

FLAREWORKS

# SPORTS LIGHTING



Advanced Technology



# HARMONY

## ABOUT **LEDEX** LIGHTING

## TOP 1 SPORTS LIGHTING SUPPLIER

### SPORTS LIGHTING EXPERT

We have been focusing on sports lighting for the past 11 years, especially in the sports lighting industry. We provide you with a complete set of services, from engineering inquiry to complete shipment, and offering consulting service until the project installation finished at the end user's site. We always keep tightly communication with our clients throughout the process.

### WORLD CLASS MANUFACTURE

With designing, engineering, procurement and execution backed up by own plant for sports lighting, high mast lighting, LEDEX is in a position to offer turnkey solutions for any sports lighting requirement in overseas market. Place your trust with one of the biggest names in the industry.

Professional Lighting  
Calculation Report Available

LEDEX Lighting is ISO9001 and  
ISO14001 approved supplier. We  
guarantee quality and performance







# THE IMPORTANCE OF SPORTS LIGHTING FOR STADIUM

01

## LIGHT FOR PEOPLE

A perfect lighting system of sports lighting not only ensures visibility and clarity, but also helps to improve the user experience for the entertainment stimulates enthusiasm and emotions for players, officials, and also the spectators, and cameraman, as well as the fans who watching TV at home.

02

## LIGHT FOR PLACES

Light plays an important role in today's sports events. From the designing to lighting up the area, excellent lighting quality, flicker-free, and proper lighting uniformity are quite important keys to making sports events happen.

03

## BRAND QUALITY

LEDEX Lighting manufactures the luminaries with high standard ISO9001. Big invest to R&D in both products, and well-organized supply-chain which helps us support our clients with cost effective products and fast delivery.

04

## LOW MAINTENANCE COST

With the creative solution of remote mounting driver box, normally mounted at 10ft (3m) above the ground, no need to hire the super expensive big lift trucks in case of maintenance someday. It contributes at least 25% less cost.

05

## INTELLIGENT CONTROL

LEDEX Lighting solutions are easy to be controlled. Available with DMX, DALI, 0-10V dimming, we can offer you smart stadiums. With the help of the intelligent controls, it makes the stadiums flexible, and emotionally. A great way to emphasize the lighting effect.

06

## LOW GLARE

A safe stadium is protecting people. LEDEX Lighting solutions ensure both indoor and outdoor around the arena. Well lighting up stadiums reduce the accidents and enhance spectators on trust.



## EXCEPTIONAL LIGHTING EXPERIENCE

LEDEX proposed professional lighting solution which can meet all the needs of international sports federation and helping facility managers benefit from numerous advantages both in terms of efficiency and reduction of the the management and maintenance cost and increasing their revenue by providing fans ultimate visual experience.

# EXCEPTIONAL LIGHTING EXPERIENCE



### SPECTATOR

LEDEX's good lighting let fans fully participate in the game. Passing, goal, intermissions, different scenes can have different lighting effect for different scenes with lighting control system, makes fans watching the game live get wild.



### PLAYERS

For players, less glare and sufficient illumination are most important. With perfect optical design, our products ensure illuminance uniformity vertically and horizontally with less glare effect.



### HDTV

With high high TLCI index and flicker free, our lighting fits all demands of television broadcaster. Fans in front of the TV can have almost the same experience as the fans at present.



### RESIDENTIAL

Good back light control reduce light pollution. Outside the stadium, less spill light is very kind to neighbors.



### INVESTORS

The product is very cost-effective that can save initial investment. And the good product performance saves maintenance costs in the future.



# HARMONY G3

## SPORTS LIGHTING

### FAMILY



1500W, 1800W 2400W



750W, 1000W, 1200W



500W, 600W

**Maximum: 336,000lm**

**We can do more than expected**

Patented LED module cold forged aluminum creates higher impact strength and higher structural integrity with superior heat dissipation capability.

LED driver by world class INVENTRONICS average rated life cycle > 76,000hrs.

Ultra-uniformity, low glare and low spill light effect for Sports Field Lighting applications and delivering value beyond energy savings.

The surface of the lamp is specially sprayed with high quality AkzoNobel anti-corrosion Powder-coating, which has strong resistance to salt spray corrosion and is suitable for harsh environments.



# HARMONY

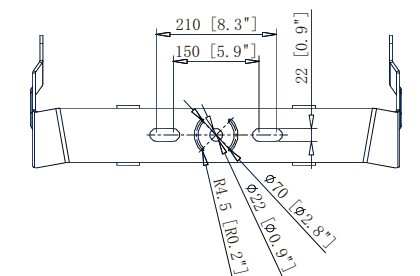
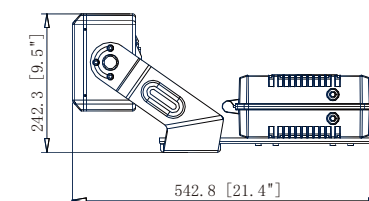
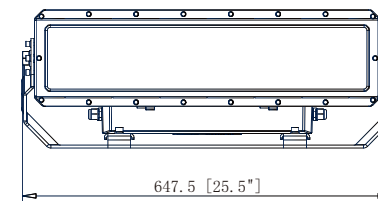
## G3 SERIES FLOOD LIGHTING



