POLARIS LIGHT



FREE GUIDE FOR UK FOOTBALL CLUBS

Football floodlighting in the UK

FA lux requirements, 3G pitches, planning permission, funding and testing, explained for club committees

Written for club chairs, secretaries, treasurers and facility managers who are planning new floodlights, an LED upgrade or a ground grading inspection.

Edition 1, November 2026

Who this guide is for, and how to use it

Floodlights decide how many hours a pitch can be used, which league a club can play in and how much it spends on energy. Getting them right starts with the standard you need to meet.

This guide brings together the floodlighting requirements in The FA's ground grading guidance and its guides to floodlighting and 3G pitches, the planning process and the Football Foundation's published grant criteria. Every figure comes from the sources listed on the last page.

Six steps from idea to lit pitch



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Before you start

Find out which competitions your teams play in and what they require. The FA guide to floodlighting advises clubs to design for the competitions the pitch will host. If no standard is set, it points to FIFA Class II for 11-a-side: 200 lux maintained average.

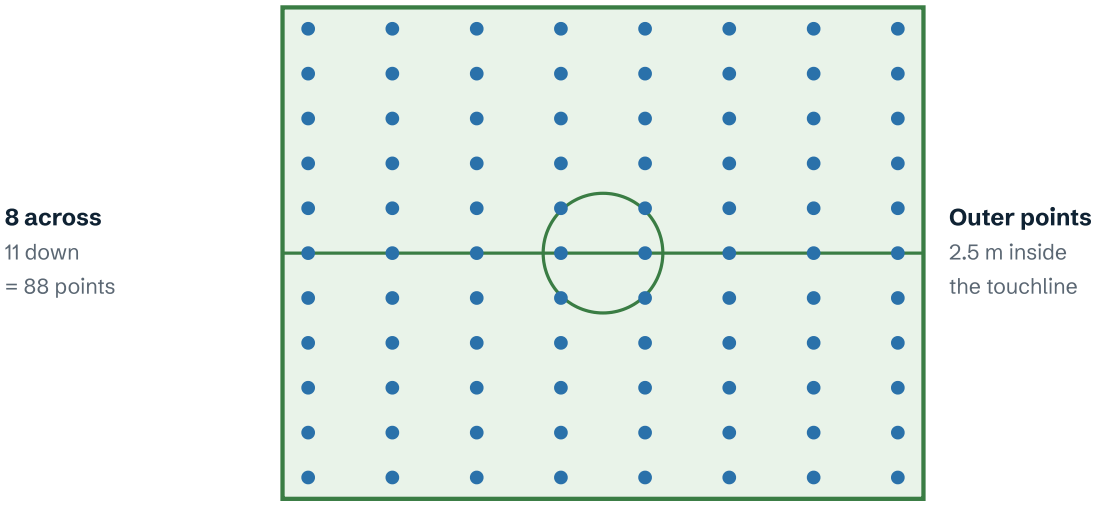
Lux and uniformity in plain English

Lux is the amount of light landing on the pitch surface: one lumen per square metre. Requirements are usually given as an **average** (Eave) across a grid of measuring points.

Uniformity says how even the light is. The FA uses two forms: a minimum reading as a share of the highest reading (no single reading below one quarter of the highest), and minimum divided by average (Emin/Eave), for example above 0.6 for a 3G match pitch. Even light matters as much as bright light: players and officials lose the ball in dark patches.

Maintained lux is the level the system must still reach after the light output has fallen with age and dirt, not just on the day it is switched on.

How The FA measures it: the 88 point grid



The average of all 88 readings is the average illuminance of the installation. The contractor must confirm in writing when the light meter was last calibrated. Source: FA National Ground Grading guidance, section 1.11.



Even light across every pitch: Goals Soccer, lit by Polaris Light.

