LEDiL

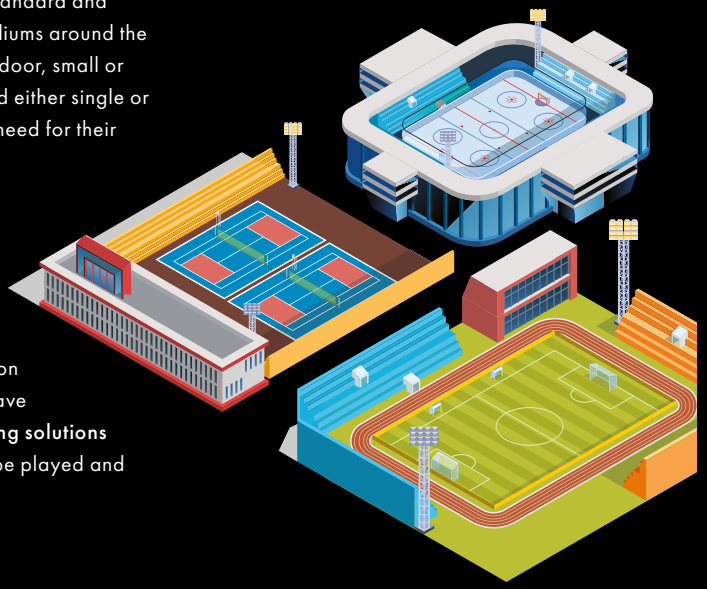
Guide for sports lighting optics

V1-0 / 2025

Sports lighting in a nutshell

There is a huge variety in the size, standard and location of sporting venues and stadiums around the world. Venues may be indoor or outdoor, small or large, in rural or urban locations and either single or multi-discipline, but they all have a need for their own lighting requirements.

Stadiums especially, can be unique pieces of architecture, with a need for specific lighting to showcase or enhance the building itself. Venue owners, players, spectators, television broadcasters and their audiences have different needs, and therefore **lighting solutions must be flexible** so that events can be played and enjoyed by all stakeholders.



Good sports lighting

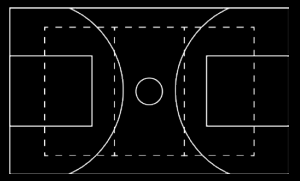
Why LEDiL?

All our optics for sports venues and stadiums fully comply with current standards set by different standards authorities. Our modular optic design makes **mixing and replacing** different beam types inside one luminaire easy, allowing the same light engine to be used for multiple purposes.

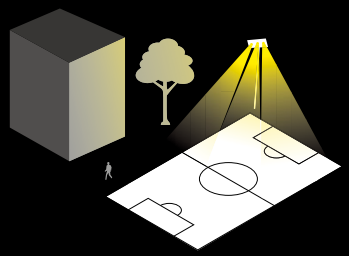
Sports venue lighting luminaires must perform well in all conditions, and our high-quality optics and IP-capable products ensure a long product lifetime, even in the most extreme environments.

Make our optics the heart of your luminaire to optimise cost, efficacy and light distribution with great results.

Things to consider in sports lighting

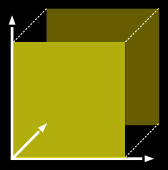


The layout(s) of sports areas



Adjacent areas with visual links

Primary and additional uses



The volume(s) of the field(s) of play

Lighting requirements

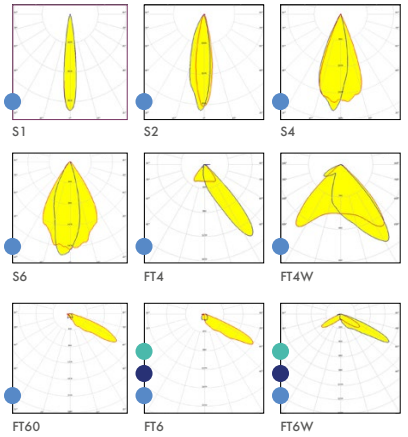
Game-changer

SPORT-2X2

Low glare optics for all types of sports lighting

- Allows **optimal lighting conditions** for both players and spectators that meet standards and requirements of **different sports**
- Symmetrical and asymmetrical beams designed for **low glare** sports lighting floodlights
- Enables the creation of **energy efficient** and **neighbourhood friendly** lighting installations

Compatibility: Optimised for HP 3535 and compatible with up to 5050 size flat LED packages.



