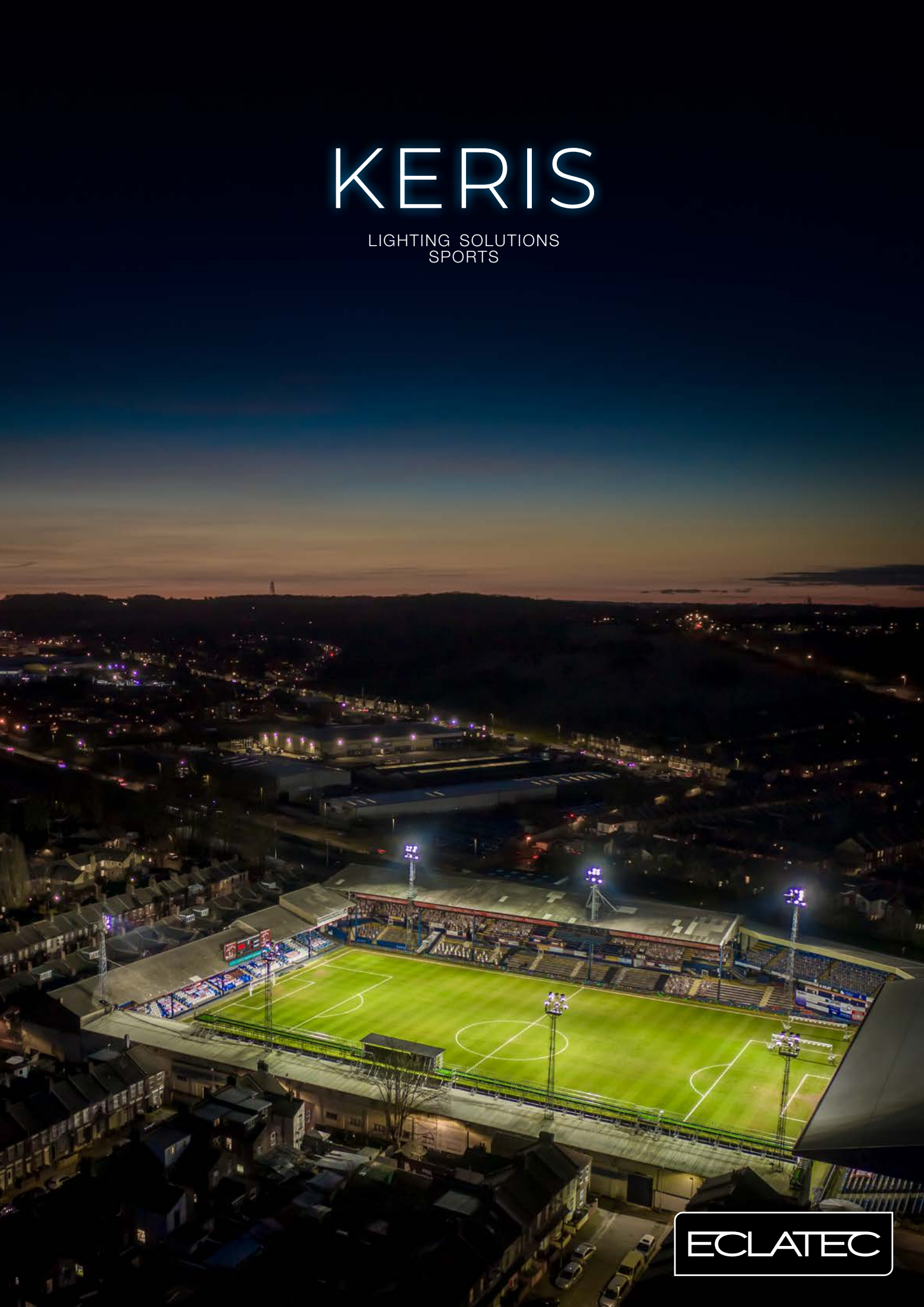
KERIS

LIGHTING SOLUTIONS
SPORTS



ECLATEC

CONTENTS

KERIS, a LED floodlight range for all applications

ECLATEC has been developing lighting solutions adapted to all the needs of a constantly changing urban space for over 95 years.
We have a complete range of LED floodlights to provide the comfort, safety and well-being of users, while controlling energy consumption.

KERIS 1, KERIS 2, KERIS 3 & KERIS 4

Efficiency combined with aesthetics

SMART, including WIZARD remote management and CA2P Bluetooth control

ZDi 4™

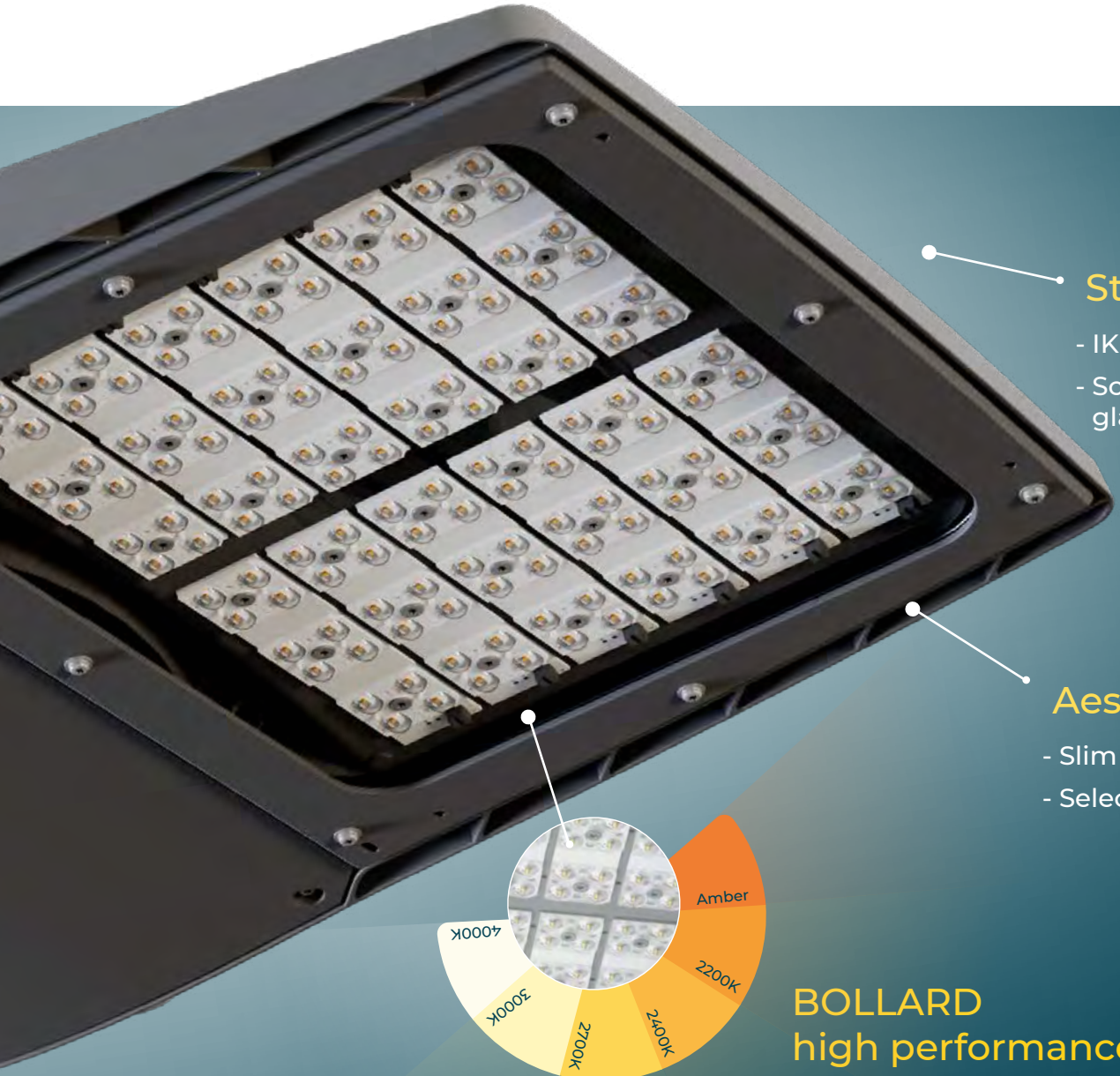
Connection

- Anchored cable gland

Directional bracket

Maintenance & accessibility

- Easy access to sources and power supplies
- Separate equipment compartment (KERIS 3 & 4)



Strong

- IK 10, IP 66
- Screened printed glass

Aesthetics

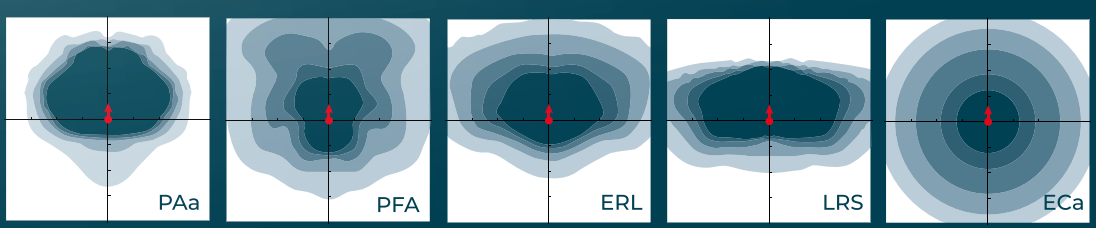
- Slim line
- Selection of colours

BOLLARD high performance

- Tunable White
- RGBW

ECLATEC photometric distributions *

- Optimised and adapted to different uses (illuminance, luminance, projection, asymmetrical, symmetrical...)
- Barn door