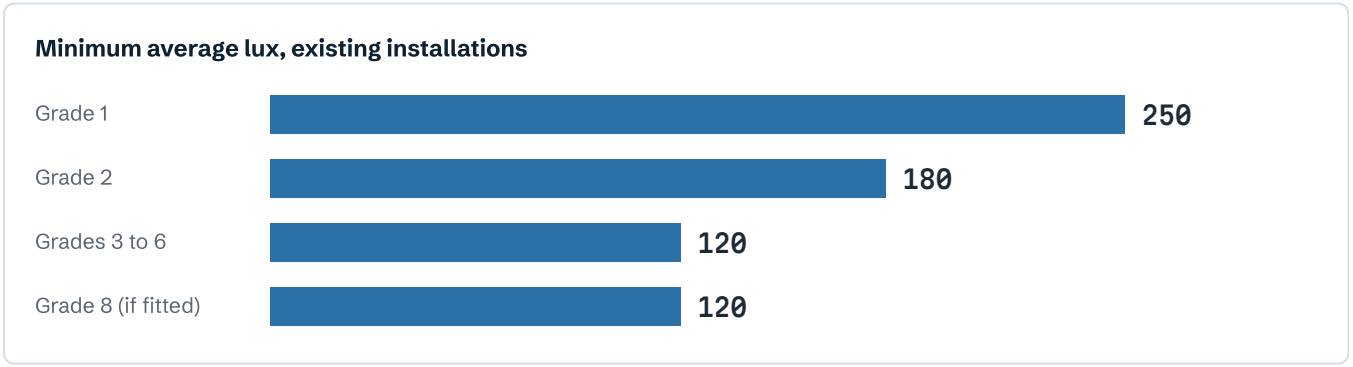
> Ask any supplier for a **lux plot**: a computer calculation of the readings on this grid for your pitch, columns and fittings, before you buy anything. Polaris Light produces lux plots and light spill drawings for every football project.

FA ground grading requirements

Clubs in the National League System are graded by ground. The grade sets the floodlighting standard. Grades 1 to 6 match Steps 1 to 6; Grade 7 is needed for promotion to Step 6 and Grade 8 for promotion to Step 7.

Grade	Average lux (existing)	Minimum reading	New or improved installations
Grade 1 (Step 1)	at least 250	100 lux, and not below 1/4 of the highest	Certificate no more than 6 months old when applying for a higher grade
Grade 2 (Step 2)	at least 180	100 lux, and not below 1/4 of the highest	BS EN 12193 Class 2, at least 200 lux, able to rise to 250 lux if promoted to Step 1
Grades 3 to 6 (Steps 3 to 6)	at least 120	not below 1/4 of the highest	Not stated for these grades in the table
Grade 7	Only the new or improved requirement is stated		BS EN 12193 Class 2, at least 200 lux
Grade 8	not compulsory; if fitted, at least 120	not below 1/4 of the highest	Not stated
New builds and conversions	Consult the local authority planning department first. All new installations and upgrades must be LED floodlights.		

Source: The FA, National Ground Grading guidance and criteria (men's, Steps 1 to 6), section 1.11 Floodlighting. Table simplified; the FA document is the authority. Check with your league and County FA for the current edition before you design.



Testing for grading

Lux values must be tested every two years by an approved independent contractor, and again after any significant alteration. The FA gives NICEIC Approved Contractor status, ISO 9000 / BS 5750, or membership of the Electrical Contractors' Association as examples of an approved contractor.

3G pitches and training areas

The FA will not support building a 3G football turf pitch (FTP) without floodlights, because floodlights are what make the weekly hours of use possible. The FA guide to floodlighting notes that 3G pitches are often designed for up to 80 hours a week, the minimum for a Football Foundation funded project.

Use of a 3G pitch	Maintained average	Uniformity (min/ave)
Full size matches (FIFA Class II)	more than **200** lux	more than **0.6**
Cross play	more than **120** lux	more than **0.6**
Training	more than **120** lux	no requirement

Source: The FA, Guide to 3G football turf pitch design principles and layouts.

Switch by section

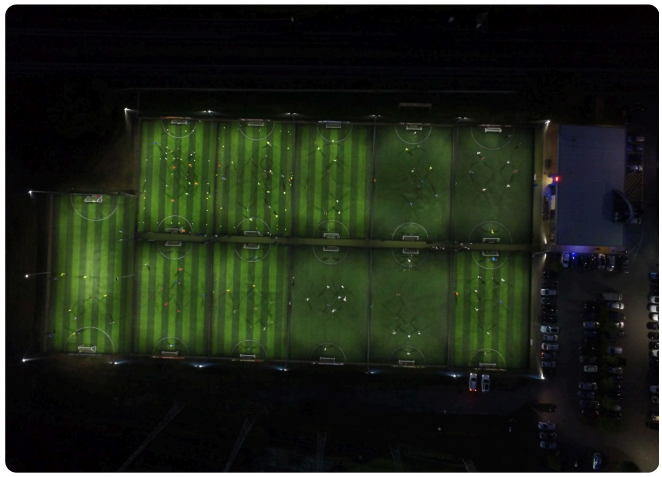
The FA asks for floodlights on a 3G pitch to be designed so that each section of the pitch can be programmed on its own. Lighting only the half or third in use, and a lower level for training, cuts running costs and gives flexibility.

