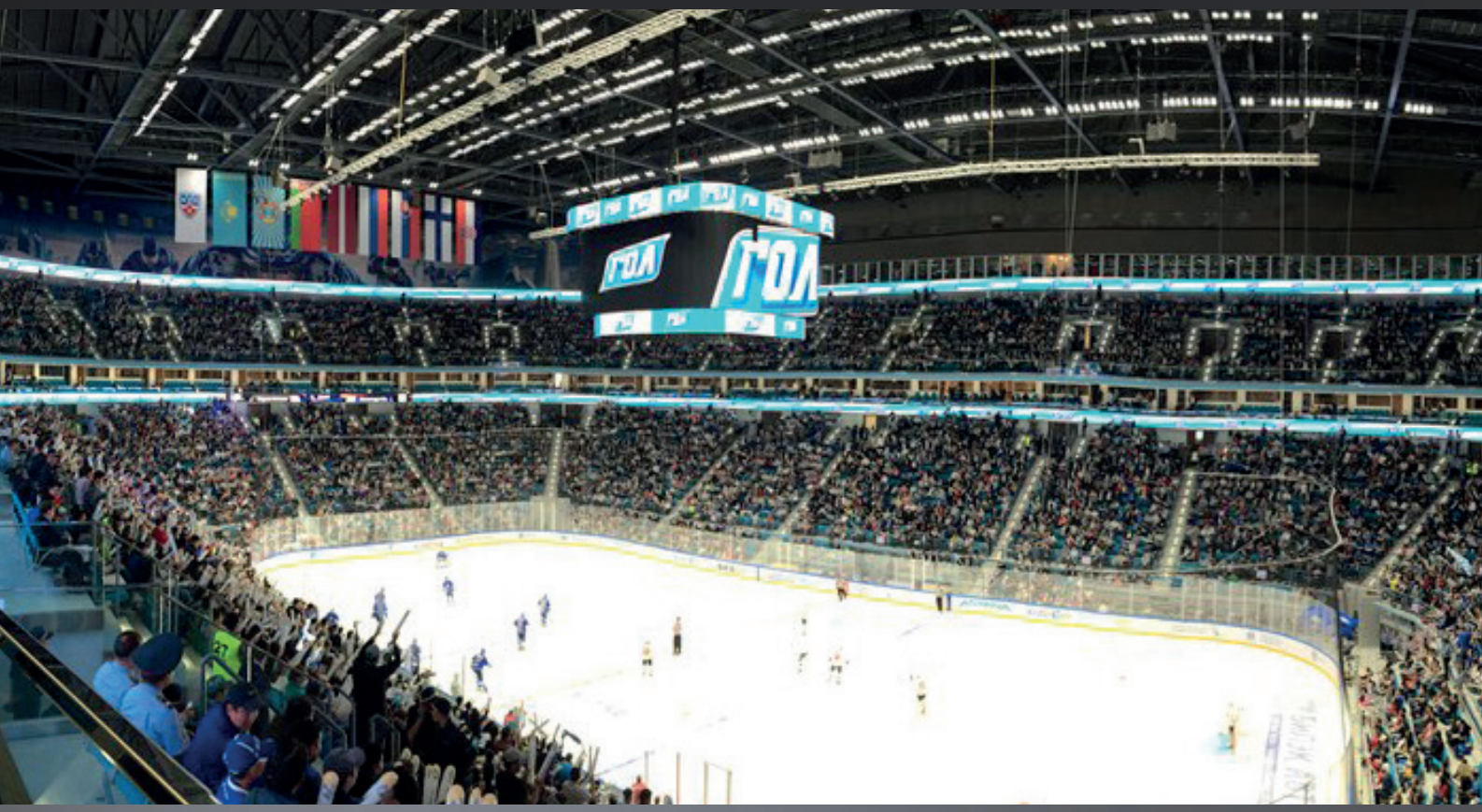


SOLUTIONS FOR

sport facilities lighting

2nd EDITION

GEWISS

GEWISS was founded more than 40 years ago and, right from the start, the search for quality and the development of first class solutions have been the guiding values behind every action and decision. Over the years, this innovative vocation has taken the form of a business model based above all on continuous investment in R&D.
The constant testing of new materials and technologies, the global vision of the lighting concept and the formalisation of design elements bearing the unmistakable Italian design - these are the deepest and most intimate features of GEWISS lighting solutions. The perfect chemistry has enabled GEWISS to become a global partner for the creation of lighting systems for indoor and outdoor sports facilities.
The range includes floodlights, high bays and watertight luminaires designed to offer the best lighting performance for sports events at every level, from professional to semi-professional and amateur.

Contents

FOOTBALL

OUTDOOR

STANDARD FOOTBALL

7-A-SIDE FOOTBALL

5-A-SIDE FOOTBALL

INDOOR

5-A-SIDE FOOTBALL

BASKETBALL

OUTDOOR

INDOOR

VOLLEYBALL

OUTDOOR

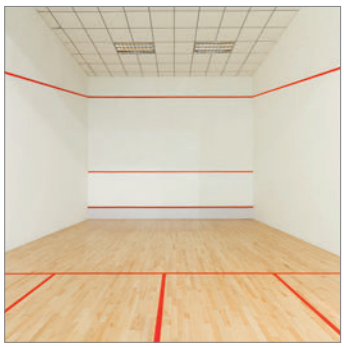
INDOOR

TENNIS

OUTDOOR

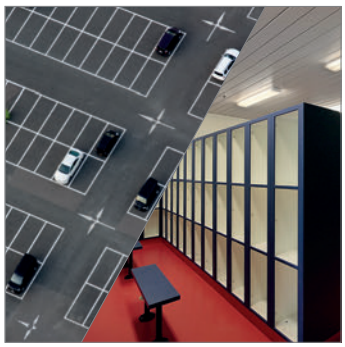
INDOOR

SWIMMING



SQUASH

BOCCE



COMPLEMENTARY AREAS

Smart [4] 2.0

Smart [4] 2.0 is the new lighting device whose strength lies in its multi-faceted nature. It can provide sustainable light for the most varied contexts (from industrial to sports, indoor and outdoor) where the crucial aspect is the lighting performance. It can be a floodlight, high bay or luminaire, offering different photometry ranges depending on the context. The horizontal and vertical modularity of this product combines with easy installation and maintenance, using “green” materials and displaying the unmistakable Italian style.

Stadium

Lighting boundaries are pushed further with the Stadium range: outdoor floodlights for lighting particularly large areas. Lamps with a maximum power of 2000W, combined with a symmetrical or asymmetrical, diffused or restricted optic. Bodies in die-cast aluminium treated with trivalent passivation and painted with polyester powders. High bays in 99.85 aluminium, anodised and polished. To guarantee long-lasting performance results, all the versions are fitted with an anti-condensation device in Gore-Tex® for internal pressure compensation.

Smart [3]

Smart [3] is the new range of LED watertight luminaires that completes the Smart selection. Ideal for use in installation contexts with heights of less than 4 metres, the latest GEWISS lighting devices stand out for their elegant Italian design, excellent energy performance, optimum impact resistance and quick and easy installation.

We provide light for sport

This collection aims to spread a lighting culture from the design and installation viewpoint, providing the basic information needed to create sport facilities lighting systems of the best quality, from design through to installation.
Apart from skilled professionals and qualified installers, these solutions will also be useful for those wanting to acquire further knowledge about the design and application aspects of lighting, such as students of professional technical colleges and aspiring lighting designers.
The design sheets refer to sports fields of standard sizes, and the projects were developed in compliance with EN 12193, envisaging various levels of lighting to meet the needs of a range of activities from amateur to semi-professional and professional level.
To provide complete support, beyond just the basic lighting project, the designs are accompanied by a layout illustrating the electrotechnical aspects of the installation, indicating the characteristics of the system components (e.g. the control panel, auxiliary circuits and protective or command circuit breakers).

OUTDOOR

Standard football - 500 lx - High-level competitions

Project compliant with:
EN 12193 (2008): Class I

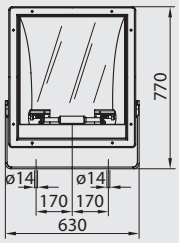
REQUISITES

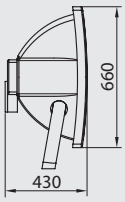
PLAY AREA DIMENSIONS	
Length [m]	105
Width [m]	65
Grid points (length)	21
Grid points (width)	15

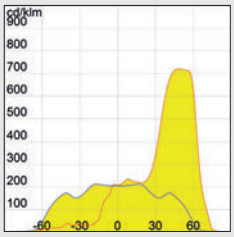
VALUES REQUIRED				
Class	EAv [lx]	Emin/EAv	GR	Colour rendering index [CRI]
I	500	0.7	50	60

PROPOSED SOLUTION

ASYMMETRICAL STADIUM FLOODLIGHT - 2000W - GW 84 668







TECHNICAL DATA OF THE LAMP	
Maintenance factor	0.80
Floodlight	Stadium
Optic	Asymmetrical
Lamp	MHN-LA 2000W/842
Lamp flux (lm)	220,000

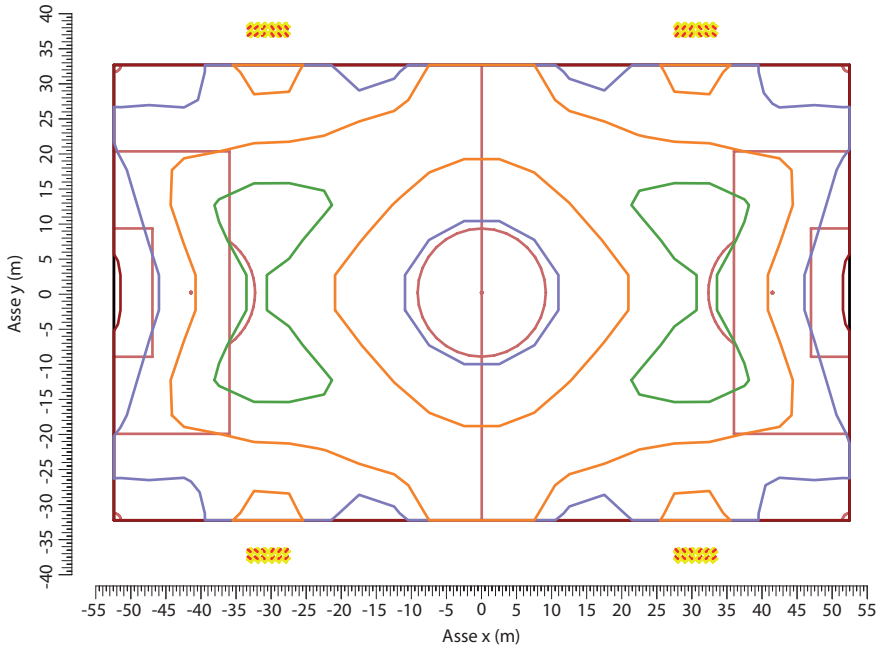
TECHNICAL DATA OF THE HIGH MASTS	
Number of high masts	4
High mast height (m. above ground)	28
Number of floodlights	48
Number of floodlights per high mast	12

The lighting values actually measured may differ from the project ones due to the intrinsic tolerance levels of the light sources and devices, for their orientation, and for the different electricity supply parameters.

FLOODLIGHT POSITIONING

Lighting tower	Position of devices in X	Position of devices in Y	Position of devices in Z	Device rotation X°; Y°; Z°
1	-33.00	-38.00	27.00	0°; 0°; 140°
1	-32.00	-38.00	27.00	0°; 0°; 140°
1	-31.00	-38.00	27.00	0°; 0°; 135°
1	-30.00	-38.00	27.00	0°; 0°; 55°
1	-29.00	-38.00	27.00	0°; 0°; 50°
1	-28.00	-38.00	27.00	0°; 0°; 50°
1	-33.00	-37.00	28.00	0°; 0°; 140°
1	-32.00	-37.00	28.00	0°; 0°; 140°
1	-31.00	-37.00	28.00	0°; 0°; 135°
1	-30.00	-37.00	28.00	0°; 0°; 55°
1	-29.00	-37.00	28.00	0°; 0°; 50°
1	-28.00	-37.00	28.00	0°; 0°; 50°

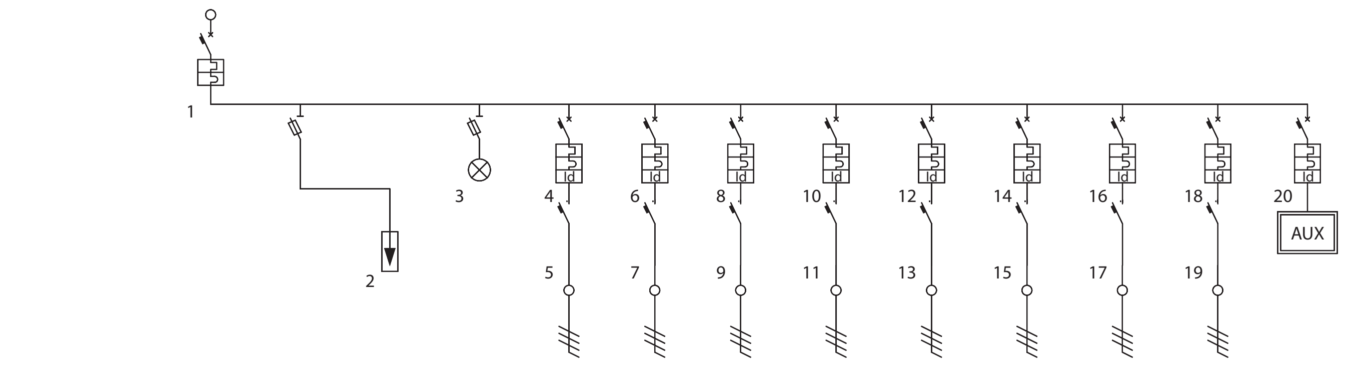
CALCULATION RESULTS



GRID 21x15	
EAv [lx]	594
Emin/EAv	0.71
GR	30
CRI	80
No. floodlights	48
floodlight height [m]	27-28

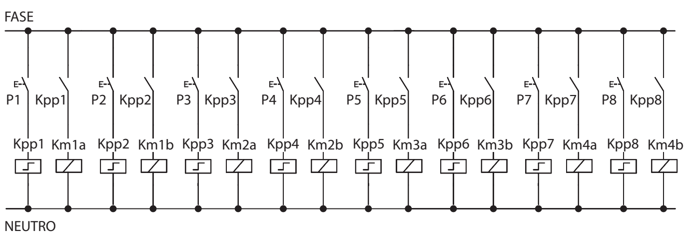
KEY	
	400.0 lx
	500.0 lx
	600.0 lx
	700.0 lx

STANDARD ELECTRICAL SCHEME -System power: 96kW, three-phase



Line description	Main device		Surge protective device	Lamp	High mast 1 - Km 1a	High mast 1 - Km 1b	High mast 2 - Km 2a	High mast 2 - Km 2b	High mast 3 - Km 3a	High mast 3 - Km 3b	High mast 4 - Km 4a	High mast 4 - Km 4b	Auxiliaries circuit
Power	96.000 kW	0.000 kW			12.000 kW	12.000 kW	12.000 kW	12.000 kW	12.000 kW	12.000 kW	12.000 kW	12.000 kW	0.000 kW
Operating current Ib [A]	154.14	0.00			19.27	19.27	19.27	19.27	19.27	19.27	19.27	19.27	0.00
Rated current In [A]	200.00	100.00			25.00	25.00	25.00	25.00	25.00	25.00	25.00	25.00	6.00
Article description	MTX250 N 36kA 4P 200A TM1	Disconnectable fuse holder 3P+N 22x58 690V 100A	Surge protective device 3P+N 25kA Type 1+2	Triple red signalling lamp with fuse holder 230V	MT60 MCB D25 4P + BD 4P 63A 30mA A-IR Contactor 4NO 230V 24A	MT60 MCB D25 4P + BD 4P 63A 30mA A-IR Contactor 4NO 230V 24A	MT60 MCB D25 4P + BD 4P 63A 30mA A-IR Contactor 4NO 230V 24A	MT60 MCB D25 4P + BD 4P 63A 30mA A-IR Contactor 4NO 230V 24A	MT60 MCB D25 4P + BD 4P 63A 30mA A-IR Contactor 4NO 230V 24A	MT60 MCB D25 4P + BD 4P 63A 30mA A-IR Contactor 4NO 230V 24A	MT60 MCB D25 4P + BD 4P 63A 30mA A-IR Contactor 4NO 230V 24A	MT60 MCB D25 4P + BD 4P 63A 30mA A-IR Contactor 4NO 230V 24A	MDC60 C6 2P Id=30mA AC
Code	GW D7 216	GW 96 314	GW D6 405	GW 96 592	GW 92 489 + GW D6 715	GW 92 489 + GW D6 715	GW 92 489 + GW D6 715	GW 92 489 + GW D6 715	GW 92 489 + GW D6 715	GW 92 489 + GW D6 715	GW 92 489 + GW D6 715	GW 92 489 + GW D6 715	GW 94 125
Breaking capacity [kA]	36.00				10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	6.00
RCCB					GW 94 586	GW 94 586	GW 94 586	GW 94 586	GW 94 586	GW 94 586	GW 94 586	GW 94 586	

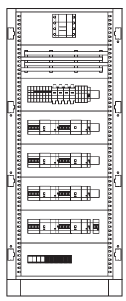
STANDARD AUXILIARIES CIRCUIT



COMPONENTS OF THE ELECTRICAL SCHEME AND AUXILIARIES CIRCUIT

Code	Description	Qty
GW D7 216	MCB 4P MTX250 N 36KA 200A	1
GW 96 314	Disconnectable fuse holder 3P+N 22X58 400V 100A	1
GW D6 405	Surge protective device 3P+N 25KA TYPE 1+2	1
GW 96 312	Disconnectable fuse holder 3P+N 10.3X38 400V 32A	1
GW 96 592	Triple red indicator lamp 230V 1M	1
GW 92 489	MCB 4P D25 10KA 4M	8
GW 94 586	Residual current device 4P IN<63A Immun. A/0.03	8
GW D6 715	Contactor 230V 4NO 24A	8
GW D6 644	Latching relay 1NO 16A 230V	8
GW 94 125	RCBO 2P C6 6KA AC/0.03 2M	1

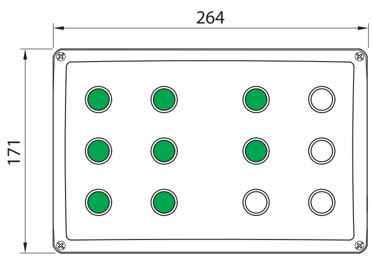
STANDARD DISTRIBUTION BOARD



DISTRIBUTION BOARD COMPONENTS

Code	Description	Qty
GW 45 057	CVX630M - Structure 600x1600	1
GW 45 077	CVX630M - Pair of side panels	1
GW 45 157	CVX630M - Glass door IP55	1
GW 45 202	Kit for modular devices on DIN rail 600x200	5
GW 45 273	CVX630K/M Kit for MTX250 600x200	1
GW 45 304	CVX630K Blank front panel	2
GW 45 411	Double DIN rail 24M	1
GW 45 526	Pair of supports for terminal block	1
GW 45 541	4-pole divider 250A	1

STANDARD PUSH-BUTTON PANEL



PUSH-BUTTON PANEL COMPONENTS

Code	Description	Qty
GW 27 105	12-gang push-button panel IP66	1
GW 74 341	Illuminated green push-button	8
GW 74 501	1 NO contact 10A 250V	8
GW 74 511	Lamp-holder - BA95 coupling	8
GW 74 518	Lamp - BA95 coupling	8
GW 74 521	Black cap	4

The electrical scheme shown here is merely an example; it can be modified to suit the installation requirements. It should not be considered as a substitute for the necessary electrical project, which must be based on the technical standards.

OUTDOOR

Standard football - 200 lx - Medium-level competitions

Project compliant with:
EN 12193 (2008): Class II

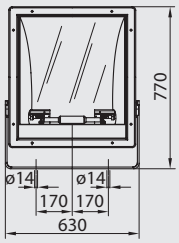
REQUISITES

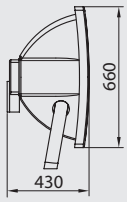
PLAY AREA DIMENSIONS	
Length [m]	105
Width [m]	65
Grid points (length)	21
Grid points (width)	15

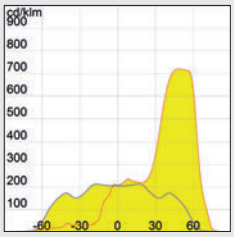
VALUES REQUIRED				
Class	EAv [lx]	Emin/EAv	GR	Colour rendering index [CRI]
II	200	0.6	50	60

PROPOSED SOLUTION

ASYMMETRICAL STADIUM FLOODLIGHT - 2000W - GW 84 668







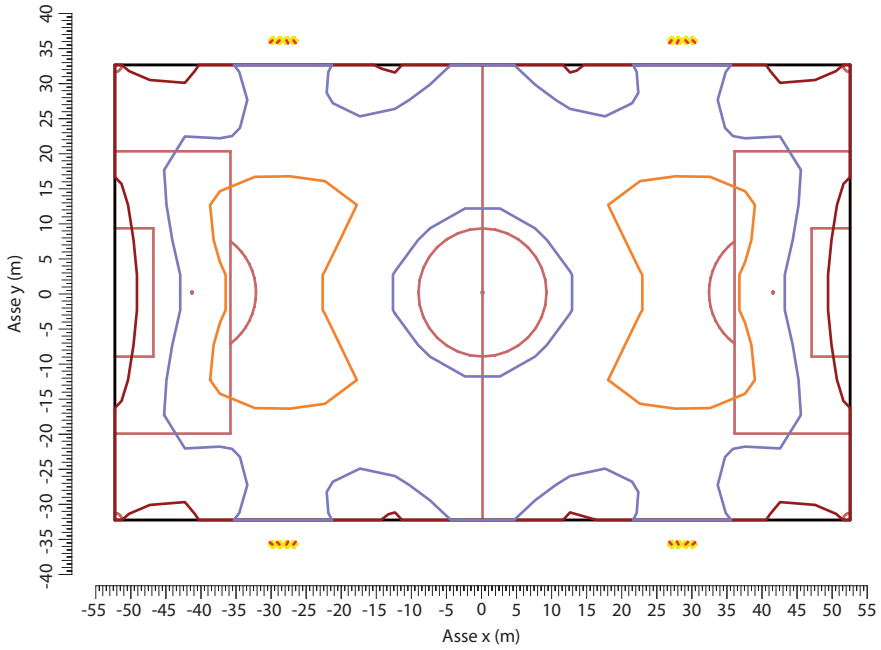
TECHNICAL DATA OF THE LAMP	
Maintenance factor	0.80
Floodlight	Stadium
Optic	Asymmetrical
Lamp	MHN-LA 2000W/842
Lamp flux (lm)	220,000

TECHNICAL DATA OF THE HIGH MASTS	
Number of high masts	4
High mast height (m. above ground)	27
Number of floodlights	16
Number of floodlights per high mast	4

FLOODLIGHT POSITIONING			
Lighting tower	Position of devices in X	Position of devices in Y	Device rotation X°; Y°; Z°
1	-27.00	-36.00	0°; 0°; 50°
1	-28.00	-36.00	0°; 0°; 60°
1	-29.00	-36.00	0°; 0°; 135°
1	-30.00	-36.00	0°; 0°; 140°
4	27.00	-36.00	0°; 0°; 130°
4	28.00	-36.00	0°; 0°; 120°
4	29.00	-36.00	0°; 0°; 45°
4	30.00	-36.00	0°; 0°; 40°

The lighting values actually measured may differ from the project ones due to the intrinsic tolerance levels of the light sources and devices, for their orientation, and for the different electricity supply parameters.

