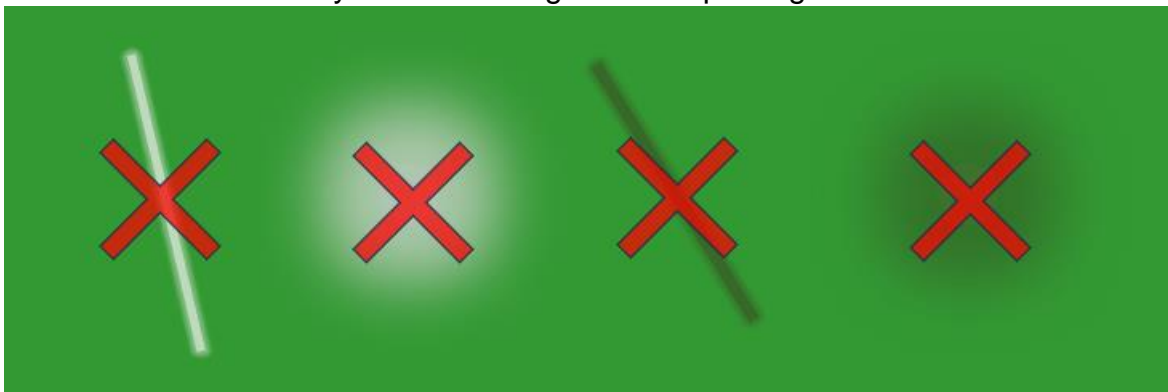


## Room light requirements for SAM BallTracker & SAM Projection

SAM BallTracker (camera) and SAM Projection need specific defined light conditions in order to get ideal results for SAM Studio operation.

### Ideal light conditions are:

- Brightness should be in a range of 100 to 200 lux on the putting green surface. That is on the lower side of a normal light range. Lower brightness gives better projection visibility. But a certain brightness is needed for the BallTracker camera. (luxmeter measurement devices are available for cheap or free apps for smartphones are available to measure the light brightness in lux)  
-> recommendation for apps?
- No daylight on the putting area that is used for projection (active area). Windows must be equipped with shades.
- Main light should be diffuse and should come straight down from the top. Light from the side is not ideal.
- There should not be any shaded or bright areas/spots/figures visible on the active area:



- Brightness should be even on the whole active area. Please avoid different brightness like this:



- Light should be dimmable to adjust brightness to desired level.

## Lamps recommendation:

Recommended are dimmable LED panels.

Depending on size of the active area you need 2, 3 or 4 panels.

### Panels:

Recommended panel sizes are 2' x 2' or 4' x 2' panels (60x60cm or 60x120cm).

If you have a drop ceiling the panels can be integrated. Otherwise you need a Surface Mount Kit.

Options for dimming:

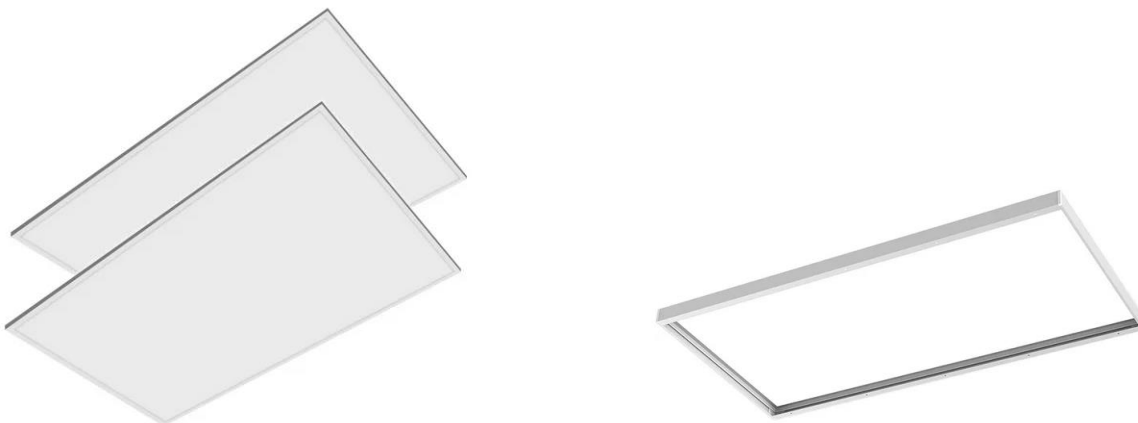
- a) Dimming through switches on the panel, most simple version
- b) Dimming through standard dimming switch 0...10V
- c) ZigBee standard, dimming through compactible devices (apps, Amazon Alexa, Google)

