

Sports and outside lighting solutions



The right lighting for your sports facilities

The world is constantly evolving, and so is the way we communicate and interact with each other. The sports industry is no exception. More than ever, people are finding it harder to make time to play the sport they love, and even harder to interact and keep in touch with team members. As a result, individual sports, such as running, are gaining popularity while teams and the unity they provide are fading.

Social media has impacted how we interact with each other in the world of sports. Through social platforms such as Twitter, Facebook or apps we can communicate with our teams, share scores, and much more. New technologies like fitness trackers allow us to share our activities and compare results, even with professional athletes. Whether you play a sport to stay fit, set a personal record, or for socialization, the way we participate in sports is ever changing.

The impact on sports clubs understanding how the industry is changing is key for sports clubs to remain afloat financially and socially. Surprisingly, lighting can play a major role in allowing sports clubs to provide a welcoming and inspiring environment for people to practice whenever they'd like. Of course, proper illumination when playing sports is a basic necessity. However, the quality of the lighting is crucial not only for the athletes, but for the sports facility owners. At Printec, we can support you with best-in-class lighting to improve athlete results, while using minimum energy, minimize the impact on the environment and increasing potential revenue streams.

While our lighting systems provide the players and trainers with the flexibility to play whenever they want, they also provide facility operators insight on the status of all lighting in their facility.

Sports lighting requirements

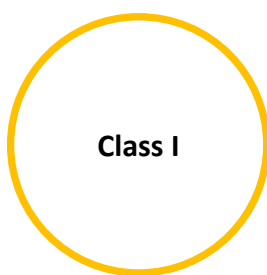
The main goal when installing a lighting system on a field, is to meet specific standards. Usually, the lighting requirements are linked to the sport. In practice, the light level for a training field is lower than a match field. Specific lighting is also needed based on the type of game, speed of action, and viewing distance.

The lighting classes specified for most sports are laid down in NEN-EN standards.

Depending on the class, the level may vary from 75 to 750 lux on the field. Demands are also made on the uniformity of illumination, the maximum working glare value and the light source's ability to render colour. In addition to the functional need for light to perform a sport, sports facilities are also social meeting places where revenue is generated, making lighting an important component to creating a pleasant environment.

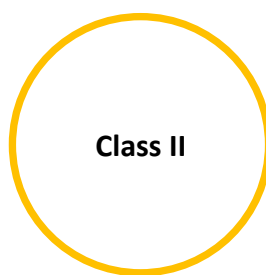
Each field and each sport require different lighting needs, and no two installations are the same. With this brochure, the objective is to give an overview of standard lighting schemes for most popular recreational sports and which lighting system is the best for your need. This brochure serves as a basis to assist with decision making when beginning a sports lighting project.

It is important to note that lighting design and installation requires specialist engineering knowledge and must be carried out by competent experienced professionals following the guidelines required by government or any other relevant public authorities. It is also important to note that this brochure is not intended to provide lighting recommendations and solutions in case of television coverage for which specialist knowledge is required.



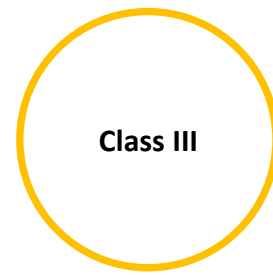
Class I

Top-level competition
National and international matches, which generally involve large spectator capacities with potentially long viewing distances. Top-level training may also be included in this class.



Class II

Mid-level competition
Regional or local club matches, which generally involve medium size spectator capacities with medium viewing distances. High level training may also be included in this class.



Class III

Low-level competition
Local or small matches, which do not usually involve spectators. General training and recreation also come into this class.

Sports lighting requirements

Level of competition

	Class I	Class II	Class III
International / national	●		
Regional	●	●	
Local	●	●	●
Training		●	●
Recreational			●

Horizontal illuminance (\bar{E}_m lx) as per EN 12193

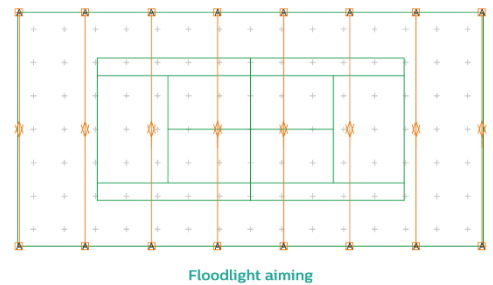
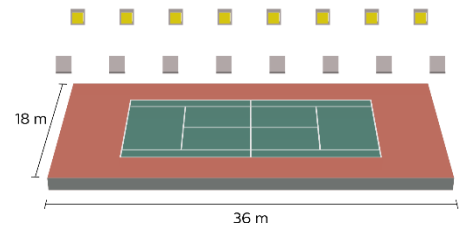
Sport	Class I	Class II	Class III
Football	500	200	75
Hockey	500	250	200
Tennis			
indoor	750	500	300
outdoor	500	250	200
Rugby	500	200	75
Athletics	500	200	100
Golf course			100 - 50 ^{*)}
Baseball / softball			
infield	750	500	200
outfield	500	300	100
Playing court	500	200	75
Swimming pool	500	300	200
Multipurpose hall (Gym)	750	500	200
Ice hockey	750	500	300

