

GUIDE TO SPORTS LIGHTING LEVELS

Lighting levels for exterior Sports Lighting are considerably lower than daylight levels and usually lower than for the same sport played indoors. This is because there is generally greater subject contrast outdoors, with a dark sky backdrop, giving good adaptation levels. Illuminance levels are dependent upon the difficulty of the visual task.

In general, fast action, a small playing object (cricket ball) and long viewing distance will require high lighting levels. A slower speed, larger playing object (football) and closer viewing distance will require lower lighting levels. Exterior Sports Lighting is provided to achieve either Supervised Training, Club, National, International or CTV coverage.

Various Lighting Guides and Lighting Specifications are available, recommending appropriate illuminance levels for individual Sports. In addition many Sports Governing Bodies also provide separate specific lighting requirements.

Within Europe, a European Standard also exists covering minimum Sports Lighting Levels [EN 12193:2007](#).

Most recommendations of individual sports lighting levels are divided into classes of play:

- **Class I - Top Level Competition.**
- **Class II - Intermediate Level Competition.**
- **Class III - Lower Level Competition & Supervised Training.**

Lighting for CTV broadcasting has specific requirements and recommendations ([CIE No.83:1989](#)). The table below provides a selection of recommended lighting levels for principle sports.

Whilst every endeavour is undertaken to provide accurate information, Abacus Lighting recommended that the relevant Sports Guides and Standards or the appropriate individual Sport Governing body be consulted to ensure full compliance with requirements.

Caution: Lighting specifications for locations outside UK may differ from those stated on this web site.

Recommendations of Minimum Lighting Levels (Table 1)

Sport	Illuminance Level (Em. Horizontal) Lux *						Glare Rating			Illuminance Level (Em. Vertical) Lux		
	(Non-CTV)						(GR)			CTV Broadcast **		
	Class I		Class II		Class III		I	II	III	Maximum camera shooting distance		
	Em Lux	Uo Min/ave	Em Lux	Uo Min/ave	Em Lux	Uo Min/ave				50m Em.v Lux	100m Em.v Lux	150m Em.v Lux
Athletics	500	0.7	200	0.5	100	0.5	50	55	55	480	640	800
Basketball	500	0.7	200	0.6	75	0.5	50	50	55	680	920	1150
Bowls (Flat Green)	300	0.7	200	0.7	100	0.5	50	50	50	480	640	800
Equestrian	500	0.7	200	0.7	100	0.5	50	50	55	480	640	800
Football(soccer)	500	0.7	200	0.6	75	0.5	50	50	55	680	920	1150
Football(American)	500	0.7	200	0.6	75	0.5	50	50	55	680	920	1150
Hockey	500	0.7	200	0.7	200	0.7	50	50	55	680	920	1150
Horse Racing	200	0.6	100	0.4	50	0.2	50	50	55	480	640	800
Netball	500	0.7	200	0.6	75	0.5	50	50	55	680	920	1150
Rugby	500	0.7	200	0.6	75	0.5	50	50	55	680	920	1150
Tennis	500	0.7	300	0.7	200	0.6	50	50	55	680	920	1150
Volleyball	500	0.7	200	0.6	75	0.5	50	50	55	680	920	1150

* **Em** is the Maintained Illuminance Level (specification level) and is the Design illuminance level, below which the lighting should not be allowed to fall during the period to planned maintenance.