

**“Recommended values for indoor and outdoor sports lighting”**

(refer to Standard UNI EN 12193 for further details)

SPACES / SYSTEMS	Livello attività (a)	OUTDOOR (B)			INDOOR (B)			Note
		Illuminamento medio (lux)	Illuminamento medio (lux)	Illuminamento specifico (lux)	Illuminamento medio (lux)	Illuminamento medio (lux)	Illuminamento specifico (lux)	
ATHLETICS	3	500	0,7	1000 (1)	500	0,7	1000 (1)	(1) fotofinish
	2	200	0,5		300	0,6		
	1	100	0,5		200	0,5		
SWIMMING (POOLS)	3	500	0,7		500	0,7		
	2	300	0,7		300	0,7		
	1	200	0,5		200	0,5		
BASEBALL	3	750 (1)	0,7(1)		750(1)	0,7(1)		(1) infield
	2	500 (1)	0,5(1)					
	1	300 (1)	0,5(1)					
FOOTBALL	3	500	0,7					
	2	200	0,6					
	1	75	0,5					
FOOTBALL FIVE	3	500	0,7		750	0,7		
	2	200	0,7		500	0,7		
	1	100	0,5		200	0,5		
CYCLING	3	500	0,7	1000 (1)	750	0,7	1000 (1)	(1) fotofinish vert. plane
	2	300	0,7		500	0,7		
	1	100	0,5		200	0,5		
GOLF	3-2	100 (1)	0,8	100 (2)				(1) tee (2) hole
GYMNASTICS	3				500	0,7		
	2				300	0,6		
	1				200	0,5		
HOCKEY and ROLLER SKATING	3	500	0,7		750	0,7		
	2	200	0,7		500	0,7		
	2	200	0,7		300	0,7		
BASKETBALL VOLLEYBALL HANDBALL WRESTLING WEIGHTLIFTING JUDO	3	500	0,7		750	0,7		
	2	200	0,6		500	0,7		
BOXING	3				2000 (1)	0,8		(1) on the ring
	2				1000 (1)	0,8		
	1				500 (1)	0,5		
RUGBY	3	500	0,7					
	2	200	0,6					
	1	75	0,5					
EQUESTRIAN SPORTS	3	500	0,7		500	0,7		
	2	300	0,6		200	0,5		
	1	200	0,5		100	0,5		
MOTORSPORTS	3	200	0,6	1000 (1)	200	0,6	1000 (1)	(1) fotofinish
	2	200	0,6		200	0,6		
	1	80	0,5		80	0,5		
ICE RINKS	3	750	0,7		750	0,7		
	2	500	0,7		500	0,7		
	1	200	0,5		300	0,7		
TENNIS/SQUASH	3	500	0,7		750	0,7		
	2	300	0,7		500	0,7		
	1	200	0,6		300	0,5		

N.B.: Level: (a) 1. Non professional level - 2. Local professional level - 3. National and international professional level

(b) All luminance values, except otherwise stated, refer to the horizontal plane that matches the surfaces where the activity takes place (water surface for swimming activities).

**Overview of illuminance levels for UEFA competitions**

Type of match	UEFA illuminance level
<ul style="list-style-type: none"> <li>UEFA EURO</li> <li>UEFA Champions League final</li> <li>UEFA Europa League final</li> </ul>	Elite level A
<ul style="list-style-type: none"> <li>UEFA Champions League: group stage to semi-finals</li> <li>UEFA Super Cup final</li> </ul>	Level A
<ul style="list-style-type: none"> <li>UEFA Women's EURO</li> <li>UEFA European Under-21 Championship: Final tournament</li> <li>UEFA Champions League: Play-offs</li> <li>UEFA Europa League: group stage to semi-finals</li> <li>UEFA European Football Championship: qualifying matches</li> </ul>	Level B
<ul style="list-style-type: none"> <li>UEFA Champions League: third qualifying round</li> <li>UEFA Europa League: third qualifying round and play-offs</li> <li>UEFA Champions League: second qualifying round</li> <li>UEFA European Under-21 Championship: qualifying matches</li> </ul>	Level C
<ul style="list-style-type: none"> <li>UEFA Champions League: first and second qualifying rounds</li> <li>UEFA Europa League: First and second qualifying rounds</li> <li>Youth and Women's Competitions: Qualifying rounds, group-stage and knock-out rounds (excluding final(s))</li> </ul>	Level D
• Non-broadcast matches	> 350 lux

**UEFA illuminance requirements: Elite level A**

Eh ave (average horizontal illuminance)	> 2,000 lux
Uniformity U1h	> 0.50
Uniformity U2h	> 0.70
Ev ave-0° (vertical illuminance on 0° reference plane)	average > 1,500 lux minimum > 1,000 lux
Uniformity U1v-0°	> 0.40
Uniformity U2v-0°	> 0.50
Ev ave-90° (vertical illuminance on 90° reference plane)	average > 1,500 lux minimum > 1,000 lux
Uniformity U1v-90°	> 0.40
Uniformity U2v-90°	> 0.50
Ev ave-180° (vertical illuminance on 180° reference plane)	average > 1,500 lux minimum > 1,000 lux
Uniformity U1v-180°	> 0.40
Uniformity U2v-180°	> 0.50
Ev ave-270° (vertical illuminance on 270° reference plane)	average > 1,500 lux minimum > 1,000 lux
Uniformity U1v-270°	> 0.40
Uniformity U2v-270°	> 0.50
Match continuity mode (MCM)	Eh ave > 1,000 lux Ev4 ave > 600 lux
Flicker factor (FF)	average < 5%
Minimum adjacent uniformity ratio (MAUR)	> 0.60
Colour temperature (Tk)	5,000-6,200K
Colour rendering	≥ 80 Ra
Maintenance factor (MF)	0.85
Power supply	Elite level A