

Science - Year 6

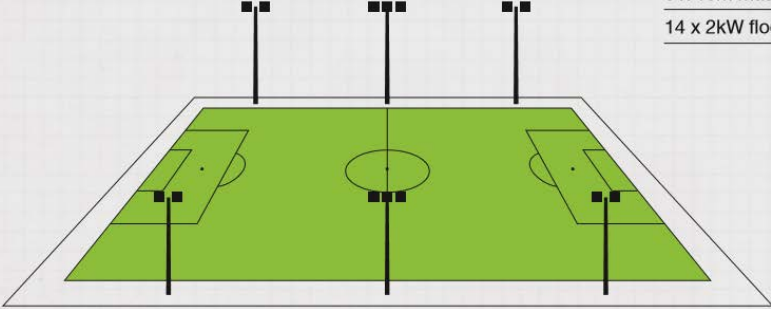
Second Look Science – Block 6SLS

The Science of Sport

Session 6

Resource pack

Stadium flood light designs – football

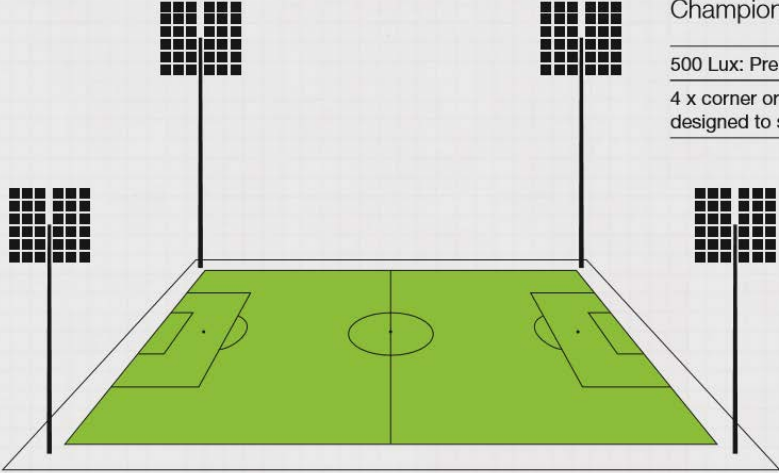


FBFA
Minimum FA requirement

180 Lux

6 x 15m masts

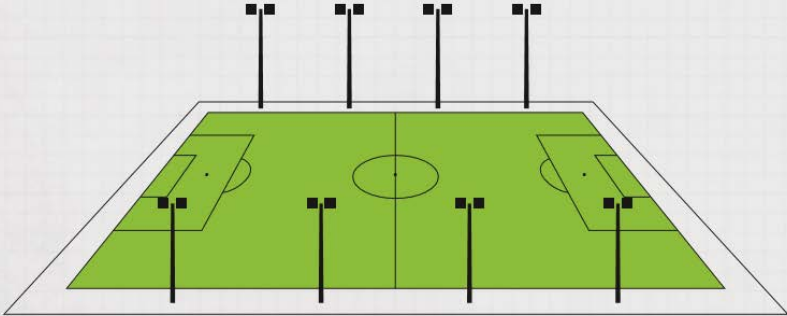