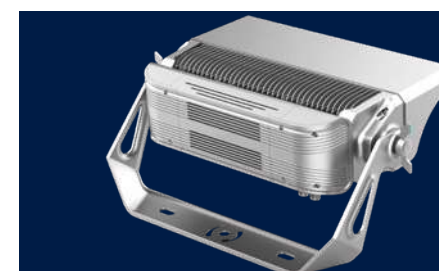
### SPECIFICATION

<b>Wattage:</b>	500W, 600W
<b>LED Brand:</b>	Osram
<b>Driver Brand:</b>	Inventronics
<b>CCT:</b>	5700K, 5000K, 4000K, 3000K, 2200K optional
<b>CRI:</b>	70, 80, 90 optional
<b>Luminous Flux(lm):</b>	500W=70,000lm, 600W=84,000lm.
<b>Lighting Distribution:</b>	12 °, 15 °, 50°, NB, MB, WB(hundreds of light distribution for different level projects)
<b>Input Voltage:</b>	AC100-277V / 200-480V
<b>Frequency:</b>	50/60Hz
<b>Power Factor:</b>	≥0.9 at Max load
<b>FF(Flicker Factor):</b>	<1%
<b>Power Efficiency:</b>	>0.93
<b>THD:</b>	<19%
<b>Surge Protection:</b>	Line - Line 20kV, Line - FG 20kV
<b>Smart Control:</b>	0-10V/DALI/WIFI/DALI/Zigbee/DMX/RGB
<b>Frontal Surface (Front EPA):</b>	0.14m <sup>2</sup> (1.55ft <sup>2</sup> )
<b>Side Surface(Side EPA):</b>	0.08m <sup>2</sup> (0.81ft <sup>2</sup> )
<b>Weight (Intergrated with driver box):</b>	17.87kgs
<b>Housing Matrial:</b>	Finishing powder coated AL1070 pure aluminum for marine salt protection and swimming pool applications.

### Dimension



<b>Optic Lens and Cover:</b>	UV protected optical Lens (PC cover 3.0mm optional)
<b>Cut-off Shield (optional):</b>	Finishing powder coated galvanized iron sheet Metal (Marine Specialty Painting if required)
<b>Mounting Bracket:</b>	Finishing powder coated galvanized iron sheet metal (Marine Specialty Painting if required)
<b>IP Rating:</b>	IP66
<b>Operating Temperature:</b>	-104°F-122°F / -40°C ~ 50°C
<b>Warranty:</b>	10 Years

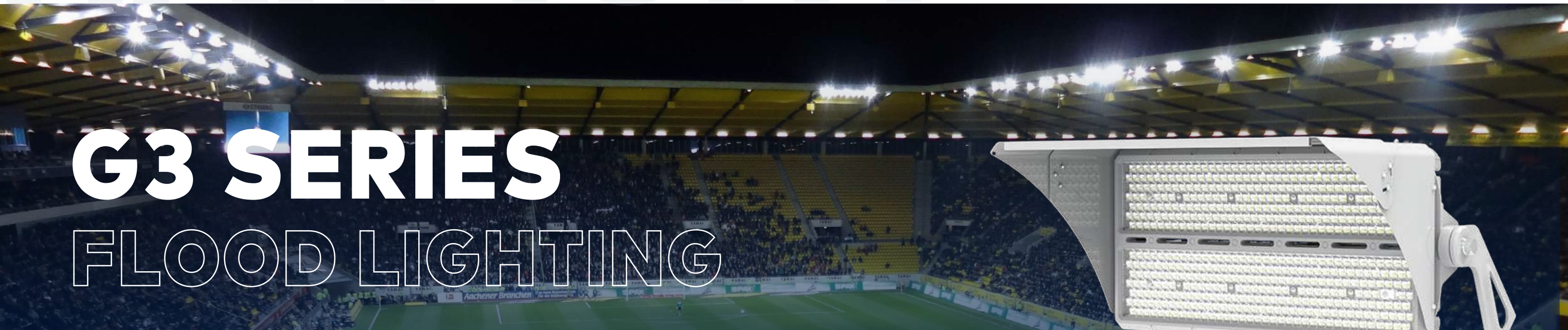


Quick Access of Inserting Intelligent Control Modules





# HARMONY



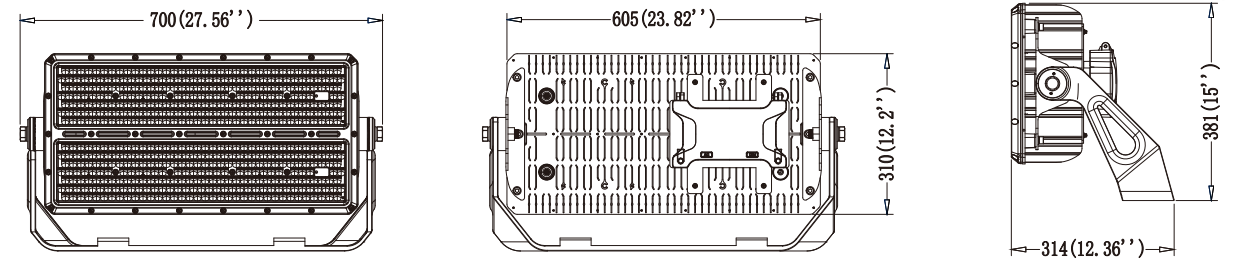
## G3 SERIES FLOOD LIGHTING



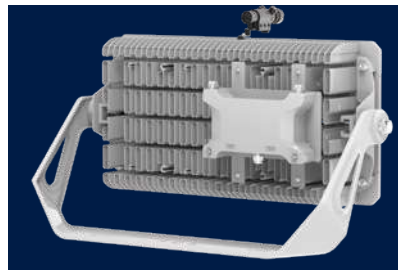
### SPECIFICATION

<b>Wattage:</b>	750W, 1000W, 1200W
<b>LED Brand:</b>	Osram
<b>Driver Brand:</b>	Inventronics
<b>CCT:</b>	5700K, 5000K, 4000K, 3000K, 2200K optional
<b>CRI:</b>	70, 80, 90 optional
<b>Luminous Flux(lm):</b>	750W=105,000lm, 1000W=140,000lm, 1200W=168,000lm
<b>Lighting distribution:</b>	12°, 15°, 50°, NB, MB, WB(hundreds of light distribution for different level projects)
<b>Input Voltage:</b>	AC100-277V / 200-480V
<b>Frequency:</b>	50/60Hz
<b>Power Factor:</b>	≥0.9 at Max load
<b>FF(Flicker Factor):</b>	<1%
<b>Power Efficiency:</b>	>0.93
<b>THD:</b>	<19%
<b>Surge Protection:</b>	Line - Line 20kV, Line - FG 20kV
<b>Smart Control:</b>	0-10V/DALI/WIFI/DALI/Zigbee/DMX/RGB
<b>Frontal Surface (Front EPA):</b>	0.14m <sup>2</sup> (1.55ft <sup>2</sup> )
<b>Side Surface(Side EPA):</b>	0.08m <sup>2</sup> (0.81ft <sup>2</sup> )
<b>Housing Weight:</b>	29.28 (with no driver box)
<b>Driver box weight:</b>	7.81kgs
<b>Complete Fixture Weight:</b>	37.08 kgs (Housing + driver box)

