GLARE FREE LED FLOODLIGHT

DarkLicht M



Shown: DarkLicht M300, 51,300 lm, cut off set to 69°.

CE · IP69K · IK08 · Class II · C5 ISO 9223 · Ta −45 … +50 °C · 90–305 VAC · 24 VDC · ULOR 0 % · DarkSky DS-1 · cut off 63–75° · NSVV

51,300 lumens completely without glare. The heavy cut off floodlight of the range, for mobile light towers, cranes and construction sites that have to deliver full working light next to housing, a carriageway or a protected area. Available in 24 V DC as well as AC.

LUMINOUS FLUX	POWER	EFFICACY
51,300 lm	300 W	171 lm/W
ULOR	**CUT OFF**	**INGRESS**
0 %	63–75°	IP69K

Values apply to the standard version at 4000 K, Ta 25 °C, including reflector losses and driver consumption, with the cut off set to the standard position.

WHY IT IS SPECIFIED

Full working light where a floodlight would be refused. A site told to reduce its lighting normally aims its floodlights down until the work is no longer lit properly. This removes the trade.

24 V DC straight onto a mobile light tower. Light towers run on a generator or a battery. The M is available in 24 V DC, which removes the inverter and makes the tank or the charge last longer.

171 lm per watt with the cut off in place. The energy argument is what normally kills a cut off solution, because a shielded floodlight throws away part of its output and the site then needs more masts.

WHERE IT IS USED

- Mobile and towable light towers
- Tower cranes and mobile cranes
- Construction and infrastructure sites
- Night work on and alongside roads
- Industrial sites bordering housing
- Rail works and possession lighting
- Demolition and remediation sites
- Event and temporary site lighting
- Yards and laydown areas near dwellings
- Sites under an NSVV obtrusive light condition
- Ports and terminals with a residential boundary
- Agricultural and horticultural sites near housing

VERSIONS

	M300	M150
Article base code	DRKM05 AC · DRKM04 DC	DRKM03 AC · DRKM02 DC
Luminous flux	51,300 lm	25,700 lm
Power	300 W	150 W
Efficacy	171 lm/W	171 lm/W
Supply	90–305 VAC or 20–32 VDC	90–305 VAC or 20–32 VDC
Dimensions	287 mm across the bracket, 350 mm over the glass, 207 mm deep	268 × 248 × 180 mm
Weight	5.5 kg	3.6 kg

Both output levels are available in AC and in 24 V DC. For a fixed terrain installation on mains supply the **DarkLicht D** is the simpler and more economical choice; for a high mast the **DarkLicht One, Two and Three**.

Light output and optics

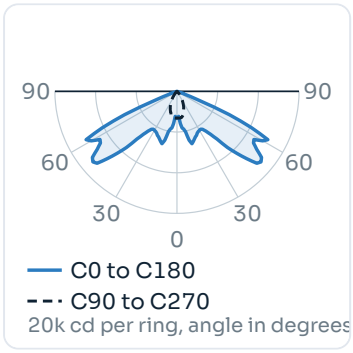
Values apply to the M300 at Ta 25 °C with the cut off in the standard position. The whole DarkLicht line shares one light distribution, so the diagrams below apply to every type at its own luminous flux.

BEAM CHARACTERISTICS

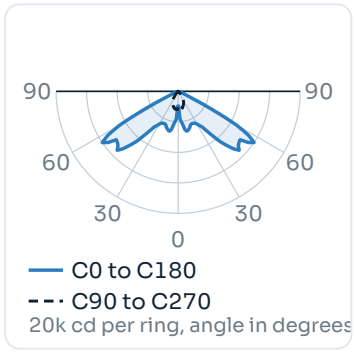
Setting	Distribution	Cut off	Beam angle 50 % of peak	Typical use
63°	Full cut off, asymmetric	63°	–	Tight boundaries, a site directly against housing or a carriageway
66° and 69°	Full cut off, asymmetric	66° and 69°	–	The usual settings for a yard or a car park
72°	Full cut off, asymmetric	72°	123°	Wider cover where the boundary allows it
75°	Full cut off, asymmetric	75°	132°	Maximum reach, sites without a sensitive boundary

The DarkLicht does not use lenses. A patented parabolic reflector throws the light forward and down and cuts it off completely above the set angle, which is set at the factory to the shield position given on the order, between 63 and 75 degrees. The two diagrams show the two shielding positions of the reflector. The whole DarkLicht line shares one light distribution, so one measured set covers every type in the range and a lighting designer works with one photometric behaviour at every mounting height.