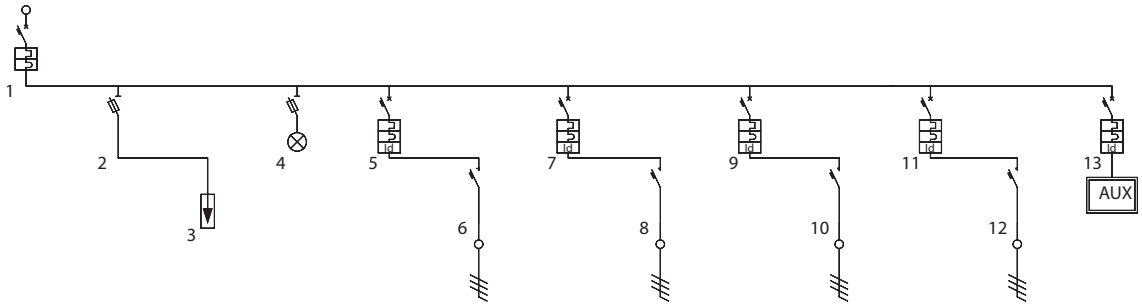
CALCULATION RESULTS



GRID 21x15	
EAv [lx]	216
Emin/EAv	0.65
GR	30
CRI	80
No. floodlights	16
floodlight height [m]	27

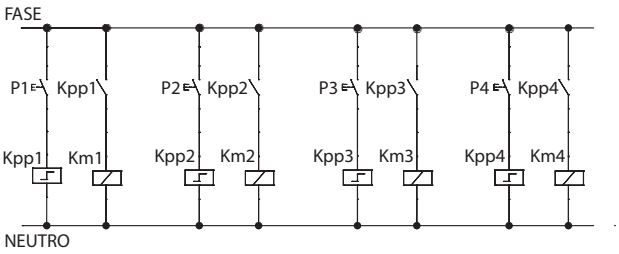
KEY
150.0 lx
200.0 lx
250.0 lx

STANDARD ELECTRICAL SCHEME -System power: 32kW, three-phase



Line description	Main device		Surge protective device	Lamp	High mast 1	km1	High mast 2	km2	High mast 3	km3	High mast 4	km4	Auxiliaries circuit
Power	32.000 kW	0.000 kW			8.000 kW	8.000 kW	8.000 kW	8.000 kW	8.000 kW	8.000 kW	8.000 kW	8.000 kW	0.000 kW
Operating current Ib [A]	51.38	0.00			12.85	12.85	12.85	12.85	12.85	12.85	12.85	12.85	0.00
Rated current In [A]	63.00	50.00			16.00	24.00	16.00	24.00	16.00	24.00	16.00	24.00	6.00
Article description	MTHP160 D63 4P	Disconnectable fuse holder 3P+N 22x58 690V 50A	Surge protective device 3P+N 25kA Type 1+2	Triple red signalling lamp with fuse holder 230V	MCB MT60 D16 4P + BD 4P 63A 30mA A-IR	Contactor 4 NO 230V AC/DC 24A - 2M	MCB MT60 D16 4P + BD 4P 63A 30mA A-IR	Contactor 4 NO 230V AC/DC 24A - 2M	MCB MT60 D16 4P + BD 4P 63A 30mA A-IR	Contactor 4 NO 230V AC/DC 24A - 2M	MCB MT60 D16 4P + BD 4P 63A 30mA A-IR	Contactor 4 NO 230V AC/DC 24A - 2M	MDC60 C6 2P Id=30mA AC
Code	GW 93 396	GW 96 314	GW D6 405	GW 96 592	GW 92 487	GW D6 715	GW 92 487	GW D6 715	GW 92 487	GW D6 715	GW 92 487	GW D6 715	GW 94 125
Breaking capacity [kA]	10.00				6.00		6.00		6.00		6.00		6.00
RCCB					GW 94 586		GW 94 586		GW 94 586		GW 94 586		

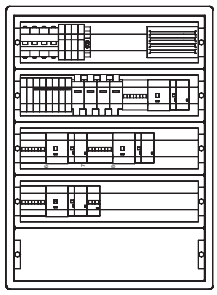
STANDARD AUXILIARIES CIRCUIT



COMPONENTS OF THE ELECTRICAL SCHEME AND AUXILIARIES CIRCUIT

Code	Description	Qty
GW 93 396	MCB 4P D63 10KA 6M	1
GW 96 314	Disconnectable fuse holder 3P+N 22X58 400V 100A	1
GW D6 405	Surge protective device 3P+N 25KA TYPE 1+2	1
GW 96 312	Disconnectable fuse holder 3P+N 10.3X38 400V 32A	1
GW 96 592	Triple red indicator lamp 230V 1M	1
GW 92 487	MCB 4P D16 6KA 4M	4
GW 94 586	Residual current device 4P IN<63A Immun. A/0.03	4
GW D6 715	Contactor 230V 4NO 24A	4
GW D6 644	Latching relay 1NO 16A 230V	4
GW 94 125	RCBO 2P C6 6KA AC/0.03 2M	1

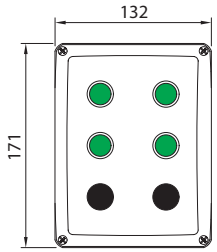
STANDARD DISTRIBUTION BOARD



DISTRIBUTION BOARD COMPONENTS

Code	Description	Qty
GW 46 206	Polyester board with window 800X585X300	1
GW 46 423 F	Panel without windows - 28 mod.	4
GW 46 428 F	Blank panel 1M. 515MM	1
GW 46 438 F	Pair of uprights	1
GW 46 446	Set of 4 galvanised fixing brackets	1
GW 46 533 F	Double rail 28M	1
GW 44 698	4-pole terminal block	1

STANDARD PUSH-BUTTON CONTROL PANEL



PUSH-BUTTON PANEL COMPONENTS

Code	Description	Qty
GW 27 104	6-gang push-button panel IP66	1
GW 74 341	Illuminated green push-button	4
GW 74 501	1 NO contact 10A 250V	4
GW 74 511	Lamp-holder - BA95 coupling	4
GW 74 518	Lamp - BA95 coupling	4
GW 74 521	Black cap	2

The electrical scheme shown here is merely an example; it can be modified to suit the installation requirements. It should not be considered as a substitute for the necessary electrical project, which must be based on the technical standards.

OUTDOOR

Standard football - 75 lx - Training activities

Project compliant with:
EN 12193 (2008): Class III

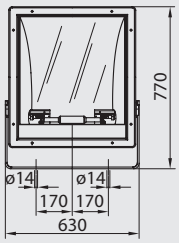
REQUISITES

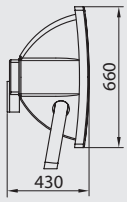
PLAY AREA DIMENSIONS	
Length [m]	105
Width [m]	65
Grid points (length)	21
Grid points (width)	15

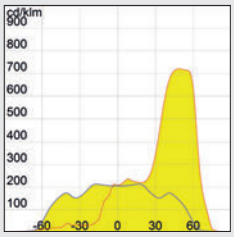
VALUES REQUIRED				
Class	EAv [lx]	Emin/EAv	GR	Colour rendering index [CRI]
III	75	0.5	55	20

PROPOSED SOLUTION

ASYMMETRICAL STADIUM FLOODLIGHT - 2000W - GW 84 668







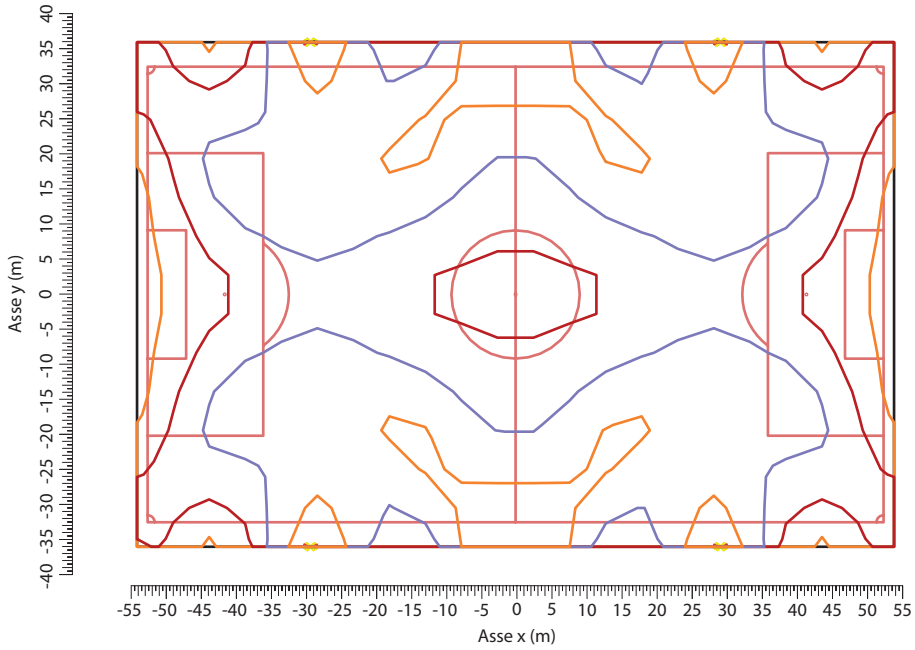
TECHNICAL DATA OF THE LAMP	
Maintenance factor	0.80
Floodlight	Stadium
Optic	Asymmetrical
Lamp	MHN-LA 2000W/842
Lamp flux (lm)	220,000

TECHNICAL DATA OF THE HIGH MASTS	
Number of high masts	4
High mast height (m. above ground)	25
Number of floodlights	8
Number of floodlights per high mast	2

FLOODLIGHT POSITIONING			
Lighting tower	Position of devices in X	Position of devices in Y	Device rotation X°; Y°; Z°
1	-29.75	-36.00	0°; 0°; 140°
1	-28.75	-36.00	0°; 0°; 35°
2	-29.75	36.00	0°; 0°; -140°
2	-28.75	36.00	0°; 0°; -35°
3	29.75	36.00	0°; 0°; -40°
3	28.75	36.00	0°; 0°; -145°
4	29.75	-36.00	0°; 0°; 40°
4	28.75	-36.00	0°; 0°; 145°

The lighting values actually measured may differ from the project ones due to the intrinsic tolerance levels of the light sources and devices, for their orientation, and for the different electricity supply parameters.

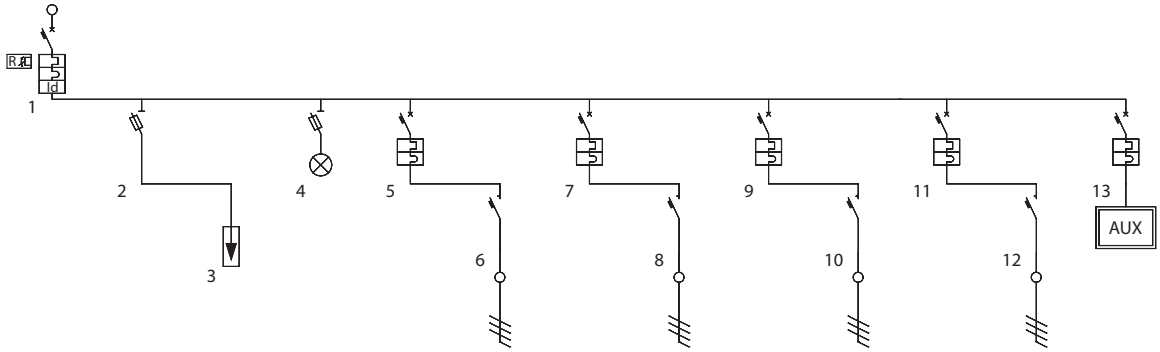
CALCULATION RESULTS



GRID 21x15	
EAv [lx]	99
Emin/EAv	0.61
GR	30
CRI	80
No. floodlights	8
floodlight height [m]	25

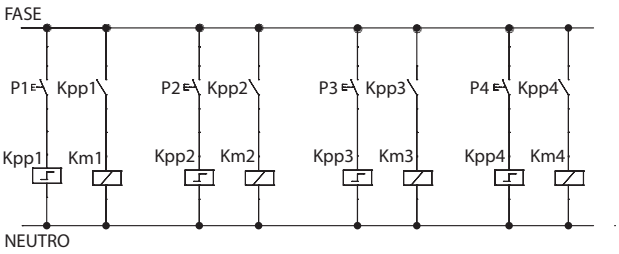
KEY
60.0 lx
80.0 lx
100.0 lx
120.0 lx

STANDARD ELECTRICAL SCHEME -System power: 16kW, three-phase



Line description	Main device		Surge protective device	Lamp	High mast 1	km1	High mast 2	km2	High mast 3	km3	High mast 4	km4	Auxiliaries circuit
Power	16.000 kW	0.000 kW			4.000 kW	4.000 kW	4.000 kW	4.000 kW	4.000 kW	4.000 kW	4.000 kW	4.000 kW	0.000 kW
Operating current Ib [A]	25.68	0.00			6.42	6.42	6.42	6.42	6.42	6.42	6.42	6.42	0.00
Rated current In [A]	40.00	40.00			10.00	24.00	10.00	24.00	10.00	24.00	10.00	24.00	6.00
Article description	MT100 D40 4P + BD 4P 63A 30mA A-IR	Disconnectable fuse holder 3P+N 22x58 690V 40A	Surge protective device 3P+N 25kA Type 1+2	Triple red signalling lamp with fuse holder 230V	MT60 D10 4P	Contactor 4 NO 230V AC/DC 24A - 2M	MT60 D10 4P	Contactor 4 NO 230V AC/DC 24A - 2M	MT60 D10 4P	Contactor 4 NO 230V AC/DC 24A - 2M	MT60 D10 4P	Contactor 4 NO 230V AC/DC 24A - 2M	MTC60 C6 1P+N
Code	GW 92 791	GW 96 314	GW D6 405	GW 96 592	GW 92 486	GW D6 715	GW 92 486	GW D6 715	GW 92 486	GW D6 715	GW 92 486	GW D6 715	GW 90 225
Breaking capacity [kA]	10.00				6.00		6.00		6.00		6.00		6.00
RCCB	GW 94 586 + GW 90 893												

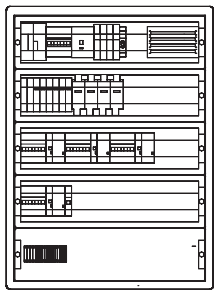
STANDARD AUXILIARIES CIRCUIT



COMPONENTS OF THE ELECTRICAL SCHEME AND AUXILIARIES CIRCUIT

Code	Description	Qty
GW 92 791	MCB 4P D40 10KA 4M	1
GW 94 586	Residual current device 4P IN<63A Immun. A/0.03	1
GW 90 893	Adjustable reset RM TOP 4P	1
GW 96 314	Disconnectable fuse holder 3P+N 22X58 690V 100A	1
GW D6 405	Surge protective device 3P+N 25KA TYPE 1+2	1
GW 96 312	Disconnectable fuse holder 3P+N 10.3X38 400V 32A	1
GW 96 592	Triple red indicator lamp 230V 1M	1
GW 92 486	Compact MCB 4P D10 6KA 4M	4
GW D6 715	Contactor 230V 4NO 24A	4
GW D6 644	Latching relay 1NO 16A 230V	4
GW 90 225	Compact MCB 1P+N C 6 6KA 1M	1

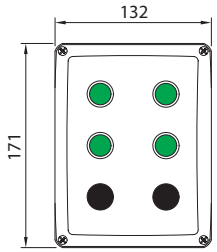
STANDARD DISTRIBUTION BOARD



DISTRIBUTION BOARD COMPONENTS

Code	Description	Qty
GW 46 206	Polyester board with window 800X585X300	1
GW 46 423 F	Panel without windows - 28 mod.	4
GW 46 428 F	Blank panel 1M. 585MM	1
GW 46 438 F	Pair of uprights	1
GW 46 446	Set of 4 galvanised fixing brackets	1
GW 46 533 F	Double rail 28M	1
GW 44 698	4-pole terminal block 8M	1

STANDARD PUSH-BUTTON CONTROL PANEL



PUSH-BUTTON PANEL COMPONENTS

Code	Description	Qty
GW 27 104	6-gang push-button panel IP66	1
GW 74 341	Illuminated green push-button	4
GW 74 501	1 NO contact 10A 250V	4
GW 74 511	Lamp-holder - BA95 coupling	4
GW 74 518	Lamp - BA95 coupling	4
GW 74 521	Black cap	2

The electrical scheme shown here is merely an example; it can be modified to suit the installation requirements. It should not be considered as a substitute for the necessary electrical project, which must be based on the technical standards.

OUTDOOR

7-a-side football - 200 lx - Medium-level competitions

Project compliant with:
EN 12193 (2008): Class II

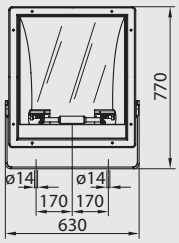
REQUISITES

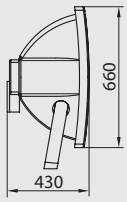
PLAY AREA DIMENSIONS	
Length [m]	60
Width [m]	40
Grid points (length)	19
Grid points (width)	13

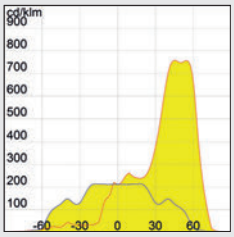
VALUES REQUIRED				
Class	EAv [lx]	Emin/EAv	GR	Colour rendering index [CRI]
II	200	0.6	50	60

PROPOSED SOLUTION

ASYMMETRICAL STADIUM FLOODLIGHT 1000W - GW 84 667







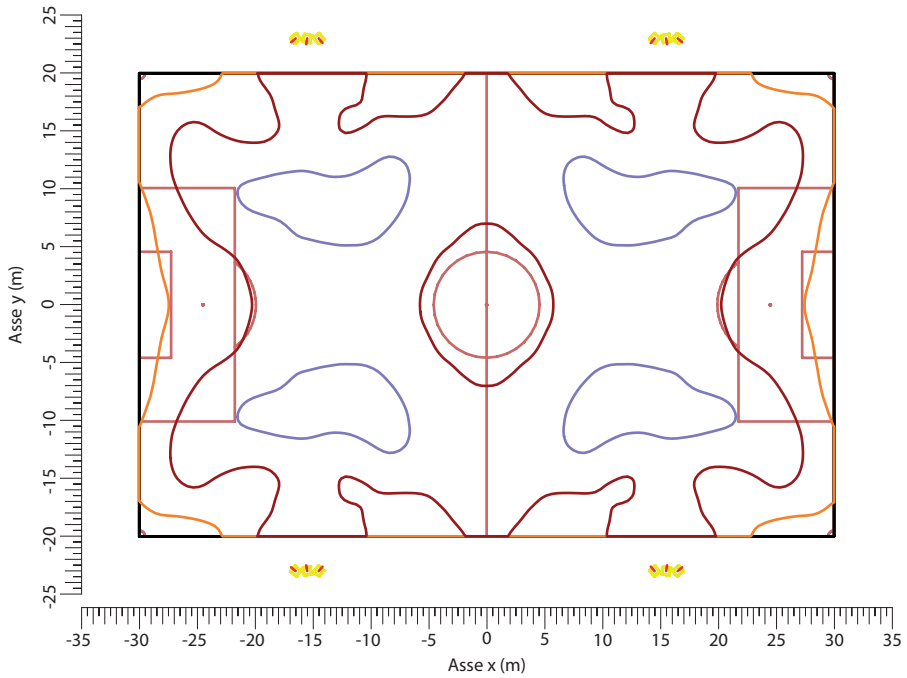
TECHNICAL DATA OF THE LAMP	
Maintenance factor	0.80
Floodlight	Stadium
Optic	Asymmetrical
Lamp	MHN-LA 1000W/842
Lamp flux (lm)	100,000

TECHNICAL DATA OF THE HIGH MASTS	
Number of high masts	4
High mast height (m. above ground)	16
Number of floodlights	12
Number of floodlights per high mast	3

The lighting values actually measured may differ from the project ones due to the intrinsic tolerance levels of the light sources and devices, for their orientation, and for the different electricity supply parameters.

FLOODLIGHT POSITIONING			
Lighting tower	Position of devices in X	Position of devices in Y	Device rotation X°; Y°; Z°
1	-16.50	-23.00	0°; 0°; 140°
1	-15.50	-23.00	0°; 0°; 100°
1	-14.50	-23.00	0°; 0°; 50°
2	-16.50	23.00	0°; 0°; -140°
2	-15.50	23.00	0°; 0°; -100°
2	-14.50	23.00	0°; 0°; -50°
3	16.50	23.00	0°; 0°; -40°
3	15.50	23.00	0°; 0°; -80°
3	14.50	23.00	0°; 0°; -130°
4	16.50	-23.00	0°; 0°; 40°
4	15.50	-23.00	0°; 0°; 80°
4	14.50	-23.00	0°; 0°; 130°

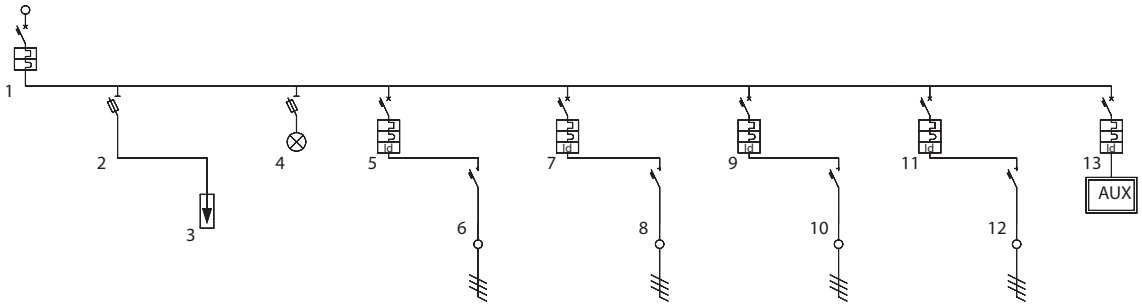
CALCULATION RESULTS



GRID 19x13	
EAv [lx]	211
Emin/EAv	0.67
GR	30
CRI	80
No. floodlights	12
floodlight height [m]	16

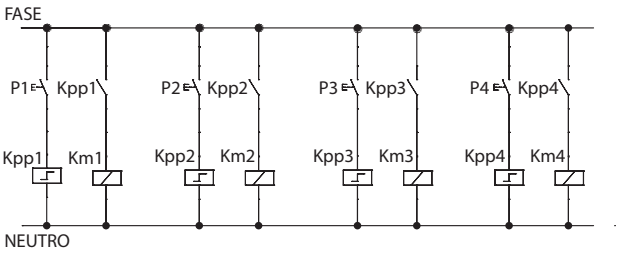
KEY
150.0 lx
200.0 lx
250.0 lx

STANDARD ELECTRICAL SCHEME -System power: 12kW, three-phase



Line description	Main device		Surge protective device	Lamp	High mast 1	km1	High mast 2	km2	High mast 3	km3	High mast 4	km4	Auxiliaries circuit
Power	12.000 kW	0.000 kW			3.000 kW	3.000 kW	3.000 kW	3.000 kW	3.000 kW	3.000 kW	3.000 kW	3.000 kW	0.000 kW
Operating current Ib [A]	19.27	0.00			4.82	4.82	4.82	4.82	4.82	4.82	4.82	4.82	0.00
Rated current In [A]	32.00	50.00			10.00	24.00	10.00	24.00	10.00	24.00	10.00	24.00	6.00
Article description	MT100 D32 4P	Disconnectable fuse holder 3P+N 22x58 690V 50A	Surge protective device 3P+N 25kA Type 1+2	Triple red signalling lamp with fuse holder 230V	MCB MT60 D10 4P + BD 4P 63A 30mA A-IR	Contactor 4 NO 230V AC/DC 24A - 2M	MCB MT60 D10 4P + BD 4P 63A 30mA A-IR	Contactor 4 NO 230V AC/DC 24A - 2M	MCB MT60 D10 4P + BD 4P 63A 30mA A-IR	Contactor 4 NO 230V AC/DC 24A - 2M	MCB MT60 D10 4P + BD 4P 63A 30mA A-IR	Contactor 4 NO 230V AC/DC 24A - 2M	MDC60 C6 2P Id=30mA AC
Code	GW 92 790	GW 96 314	GW D6 405	GW 96 592	GW 92 486	GW D6 715	GW 92 486	GW D6 715	GW 92 486	GW D6 715	GW 92 486	GW D6 715	GW 94 125
Breaking capacity [kA]	10.00				6.00		6.00		6.00		6.00		6.00
RCCB					GW 94 586		GW 94 586		GW 94 586		GW 94 586		

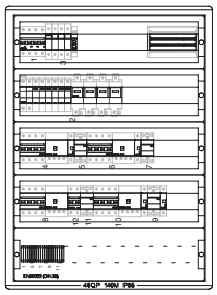
STANDARD AUXILIARIES CIRCUIT



COMPONENTS OF THE ELECTRICAL SCHEME AND AUXILIARIES CIRCUIT

Code	Description	Qty
GW 92 790	MCB 4P D32 10KA 4M	1
GW 96 314	Disconnectable fuse holder 3P+N 22X58 400V 100A	1
GW D6 405	Surge protective device 3P+N 25KA TYPE 1+2	1
GW 96 312	Disconnectable fuse holder 3P+N 10.3X38 400V 32A	1
GW 96 592	Triple red indicator lamp 230V 1M	1
GW 92 486	MCB 4P D10 6KA 4M	4
GW 94 586	Residual current device 4P IN<63A Immun. A/0.03	4
GW D6 715	Contactor 230V 4NO 24A	4
GW D6 644	Latching relay 1NO 16A 230V	4
GW 94 125	RCBO 2P C6 6KA AC/0.03 2M	1

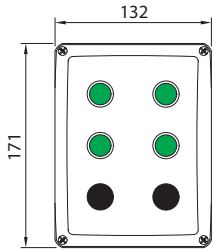
STANDARD DISTRIBUTION BOARD



DISTRIBUTION BOARD COMPONENTS

Code	Description	Qty
GW 46 206	Polyester board with window 800x585x300	1
GW 46 423 F	Panel without windows - 28 mod.	4
GW 46 428 F	Blank panel 1M. 515MM	1
GW 46 438 F	Pair of uprights	1
GW 46 446	Set of 4 galvanised fixing brackets	1
GW 46 533 F	Double rail 28M	1
GW 44 698	4-pole terminal block 8M	1

STANDARD PUSH-BUTTON CONTROL PANEL



PUSH-BUTTON PANEL COMPONENTS

Code	Description	Qty
GW 27 104	6-gang push-button panel IP66	1
GW 74 341	Illuminated green push-button	4
GW 74 501	1 NO contact 10A 250V	4
GW 74 511	Lamp-holder - BA95 coupling	4
GW 74 518	Lamp - BA95 coupling	4
GW 74 521	Black cap	2

The electrical scheme shown here is merely an example; it can be modified to suit the installation requirements. It should not be considered as a substitute for the necessary electrical project, which must be based on the technical standards.

OUTDOOR

7-a-side football - 75 lx - Training activities

Project compliant with:
EN 12193 (2008): Class III

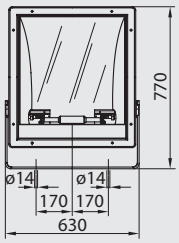
REQUISITES

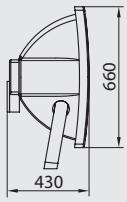
PLAY AREA DIMENSIONS	
Length [m]	60
Width [m]	40
Grid points (length)	19
Grid points (width)	13

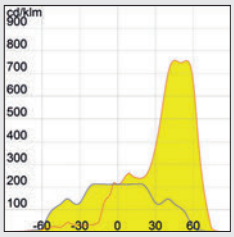
VALUES REQUIRED				
Class	EAv [lx]	Emin/EAv	GR	Colour rendering index [CRI]
III	75	0.5	55	20

PROPOSED SOLUTION

ASYMMETRICAL STADIUM FLOODLIGHT 1000W
GW 84 667







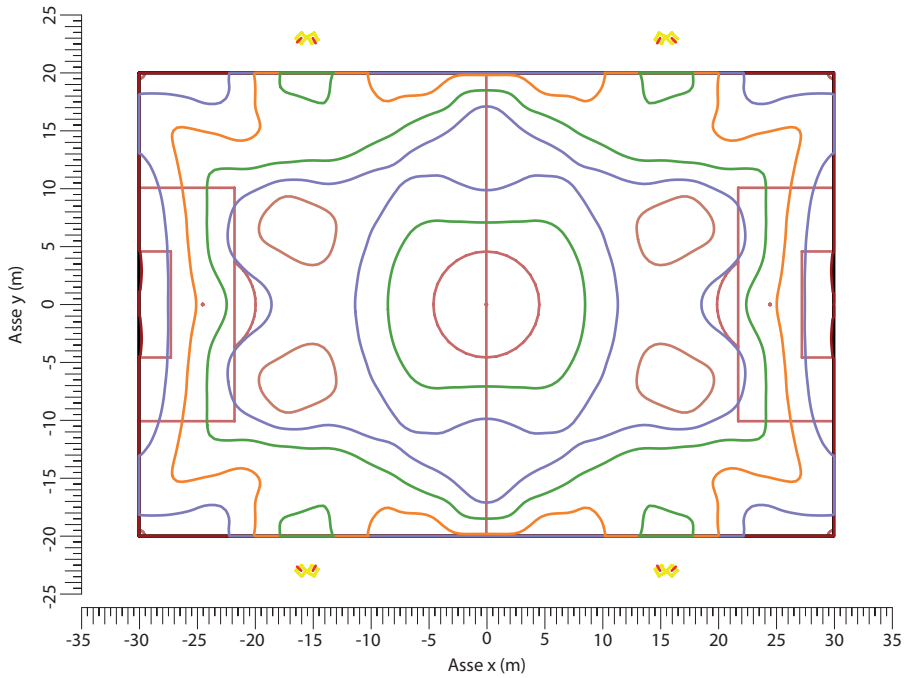
TECHNICAL DATA OF THE LAMP	
Maintenance factor	0.80
Floodlight	Stadium
Optic	Asymmetrical
Lamp	MHN-LA 1000W/842
Lamp flux (lm)	100,000

TECHNICAL DATA OF THE HIGH MASTS	
Number of high masts	4
High mast height (m. above ground)	17
Number of floodlights	8
Number of floodlights per high mast	2

FLOODLIGHT POSITIONING			
Lighting tower	Position of devices in X	Position of devices in Y	Device rotation X°; Y°; Z°
1	-15.00	-23.00	0°; 0°; 60°
1	-16.00	-23.00	0°; 0°; 135°
2	-15.00	23.00	0°; 0°; -60°
2	-16.00	23.00	0°; 0°; -135°
3	15.00	23.00	0°; 0°; -120°
3	16.00	23.00	0°; 0°; -45°
4	15.00	-23.00	0°; 0°; 120°
4	16.00	-23.00	0°; 0°; 45°

The lighting values actually measured may differ from the project ones due to the intrinsic tolerance levels of the light sources and devices, for their orientation, and for the different electricity supply parameters.