### Dimension



<b>Housing Matrial:</b>	Finishing powder coated AL1070 pure aluminum for marine salt protection and swimming pool applications.
<b>Optic Lens and cover:</b>	UV protected optical Lens (PC cover 3.0mm optional)
<b>Cut-off Shield (optional):</b>	Finishing powder coated galvanized iron sheet Metal (Marine Specialty Painting if required)
<b>Mounting Bracket:</b>	Finishing powder coated galvanized iron sheet metal (Marine Specialty Painting if required)
<b>IP Rating:</b>	IP66
<b>Operating Temperature:</b>	-104°F~-122°F / -40°C ~ 50°C
<b>Warranty:</b>	10 Years



Two IP66 Connectors Suitable for Retrofit Project and New Project.  
Left: for M8-M10 cores  
Right: for M12-M16 cores





# HARMONY



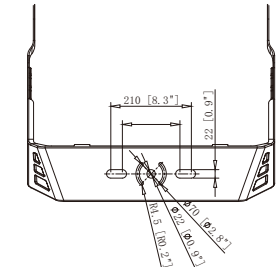
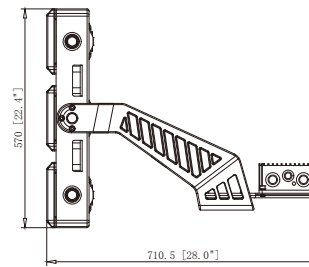
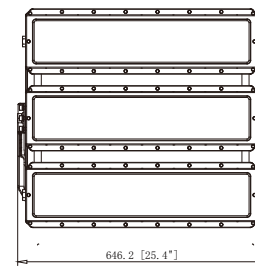
## G3 SERIES FLOOD LIGHTING



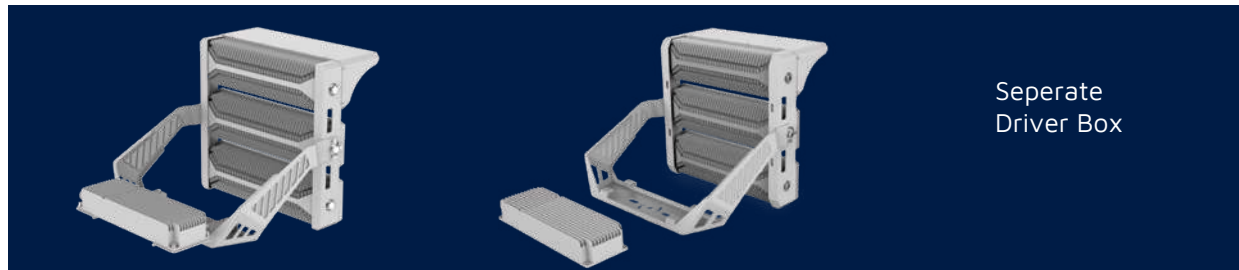
### SPECIFICATION

<b>Wattage:</b>	1500W, 1800W
<b>LED Brand:</b>	Osram
<b>Driver Brand:</b>	Inventronics
<b>CCT:</b>	5700K, 5000K, 4000K, 3000K, 2200K optional
<b>CRI:</b>	70, 80, 90 optional
<b>Luminous Flux(lm):</b>	1500W=210,000lm, 1800W=252,000lm
<b>Lighting distribution:</b>	12°, 15°, 50°, NB, MB, WB(hundreds of light distribution for different level projects)
<b>Input Voltage:</b>	AC100-277V / 200-480V
<b>Frequency:</b>	50/60Hz
<b>Power Factor:</b>	≥0.9 at Max load
<b>FF(Flicker Factor):</b>	<1%
<b>Power Efficiency:</b>	>0.93
<b>THD:</b>	<19%
<b>Surge Protection:</b>	Line – Line 20kV, Line – FG 20kV
<b>Smart Control:</b>	0-10V/DALI/WIFI/DALI/Zigbee/DMX/RGB
<b>Frontal Surface (Front EPA):</b>	0.38m <sup>2</sup> (4.13ft <sup>2</sup> )
<b>Side Surface(Side EPA):</b>	0.15m <sup>2</sup> (1.56ft <sup>2</sup> )
<b>Weight</b>	
<b>(Intergrated with driver box):</b>	
<b>Housing Matrial:</b>	Finishing powder coated AL1070 pure aluminum for marine salt protection and swimming pool applications.

### Dimension



<b>Optic Lens and cover:</b>	UV protected optical Lens (PC cover 3.0mm optional)
<b>Cut-off Shield (optional):</b>	Finishing powder coated galvanized iron sheet Metal (Marine Specialty Painting if required)
<b>Mounting Bracket:</b>	Finishing powder coated galvanized iron sheet metal (Marine Specialty Painting if required)
<b>IP Rating:</b>	IP66
<b>Operating Temperature:</b>	-104°F~122°F / -40°C ~ 50°C
<b>Warranty:</b>	10 Years





# HARMONY



**REMOTE MOUNTING  
DRIVER BOX  
SOLUTION AVAILABLE**

Seperate Driver Box





# HARMONY



Roratable fixing bracket of laser pointer is more flexible to get the point on the playing ground.

Contractors can now install the Harmony during the daytime and be easier they can meet the lighting design specification with laser pointer.