* Partial list of distributions

KERIS 1, KERIS 2, KERIS 3 & KERIS 4

Technical specifications

KERIS 1

KERIS 3

KERIS 2

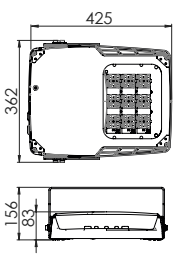
KERIS 4

DESCRIPTION

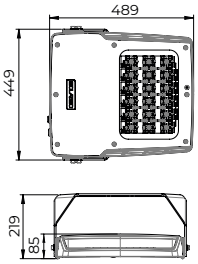
Model	KERIS 1	KERIS 2	KERIS 3	KERIS 4
Luminaire body	Die-cast aluminium body			
Bowl	Heat treated, toughened glass			
Finish	Polyester powder coating, choice of colours			
Shock resistance	IK 09	IK 10	IK 10	IK 10
Waterproofing	IP 66 rating as per the EN 60 529 standard Extruded silicone seal Securely fastened cable gland Projector breathes through an active carbon filter			
Dimensions (mm) (L x W x H)	425 x 362 x 83	489 x 449 x 85	659 x 545 x 78	749 x 545 x 78
Weight	7 kg	11 kg	16 kg	17.3 kg
SCx	0.04 m²	0.04 m²	0.07 m²	0.08 m²
Material assessment				
Aluminium	32%,	37%,	47%	44%
Steel	32%	29%	25%	22%
Glass	16%	20%	14%	15%
Other	19%	14%	14%	15%
Plastics	-	-	-	4%
Electrical rating	Class I or II			

HARD WIRED

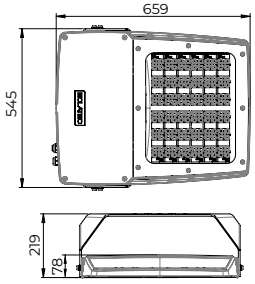
KERIS 1



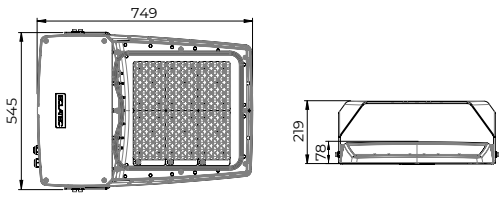
KERIS 2



KERIS 3



KERIS 4

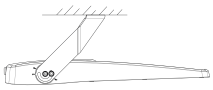


MECHANICAL INTERFACES

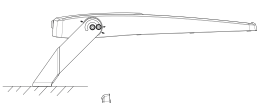
Bracket, paint optional: mounted or suspended

Tilts:

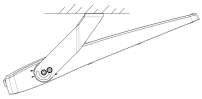
Suspended 0°



Supported 0°

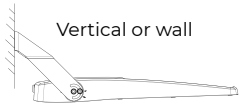


Suspended 20° Max.



Supported 90°

Vertical or wall



Wall-mounted, paint option: mounted or suspended fixing

Top tip, for KERIS 2, 3 and 4

MAINTENANCE

Appliance maintenance	**KERIS 1 and KERIS 2:** Direct access to the power supply after removing the bowl. Removable plate. **KERIS 3 and KERIS 4:** Direct access to the power supply after removing the lower cover fixed using 4 captive screws. Removable plate
Source maintenance	Direct access to the BLS strips and KERIS 4 LED module after removing the bowl

SOURCES & PHOTOMETRIC DISTRIBUTIONS

	KERIS 1	KERIS 2	KERIS 3	KERIS 4
Sources	BLS bars - RGBW option			KERIS 4
Colour temperatures	Amber*, 2200 K, 2400 K, 2700 K, 3000 K, 4000 K, others on request			3000 K, 4000 K, 5700 K, others on request
Specific optics	**QUADRALENS**			**KERIS 4**
	PFA, EPG, EPD, ETS, ECa, ECb, PSa, PAa, ERE, ERS, ERL, LRS, LRL			ERS, ERL, ASY 30 M, ASY 40 M
Power supply current	Adjustable up to 700 mA (1)			Configurable up to 850 mA
Power (2)	up to 114 W	up to 210 W	up to 410 W	up to 550 W
Flux (2)	up to 17700 lm	up to 33144 lm	up to 66287 lm	up to 76000 lm

*Approx. 1800K **(1)** I>700mA possible on request **(2)** For more details, refer to the overview of LED solutions available on our website
E/L/P: Illuminance/Luminance/Projection, **R/C/T/F/P:** Road/Circular/Pavement/Beam/Pedestrian crossing, **E/S/L/A/D/G:** Narrow/Standard/Wide/ Asymmetrical/Right/Left

BLS strips

SMART

	KERIS 1	KERIS 2	KERIS 3	KERIS 4
At the lighting point				
Adjustable power supply current (driver or pole foot)	√	√	√	√
Dimming (driver, pole foot or Bluetooth)	√	√	√	√
Built-in detection	√	√	-	-
Remote detection	√	√	√	√
DALI protocol	√	√	√	√
Smart-Ready® pre-fittings (ZD4i)	√	√	√	√
In a local network				
Hard wired communicating detection	√	√	√	√
Wireless communicating detection	√	√	√	√
Remote management				
WIZARD remote management	√	√	√	√

Details of the available features in the ECLATEC LED overview

IN COMPLIANCE WITH THE FRENCH "LIMITATION OF LIGHT POLLUTION" ORDER OF 27 DECEMBER 2018 [outside specific restriction zones)]:

All KERIS 1, 2, 3 and 4 floodlight versions:
- Lighting ULR at a 0° pitch: 0%
- Maximum lighting pitch allowing for an ULR < 4%:

	Optics only	With barn door
PFA	21°	20°
LRS	41°	35°
LRL	32°	30°
ETS	29°	27°
ERL	27°	26°

	Optics only	With barn door
ERE	34°	32°
PSa	43°	36°
PAa	34°	33°
ECa	26°	not applicable
ECb	35°	not applicable

- CIE flux code n°3: greater than 95%
- Colour temperatures (2400 K to 3000 K)
  KERIS 4: 3000 K, others on request
- Surface density determined by the ECLATEC design office after project data analysis
- Light trespass:
  - option, barn doors adapted to LED sources
  - installation recommendations making it possible to define light trespass
- Supply of all mandatory information required by the manager using a flashcode

KERIS 5.1, 5.2 & KERIS 6 V2

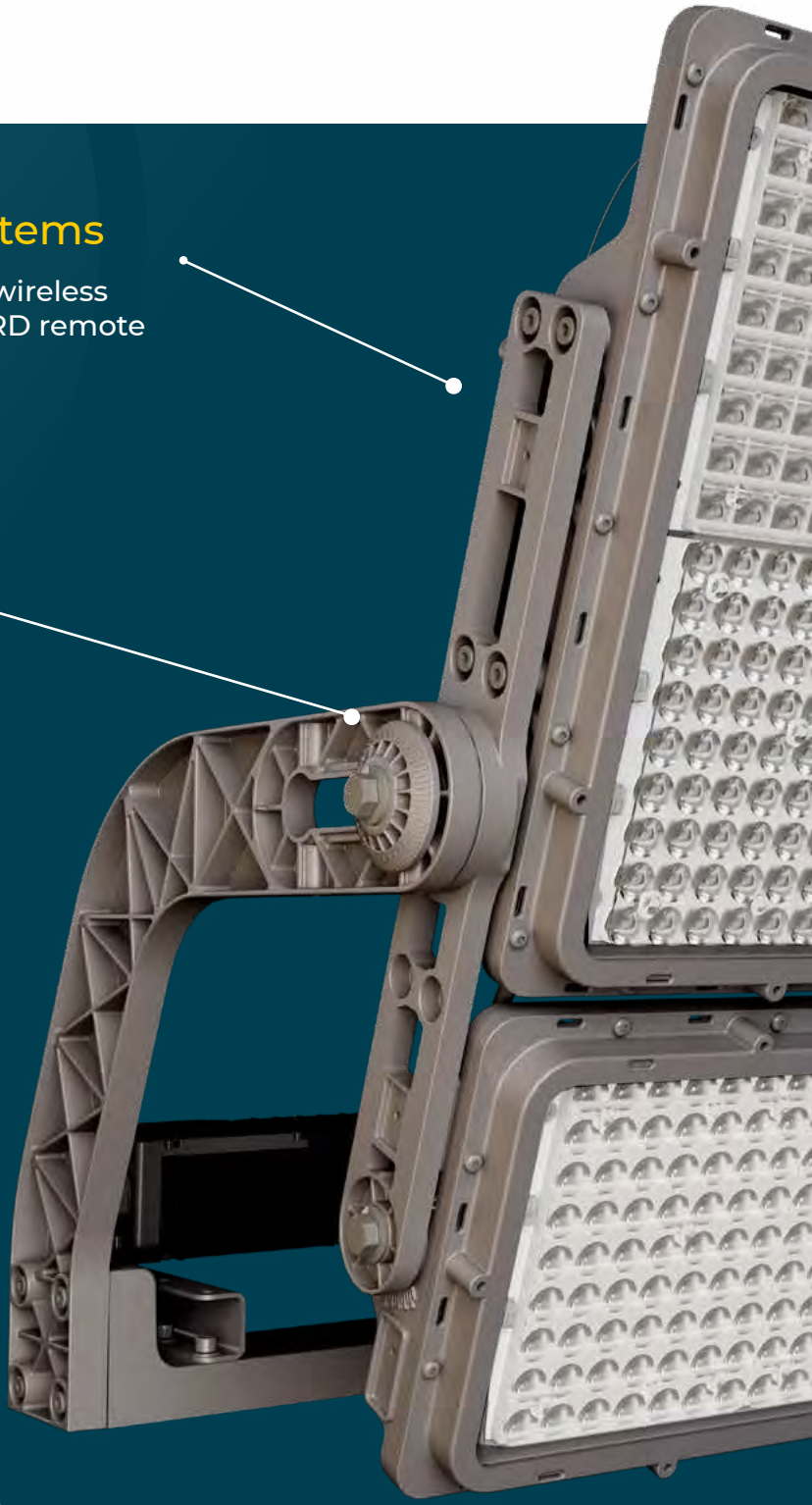
Power & performance

Control systems

- Hard wired or wireless
- Local or WIZARD remote control

Easy adjustments

- Reversible bracket, for wall mounting or suspension,

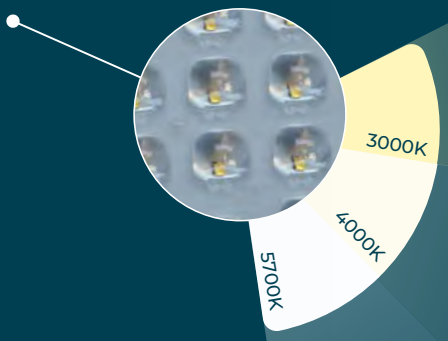


Assembly & modularity

- Minimal size, weight and wind resistance
- Modularity and differentiated lens settings
- Built-in or remote power supply up to 200 m:
  - 230V - 400V
  - Power adjustable up to 1500W
  - Protocols: DALI, DMX, ZD4i
  - 10kV protection
- Easy maintenance and access