14 x 2kW floodlights



FBCH
Championship

500 Lux: Premiership. 800 Lux: UEFA/FIFA

4 x corner or stand-mounted masts
designed to suit larger stadia



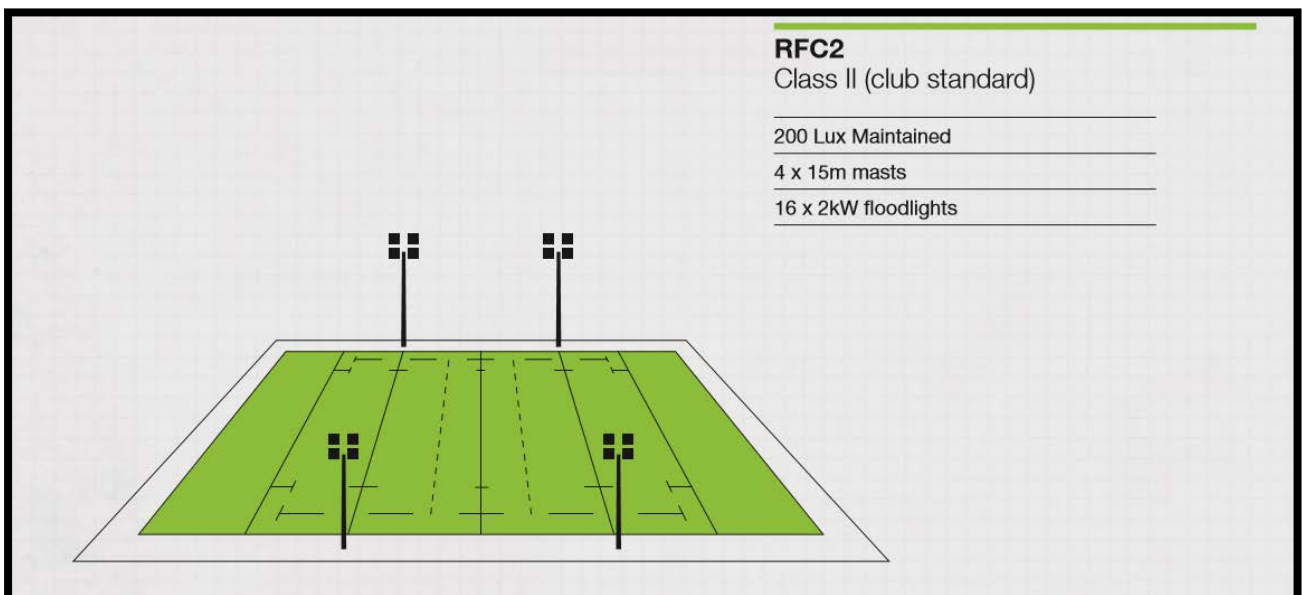
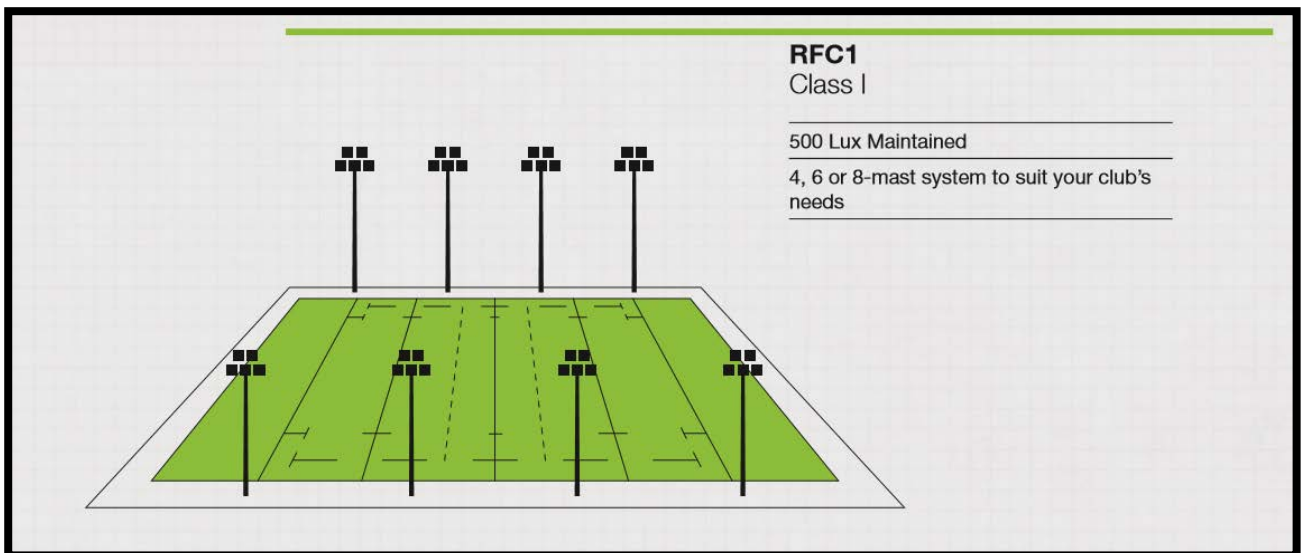
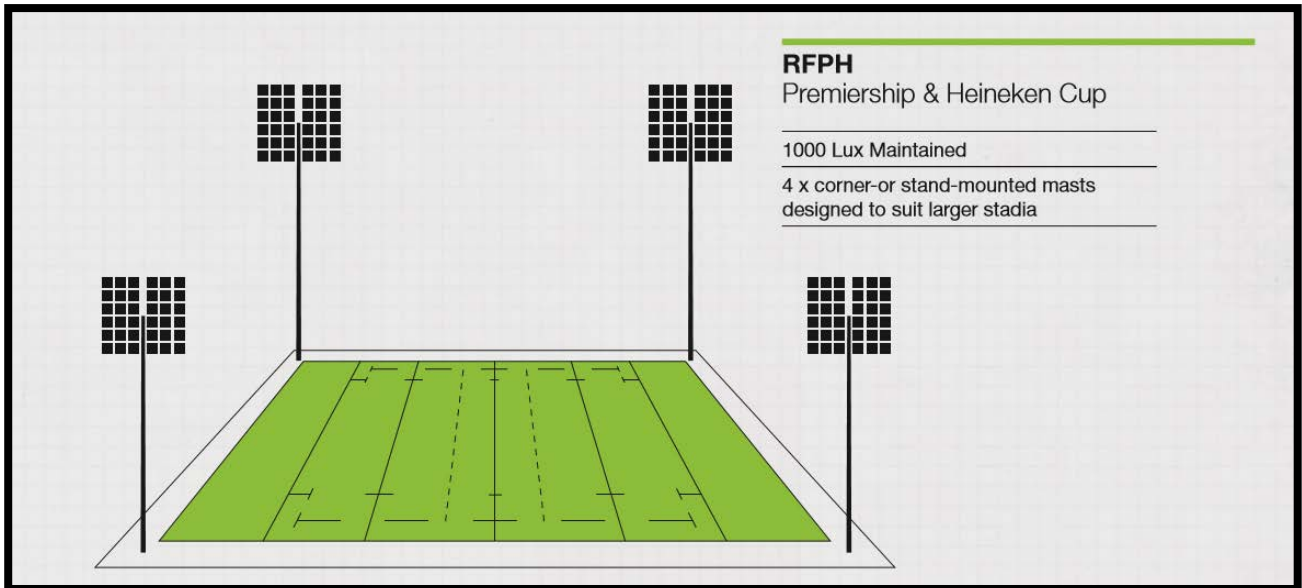
FBC2
Class II

