

LEDiL

Guide for sports lighting optics

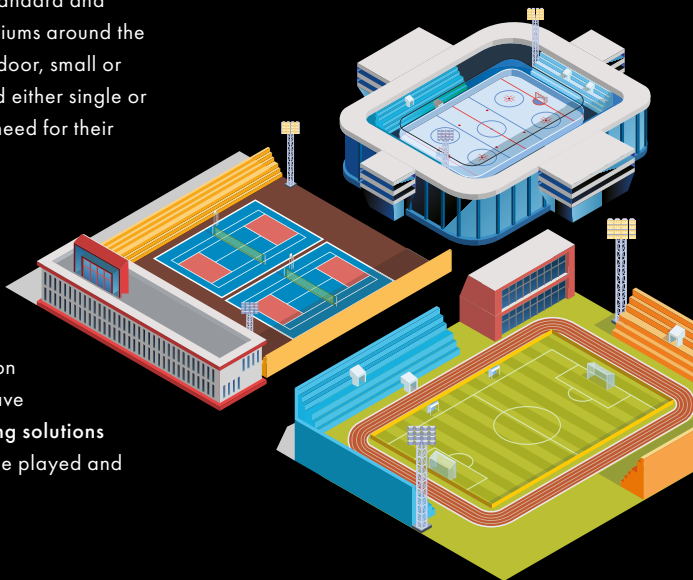
V1-0 / 2022



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



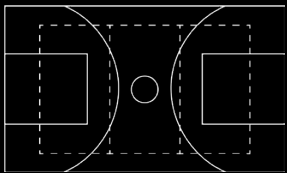
Why LEDiL?

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.

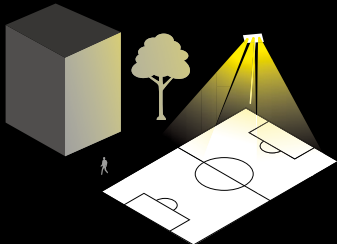
Sports venue lighting luminaires must perform well in all conditions, and our high-quality optics and IP-capable products ensure a long product lifetime, even in the most extreme environments.

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

Things to consider in sports lighting



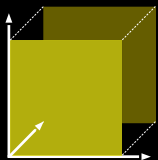
The layout(s) of sports areas



Adjacent areas with visual links



Primary and additional uses



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



Lighting requirements

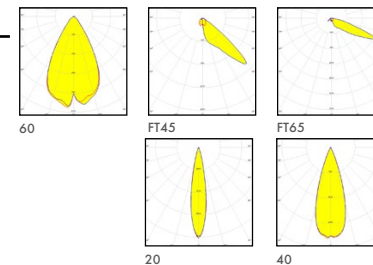
Playing with the environment is not a game.

With the right lighting solutions you can reduce environmental impact,
save energy and get the effect you want for the heroes **at play**.



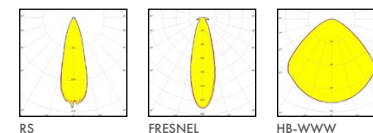
JENNY

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



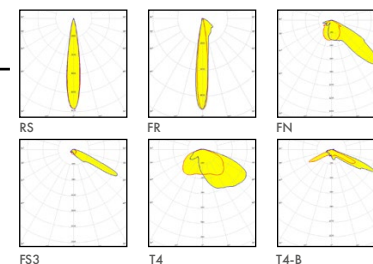
STELLA

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



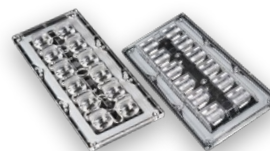
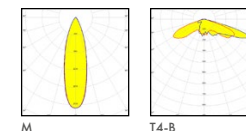
2X2 (STRADA & HB)

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



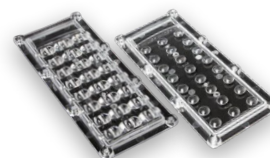
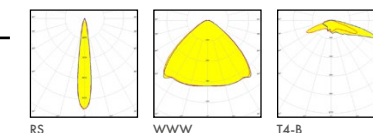
2X2MXS (STRADA & HB)

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



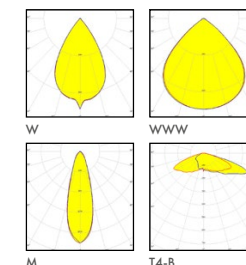
IP-2X6 (STRADA & HB)

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.

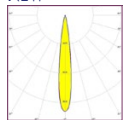


Game-changer

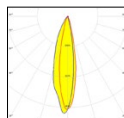
SPORT-2X2

Low glare optics for all types of sports lighting.