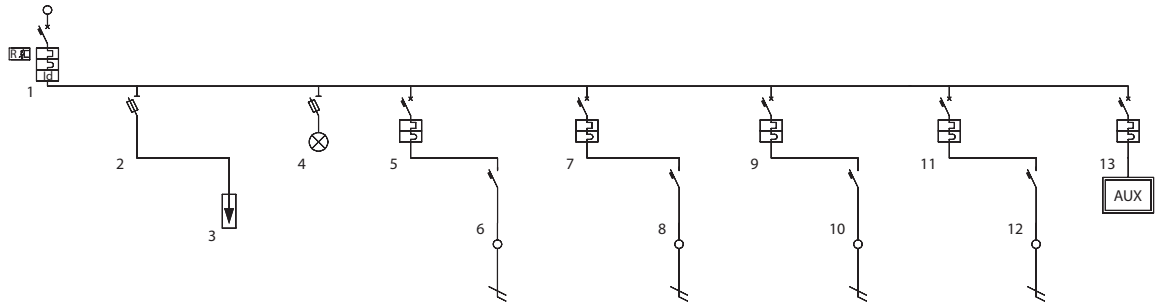
CALCULATION RESULTS



GRID 19x13	
EAv [lx]	140
Emin/EAv	0.65
GR	30
CRI	80
No. floodlights	8
floodlight height [m]	17

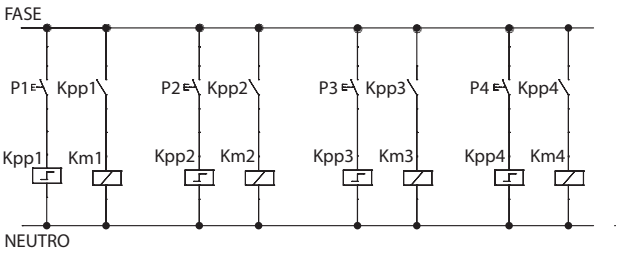
KEY
80.0 lx
100.0 lx
120.0 lx
140.0 lx
160.0 lx
180.0 lx

STANDARD ELECTRICAL SCHEME -System power: 8kW, three-phase



Line description	Main device		Surge protective device	Lamp	High mast 1	km1	High mast 2	km2	High mast 3	km3	High mast 4	km4	Auxiliaries circuit
Power	8.000 kW	0.000 kW			2.000 kW	2.000 kW	2.000 kW	2.000 kW	2.000 kW	2.000 kW	2.000 kW	2.000 kW	0.000 kW
Operating current Ib [A]	19.32	0.00			9.66	9.66	9.66	9.66	9.66	9.66	9.66	9.66	0.00
Rated current In [A]	20.00	20.00			16.00	20.00	16.00	20.00	16.00	20.00	16.00	20.00	6.00
Article description	MCB MT100 D20 4P + BD 4P 63A 30mA A-IR	Disconnectable fuse holder 3P+N 22x58 690V 100A	Surge protective device 3P+N 25kA Type 1+2	Triple red signalling lamp with fuse holder 230V	MT60 D16 2P	Contactor 2 NO 230V AC 20A -1M	MT60 D16 2P	Contactor 2 NO 230V AC 20A -1M	MT60 D16 2P	Contactor 2 NO 230V AC 20A -1M	MT60 D16 2P	Contactor 2 NO 230V AC 20A -1M	MTC60 C6 1P+N
Code	GW 92 788	GW 96 314	GW D6 405	GW 96 592	GW 92 447	GW D6 703	GW 92 447	GW D6 703	GW 92 447	GW D6 703	GW 92 447	GW D6 703	GW 90 225
Breaking capacity [kA]	10.00				6.00		6.00		6.00		6.00		6.00
RCCB	GW 94 586 + GW 90 893												

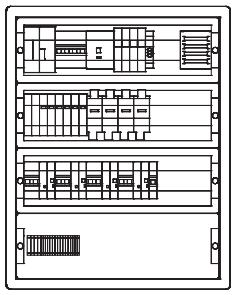
STANDARD AUXILIARIES CIRCUIT



COMPONENTS OF THE ELECTRICAL SCHEME AND AUXILIARIES CIRCUIT

Code	Description	Qty
GW 92 788	MCB 4P D20 10KA 4M	1
GW 94 586	Residual current device 4P IN<63A Immun. A/0.03	1
GW 90 893	Adjustable reset RM TOP 4P	1
GW 96 314	Disconnectable fuse holder 3P+N 22X58 690V 100A	1
GW D6 405	Surge protective device 3P+N 25KA TYPE 1+2	1
GW 96 312	Disconnectable fuse holder 3P+N 10.3X38 400V 32A	1
GW 96 592	Triple red indicator lamp 230V 1M	1
GW 92 447	MCB 2P D16 6KA 2M	4
GW D6 703	Contactor 230V 2NO 20A	4
GW D6 644	Latching relay 1NO 16A 230V	4
GW 90 225	Compact MCB 1P+N C 6 6KA 1M	1

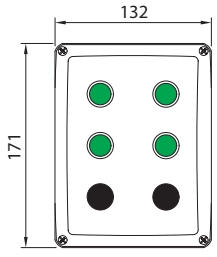
STANDARD DISTRIBUTION BOARD



DISTRIBUTION BOARD COMPONENTS

Code	Description	Qty
GW 46 205	Polyester board with window 650x515x250	1
GW 46 422 F	Panel without windows 24 mod.	3
GW 46 427 F	Blank panel 1M. 515MM	1
GW 46 437 F	Pair of uprights	1
GW 46 446	Set of 4 galvanised fixing brackets	1
GW 46 532 F	Double rail 24M	1
GW 44 696	4-pole terminal block 4M	1

STANDARD PUSH-BUTTON CONTROL PANEL



PUSH-BUTTON PANEL COMPONENTS

Code	Description	Qty
GW 27 104	6-gang push-button panel IP66	1
GW 74 341	Illuminated green push-button	4
GW 74 501	1 NO contact 10A 250V	4
GW 74 511	Lamp-holder - BA95 coupling	4
GW 74 518	Lamp - BA95 coupling	4
GW 74 521	Black cap	2

The electrical scheme shown here is merely an example; it can be modified to suit the installation requirements. It should not be considered as a substitute for the necessary electrical project, which must be based on the technical standards.

OUTDOOR

5-a-side football - 200 lx - Medium-level competitions

Project compliant with:
EN 12193 (2008): Class II

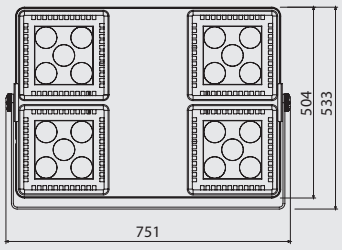
REQUISITES

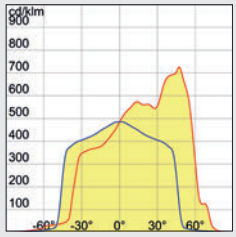
PLAY AREA DIMENSIONS	
Length [m]	40
Width [m]	20
Grid points (length)	13
Grid points (width)	7

VALUES REQUIRED				
Class	EAv [lx]	Emin/EAv	GR	Colour rendering index [CRI]
II	200	0.6	50	60

PROPOSED SOLUTION

ASYMMETRICAL SMART [4] 2.0 FLOODLIGHT
GW S4 176 GS





TECHNICAL DATA OF THE LAMP	
Maintenance factor	0.80
Floodlight	Smart [4] 2.0
Optic	Asymmetrical
Power system (W)	232
Lumen output (lm)	25,560

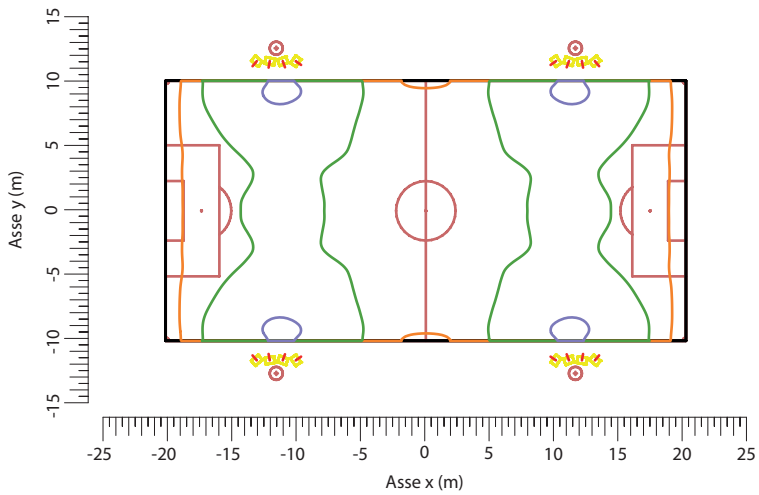
TECHNICAL DATA OF THE HIGH MASTS	
Number of high masts	4
High mast height (m. above ground)	12
Number of floodlights	16
Number of floodlights per high mast	4

FLOODLIGHT POSITIONING

Lighting tower	Position of devices in X	Position of devices in Y	Device rotation X°; Y°; Z°
1	-13.00	-11.50	0°; 0°; 130°
1	-12.00	-11.50	0°; 0°; 100°
1	-11.00	-11.50	0°; 0°; 70°
1	-10.00	-11.50	0°; 0°; 35°
4	13.00	-11.50	0°; 0°; 50°
4	12.00	-11.50	0°; 0°; 80°
4	11.00	-11.50	0°; 0°; 110°
4	10.00	-11.50	0°; 0°; 145°

The lighting values actually measured may differ from the project ones due to the intrinsic tolerance levels of the light sources and devices, for their orientation, and for the different electricity supply parameters.

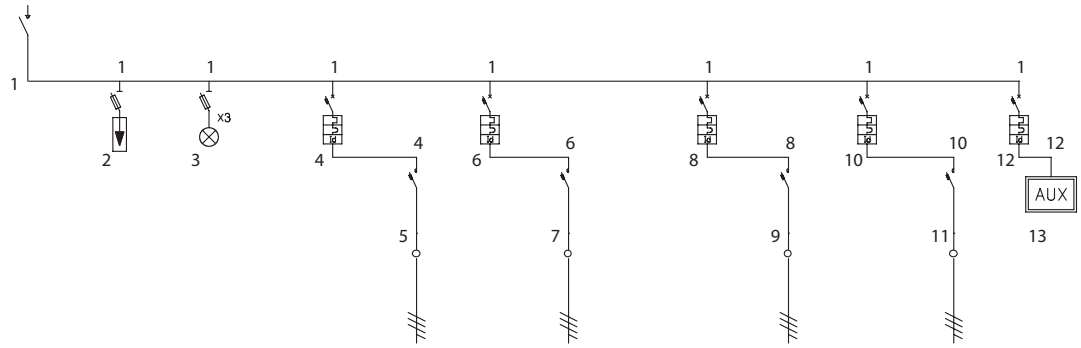
CALCULATION RESULTS



GRID 13x7	
EAv [lx]	205
Emin/EAv	0.75
GR	17
CRI	80
No. floodlights	16
floodlight height [m]	12

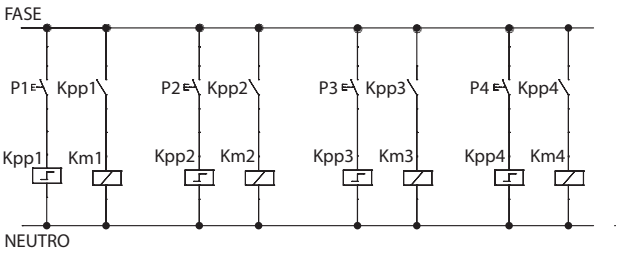
KEY
150.0 lx
200.0 lx
300.0 lx

STANDARD ELECTRICAL SCHEME -System power: 3.8kW, three-phase



Line description	Main device		Lamp	High mast 1	km1	High mast 2	km2	High mast 3	km3	High mast 4	km4	Auxiliaries line
Power	3.800 kW			0.950 kW	0.950 kW	0.950 kW	0.950 kW	0.950 kW	0.950 kW	0.950 kW	0.950 kW	0.000 kW
Operating current Ib [A]	6.00			1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	0.00
Rated current In [A]	32.00			25.00	25.00	25.00	25.00	25.00	25.00	25.00	25.00	6.00
Article description	Control switch disconnector 4P 32A	Surge protective device 3P+N 25kA Aux. Type 1+2 + fuse holder 22x58 - 16M	Triple red signalling lamp with fuse holder 230V 10.3x38 - 5M	MCB MT60 C25 4P + BD 4P 63A 30mA A-IR	Contactor 25A 4NO - 230VAC/ 220V DC - 2M	MCB MT60 C25 4P + BD 4P 63A 30mA A-IR	Contactor 25A 4NO - 230VAC/ 220V DC - 2M	MCB MT60 C25 4P + BD 4P 63A 30mA A-IR	Contactor 25A 4NO - 230V AC/ 220V DC - 2M	MCB MT60 C25 4P + BD 4P 63A 30mA A-IR	Contactor 25A 4NO - 230V AC/ 220V DC - 2M	MDC60 C6 2P Id=30mA AC
Code	GW 96 134	GW D6 405	GW 96 592	GW 92 089	GW D6 715	GW 92 089	GW D6 715	GW 92 089	GW D6 715	GW 92 089	GW D6 715	GW 94 125
Breaking capacity Icn/Icu [kA]				6.00		6.00		6.00		6.00		6.00
RCCB				GW 94 586		GW 94 586		GW 94 586		GW 94 586		

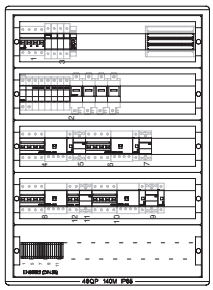
STANDARD AUXILIARIES CIRCUIT



COMPONENTS OF THE ELECTRICAL SCHEME AND AUXILIARIES CIRCUIT

Code	Description	Qty
GW 72 104	Cylindrical fuse type GG 10.3X38 500V 2A	3
GW 92 089	MCB 4P C25 6KA 4M	4
GW 94 125	RCBO C.2P C 6 6KA AC/0.03 2M	1
GW 94 586	Residual current device 4P IN<63A Immun. A/0.03 3.5M	4
GW 96 134	Switch disconnector 4P 32A AC23B	1
GW 96 312	Disconnectable fuse holder 3P+N 10.3X38 400V 32A	1
GW 96 314	Disconnectable fuse holder 3P+N 22X58 690V	1
GW 96 592	Triple red indicator lamp 230V 1M	1
GW D6 644	Latching relay 1NO 16A 230V	4
GW D6 405	Surge protective device 3P+N 25KA AUX TYPE 1+2	1
GW D6 715	Contactor 25A 4NO 230V 2M	4

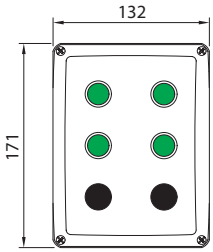
STANDARD DISTRIBUTION BOARD



DISTRIBUTION BOARD COMPONENTS

Code	Description	Qty
GW 44 698	4-pole terminal block 8 mod.EN 50022	1
GW 46 206	Polyester board with window 800X585X300	1
GW 46 423 F	Panel without windows 28 mod.	4
GW 46 428 F	Blank panel 1M. 585MM GR.RAL7035	1
GW 46 438 F	Pair of uprights for boards 800X585X300	1
GW 46 446	Set of 4 galvanised steel brackets for fixing surface-mounting boards	1
GW 46 533 F	Quick-assembly double rail 28M	1

STANDARD PUSH-BUTTON CONTROL PANEL



PUSH-BUTTON PANEL COMPONENTS

Code	Description	Qty
GW 27 104	6-gang push-button panel IP66	1
GW 74 341	Illuminated green push-button	4
GW 74 501	1 NO contact 10A 250V	4
GW 74 511	Lamp-holder - BA95 coupling	4
GW 74 518	Lamp - BA95 coupling	4
GW 74 521	Black cap	2

The electrical scheme shown here is merely an example; it can be modified to suit the installation requirements. It should not be considered as a substitute for the necessary electrical project, which must be based on the technical standards.

OUTDOOR

5-a-side football - 75 lx - Training activities

Project compliant with:
EN 12193 (2008): Class III

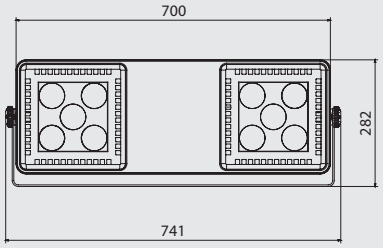
REQUISITES

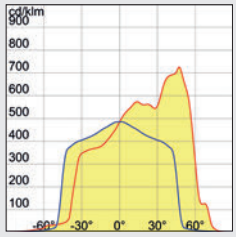
PLAY AREA DIMENSIONS	
Length [m]	40
Width [m]	20
Grid points (length)	13
Grid points (width)	7

VALUES REQUIRED				
Class	EAv [lx]	Emin/EAv	GR	Colour rendering index [CRI]
III	75	0.5	55	20

PROPOSED SOLUTION

ASYMMETRICAL SMART [4] 2.0 FLOODLIGHT
GW S4 156 GS





TECHNICAL DATA OF THE LAMP	
Maintenance factor	0.80
Floodlight	Smart [4] 2.0
Optic	Asymmetrical
Power system (W)	116
Lumen output (lm)	12,780

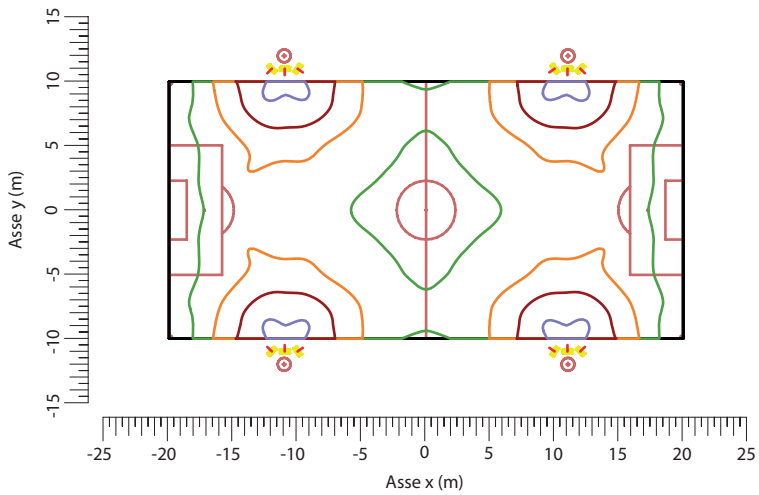
TECHNICAL DATA OF THE HIGH MASTS	
Number of high masts	4
High mast height (m. above ground)	10
Number of floodlights	12
Number of floodlights per high mast	3

FLOODLIGHT POSITIONING

Lighting tower	Position of devices in X	Position of devices in Y	Device rotation X°; Y°; Z°
1	-13.00	-11.00	0°; 0°; 135°
1	-12.00	-11.00	0°; 0°; 90°
1	-13.00	-11.00	0°; 0°; 35°
4	10.00	-11.00	0°; 0°; 145°
4	11.00	-11.00	0°; 0°; 90°
4	12.00	-11.00	0°; 0°; 45°

The lighting values actually measured may differ from the project ones due to the intrinsic tolerance levels of the light sources and devices, for their orientation, and for the different electricity supply parameters.

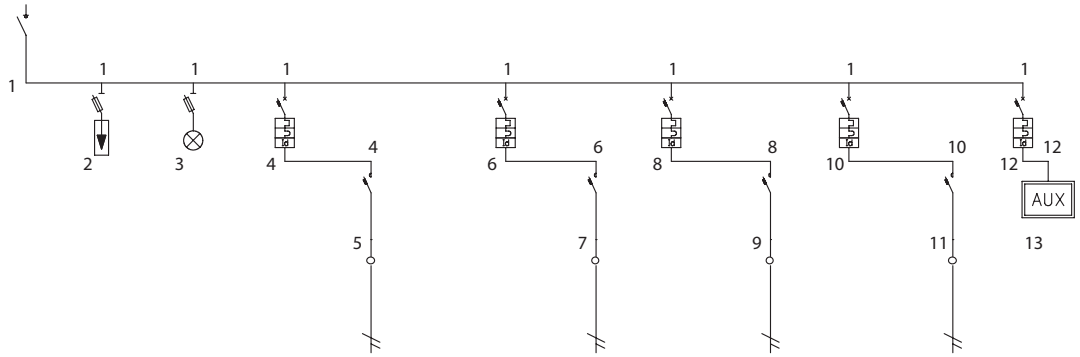
CALCULATION RESULTS



GRID 13x7	
EAv [lx]	83
Emin/EAv	0.61
GR	18
CRI	80
No. floodlights	12
floodlight height [m]	10

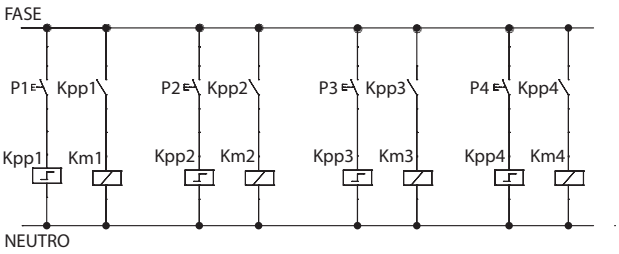
KEY	
	60.0 lx
	90.0 lx
	120.0 lx
	150.0 lx

STANDARD ELECTRICAL SCHEME -System power: 1.4kW, single-phase



Line description	Main device		Lamp	High mast 1	km1	High mast 2	km2	High mast 3	km3	High mast 4	km4	Auxiliaries line
Power	1.400 kW			0.350 kW	0.350 kW	0.350 kW	0.350 kW	0.350 kW	0.350 kW	0.350 kW	0.350 kW	0.000 kW
Operating current Ib [A]	6.80			1.70	1.70	1.70	1.70	1.70	1.70	1.70	1.70	0.00
Rated current In [A]	32.00			16.00	25.00	16.00	25.00	16.00	25.00	16.00	25.00	6.00
Article description	Control switch disconnector 2P 32A	Surge protective device 1P+N 25kA Aux. Type 1+2 + fuse holder 22x58 - 8M	Red signalling lamp with fuse holder 230V 10.3x38 - 3M	MCB MT60 C16 2P + BD 2P 63A 30mA A-IR	Contactor 25A 2NO - 230V AC/ 220V DC - 2M	MCB MT60 C16 2P + BD 2P 63A 30mA A-IR	Contactor 25A 2NO - 230V AC/ 220V DC 2M	MCB MT60 C16 2P + BD 2P 63A 30mA A-IR	Contactor 25A 2NO - 230V AC/ 220V DC 2M	MCB MT60 C16 2P + BD 2P 63A 30mA A-IR	Contactor 25A 2NO - 230V AC/ 220V DC - 2M	MDC45 C6 1P+N Id=30mA AC
Code	GW 96 114	GW D6 404	GW 96 581	GW 92 047	GW D6 712	GW 92 047	GW D6 712	GW 92 047	GW D6 712	GW 92 047	GW D6 712	GW 94 005
Breaking capacity Icn/Icu [kA]				6.00		6.00		6.00		6.00		4.50
RCCB				GW 94 566		GW 94 566		GW 94 566		GW 94 566		

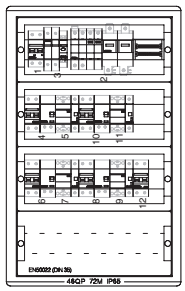
STANDARD AUXILIARIES CIRCUIT



COMPONENTS OF THE ELECTRICAL SCHEME AND AUXILIARIES CIRCUIT

Code	Description	Qty
GW 72 104	Cylindrical fuse type GG 10.3X38 500V 2A	1
GW 92 047	MCB 2P C16 6KA 2M	4
GW 94 005	RCBO C.1P+N C 6 4.5KA AC/0.03 2M	1
GW 94 566	Residual current device 2P IN<63A Immun. A/0.03 2M	4
GW 96 114	Switch disconnector 2P 32A AC23B	1
GW 96 215	Disconnectable fuse holder 1P+N 10.3X38 400V 32A	1
GW 96 218	Disconnectable fuse holder 1P+N 22X58 690V	1
GW 96 581	Single red indicator lamp 230V 1M	1
GW D6 644	Latching relay 1NO 16A 230V	4
GW D6 404	Surge protective device 1P+N 25KA AUX TYPE 1+2	1
GW D6 712	Contactor 25A 2NO 230V 2M	4

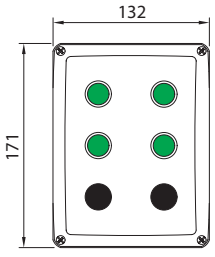
STANDARD DISTRIBUTION BOARD



DISTRIBUTION BOARD COMPONENTS

Code	Description	Qty
GW 44 691	2-pole terminal block 4 mod. EN 50022	1
GW 46 204	Polyester board with window 650X405X200	1
GW 46 421 F	Panel without windows 18 mod.	3
GW 46 426 F	Blank panel 1M. 405MM GR.RAL7035	1
GW 46 437 F	Pair of uprights for boards 650X405X200	1
GW 46 446	Set of 4 galvanised steel brackets for fixing surface-mounting boards	2
GW 46 531 F	Quick-assembly double rail 18M	1

STANDARD PUSH-BUTTON CONTROL PANEL



PUSH-BUTTON PANEL COMPONENTS

Code	Description	Qty
GW 27 104	6-gang push-button panel IP66	1
GW 74 341	Illuminated green push-button	4
GW 74 501	1 NO contact 10A 250V	4
GW 74 511	Lamp-holder - BA95 coupling	4
GW 74 518	Lamp - BA95 coupling	4
GW 74 521	Black cap	2

The electrical scheme shown here is merely an example; it can be modified to suit the installation requirements. It should not be considered as a substitute for the necessary electrical project, which must be based on the technical standards.