^{*)} Vertical illuminance on distance markers

Example: tennis



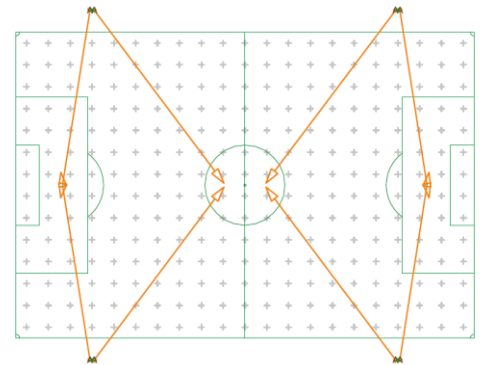
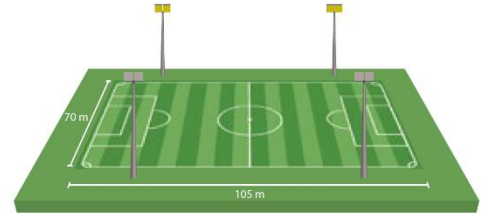
Type: KF11
Pole height: 9,5 Meter
Amount: 16 x 100 Watt
Illuminance: Approx. 300 Lux



Example: football



Type: OG33
Pole height: 12,5 Meter
Amount: 8 x 500 Watt
Illuminance: Approx. 100 Lux



Case study: ASD Ripalta Guerinese



ASD Ripalta Guerinese, a small sports association with 250 members in the tiny town of Ripalta Guerina (CR), changed their over 15 years old HQI lights on the calcetto field against modern LED lights, achieving over 70 % energy savings and considerably better illuminance levels.

HQI Sports light 400 W, conventional gears	New KF11 LED 100 / 150 Watt modules 90° beam angle
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Number of lights	8 x 400 Watt	4 x 100 Watt, 4 x 150 Watt
Illuminance	<150 Lux	>250 Lux
Energy consumption	3.200 Watt	1.000 Watt
Savings of energy		70 %
Time of amortization		Approx. 3 years

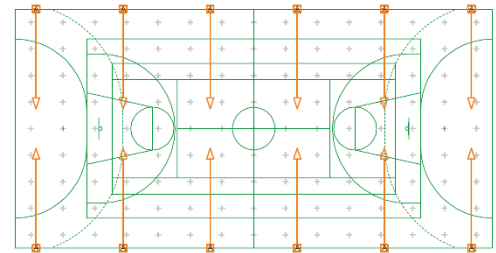
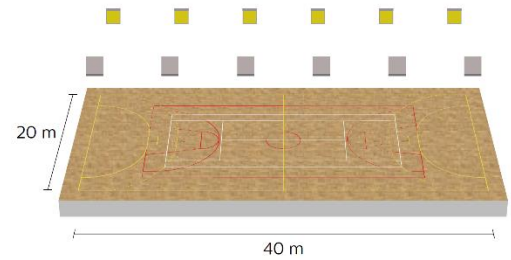
Conclusion: amortization approx. 3 years at 70 % more illuminance.



Example: Gymnastics



Type: KF43
Ceiling height: 8 Meter
Amount: 12 x 240 Watt
Illuminance: Approx. 450 Lux