Strong

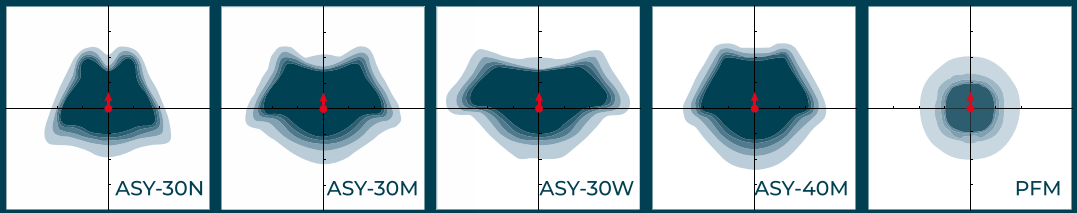
- IP 66
- High-transparency non-reflective glass bowl, IK09
- Polycarbonate bowl, lightweight and high strength, IK10



BOLLARD high performance

ELATEC photometric distributions *

- Optimised and adapted to different uses (asymmetric and symmetric projections, intensive, medium and wide)
- Internal and external barn doors



* Partial list of distributions, mixes possible

KERIS 5.1, 5.2 & KERIS 6 V2

Technical specifications

KERIS 5.1

KERIS 5.2

KERIS 6

DESCRIPTION

Model	KERIS 5.1	KERIS 5.2	KERIS 6
Luminaire body	Galvanised steel bracket	Bracket, module interfaces, radiators and electric connection box in injected cast aluminium	
Bowl	In thermally tempered non-reflective glass Polycarbonate bowl		
Finish	Modules in grey AK61		
Shock resistance	PC Bowl: IK 10 - Glass bowl: IK 09		
Waterproofing	IP 66 as per the EN 60 529 standard Extruded silicone seal Securely fastened cable gland Floodlight venting using a membrane filter		
Dimensions (mm) (L x W x H) With power supply Without power supply	615 x 501 x 252 615 x 346 x 252	700 x 865 x 395 700 x 660 x 395	700 x 1025 x 395 700 x 820 x 395
Weight (Top bowl without power supply)	13.4 kg	24.3 kg	34.6 kg

Surface area (m²)	With power supply.	Without power supply.	With power supply.	Without power supply.	With power supply.	Without power supply.
0°	0.10	0.07	0.19	0.13	0.19	0.13
10°	0.12	0.09	0.24	0.18	0.26	0.21
20°	0.14	0.11	0.28	0.22	0.34	0.29
30°	0.15	0.14	0.32	0.27	0.40	0.37
40°	0.17	0.15	0.36	0.31	0.45	0.44
50°	0.18	0.17	0.38	0.34	0.50	0.50
60°	0.19	0.18	0.40	0.37	0.54	0.54
70°	0.20	0.19	0.41	0.39	0.56	0.56

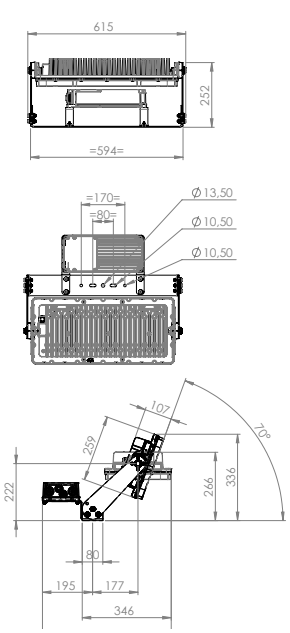
Electrical rating	Class I

SETTINGS

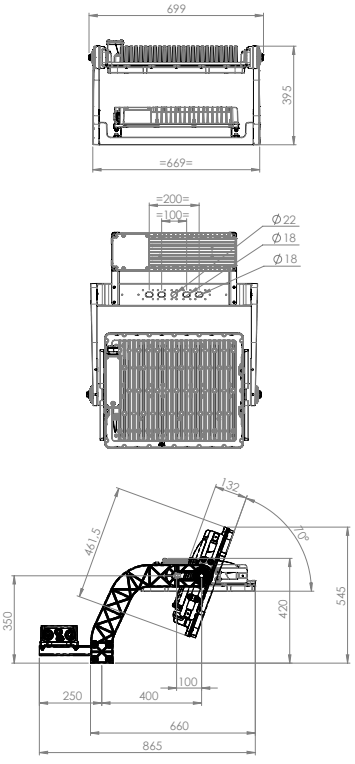
Bracket	free tilt when supported and 0 to 90° when suspended, indicators every 5°
Settings	Red dot type sights Fixed position perpendicular to the modules on the side of the floodlight (can be tilted for certain specific configurations)
KERIS 6 module orientation	Attached or separate LED modules. Differentiated LED module settings possible

HARD WIRED

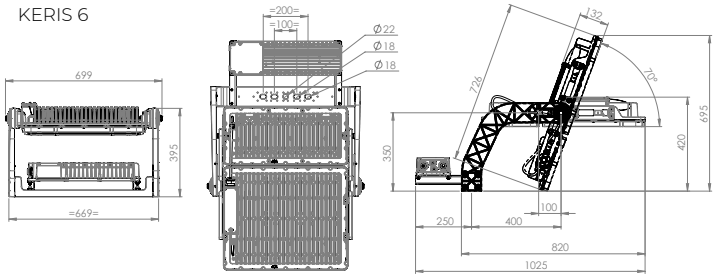
KERIS 5.1



KERIS 5.2



KERIS 6



ACCESSORY

Bird deterrent

SOURCES & PHOTOMETRIC DISTRIBUTIONS

	KERIS 5.1	KERIS 5.2	KERIS 6
Sources	KERIS 5 and 6		
Colour temperatures	3000 K, 4000 K or 5700 K (others on request)		
CRI	CRI 70 or 80 (others on request)		
Distribution	Asymmetrical: ASY-30N; 30M; 30W; 40M; 65M and 65N (wide open spaces) Athletics track: PSA Floodlighting type: PFL 1 and 2; PFM 1 and 2; PFI 1 to 4		
Optional barn door	**Barn doors:** CFF: Strong barn door / CFM: Medium barn door **Grids:** GIF: Strong internal grid / GEF: Strong external grid **Caps:** CAF: Strong cap		
LED flux (lm) (1)	Up to 95993	Up to 191987	Up to 287979

(1) For more details, please refer to the LED solutions overview
E/L/P: Illuminance/Luminance/Projection, **R/C/T/F/P:** Road/Circular/Pavement/Beam/Pedestrian crossing,
E/S/L/A/D/G: Narrow/Standard/Wide/ Asymmetrical/Right/Left

SMART

	KERIS 5.1	KERIS 5.2	KERIS 6
ZD4i compatibility	√	√	√
DALI or DMX protocols	√	√	√
Control in a local network	√	√	√
WIZARD remote management	√	√	√