Training areas

The FA guide to floodlighting recommends 120 lux for a training pitch. Separate floodlit training areas take pressure off the main pitch.



Training under LED floodlights at Goals Soccer.



Small-sided pitches lit by Polaris Light.

Planning permission

Installing floodlights counts as development, so in most cases you need planning permission from your local planning authority. Talk to the planners early.

What planners usually ask for

- [ ] A **light spill drawing** showing how much light reaches the surrounding area and nearby homes
- [ ] Technical details of the floodlights: column height, fittings, aiming and brightness
- [ ] The proposed **hours and pattern of use**
- [ ] Effects on wildlife, such as bats, where relevant
- [ ] Traffic, parking and noise from longer evening use

How to make an application stronger

- Ask for pre-application advice. Planners will also tell you who else to consult, for example Environmental Health.
- Engage the residents most affected early, and respond to their concerns.
- Offer conditions: lights off by an agreed time, and lower levels for training.
- Research similar floodlit sites nearby to support your case.
- On new pitches, choose orientation and location to avoid sensitive neighbours.

Planning consent often comes with conditions, for example on hours of use. Check that they still let you deliver the use your business plan relies on.

> **Polaris handles the planning work**
>
> Polaris Light produces the lux plots and light spill drawings and prepares and submits the planning application for your floodlights.



Light kept on the pitches: Goals Soccer, lit by Polaris Light.

Sources: The FA Guide to Floodlighting (planning permission); HCR Law, Floodlights v planning.

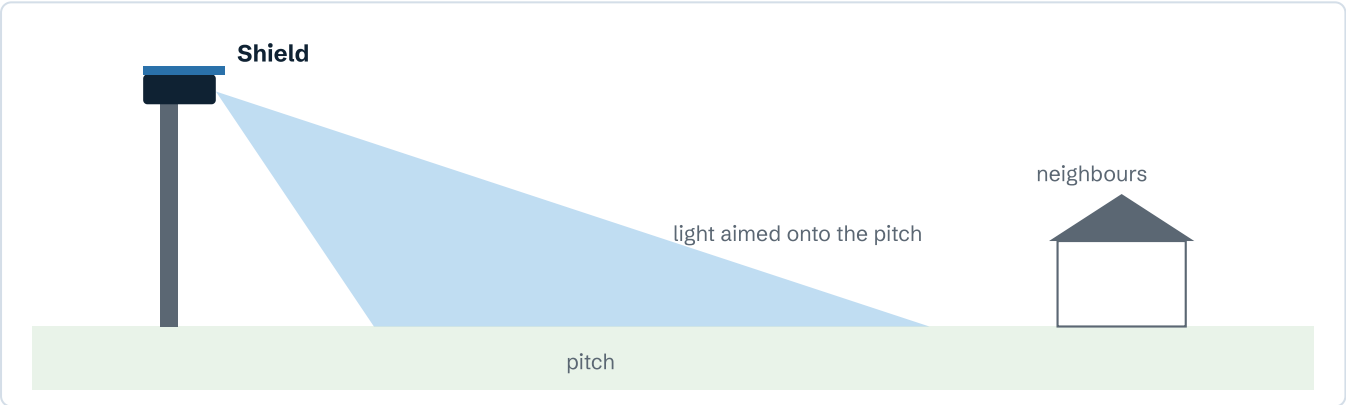
Design: columns, light spill and glare

The FA guide to floodlighting describes typical layouts:

Pitch	Typical columns
Grass pitch for FA competitions and the National League System	eight, six or four columns, **15** m to **18** m high
Full size 3G pitch	usually eight columns, **15** m or **16** m high, beside the pitch and outside the fence line

