lamp Base	G13



Ref. no.	Output	Length	Width	Height	Dimming function	Colour temperature		€
345672	22 W	157 cm	10 cm	5,5 cm	cannot be dimmed	6.500 K	1/8	

Moisture-proof Diffuser Light for LED Tubes

• only suitable for T8 LED tubes • no bridging starter required • protected against powerful water jets and dust-proof (IP65 protection class) • unbreakable housing with a high resistance to ammonia • incl. installation clips made of stainless steel • with D marking according to DIN EN 60598-2-24, therefore suitable for areas at risk of fires due to combustible dusts or fibres (hay storage, feed, litter, etc.)



Light source not included!



Ref. no.	Colour	Length		€
34567	grey	150 cm	1/9	
345670	grey	120 cm	1/12	

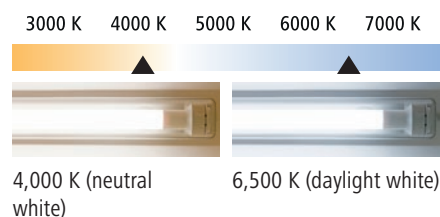
Technical data	34567	345670
Voltage	220 - 240 V AC	220 - 240 V AC
Mains frequency	50 - 60 Hz	50 - 60 Hz
Max. output of the LED tubes used	24 W	18 W
Lamp Base	G13	G13
Protection class	IP65	IP65
Protection class	I	I

LED Tubes and Moisture-proof Lights

The LED tubes EcoTUBE and EcoTUBE Plus come with the latest LED technology and their high light output, high efficiency and extremely attractive price-performance ratio cannot fail to impress.

Compared with conventional fluorescent tubes, you can save a great deal on energy costs and enjoy many other benefits as well:

- very long service life and high switching durability
- full light output even at low temperatures
- full, immediate luminosity, no flickering, no humming
- uniform and glare-free illumination
- high colour reproduction (Ra > 80), suitable for nearly all operating sites according to workplace guidelines
- sturdy housing
- mercury-free



LED Tube EcoTUBE

• Lamp tube made out of glass with special plastic coating to prevent sagging while also ensuring optimal splinter protection • very high light angle ensures particularly uniform illumination • flicker-free, thus also for poultry with high visual acuity • very efficient through high lumen output • only suitable for lights with conventional electro-magnetic ballasts (conventional ballasts/low-loss ballasts). • TÜV tested • 5-year warranty

5-year warranty



Technical data

Voltage	220 - 240 V AC
Mains frequency	50 - 60 Hz
Light angle (half intensity angle)	210 °
Chip service life (L70)	> 50.000 h
Colour rendering (CRI)	Ra > 80
Lamp Base	G13
Bulb shape	T8

flicker-free



Ref. no.	Output	Length	Dimming function	Luminous flux	Colour temperature		€
345650	21 W	150 cm	cannot be dimmed	2.750 lm	6.500 K	1/10	
345651	17 W	120 cm	cannot be dimmed	2.200 lm	6.500 K	1/10	

LED Tube EcoTUBE Plus

• Lamp tube made out of glass with special plastic coating to prevent sagging while also ensuring optimal splinter protection • very high light angle ensures particularly uniform illumination • flicker-free, thus also for poultry with high visual acuity • very high light output • extremely efficient through high lumen output • only suitable for lights with conventional electro-magnetic ballasts (conventional ballasts/low-loss ballasts). • TÜV tested • 5-year warranty

5-year warranty



Technical data

Voltage	220 - 240 V AC
Mains frequency	50 - 60 Hz
Light angle (half intensity angle)	210 °
Chip service life (L70)	> 50.000 h
Colour rendering (CRI)	Ra > 80
Lamp Base	G13
Bulb shape	T8

flicker-free



Ref. no.	Output	Length	Dimming function	Luminous flux	Colour temperature		€
345654	24 W	150 cm	cannot be dimmed	4.000 lm	4.000 K	1/10	
345652	24 W	150 cm	cannot be dimmed	4.000 lm	6.500 K	1/10	
345655	18 W	120 cm	cannot be dimmed	3.000 lm	4.000 K	1/10	
345653	18 W	120 cm	cannot be dimmed	3.000 lm	6.500 K	1/10	

Philips CorePro LED Bulb E27

Inexpensive bulb replacement. Ideal for general lighting applications.