Floodlight aiming



Case study: Oratorio San Lorenzo

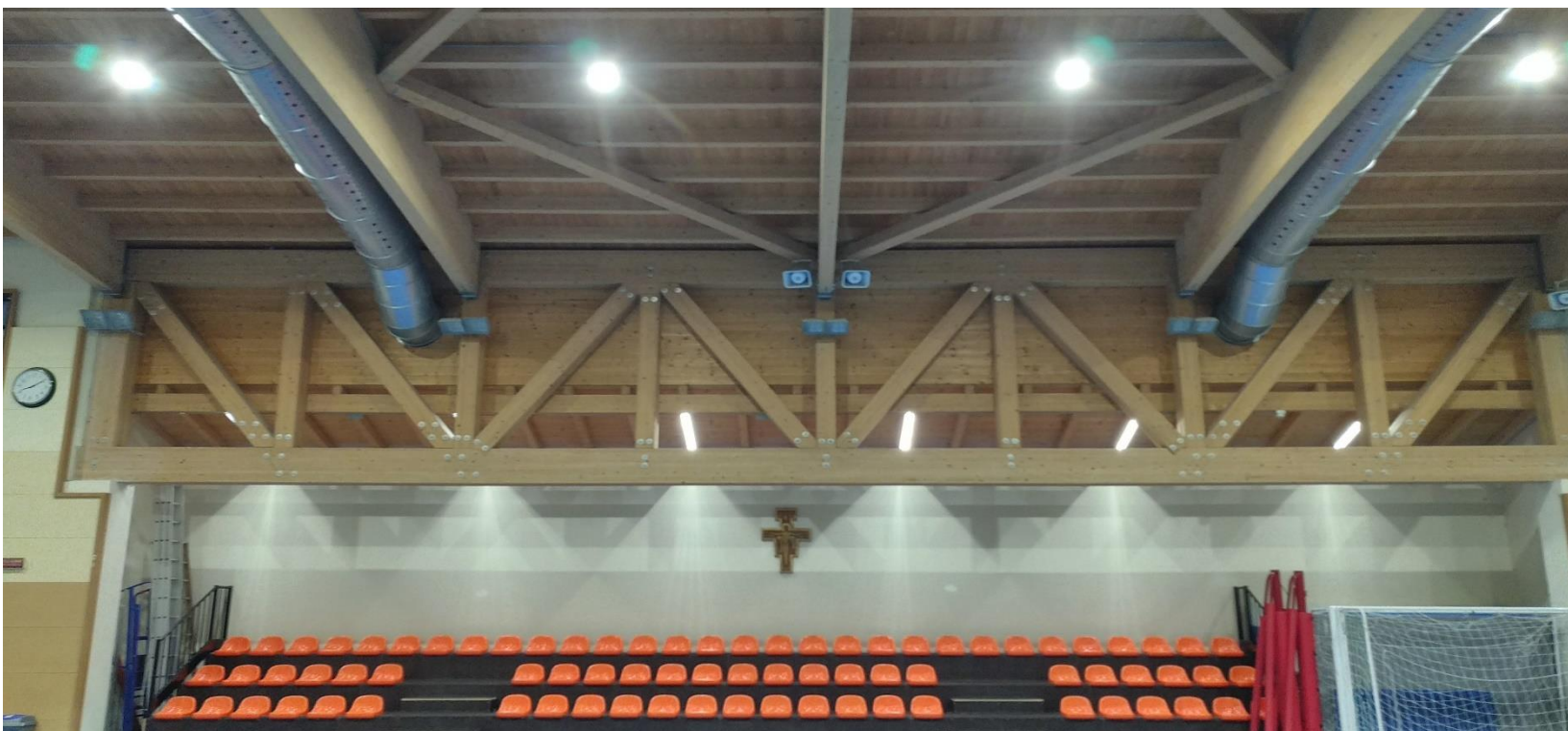


Parrocchia Prepositurale San Lorenzo in Urago d'Oglio (BS) replaced their over 10 years old fluorescent tubes in the gymnastics hall by modern LED lights, achieving over 70 % energy savings and considerably better illuminance levels.

Fluorescent tubes 58 W, conventional gears	New KF43 LED 100 Watt 120° beam angle
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Number of lights	54 x 58 Watt	12 x 100 Watt
Illuminance	<150 Lux	>300 Lux
Energy consumption	4.200 Watt	1.200 Watt
Savings of energy		71 %
Time of amortization		Approx. 3 years

Conclusion: amortization approximately 3 years at 100 % more illuminance.



Products



OG33

LED:	Philips Lumileds
Driver:	Meanwell
Efficiency:	170 Lm / Watt
Power:	300 – 500 Watt
Beam angle:	30°, 120°
IP Class:	IP65

Best performance available, designed especially for football and other field sports.



OG31

LED:	Philips Lumileds
Driver:	Meanwell
Efficiency:	140 Lm / Watt
Power:	400 – 1.000 Watt
Beam angle:	30°, 50°
IP Class:	IP65

High quality product, large range of available power, for football and other field sports.



KF11

LED:	Samsung
Driver:	Meanwell
Efficiency:	120 Lm / Watt
Power:	50 – 400 Watt
Beam angle:	60°, 90°
IP Class:	IP65

Best price / performance ratio, designed for football, tennis, gymnastics.

KF43

LED: Philips Lumileds
Driver: Meanwell
Efficiency: 120 Lm / Watt
Power: 100 – 240 Watt
Beam angle: 120°
IP Class: IP65

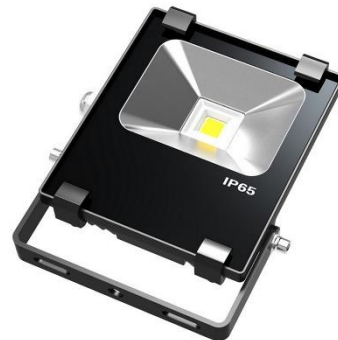
UFO High bay light for gymnastics and other indoor sport. Also for fixed wall / ceiling mounting.



OF40

LED: Bridgelux
Driver: Meanwell
Efficiency: 100 Lm / Watt
Power: 10 – 200 Watt
Beam angle: 60/120° (bi-directional)
IP Class: IP65

Floodlight for inside and outside applications. With bi-directional beam angle.



KF71

LED: Epistar
Driver: CE Driver
Efficiency: 100 Lm / Watt
Power: 20 – 60 Watt
Beam angle: 180°
IP Class: IP65

Tri proof light for inside and outside applications. Also available as emergency light.



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