NEW

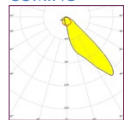


S1

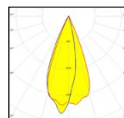


S2

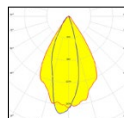
COMING



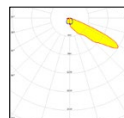
FT4



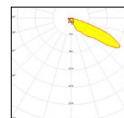
S4



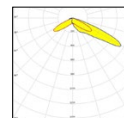
S6



FT6



FT60



FT6W

- 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 creation of energy efficient solutions that are also neighbour friendly

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



50 x 50 mm

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

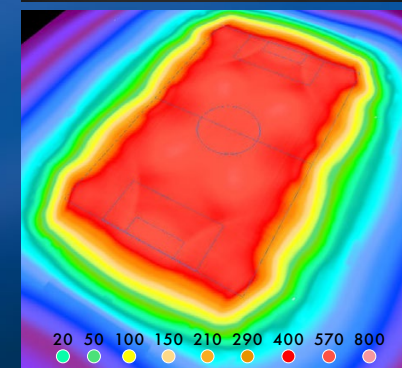
Single LED:	1200 lm
Corner pole:	1906 klm (1588 LEDs)
Middle pole:	1570 klm (1308 LEDs)

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))	



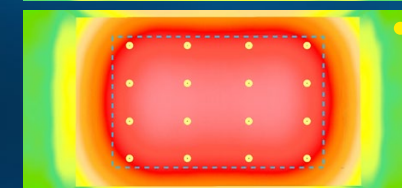
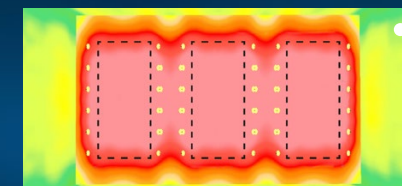
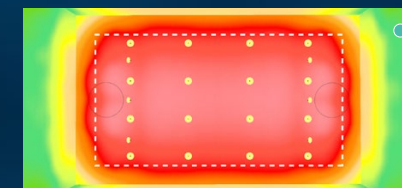
Multi-purpose indoor sports facility

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

Field results	Basketball	Badminton	Volleyball
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



How to read polar curves

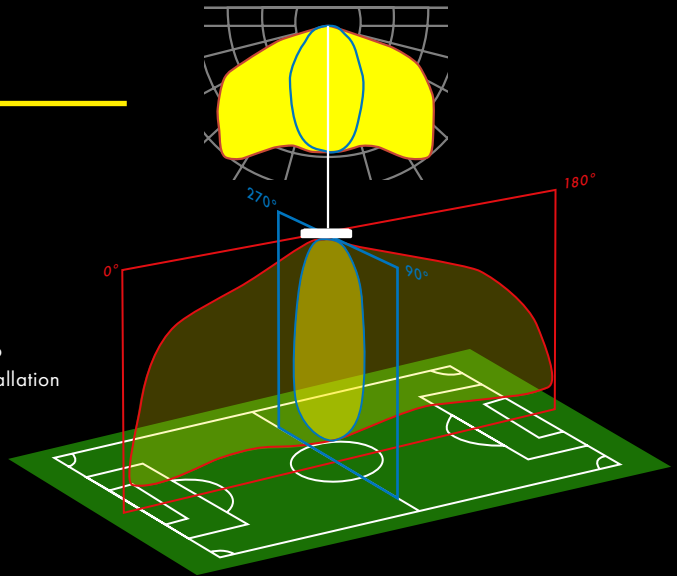
0° to 180°

Longitudinal light distribution

90° to 270°

Horizontal light distribution

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



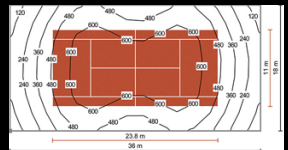
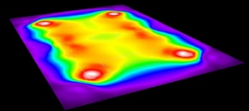
Technical support

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

Contact our tech support experts:

Global
tech.support@ledil.com

North America
tech.support.us@ledil.com



LEDiL

www.ledil.com

Ledil Oy
(Headquarters)
Joensuunkatu 13
FI-24100 SALO
Finland

Ledil Inc.
228 West Page
Street Suite D
Sycamore IL 60178
USA

Ledil Optics Technology (Shenzhen) Ltd.
#405, Block B, ShenZhen Casic Motor Building, No.7
LangShan #2 Road, Hi-Tech Ind. Park(N.), Nanshan
District, Shenzhen, 518057
P.R.China

The information contained herein is the property of Ledil Oy, Joensuunkatu 13, FI-24100 SALO, Finland, and is subject to change without prior notice. Please visit www.ledil.com for additional information, such as the latest photometric files, 3D mechanical models, and application notes relating to handling, gluing and taping. LEDiL products are IPR protected.