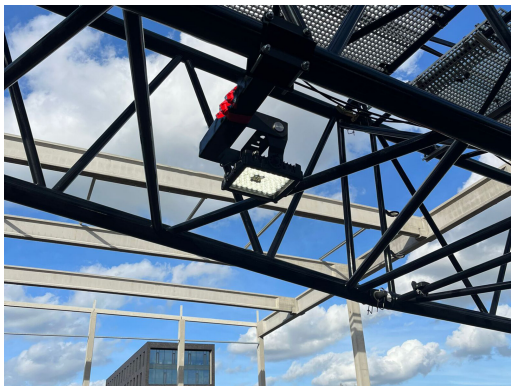
CRANE BOOM MOUNTING SYSTEM

Crane Light Stabilizer



Shown: Shark on the Crane Light Stabilizer, mounted on a lattice boom.

CE | Machinery Directive | Shock 10 g | C5 Maritime | Aluminium, titanium-based coating | 316L option | Three damping classes | Fully mechanical | No welding to the boom | 5 years on the bracket | In stock

A floodlight bolted rigidly to a lattice boom does exactly what the boom does: it swings along. The Crane Light Stabilizer hangs the luminaire so that it holds its own aim while the boom is raised, lowered or slewed, set to the movement and the shock you actually expect.

SHOCK TESTED	DAMPING CLASSES	LUMINAIRES
10 g	3	3
LOAD CAPACITY	**WARRANTY, BRACKET**	**DELIVERY**
+25 % margin	5 years	In stock

The bracket is mechanical and needs no supply of its own. Load capacity is the weight of the mounted luminaire plus a margin of 25 percent. The discs are wear parts and are not covered by the warranty on the bracket.

WHY IT IS SPECIFIED

The beam stays on the load. The moment the light is needed most, when a load is being hooked on or set down, a rigid bracket has already walked the beam off the work zone. The further the luminaire sits from the pivot, the larger the swing.

Shock stops at the bracket. A diesel engine, a load taking up, a grab biting into bulk: a rigid bracket passes all of it straight into the housing. Above the set point the joint gives way instead of transmitting.

Nothing is welded to the boom. Welding to a certified boom section is out of the question for almost every crane owner. The CLS uses existing holes or a clamp system, so the structure is unchanged.

WHERE IT IS USED

Mobile lattice and crawler cranes	The largest group, fitted per crane and per boom length
Mobile harbour cranes	High slew speeds, continuous duty and a salt load
Offshore cranes and lifting vessels	The deck moves as well as the boom
Bulk harbour cranes	Grab work in dry bulk and scrap, heaviest damping class
Luffing jib tower cranes	Limited space, high mounting points, strict glare requirement

WHICH LUMINAIRES IT CARRIES

Shark	AC and DC, the standard choice on a lattice boom, also on a 48 V supply
Barracuda	AC and DC, compact and light, where weight on the boom counts
Orca	AC and DC, maximum distance and area, heavy harbour cranes

Each bracket version is designed around the luminaire that hangs in it, so there is no universal CLS with adapter plates and the bracket is never sold on its own. Looking for tiltable modules, a driver box and control from the cab? That is the **Crane Light Director**.

How it works

The CLS is deliberately mechanical. A spring presses two discs together, and that friction decides how much force is needed to move the luminaire out of its position. Below that set point the luminaire holds its aim while the boom moves. Above it, at a real shock, the joint gives way instead of passing the load into the housing.

A CHOICE, NOT A SAVING

There is no hydraulics, no gas spring and no electronics in the bracket. An oil damped construction costs more, is more sensitive to leakage and to temperature, and asks for maintenance that on a crane in the field simply does not happen. Two discs and a spring fit into the maintenance interval of the crane, with tools that are already in the workshop.