INDOOR

5-a-side football - 750 lx - High-level competitions

Project compliant with:
EN 12193 (2008): Class I

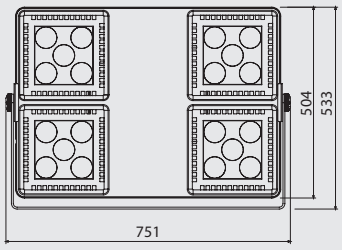
REQUISITES

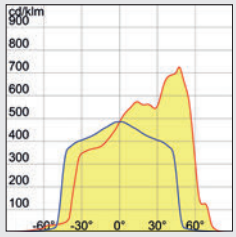
PLAY AREA DIMENSIONS	
Length [m]	40
Width [m]	20
Grid points (length)	15
Grid points (width)	9

VALUES REQUIRED			
Class	EAv [lx]	Emin/EAv	Colour rendering index [CRI]
I	750	0.7	60

PROPOSED SOLUTION

ASYMMETRICAL SMART [4] 2.0 FLOODLIGHT
GW S4 176 GS





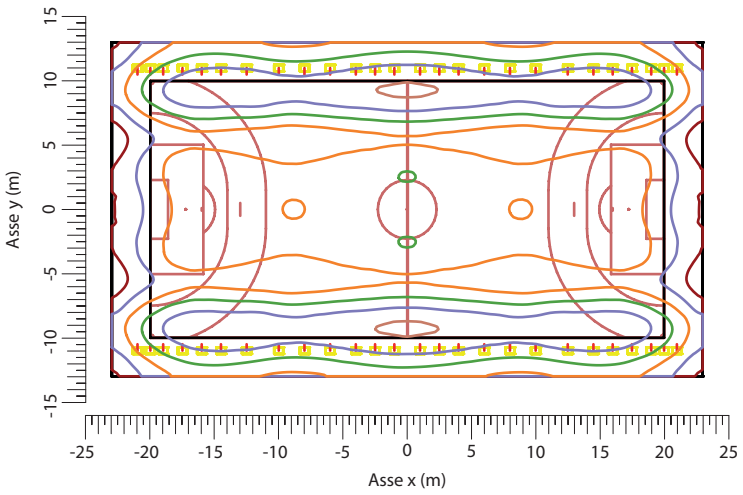
TECHNICAL DATA OF THE LAMP	
Maintenance factor	0.80
Floodlight	Smart [4] 2.0
Optic	Asymmetrical
Power system (W)	232
Lumen output (lm)	25,560

TECHNICAL DATA OF THE FLOODLIGHTS	
Floodlight assembly height (m)	10
Number of floodlights	52

The lighting values actually measured may differ from the project ones due to the intrinsic tolerance levels of the light sources and devices, for their orientation, and for the different electricity supply parameters.

FLOODLIGHT POSITIONING			
Device	Position of devices in X	Position of devices in Y	Device rotation X°; Y°; Z°
1	-21.00	-11.00	0°; 0°; 90°
2	-20.00	-11.00	0°; 0°; 90°
3	-19.00	-11.00	0°; 0°; 90°
4	-17.50	-11.00	0°; 0°; 90°
5	-16.00	-11.00	0°; 0°; 90°
6	-14.50	-11.00	0°; 0°; 90°
7	-12.50	-11.00	0°; 0°; 90°
8	-10.00	-11.00	0°; 0°; 90°
9	-8.00	-11.00	0°; 0°; 90°
10	-6.00	-11.00	0°; 0°; 90°
11	-4.00	-11.00	0°; 0°; 90°
12	-2.50	-11.00	0°; 0°; 90°
13	-1.00	-11.00	0°; 0°; 90°

CALCULATION RESULTS

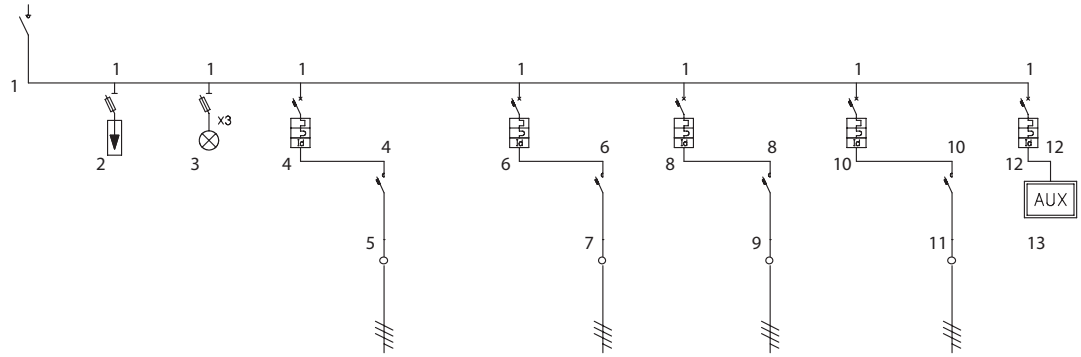


GRID 15x9	
EAv [lx]	778
Emin/EAv	0.85
CRI	80
No. floodlights	52
floodlight height [m]	10

KEY	
	500.0 lx
	600.0 lx
	700.0 lx
	800.0 lx
	900.0 lx
	1000.0 lx

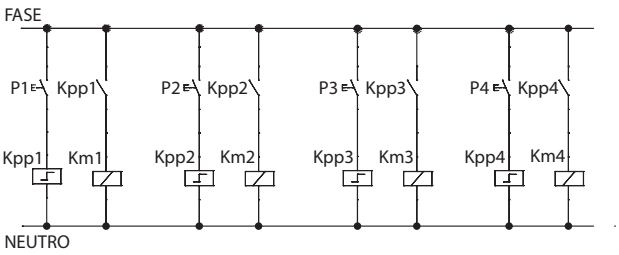
Lighting project for indoor sports centre.

STANDARD ELECTRICAL SCHEME -System power: 12.0kW, three-phase



Line description	Main device		Lamp	Line 1	km1	Line 2	km2	Line 3	km3	Line 4	km4	Auxiliaries line
Power	12.000 kW			3.000 kW	3.000 kW	3.000 kW	3.000 kW	3.000 kW	3.000 kW	3.000 kW	3.000 kW	0.000 kW
Operating current Ib [A]	19.20			4.80	4.80	4.80	4.80	4.80	4.80	4.80	4.80	0.00
Rated current In [A]	63.00			63.00	40.00	63.00	40.00	63.00	40.00	63.00	40.00	6.00
Article description	Control switch disconnector 4P 63A	Surge protective device 3P+N 25kA Aux. Type 1+2 + fuse holder 22x58 - 16M	Triple red signalling lamp with fuse holder 230V 10.3x38 - 5M	MT60 C63 4P+ BD 4P 63A 30mA S	Contactor 40A 4NO - 230V AC/ 220V DC - 3M	MT60 C63 4P+ BD 4P 63A 30mA S	Contactor 40A 4NO - 230V AC/ 220V DC - 3M	MT60 C63 4P+ BD 4P 63A 30mA S	Contactor 40A 4NO - 230V AC/ 220V DC - 3M	MT60 C63 4P+ BD 4P 63A 30mA S	Contactor 40A 4NO - 230V AC/ 220V DC - 3M	MDC60 C6 2P Id=30mA AC
Code	GW 96 176	GW D6 405	GW 96 592	GW 92 093	GW D6 724	GW 92 093	GW D6 724	GW 92 093	GW D6 724	GW 92 093	GW D6 724	GW 94 125
Breaking capacity Icn/Icu [kA]				6.00		6.00		6.00		6.00		6.00
RCCB				GW94 532		GW 94 532		GW 94 532		GW 94 532		

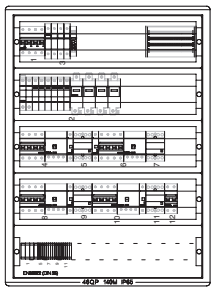
STANDARD AUXILIARIES CIRCUIT



COMPONENTS OF THE ELECTRICAL SCHEME AND AUXILIARIES CIRCUIT

Code	Description	Qty
GW 72 104	Cylindrical fuse type GG 10.3X38 500V 2A	3
GW 92 093	MCB 4P C63 6KA 4M	4
GW 94 125	RCBO C.2P C 6 6KA AC/0.03 2M	1
GW 94 532	Residual current device 4P IN<63A Instant. A/0.03 3.5M	4
GW 96 176	Control switch disconnector 4P 63A AC22B	1
GW 96 312	Disconnectable fuse holder 3P+N 10.3X38 400V 32A	1
GW 96 314	Disconnectable fuse holder 3P+N 22X58 690V	1
GW 96 592	Triple red indicator lamp 230V 1M	1
GW D6 644	Latching relay 1NO 16A 230V	4
GW D6 405	Surge protective device 3P+N 25KA AUX TYPE 1+2	1
GW D6 724	Contactor 40A 4NO 230V 3M	4

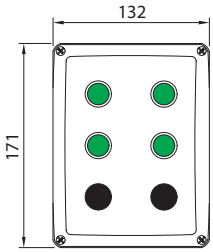
STANDARD DISTRIBUTION BOARD



DISTRIBUTION BOARD COMPONENTS

Code	Description	Qty
GW 44 698	4-pole terminal block 8 mod.EN 50022	1
GW 46 206	Polyester board with window 800X585X300	4
GW 46 423 F	Panel without windows 28 mod.	1
GW 46 428 F	Blank panel 1M. 585MM GR.RAL7035	1
GW 46 438 F	Pair of uprights for boards 800X585X300	1
GW 46 446	Set of 4 galvanised steel brackets for fixing surface-mounting boards	1
GW 46 533 F	Quick-assembly double rail 28M	1

STANDARD PUSH-BUTTON CONTROL PANEL



PUSH-BUTTON PANEL COMPONENTS

Code	Description	Qty
GW 27 104	6-gang push-button panel IP66	1
GW 74 341	Illuminated green push-button	4
GW 74 501	1 NO contact 10A 250V	4
GW 74 511	Lamp-holder - BA95 coupling	4
GW 74 518	Lamp - BA95 coupling	4
GW 74 521	Black cap	2

The electrical scheme shown here is merely an example; it can be modified to suit the installation requirements. It should not be considered as a substitute for the necessary electrical project, which must be based on the technical standards.

INDOOR

5-a-side football - 500 lx - Medium-level competitions

Project compliant with:
EN 12193 (2008): Class II

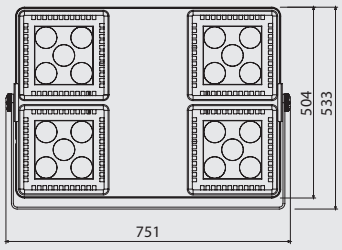
REQUISITES

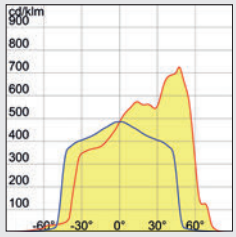
PLAY AREA DIMENSIONS	
Length [m]	40
Width [m]	20
Grid points (length)	15
Grid points (width)	9

VALUES REQUIRED			
Class	EAv [lx]	Emin/EAv	Colour rendering index [CRI]
II	500	0.7	60

PROPOSED SOLUTION

ASYMMETRICAL SMART [4] 2.0 FLOODLIGHT
GW S4 176 GS





TECHNICAL DATA OF THE LAMP	
Maintenance factor	0.80
Floodlight	Smart [4] 2.0
Optic	Asymmetrical
Power system (W)	232
Lumen output (lm)	25,560

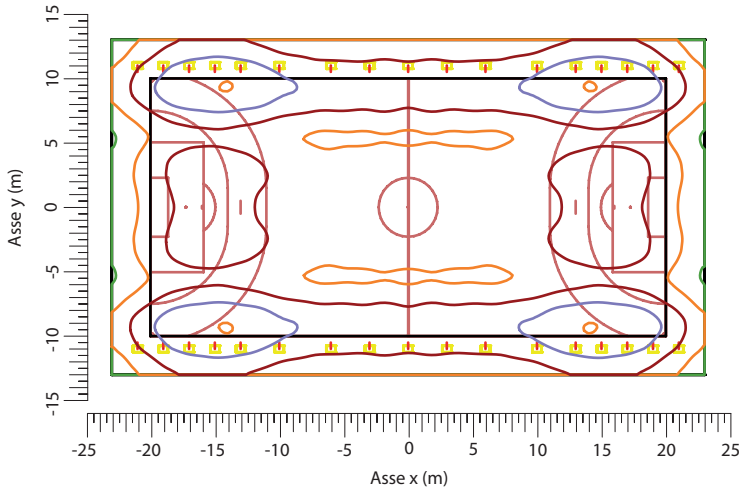
TECHNICAL DATA OF THE FLOODLIGHTS	
Floodlight assembly height (m)	10
Number of floodlights	34

FLOODLIGHT POSITIONING

Device	Position of devices in X	Position of devices in Y	Device rotation X°; Y°; Z°
1	- 21.00	-11.00	0°; 0°; 90°
2	- 19.00	-11.00	0°; 0°; 90°
3	- 17.00	-11.00	0°; 0°; 90°
4	- 15.00	-11.00	0°; 0°; 90°
5	- 13.00	-11.00	0°; 0°; 90°
6	- 10.00	-11.00	0°; 0°; 90°
7	- 6.00	-11.00	0°; 0°; 90°
8	- 3.00	-11.00	0°; 0°; 90°
9	0.00	-11.00	0°; 0°; 90°

The lighting values actually measured may differ from the project ones due to the intrinsic tolerance levels of the light sources and devices, for their orientation, and for the different electricity supply parameters.

CALCULATION RESULTS

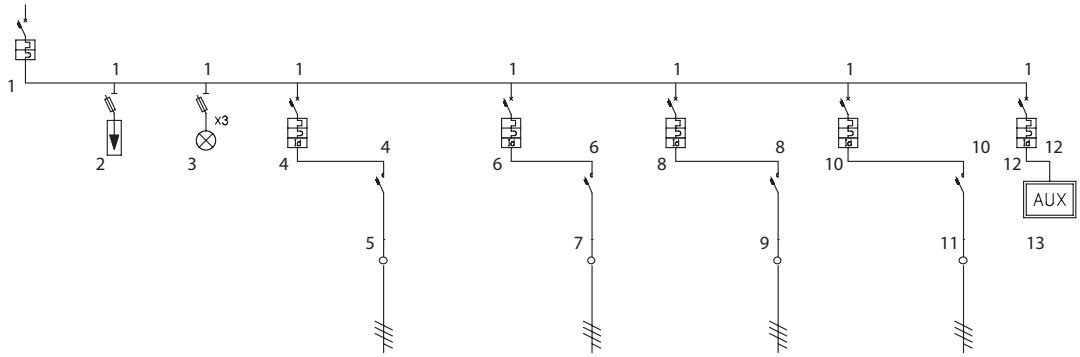


GRID 15x9	
EAv [lx]	504
Emin/EAv	0.83
CRI	80
No. floodlights	34
floodlight height [m]	10

KEY	
	300.0 lx
	400.0 lx
	500.0 lx
	600.0 lx
	700.0 lx

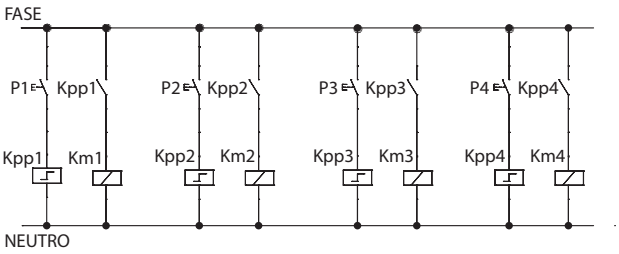
Lighting project for indoor sports centre.

STANDARD ELECTRICAL SCHEME -System power: 8.0kW, three-phase



Line description	Main device		Lamp	Line 1	km1	Line 2	km2	Line 3	km3	Line 4	km4	Auxiliaries line
Power	8.000 kW			2.100 kW	2.100 kW	1.900 kW	1.900 kW	2.100 kW	2.100 kW	1.900 kW	1.900 kW	0.000 kW
Operating current Ib [A]	12.60			3.30	3.30	3.00	3.00	3.30	3.30	3.00	3.00	0.00
Rated current In [A]	40.00			40.00	25.00	40.00	25.00	40.00	25.00	40.00	25.00	6.00
Article description	MT100 D40 4P	Surge protective device 3P+N 25kA Aux. Type 1+2 + fuse holder 22x58 - 16M	Triple red signalling lamp with fuse holder 230V 10.3x38 - 5M	MT60 C40 4P+ BD 4P 63A 30mA S	Contactor 25A 4NO - 230V AC/ 220V DC - 2M	MT60 C40 4P+ BD 4P 63A 30mA S	Contactor 25A 4NO - 230V AC/ 220V DC - 2M	MT60 C40 4P+ BD 4P 63A 30mA S	Contactor 25A 4NO - 230V AC/ 220V DC - 2M	MT60 C40 4P + BD 4P 63A 30mA S	Contactor 25A 4NO - 230V AC/ 220V DC - 2M	MDC60 C6 2P Id=30mA AC
Code	GW 92 791	GW D6 405	GW 96 592	GW 92 091	GW D6 715	GW 92 091	GW D6 715	GW 92 091	GW D6 715	GW 92 091	GW D6 715	GW 94 125
Breaking capacity Icn/Icu [kA]	10.00			6.00		6.00		6.00		6.00		6.00
RCCB				GW 94 532		GW 94 532		GW 94 532		GW 94 532		

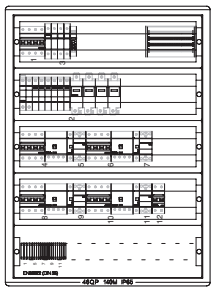
STANDARD AUXILIARIES CIRCUIT



COMPONENTS OF THE ELECTRICAL SCHEME AND AUXILIARIES CIRCUIT

Code	Description	Qty
GW 72 104	Cylindrical fuse type GG 10.3X38 500V 2A	3
GW 92 091	MCB 4P C40 6KA 4M	4
GW 92 791	MCB 4P D40 10KA 4M	1
GW 94 125	RCBO C.2P C 6 6KA AC/0.03 2M	1
GW 94 532	Residual current device 4P IN<63A Instant. A/0.03 3.5M	4
GW 96 312	Disconnectable fuse holder 3P+N 10.3X38 400V 32A	1
GW 96 314	Disconnectable fuse holder 3P+N 22X58 690V	1
GW 96 592	Triple red indicator lamp 230V 1M	1
GW D6 644	Latching relay 1NO 16A 230V	4
GW D6 405	Surge protective device 3P+N 25KA AUX TYPE 1+2	1
GW D6 715	Contactor 25A 4NO 230V 2M	4

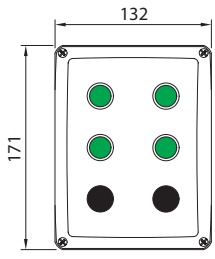
STANDARD DISTRIBUTION BOARD



DISTRIBUTION BOARD COMPONENTS

Code	Description	Qty
GW 44 698	4-pole terminal block 8 mod.EN 50022	1
GW 46 206	Polyester board with window 800X585X300	1
GW 46 423 F	Panel without windows 28 mod.	4
GW 46 428 F	Blank panel 1M. 585MM GR.RAL7035	1
GW 46 438 F	Pair of uprights for boards 800X585X300	1
GW 46 446	Set of 4 galvanised steel brackets for fixing surface-mounting boards	1
GW 46 533 F	Quick-assembly double rail 28M	1

STANDARD PUSH-BUTTON CONTROL PANEL



PUSH-BUTTON PANEL COMPONENTS

Code	Description	Qty
GW 27 104	6-gang push-button panel IP66	1
GW 74 341	Illuminated green push-button	4
GW 74 501	1 NO contact 10A 250V	4
GW 74 511	Lamp-holder - BA95 coupling	4
GW 74 518	Lamp - BA95 coupling	4
GW 74 521	Black cap	2

The electrical scheme shown here is merely an example; it can be modified to suit the installation requirements. It should not be considered as a substitute for the necessary electrical project, which must be based on the technical standards.

INDOOR

5-a-side football - 200 lx - Training activities

Project compliant with:
EN 12193 (2008): Class III

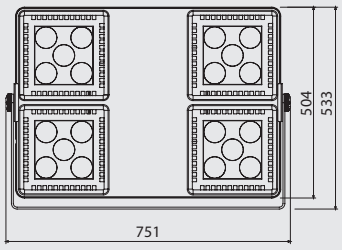
REQUISITES

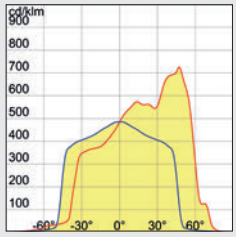
PLAY AREA DIMENSIONS	
Length [m]	40
Width [m]	20
Grid points (length)	15
Grid points (width)	9

VALUES REQUIRED			
Class	EAv [lx]	Emin/EAv	Colour rendering index [CRI]
III	200	0.5	20

PROPOSED SOLUTION

ASYMMETRICAL SMART [4] 2.0 FLOODLIGHT
GW S4 176 GS





TECHNICAL DATA OF THE LAMP	
Maintenance factor	0.80
Floodlight	Smart [4] 2.0
Optic	Asymmetrical
Power system (W)	232
Lumen output (lm)	25,560

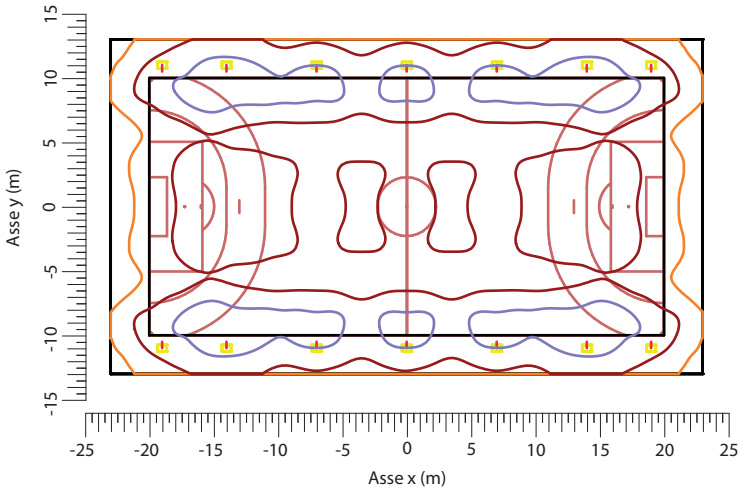
TECHNICAL DATA OF THE FLOODLIGHTS	
Floodlight assembly height (m)	10
Number of floodlights	14

FLOODLIGHT POSITIONING

Device	Position of devices in X	Position of devices in Y	Device rotation X°; Y°; Z°
1	-19.00	-11.00	0°; 0°; 90°
2	-14.00	-11.00	0°; 0°; 90°
3	-7.00	-11.00	0°; 0°; 90°
4	-0.00	-11.00	0°; 0°; 90°
11	0.00	11.00	0°; 0°; -90°
12	7.00	11.00	0°; 0°; -90°
13	14.00	11.00	0°; 0°; -90°
14	19.00	11.00	0°; 0°; -90°

The lighting values actually measured may differ from the project ones due to the intrinsic tolerance levels of the light sources and devices, for their orientation, and for the different electricity supply parameters.

CALCULATION RESULTS

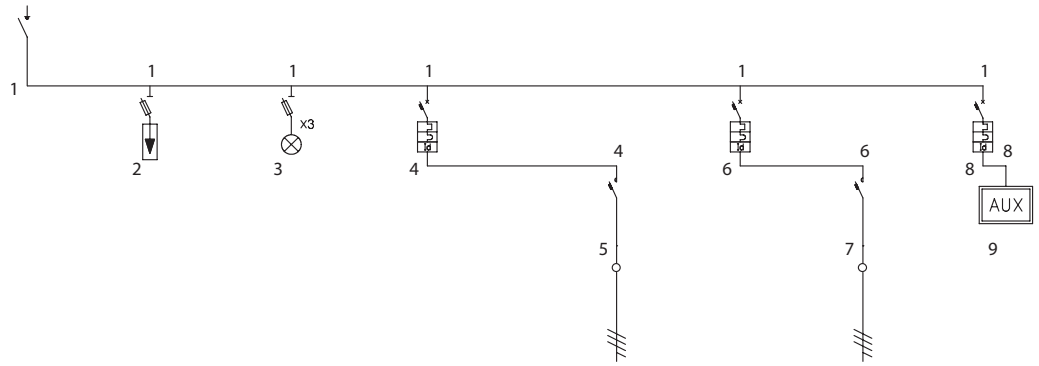


GRID 15x9	
EAv [lx]	213
Emin/EAv	0.81
CRI	80
No. floodlights	14
floodlight height [m]	10

KEY	
	150.0 lx
	200.0 lx
	250.0 lx

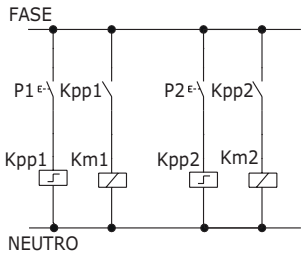
Lighting project for indoor sports centre.