- matt finish - droplet shape • low energy consumption
- 2-year warranty



Technical data	
Voltage	220 - 240 V
Mains frequency	50 - 60 Hz
Light angle (half intensity angle)	200 °
Chip service life (L70)	> 15.000 h
Colour rendering (CRI)	Ra > 80
Lamp Base	E27

Ref. no.	Output	Length	Width	Height	Dimming function	Energy efficiency class	corresponds to incandescent lamp output	Luminous flux	Colour temperature			€
345960	4,9 W	110 mm	60 mm	60 mm	cannot be dimmed	F	approx. 40 W	470 lm	2.700 K	1/10	1.440	
345961	8 W	110 mm	60 mm	60 mm	cannot be dimmed	F	approx. 60 W	806 lm	2.700 K	1/10	1.440	
345962	13 W	110 mm	60 mm	60 mm	cannot be dimmed	E	approx. 100 W	1.521 lm	2.700 K	1/10	1.440	

Philips CorePro LED Bulb E14

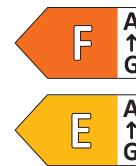
Inexpensive bulb replacement. Ideal for general lighting applications.

- matt finish - candle shape • low energy consumption
- 2-year warranty



New product

NEW



Technical data	
Voltage	220 - 240 V
Mains frequency	50 - 60 Hz
Chip service life (L70)	> 15.000 h
Colour rendering (CRI)	Ra > 80
Lamp Base	E14

Ref. no.	Output	Length	Width	Height	Dimming function	Energy efficiency class	corresponds to incandescent lamp output	Luminous flux	Colour temperature			€
345966	2,8 W	106 mm	35 mm	35 mm	cannot be dimmed	F	approx. 25 W	250 lm	2.700 K	1/10	3.920	
345967	5 W	106 mm	35 mm	35 mm	cannot be dimmed	F	approx. 40 W	470 lm	2.700 K	1/10	3.920	
345968	7 W	106 mm	35 mm	35 mm	cannot be dimmed	E	approx. 60 W	806 lm	2.700 K	1/10	3.360	

LED Outdoor Spotlight

- for even lighting of stalls, barns, sheds, farmyards, gardens etc. • with energy-efficient, SMD LED chips • up to 90 % less power consumption • high light power - 120 lm/W • adjustable angle, thanks to movable installation bracket • robust housing made from cast aluminium with safety glass • protected against dust and spray • incl. 1 m connection cable • Detection area, switch-on duration and switch-on brightness adjustable (models with motion detector) • GS-tested • 2-year warranty



Technical data	
Voltage	220 - 240 V
Mains frequency	50 - 60 Hz
Luminous efficacy	120 lm/W
Light angle (half intensity angle)	110 °
Chip service life (L70)	~ 30.000 h
Material	Die-cast aluminium
Colour rendering (CRI)	Ra > 80
Cable length	100 cm
Protection class (without motion sensor)	IP65
Protection class (with motion sensor)	IP44



Ref. no.	Description	Output	Width	Height	Depth	Dimming function	Luminous flux	Colour temperature			€
345660	without motion sensor	10 W	8,8 cm	3,2 cm	6,2 cm	cannot be dimmed	1.200 lm	5.000 K	1/50	1.200	
345661	without motion sensor	20 W	10 cm	3,5 cm	7 cm	cannot be dimmed	2.400 lm	5.000 K	1/30	1.200	
345662	without motion sensor	30 W	13,5 cm	3,5 cm	11 cm	cannot be dimmed	3.600 lm	5.000 K	1/20	600	
345663	without motion sensor	50 W	18 cm	3,5 cm	14,3 cm	cannot be dimmed	6.000 lm	5.000 K	1/18	648	
345664	without motion sensor	100 W	21 cm	16,5 cm	3,5 cm	cannot be dimmed	12.000 lm	5.000 K	1/10	350	
345665	with motion detector	10 W	8,8 cm	4,5 cm	12,5 cm	cannot be dimmed	1.200 lm	5.000 K	1/40	960	
345666	with motion detector	20 W	10 cm	5 cm	14 cm	cannot be dimmed	2.400 lm	5.000 K	1/30	540	
345667	with motion detector	30 W	13,5 cm	5 cm	17,5 cm	cannot be dimmed	3.600 lm	5.000 K	1/30	540	
345668	with motion detector	50 W	18 cm	5 cm	20,7 cm	cannot be dimmed	6.000 lm	5.000 K	1/16	384	

LED Outdoor Spotlight SolarLED Solina

- compact solar battery light with integrated solar module • incl. motion sensor
- Adjustable light colour (warm white, neutral white, cool white) • removable lithium-ion battery with USB-C charging port • Tilt angle of light and solar module individually adjustable