## LOW WIND RESISTANCE

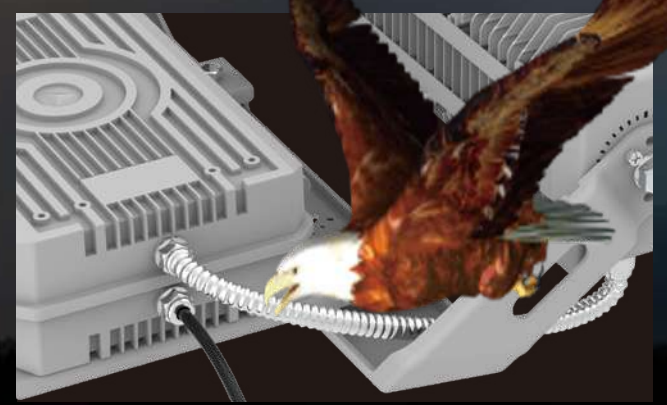
### Frontal EPA (Wind Surface):

- 600W: 0.14m<sup>2</sup> (1.55ft<sup>2</sup>)
- 1200W: 0.3m<sup>2</sup> (3.32ft<sup>2</sup>)
- 1800W: 0.38m<sup>2</sup> (4.13ft<sup>2</sup>)

### Side EPA (Wind Surface):

- 600W: 0.08m<sup>2</sup> (0.81ft<sup>2</sup>)
- 1200W: 0.09m<sup>2</sup> (1.02ft<sup>2</sup>)
- 1800W: 0.15m<sup>2</sup> (1.56ft<sup>2</sup>)

**Metal flex pipe for ultimate cable protection in bird damage-prone areas**





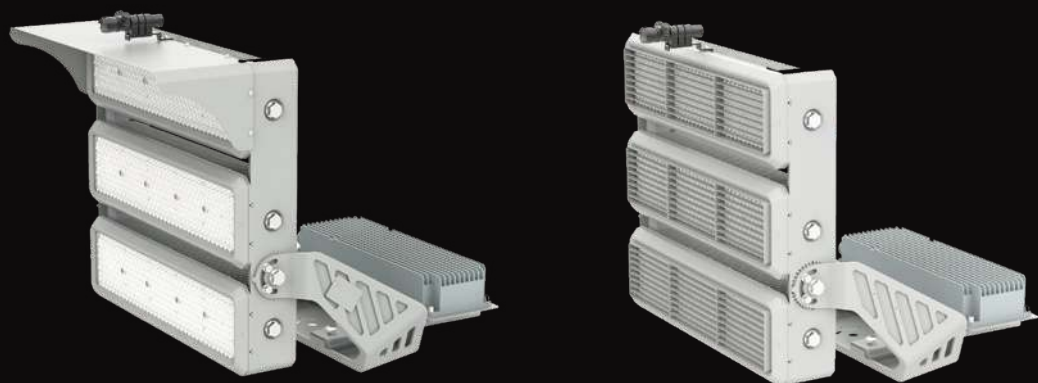
# HARMONY

## Advantages of complete optical lens

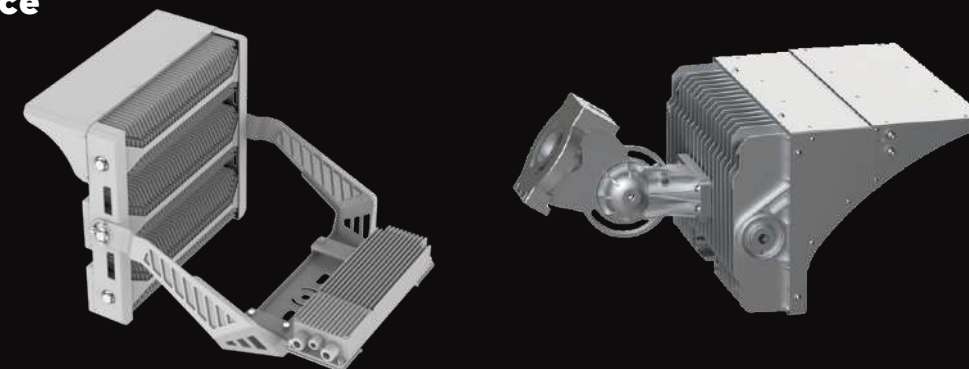
1. More accurate lighting distribution on the PA
2. Much better waterproof protection
3. Easy to replace the optical lens



## Visors and Grille Available for Great Control of Spill Light and Sky Glow



## Multiple Installation way U bracket Ceiling Surface

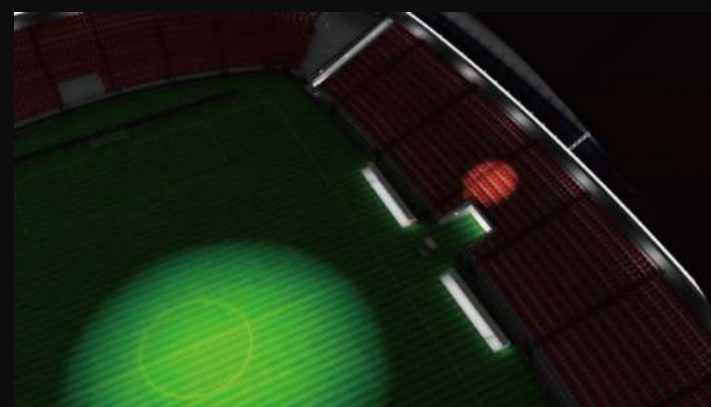
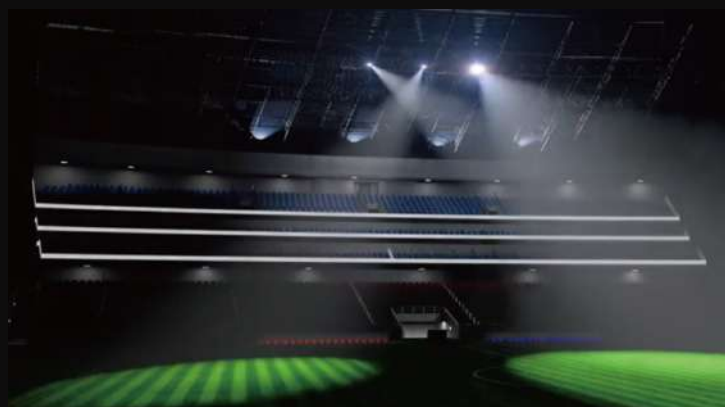
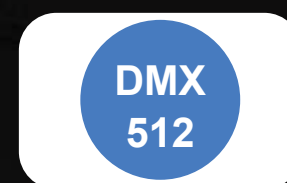




