

KEENE

Get ready to hit a home run

**GENLYTE
SOLUTIONS**
a @ignify business

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Floodlights

GameFlood
Outdoor Recreational
Sports Lighting



Lighting that packs a punch

1. **Versatility:** GameFlood can perform exceptionally well in various outdoor recreational sports facilities, making it a great choice for accommodating different types of sports activities, regardless of size.

2. **Customization:** GameFlood can be tailored to meet your specific needs and requirements, ensuring that your sports facility has the right lighting solution with optimal performance.

3. **Energy Efficiency:** The high-efficiency LED lighting and precision optics provide uniformity and visual comfort while limiting obtrusive light, making it an energy-efficient option, especially in residential areas.



From the smallest to the most complex outdoor recreational sports facilities.

The Keene GameFlood GMFL LED floodlighting for outdoor recreational sports is a cost-effective solution that delivers exceptional performance and energy savings, guaranteeing perfect illumination for any outdoor recreational sports facility.



Soccer



Hockey



Tennis



Football/
Rugby



Athletics



Golf course



Basketball /
Multi-sport
Court



Baseball/
Softball

It's Game Time.

When it comes to installing a lighting system for a field, meeting specific standards is crucial. The lighting requirements depend on the sport being played, with game fields requiring higher light levels than training fields. Additionally, the type of game, speed of action, and viewing distance all play a role in determining the specific lighting needed.

The ANSI/IES RP-6 standard specifies lighting classes for most sports, with varying levels depending on the sport and sometimes the area of the field. This standard also recommends maintained illumination targets and uniformity, while minimizing glare and visual obstructions for players and spectators. Lighting is not only necessary for sports performance, but also plays an important role in creating a pleasant social environment and generating revenue.

Each sport and field requires unique lighting needs, and this brochure offers guidance and inspiration for standard lighting schemes and layouts. However, it's important to note that specialized engineering knowledge is required for lighting design and installation, and only competent experienced professionals should carry out the work following the required guidelines.

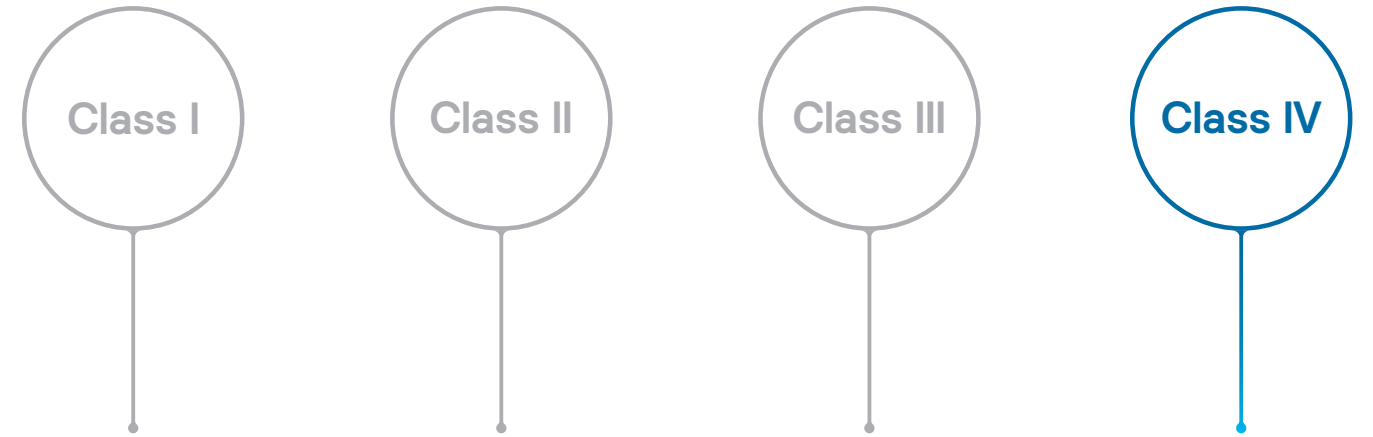
This brochure is not intended for providing lighting recommendations for television coverage, as specialist knowledge is needed for this aspect.



Light the way to victory

Class of Play per ANSI/IES RP-6

The Keene GameFlood is specifically designed for outdoor Recreational Sports lighting per Class IV.