LIGHT DISTRIBUTION



Shielding position 1



Shielding position 2

OBTRUSIVE LIGHT

ULOR at 0° tilt	**0 %**
Cut off angle	Factory set, shield position S1 to S5, 63° to 75°
Standards	NSVV guideline · DarkSky DS-1 · EN 12464-2 · EN 12193

A conventional floodlight lights everything in front of it, including the sky, the neighbour and the driver approaching the site. The DarkLicht range is built the other way around: a patented parabolic reflector, not a lens, cuts the light off completely above an angle that is set at the factory between 63 and 75 degrees and specified with the order. Upward light output ratio is 0 %, and the luminaires have been third party tested against the DarkSky DS-1 requirements at colour temperatures between 1700 and 2200 K.

COLOUR AND CONSISTENCY

Colour temperatures	5700 K, 5000 K, 4000 K, 3000 K, 2700 K, amber 2200 K, 1800 K, 1700 K
Tuneable white	4000 K with 2200 K and 1700 K, switchable in operation
DarkSky DS-1	Met at 1700 to 2200 K, third party tested
Colour rendering	Ra > 70 standard, optionally 80 or 90
Colour consistency	MacAdam step 3 or better
LED service life	TM-21 L90B05 > 103,500 h

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.

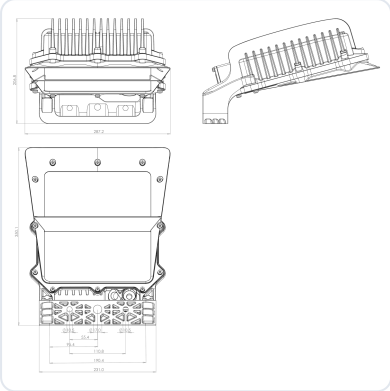
	DarkLicht M300	DarkLicht M150
PERFORMANCE		
Luminous flux	51,300 lm	25,700 lm
Power consumption	300 W	150 W
Efficacy	171 lm/W	171 lm/W
Upward light output ratio	0 % at 0° tilt	
Cut off angle	63°, 66°, 69°, 72° or 75°, factory set, shield position S1 to S5	
ELECTRICAL AND DRIVER		
Supply voltage range	90–305 VAC, or 20–32 VDC	90–305 VAC, or 20–32 VDC
Current draw AC	2.7 A at 110 V · 1.4 A at 220 V	1.4 A at 110 V · 0.7 A at 220 V
Current draw DC	12.5 A at 24 V	6.3 A at 24 V
Power factor at full load	> 0.95 at 60 to 100 % load on AC	
Surge protection	6 kV line to line, 10 kV line to earth (IEC 61000-4-5)	
Dimming	0–10 V, PWM, DALI-2 on AC. DC on request	
Driver	AC: remote BLD320, fits the DRB-1. DC: drivers on board	AC: remote BLD240, fits the DRB-1. DC: drivers on board
Driver life	≥ 100,000 h at Tc 75 °C on the AC versions	
CONSTRUCTION		
Housing	Cast aluminium, less than 0.08 % copper	
Optic	Patented parabolic reflector, no lens	
Bracket	Fixed bracket, aluminium, less than 0.08 % copper	
Front	Impact resistant glass, IK08	
Protection class	Class II	
Ingress protection	IP66, IP67, IP68 and IP69K, each class tested separately	
Impact resistance	IK08 (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 > 103,500 h	
Cable and termination	AC: H07BQ-F, 4 cores (2 × 2.5 mm² + 2 × 0.5 mm²), 2.0 m. DC: 2 cores, 0.3 m	AC: H07BQ-F, 4 cores, 2.0 m. DC: 2 cores (2 × 1.5 mm²), 0.3 m
Dimensions	287 mm across the bracket, 350 mm over the glass, 207 mm deep	268 × 248 × 180 mm
Weight	5.5 kg	3.6 kg
Wind load, frontal at 0°	55,500 mm²	35,000 mm²
Wind load, frontal at 20°	81,300 mm²	52,600 mm²
Wind load, side	34,500 mm²	32,200 mm²
Warranty	5 years on the complete luminaire	

The wind load figures for the DarkLicht M are calculated envelope areas from the dimensional drawing, not measured values: the 2023 DarkLicht wind rating report covers the D series, the S60 and the large types but not the M. A drag coefficient of 1.15 is taken from the tested D series of the same housing family. The calculated envelope is conservative for a structural check.