SQ-SC2 2X2 IP-24

SPORT-2X2 application examples

Football field

6 poles

Optics:	SPORT-2X2-S1
Efficiency with protective glass:	87 %
Mounting height:	30 m
Luminous flux (total):	9430 klm
Power (total):	74 234 W

Led outputs

Single LED:	1200 lm
Corner pole:	1906 klm (1588 LEDs)
Middle pole:	1570 klm (1308 LEDs)

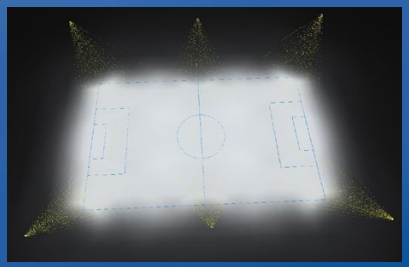
Number of optics

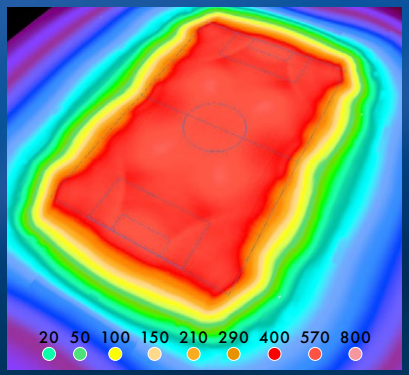
Corner pole:	397 pcs
Middle pole:	327 pcs
Total:	2242 pcs

Results from calculation grid

Average:	500 lx
Min:	370 lx
Max:	628 lx
Min/Average:	0.74
Upward light ratio (ULR):	1 %
GR Max (CIE112):	49
Source intensity at 140 m:	0.67 kcd

(eligible for post-curfew E2 (CIE 1917, IESNA 1999)





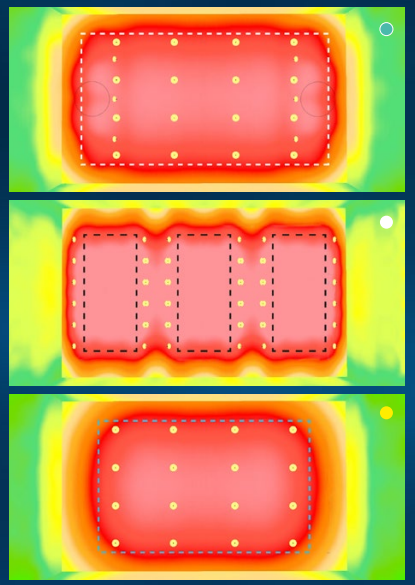
Multi-purpose indoor sports facility

3 lighting scenes to meet 3 different sport requirements with 1 setup

Number of luminaires:	
SPORT-2X2-S4	58 pcs
DAISY-7X1-W	16 pcs
Mounting height:	10 m
Room size:	19 x 32 m
Total load*:	1344 – 1585 W
Power consumption*:	2.2 – 2.6 W/m²

	Basketball	Badminton	Volleyball
Field results			
E Average	242 lx	316 – 317 lx	233 lx
Uo	0.69	0.73	0.66
Vertical illuminance levels on net			
E Average		62 lx	56 lx
Uo		0.42	0.37

*Based on individual lighting scenes



Not shy of competition

SPORT-IP-24

Ingress protected lens array for sport lighting with flat 5050 size LED packages

- Allows **optimal lighting conditions** for both players and spectators
- **Boosts luminaire efficiency** by eliminating the need for a protective plate
- Asymmetrical beams designed for **highly efficient** sports lighting floodlights
- Enables the creation of **energy efficient, dark-sky friendly** lighting installations

Compatibility: Optimised for flat high power 5050 size LED packages such as:

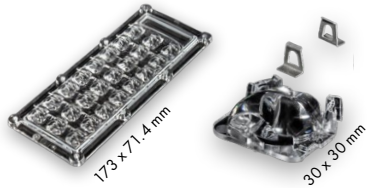
- CREE J/JR5050
- LUMILEDS LUXEON 5050 square
- NICHIA 48x series
- OSRAM DURIS S8
- OSRAM OSCONIQ S 5050
- SAMSUNG LH502C
- SEOUL DC 5050 6V