WHAT YOU SET IT TO

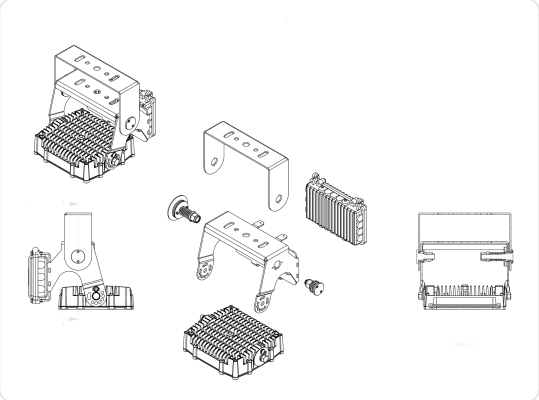
The damping degree	Setting the spring tighter or looser decides how much movement the luminaire allows. A bulk crane with a grab asks for a tighter setting than a crawler crane lifting on a building site.
The luminaire angle	The starting angle the floodlight hangs at, depending on the luminaire type and on where you want the light. This goes in steps, not continuously.

Both are set at commissioning and can be adjusted afterwards by your own technical service. No special tools are needed. On topping and de-topping the luminaire angle is retained, so nobody has to go up the boom to re-aim the light.

WHAT IT IS NOT

Not powered	The bracket is mechanical. No supply, no signal, no failure mode of its own
Not self-levelling by gravity alone	Friction holds the aim, so it also holds through vibration
Not universal	Each version is calculated on the weight and the shape of its luminaire
Not sold separately	Always supplied with a Shark, Barracuda or Orca

HOW IT GOES TOGETHER



Exploded view, Barracuda rear mount version.

EARLIER NAMES

In earlier documentation the part also appears as **swingbracket** or as a self-centring mounting bracket. Both spellings Stabilizer and Stabiliser are in use. We use Crane Light Stabilizer, abbreviated CLS.

THREE DAMPING CLASSES, FROM BULK HANDLING TO TOWER CRANE

Not every crane moves the same way. What a grab crane produces in shock never occurs on a tower crane. The bracket is therefore set to one of three levels, agreed with you when the enquiry is drawn up.

Class	Typical work	What the bracket sees	Typical cranes
Heavy	Bulk handling	Continuous movement, hard impact on closing and discharging, heavy vibration in the structure. Tightest spring setting	Harbour cranes and floating cranes in bulk handling, scrap cranes
Medium	Container handling and offshore	Regular, predictable cycles with considerable masses, without the blows of grab work. On a lifting vessel the ship movement is continuously added	Mobile harbour cranes, container cranes, cranes on offshore lifting vessels and heavy transport ships
Light	Lifting on site	Long, calm movements and little shock. The task is holding the aim rather than absorbing impact	Crawler cranes on site, mobile lattice cranes, luffing jib tower cranes

Cranes, luminaires and optics

The bracket was developed for booms that move and that you are not allowed to modify. Which luminaire you choose depends on the distance you have to cover and on the supply on board the crane.

WHICH FLOODLIGHTS FIT IN THE BRACKET

Specification	Shark	Barracuda	Orca
Luminous flux	Up to 50,000 lm	44,100 lm AC, 40,800 lm DC	111,300 lm AC, 100,200 lm DC
Power	320 W	240 or 320 W	800 W
Supply AC	90–305 V, 180–528 V	90–305 V, 180–528 V	180–528 V
Supply DC	20–35 V, 35–60 V	20–35 V	35–65 V, nominal 48 V
Weight	9.2 kg	10.1 kg, 316L 16.0 kg	22.7 kg, 316L 36.3 kg
Dimensions	335 × 350 × 90 mm	320 × 290 × 90 mm	515 × 440 × 95 mm
Ingress and impact	IP69K, IK10	IP69K, IK10	IP69K, IK10
LED life	L90B05, 360,000 h	L90B05, 360,000 h	L90B05, 360,000 h
What it is for	The standard choice on a lattice boom, also on a 48 V supply	Compact and light, where weight on the boom counts	Maximum distance and area, heavy harbour cranes

One luminaire per bracket is standard and versions with more than one luminaire are made to order. There is no universal CLS with adapter plates: every version is calculated on the weight and the shape of the luminaire that hangs in it, which is exactly why the bracket is never sold on its own.