New product


NEW



Technical data	
Luminous efficacy	123 lm/W
Light angle (half intensity angle)	120 °
Material	ABS plastic / Polycarbonate
Battery rated voltage	3,7 V
Battery technology	Li-Ion
Battery capacity	2.600 Ah
Hours of light	approx. 8 h
Solar module type	polycrystalline
Output solar module	2 W
Rated voltage solar module	5,5 V
Protection class	IP54

4 operating modes:

- 3 % brightness, 100 % brightness for approx. 30s when motion is detected
- Light off, 100 % brightness for 30s when motion is detected
- 3 % brightness, no motion detection
- Light off

Ref. no.	Output	Length	Width	Height	Luminous flux	Colour temperature		€
345695	13 W	16,8 cm	4 cm	19,1 cm	1.600 lm	3.000 K / 4.000 K / 6.500 K	1/20	

LED Outdoor Spotlight SolarLED Elio

- Solar battery light with external solar module • incl. motion sensor and brightness sensor • with remote control for setting brightness and mode • Cable length: 5 m • removable lithium-ion battery • Tilt angle of light and solar module individually adjustable

New product

NEW




Technical data	
Luminous efficacy	150 lm/W
Light angle (half intensity angle)	120 °
Material	ABS plastic / tempered glass
Battery rated voltage	3,7 V
Battery technology	Li-Ion
Battery capacity	15.000 mAh
Battery charge time	4 - 6 h
Hours of light	approx. 11 h
Solar module type	monocrystalline
Output solar module	15 W
Rated voltage solar module	5 V
Protection class	IP65

4 operating modes:

- manual operation (on/off)
- Timer operation (light switches on at dusk for the selected period (3 h/5 h/8 h))
- Automatic operation (light switches to 100 % brightness at dusk and gradually reduces to 30 % brightness)
- Sensor operation (20 % brightness, 100 % brightness for approx. 15s when motion is detected)

Ref. no.	Output	Length	Width	Height	Luminous flux	Colour temperature		€
345696	8 W	27 cm	4,9 cm	30,6 cm	1.200 lm	4.000 K	1/5	



Ref. no.	Description	Length	Width	Height		€
345696-1	Solar Panel	390 mm	235 mm	17 mm	1/10	
345696-2	Replacement/extension cable	5 m			1/20	

LED Oval Light

• ideal for passage areas, garage, basement, etc. • sturdy plastic housing with glazed cover • Splash-proof • ceiling or wall mounting • with energy-efficient, SMD LED chips • up to 80 % less power consumption • suitable for outdoor use • 2-year warranty

Technical data	345606
Voltage	220 - 240 V AC
Mains frequency	50 - 60 Hz
Luminous efficacy	80 lm/W
Light angle (half intensity angle)	100 °
Chip service life (L70)	> 30.000 h
Colour rendering (CRI)	Ra > 80
Protection class	IP54

Ideal as a night light in combination with the lighting control (345000).



Ref. no.	Output	Length	Width	Height	Dimming function	Luminous flux	Colour temperature			€
345606	5,5 W	16,9 cm	11,5 cm	7,6 cm	cannot be dimmed	450 lm	6.500 K	1/12/24	432	

LED Floodlight WorkFire 7 000

• durable housing made from die-cast aluminium • stable tubular frame • with steplessly adjustable stand • light can be rotated around 360° • with plastic carrying handle • 230 volt connecting cable with earthed plug • with energy-efficient, SMD LED chips • up to 80 % less power consumption • suitable for outdoor use

Technical data	
Voltage	220 - 240 V AC
Mains frequency	50 Hz
Luminous efficacy	100 lm/W
Light angle (half intensity angle)	120 °
Chip service life (L70)	approx. 50.000 h
LED type	SMD
Material	Die-cast aluminium
Colour rendering (CRI)	Ra > 80
Cable length	4 m
Protection class	IP65




Ref. no.	Colour	Output	Length	Width	Height	Dimming function	Luminous flux	Colour temperature			€
345623	yellow / black	70 W	29 cm	18 cm	32 cm	cannot be dimmed	7.000 lm	5.000 K	1/5	90	

Mobile LED Battery Spotlight WorkFire 2 500 hybride

• sturdy plastic housing • steplessly adjustable stand • with additional carry handle / mounting bracket • incl. power bank function • Li-ion battery with a charge status display and integrated overcharging and deep discharging protection • LED source: 30 W COB • incl. USB cable and USB power pack • Dual operation (battery/cable) • with On/Off switch • dust-proof jet-proof • suitable for outdoor use