200 Lux Maintained

6 or 8 x 15m masts

16 x 2kW floodlights

Stadium flood light designs - rugby



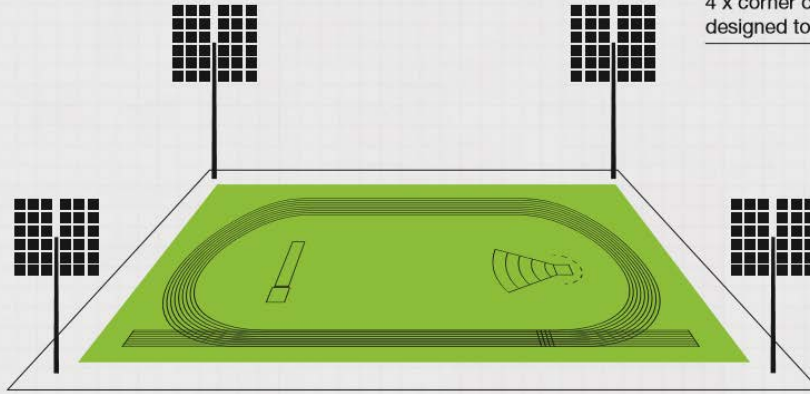
Stadium flood light designs – athletics track

TFLS

Class I

500 Lux Maintained

4 x corner or stand-mounted masts
designed to suit larger stadia