Class I
Competition play before a large group (5,000 or more spectators).

Class II
Competition play with facilities for up to 5,000 spectators.

Class III
Competition play with facilities for up to 2,000 spectators.

Class IV
Competition or recreational play only (limited or no provision for spectators).

Class of Play

| | Class | | | |
|---------------------|-------|----|-----|----|
| | I | II | III | IV |
| Professional | ● | | | |
| College | ● | ● | | |
| Semiprofessional | ● | ● | | |
| Sports Clubs | ● | ● | ● | |
| Amateur Leagues | | ● | ● | ● |
| High School | | ● | ● | ● |
| Training Facilities | | | ● | ● |
| Elementary School | | | | ● |
| Recreational Event | | | | ● |
| Social Event | | | | ● |

(NOTE: Per ANSI/IES RP-6 2022 version - always confirm per the latest version.)

Keene GameFlood

With Keene's expertise in sports lighting, you can expect support at every stage of your journey.

Keene's sports lighting systems are designed to reduce energy consumption while minimizing light pollution and overspill. This results in happier club members, facility owners, and surrounding residents who enjoy lower energy bills.

When lighting an outdoor facility, it's important to consider the specific lighting needs for each sport, including ground and aerial lighting, as well as minimizing nuisance light such as sky glow and light pollution. Choosing the appropriate optical distribution and aiming the luminaires according to the specific sport and needs is also crucial.

Keene has a proven track record of working with local authorities and private property owners to address issues with glare and overspill. We can provide expert guidance to ensure optimum illumination in any areas of concern within your property.



Light Up Your Game with Keene GameFlood



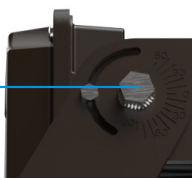
Visor (included with luminaire, screws also included)



Laser Aiming Device GMFL-LAD



Yoke Mount with Vertical and Horizontal Aiming





Play hard, win easy. Lighting a soccer field

Effective lighting is essential for recreational soccer played in the evening after work, as it maximizes the opportunity for people to participate in the game.

Although the lighting level may be lower than for broadcasted matches, it's important to maintain high-quality lighting in terms of uniformity, visual comfort, and avoidance of obtrusive light, particularly in residential areas where sports facilities are often located.

These facilities may include stand-alone or groups of fields with limited or no spectator capacity.

For non-televized events, lighting should be planned to ensure uniform illumination of the horizontal surface of the pitch, regardless of the pole arrangement chosen.

It's crucial to position the poles outside the normal direction of view for players, aligning with both goal lines and touch lines, and avoiding glare zones.

Soccer is a multi-directional ground-level sport, and a mix of distributions and aiming angles should be considered to enhance illumination and uniformity, rather than increasing lumen output and wattage consumption.

Source: ANSI/IES RP-6

Recommended Maintained Illuminance Targets

TS = Task Surface; Recommended Illuminances are at height of task surface above finished grade or floor

| Application Task/Area | Class of Play | Horizontal (E _h) | | | | | | |
|-----------------------|---------------|------------------------------------|------------|-----|------|------------------|---------|-------------|
| | | Target E _h @ Height AFF | | | CV | Uniformity Ratio | | |
| | | lux @ m | (Fc @ Ft) | Avg | | Max CV | Ratio | Ratio Basis |
| Area of play | IV | 200 @ 0.91 | (20 @ 3.0) | Avg | 0.25 | 3:1 | Max:Min | |

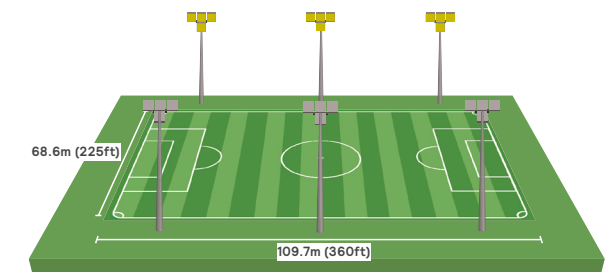
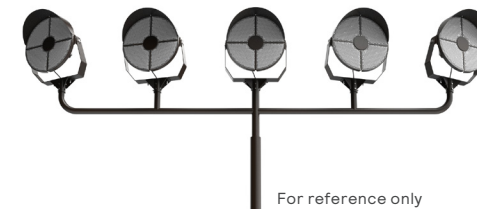
(NOTE: Per ANSI/IES RP-6 2022 version - always confirm per the latest version.)