# HARMONY

## SMART

Smart Sports Zone  
Intelligent Control  
Enjoy Play





# HARMONY



**MODULE**

Each Module Could be

**ROTATED SEPERATLY**

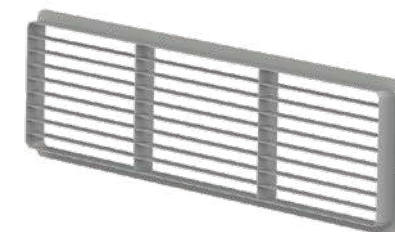
## OPTIONAL ACCESSORIES



Rotatable Visor



Visor



Grill



Glass



Rotatable Laser Pointer



# HARMONY

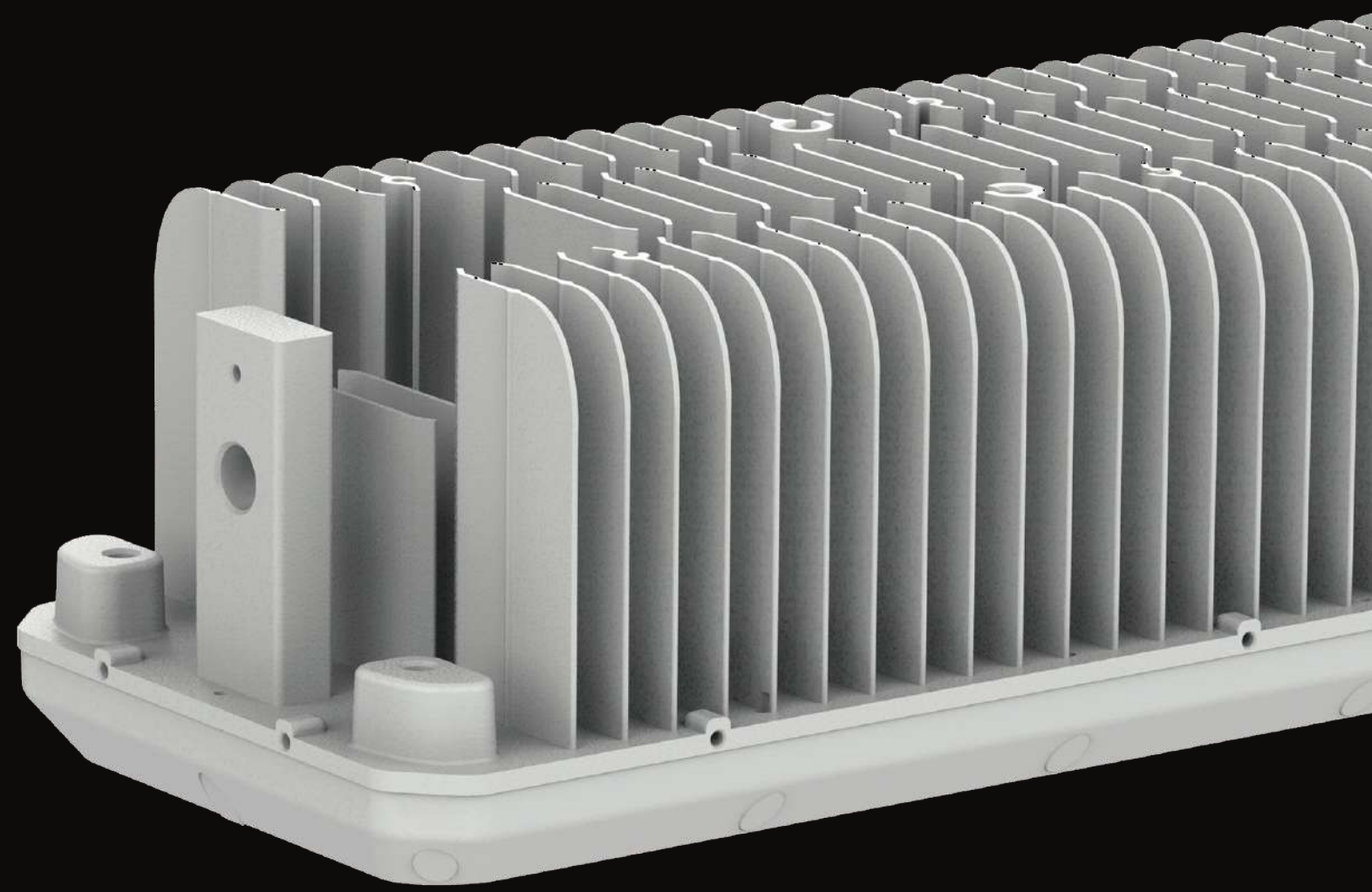
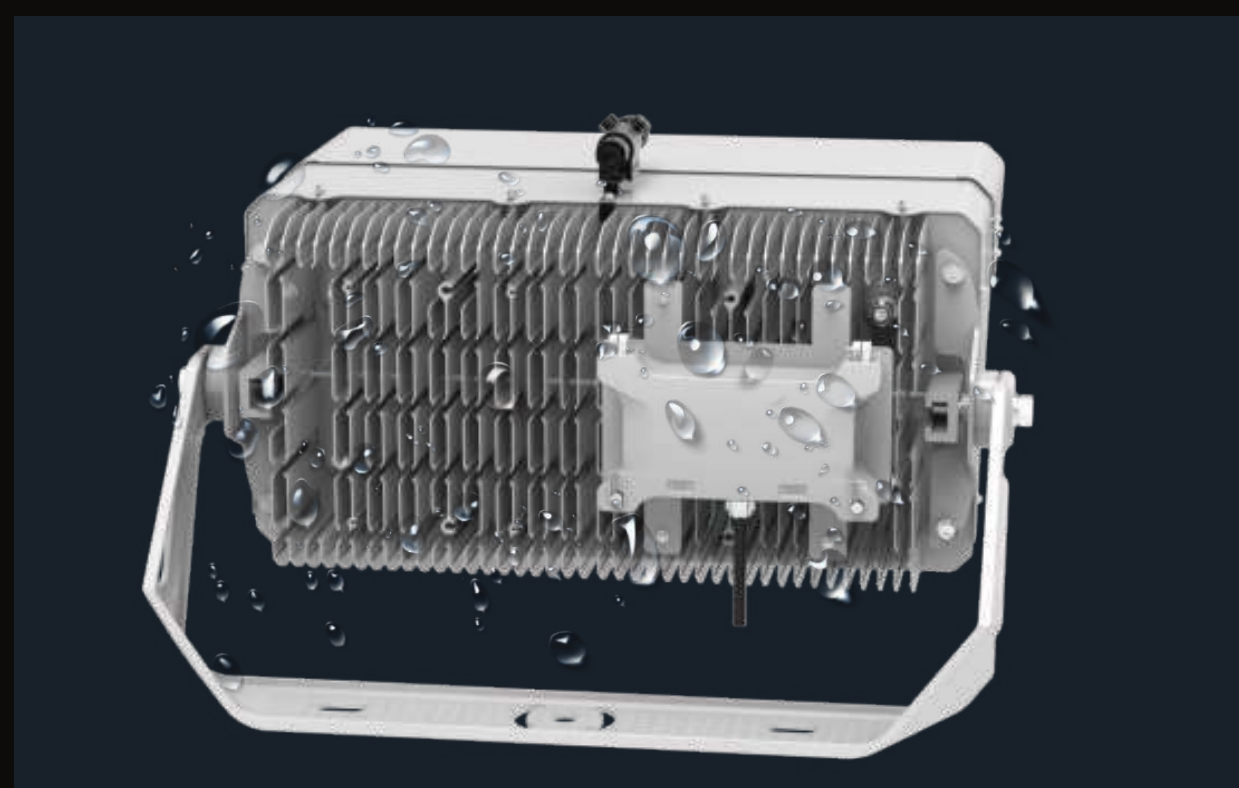
## AVIATION ALUMINUM