POWER SUPPLY

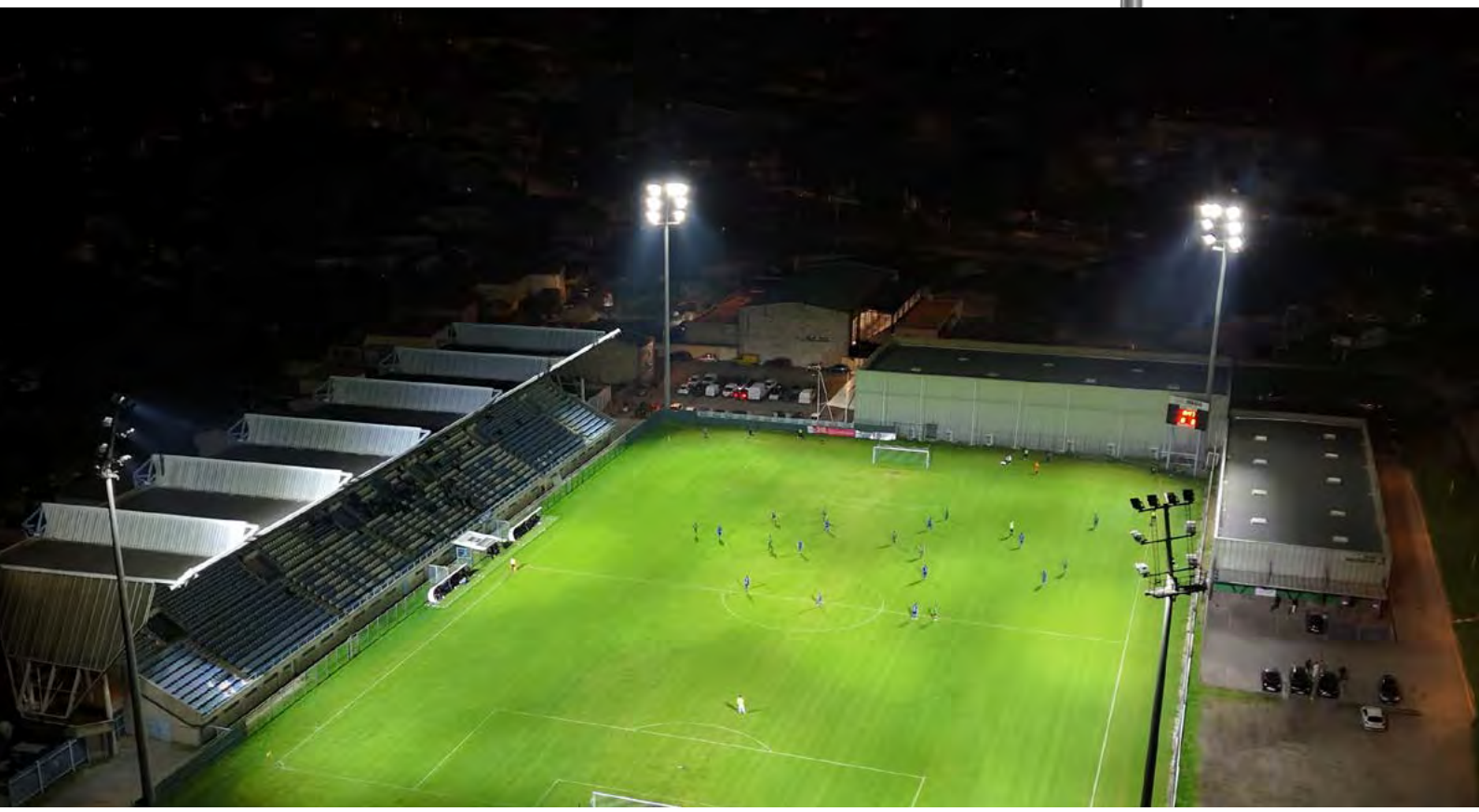
	KERIS 5.1	KERIS 5.2	KERIS 6
Adjustable power (W)	Up to 600	Up to 1200	Up to 1800
Protocol	ZD4i, DALI or DMX		
Power supply voltage	220/480 V	220/480 V	230/400 V
Protection	10 kV, in ground fault and common mode		
Waterproofing rating	IP 66		
RAL	Anthracite grey 7016		
Dimensions in mm (L x W x H)	310 x 145 x 70	500 x 152 x 80	500 × 152 × 90
Weight	3 kg	5 kg	7 kg
Location	Fixed to the back of the floodlight on the bracket / At the pole foot / Remote up to 200 m in an electric cabinet		
Service life	120,000 h		
Compliance	Electromagnetic compatibility EN 55015, EN 55032, EN 61547, EN 61000-(3-2;3-3; 4-2;4-3;4-4;4-5;4-6;4-11)		

STANDARDS, MARKINGS AND CERTIFICATIONS

Compliance	**CE compulsory marking:** - Directive 2014/35/EU, Low voltage Directive - Directive 2014/130/EU Electromagnetic Compatibility - Directive 2011/65/EU Restriction of Hazardous substances (RoHS) - Directive 2009/125/EC Ecodesign requirements
NF EN 60598-1	Luminaires
NF EN 60598-2-5	Floodlights
FFF	Pitch and sports facility lighting regulations
REACH	Compliance of products and their manufacturing method with the Chemical Substance Management Regulatory framework
WEEE	Waste Electrical and Electronic Equipment
ECOSYSTEM	ECLATEC is a member

SPORTS LIGHTING

to put every talent on show!



Sports lighting includes leisure, training and competition facility technology.
These different spaces need precision lighting adapted to all users.
Every encounter is important and good visibility is essential for athletes to optimise their performance and for the spectators who admire them.

The KERIS range supports all your outdoor development projects (from leisure pitches and stadiums to multi-sports complexes), as well as your indoor projects (gymnasiums, swimming pools, ice rinks, etc.).

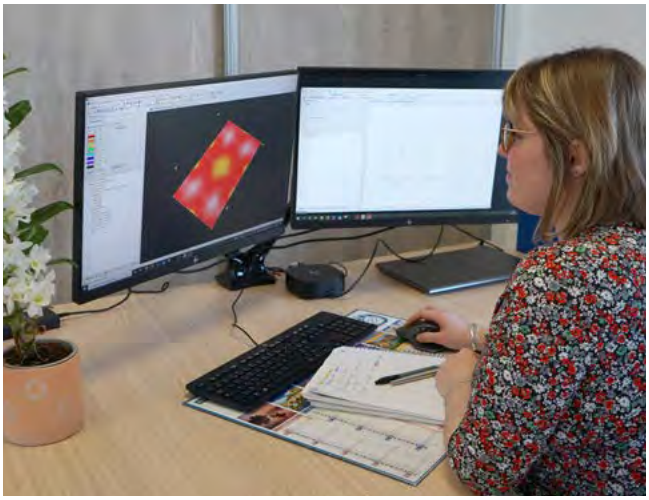
Our teams of professionals are by your side to advise you and offer their expertise to match your choices to the needs of users.

Always in the thick of the action, lighting provides spectators and players intense moments in the excitement of an encounter.

PRECISE SIZING

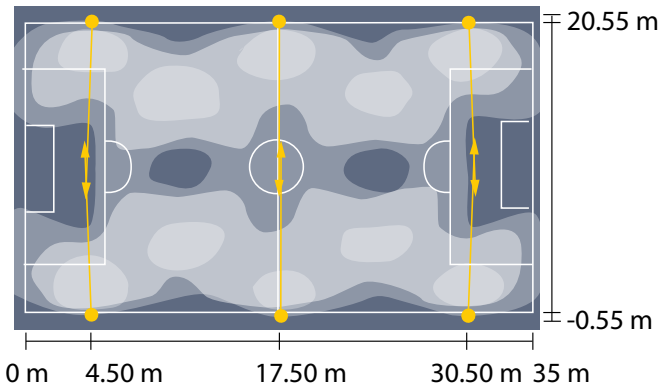
Because the types of activity (indoor or outdoor) and their intensity (from very high level competition to amateur leisure sports) are all different, the expectations regarding facility lighting are unique.

Our "lighting consultancy" service composed of specialised engineers and technicians refers to the lighting standards of all the federations to propose solutions adapted to each installation. The results provided in their studies take into account precise calculations based on a perfectly defined distribution of the floodlights over the surface area in question.



Case studies

The following examples comply with the lighting standards and expectations of each federation. Feel free to consult our teams to size your project.

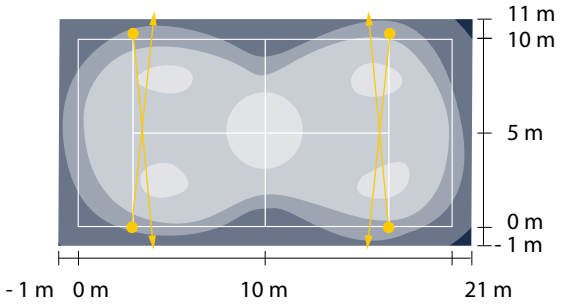


5-a-side football pitch

Number of floodlights	6 KERIS 3 + barn door
Colour temperature (K)	4000K
Power per floodlight	228 W
LED flux per floodlight	31120 lm
Installation height	6.30m

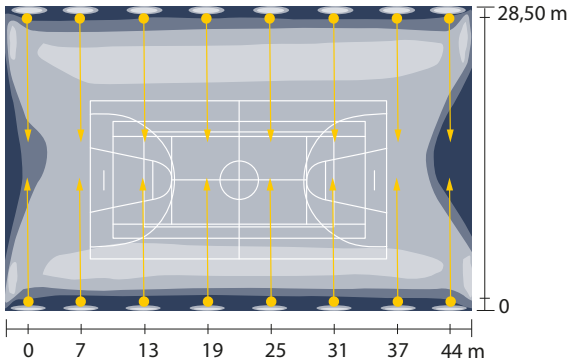
Padel court

Number of floodlights	4 KERIS 4
Colour temperature (K)	5700K
Power per floodlight	254 W
LED flux per floodlight	40110 lm
Number of poles	4
Floodlights per pole	1
Installation height	7m



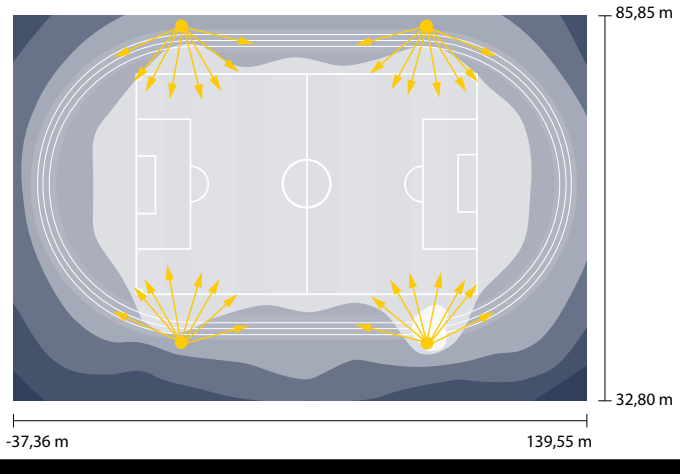
Gymnasium

Number of floodlights	8 KERIS 3	8 KERIS 3
Colour temperature (K)	4000K	4000K
Power per floodlight	412 W	412 W
LED flux per floodlight	48858 lm	48858 lm
Installation height	5.45m	6.45m



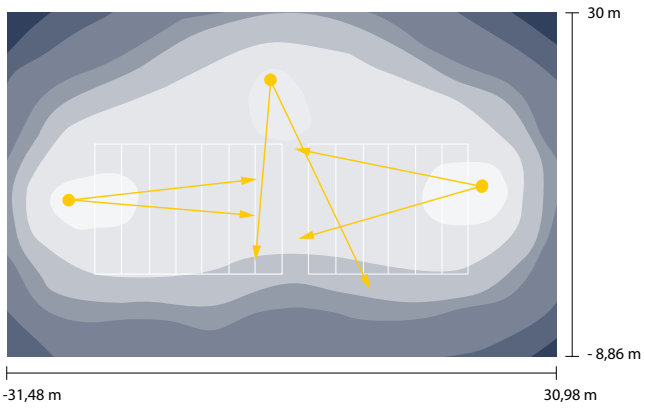
Football pitch E5 - 250 lux and athletics track