Technical data	345608
Luminous efficacy	83 lm/W
Chip service life (L70)	> 50.000 h
Light levels	3 light levels
Light level modes	100 % / 50 % / Warning light flashing red
Material	Plastic
Voltage	5 V
Battery technology	Li-Ion
Battery capacity	8.000 mAh
Battery charge time	8 h
Hours of light	~ 1,5 h 100 %, ~ 3 h 50 %, ~ 6 h Flashing
Colour rendering (CRI)	Ra > 70
Protection class	IP65



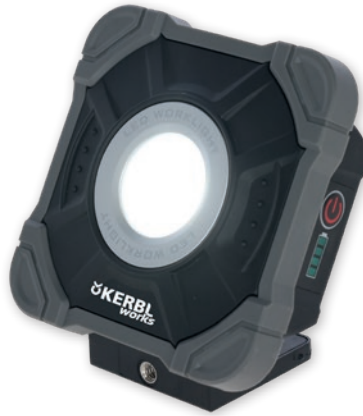
Ref. no.	Colour	Output	Length	Width	Height	Luminous flux	Colour temperature			€
345608	black / yellow	30 W	20,5 cm	18 cm	6,5 cm	2.500 lm	6.500 K	1/4/8	192	

Mobile LED spotlight WorkFire 2200

- powerful, rechargeable LED spotlight with 2,200 lumens • 90° fold-out stand for standing or hanging • Snap hook ring and integrated magnet for flexible mounting • robust, compact housing with edge protection • with charge status indicator and power bank function • ideal for working in dark places: workshop, construction site, outdoors, camping • USB-C charging interface (rechargeable Li-Ion battery included) • incl. USB cable


New product

NEW



Technical data

Light levels	4 light levels
Light level modes	25 % / 50 % / 100 % / Flashing
Battery charge time	2,5 h
Hours of light	approx. 9 h
Protection class	IP54

Ref. no.	Colour	Output	Length	Width	Height	Luminous flux		€
345627	black / grey	20 W	11,5 cm	11,5 cm	4,7 cm	2.200 lm	1/30	

LED hand lamp WorkFire 350

- rechargeable LED hand lamp with two light sources and flexible mounting options • side main light (5 W COB LED, 350 lumens) and additional head light (3 W LED, 120 lumens) • Dimming function: Luminosity levels can be continuously adjusted via push buttons • can be used flexibly and according to the work location thanks to the 360° rotatable hook, 180° foldable holding foot and two integrated magnets • with clip for easy attachment to belts, shirt pockets, etc. • with charge status indicator and power bank function • ideal for working in dark places: workshop, maintenance work, inspection work, household, outdoors, camping • USB-C charging interface (rechargeable Li-Ion battery included) • incl. USB cable

New product

NEW



Technical data

Light levels	stepless
Battery charge time	2,5 h
Hours of light	~ 4 h
Protection class	IP22

Ref. no.	Colour	Length	Width	Luminous flux		€
345628	black	19 cm	5,8 cm	350 lm	1/50	

LED Work Light WorkFire 200

- powerful 3 watt COB LED • 3 additional LEDs in the luminaire head enable economical torch operation • fold-out hook that can be turned 360° • magnet on the back • sturdy and handy ABS plastic housing • non-slip rubber coating in the handle area • only available in display! • with On/Off switch • Splash-proof • Battery included



Technical data

345603
3 x 1.5 V - AA (Mignon)





Ref. no.	Colour	Output	Length	Width	Height	Luminous flux	MOQ	Pieces / unit			€
345603	yellow / black	3 W	20 cm	6,2 cm	3,4 cm	200 lm	10 pieces	10 / display	1/10/40	1.200	

LED Cordless Hand Lamp

• sturdy plastic housing • Main light with two brightness levels: 100 % (3 h) / 50 % (6.5 h) • side lights: white light (100 % - 50 % (18 h)) and red flashing light (24 h) • Battery charge indicator • Power bank function • 360° rotating handle • 4-step adjustable foot • Dual operation (battery/cable) • incl. USB cable • with push button

Technical data	345622
Luminous efficacy	70 lm/W
Material	Plastic
Voltage	5 V DC
Battery technology	Li-Ion
Battery capacity	2.400 mAh
Battery charge time	7 h