STANDARD ELECTRICAL SCHEME -System power: 3.3kW, three-phase



Line description	Main device		Lamp	Line 1	km1	Line 2	km2	Auxiliaries line
Power	3.300 kW			1.650 kW	1.650 kW	1.650 kW	1.650 kW	0.000 kW
Operating current Ib [A]	5.20			2.60	2.60	2.60	2.60	0.00
Rated current In [A]	32.00			40.00	25.00	40.00	25.00	6.00
Article description	Control switch disconnector 4P 32A	Surge protective device 3P+N 25kA Aux. Type 1+2 + fuse holder 22x58 - 16M	Triple red signalling lamp with fuse holder 230V 10.3x38 - 5M	MT60 C40 4P+ BD 4P 63A 30mA S	Contactor 25A 4NO - 230V AC/ 220V DC - 2M	MT60 C40 4P+ BD 4P 63A 30mA S	Contactor 25A 4NO - 230V AC/ 220V DC - 2M	MDC45 C6 1P+N Id=30mA AC
Code	GW 96 134	GW D6 405	GW 96 592	GW 92 091	GW D6 715	GW 92 091	GW D6 715	GW 94 005
Breaking capacity Icn/Icu [kA]				6.00		6.00		4.50
RCCB				GW 94 532		GW 94 532		

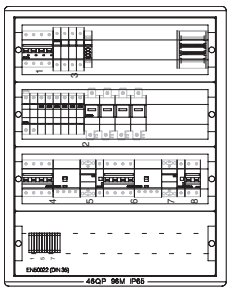
STANDARD AUXILIARIES CIRCUIT



COMPONENTS OF THE ELECTRICAL SCHEME AND AUXILIARIES CIRCUIT

Code	Description	Qty
GW 72 104	Cylindrical fuse type GG 10.3X38 500V 2A	3
GW 92 091	MCB 4P C40 6KA 4M	2
GW 94 005	RCBO C.1P+N C 6 4.5KA AC/0.03 2M	1
GW 94 532	Residual current device 4P IN<63A Instant. A/0.03 3.5M	2
GW 96 134	Switch disconnector 4P 32A AC23B	1
GW 96 312	Disconnectable fuse holder 3P+N 10.3X38 400V 32A	1
GW 96 314	Disconnectable fuse holder 3P+N 22X58 690V	1
GW 96 592	Triple red indicator lamp 230V 1M	1
GW D6 644	Latching relay 1NO 16A 230V	2
GW D6 405	Surge protective device 3P+N 25KA AUX TYPE 1+2	1
GW D6 715	Contactor 25A 4NO 230V 2M	2

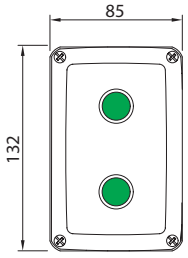
STANDARD DISTRIBUTION BOARD



DISTRIBUTION BOARD COMPONENTS

Code	Description	Qty
GW 44 696	4-pole terminal block 4 mod.EN 50022	1
GW 46 205	Polyester board with window 650X515X250	1
GW 46 422 F	Panel without windows 24 mod.	3
GW 46 427 F	Blank panel 1M. 515MM GR.RAL7035	1
GW 46 437 F	Pair of uprights for boards 650X405X200	1
GW 46 532 F	Quick-assembly double rail 24M	1

STANDARD PUSH-BUTTON CONTROL PANEL



PUSH-BUTTON PANEL COMPONENTS

Code	Description	Qty
GW 27 102	2-gang push-button panel IP66	1
GW 74 341	Illuminated green push-button	2
GW 74 501	1 NO contact 10A 250V	2
GW 74 511	Lamp-holder - BA95 coupling	2
GW 74 518	Lamp - BA95 coupling	2

The electrical scheme shown here is merely an example; it can be modified to suit the installation requirements. It should not be considered as a substitute for the necessary electrical project, which must be based on the technical standards.

OUTDOOR

Basketball - 200 lx - Medium-level competitions

Project compliant with:
EN 12193 (2008): Class II

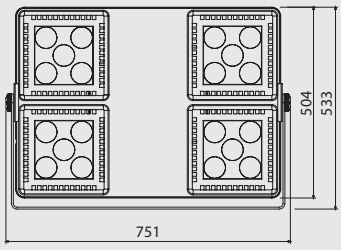
REQUISITES

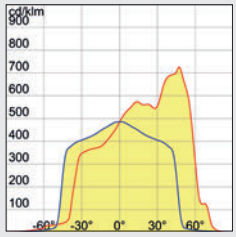
PLAY AREA DIMENSIONS	
Length [m]	28
Width [m]	15
Grid points (length)	13
Grid points (width)	7

VALUES REQUIRED				
Class	EAv [lx]	Emin/EAv	GR	Colour rendering index [CRI]
II	200	0.6	50	60

PROPOSED SOLUTION

ASYMMETRICAL SMART [4] 2.0 FLOODLIGHT
GW S4 176 GS





TECHNICAL DATA OF THE LAMP	
Maintenance factor	0.80
Floodlight	Smart [4] 2.0
Optic	Asymmetrical
Power system (W)	232
Lumen output (lm)	25,560

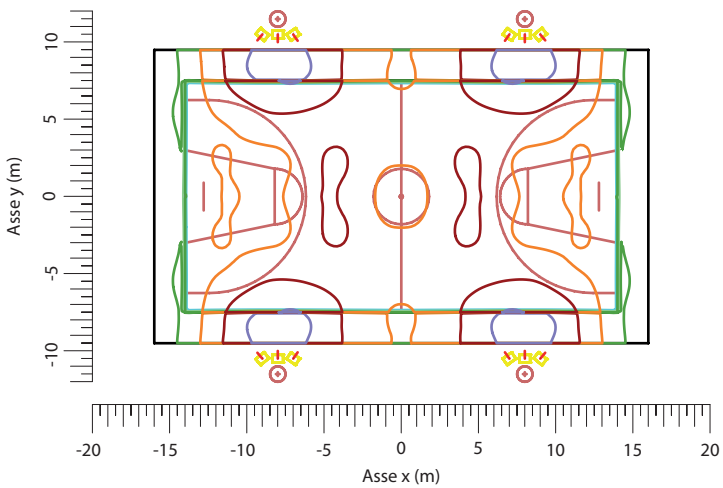
TECHNICAL DATA OF THE HIGH MASTS	
Number of high masts	4
High mast height (m. above ground)	10
Number of floodlights	12
Number of floodlights per high mast	3

The lighting values actually measured may differ from the project ones due to the intrinsic tolerance levels of the light sources and devices, for their orientation, and for the different electricity supply parameters.

FLOODLIGHT POSITIONING

Lighting tower	Position of devices in X	Position of devices in Y	Device rotation X°; Y°; Z°
1	-9.00	-10.50	0°; 0°; 130°
1	-8.00	-10.50	0°; 0°; 90°
1	-7.00	-10.50	0°; 0°; 55°
2	-9.00	10.50	0°; 0°; -130°
2	-8.00	10.50	0°; 0°; -90°
2	-7.00	10.50	0°; 0°; -55°
3	9.00	10.50	0°; 0°; -50°
3	8.00	10.50	0°; 0°; -90°
3	7.00	10.50	0°; 0°; -125°
4	9.00	-10.50	0°; 0°; 50°
4	8.00	-10.50	0°; 0°; 90°
4	7.00	-10.50	0°; 0°; 125°

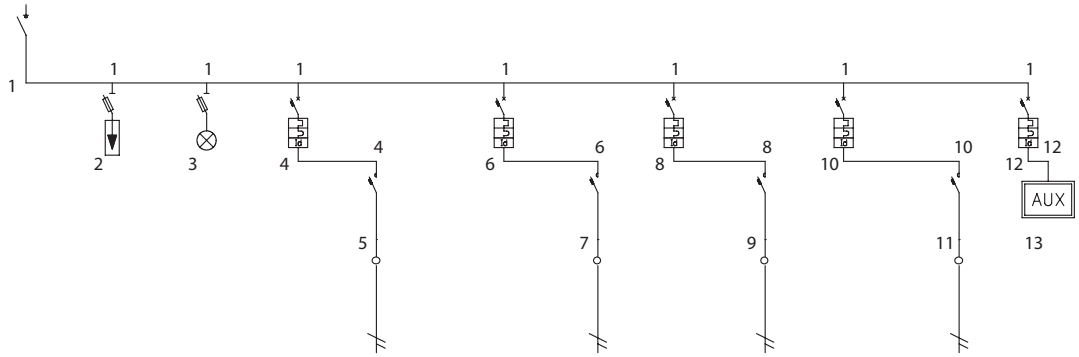
CALCULATION RESULTS



GRID 13x7	
EAv [lx]	221
Emin/EAv	0.78
GR	21
CRI	80
No. floodlights	12
floodlight height [m]	10

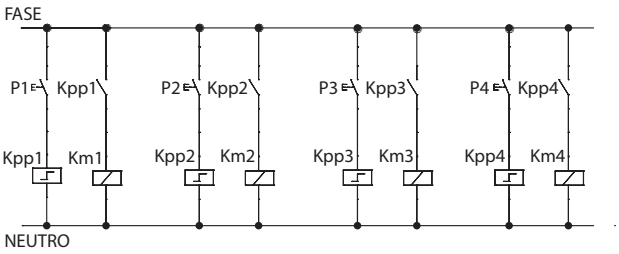
KEY
50.0 lx
100.0 lx
150.0 lx
200.0 lx
250.0 lx
300.0 lx

STANDARD ELECTRICAL SCHEME -System power: 2.8kW, single-phase



Line description	Main device		Lamp	High mast 1	km1	High mast 2	km2	High mast 3	km3	High mast 4	km4	Auxiliaries line
Power	2.800 kW			0.700 kW	0.700 kW	0.700 kW	0.700 kW	0.700 kW	0.700 kW	0.700 kW	0.700 kW	0.000 kW
Operating current Ib [A]	13.60			3.40	3.40	3.40	3.40	3.40	3.40	3.40	3.40	0.00
Rated current In [A]	32.00			20.00	25.00	20.00	25.00	20.00	25.00	20.00	25.00	6.00
Article description	Control switch disconnector 2P 32A	Surge protective device 1P+N 25kA Aux. Type 1+2 + fuse holder 22x58 - 8M	Red signalling lamp with fuse holder 10.3x38 230V - 3M	MCB MT60 C20 2P + BD 2P 63A 30mA A-IR	Contactor 25A 2NO - 230V AC/ 220V DC - 2M	MCB MT60 C20 2P + BD 2P 63A 30mA A-IR	Contactor 25A 2NO - 230V AC/ 220V DC - 2M	MCB MT60 C20 2P + BD 2P 63A 30mA A-IR	Contactor 25A 2NO - 230V AC/ 220V DC - 2M	MCB MT60 C20 2P + BD 2P 63A 30mA A-IR	Contactor 25A 2NO - 230V AC/ 220V DC - 2M	MDC60 C6 2P Id=30mA AC
Code	GW 96 114	GW D6 404	GW 96 581	GW 92 048	GW D6 712	GW 92 048	GW D6 712	GW 92 048	GW D6 712	GW 92 048	GW D6 712	GW 94 125
Breaking capacity Icn/Icu [kA]				6.00		6.00		6.00		6.00		6.00
RCCB				GW 94566		GW 94 566		GW 94 566		GW 94 566		

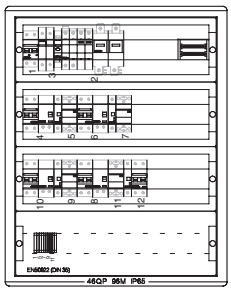
STANDARD AUXILIARIES CIRCUIT



COMPONENTS OF THE ELECTRICAL SCHEME AND AUXILIARIES CIRCUIT

Code	Description	Qty
GW 72 104	Cylindrical fuse type GG 10.3X38 500V 2A	1
GW 92 048	MCB 2P C20 6KA 2M	4
GW 94 125	RCBO C.2P C 6 6KA AC/0.03 2M	1
GW 94 566	Residual current device 2P IN<63A Immun. A/0.03 2M	4
GW 96 114	Switch disconnector 2P 32A AC23B	1
GW 96 215	Disconnectable fuse holder 1P+N 10.3X38 400V 32A	1
GW 96 218	Disconnectable fuse holder 1P+N 22X58 690V	1
GW 96 581	Single red indicator lamp 230V 1M	1
GW D6 644	Latching relay 1NO 16A 230V	4
GW D6 404	Surge protective device 1P+N 25KA AUX TYPE 1+2	1
GW D6 712	Contactor 25A 2NO 230V 2M	4

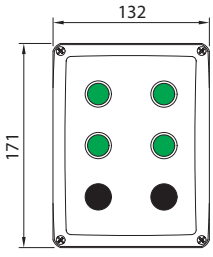
STANDARD DISTRIBUTION BOARD



DISTRIBUTION BOARD COMPONENTS

Code	Description	Qty
GW 44 691	2-pole terminal block 4 MOD.EN 50022	1
GW 46 205	Polyester board with window 650X515X250	1
GW 46 422 F	Panel without windows 24 mod.	3
GW 46 427 F	Blank panel 1M. 515MM GR.RAL7035	1
GW 46 437 F	Pair of uprights for boards 650X405X200	1
GW 46 532 F	Quick-assembly double rail 24M	1

STANDARD PUSH-BUTTON CONTROL PANEL



PUSH-BUTTON PANEL COMPONENTS

Code	Description	Qty
GW 27 104	6-gang push-button panel IP66	1
GW 74 341	Illuminated green push-button	4
GW 74 501	1 NO contact 10A 250V	4
GW 74 511	Lamp-holder - BA95 coupling	4
GW 74 518	Lamp - BA95 coupling	4
GW 74 521	Black cap	2

The electrical scheme shown here is merely an example; it can be modified to suit the installation requirements. It should not be considered as a substitute for the necessary electrical project, which must be based on the technical standards.

OUTDOOR

Basketball - 75 lx- Training activities

Project compliant with:
EN 12193 (2008): Class III

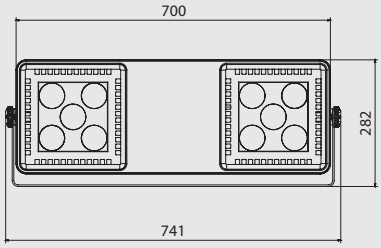
REQUISITES

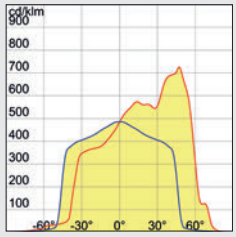
PLAY AREA DIMENSIONS	
Length [m]	28
Width [m]	15
Grid points (length)	13
Grid points (width)	7

VALUES REQUIRED				
Class	EAv [lx]	Emin/EAv	GR	Colour rendering index [CRI]
III	75	0.5	55	20

PROPOSED SOLUTION

ASYMMETRICAL SMART [4] 2.0 FLOODLIGHT
GW S4 156 GS





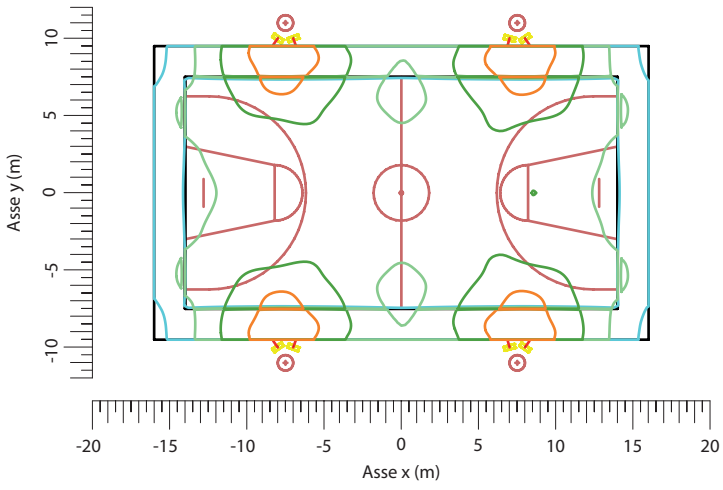
TECHNICAL DATA OF THE LAMP	
Maintenance factor	0.80
Floodlight	Smart [4] 2.0
Optic	Asymmetrical
Power system (W)	116
Lumen output (lm)	12,780

TECHNICAL DATA OF THE HIGH MASTS	
Number of high masts	4
High mast height (m. above ground)	9
Number of floodlights	8
Number of floodlights per high mast	2

FLOODLIGHT POSITIONING			
Lighting tower	Position of devices in X	Position of devices in Y	Device rotation X°; Y°; Z°
1	-8.00	-10.00	0°; 0°; 125°
1	-7.00	-10.00	0°; 0°; 70°
4	7.00	-10.00	0°; 0°; 105°
4	8.00	-10.00	0°; 0°; 55°
2	-8.00	10.00	0°; 0°; -125°
2	-7.00	10.00	0°; 0°; -70°
4	7.00	10.00	0°; 0°; -105°
4	8.00	10.00	0°; 0°; -55°

The lighting values actually measured may differ from the project ones due to the intrinsic tolerance levels of the light sources and devices, for their orientation, and for the different electricity supply parameters.

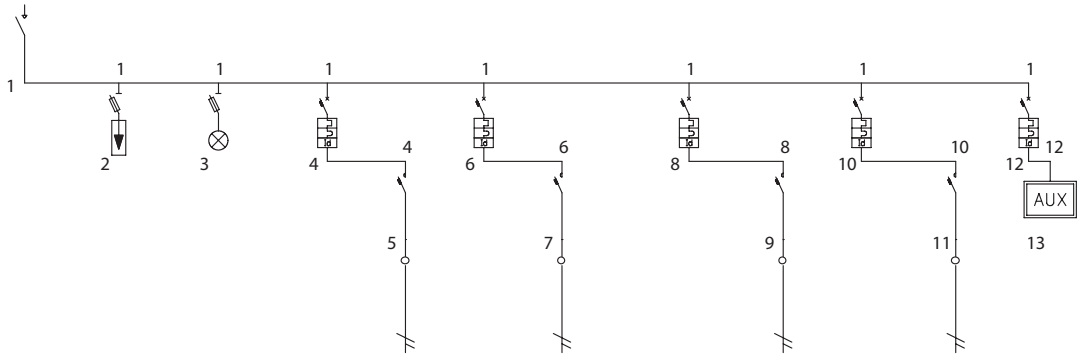
CALCULATION RESULTS



GRID 13x7	
EAv [lx]	80
Emin/EAv	0.62
GR	19
CRI	80
No. floodlights	8
floodlight height [m]	9

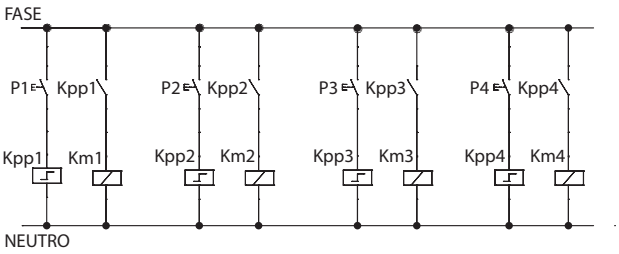
KEY	
	30.0 lx
	60.0 lx
	90.0 lx
	120.0 lx

STANDARD ELECTRICAL SCHEME -System power: 1.0kW, single-phase



Line description	Main device		Lamp	High mast 1	km1	High mast 2	km2	High mast 3	km3	High mast 4	km4	Auxiliaries line
Power	1.000 kW			0.250 kW	0.250 kW	0.250 kW	0.250 kW	0.250 kW	0.250 kW	0.250 kW	0.250 kW	0.000 kW
Operating current Ib [A]	4.40			1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	0.00
Rated current In [A]	32.00			10.00	25.00	10.00	25.00	10.00	25.00	10.00	25.00	6.00
Article description	Control switch disconnector 2P 32A	Surge protective device 1P+N 25kA Aux. Type 1+2 + fuse holder 22x58 - 8M	Red signalling lamp with fuse holder 10.3x38 230V - 3M	MCB MT60 C10 2P + BD 2P 63A 30mA A-IR	Contactor 25A 2NO - 230V AC/ 220V DC - 2M	MCB MT60 C10 2P + BD 2P 63A 30mA A-IR	Contactor 25A 2NO - 230V AC/ 220V DC - 2M	MCB MT60 C10 2P + BD 2P 63A 30mA A-IR	Contactor 25A 2NO - 230V AC/ 220V DC - 2M	MCB MT60 C10 2P + BD 2P 63A 30mA A-IR	Contactor 25A 2NO - 230V AC/ 220V DC - 2M	MDC45 C6 1P+N Id=30mA AC
Code	GW 96 114	GW D6 404	GW 96 581	GW 92 046	GW D6 712	GW 92 046	GW D6 712	GW 92 046	GW D6 712	GW 92 046	GW D6 712	GW 94 005
Breaking capacity Icn/Icu [kA]				6.00		6.00		6.00		6.00		4.50
RCCB				GW 94 566		GW 94 566		GW 94 566		GW 94 566		

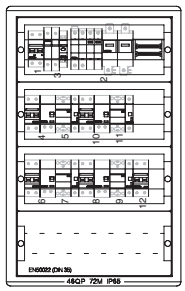
STANDARD AUXILIARIES CIRCUIT



COMPONENTS OF THE ELECTRICAL SCHEME AND AUXILIARIES CIRCUIT

Code	Description	Qty
GW 72 104	Cylindrical fuse type GG 10.3X38 500V 2A	1
GW 92 046	MCB 2P C10 6KA 2M	4
GW 94 005	RCBO C.1P+N C 6 4.5KA AC/0.03 2M	1
GW 94 566	Residual current device 2P IN<63A Immun. A/0.03 2M	4
GW 96 114	Switch disconnector 2P 32A AC23B	1
GW 96 215	Disconnectable fuse holder 1P+N 10.3X38 400V 32A	1
GW 96 218	Disconnectable fuse holder 1P+N 22X58 690V	1
GW 96 581	Single red indicator lamp 230V 1M	1
GW D6 644	Latching relay 1NO 16A 230V	4
GW D6 404	Surge protective device 1P+N 25KA AUX TYPE 1+2	1
GW D6 712	Contactor 25A 2NO 230V 2M	4

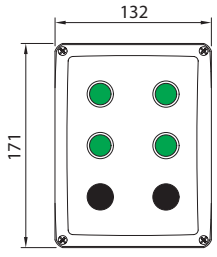
STANDARD DISTRIBUTION BOARD



DISTRIBUTION BOARD COMPONENTS

Code	Description	Qty
GW 44 691	2-pole terminal block 4 mod.EN 50022	1
GW 46 204	Polyester board with window 650X405X200	1
GW 46 421 F	Panel without windows 18 mod.	3
GW 46 426 F	Blank panel 1M. 405MM GR.RAL7035	1
GW 46 437 F	Pair of uprights for boards 650X405X200	1
GW 46 446	Set of 4 galvanised steel brackets for fixing surface-mounting boards	2
GW 46 531 F	Quick-assembly double rail 18M	1

STANDARD PUSH-BUTTON CONTROL PANEL



PUSH-BUTTON PANEL COMPONENTS

Code	Description	Qty
GW 27 104	6-gang push-button panel IP66	1
GW 74 341	Illuminated green push-button	4
GW 74 501	1 NO contact 10A 250V	4
GW 74 511	Lamp-holder - BA95 coupling	4
GW 74 518	Lamp - BA95 coupling	4
GW 74 521	Black cap	2

The electrical scheme shown here is merely an example; it can be modified to suit the installation requirements. It should not be considered as a substitute for the necessary electrical project, which must be based on the technical standards.

INDOOR

Basketball - 750 lx - High-level competitions

Project compliant with:
EN 12193 (2008): Class I

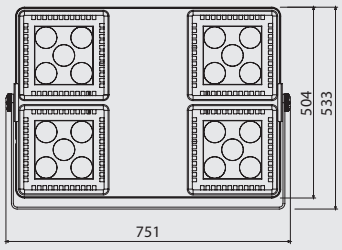
REQUISITES

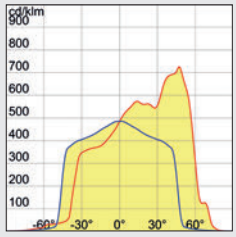
PLAY AREA DIMENSIONS	
Length [m]	28
Width [m]	15
Grid points (length)	13
Grid points (width)	7

VALUES REQUIRED			
Class	EAv [lx]	Emin/EAv	Colour rendering index [CRI]
I	750	0.7	60

PROPOSED SOLUTION

ASYMMETRICAL SMART [4] 2.0 FLOODLIGHT
GW S4 176 GS





TECHNICAL DATA OF THE LAMP	
Maintenance factor	0.80
Floodlight	Smart [4] 2.0
Optic	Asymmetrical
Power system (W)	232
Lumen output (lm)	25,560

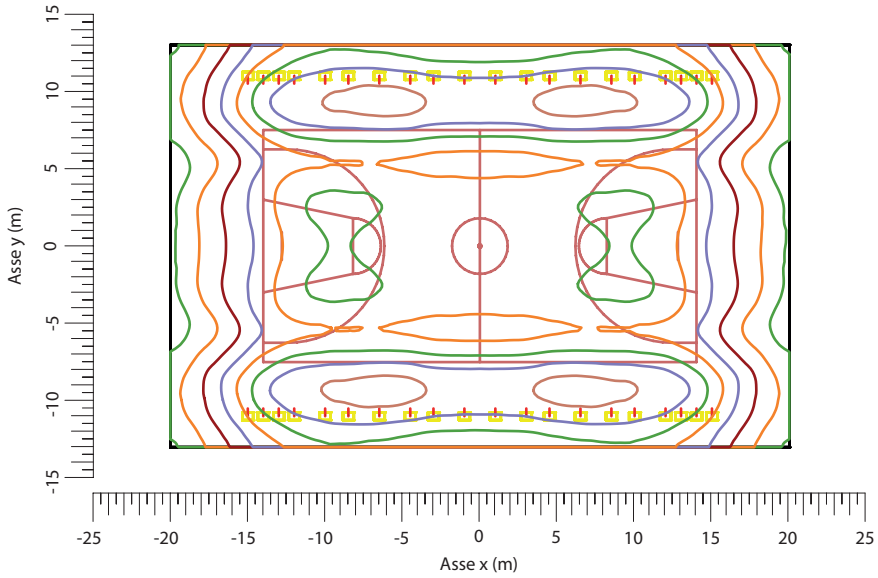
TECHNICAL DATA OF THE FLOODLIGHTS	
Floodlight assembly height (m)	10
Number of floodlights	40

The lighting values actually measured may differ from the project ones due to the intrinsic tolerance levels of the light sources and devices, for their orientation, and for the different electricity supply parameters.