On the field, YOU shine.

Soccer Class IV

ANSI/IES RP-6: E_h ave > 200 lux (approx. 20 fc); E_{max}/E_{min} 3:1

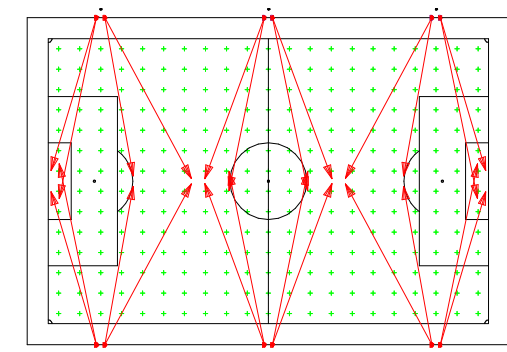
GameFlood LED



(NOTE: Playing area, dimensions, number of poles, and number of luminaires shown for reference only - your specific requirements may vary)

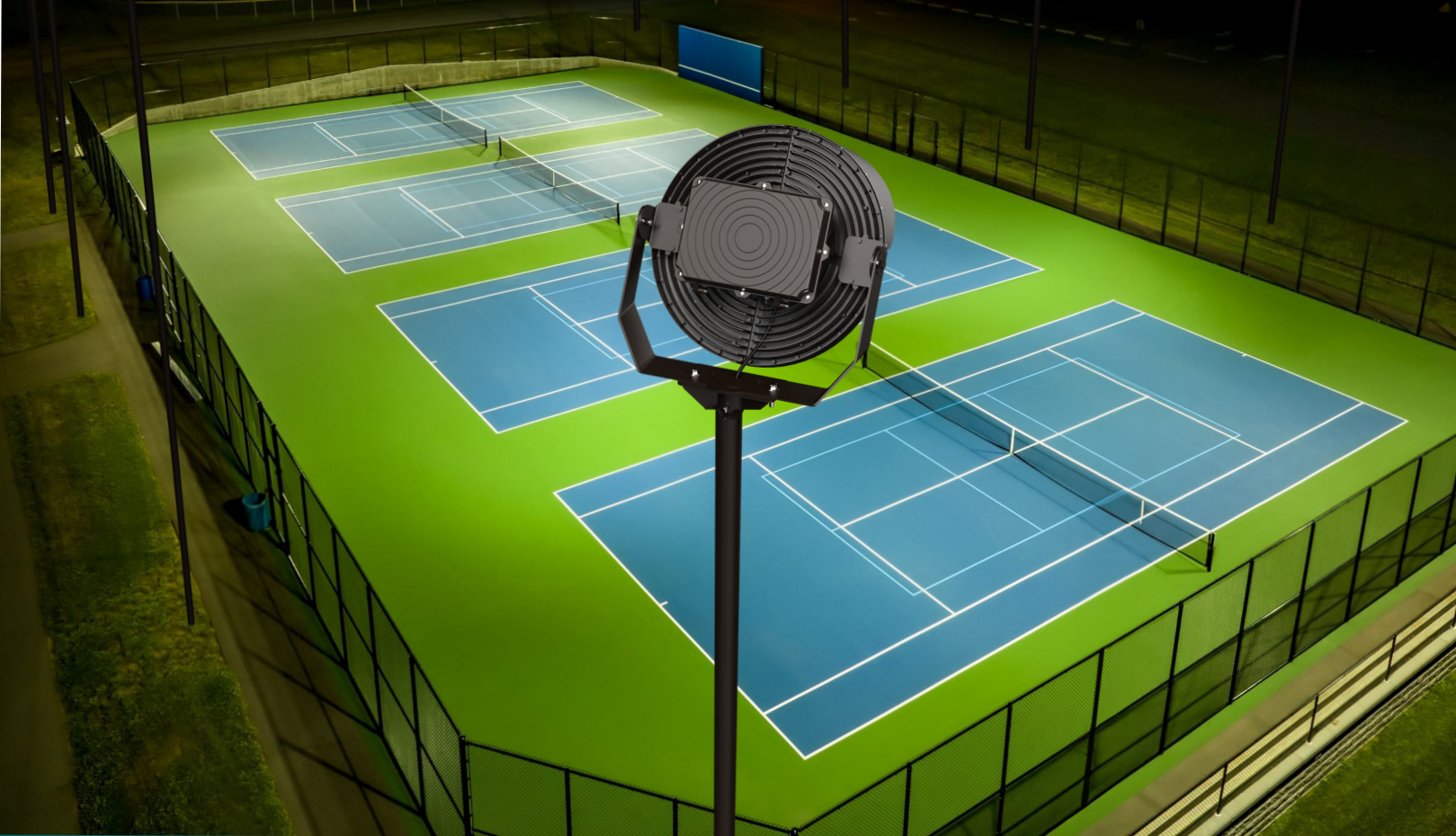
Specifications GameFlood LED

| | |
|------------------------------------|--------------------|
| Poles | 6 x 15.2m (50 ft) |
| Floodlight | 56 x GameFlood LED |
| Floodlight Type | GMFL-A01-740-4X4 |
| System Power | 21 kW |
| E _h ave | 256 lux (23.78 fc) |
| E _{max} /E _{min} | 2.39 |
| Application LPW (LER) | 165 |



Floodlight aiming

(Note: Aiming diagram shown for reference only - your specific aiming may vary)



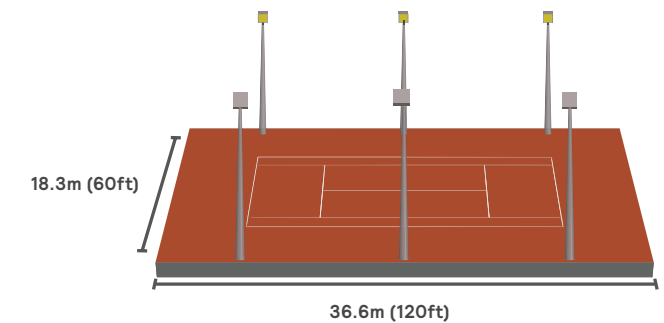
Triumph on the court.

Tennis single court Class IV

ANSI/IES RP-6: Eh ave > 300 lux, (approx. 30 fc);

E_{max}/E_{min} 2.5:1

GameFlood LED



(NOTE: Playing area, dimensions, number of poles, and number of luminaires shown for reference only – your specific requirements may vary)

Serve it, smash it, win it.

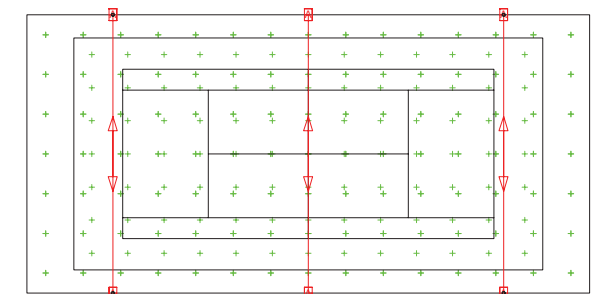
When lighting a tennis court, the main objective is to ensure excellent visibility for both players and spectators to follow the game's progress. It's important to consider the primary playing area (PPA) and the surrounding secondary playing area (SPA). The ball should be visible regardless of its location or speed, and since tennis balls are typically yellow, the background luminance should be low to reduce direct glare.

Creating good visibility also requires sufficient contrast between objects and their backgrounds, even distribution of light across the playing surface (uniformity), and minimizing glare. Pole locations should be selected to provide uniform lighting throughout the court, accenting the net area. Consider installing six poles (three per side) to improve lighting on all sides of the ball, from the net area to both back court areas and into the SPA, which also enhances uniformity.

Source: ANSI/IES RP-6

Specifications GameFlood LED

| | |
|------------------------------------|--------------------|
| Poles | 6 x 9.1m (30ft) |
| Floodlight | 6 x GameFlood LED |
| Floodlight Type | GMFL-A01-740-5X5 |
| System Power | 2.2 kW |
| Eh ave | 362 lux (33.60 fc) |
| E _{max} /E _{min} | 2.33 |
| Application LPW (LER) | 170 |



Floodlight aiming
(NOTE: Aiming diagram shown for reference only – your specific aiming may vary.)