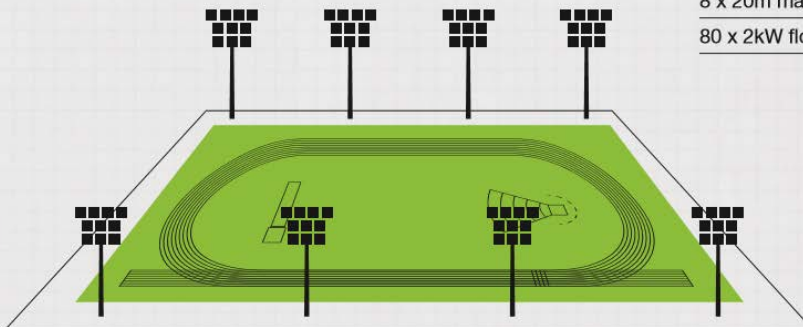
TFC1

Class I

500 Lux Maintained

8 x 20m masts

80 x 2kW floodlights



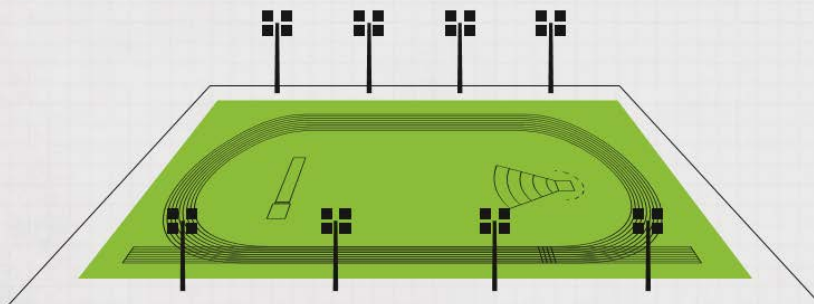
TFC2

Class II

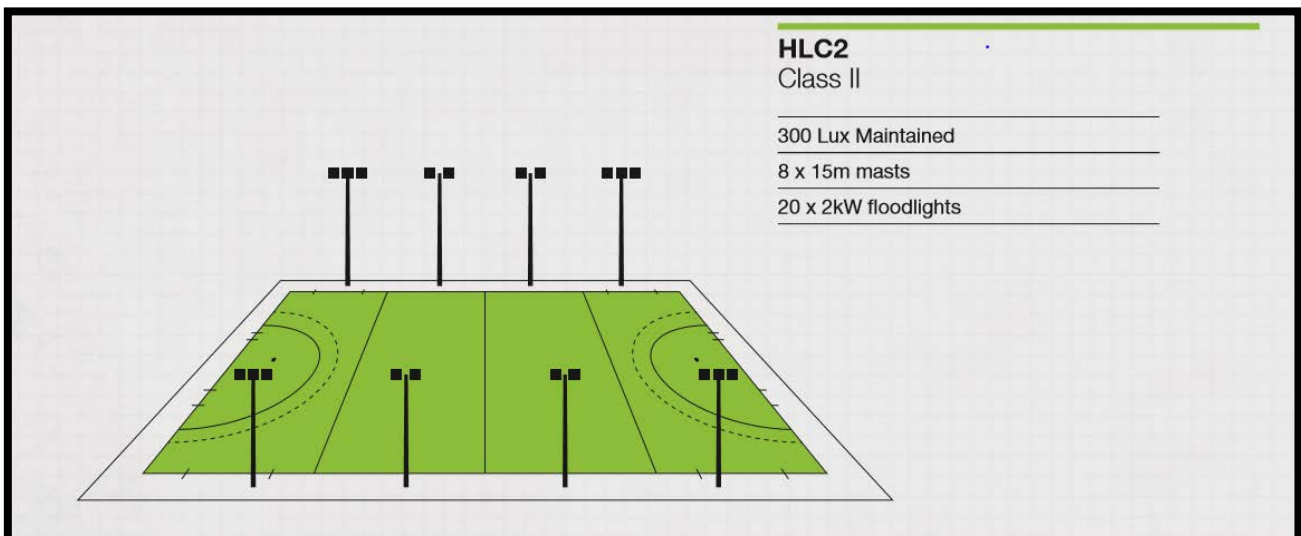
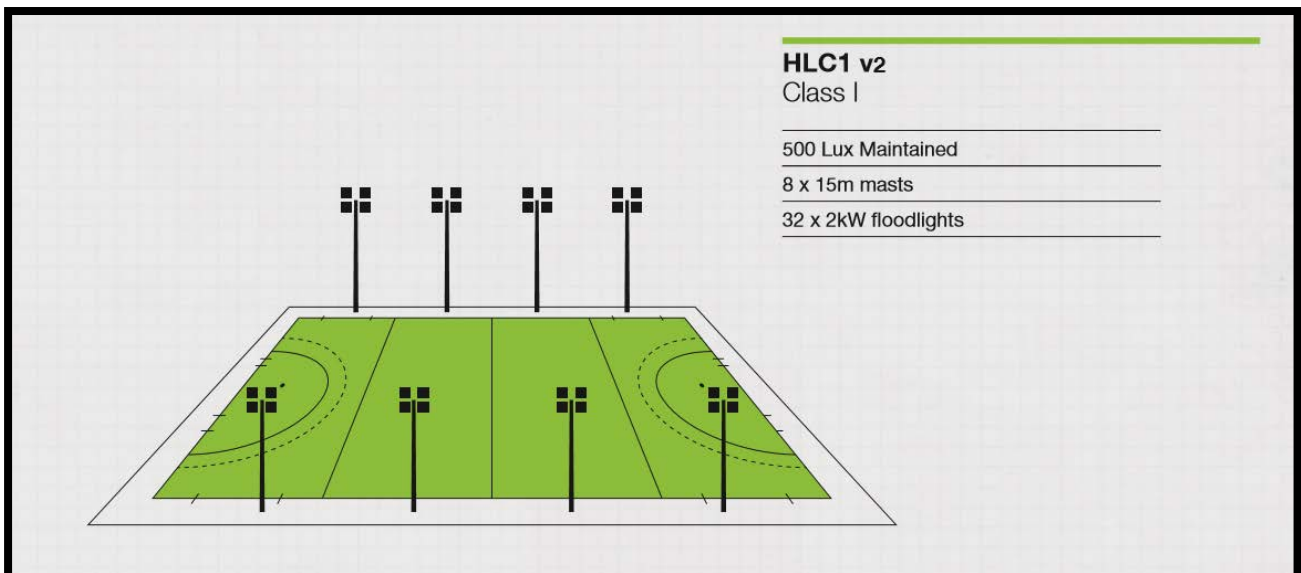
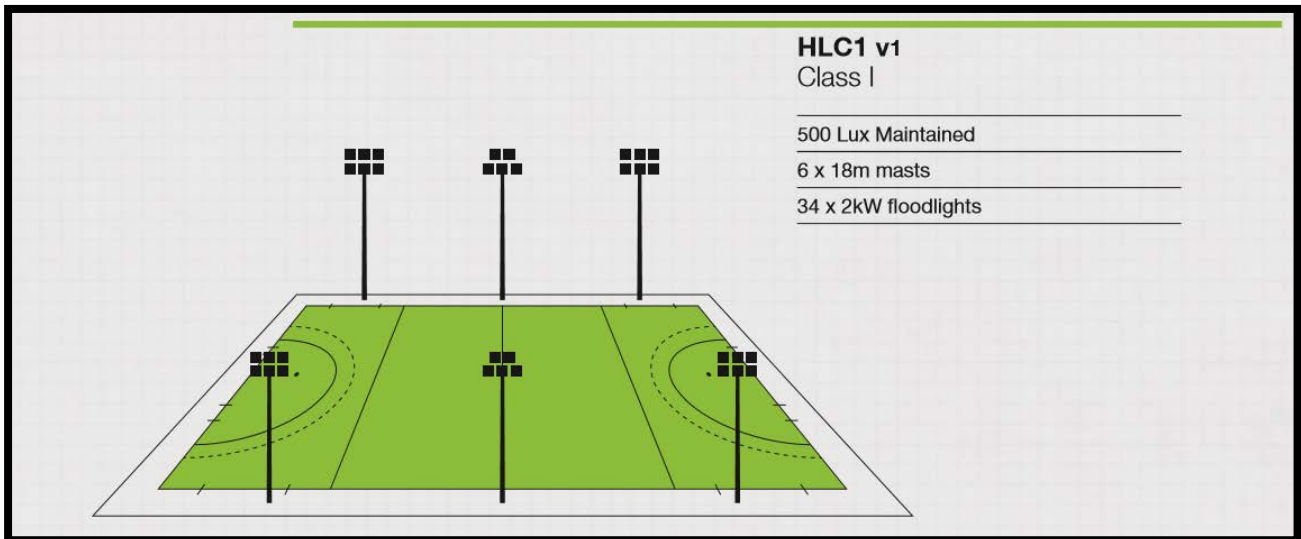
200 Lux Maintained