FLOODLIGHT POSITIONING

Device	Position of devices in X	Position of devices in Y	Device rotation X°; Y°; Z°
1	-15.00	-11.00	0°; 0°; 90°
2	-14.00	-11.00	0°; 0°; 90°
3	-13.00	-11.00	0°; 0°; 90°
4	-12.00	-11.00	0°; 0°; 90°
5	-10.00	-11.00	0°; 0°; 90°
6	-8.50	-11.00	0°; 0°; 90°
7	-6.50	-11.00	0°; 0°; 90°
8	-4.50	-11.00	0°; 0°; 90°
9	-3.00	-11.00	0°; 0°; 90°
10	-1.00	-11.00	0°; 0°; 90°

CALCULATION RESULTS

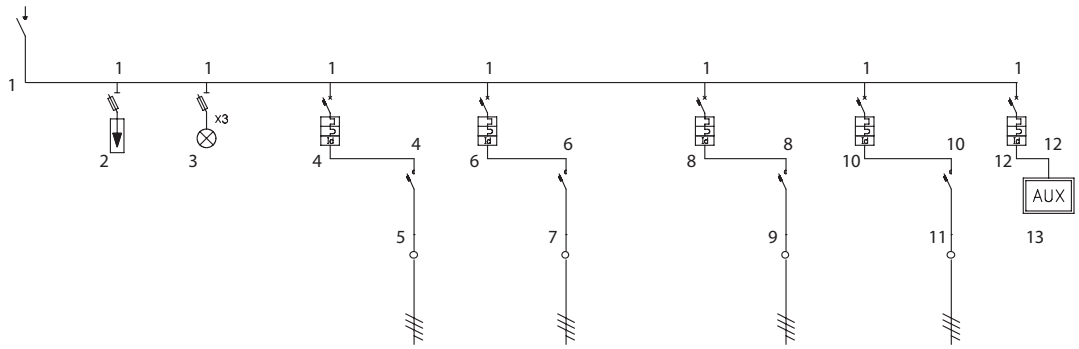


GRID 13x7	
EAv [lx]	764
Emin/EAv	0.88
CRI	80
No. floodlights	40
floodlight height [m]	10

KEY	
	300.0 lx
	400.0 lx
	500.0 lx
	600.0 l x
	700.0 lx
	800.0 lx
	900.0 lx
	1000.0 lx

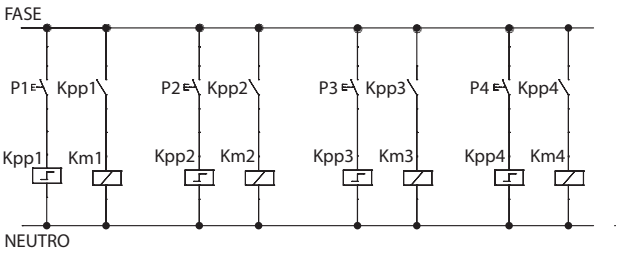
Lighting project for indoor sports centre.

STANDARD ELECTRICAL SCHEME -System power: 9.4kW, three-phase



Line description	Main device		Lamp	Line 1	km1	Line 2	km2	Line 3	km3	Line 4	km4	Auxiliaries line
Power	9.400 kW			2.350 kW	2.350 kW	2.350 kW	2.350 kW	2.350 kW	2.350 kW	2.350 kW	2.350 kW	0.000 kW
Operating current Ib [A]	14.80			3.70	3.70	3.70	3.70	3.70	3.70	3.70	3.70	0.00
Rated current In [A]	63.00			50.00	40.00	50.00	40.00	50.00	40.00	50.00	40.00	6.00
Article description	Control switch disconnector 4P 63A	Surge protective device 3P+N 25kA Aux. Type 1+2 + fuse holder 22x58 - 16M	Triple red signalling lamp with fuse holder 230V 10.3x38 - 5M	MT60 C50 4P + BD 4P 63A 30mA S	Contactor 40A 4NO - 230V AC/ 220V DC - 3M	MT60 C50 4P + BD 4P 63A 30mA S	Contactor 40A 4NO - 230V AC /220V DC - 3M	MT60 C50 4P + BD 4P 63A 30mA S	Contactor 40A 4NO - 230V AC /220V DC - 3M	MT60 C50 4P + BD 4P 63A 30mA S	Contactor 40A 4NO - 230V AC /220V DC - 3M	MDC45 C6 2P Id=30mA AC
Code	GW 96 176	GW D6 405	GW 96 592	GW 92 092	GW D6 724	GW 92 092	GW D6 724	GW 92 092	GW D6 724	GW 92 092	GW D6 724	GW 94 025
Breaking capacity Icn/Icu [kA]				6.00		6.00		6.00		6.00		4.50
RCCB				GW 94 532		GW 94 532		GW 94 532		GW 94 532		

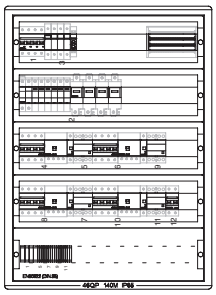
STANDARD AUXILIARIES CIRCUIT



COMPONENTS OF THE ELECTRICAL SCHEME AND AUXILIARIES CIRCUIT

Code	Description	Qty
GW 72 104	Cylindrical fuse type GG 10.3X38 500V 2A	3
GW 92 092	MCB 4P C50 6KA 4M	4
GW 94 025	RCBO C.2P C 6 4.5KA AC/0.03 2M	1
GW 94 532	Residual current device 4P IN<63A Instant. A/0.03 3.5M	4
GW 96 176	Control switch disconnector 4P 63A AC22B	1
GW 96 312	Disconnectable fuse holder 3P+N 10.3X38 400V 32A	1
GW 96 314	Disconnectable fuse holder 3P+N 22X58 690V	1
GW 96 592	Triple red indicator lamp 230V 1M	1
GW D6 644	Latching relay 1NO 16A 230V	4
GW D6 405	Surge protective device 3P+N 25KA AUX TYPE 1+2	1
GW D6 724	Contactor 40A 4NO 230V 3M	4

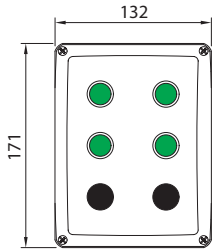
STANDARD DISTRIBUTION BOARD



DISTRIBUTION BOARD COMPONENTS

Code	Description	Qty
GW 44 698	4-pole terminal block 8 MOD.EN 50022	1
GW 46 206	Polyester board with window 800X585X300	1
GW 46 423 F	Panel without windows 28 mod.	4
GW 46 428 F	Blank panel 1M. 585MM GR.RAL7035	1
GW 46 438 F	Pair of uprights for boards 800X585X300	1
GW 46 446	Set of 4 steel brackets for fixing surface-mounting boards	1
GW 46 533 F	Quick-assembly double rail 28M	1

STANDARD PUSH-BUTTON CONTROL PANEL



PUSH-BUTTON PANEL COMPONENTS

Code	Description	Qty
GW 27 104	6-gang push-button panel IP66	1
GW 74 341	Illuminated green push-button	4
GW 74 501	1 NO contact 10A 250V	4
GW 74 511	Lamp-holder - BA95 coupling	4
GW 74 518	Lamp - BA95 coupling	4
GW 74 521	Black cap	2

The electrical scheme shown here is merely an example; it can be modified to suit the installation requirements. It should not be considered as a substitute for the necessary electrical project, which must be based on the technical standards.

INDOOR

Basketball - 500 lx - Medium-level competitions

Project compliant with:
EN 12193 (2008): Class II

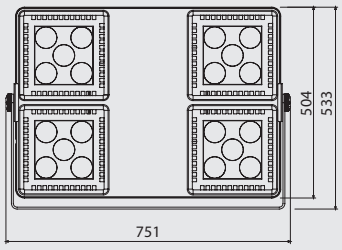
REQUISITES

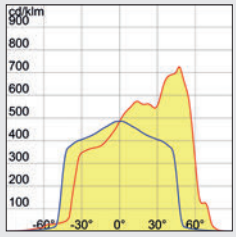
PLAY AREA DIMENSIONS	
Length [m]	28
Width [m]	15
Grid points (length)	13
Grid points (width)	7

VALUES REQUIRED			
Class	EAv [lx]	Emin/EAv	Colour rendering index [CRI]
II	500	0.7	60

PROPOSED SOLUTION

ASYMMETRICAL SMART [4] 2.0 FLOODLIGHT
GW S4 176 GS





TECHNICAL DATA OF THE LAMP	
Maintenance factor	0.80
Floodlight	Smart [4] 2.0
Optic	Asymmetrical
Power system (W)	232
Lumen output (lm)	25,560

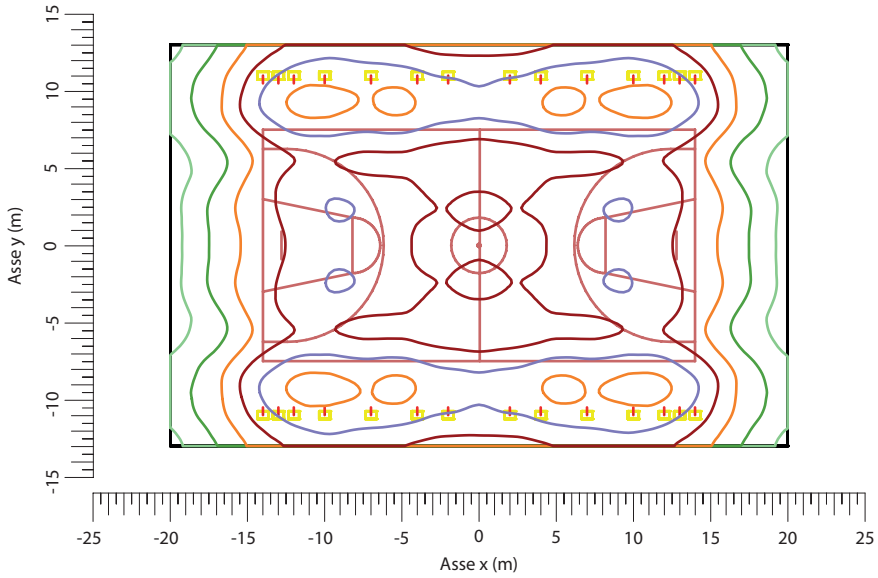
TECHNICAL DATA OF THE FLOODLIGHTS	
Floodlight assembly height (m)	10
Number of floodlights	28

FLOODLIGHT POSITIONING

Device	Position of devices in X	Position of devices in Y	Device rotation X°; Y°; Z°
1	-14.00	-11.00	0°; 0°; 90°
2	-13.00	-11.00	0°; 0°; 90°
3	-12.00	-11.00	0°; 0°; 90°
4	-10.00	-11.00	0°; 0°; 90°
5	-7.00	-11.00	0°; 0°; 90°
6	-4.00	-11.00	0°; 0°; 90°
7	-2.00	-11.00	0°; 0°; 90°

The lighting values actually measured may differ from the project ones due to the intrinsic tolerance levels of the light sources and devices, for their orientation, and for the different electricity supply parameters.

CALCULATION RESULTS

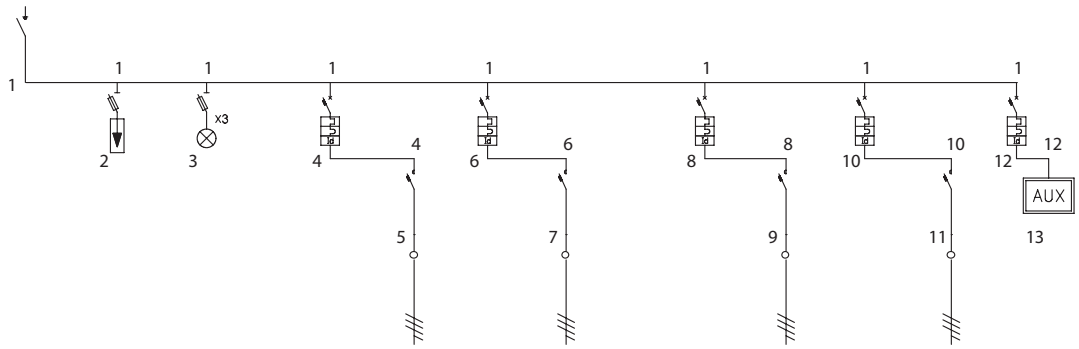


GRID 13x7	
EAv [lx]	530
Emin/EAv	0.89
CRI	80
No. floodlights	28
floodlight height [m]	10

KEY	
	200.0 lx
	300.0 lx
	400.0 lx
	500.0 lx
	600.0 lx
	700.0 lx

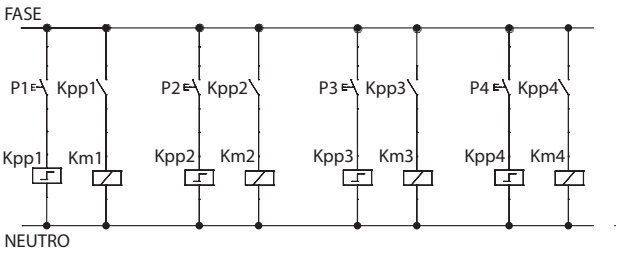
Lighting project for indoor sports centre.

STANDARD ELECTRICAL SCHEME -System power: 6.6kW, three-phase



Line description	Main device		Lamp	Line 1	km1	Line 2	km2	Line 3	km3	Line 4	km4	Auxiliaries line
Power	6.600 kW			1.650 kW	1.650 kW	1.650 kW	1.650 kW	1.650 kW	1.650 kW	1.650 kW	1.650 kW	0.000 kW
Operating current Ib [A]	10.40			2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	0.00
Rated current In [A]	40.00			32.00	25.00	32.00	25.00	32.00	25.00	32.00	25.00	6.00
Article description	Control switch disconnector 4P 40A	Surge protective device 3P+N 25kA Aux. Type 1+2 + fuse holder 22x58 - 16M	Triple red signal-ling lamp with fuse holder 230V 10.3x38 - 5M	MDC45 C32 4P Id=30mA A	Contactor 25A 4NO - 230V AC /220V DC - 2M	MDC45 C32 4P Id=30mA A	Contactor 25A 4NO - 230V AC /220V DC - 2M	MDC45 C32 4P Id=30mA A	Contactor 25A 4NO - 230V AC /220V DC - 2M	MDC45 C32 4P Id=30mA A	Contactor 25A 4NO - 230V AC /220V DC - 2M	MDC45 C6 2P Id=30mA AC
Code	GW 96 135	GW D6 405	GW 96 592	GW 94 270	GW D6 715	GW 94 270	GW D6 715	GW 94 270	GW D6 715	GW 94 270	GW D6 715	GW 94 025
Breaking capacity Icn/Icu [kA]				4.50		4.50		4.50		4.50		4.50
RCCB				GW 94 532				GW 94 532				

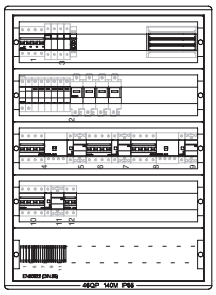
STANDARD AUXILIARIES CIRCUIT



COMPONENTS OF THE ELECTRICAL SCHEME AND AUXILIARIES CIRCUIT

Code	Description	Qty
GW 72 104	Cylindrical fuse type GG 10.3X38 500V 2A	3
GW 94 025	RCBO C.2P C 6 4.5KA AC/0.03 2M	1
GW 94 270	RCBO C.4P C32 4.5KA AC/0.03 4M	4
GW 96 135	Switch disconnector 4P 40A AC23B	1
GW 96 312	Disconnectable fuse holder 3P+N 10.3X38 400V 32A	1
GW 96 314	Disconnectable fuse holder 3P+N 22X58 690V	1
GW 96 592	Triple red indicator lamp 230V 1M	1
GW D6 644	Latching relay 1NO 16A 230V	4
GW D6 405	Surge protective device 3P+N 25KA AUX TYPE 1+2	1
GW D6 715	Contactor 25A 4NO 230V 2M	4

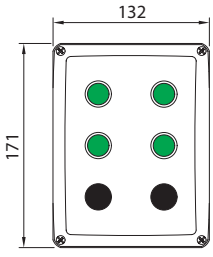
STANDARD DISTRIBUTION BOARD



DISTRIBUTION BOARD COMPONENTS

Code	Description	Qty
GW 44 698	4-pole terminal block 8 MOD.EN 50022	1
GW 46 206	Polyester board with window 800X585X300	1
GW 46 423 F	Panel without windows 28 mod.	4
GW 46 428 F	Blank panel 1M. 585MM GR.RAL7035	1
GW 46 438 F	Pair of uprights for boards 800X585X300	1
GW 46 446	Set of 4 steel brackets for fixing surface-mounting boards	1
GW 46 533 F	Quick-assembly double rail 28M	1

STANDARD PUSH-BUTTON CONTROL PANEL



PUSH-BUTTON PANEL COMPONENTS

Code	Description	Qty
GW 27 104	6-gang push-button panel IP66	1
GW 74 341	Illuminated green push-button	4
GW 74 501	1 NO contact 10A 250V	4
GW 74 511	Lamp-holder - BA95 coupling	4
GW 74 518	Lamp - BA95 coupling	4
GW 74 521	Black cap	2

The electrical scheme shown here is merely an example; it can be modified to suit the installation requirements. It should not be considered as a substitute for the necessary electrical project, which must be based on the technical standards.

INDOOR

Basketball - 200 lx- Training activities

Project compliant with:
EN 12193 (2008): Class III

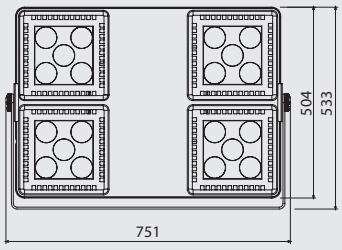
REQUISITES

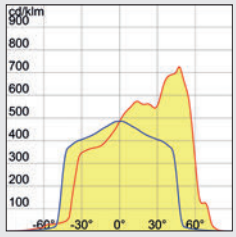
PLAY AREA DIMENSIONS	
Length [m]	28
Width [m]	15
Grid points (length)	13
Grid points (width)	7

VALUES REQUIRED			
Class	EAv [lx]	Emin/EAv	Colour rendering index [CRI]
III	200	0.5	20

PROPOSED SOLUTION

ASYMMETRICAL SMART [4] 2.0 FLOODLIGHT
GW S4 176 GS





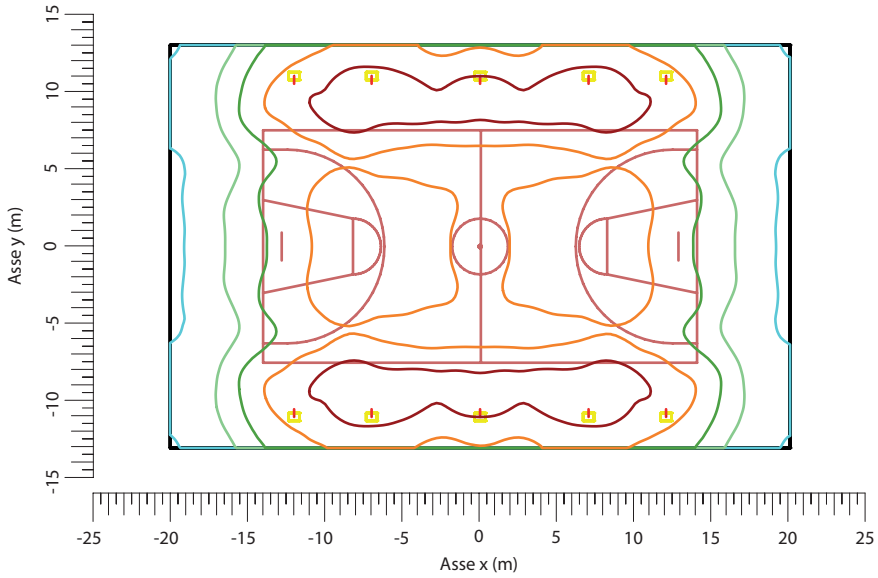
TECHNICAL DATA OF THE LAMP	
Maintenance factor	0.80
Floodlight	Smart [4] 2.0
Optic	Asymmetrical
Power system (W)	232
Lumen output (lm)	25,560

TECHNICAL DATA OF THE FLOODLIGHTS	
Floodlight assembly height (m)	10
Number of floodlights	10

FLOODLIGHT POSITIONING			
Device	Position of devices in X	Position of devices in Y	Device rotation X°; Y°; Z°
1	-12.00	-11.00	0°; 0°; 90°
2	-7.00	-11.00	0°; 0°; 90°
3	0.00	-11.00	0°; 0°; 90°
8	0.00	11.00	0°; 0°; -90°
9	7.00	11.00	0°; 0°; -90°
10	12.00	11.00	0°; 0°; -90°

The lighting values actually measured may differ from the project ones due to the intrinsic tolerance levels of the light sources and devices, for their orientation, and for the different electricity supply parameters.

CALCULATION RESULTS

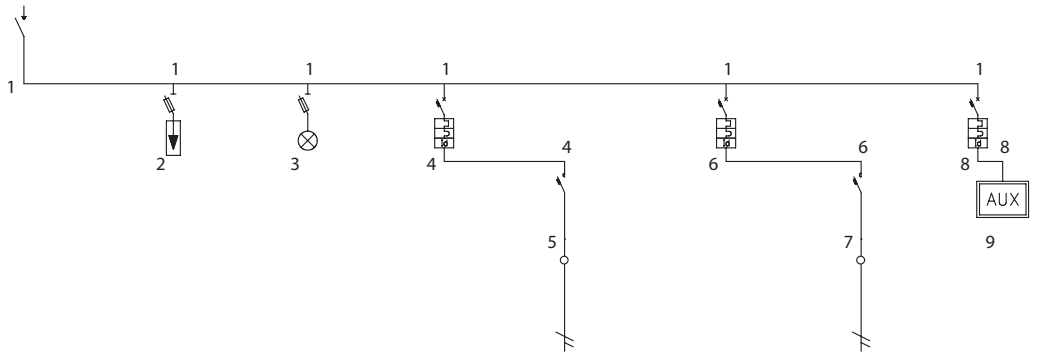


GRID 13x7	
EAv [lx]	202
Emin/EAv	0.78
CRI	80
No. floodlights	10
floodlight height [m]	10

KEY	
	50.0 lx
	100.0 lx
	150.0 lx
	200.0 lx
	250.0 lx

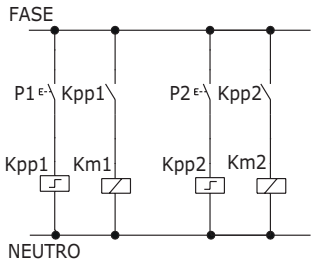
Lighting project for indoor sports centre.

STANDARD ELECTRICAL SCHEME -System power: 2.4kW, single-phase



Line description	Main device		Lamp	Line 1	km1	Line 2	km2	Auxiliaries line
Power	2.400 kW			1.200 kW	1.200 kW	1.200 kW	1.200 kW	0.000 kW
Operating current Ib [A]	11.20			5.60	5.60	5.60	5.60	0.00
Rated current In [A]	32.00			32.00	40.00	32.00	40.00	6.00
Article description	Control switch disconnector 2P 32A	Surge protective device 1P+N 25kA Aux. Type 1+2 + fuse holder 22x58 - 8M	Red signalling lamp with fuse holder 230V 10.3x38 - 3M	MDC60 C32 2P Id=30mA A	Contactor 40A 2NO - 230V AC/ 220V DC - 3M	MDC60 C32 2P Id=30mA A	Contactor 40A 2NO - 230V AC/ 220V DC - 3M	MDC45 C6 1P+N Id=300mA AC
Code	GW 96 114	GW D6 404	GW 96 581	GW 94 330	GW D6 721	GW 94 330	GW D6 721	GW 94 015
Breaking capacity Icn/Icu [kA]				6.00		6.00		4.50
RCCB								

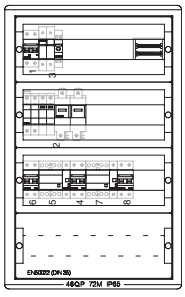
STANDARD AUXILIARIES CIRCUIT



COMPONENTS OF THE ELECTRICAL SCHEME AND AUXILIARIES CIRCUIT

Code	Description	Qty
GW 72 104	Cylindrical fuse type GG 10.3X38 500V 2A	1
GW 94 015	RCBO C.1P+N C 6 4.5KA AC/0.3 2M	1
GW 94 330	RCBO C.2P C32 6KA AC/0.03 2M	2
GW 96 114	Switch disconnector 2P 32A AC23B	1
GW 96 215	Disconnectable fuse holder 1P+N 10.3X38 400V 32A	1
GW 96 218	Disconnectable fuse holder 1P+N 22X58 690V	1
GW 96 581	Single red indicator lamp 230V 1M	1
GW D6 644	Latching relay 1NO 16A 230V	2
GW D6 404	Surge protective device 1P+N 25KA AUX TYPE 1+2	1
GW D6 721	Contactor 40A 2NO 230V 3M	2

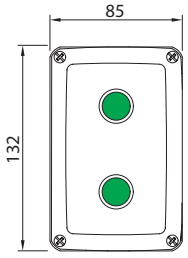
STANDARD DISTRIBUTION BOARD



DISTRIBUTION BOARD COMPONENTS

Code	Description	Qty
GW 44 691	2-pole terminal block 4 mod. EN 50022	1
GW 46 204	Polyester board with window 650X405X200	1
GW 46 421 F	Panel without windows 18 mod.	3
GW 46 426 F	Blank panel 1M. 405MM GR.RAL7035	1
GW 46 437 F	Pair of uprights for boards 650X405X200	1
GW 46 531 F	Quick-assembly double rail 18M	1

STANDARD PUSH-BUTTON CONTROL PANEL



PUSH-BUTTON PANEL COMPONENTS

Code	Description	Qty
GW 27 102	2-gang push-button panel IP66	1
GW 74 341	Illuminated green push-button	2
GW 74 501	1 NO contact 10A 250V	2
GW 74 511	Lamp-holder - BA95 coupling	2
GW 74 518	Lamp - BA95 coupling	2

The electrical scheme shown here is merely an example; it can be modified to suit the installation requirements. It should not be considered as a substitute for the necessary electrical project, which must be based on the technical standards.

OUTDOOR

Volleyball - 500 lx - High-level competitions

Project compliant with:
EN 12193 (2008): Class I

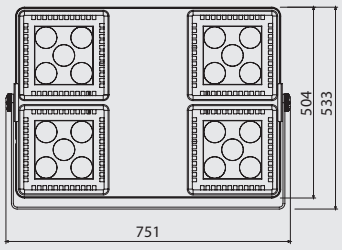
REQUISITES

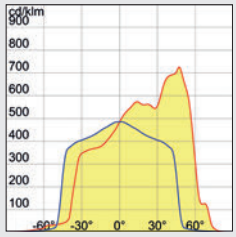
PLAY AREA DIMENSIONS	
Length [m]	24
Width [m]	15
Grid points (length)	13
Grid points (width)	9

VALUES REQUIRED				
Class	EAv [lx]	Emin/EAv	GR	Colour rendering index [CRI]
I	500	0.7	50	60

PROPOSED SOLUTION

ASYMMETRICAL SMART [4] 2.0 FLOODLIGHT
GW S4 176 GS





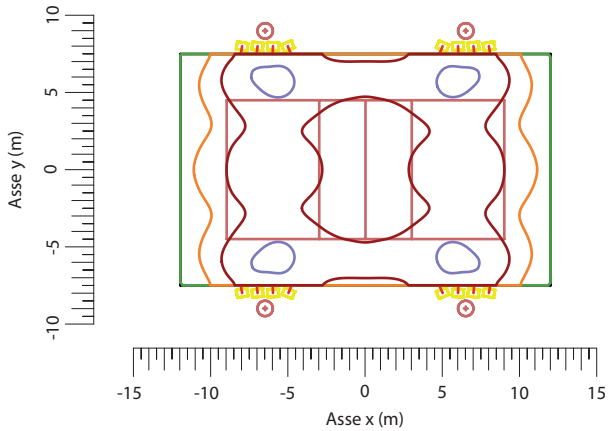
TECHNICAL DATA OF THE LAMP	
Maintenance factor	0.80
Floodlight	Smart [4] 2.0
Optic	Asymmetrical
Power system (W)	232
Lumen output (lm)	25,560

TECHNICAL DATA OF THE HIGH MASTS	
Number of high masts	4
High mast height (m. above ground)	9
Number of floodlights	16
Number of floodlights per high mast	4

FLOODLIGHT POSITIONING			
Lighting tower	Position of devices in X	Position of devices in Y	Device rotation X°; Y°; Z°
1	-8.00	-8.00	0°; 0°; 100°
1	-7.00	-8.00	0°; 0°; 96°
1	-6.00	-8.00	0°; 0°; 92°
1	-5.00	-8.00	0°; 0°; 67°
4	5.00	-8.00	0°; 0°; 113°
4	6.00	-8.00	0°; 0°; 88°
4	7.00	-8.00	0°; 0°; 84°
4	8.00	-8.00	0°; 0°; 80°

The lighting values actually measured may differ from the project ones due to the intrinsic tolerance levels of the light sources and devices, for their orientation, and for the different electricity supply parameters.