Recommended Maintained Illuminance Targets

TS = Task Surface: Recommended Illuminances are at height of task surface above finished grade or floor

| Application Task/Area | Class of Play | Horizontal (E _h) | | | | | |
|-----------------------|---------------|------------------------------------|--------------------------|-----|------|------------------|---------|
| | | Target E _h @ Height AFF | | | CV | Uniformity Ratio | |
| | | Min | Avg | Max | | | |
| Area of play | IV | P | 300 @ 0.91 (30 @ 3.0) | Avg | 0.21 | 2.5:1 | Max:Min |

(NOTE: Per ANSI/IES RP-6 2022 version – always confirm per the latest version.)

Elevate your game.

When designing playing courts for basketball and other sports, it's important to consider the needs of all the sports to be played. The lighting design should produce uniform illumination while minimizing glare and light pollution.

If the court is used in the evenings and at night, a floodlighting system with lighting towers may be necessary, directing light towards the free throw lines and midline to reduce glare, even for players on the sidelines.

Uniform distribution of lighting on the playing court is crucial, with careful consideration given to pole placement and setback to avoid player injury, especially for basketball, which is a multi-directional ground and aerial sport. Consider installing four poles (two per side) to improve lighting on both sides of the court and backboards, enhancing uniformity.

Source: ANSI/IES RP-6

Recommended Maintained Illuminance Targets

TS = Task Surface: Recommended Illuminances are at height of task surface above finished grade or floor

| Application Task/Area | Class of Play | Horizontal (E _h) | | | | | |
|-----------------------|---------------|------------------------------------|------------|-----|--------|-------|------------------|
| | | Target E _h @ Height AFF | | | CV | | Uniformity Ratio |
| | | Min | Avg | Max | Max CV | Ratio | Ratio Basis |
| Area of play | IV | 200 @ 0.91 | (20 @ 3.0) | Avg | 0.30 | 4:1 | Max:Min |

(NOTE: Per ANSI/IES RP-6 2022 version - always confirm per the latest version.)

GameFlood: The Silent Hero of Victory

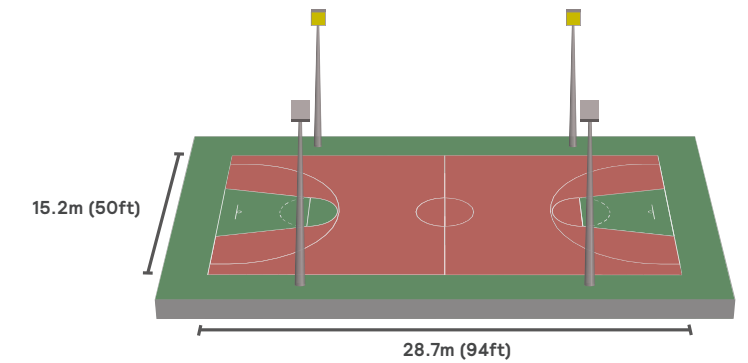


Basketball court Class IV

ANSI/IES RP-6: E_h ave > 200 lux (approx. 20 fc);

E_{max}/E_{min} 4:1

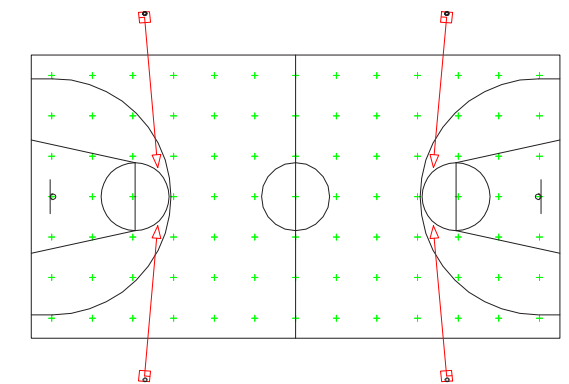
GameFlood LED



(NOTE: Playing area, dimensions, number of poles, and number of luminaires shown for reference only - your specific requirements may vary)

Specifications GameFlood LED

| | |
|------------------------------------|--------------------|
| Poles | 4 x 7.6m (25ft) |
| Floodlight | 8 x GameFlood LED |
| Floodlight Type | GMFL-A01-740-6X6 |
| System Power | 3.0 kW |
| E _h ave | 365 lux (33.88 fc) |
| E _{max} /E _{min} | 3.43 |
| Application LPW (LER) | 165 |



Floodlight aiming
(NOTE: Aiming diagram shown for reference only - your specific aiming may vary.)