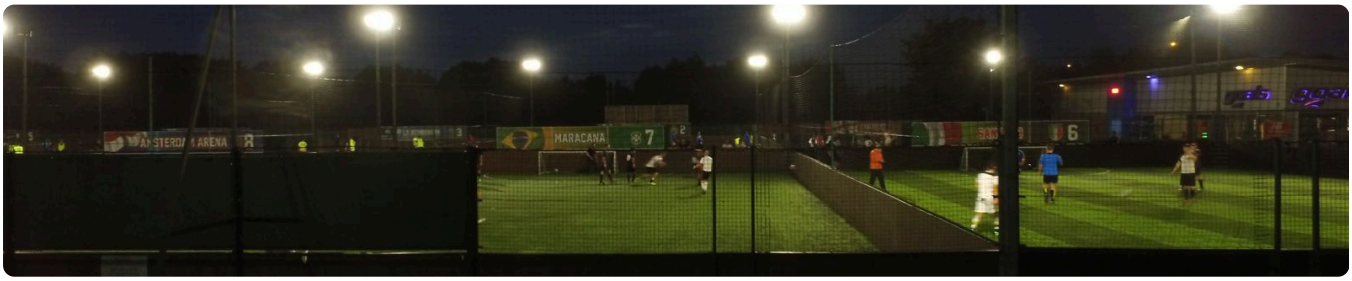
Keep the light on the pitch

LED floodlights can be fitted with shields and precise optics, so light goes where it is needed and less spills onto neighbours or into the sky. The FA asks for low glare and uniform lighting, and for columns placed to keep spill down.



Power supply

Check the incoming supply early. The FA guide notes that long term power needs include the clubhouse and other facilities on site, not only the pitches, and that bringing new power to a site can raise costs sharply.



Columns and floodlights at Goals Soccer.

Controls

Use switching that can be operated from an accessible point such as the clubhouse, by section, with a lower level for training.

Funding and the Football Foundation

The Football Foundation funds grassroots facilities in England. Its schemes and criteria change, so always check its website before you plan around a grant. The points below are from its published pages in November 2026.

Who can apply

- Not-for-profit football clubs and voluntary groups, local authorities, County FAs, professional club community organisations, schools providing community facilities, charities, not-for-profit companies, CICs and companies limited by guarantee.
- Not eligible: individuals and sole traders, commercial entities, and clubs in the Premier League, Football League, National League System Steps 1 to 6, Women's Football Pyramid Tiers 1 to 4 or the Welsh Premier League.
- For a club, the Chair, Secretary or Treasurer must submit the application.

Portable floodlight grants

- For training areas. No funding for floodlights on grass pitches used for matches.
- You must explain the need and show the training area can cope with the extra use.
- Lights must be insured, stored securely on site (with photo evidence) and used by trained people over 18.
- One application per season, one site per application.

LED Floodlight Fund

A fund for upgrading metal halide floodlights to LED on Football Foundation funded 3G pitches. In November 2026 the Foundation states it is not accepting further applications.

What to have ready



A clear statement of need and hours of use



Quotes based on a lighting design and specification



Evidence of your own or partner funding



Planning status

> Polaris Light can supply a lighting design, lux plot and quote for your application. Polaris Light is not a Football Foundation preferred supplier; check whether the scheme you apply to requires one.

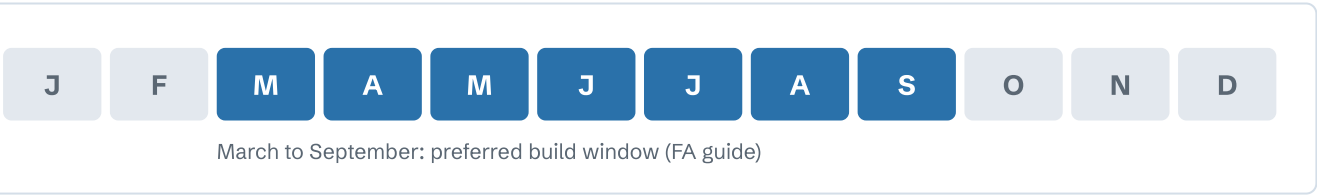
Project timeline

The FA guide to floodlighting sets out the stages of a floodlighting project:

Stage	What happens
1. Inception	Show the need, consult league, users, planners and County FA, set the standard, hours of use and outline budget
2. Feasibility	Lighting specialist checks the design, early talks with the planning department
3. Outline proposals and design	Layouts and specification, consult residents, budget estimates, review funding, submit the planning application
4. Procurement	Select and appoint contractors
5. Construction	Foundations, columns, cabling and fittings
6. Completion	Lux test and certification
7. Maintenance	Planned maintenance and two–yearly testing

When to build

The FA guide recommends building outside the winter playing season, usually from March to September, because of the trenching and reinstatement around the pitch. It puts a typical new installation at five to six weeks.