8 x 18m masts

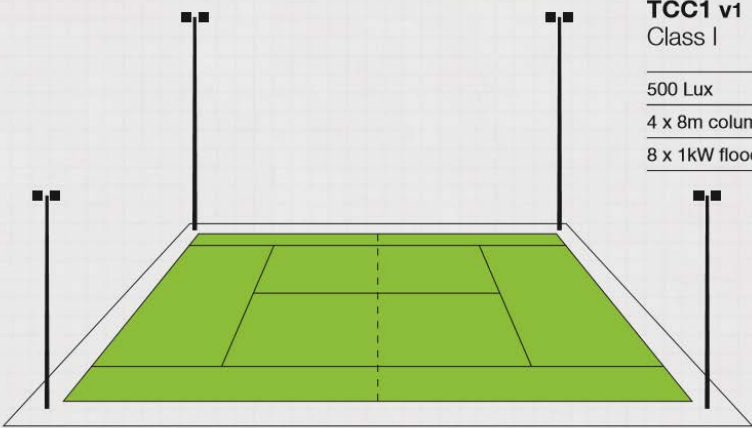
32 x 2kW floodlights



Stadium flood light designs - hockey



Stadium flood light designs – tennis



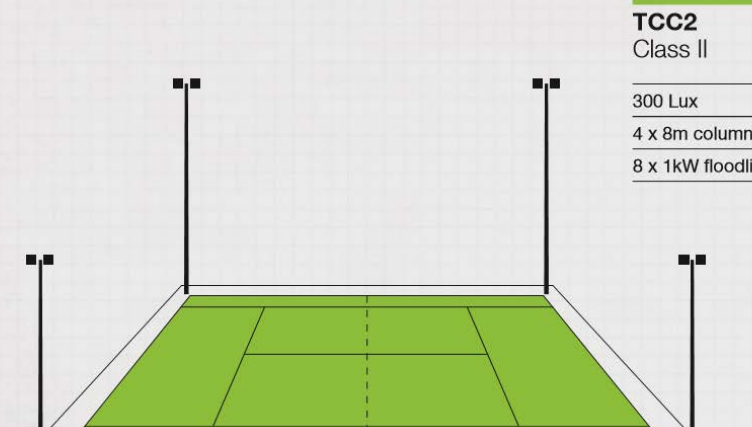
TCC1 v1
Class I

500 Lux

4 x 8m columns

8 x 1kW floodlights

The diagram shows a top-down view of a tennis court with a green playing area and a white outer boundary. Four tall, black floodlight columns are positioned around the court: two on the left side and two on the right side. Each column has two square light fixtures at the top. A horizontal green line is drawn above the court, indicating the light level.



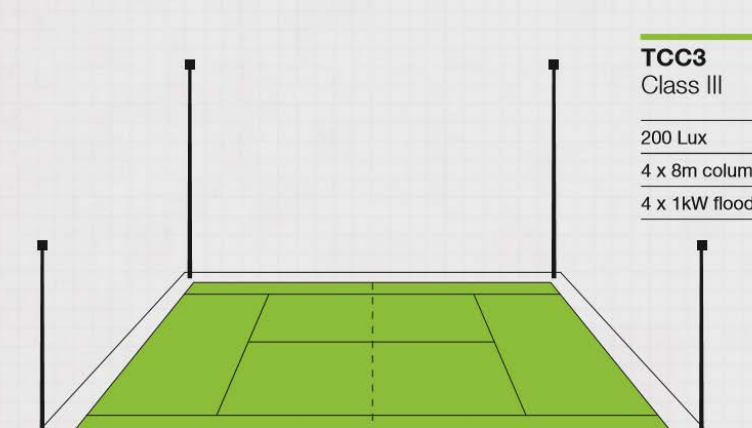
TCC2
Class II

300 Lux

4 x 8m columns

8 x 1kW floodlights

The diagram shows a top-down view of a tennis court with a green playing area and a white outer boundary. Four tall, black floodlight columns are positioned around the court: two on the left side and two on the right side. Each column has two square light fixtures at the top. A horizontal green line is drawn above the court, indicating the light level.