HDTV, CRI>90 & TLCI>90



Aircraft Grade Aluminum  
High resistance to corrosion and finish  
High resistance to UV damage  
Excellent fatigue resistance  
Physical extra strength

IP66 Rated Protection

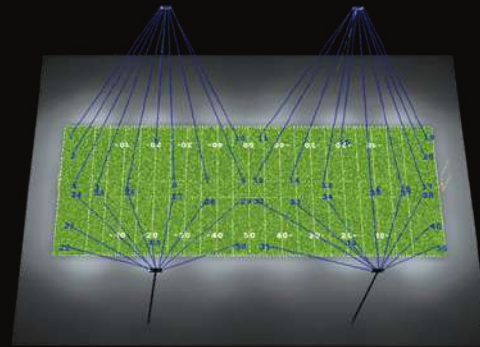
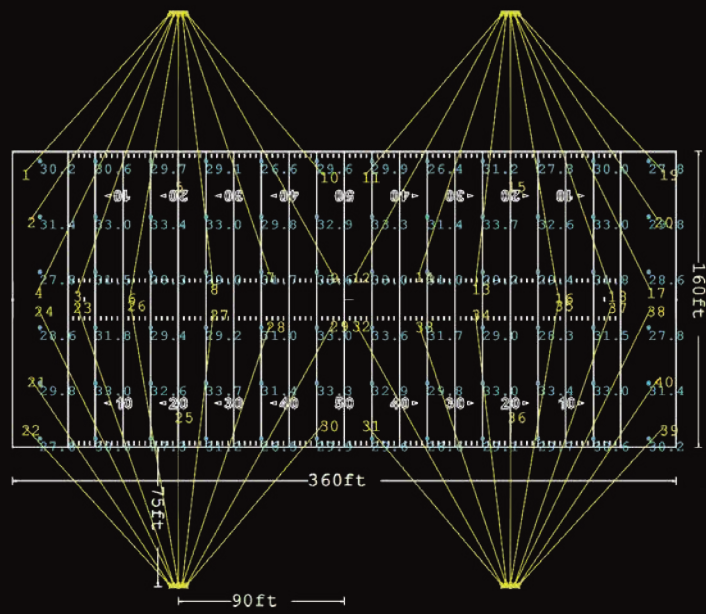




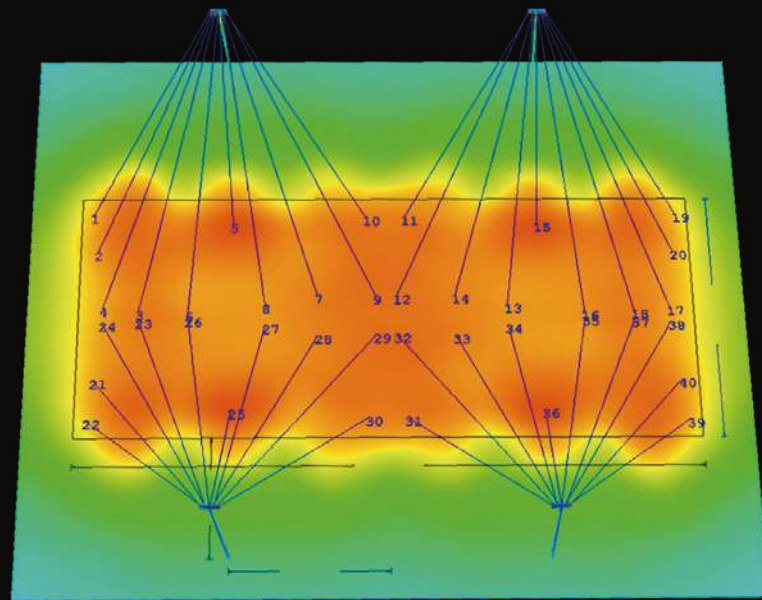
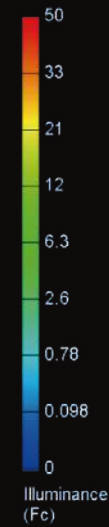
# OPTICAL SYSTEM



