

DIN EN 12193:2019-07 (E)

Light and lighting - Sports lighting

Contents		Page
	European foreword	4
	Introduction	5
1	Scope	6
2	Normative references	6
3	Terms and definitions	6
4	Symbols and abbreviations	8
5	Design data	10
5.1	General	10
5.2	Essential light source data	10
5.2.1	General	10
5.2.2	Replacable lamp data	10
5.2.3	LED light source data	11
5.3	Essential luminaire data	11
5.3.1	General	11
5.3.2	Luminaires with replaceable lamps	11
5.3.3	LED luminaires	12
5.4	Useful luminaire data	12
5.5	Essential installation data	13
6	General principles of the lighting installation	13
6.1	Reference grid for calculation and measurement	13
6.1.1	General	13
6.1.2	Grid size for calculation and measurements for particular sports	13
6.1.3	Grid size for calculation and measurements for multi-sports facilities	14
6.1.4	Application	14
6.2	Measuring equipment	16
6.3	Measurement record	17
6.4	Practical differences	17
6.5	Maintenance	18
6.6	Spectator area lighting	18
6.7	Safety for participants and the continuation of an event in case of lighting failure	18
6.7.1	Safety lighting for participants	18
6.7.2	Safety lighting for spectators	19
6.7.3	Continuation of a sport	19
6.8	Glare restriction	19
6.8.1	General	19
6.8.2	Indoor	19
6.8.3	Outdoor	19
6.9	Surface colours and reflection properties	20
6.10	Obtrusive light	20
7	Requirements for the lighting of sports most practised in Europe	22
7.1	General requirements	22
7.2	Non televised requirements per sport	23
7.3	Specific requirements for television and film recording	26
7.3.1	General	26

7.3.2	Vertical illuminance	26
7.3.3	Unwanted reflections or Skip Light (informative)	28
7.3.4	Correlated colour temperature of the lighting	28
7.3.5	Additional requirements for colour rendering of the lighting	29
7.3.6	Light level on surrounding spectators' areas	29
7.3.7	Position of floodlights	29
7.3.8	Additional requirements for Super Slow Motion broadcasting (major events only)	30
7.3.9	Considerations for other users	31
7.3.10	Effects of surface reflection	31
Annex A (normative) Tables of requirements		33
Annex B (informative) A-deviation		48
Bibliography		49