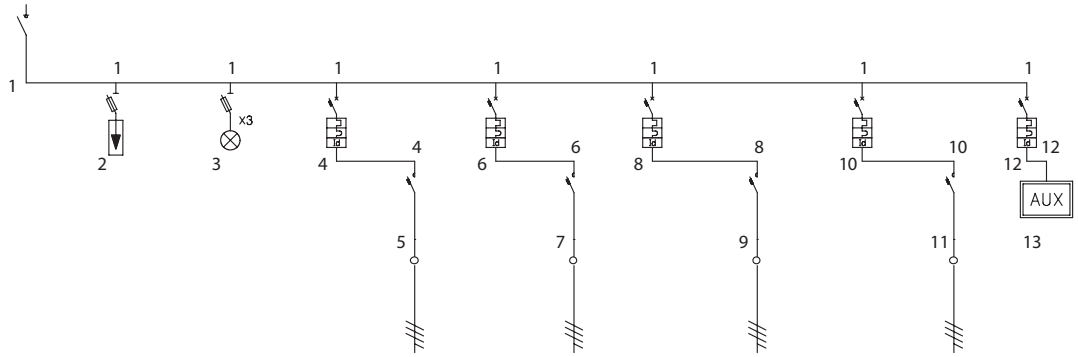
CALCULATION RESULTS



GRID 13x9	
EAv [lx]	502
Emin/EAv	0.71
GR	19
CRI	80
No. floodlights	16
floodlight height [m]	9

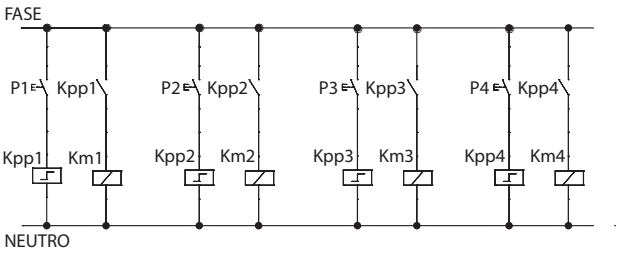
KEY	
	300.0 lx
	400.0 lx
	500.0 lx
	600.0 lx

STANDARD ELECTRICAL SCHEME -System power: 3.8kW, three-phase



Line description	Main device		Lamp	High mast 1	km1	High mast 2	km2	High mast 3	km3	High mast 4	km4	Auxiliaries line
Power	3.800 kW			0.950 kW	0.950 kW	0.950 kW	0.950 kW	0.950 kW	0.950 kW	0.950 kW	0.950 kW	0.000 kW
Operating current Ib [A]	6.00			1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	0.00
Rated current In [A]	32.00			25.00	25.00	25.00	25.00	25.00	25.00	25.00	25.00	6.00
Article description	Control switch disconnector 4P 32A	Surge protective device 3P+N 25kA Aux. Type 1+2 + fuse holder 22x58 - 16M	Triple red signalling lamp with fuse holder 230V 10.3x38 - 5M	MCB MT60 C25 4P + BD 4P 63A 30mA A-IR	Contactor 25A 4NO - 230V AC/ 220V DC - 2M	MCB MT60 C25 4P + BD 4P 63A 30mA A-IR	Contactor 25A 4NO - 230V AC/ 220V DC - 2M	MCB MT60 C25 4P + BD 4P 63A 30mA A-IR	Contactor 25A 4NO - 230V AC/ 220V DC - 2M	MCB MT60 C25 4P + BD 4P 63A 30mA A-IR	Contactor 25A 4NO - 230V AC/ 220V DC - 2M	MDC60 C6 2P Id=30mA AC
Code	GW 96 134	GW D6 405	GW 96 592	GW 92 089	GW D6 715	GW 92 089	GW D6 715	GW 92 089	GW D6 715	GW 92 089	GW D6 715	GW 94 125
Breaking capacity Icn/Icu [kA]				6.00		6.00		6.00		6.00		6.00
RCCB				GW 94 586		GW 94 586		GW 94 586		GW 94 586		

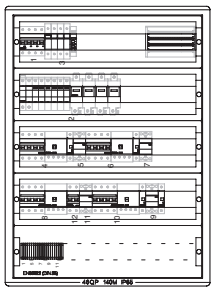
STANDARD AUXILIARIES CIRCUIT



COMPONENTS OF THE ELECTRICAL SCHEME AND AUXILIARIES CIRCUIT

Code	Description	Qty
GW 72 104	Cylindrical fuse type GG 10.3X38 500V 2A	3
GW 92 089	MCB 4P C25 6KA 4M	4
GW 94 125	RCBO C.2P C 6 6KA AC/0.03 2M	1
GW 94 586	Residual current device 4P IN<63A Immun. A/0.03 3.5M	4
GW 96 134	Switch disconnector 4P 32A AC23B	1
GW 96 312	Disconnectable fuse holder 3P+N 10.3X38 400V 32A	1
GW 96 314	Disconnectable fuse holder 3P+N 22X58 690V	1
GW 96 592	Triple red indicator lamp 230V 1M	1
GW D6 644	Latching relay 1NO 16A 230V	4
GW D6 405	Surge protective device 3P+N 25KA AUX TYPE 1+2	1
GW D6 715	Contactor 25A 4NO 230V 2M	4

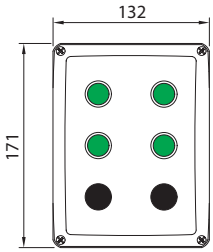
STANDARD DISTRIBUTION BOARD



DISTRIBUTION BOARD COMPONENTS

Code	Description	Qty
GW 44 698	4-pole terminal block 8 mod.EN 50022	1
GW 46 206	Polyester board with window 800X585X300	1
GW 46 423 F	Panel without windows 28 mod.	4
GW 46 428 F	Blank panel 1M. 585MM GR.RAL7035	1
GW 46 438 F	Pair of uprights for boards 800X585X300	1
GW 46 446	Set of 4 galvanised steel brackets for fixing surface-mounting boards	1
GW 46 533 F	Quick-assembly double rail 28M	1

STANDARD PUSH-BUTTON CONTROL PANEL



PUSH-BUTTON PANEL COMPONENTS

Code	Description	Qty
GW 27 104	6-gang push-button panel IP66	1
GW 74 341	Illuminated green push-button	4
GW 74 501	1 NO contact 10A 250V	4
GW 74 511	Lamp-holder - BA95 coupling	4
GW 74 518	Lamp - BA95 coupling	4
GW 74 521	Black cap	2

The electrical scheme shown here is merely an example; it can be modified to suit the installation requirements. It should not be considered as a substitute for the necessary electrical project, which must be based on the technical standards.

OUTDOOR

Volleyball - 200 lx - Medium-level competitions

Project compliant with:
EN 12193 (2008): Class II

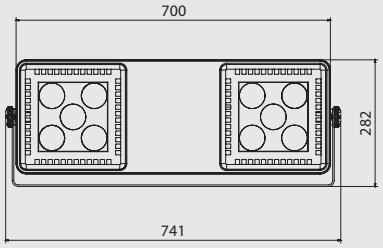
REQUISITES

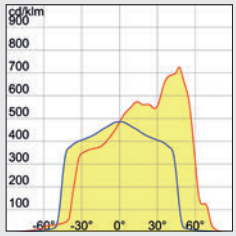
PLAY AREA DIMENSIONS	
Length [m]	24
Width [m]	15
Grid points (length)	13
Grid points (width)	9

VALUES REQUIRED				
Class	EAv [lx]	Emin/EAv	GR	Colour rendering index [CRI]
II	200	0.6	50	60

PROPOSED SOLUTION

ASYMMETRICAL SMART [4] 2.0
FLOODLIGHT
GW S4 156 GS





TECHNICAL DATA OF THE LAMP	
Maintenance factor	0.80
Floodlight	Smart [4] 2.0
Optic	Asymmetrical
Power system (W)	116
Lumen output (lm)	12,780

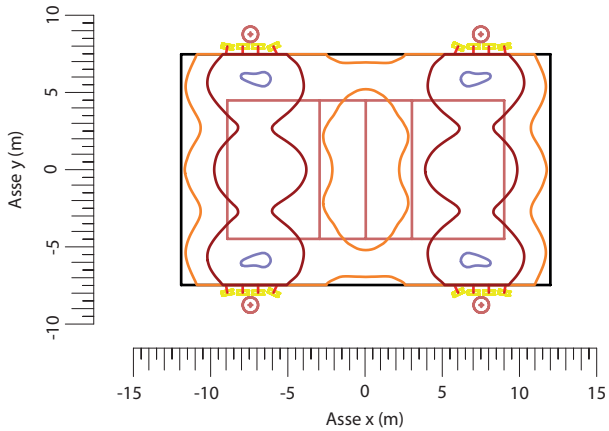
TECHNICAL DATA OF THE HIGH MASTS	
Number of high masts	4
High mast height (m. above ground)	9
Number of floodlights	16
Number of floodlights per high mast	4

FLOODLIGHT POSITIONING

Lighting tower	Position of devices in X	Position of devices in Y	Device rotation X°; Y°; Z°
1	-9.00	-8.00	0°; 0°; 100°
1	-8.00	-8.00	0°; 0°; 90°
1	-7.00	-8.00	0°; 0°; 90°
1	-6.00	-8.00	0°; 0°; 65°
4	6.00	-8.00	0°; 0°; 115°
4	7.00	-8.00	0°; 0°; 90°
4	8.00	-8.00	0°; 0°; 90°
4	9.00	-8.00	0°; 0°; 80°

The lighting values actually measured may differ from the project ones due to the intrinsic tolerance levels of the light sources and devices, for their orientation, and for the different electricity supply parameters.

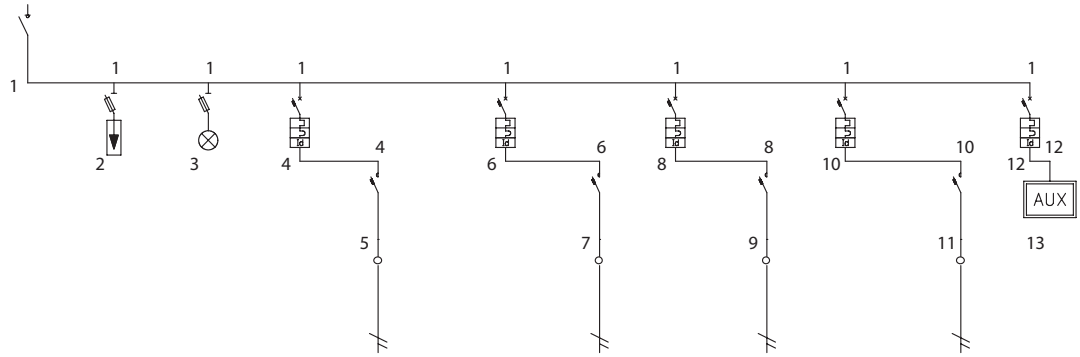
CALCULATION RESULTS



GRID 13x9	
EAv [lx]	236
Emin/EAv	0.72
GR	19
CRI	80
No. floodlights	16
floodlight height [m]	9

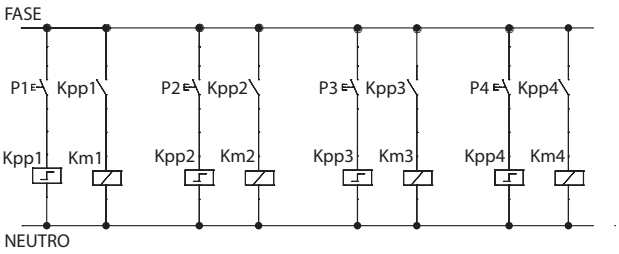
KEY
200.0 lx
250.0 lx
300.0 lx

STANDARD ELECTRICAL SCHEME -System power: 1.8kW, single-phase



Line description	Main device		Lamp	High mast 1	km1	High mast 2	km2	High mast 3	km3	High mast 4	km4	Auxiliaries line
Power	1.800 kW			0.450 kW	0.450 kW	0.450 kW	0.450 kW	0.450 kW	0.450 kW	0.450 kW	0.450 kW	0.000 kW
Operating current Ib [A]	8.80			2.20	2.20	2.20	2.20	2.20	2.20	2.20	2.20	0.00
Rated current In [A]	32.00			16.00	25.00	16.00	25.00	16.00	25.00	16.00	25.00	6.00
Article description	Control switch disconnector 2P 32A	Surge protective device 1P+N 25kA Aux. Type 1+2 + fuse holder 22x58 - 8M	Red signalling lamp with fuse holder 10.3x38 230V - 3M	MCB MT60 C16 2P + BD 2P 63A 30mA A-IR	Contactor 25A 2NO - 230V AC/ 220V DC - 2M	MCB MT60 C16 2P + BD 2P 63A 30mA A-IR	Contactor 25A 2NO - 230V AC/ 220V DC - 2M	MCB MT60 C16 2P + BD 2P 63A 30mA A-IR	Contactor 25A 2NO - 230V AC/ 220V DC - 2M	MCB MT60 C16 2P + BD 2P 63A 30mA A-IR	Contactor 25A 2NO - 230V AC/ 220V DC - 2M	MDC60 C6 2P Id=30mA AC
Code	GW 96 114	GW D6 404	GW 96 581	GW 92 047	GW D6 712	GW 92 047	GW D6 712	GW 92 047	GWD6 712	GW 92 047	GW D6 712	GW 94 125
Breaking capacity Icn/Icu [kA]				6.00		6.00		6.00		6.00		6.00
RCCB				GW 94 566		GW 94 566		GW 94 566		GW 94 566		

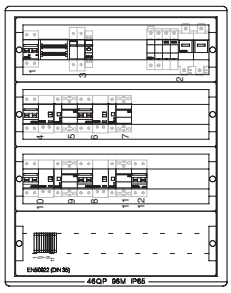
STANDARD AUXILIARIES CIRCUIT



COMPONENTS OF THE ELECTRICAL SCHEME AND AUXILIARIES CIRCUIT

Code	Description	Qty
GW 72 104	Cylindrical fuse type GG 10.3X38 500V 2A	1
GW 92 047	MCB 2P C16 6KA 2M	4
GW 94 125	RCBO C.2P C 6 6KA AC/0.03 2M	1
GW 94 566	Residual current device 2P IN<63A Immun. A/0.03 2M	4
GW 96 114	Switch disconnector 2P 32A AC23B	1
GW 96 215	Disconnectable fuse holder 1P+N 10.3X38 400V 32A	1
GW 96 218	Disconnectable fuse holder 1P+N 22X58 690V	1
GW 96 581	Single red indicator lamp 230V 1M	1
GW D6 644	Latching relay 1NO 16A 230V	4
GW D6 404	Surge protective device 1P+N 25KA AUX TYPE 1+2	1
GW D6 712	Contactor 25A 2NO 230V 2M	4

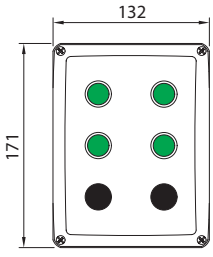
STANDARD DISTRIBUTION BOARD



DISTRIBUTION BOARD COMPONENTS

Code	Description	Qty
GW 44 691	2-pole terminal block 4 mod.EN 50022	1
GW 46 205	Polyester board with window 650X515X250	1
GW 46 422 F	Panel without windows 24 mod.	3
GW 46 427 F	Blank panel 1M. 515MM GR.RAL7035	1
GW 46 437 F	Pair of uprights for boards 650X405X200	1
GW 46 532 F	Quick-assembly double rail 24M	1

STANDARD PUSH-BUTTON CONTROL PANEL



PUSH-BUTTON PANEL COMPONENTS

Code	Description	Qty
GW 27 104	6-gang push-button panel IP66	1
GW 74 341	Illuminated green push-button	4
GW 74 501	1 NO contact 10A 250V	4
GW 74 511	Lamp-holder - BA95 coupling	4
GW 74 518	Lamp - BA95 coupling	4
GW 74 521	Black cap	2

The electrical scheme shown here is merely an example; it can be modified to suit the installation requirements. It should not be considered as a substitute for the necessary electrical project, which must be based on the technical standards.

OUTDOOR

Volleyball - 75 lx- Training activities

Project compliant with:
EN 12193 (2008): Class III

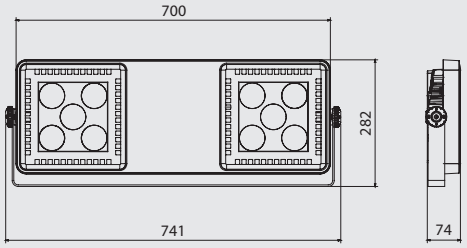
REQUISITES

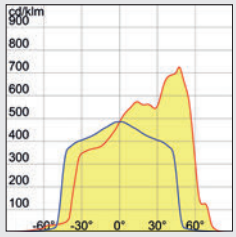
PLAY AREA DIMENSIONS	
Length [m]	24
Width [m]	15
Grid points (length)	13
Grid points (width)	9

VALUES REQUIRED				
Class	EAv [lx]	Emin/EAv	GR	Colour rendering index [CRI]
III	75	0.5	55	20

PROPOSED SOLUTION

ASYMMETRICAL SMART [4] 2.0
FLOODLIGHT
GW S4 156 GS





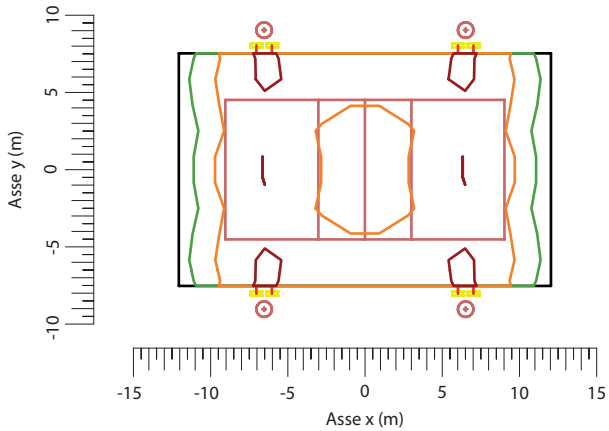
TECHNICAL DATA OF THE LAMP	
Maintenance factor	0.80
Floodlight	Smart [4] 2.0
Optic	Asymmetrical
Power system (W)	116
Lumen output (lm)	12,780

TECHNICAL DATA OF THE HIGH MASTS	
Number of high masts	4
High mast height (m. above ground)	9
Number of floodlights	8
Number of floodlights per high mast	2

FLOODLIGHT POSITIONING			
Lighting tower	Position of devices in X	Position of devices in Y	Device rotation X°; Y°; Z°
1	-7.00	-8.00	0°; 0°; 90°
1	-6.00	-8.00	0°; 0°; 90°
4	6.00	-8.00	0°; 0°; 90°
4	7.00	-8.00	0°; 0°; 90°
2	-7.00	8.00	0°; 0°; 90°
2	-6.00	8.00	0°; 0°; 90°
3	6.00	8.00	0°; 0°; 90°
3	7.00	8.00	0°; 0°; 90°

The lighting values actually measured may differ from the project ones due to the intrinsic tolerance levels of the light sources and devices, for their orientation, and for the different electricity supply parameters.

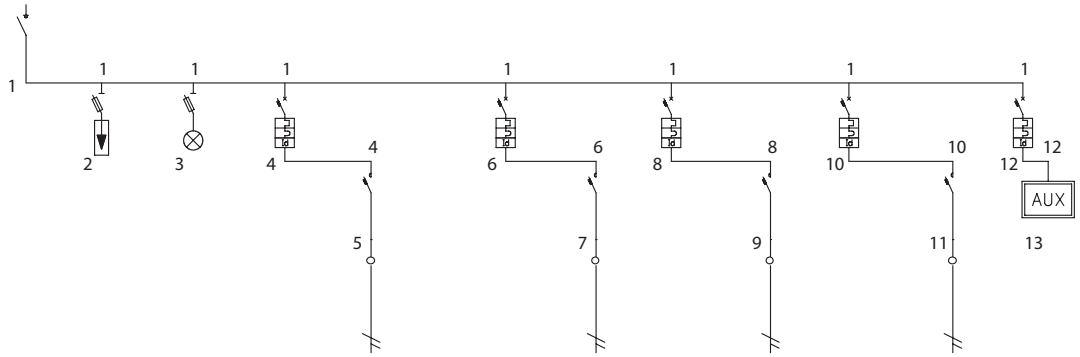
CALCULATION RESULTS



GRID 13x9	
EAv [lx]	127
Emin/EAv	0.64
GR	18
CRI	80
No. floodlights	8
floodlight height [m]	9

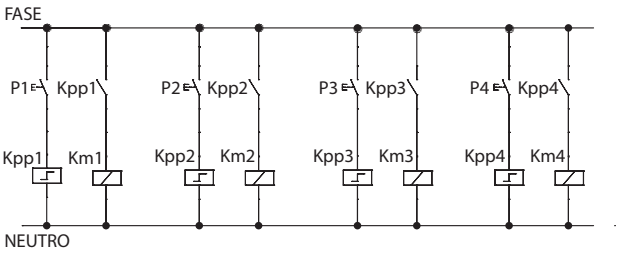
KEY	
	90.0 lx
	120.0 lx
	150.0 lx

STANDARD ELECTRICAL SCHEME -System power: 1.0kW, single-phase



Line description	Main device		Lamp	High mast 1	km1	High mast 2	km2	High mast 3	km3	High mast 4	km4	Auxiliaries line
Power	1.000 kW			0.250 kW	0.250 kW	0.250 kW	0.250 kW	0.250 kW	0.250 kW	0.250 kW	0.250 kW	0.000 kW
Operating current Ib [A]	4.40			1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	0.00
Rated current In [A]	32.00			10.00	25.00	10.00	25.00	10.00	25.00	10.00	25.00	6.00
Article description	Control switch disconnector 2P 32A	Surge protective device 1P+N 25kA Aux. Type 1+2 + fuse holder 22x58 - 8M	Red signalling lamp with fuse holder 10.3x38 230V - 3M	MCB MT60 C10 2P + BD 2P 63A 30mA A-IR	Contactor 25A 2NO - 230V AC/ 220V DC - 2M	MCB MT60 C10 2P + BD 2P 63A 30mA A-IR	Contactor 25A 2NO - 230V AC/ 220V DC - 2M	MCB MT60 C10 2P + BD 2P 63A 30mA A-IR	Contactor 25A 2NO - 230V AC/ 220V DC - 2M	MCB MT60 C10 2P + BD 2P 63A 30mA A-IR	Contactor 25A 2NO - 230V AC/ 220V DC - 2M	MDC45 C6 1P+N Id=30mA AC
Code	GW 96 114	GW D6 404	GW 96 581	GW 92 046	GW D6 712	GW 92 046	GW D6 712	GW 92 046	GW D6 712	GW 92 046	GW D6 712	GW 94 005
Breaking capacity Icn/Icu [kA]				6.00		6.00		6.00		6.00		4.50
RCCB				GW 94 566		GW 94 566		GW 94 566		GW 94 566		

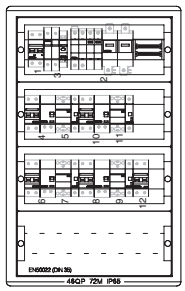
STANDARD AUXILIARIES CIRCUIT



COMPONENTS OF THE ELECTRICAL SCHEME AND AUXILIARIES CIRCUIT

Code	Description	Qty
GW 72 104	Cylindrical fuse type GG 10.3X38 500V 2A	1
GW 92 046	MCB 2P C10 6KA 2M	4
GW 94 005	RCBO C.1P+N C 6 4.5KA AC/0.03 2M	1
GW 94 566	Residual current device 2P IN<63A Immun. A/0.03 2M	4
GW 96 114	Switch disconnector 2P 32A AC23B	1
GW 96 215	Disconnectable fuse holder 1P+N 10.3X38 400V 32A	1
GW 96 218	Disconnectable fuse holder 1P+N 22X58 690V	1
GW 96 581	Single red indicator lamp 230V 1M	1
GW D6 644	Latching relay 1NO 16A 230V	4
GW D6 404	Surge protective device 1P+N 25KA AUX TYPE 1+2	1
GW D6 712	Contactor 25A 2NO 230V 2M	4

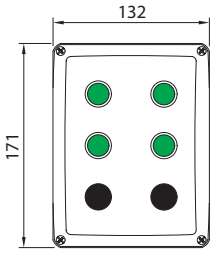
STANDARD DISTRIBUTION BOARD



DISTRIBUTION BOARD COMPONENTS

Code	Description	Qty
GW 44 691	2-pole terminal block 4 mod.EN 50022	1
GW 46 204	Polyester board with window 650X405X200	1
GW 46 421 F	Panel without windows 18 mod.	3
GW 46 426 F	Blank panel 1M. 405MM GR.RAL7035	1
GW 46 437 F	Pair of uprights for boards 650X405X200	1
GW 46 446	Set of 4 galvanised steel brackets for fixing surface-mounting boards	2
GW 46 531 F	Quick-assembly double rail 18M	1

STANDARD PUSH-BUTTON CONTROL PANEL



PUSH-BUTTON PANEL COMPONENTS

Code	Description	Qty
GW 27 104	6-gang push-button panel IP66	1
GW 74 341	Illuminated green push-button	4
GW 74 501	1 NO contact 10A 250V	4
GW 74 511	Lamp-holder - BA95 coupling	4
GW 74 518	Lamp - BA95 coupling	4
GW 74 521	Black cap	2

The electrical scheme shown here is merely an example; it can be modified to suit the installation requirements. It should not be considered as a substitute for the necessary electrical project, which must be based on the technical standards.