Number of floodlights	24 KERIS 6 V2
Colour temperature (K)	5700K
Power per floodlight	1760 W
LED flux per floodlight	267199 lm
Number of poles	4
Floodlights per pole	6
Installation height	26m



Bowling green

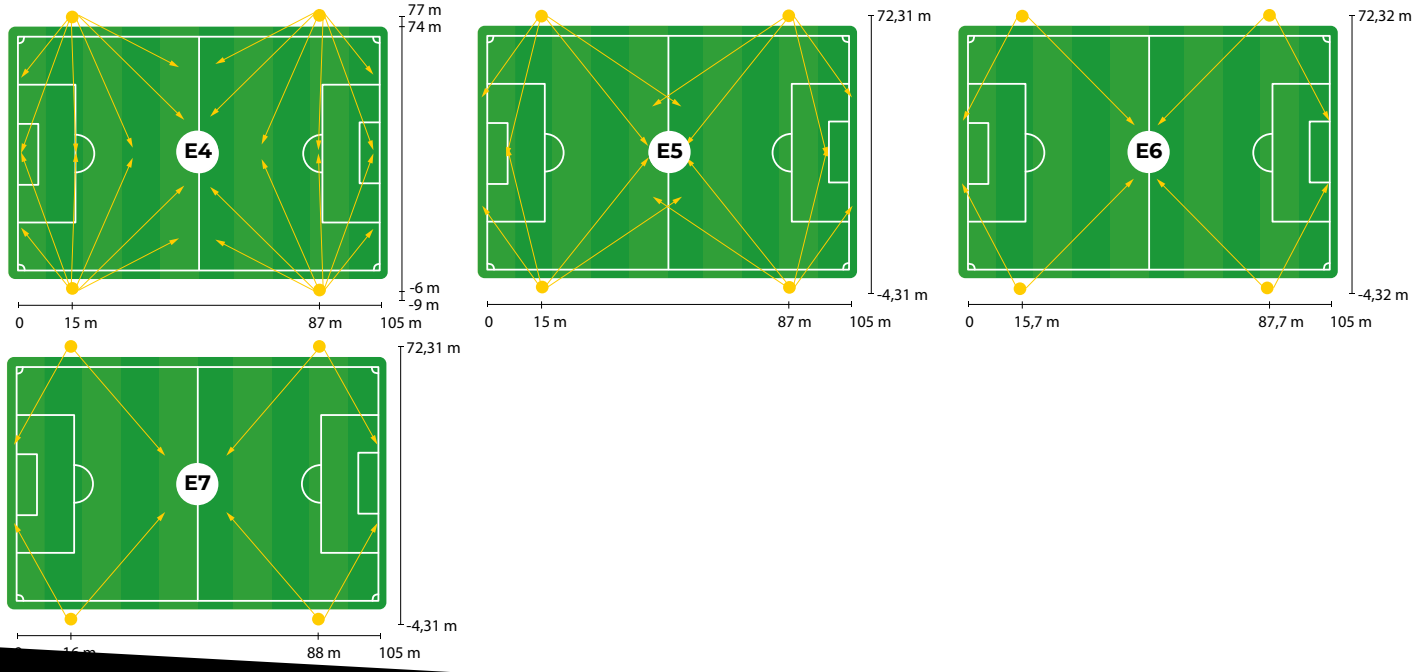
Number of floodlights	4 KERIS 3	2 KERIS 3
Colour temperature (K)	4000K	4000K
Power per floodlight	412 W	412 W
LED flux per floodlight	45117 lm	45117 lm
Number of poles	2	1
Floodlights per pole	2	2
Installation height	8m	10m



Football configurations

Examples of applications - Compliant with the European Standard EN 12193 sports facility lighting regulations

	E4 Pitch **105 x 68 m, 400 lux**	**E5 pitch** **105 x 68 m, 250 lux**	**E6 pitch** **105 x 68 m, 150 lux**	**E7 pitch** **105 x 68 m, 75 lux**
Number of floodlights	20 KERIS 6 V2	16 KERIS (8 KERIS 5.2 V2 + 8 KERIS 6 V2)	8 KERIS 6 V2	8 KERIS (4 KERIS 5.1 V2 + 4 KERIS 5.2 V2)
Colour temperature (K)	5700K	5700K	5700K	5700K
Power per floodlight	1760 W	KERIS 5.2 V2: 1180 W KERIS 6 V2: 1760 W	1760 W	KERIS 5.1 V2: 600 W KERIS 5.2 V2: 1180 W
LED flux per floodlight	267199 lm	KERIS 5.2 V2: 177508 lm KERIS 6 V2: 267199 lm	267199 lm	KERIS 5.1 V2: 90170 lm KERIS 5.2 V2: 177508 lm
Number of poles	4	4	4	4
Floodlights per pole	5	4	2	2
Average installation height	18m	18m	18m	18m
Pole distance from the goal line	18m	18m	18m	18m
Pole distance from the sideline	4m	4m	4m	4m
Average lighting	465 lux	301 lux	198 lux	97 lux
Uniformity Min lighting / Average lighting: Min lighting / Max lighting:	 0.83 0.63	 0.85 0.66	 0.77 0.47	 0.59 0.39

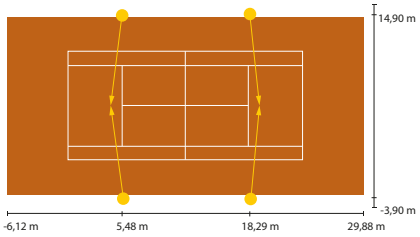


Tennis configurations

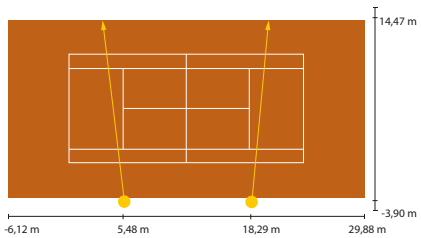
Examples of applications - Compliant with the European Standard EN 12193 sports facility lighting regulations

	Single **4 poles - h = 9 m**	**Single** **2 poles - h = 10 m**	**Double** **4 poles - h = 11 m**	**Interior** **h = 7 m**	**Padel** **4 poles - h = 7 m**
Number of floodlights	4 KERIS 5.1 V2	2 KERIS 5.2 V2	4 KERIS 5.2 V2	10 KERIS 3	4 KERIS 4
Colour temperature (K)	5700K	5700K	5700K	4000K	5700K
Power per floodlight	426 W	895 W	835 W	308 W	223 W
LED flux per floodlight	69823 lm	148000 lm	147623 lm	43119 lm	36392 lm
Number of poles	4	2	4		4
Floodlights per pole	1	1	1		1
Average installation height	9m	10m	11m	7m	7m
Average lighting	342 lux	346 lux	337 lux	528 lux	358 lux
Uniformity Min lighting / Average lighting:	0.82	0.89	0.80	0.83	0.83

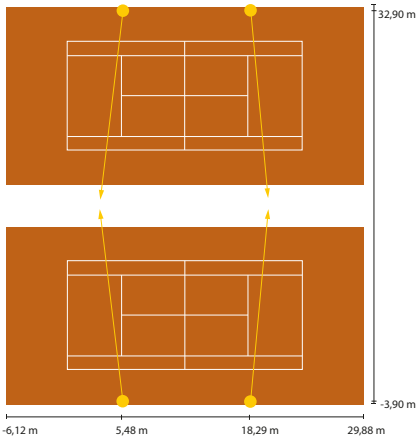
Single - 4 poles - h = 9 m



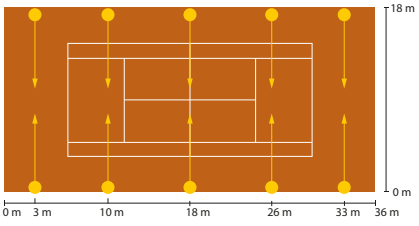
Single - 2 poles - h = 10 m



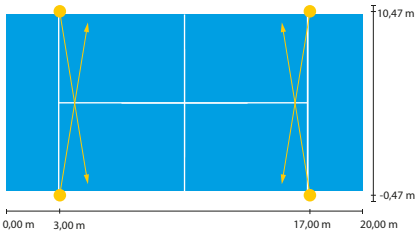
Twinned - 4 poles - h = 11 m



Indoor pitch - h = 7 m



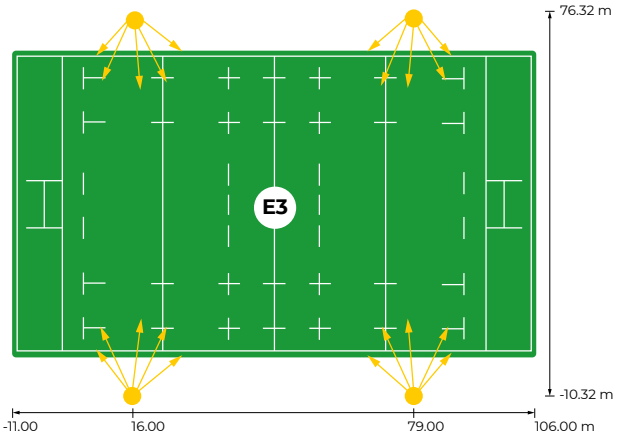
Padel - 4 poles - h = 7 m

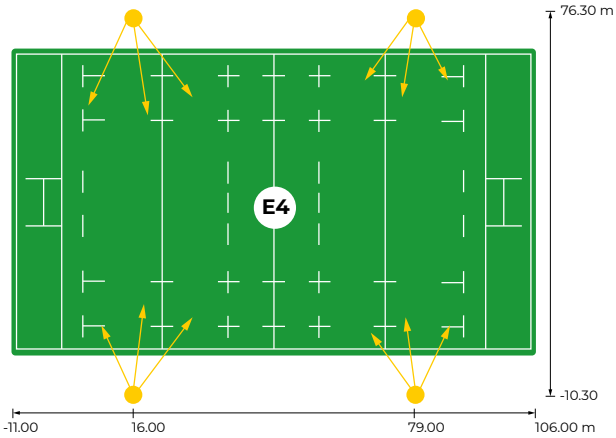


Rugby configurations

Examples of applications - Compliant with the European Standard EN 12193 sports facility lighting regulations