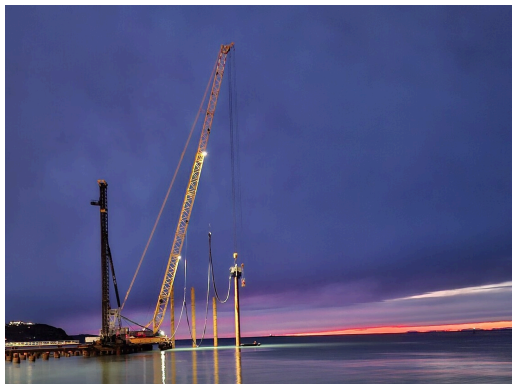
THE RIGHT OPTIC PUTS THE LIGHT IN THE RIGHT PLACE

A stabilized bracket holds the beam still, the optic decides where that beam lands. On a crane boom that is a trade-off between distance and width. We settle it at the enquiry, on boom length, mounting height and the area you want lit.

Optic	Distance	Where it is used
14° spot	50 to 300 m	The choice for long booms and high mounting points
38° wide	30 to 100 m	The most used optic on mobile cranes
14° × 46°	Up to 150 m	Spread wide, for a work area wider than it is deep, such as a quay
69° wide	15 to 60 m	The immediate work area around the load

Photometry is measured in house to IES LM-79 and the IES files are available per optic and per luminaire. Lens combinations within one luminaire are possible. The optic is part of the luminaire order code, not of the bracket.

IN SERVICE

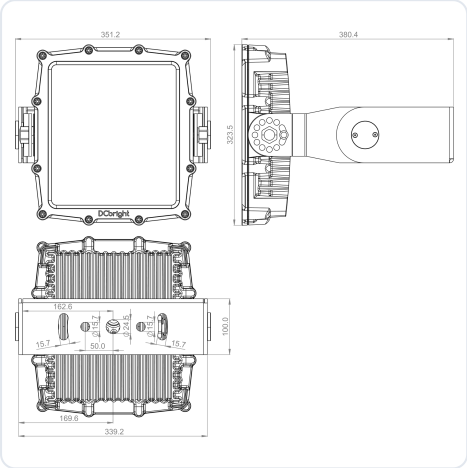


Quay work at dusk. The emphasis is on retrofit: in almost every case an existing crane where the factory lighting did not deliver.

Mechanics and dimensions

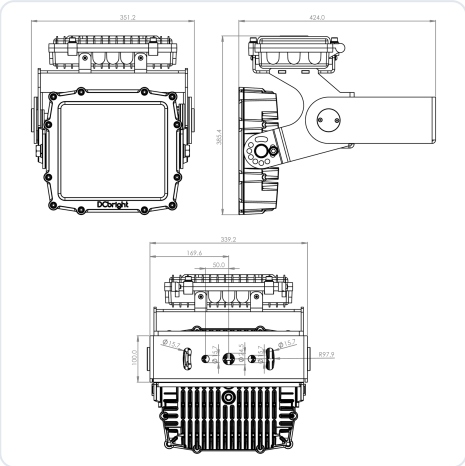
All drawings are to scale and dimensioned in millimetres. Dimensions are the luminaire complete with its bracket. DXF and STEP models are available on request.