SPORT-SQ-SC2

Optimised for automated assembly, designed for versatility and efficiency

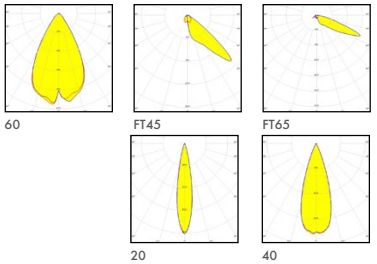
- Fast and easy mounting using SOLDER-CLIP-2 – suitable for **automated assembly**
- Versatile single led platform – create **flexible luminaire designs**
- Maximum lumen output with **7070 LED packages**

Compatibility: Compatible with up to 7070 size flat LED packages



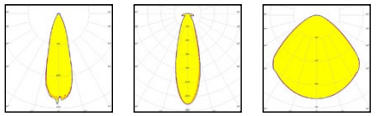
JENNY

35 x 35 mm single lenses and 8X1 arrays for up to 7070 size LED packages. Made from silicone.



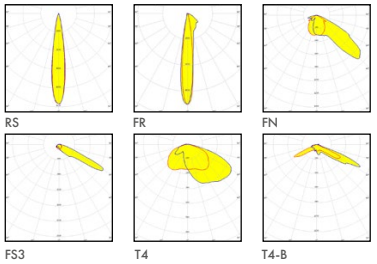
STELLA

Ø90 mm ingress protected silicone lenses for up to 30 mm LES size COBs.



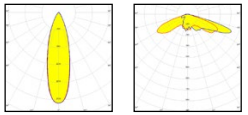
2X2 (STRADA & HB)

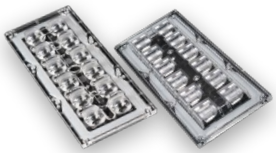
50 x 50 mm modular product families for up to 5050 size LED packages.



2X2MXS (STRADA & HB)

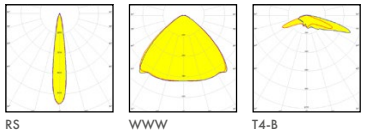
90 x 90 mm ingress protected silicone arrays for up to 9 mm COBs.

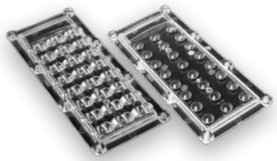




IP-2X6 (STRADA & HB)

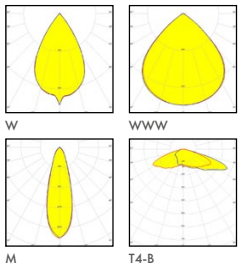
173 x 71.4 mm ingress protected arrays for up to 5050 size LED packages.





IP-24 (STRADA & HB)

173 x 71.4 mm ingress protected arrays for 5050 size LED packages.



How to read polar curves

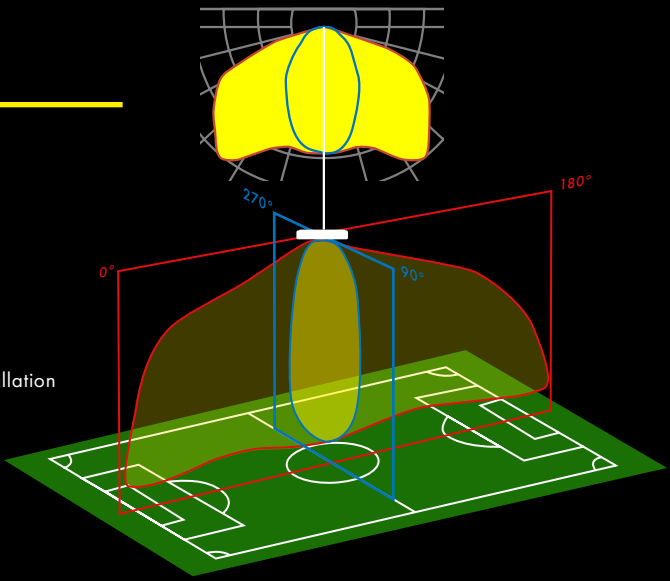
0° to 180°

Longitudinal light distribution

90° to 270°

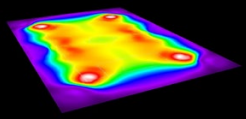
Horizontal light distribution

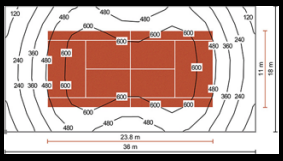
The polar curve can be used to estimate optimal beam for installation



Technical support

- Simulations to show optic performance in real applications
- Guides and tips for installations
- Thermal analysis for luminaire designs





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