	E3 pitch **95 x 66 m**	**E4 Pitch** **95 x 66 m**
Number of floodlights	8 KERIS 5.2 V2 + 8 KERIS 6 V2	4 KERIS 5.1 V2 + 8 KERIS 6 V2
Colour temperature (K)	5700K	5700K
Power per floodlight	KERIS 5.2 V2: 1180 W KERIS 6 V2: 1760 W	KERIS 5.1 V2: 600 W KERIS 6 V2: 1760 W
LED flux per floodlight	KERIS 5.2 V2: 179770 lm KERIS 6 V2: 267199 lm	KERIS 5.1 V2: 89787 lm KERIS 6 V2: 267199 lm
Number of poles	4	4
Floodlights per pole	4	3
Average installation height	21.5m	21.5m
Pole distance from the goal line	16m	16m
Pole distance from the sideline	10m	10m
Average lighting	320 lux	220 lux
Uniformity Min lighting / Average lighting: Min lighting / Max lighting:	 0.85 0.63	 0.87 0.64





QUALITY SUPPORT
For optimum implementation

Our technical teams can help you with the settings, measurements and configuration of the supervision system.

They therefore help to ensure that your sports facilities are compliant.

IT'S YOUR TURN TO PLAY!

ECLATEC supports you at every stage of your projects to satisfy all the stakeholders (installation companies, local authorities, project managers, sports federations, etc.).

Our local sales teams are always ready to listen, so don't hesitate to contact them for customised studies tailored to your needs.

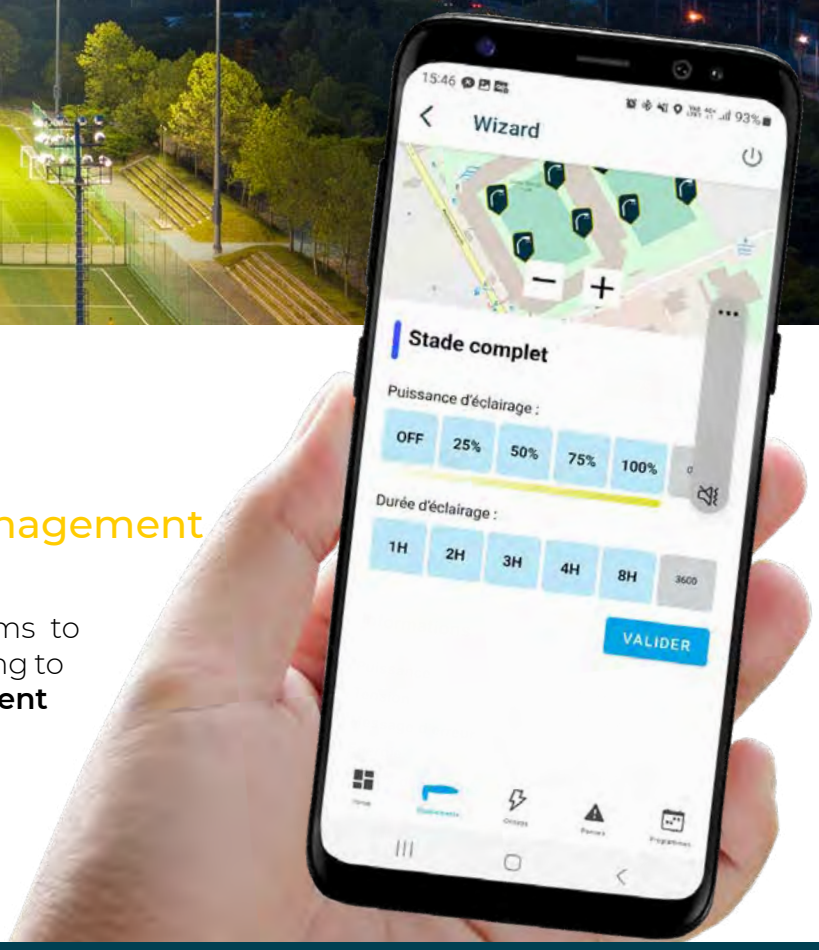
NEXIODE AGORA Connect

WIZARD SPORTS

MANAGE AND CONTROL YOUR SPORTS FACILITIES!

The **WIZARD sports** remote management system is used to monitor and control your **entire sports installation** on site and remotely.

This solution operates using a **secure web interface** which can be accessed from any device connected to the Internet: **computer, tablet or mobile phone.**



Remote control

WIZARD Sports remote management

ECLATEC offers several control systems to adjust the lighting parameters according to the type of activity to **adapt to the different use and installation conditions**.

ECLATEC's WIZARD sports solution provides simple, versatile, and optimised lighting of sports facilities.

✓ Adjustable

Power variation:

- Depending on the activities and associated pitches (half pitches, full pitches, tracks, etc.)
- Depending on use (training, competitions, events, etc.)

✓ Compliance

- With the requirements of sports federations to improve the performance and safety of athletes

✓ Respectful

- Lighting properly to reduce light nuisance for local residents, and light pollution

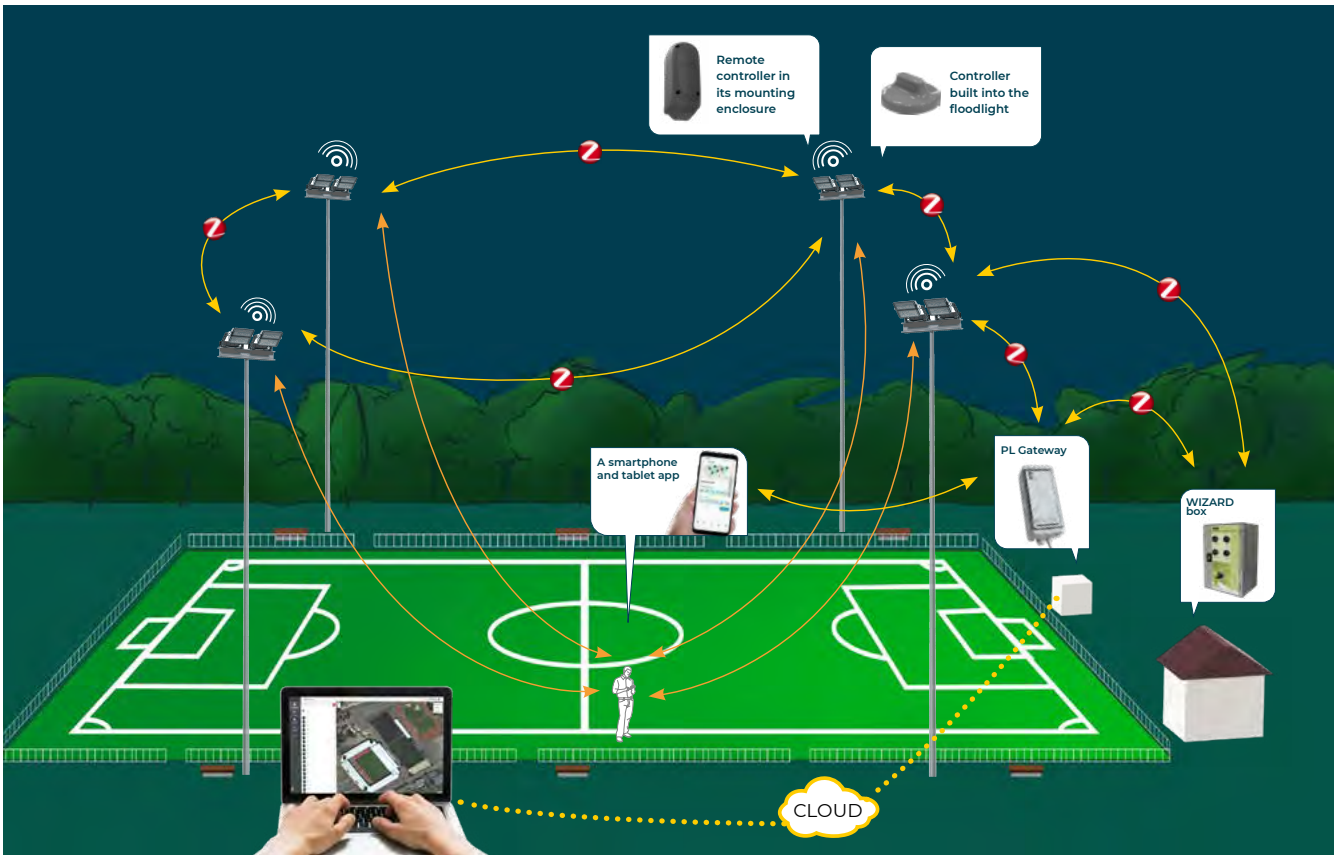
✓ Economic

- Reduced energy and maintenance costs, including reporting of failures and defects

NEXIODE AGORA Connect

WIZARD sports
Simple architecture

The **WIZARD remote management** system is used to monitor and control your **entire sports installation lighting** on site and remotely.
This solution operates using a **secure web interface** which can be accessed from any device connected to the internet: **computer, tablet or mobile phone**.



Depending on the configuration, the antenna, which can be remote-mounted in a module or integrated into the floodlight, can control up to five power supplies.

Furthermore, **a control application available on smartphone or tablet** allows simple, real-time on-site management of lighting according to use: switching on, power level adaptation, switching off individually, by group of floodlights, or by a set of groups of floodlights.

A **control box with control push buttons** is also available for real-time on-site control.