Mechanics, mounting and driver

All drawings are to scale and dimensioned in millimetres. DXF and STEP models are available on request.

HOUSING AND BRACKET



M300	287 mm across the bracket, 350 mm over the glass, 207 mm deep, 5.5 kg
M150	268 × 248 × 180 mm, 3.6 kg
Bracket	Fixed, aluminium, less than 0.08 % copper
Front	Impact resistant glass, IK08
Optic	Patented parabolic reflector
Mounting	Mast, light tower, crane jib or structure

WIND LOAD, CALCULATED

M300 frontal at 0°	55,500 mm²
M300 frontal at 20°	81,300 mm²
M150 frontal at 0°	35,000 mm²
M150 frontal at 20°	52,600 mm²
Side, both	34,500 and 32,200 mm²
Drag coefficient	Cd 1.15, from the tested D series

MOUNTING AND ACCESSORIES

Fixed bracket	Aluminium, supplied as standard
DRB-1 driver box	For the remote driver on the AC versions
Light tower mounting	24 V DC direct, no inverter
Simpler terrain version	DarkLicht D, mains supply with the driver inside
High mast version	DarkLicht One, Two and Three
Machine version	DarkLicht S and DarkLicht Mini

DRIVER

AC M300	Remote BLD320, 225 × 68 × 38.5 mm, 1,120 g
AC M150	Remote BLD240, 215 × 67.5 × 33.5 mm, 1,100 g
DC versions	Drivers on board, no external box
Case temperature	Tc −40 to +90 °C
Lifetime	≥ 100,000 h at Tc 75 °C
Enclosure	Bare, or in the DRB-1

On a light tower the DC version wins twice. No inverter to fail and no inverter losses, so the same tank of fuel or the same battery charge runs the lighting for longer.

DRB-1 DRIVER BOX



Use	Optional housing for the remote driver on the AC versions
DRB-1	One driver up to 320 W. 276 × 194 × 86.5 mm, 4.2 kg, IP66 and IP67
Ingress protection	IP66 and IP67
DC versions	Not applicable

Ordering, standards and documents

ORDER CODE

Example **DRKM05-40K**

DarkLicht M300 AC, 4000 K

DRKM05 · DRKM04	M300 at 51,300 lm, AC · DC
DRKM03 · DRKM02	M150 at 25,700 lm, AC · DC
AC · DC	90–305 VAC · 20–32 VDC
57K · 50K · 40K · 30K · 27K	5700 K · 5000 K · 4000 K · 3000 K · 2700 K
22K · 18K · 17K	Amber 2200 K · 1800 K · 1700 K, DarkSky DS-1 range
TW	Tuneable white, 4000 K with 2200 K and 1700 K

The cut off angle is a factory setting: give the shield position S1 to S5 with the order. Bracket, control protocol and cable length are confirmed at order.

COMBINATIONS

Tuneable white with DS-1 colours	Possible
24 V DC on a light tower	Standard
DALI-2 on AC	Standard
Cut off at any setting	Standard
High temperature	Not available
316L housing	Not available

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	IEC 62262 IK08	In-house test
Corrosion	ISO 9223 class C5, industrial and marine	In-house test
Obtrusive light	NSVV guideline · DarkSky DS-1 at 1700 to 2200 K · EN 12464-2 · EN 12193	Third party 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.

PRODUCT PAGE

IES files and revision history, DXF and STEP on request, and project references.
jelproducts.nl/en/products/darklicht-m

WHERE IT EARNS ITS PLACE

The DarkLicht M earns its place on projects that move and still have neighbours. A light tower, a tower crane or a road works site is somewhere different every few weeks, and every one of those places has somebody living, driving or sleeping next to it. Fixed shields and careful aiming do not survive that. An optic does.

Notes. Values are for the standard configuration. The cut off angle is a factory setting and does not change the luminous flux, only where the light lands. The stated LED service life of L90B05 > 103,500 hours is the figure for the DarkLicht range and is lower than the 360,000 hours of the floodlight range; that is a property of this reflector platform. The JEL range is not ATEX or Ex certified.