TCC3
Class III

200 Lux

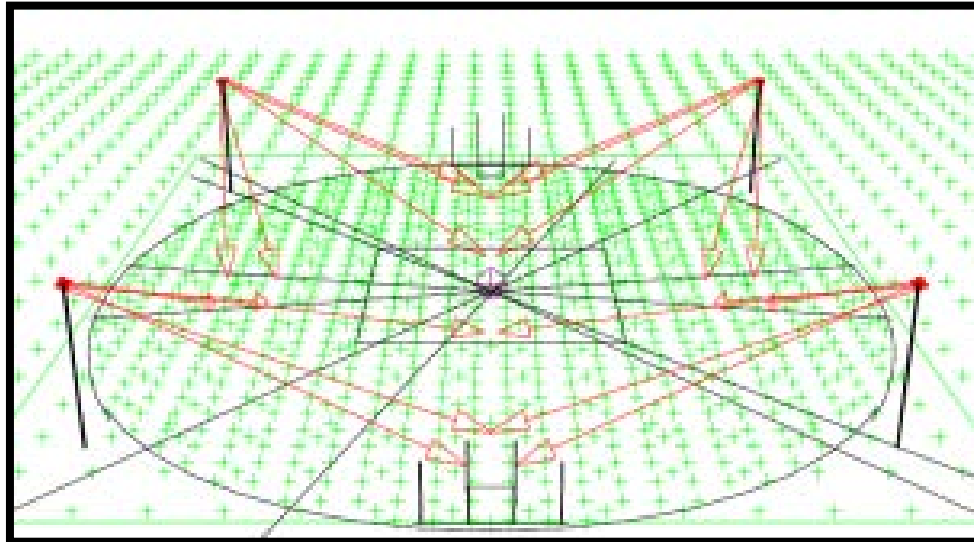
4 x 8m columns

4 x 1kW floodlights

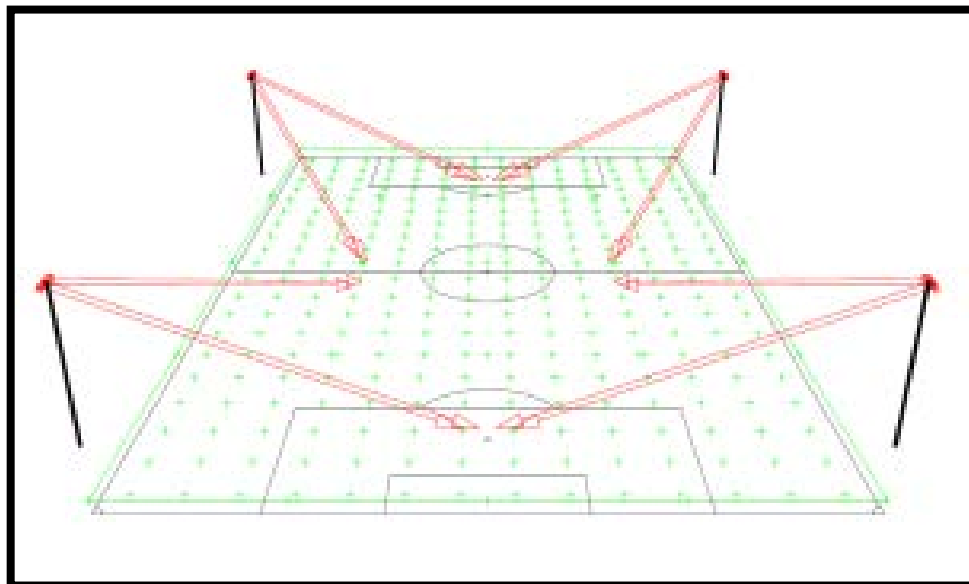
The diagram shows a top-down view of a tennis court with a green playing area and a white outer boundary. Four tall, black floodlight columns are positioned around the court: two on the left side and two on the right side. Each column has one square light fixture at the top. A horizontal green line is drawn above the court, indicating the light level.

