



Lighting a swimming pool

The main requirement is to ensure the safety of users by providing adequate illumination and control of reflection on the water surface. The control of surface reflection is particularly important to allow staff to deal with any swimmers in difficulty in the pool. With the complex nature of pool design and restrictions on positioning floodlights, it is important that lighting is considered at the earliest stages of the pool design.

This is particularly important to allow staff to be able to detect swimmers in difficulty. This may be hampered by the reflection of a floodlight obscuring the view of a swimmer in the water.

The reflected image of a floodlight in water increases with the angle of incidence. Once this angle exceeds 70° such reflections could mask the swimmer from view by divers and pool attendants. Care must therefore be taken in the positioning of floodlights relative to the main viewing direction of safety attendants

Non-televised swimming pool lighting recommendations

EN12193 Requirements

	Class		
	I	II	III
Horizontal Illuminance (Lux)	500	300	200
Uniformity (Min/Ave)	0.7	0.7	0.5
Ra	60	60	20

Recommendations for televised events

Major events

	Horizontal illuminance	Uniformity Min/Ave	Uniformity Min/Max	Vertical Illuminance	Uniformity Min/Ave	Uniformity Min/Max	Colour Rendering	Glare Rating
HDTV	1500-3000	0.8	0.7	2200	0.7	0.6	>90	<50
Slow-motion Camera	1500-3000	0.8	0.6	1800	0.7	0.5	>80	<50
Fixed Camera	1500-3000	0.8	0.6	1400	0.7	0.5	>80	<50
Mobile Camera	1500-3000	0.8	0.6	1200	0.5	0.3	>80	<50

Average horizontal and vertical illuminance ratios: It is recommended that the ratio for horizontal illuminance (Field of Play) is between 0.75 and 1.5 of the vertical illuminance for cameras. Where there is HDTV all horizontal values for other cameras are as for HDTV

National events

	Horizontal illuminance	Uniformity Min/Ave	Uniformity Min/Max	Vertical Illuminance	Uniformity Min/Ave	Uniformity Min/Max	Colour Rendering	Glare Rating
Camera	1000-2000	0.7	0.5	1000	0.6	0.4	>80	<50

For swimming, calculations should be made at water level.

Luxtronik offers Swimming pool LED lighting that emits bright, uniform illumination. Our high-quality LED luminaires are used in indoor Swimming pools and natatoriums around the world.

Recommended Products



PANDORA (MFL)
50-600w



APOLLO (FL)
60-800w



JUPITER (FLS)
400-1500w

For more information or project and lighting design support, please contact our team sales@luxtronik-tech.com