Lighting a baseball/ softball field



Refuse to lose

Baseball and softball are fast-paced sports that require high levels of illumination to follow the action and flight of the ball. The regulation-sized infield requires greater illuminance and overall uniformity than the larger outfield, which may vary in size.

Floodlighting should minimize shadowing and provide good modeling of players, while controlling glare for players, officials, and spectators. Since baseballs and softballs are light-colored, the

background luminance should be low to reduce direct glare. Baseball is unique in having nine fixed lines of sight within which pole locations should be avoided to control glare from floodlighting. Poles should not be installed in glare zones, such as directly behind home plate, to ensure good viewing conditions for players. Care must be taken regarding pole location and luminaire aiming to prevent direct glare while illuminating all sides of the ball in flight. Avoiding shadows on the ball as it moves towards players is crucial to make it easier

to track, and prevent temporarily losing sight of it. For poles installed on the side of the outfield along the foul lines, special care should be taken to avoid aiming luminaires at players causing disability glare. Consider adding supplemental lower lumen output floodlights mounted lower on the pole and aimed upwards to help illuminate the ball in flight.

Source: ANSI/IES RP-6

Recommended Maintained Illuminance Targets

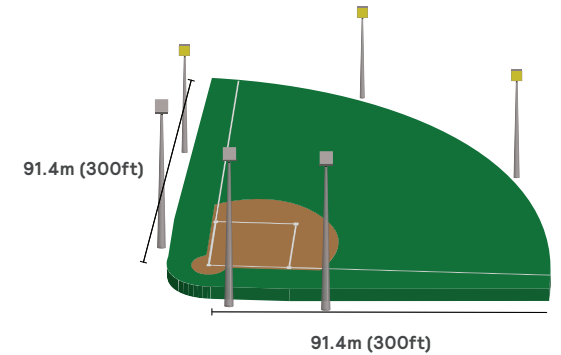
TS = Task Surface: Recommended Illuminances are at height of task surface above finished grade or floor

| Application Task/Area | Class of Play | Horizontal (E _h) | | | | | | |
|-----------------------|---------------|------------------------------------|---------------------------------|---------------------------------|-----|------------------|-------|---------|
| | | Target E _h @ Height AFF | | | CV | Uniformity Ratio | | |
| | | Class | Target E _h (lux @ m) | Target E _h (Fc @ Ft) | | Max | Avg | Min |
| Infield | IV | P | 300 @ 0.91 | (30 @ 3.0) | Avg | 0.21 | 2.5:1 | Max:Min |
| Outfield | IV | O | 200 @ 0.91 | (20 @ 3.0) | Avg | 0.25 | 3:1 | Max:Min |

(NOTE: Per ANSI/IES RP-6 2022 version - always confirm per the latest version.)

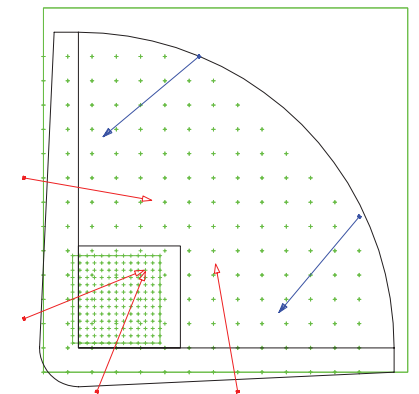
Baseball/Softball Class IV

ANSI/IES RP-6: E_h ave Infield > 300 lux (approx. 30 fc); E_{max}/E_{min} 2.5:1;
E_h ave Outfield > 200 lux (approx. 20 fc); E_{max}/E_{min} 3:1
GameFlood LED



(NOTE: Playing area, dimensions, number of poles, and number of luminaires shown for reference only - your specific requirements may vary)

| Specifications | GameFlood LED |
|---|---|
| Poles | 6 total, x 18.3m (60ft) infield, x 21.3m (70ft) outfield |
| Floodlight | 44 x GameFlood LED |
| Floodlight Type | 24x GMFL-A02-740-4X4 14x GMFL-A02-740-3X3 6x GMFL-A03-740-6X6 |
| System Power | 23 kW |
| E _h ave Infield | 324 lux (30.05 fc) |
| E _{max} /E _{min} Infield | 1.71 |
| E _h ave Outfield | 252 lux (23.43 fc) |
| E _{max} /E _{min} Outfield | 2.18 |
| Application LPW (LER) | 161 ave |



Floodlight aiming
(NOTE: Aiming diagram shown for reference only - your specific aiming may vary.)