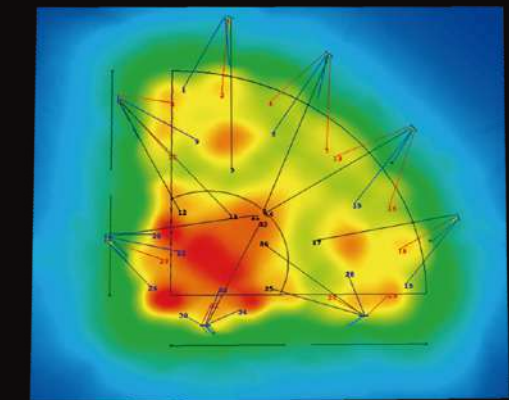
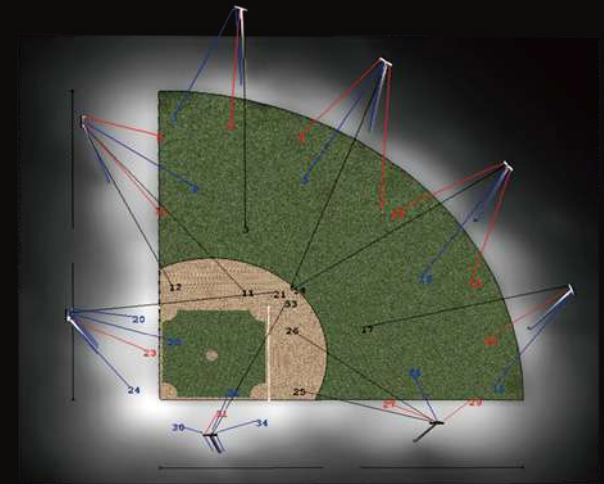
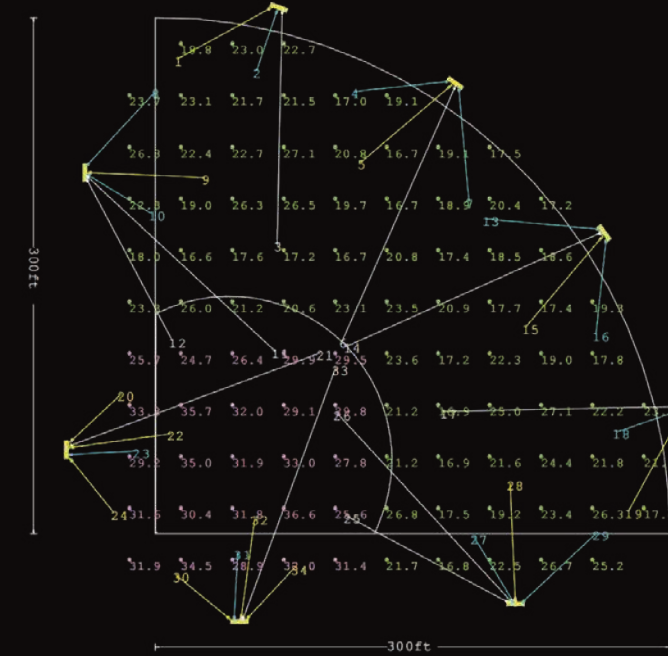
100+ Lighting Distributions  
Professional Dialux & AGI32 Lighting Calculation Service



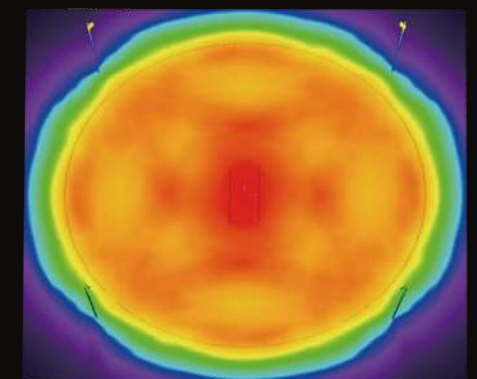
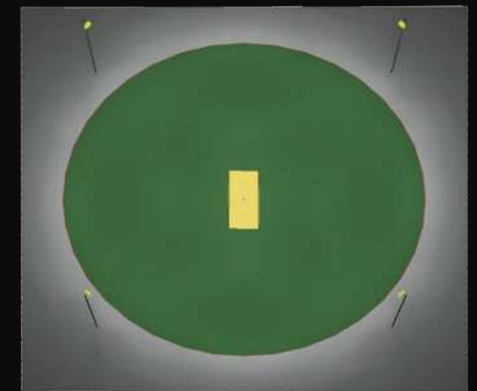
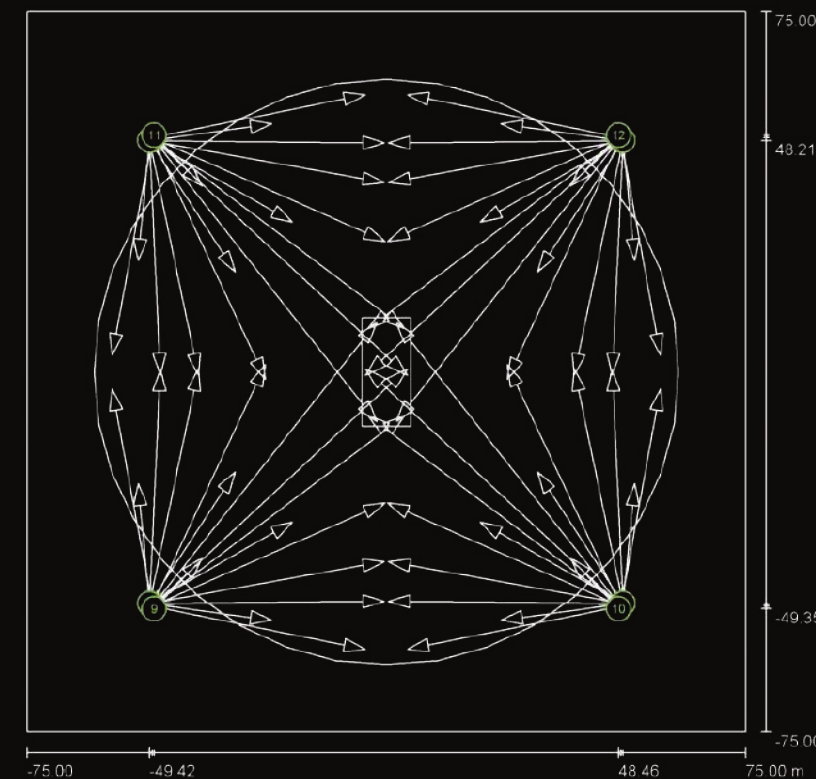
**Football Field(American)**