SHARK STABILIZING BRACKET



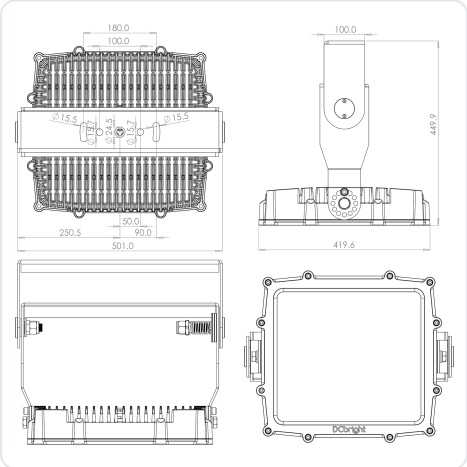
Overall	351.2 × 380.4 × 323.5 mm
Mounting plate	339.2 × 100.0 mm
Hole centres	169.6 mm, 162.6 mm, 50.0 mm
Fixing holes	Ø 15.7 mm, plus slots
Cable entry	Ø 24.5 mm central
Driver	Remote, separate from the bracket

BARRACUDA BRACKET, DRIVER ON THE BRACKET



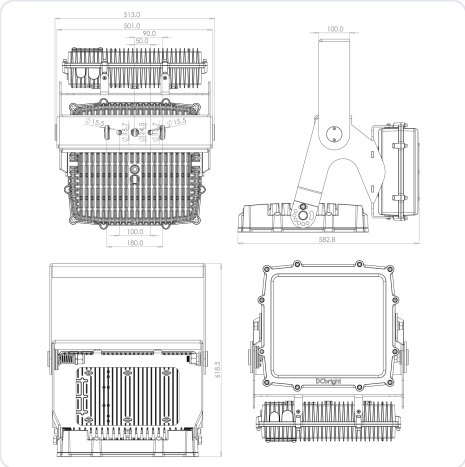
Overall	351.2 × 424.0 × 385.4 mm
Mounting plate	339.2 × 100.0 mm
Hole centres	169.6 mm, 50.0 mm
Fixing holes	Ø 15.7 mm, plus slots, R 97.9 mm
Cable entry	Ø 24.5 mm central
Driver	Remote, carried on the bracket

ORCA STABILIZING BRACKET



Overall	501.0 × 419.6 × 449.9 mm
Mounting plate	Width 100.0 mm
Hole centres	250.5, 180.0, 100.0, 90.0 and 50.0 mm
Fixing holes	Ø 15.7 mm, slots Ø 15.5 mm
Cable entry	Ø 24.5 mm central
Driver	Remote, separate from the bracket

ORCA BRACKET, DRIVER ON THE BRACKET



Overall	513.0 × 582.8 × 618.5 mm
Mounting plate	Width 100.0 mm
Hole centres	180.0, 100.0, 90.0 and 50.0 mm
Fixing holes	Ø 15.7 mm, slots Ø 15.5 mm
Cable entry	Ø 24.5 mm central
Driver	Remote, carried on the bracket

The bracket weight depends on the version and on the material. In the 316L stainless steel execution the four versions above weigh 7.1 kg, 9.3 kg, 8.7 kg and 9.7 kg respectively. The coated aluminium execution is considerably lighter and the figure is confirmed at order.

Mounting, material and full specification

Welding to a certified boom section is out of the question for almost every crane owner, so the CLS is set up so that nothing about the structure has to change.

MOUNTING WITHOUT WELDING

Existing fixing points	In most cases existing holes or existing fixing points in the boom are used
Clamp system	Where those are absent, the bracket is clamped around the section
Cable routing	Along existing routes, or on a cable reel where the boom length varies
Bespoke per crane	Which of the two applies depends on the crane, so this is engineered per machine
What we need	Crane make and type, boom length and boom section, the supply voltage on board, and a few photographs of the intended position

MATERIAL, CORROSION AND MAINTENANCE

Standard	Aluminium with the same titanium-based industrial coating as our luminaires, qualified for C5 Maritime
Why aluminium	Everything at the tip of a boom counts twice, and coated aluminium gives the same protection at a fraction of the weight of stainless steel
Option	Fully 316L stainless steel, where a class society or a material policy asks for it
Moving parts	Corrosion is a sharper point on a moving part, so the material choice around the discs and the spring is set on not seizing and not drifting
Disc set	Wear part, replaced every one to two years depending on use, kept in stock and fitted by your own technical service

We say this beforehand rather than afterwards. A bracket that is called maintenance free and allows more movement than intended after eighteen months produces a discussion nobody wants to have.