Lighting a Football/ Rugby field



It takes GameFlood to become a Champ.

Uniform illumination over the entire football field or rugby pitch is crucial, as they are multi-directional ground and aerial sports. Good visibility for players, officials, and spectators is also essential to follow the full flight of the ball. The lighting requirements for competitions will be dictated by the viewing needs of spectators, which are related to the viewing conditions and capacity of the sports grounds. Various lighting systems may be suitable for football fields, such as six shorter poles (three per side) with lower lumen output luminaires and shorter aiming points, which can also improve uniformity. Reference the RP-6 Mounting Height Chart for

recommended pole setbacks at various mounting heights. Care should be taken to avoid casting shadows on the pitch from floodlights located behind grandstand rooflines. For rugby, poles can be placed in line with or close to the scoring (try) line, reducing shadowing from the high goal posts.

Source: ANSI/IES RP-6

Recommended Maintained Illuminance Targets

TS = Task Surface: Recommended Illuminances are at height of task surface above finished grade or floor

| Application Task/Area | Class of Play | Horizontal (E _h) | | | | | |
|-----------------------|---------------|------------------------------------|------------|-----|------|------------------|---------|
| | | Target E _h @ Height AFF | | | CV | Uniformity Ratio | |
| | | lux @ m | (Fc @ Ft) | Min | | Max CV | Ratio |
| Area of play | IV | 200 @ 0.91 | (20 @ 3.0) | Avg | 0.25 | 3:1 | Max:Min |

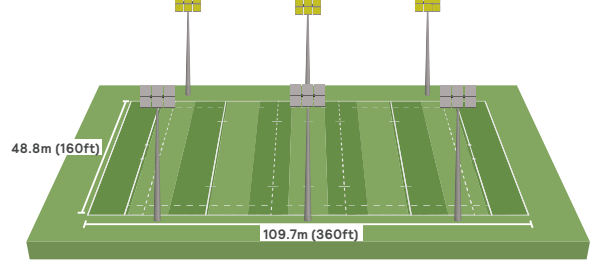
(NOTE: Per ANSI/IES RP-6 2022 version - always confirm per the latest version.)

Football Class IV

ANSI/IES RP-6: E_h ave > 200 lux (approx. 20 fc);

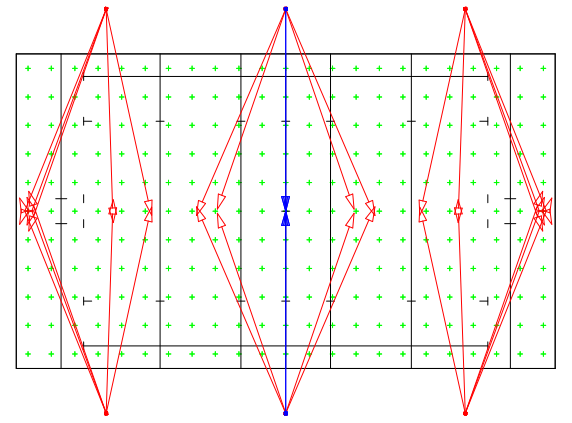
E_{max}/E_{min} 3:1

GameFlood LED



(NOTE: Playing area, dimensions, number of poles, and number of luminaires shown for reference only - your specific requirements may vary)

| Specifications | GameFlood LED |
|------------------------------------|--------------------|
| Poles | 6 x 15.2m (50ft) |
| Floodlight | 44 x GameFlood LED |
| Floodlight Type | GMFL-A01-740-5X5 |
| System Power | 16 kW |
| E _h ave | 253 lux (20.50 fc) |
| E _{max} /E _{min} | 2.36 |
| Application LPW (LER) | 170 |



Floodlight aiming
(NOTE: Aiming diagram shown for reference only - your specific aiming may vary.)