Light beams – various stadium examples

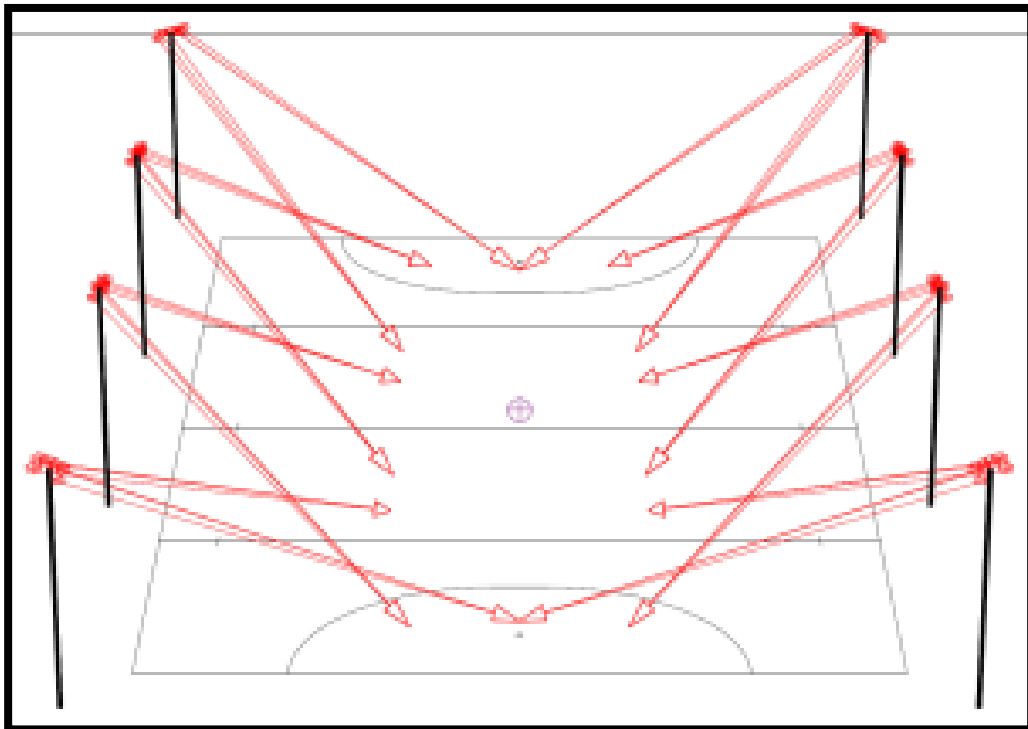
Cricket



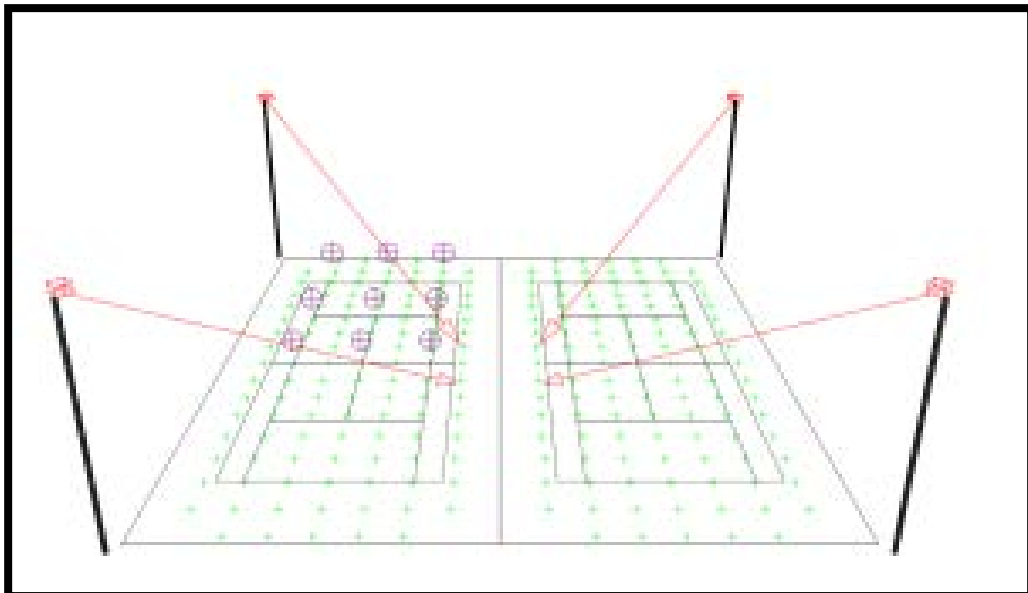
Football



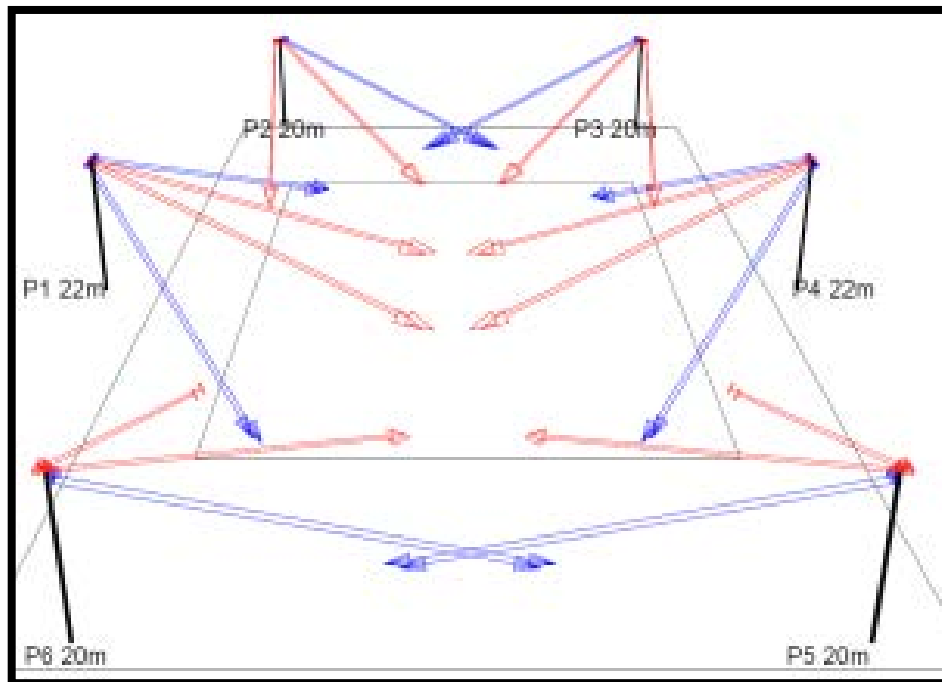
Hockey



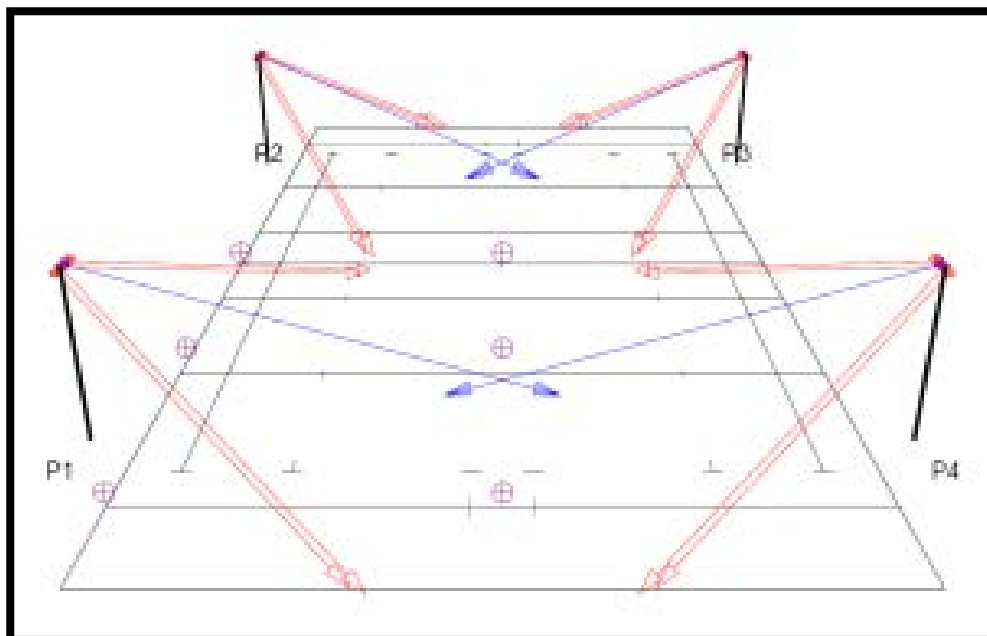
Tennis



Athletics



Rugby



Stadium flood light design brief

You have been asked to design and create a prototype for night time stadium flood lights. Consider the following as you develop and try out your ideas:


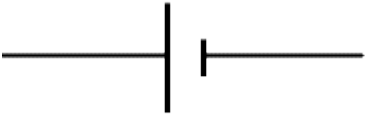

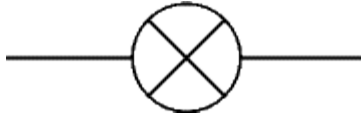

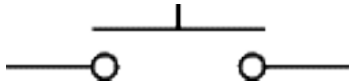
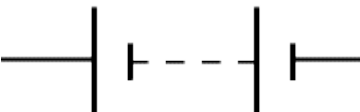

- 1. Choose which kind of stadium you are designing for**
- 2. Draw a plan of the stadium and plan out 2-3 different configurations of lights**
- 3. Draw a circuit diagram for your design thinking about the power to bulb ratio you want to use to achieve the best 'lux' for your stadium, and how many bulbs you will have on each light**
- 4. Ensure you include a switch and a timer in your circuit**
- 5. Try out your design thinking about the heights of the light stands, which direction the bulbs will be facing and any light encasings that you want to make to direct the light**
- 6. Evaluate your designs and choose the best one, tweaking this to make your final prototype**
- 7. Create a final circuit diagram to accompany your prototype, including the light angles**
- 8. Research and make suggestions for alternative sources of energy**

Stadium flood light design brief

You have been asked to design and create a prototype for night time stadium flood lights. Consider the following as you develop and try out your ideas:

- 1. Choose which kind of stadium you are designing for**
- 2. Draw a plan of the stadium and plan out 2-3 different configurations of lights**
- 3. Draw a circuit diagram for your design thinking about the power to bulb ratio you want to use to achieve the best 'lux' for your stadium, and how many bulbs you will have on each light**
- 4. Ensure you include a switch and a timer in your circuit**
- 5. Try out your design thinking about the heights of the light stands, which direction the bulbs will be facing and any light encasings that you want to make to direct the light**
- 6. Evaluate your designs and choose the best one, tweaking this to make your final prototype, including the light angles**
- 7. Create a final circuit diagram to accompany your prototype**
- 8. Research and make suggestions for alternative sources of energy**

Main circuit symbol

| | | | |
|--|---|--|--|
|  |  |  |  |
|  |  |  |  |