**Baseball Field**

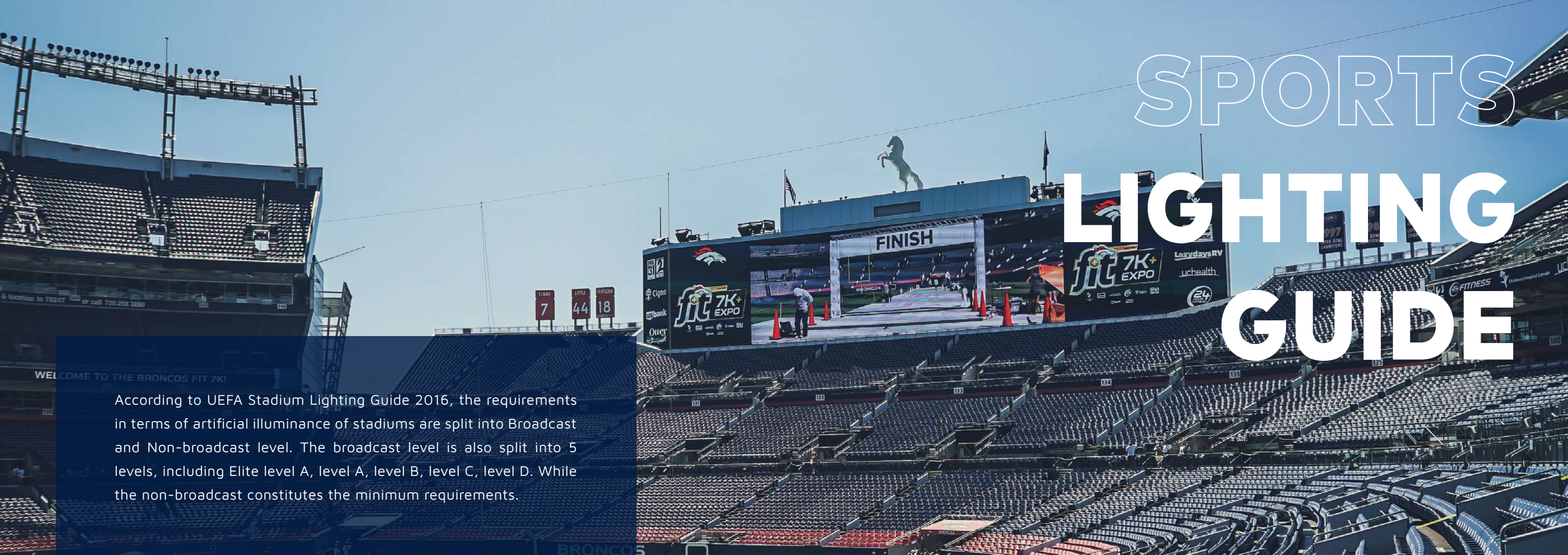


**Cricket Field**





# SPORTS LIGHTING GUIDE



According to UEFA Stadium Lighting Guide 2016, the requirements in terms of artificial illuminance of stadiums are split into Broadcast and Non-broadcast level. The broadcast level is also split into 5 levels, including Elite level A, level A, level B, level C, level D. While the non-broadcast constitutes the minimum requirements.

## TV BROADCAST LEVEL

	Elite level A	Level A	Level B	Level C	Level D
Eh ave	>2000lux	>1500lux	>1400lux	>1200lux	>800lux
U <sub>1h</sub> , U <sub>2h</sub>	U <sub>1</sub> >0.5, U <sub>2</sub> >0.7	U <sub>1</sub> >0.5, U <sub>2</sub> >0.7	U <sub>1</sub> >0.5, U <sub>2</sub> >0.7	U <sub>1</sub> >0.4, U <sub>2</sub> >0.6	U <sub>1</sub> >0.4, U <sub>2</sub> >0.5
Ev ave	>1500lux	>1250lux	>1000lux	>750lux	>350lux
U <sub>1v</sub> , U <sub>2v</sub>	U <sub>1</sub> >0.4, U <sub>2</sub> >0.5	U <sub>1</sub> >0.4, U <sub>2</sub> >0.5	U <sub>1</sub> >0.4, U <sub>2</sub> >0.5	U <sub>1</sub> >0.35, U <sub>2</sub> >0.45	-
FF(Flicker)	<5%	<12%	<12%	<20%	-
CCT	5000K/5700K	5000K/5700K	5000K/5700K	4000~5700K	4000~5700K
GR	<50	<50	<50	<50	<50
MF	0.85	0.8	0.8	0.7	0.7
CRI	≥80Ra	≥80Ra	≥80Ra	≥70Ra	≥70Ra

## NON-BROADCAST LEVEL

According to EN12193 requirements of lighting football field, because of recreational football is usually played in the evening after work, effective lighting maximizes the opportunity for people to take part in the game.

### EN12193 REQUIREMENTS

CLASS		I	II	III
Horizontal illuminance	$\bar{E}_m$ lx	500	200	75
	$E_{min}/\bar{E}_m$	0.7	0.6	0.5
GR		50	50	55
Ra		60	60	20






## CONTACT US:

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 [contact@ledex.fr](mailto:contact@ledex.fr)