Examples:

### 2x2 panel and mounting kit:



### 4x2 panel and mounting kit:



## Green sizes and ideal panel positions

### Green Size S

Length: 13ft / 4.0m

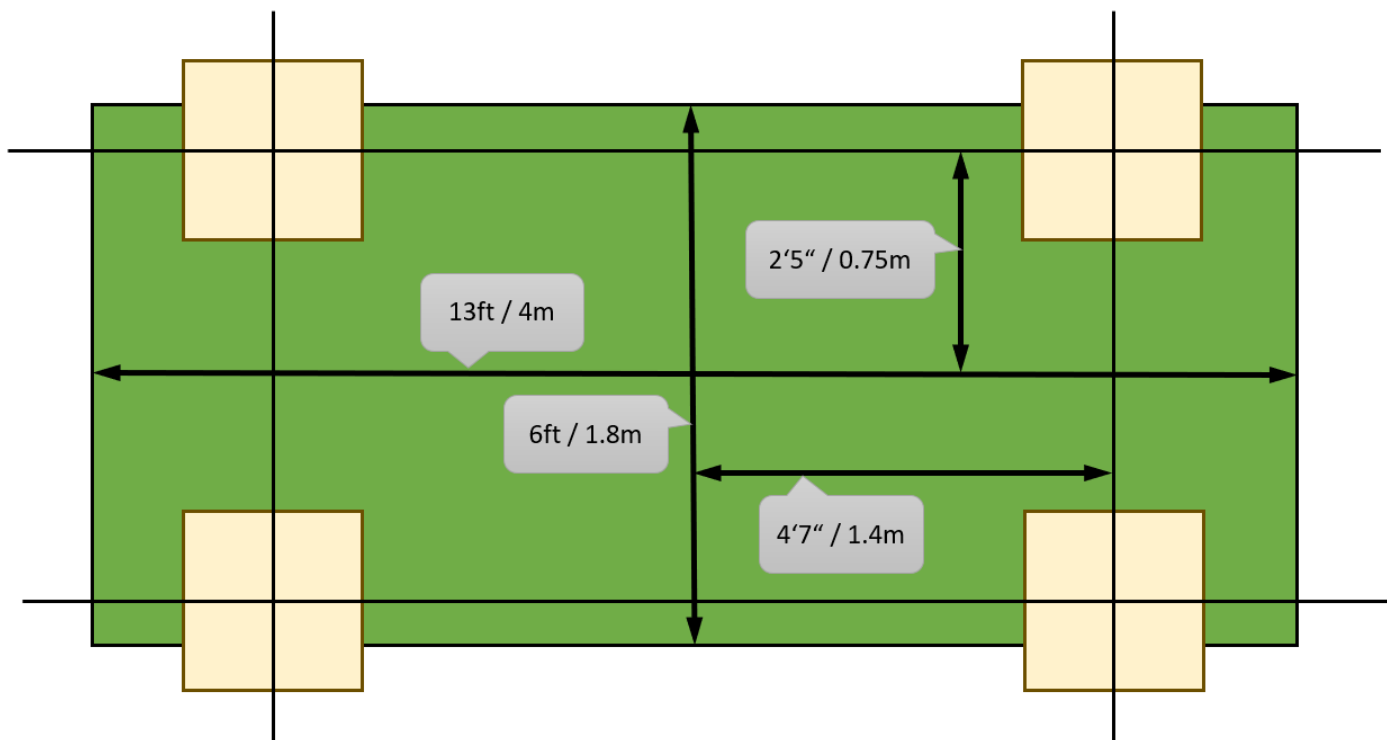
Width: 5ft to 7ft / 1.5m to 2.2m)

LED panels recommendation:

4 panels 2' x 2' (60x60cm)

Panels position relative to the putting area center:

Example for size of 13ft x 6ft (4m x 1.8m)



## Green Size L

Length: 16.5ft / 5.0m

Width: 6ft to 9ft / 1.8m to 2.8m)

LED panels recommendation:

2 panels 4' x 2' (120x60cm)

Panels position relative to the putting area center:

Example for size of 16.5ft x 7ft (5m x 2.1m)