FULL SPECIFICATION

Working principle	Spring loaded disc system, fully mechanical
Adjustable	Damping degree through spring tension, luminaire angle in steps
Damping classes	Heavy, medium and light
Luminaires	Shark, Barracuda, Orca, AC and DC
Luminaires per bracket	One as standard, more on request
Load capacity	Weight of the mounted luminaire, plus a margin of 25 percent
Material, standard	Aluminium with titanium-based coating, C5 Maritime
Material, optional	316L stainless steel, fully
Mounting	Existing fixing holes or a clamp system, no welding
Cable routing	Bespoke per crane, cable reel available
Shock resistance	Tested to 10 g
Wind load	Not tested, absorbed through spring tension
Supply	None. The bracket is mechanical
Weight	Depending on the version and the material
Dimensions	Depending on the version, see page 4
Certification	CE, Machinery Directive
Warranty	5 years on the bracket, the discs are wear parts
Maintenance	Disc set replaced every one to two years, kept in stock
Delivery	In stock, all versions

The CLS is the bracket. The **Crane Light Director** is the complete system around it, with tiltable modules, a driver box and control from the cab. The CLS is available on its own, the Crane Light Director is not.

Ordering, standards and documents

VERSIONS

Bracket	Luminaire	Driver
Shark stabilizing bracket	SH66-320AC, SH66-320DC	Remote, separate
Barracuda stabilizing bracket	BA48-320AC	Remote, on the bracket
Orca stabilizing bracket	OR156-800AC	Remote, separate
Orca stabilizing bracket with driver	OR156-800AC	Remote, on the bracket

The bracket is ordered together with its luminaire, so the luminaire order code and the damping class carry the order. Colour temperature, optic, control protocol and cable length are confirmed on the luminaire. Versions with more than one luminaire per bracket are made to order.

WHAT WE SETTLE AT THE ENQUIRY

Damping class	Heavy, medium or light
Luminaire and optic	On distance and area
Fixing	Existing holes or a clamp
Cable routing	Fixed route or a cable reel
Material	Coated aluminium or 316L
Luminaires per bracket	One, or more on request

STANDARDS AND VERIFICATION

Subject	Standard	Verification
Machinery	CE, Machinery Directive	Self-declaration
Shock	Tested to 10 g	In-house test
Wind load	Not tested. Absorbed through spring tension	Not measured
Corrosion	ISO 9223 class C5 Maritime, titanium-based coating	In-house test
Material, optional	316L stainless steel, fully	Material certificate on request
Substances	RoHS, REACH	Self-declaration

BEFORE YOU ORDER

Send us crane make and type, boom length and section, supply voltage and a few photographs.

We agree the damping class with you, on the work the crane actually does.

Five years warranty on the bracket, disc set as a spare part, kept in stock.

PRODUCT PAGE

Frequently asked questions, project references and the mounting video. DXF, STEP and IES files on request.
jelproducts.nl/en/products/crane-light-stabilizer

WHERE IT EARNS ITS PLACE

On a fixed structure a floodlight is aimed once and then it is right. On a crane boom the angle, the height, the slew direction and the load all keep changing, and no better lamp solves that. The CLS earns its place the moment the crane driver stops lighting the sky on the way up, and the moment a shock stops at the bracket instead of at the housing.

Notes. The bracket is brand independent, the mounting is not: it is engineered per crane and per boom section. Wind load has not been tested and we prefer to say so rather than claim a figure we have not measured. In earlier documentation the versions also appear in 304 and 316 stainless steel with a dual layer powder coating; coated aluminium is the current standard and 316L is the option. The JEL range is not ATEX or Ex certified.