- Real-time control
- View settings
- Available on Android and IOS
- Secure connection

WIZARD control

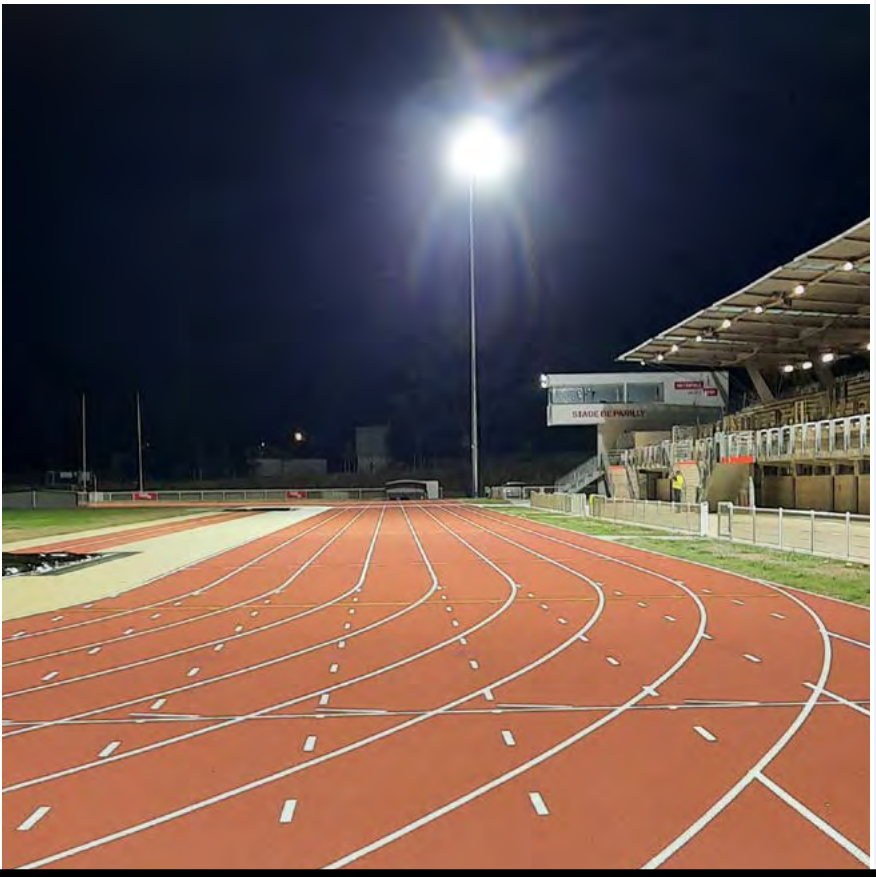
The control box

The **WIZARD IP66-rated wireless control box** controls your installation using ZigBee radio frequency.

It has **4 push buttons**, each of which initiates a previously defined scenario saved in the programming interface.

For example: lighting at 50% half pitch A, 50% half pitch B, 100% full pitch and end of forced mode of one of these three scenarios.

This solution is also compatible in a local network.



WIZARD application

Real-time control

The WIZARD sports remote management system is used to monitor and control your entire sports installation **on site and remotely.**

The application is used to:

Control and monitor in real time

- Lights on, lights out, power variation adjustable up to 100%.
- Individual control, or by group or by sets of floodlights.
- Luminaire operating status.

View settings

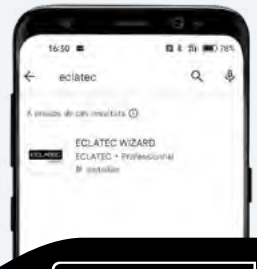
- Consultation of the various settings.
- Display of the different configurations.
- Equipment displayed on a map or in a drop-down list
- The equipment is configured from the monitoring software.

Available online

- Download the Eclatec Wizard application on:

Disponible sur Google play

Disponible sur App Store



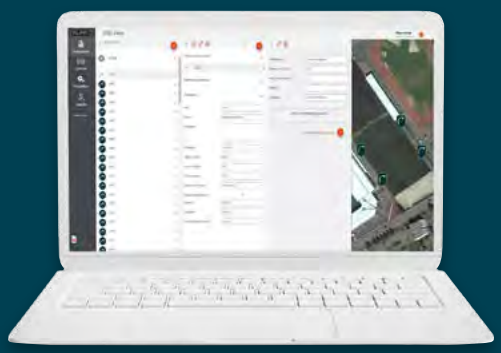
ECLATEC

NEXIODE AGORA Connect

WIZARD MANAGEMENT INTERFACE

Simple and functional

You can freely and easily manage your entire lighting installation securely using this management and supervision software in French. Easy to understand and effective, it allows easy configuration of your equipment.
After a study, we can create gateways with other existing hypervisors.



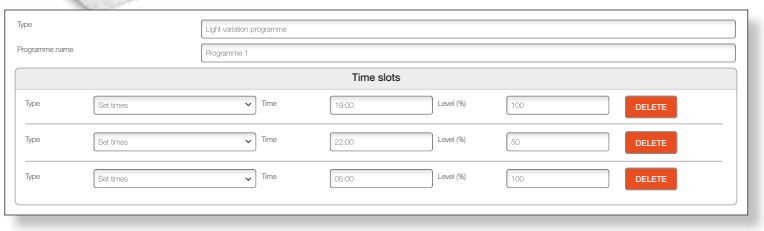
Viewing & configuration
of the equipment

Supervision & control
with two-way communication

- **Pairing of auto-geo-located floodlights** as soon as they are switched on (integrated GPS chip)
- **Creation of groups of floodlights**
  (e.g. group of spotlights pole 1, group of spotlights pole 2 ...)
- **Creation of a set of groups of spotlights**
  (e.g. half pitch 1 with groups pole 1 + pole 2, ...)
- **Individual configuration, by group or by set of groups of spotlights**
  calendar, switching on, power levels, switching off, etc.

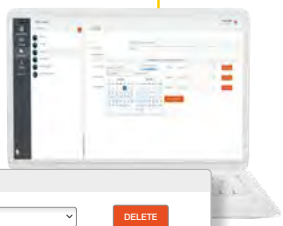
Lighting programmes activated in just a few clicks

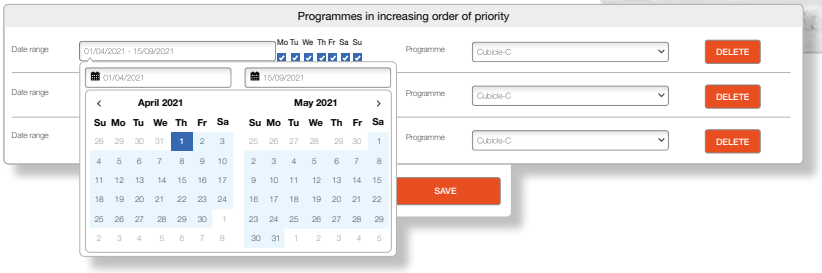
Creation of one or more programmes with 100% or dimmed lighting: for example, U6 football training, seniors, veterans ....



Optimum calendar management

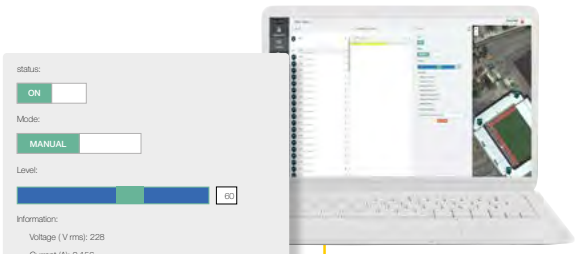
Calendar creation makes it possible to apply programmes at variable frequencies: for example, Wednesday U6 training, Friday U18 training, etc.





Creation of groups of floodlights

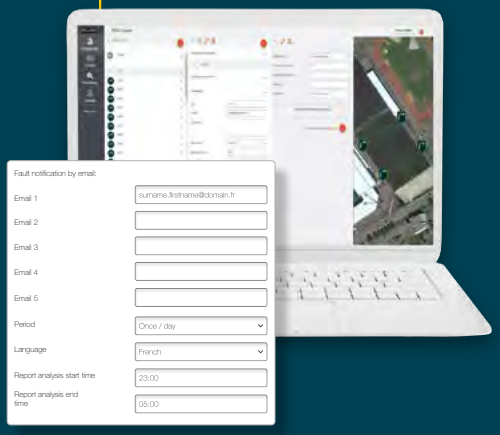
(left half pitch, right half pitch, full pitch, ...)



Real-time control

You can take action on your lighting network remotely in real time (ON, OFF, lighting level variation, etc.).

Maintenance tool monitoring and configuration



- **Data recording frequency** on the server 1h-24h, by defining the start time.
- Email addresses to **send maintenance reports.**
- Definition of the **analysis start and end times.**
- **Choice of report sending** frequency for faults1

HARD WIRED CONTROL

The DALI control box

The DALI control box

It provides different lighting management and customisation features depending on needs:

- Full or half-stadium lighting
- Four pre-selections to adjust power levels, including two customisable and two factory pre-set levels of 0%, P1, P2 and 100%
- Override mode or timed operation, with customisable timers
- Configuration selection secured using a key
- Dimensions (H x W x L): 431 x 329 x 200 mm excluding fixing brackets

The DALI control box can manage up to 50 power supplies (in excess of 50 floodlights, contact ECLATEC). It must be located at not more than 300 m from the power supplies.

VERY HIGH POLES & SUPPORTS

A global solution

A GLOBAL SOLUTION

Thanks to a strong partnership, **ECLATEC** can offer you a global lighting solution for your large spaces. With over 180 years of metallurgical know-how, our sister company **GHM** located in the Haute-Marne region of France, manufactures steel posts for the most common lighting applications for heights of up to 35 metres.

Bringing together design and manufacturing resources on a single site facilitates the search for and creation of suitable technical solutions, whether for standard cases or specific developments.
Design engineers equipped with appropriate simulation resources are specialised in the definition of large height solutions. Drawings and calculation notes justify the selected technical approaches and are available on request.