Ref. no.	Colour	Output	Length	Width	Height	Luminous flux			€
345622	black / green	5 W	20 cm	15 cm	11 cm	350 lm	1/20	200	


LED Torch MiniFire 300

• powerful, rechargeable LED torch with 300 lumens • robust aluminium housing with a very slim design • stepless focus function • with clip for easy attachment to belts, shirt pockets, etc. • ideal for working in dark, cramped workplaces: maintenance work, inspection work, etc. • USB-C charging interface (rechargeable Li-Ion battery included) • incl. USB cable

New product

NEW

Technical data	
Light levels	3 light levels
Light level modes	100 % / 50 % / Flashing
Battery charge time	1,5 h
Hours of light	~ 3 h
Protection class	IP44

Ref. no.	Colour	Length	Width	Luminous flux		€
345624	black	10,3 cm	1,6 cm	300 lm	1/20/40	



LED Torch ProFire 1800

• powerful, rechargeable LED torch with 1,800 lumens • robust aluminium housing • stepless focus function • with wrist loop • ideal for working or activities in dark places: workshop, maintenance work, household, outdoors, camping • USB-C charging interface (rechargeable Li-Ion battery included) • incl. USB cable

New product

NEW

Technical data	
Light levels	5 light levels
Light level modes	100 % / 50 % / 25 % / Flashing / SOS
Battery charge time	5 h
Hours of light	~ 5 h
Protection class	IP44

Ref. no.	Colour	Length	Width	Luminous flux		€
345625	black	17 cm	3,9 cm	1.800 lm	1/20/40	



Mobile Spotlights and Lamps

LED Torch FlexFire 1000

- powerful, rechargeable LED torch with 1,000 lumens • robust aluminium housing
- Light head with 90° rotation function • with clip for easy attachment to belts, shirt pockets, etc. • with magnet at the end of the housing for flexible attachment to metallic surfaces • ideal for working or activities in dark places: workshop, maintenance work, inspection work, household, outdoors, camping • USB-C charging interface (rechargeable Li-Ion battery included) • incl. USB cable

New product

NEW



Technical data

Light levels	5 light levels
Light level modes	100 % / 50 % / 25 % / Flashing / SOS
Battery charge time	5 h
Hours of light	~ 5 h
Protection class	IP44

Ref. no.	Colour	Length	Width	Luminous flux		€
345626	black	13,7 cm	2,5 cm	1.000 lm	1/20/40	

LED head lamp HeadFire 280 sensor

- powerful LED head lamp with motion sensor • COB LED (280 lumen) with 230° light angle for extremely bright, wide-area illumination • additional LED spotlight (100 lumens) on the side for targeted illumination • contactless switching on/off by hand movement thanks to motion sensor • ideal for working or activities in dark places: work, maintenance, outdoors, jogging, walking, riding and camping • with 5 light modes: COB LED 100 %, COB LED 25 %, spot 100 %, spot 25 % and flashing • elasticated headband can be adjusted to the size of the head or helmet • USB-C charging interface (rechargeable Li-Ion battery included) • incl. USB cable


New product

NEW



Technical data

Light levels	3 light levels
Light level modes	100 % / 25 % / Flashing
Battery charge time	2,5 h
Hours of light	~ 4 h
Protection class	IP22