March to September: preferred build window (FA guide)

Source: The FA Guide to Floodlighting.

Maintenance and testing

The FA guide to floodlighting notes that, with regular use, lighting performance normally falls, typically by 15% to 25%. Regular maintenance limits the loss; skipping it can affect the warranty and eventually make a system unsafe.

What to plan for

- [ ] Cleaning of the fitting glass and checking the aiming
- [ ] Electrical testing, illumination testing and certification
- [ ] For National League System clubs: an updated Floodlighting Survey Chart and Inspection Report every two years
- [ ] A retest after any significant alteration
- [ ] A visual check of the columns for corrosion, fatigue and overloading, recommended at the same time as the lux test

> ### Why LED helps here
>
> LED floodlights do not need the regular lamp replacements that metal halide systems need, and the FA now requires all new installations and upgrades in its grading guidance to be LED. Every Polaris product carries a 5-year warranty.

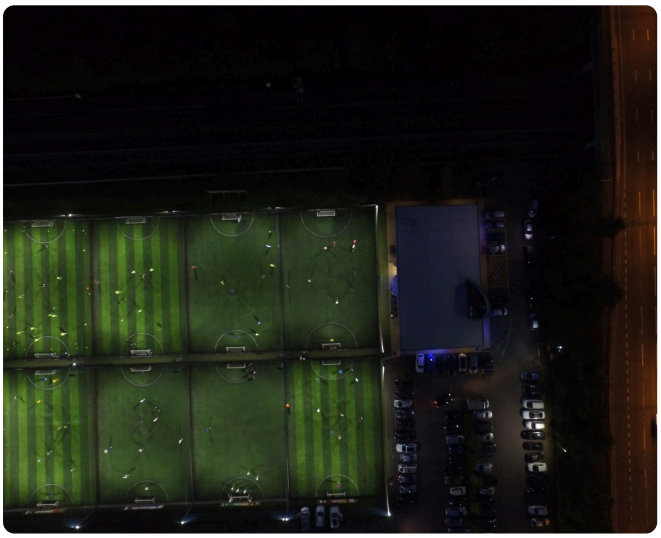
Keep a floodlight file

- Lux plots and the design specification
- Test certificates and meter calibration dates
- Planning consent and its conditions
- Maintenance log and warranty documents

Polaris football projects

Polaris Light designs, supplies and installs LED floodlights for football. Some of our projects:

Client	Work
Goals Soccer (300 pitches)	**240** W LED floodlights; light level raised from **50** lux to **126** lux, **48%** energy saving
Wembley Football Club	**240** W LED floodlights, **150** lux
Powerleague	**1,117** LED floodlights installed across Powerleague centres in **2019**, including Powerleague Birmingham, plus site surveys, call-outs and remedial works



Goals Soccer, small-sided pitches.



Goals Soccer, 240 W LED floodlights.

More projects: polarislight.com/projects

Checklist and next step

- [ ] Which competitions and grade must the pitch meet?
- [ ] Grass or 3G, matches or training, and how many hours a week?
- [ ] Lux plot on the FA 88 point grid, with average and uniformity
- [ ] Light spill drawing for the planning application
- [ ] Sectional switching and a training level
- [ ] Power supply checked
- [ ] Funding route and its eligibility rules checked
- [ ] Build window outside the playing season
- [ ] Lux test, certificate and two-yearly retest planned

Free floodlighting survey

Tell us about your pitch and your league. We survey the site, produce the lux plot and light spill drawing, handle the planning application, and supply and install the floodlights.

Every Polaris product carries a 5-year warranty.

CALL US

+44 (0)20 8133 2554

EMAIL

hello@polarislight.com

ONLINE

polarislight.com/sports-lighting

Sources

- The FA, National Ground Grading guidance and criteria, men's football (Steps 1 to 6), section 1.11 Floodlighting. thefa.com
- The FA, Guide to Floodlighting. thefa.com
- The FA, Guide to 3G football turf pitch design principles and layouts. thefa.com
- Football Foundation, Portable floodlight grants: criteria and eligibility; LED Floodlight Fund. footballfoundation.org.uk (checked November 2026)
- HCR Law, Floodlights v planning: do you need planning permission for sports floodlights. hcrlaw.com
- Polaris Light project records, polarislight.com/projects

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