The posts

- The proposed poles are manufactured in GHM's own workshops, using modern and adapted production and control resources.
- The steels used comply with the NF EN 10025 standard.

Hot-dip galvanising meets the requirements of the NF EN ISO 1461 standard

The large height steel poles can be painted using polyester powder coating on request. Anchor rods and template plates are supplied with the poles.

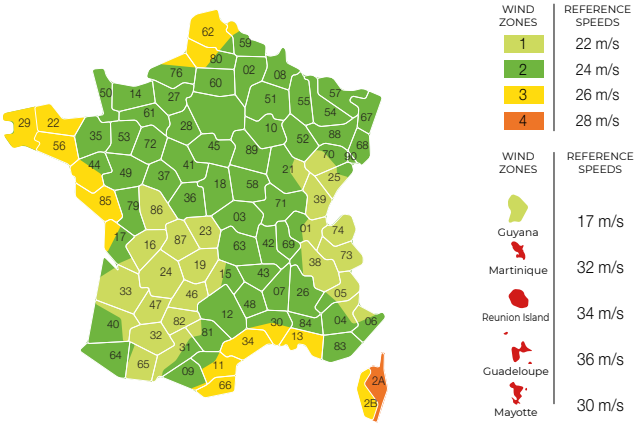
The proposed static systems can also be used on reinforced concrete poles. The anchor points of the proposed equipment are fixed to the rebars and embedded in the concrete during construction. The anchor point position drawings are available on request.

The blocks

Block definition is based on several parameters, such as load, wind resistance, overturning moment, exposure or type of terrain. An purely indicative assessment can be made based on the ANDREE and NORSA formula.

However, project managers must have a more precise definition provided by a specialist civil engineering design office.

Wind map



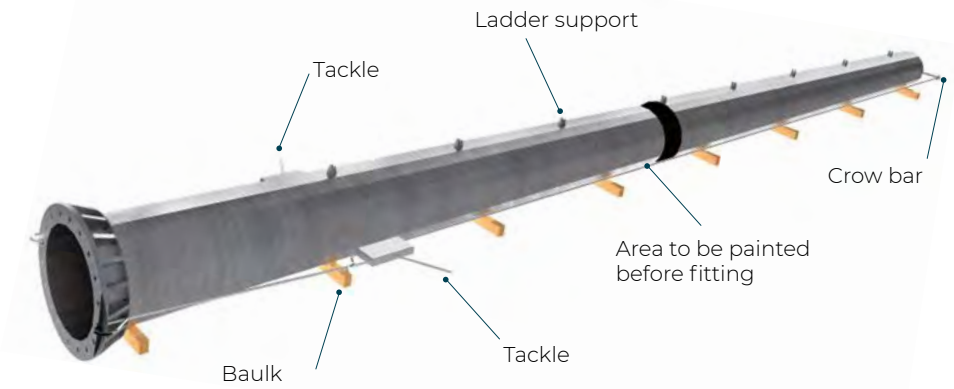
Assembly

When assembling the sections, follow the ladder support alignments.

The nominal socket length is at least 1.5 times the average diameter of the female section, taking into account variations in thickness and manufacturing tolerances, the minimum effective length must be 1.35 times this diameter.

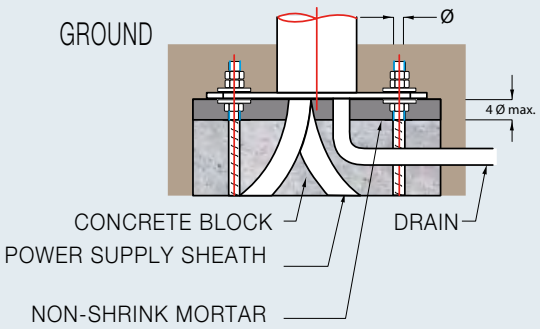
Before lifting, it is IMPERATIVE to leave the slings connecting the sections.

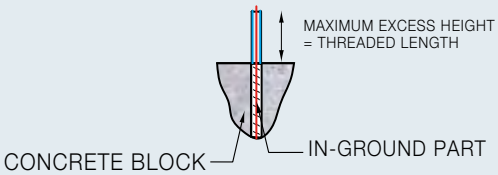
Lower lifeline attachment



The lighting posts for large areas are manufactured in several interlocking sections according to CTICM recommendations.

Installation of lighting posts for large areas





Static solution supports

Technical specifications

The proposed floodlight support structures meet strength, accessibility and versatility requirements. The nature, number and direction of the floodlights depends on the context. These supports are the result of extensive analysis, opting for standardisation where possible. They are made from hot-dip galvanised steel and can be adapted to all very high posts.

Cross part
Straight cross part of various lengths that can support from 1 to 5 floodlights.

Arm
Removable side arm supporting 1 or 2 floodlights, often used in addition to frames.

Rectangular frame
Especially suitable for fixing 2 rows of floodlights.

Circular frame
Fixed at the top of the pole, the frame diameter varies according to the type and number of floodlights to be installed. It allows 360° lighting.

FLOODLIGHT SUPPORT

Made of hot-dip galvanised steel, compatible with all types of floodlights, the range of supports covers multiple lighting configurations. They are equipped by request with an electrical connection box to connect the floodlights.
Production of specific parts for individual projects (shape, number of floodlights, etc.). Delivered with stainless steel fasteners.

WALKWAYS

These hot-dip galvanised steel walkways are comfortable and safe for operators to work on when carrying out maintenance on the floodlights. Delivered with stainless steel fasteners.

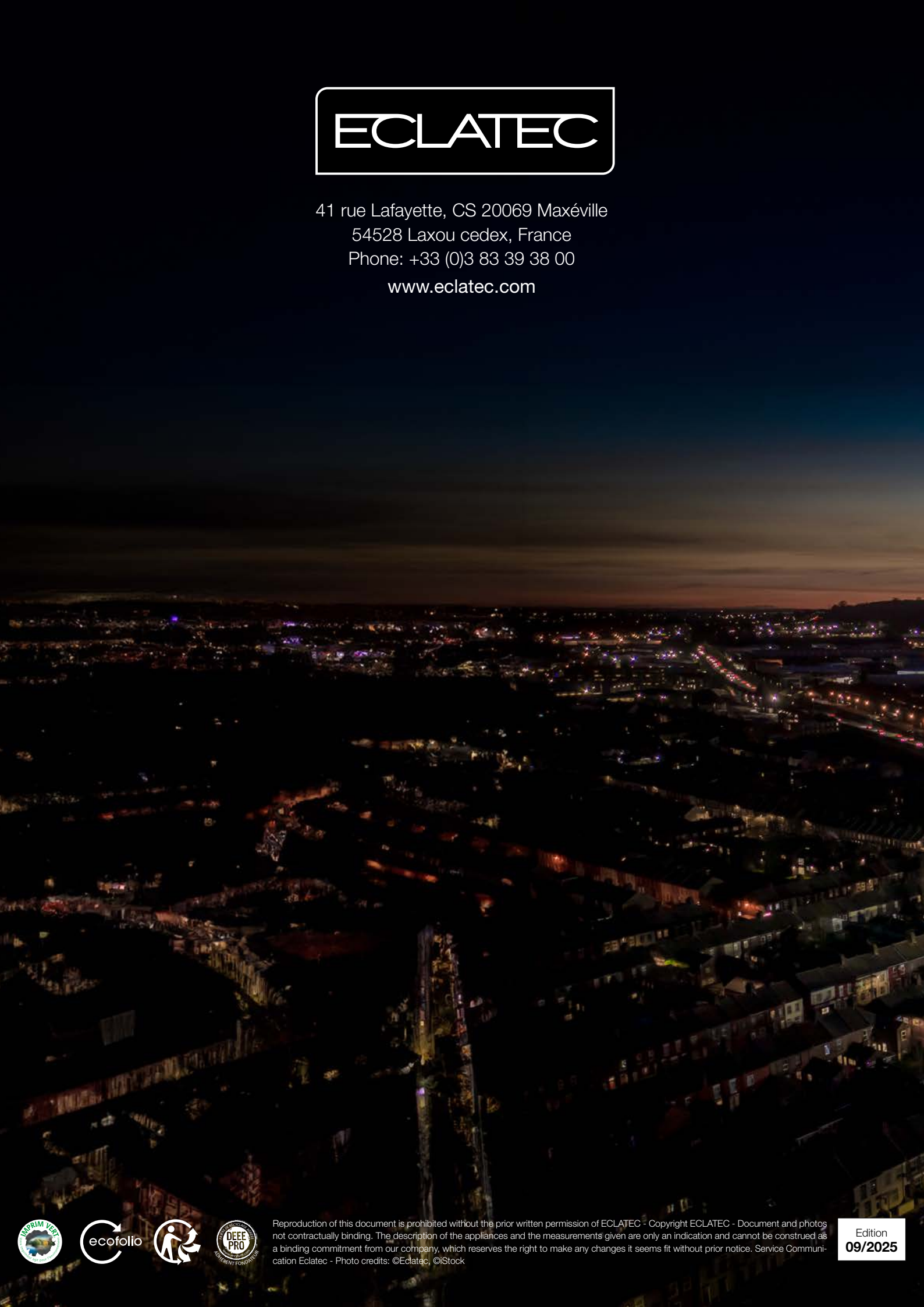
LADDERS, LIFELINES AND HARNESSES

Hot-dip galvanised steel ladders for stable access. Non-slip, evenly-spaced rungs. Rest platforms positioned in accordance with the intervals defined in standard NF EN ISO 14122-4. Access forbidden to unauthorised persons (for this purpose the first rungs are not fixed less than 3 metres from the ground. Removable lower part available as an option).
Delivered in standard elements together with the stainless steel fasteners.

Lifeline, 8 mm diameter galvanised steel cable delivered with fixing accessories and tensioner.

These approved assemblies are compliant with the NF EN 353-1 and NF EN 363 standard requirements.

Safety harness, lanyard and mobile fall-arrester available as an option.



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