Ref. no.	Colour	Luminous flux		€
345629	black	280 lm	1/50/100	



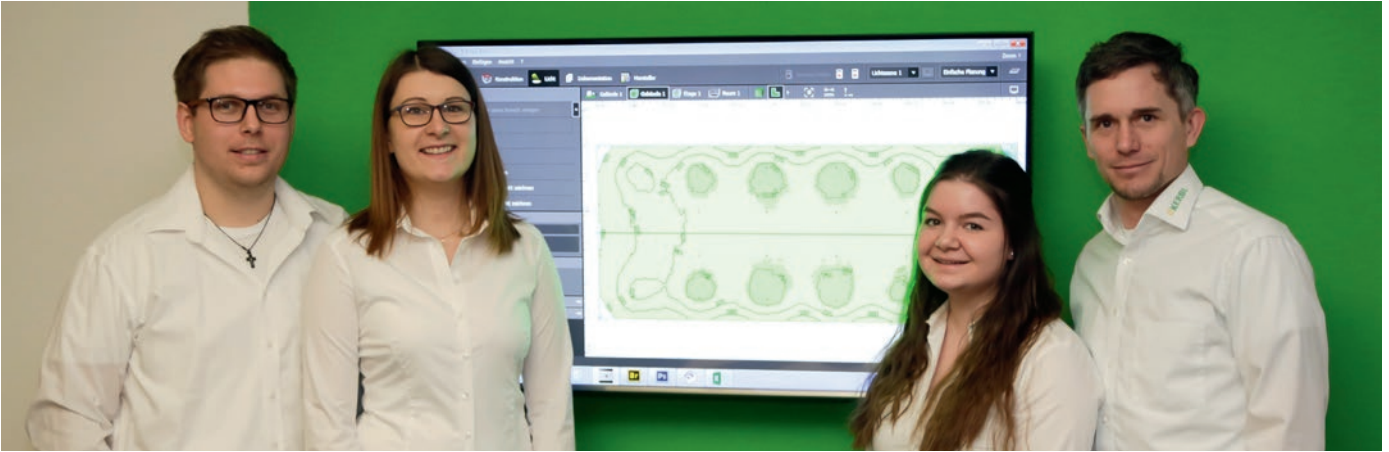
Recommended illumination levels

Recommended illumination levels in accordance with DIN EN 12464-1.

Recommended light levels for rooms and open spaces are determined by which activities are to be carried out there.

Recommended illumination levels	Lux
Typical office lighting	500
Agriculture	
Calving Pens and Food Preparation	200
Light regime for increasing milk production	200
Pig Sty	80
Stalls for sick animals	200
Loading and operating of conveyors and machines	200
Sales rooms	
Sales area	300
Checkout area	500
Packing Table	500
Riding	
High-level competitions and training	500
Mid-level competitions, performance training	300
Easy competitions, training, recreational sports	200
Bearing	
Packing and posting area	300
Storage rooms for similar, large-scale storage goods	50
Storage rooms with search tasks, not similar storage goods	100
Storage room with reading tasks	200
High bay warehouses with pathways and personnel	150
High bay warehouses with pathways without personnel	20
Installation work	
Heavy-duty work	200
Medium fine work	300
Fine work	500
Very fine work	750
Vehicle repair shops and vehicle inspection sites	300
Exhibition and show rooms	
General lighting	300
Machinery hall	200
Metalworking, metal processing	
Weld	300
heavy-duty and mid-level machine work	300
detailed machine work, grinding	500
Marking, inspection	750
Surface treatment and painting	750
General areas, activities and tasks	
Entrance hall	100
Waiting rooms	200
First Aid rooms	500
Break rooms, lounges	200
Public Lighting	
Public access and parking	5-10
company car parks	10
Electrical industry	
Cable and wire production	300
galvanising	300
Installation work	
for heavy-duty work such as large transformers	300
mid-level work such as switchboards	500
detailed work such as telephones	750
very detailed work such as measurement instruments	1000
Traffic zones	
Traffic areas and corridors	100
Stairs, Escalators, Moving Walkways	150
Loading ramps, loading areas	150

Professional lighting design by Kerbl



Upon request, we can create a professional lighting design for you that is tailored to your individual needs.

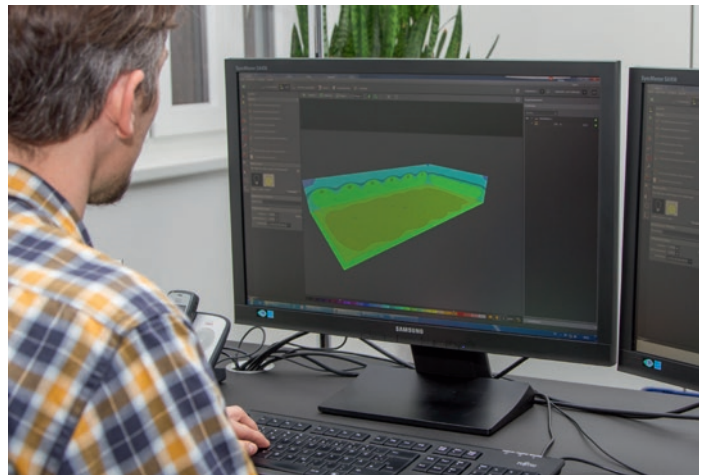
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Our team will be happy to answer your questions. Just call or contact us by e-mail.

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You can find more information and advice on LED lighting on the Internet at:
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Modules

Our module system is your best advisor!

The informative and clear product presentation reduces the problem of selection:

- The purchase characteristics can be seen on the packaging.
- Catalogues and leaflets are at your service to provide more information.
- We offer different presentation options to suit your requirements, in the form of module systems and lower level placings.

Module illustrations are for the purpose of example only.



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