INDOOR

Volleyball - 750 lx - High-level competitions

Project compliant with:
EN 12193 (2008): Class I

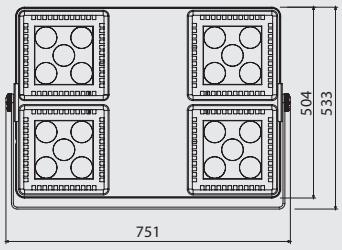
REQUISITES

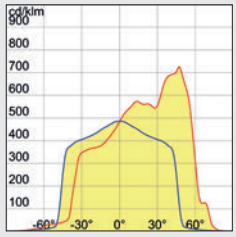
PLAY AREA DIMENSIONS	
Length [m]	24
Width [m]	15
Grid points (length)	13
Grid points (width)	9

VALUES REQUIRED			
Class	EAv [lx]	Emin/EAv	Colour rendering index [CRI]
I	750	0.7	60

PROPOSED SOLUTION

ASYMMETRICAL SMART [4] 2.0 FLOODLIGHT
GW S4 176 GS





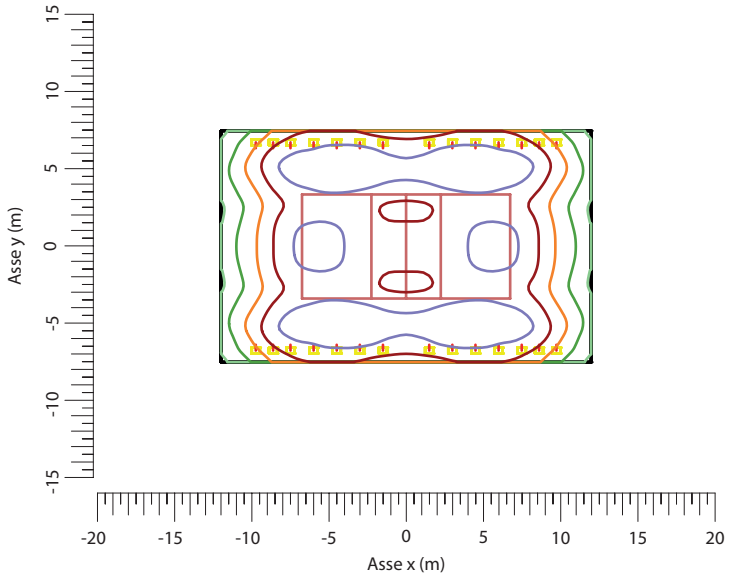
TECHNICAL DATA OF THE LAMP	
Maintenance factor	0.80
Floodlight	Smart [4] 2.0
Optic	Asymmetrical
Power system (W)	232
Lumen output (lm)	25,560

TECHNICAL DATA OF THE FLOODLIGHTS	
Floodlight assembly height (m)	10
Number of floodlights	28

FLOODLIGHT POSITIONING			
Device	Position of devices in X	Position of devices in Y	Device rotation X°; Y°; Z°
1	-13.00	-9.00	0°; 0°; 90°
2	-11.50	-9.00	0°; 0°; 90°
3	-10.00	-9.00	0°; 0°; 90°
4	-8.00	-9.00	0°; 0°; 90°
5	-6.00	-9.00	0°; 0°; 90°
6	-4.00	-9.00	0°; 0°; 90°
7	-2.00	-9.00	0°; 0°; 90°

The lighting values actually measured may differ from the project ones due to the intrinsic tolerance levels of the light sources and devices, for their orientation, and for the different electricity supply parameters.

CALCULATION RESULTS

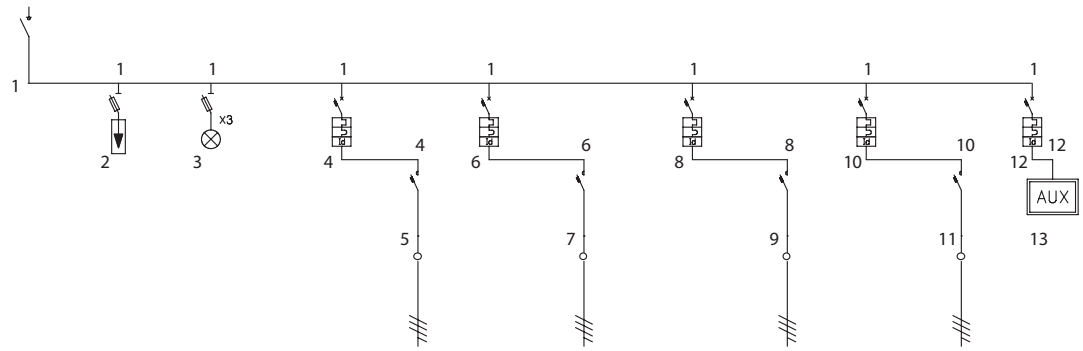


GRID 13x9	
EAv [lx]	768
Emin/EAv	0.85
CRI	80
No. floodlights	28
floodlight height [m]	10

KEY	
	400.0 lx
	500.0 lx
	600.0 lx
	700.0 lx
	800.0 lx

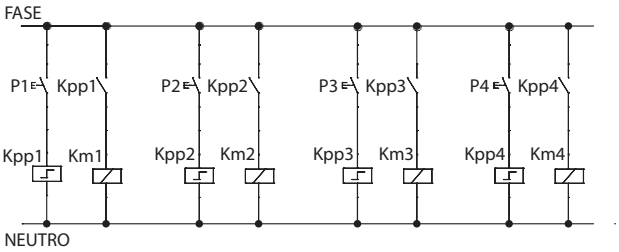
Lighting project for indoor sports centre.

STANDARD ELECTRICAL SCHEME -System power: 6.6kW, three-phase



Line description	Main device		Lamp	Line 1	km1	Line 2	km2	Line 3	km3	Line 4	km4	Auxiliaries line
Power	6.600 kW			1.650 kW	1.650 kW	1.650 kW	1.650 kW	1.650 kW	1.650 kW	1.650 kW	1.650 kW	0.000 kW
Operating current Ib [A]	10.40			2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	0.00
Rated current In [A]	32.00			32.00	25.00	32.00	25.00	32.00	25.00	32.00	25.00	6.00
Article description	Control switch disconnector 4P 32A	Surge protective device 3P+N 25kA Aux. Type 1+2 + fuse holder 22x58 - 16M	Triple red signalling lamp with fuse holder 230V 10.3x38 - 5M	MT60 C32 4P + BD 4P 63A 30mA S	Contactor 25A 4NO - 230V AC / 220V DC - 2M	MT60 C32 4P + BD 4P 63A 30mA S	Contactor 25A 4NO - 230V AC /220V DC - 2M	MT60 C32 4P + BD 4P 63A 30mA S	Contactor 25A 4NO - 230V AC /220V DC - 2M	MT60 C32 4P + BD 4P 63A 30mA S	Contactor 25A 4NO - 230V AC /220V DC - 2M	MDC60 C6 2P Id=30mA AC
Code	GW 96 134	GW D6 405	GW 96 592	GW 92 090	GW D6 715	GW 92 090	GW D6 715	GW 92 090	GW D6 715	GW 92 090	GW D6 715	GW 94 125
Breaking capacity Icn/Icu [kA]				6.00		6.00		6.00		6.00		6.00
RCCB				GW 94 532		GW 94 532		GW 94 532		GW 94 532		

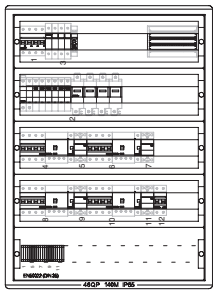
STANDARD AUXILIARIES CIRCUIT



COMPONENTS OF THE ELECTRICAL SCHEME AND AUXILIARIES CIRCUIT

Code	Description	Qty
GW 72 104	Cylindrical fuse type GG 10.3X38 500V 2A	3
GW 92 090	MCB 4P C32 6KA 4M	4
GW 94 125	RCBO C.2P C 6 6KA AC/0.03 2M	1
GW 94 532	Residual current device 4P IN<63A Instant. A/0.03 3.5M	4
GW 96 134	Switch disconnector 4P 32A AC23B	1
GW 96 312	Disconnectable fuse holder 3P+N 10.3X38 400V 32A	1
GW 96 314	Disconnectable fuse holder 3P+N 22X58 690V	1
GW 96 592	Triple red indicator lamp 230V 1M	1
GW D6 644	Latching relay 1NO 16A 230V	4
GW D6 405	Surge protective device 3P+N 25KA AUX TYPE 1+2	1
GW D6 715	Contactor 25A 4NO 230V 2M	4

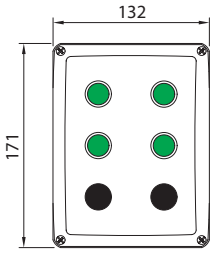
STANDARD DISTRIBUTION BOARD



DISTRIBUTION BOARD COMPONENTS

Code	Description	Qty
GW 44 698	4-pole terminal block 8 MOD.EN 50022	1
GW 46 206	Polyester board with window 800X585X300	1
GW 46 423 F	Panel without windows 28 mod.	4
GW 46 428 F	Blank panel 1M. 585MM GR.RAL7035	1
GW 46 438 F	Pair of uprights for boards 800X585X300	1
GW 46 446	Set of 4 steel brackets for fixing surface-mounting boards	1
GW 46 533 F	Quick-assembly double rail 28M	1

STANDARD PUSH-BUTTON CONTROL PANEL



PUSH-BUTTON PANEL COMPONENTS

Code	Description	Qty
GW 27 104	6-gang push-button panel IP66	1
GW 74 341	Illuminated green push-button	4
GW 74 501	1 NO contact 10A 250V	4
GW 74 511	Lamp-holder - BA95 coupling	4
GW 74 518	Lamp - BA95 coupling	4
GW 74 521	Black cap	2

The electrical scheme shown here is merely an example; it can be modified to suit the installation requirements. It should not be considered as a substitute for the necessary electrical project, which must be based on the technical standards.

INDOOR

Volleyball - 500 lx - Medium-level competitions

Project compliant with:
EN 12193 (2008): Class II

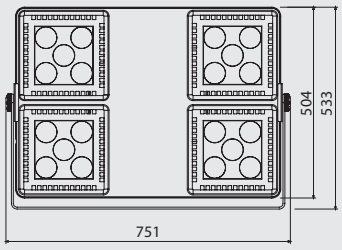
REQUISITES

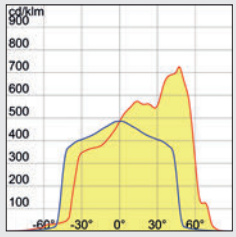
PLAY AREA DIMENSIONS	
Length [m]	24
Width [m]	15
Grid points (length)	13
Grid points (width)	9

VALUES REQUIRED			
Class	EAv [lx]	Emin/EAv	Colour rendering index [CRI]
II	500	0.7	60

PROPOSED SOLUTION

ASYMMETRICAL SMART [4] 2.0 FLOODLIGHT
GW S4 176 GS





TECHNICAL DATA OF THE LAMP	
Maintenance factor	0.80
Floodlight	Smart [4] 2.0
Optic	Asymmetrical
Power system (W)	232
Lumen output (lm)	25,560

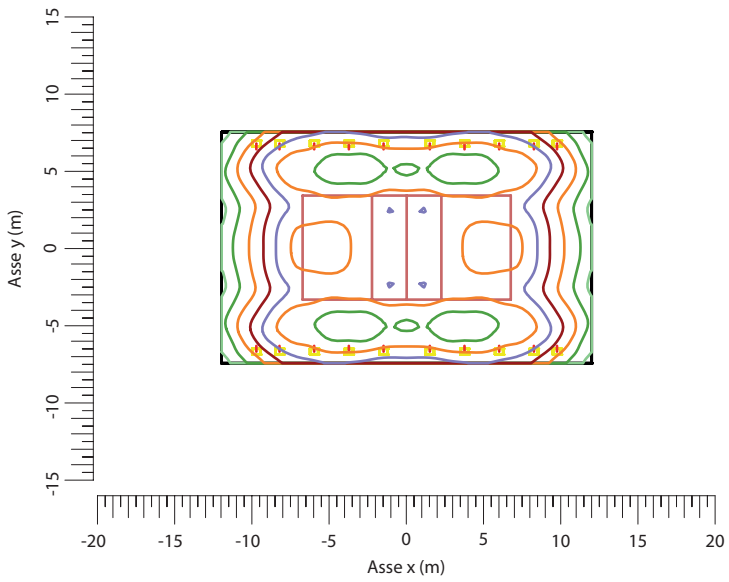
TECHNICAL DATA OF THE FLOODLIGHTS	
Floodlight assembly height (m)	10
Number of floodlights	20

The lighting values actually measured may differ from the project ones due to the intrinsic tolerance levels of the light sources and devices, for their orientation, and for the different electricity supply parameters.

FLOODLIGHT POSITIONING

Device	Position of devices in X	Position of devices in Y	Device rotation X°; Y°; Z°
1	-13.00	-9.00	0°; 0°; 90°
2	-11.00	-9.00	0°; 0°; 90°
3	-8.00	-9.00	0°; 0°; 90°
4	-5.00	-9.00	0°; 0°; 90°
5	-2.00	-9.00	0°; 0°; 90°
6	2.00	-9.00	0°; 0°; 90°
7	5.00	-9.00	0°; 0°; 90°
8	8.00	-9.00	0°; 0°; 90°
9	11.00	-9.00	0°; 0°; 90°
10	13.00	-9.00	0°; 0°; 90°

CALCULATION RESULTS

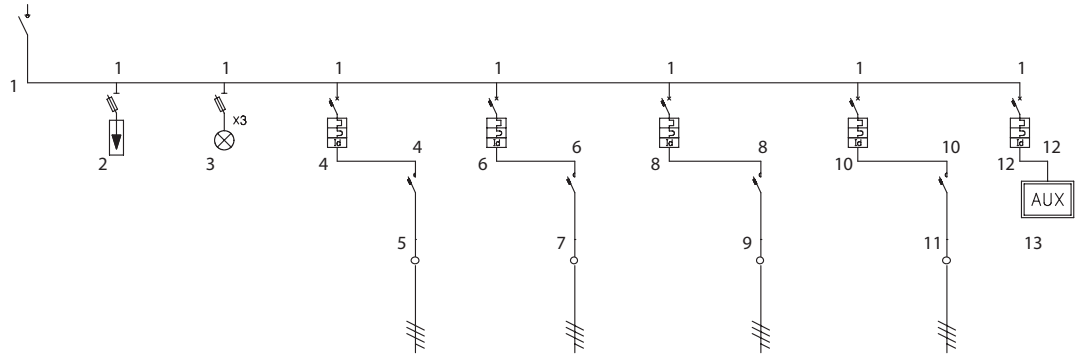


GRID 13x9	
EAv [lx]	544
Emin/EAv	0.84
CRI	80
No. floodlights	20
floodlight height [m]	10

KEY	
	300.0 lx
	350.0 lx
	400.0 lx
	450.0 lx
	500.0 lx
	550.0 lx
	600.0 lx

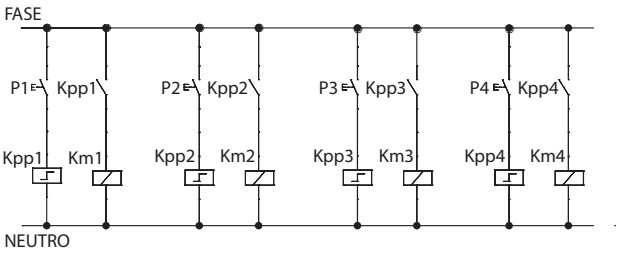
Lighting project for indoor sports centre.

STANDARD ELECTRICAL SCHEME -System power: 4.8kW, three-phase



Line description	Main device		Lamp	Line 1	km1	Line 2	km2	Line 3	km3	Line 4	km4	Auxiliaries line
Power	4.800 kW			1.200 kW	1.200 kW	1.200 kW	1.200 kW	1.200 kW	1.200 kW	1.200 kW	1.200 kW	0.000 kW
Operating current Ib [A]	7.60			1.90	1.90	1.90	1.90	1.90	1.90	1.90	1.90	0.00
Rated current In [A]	32.00			32.00	25.00	32.00	25.00	32.00	25.00	32.00	25.00	6.00
Article description	Control switch disconnector 4P 32A	Surge protective device 3P+N 25kA Aux. Type 1+2 + fuse holder 22x58 - 16M	Triple red signalling lamp with fuse holder 230V 10.3x38 - 5M	MT60 C32 4P + BD 4P 63A 30mA S	Contactor 25A 4NO - 230V AC /220V DC - 2M	MT60 C32 4P + BD 4P 25A 30mA S	Contactor 25A 4NO - 230V AC /220V DC - 2M	MT60 C32 4P + BD 4P 63A 30mA S	Contactor 25A 4NO - 230V AC /220V DC - 2M	MT60 C32 4P + BD 4P 25A 30mA S	Contactor 25A 4NO - 230V AC /220V DC - 2M	MDC60 C6 2P Id=30mA AC
Code	GW 96 134	GW D6 405	GW 96 592	GW 92 090	GW D6 715	GW 92090	GW D6 715	GW 92 090	GW D6 715	GW 92 090	GW D6 715	GW 94 125
Breaking capacity Icn/Icu [kA]				6.00		6.00		6.00		6.00		6.00
RCCB				GW 94 532		GW 94 522		GW 94 532		GW 94 522		

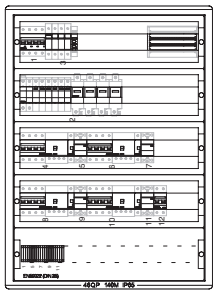
STANDARD AUXILIARIES CIRCUIT



COMPONENTS OF THE ELECTRICAL SCHEME AND AUXILIARIES CIRCUIT

Code	Description	Qty
GW 72 104	Cylindrical fuse type GG 10.3X38 500V 2A	3
GW 92 090	MCB 4P C32 6KA 4M	4
GW 94 125	RCBO C.2P C 6 6KA AC/0.03 2M	1
GW 94 522	Residual current device 4P IN<25A INSTANT. A/0.03 3.5M	2
GW 94 532	Residual current device 4P IN<63A INSTANT. A/0.03 3.5M	2
GW 96 134	Switch disconnector 4P 32A AC23B	1
GW 96 312	Disconnectable fuse holder 3P+N 10.3X38 400V 32A	1
GW 96 314	Disconnectable fuse holder 3P+N 22X58 690V	1
GW 96 592	Triple red indicator lamp 230V 1M	1
GW D6 644	Latching relay 1NO 16A 230V	4
GW D6 405	Surge protective device 3P+N 25KA AUX TYPE 1+2	1
GW D6 715	Contactor 25A 4NO 230V 2M	4

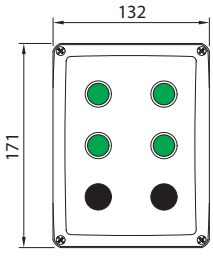
STANDARD DISTRIBUTION BOARD



DISTRIBUTION BOARD COMPONENTS

Code	Description	Qty
GW 44 698	4-pole terminal block 8 mod. EN 50022	1
GW 46 206	Polyester board with window 800X585X300	1
GW 46 423 F	Panel without windows 28 mod.	4
GW 46 428 F	Blank panel 1M. 585MM GR.RAL7035	1
GW 46 438 F	Pair of uprights for boards 800X585X300	1
GW 46 446	Set of 4 steel brackets for fixing surface-mounting boards	1
GW 46 533 F	Quick-assembly double rail 28M	1

STANDARD PUSH-BUTTON CONTROL PANEL



PUSH-BUTTON PANEL COMPONENTS

Code	Description	Qty
GW 27 104	6-gang push-button panel IP66	1
GW 74 341	Illuminated green push-button	4
GW 74 501	1 NO contact 10A 250V	4
GW 74 511	Lamp-holder - BA95 coupling	4
GW 74 518	Lamp - BA95 coupling	4
GW 74 518	Black cap	2

The electrical scheme shown here is merely an example; it can be modified to suit the installation requirements. It should not be considered as a substitute for the necessary electrical project, which must be based on the technical standards.

INDOOR

Volleyball - 200 lx- Training activities

Project compliant with:
EN 12193 (2008): Class III

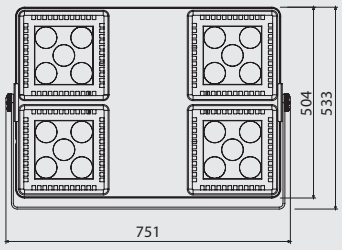
REQUISITES

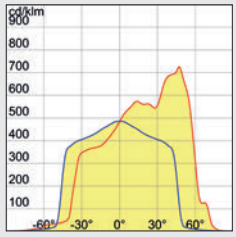
PLAY AREA DIMENSIONS	
Length [m]	24
Width [m]	15
Grid points (length)	13
Grid points (width)	9

VALUES REQUIRED			
Class	EAv [lx]	Emin/EAv	Colour rendering index [CRI]
III	200	0.5	20

PROPOSED SOLUTION

ASYMMETRICAL SMART [4] 2.0 FLOODLIGHT
GW S4 176 GS





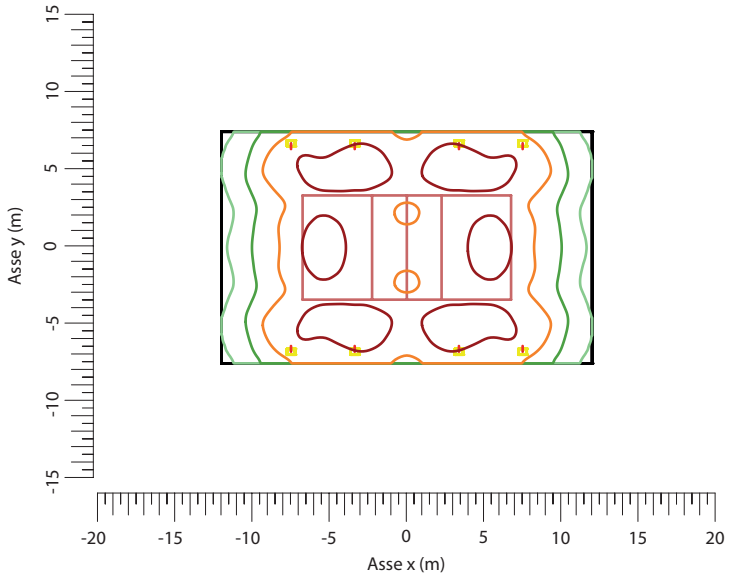
TECHNICAL DATA OF THE LAMP	
Maintenance factor	0.80
Floodlight	Smart [4] 2.0
Optic	Asymmetrical
Power system (W)	232
Lumen output (lm)	25,560

TECHNICAL DATA OF THE FLOODLIGHTS	
Floodlight assembly height (m)	10
Number of floodlights	8

FLOODLIGHT POSITIONING			
Device	Position of devices in X	Position of devices in Y	Device rotation X°; Y°; Z°
1	-10.00	-9.00	0°; 0°; 90°
2	-4.50	-9.00	0°; 0°; 90°
3	4.50	-9.00	0°; 0°; 90°
4	10.00	-9.00	0°; 0°; 90°
5	-10.00	9.00	0°; 0°; -90°
6	-4.50	9.00	0°; 0°; -90°
7	4.50	9.00	0°; 0°; -90°
8	10.00	9.00	0°; 0°; -90°

The lighting values actually measured may differ from the project ones due to the intrinsic tolerance levels of the light sources and devices, for their orientation, and for the different electricity supply parameters.

CALCULATION RESULTS

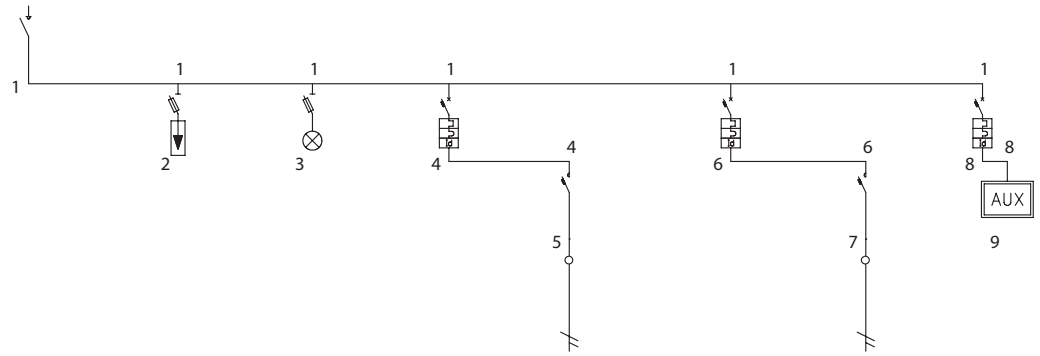


GRID 13x9	
EAv [lx]	239
Emin/EAv	0.79
CRI	80
No. floodlights	8
floodlight height [m]	10

KEY	
	100.0 lx
	150.0 lx
	200.0 lx
	250.0 lx

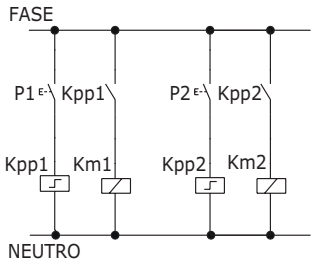
Lighting project for indoor sports centre.

STANDARD ELECTRICAL SCHEME -System power: 1.9kW, single-phase



Line description	Main device		Lamp	Line 1	km1	Line 2	km2	Auxiliaries line
Power	1.900 kW			0.950 kW	0.950 kW	0.950 kW	0.950 kW	0.000 kW
Operating current Ib [A]	9.0			4.50	4.50	4.50	4.50	0.00
Rated current In [A]	32.00			25.00	40.00	25.00	40.00	6.00
Article description	Control switch disconnector 2P 32A	Surge protective device 1P+N 25kA Aux. Type 1+2 + fuse holder 22x58 - 8M	Red signalling lamp with fuse holder 230V 10.3x38 - 3M	MDC60 C25 2P Id=30mA A	Contactor 40A 2NO - 230V AC/ 220V DC - 3M	MDC60 C25 2P Id=30mA A	Contactor 40A 2NO - 230V AC/ 220V DC - 3M	MDC45 C6 1P+N Id=30mA AC
Code	GW 96 114	GW D6 404	GW 96 581	GW 94 329	GW D6 721	GW 94 329	GW D6 721	GW 94 005
Breaking capacity Icn/Icu [kA]				6.00		6.00		4.50
RCCB								

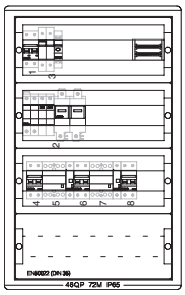
STANDARD AUXILIARIES CIRCUIT



COMPONENTS OF THE ELECTRICAL SCHEME AND AUXILIARIES CIRCUIT

Code	Description	Qty
GW 72 104	Cylindrical fuse type GG 10.3X38 500V 2A	1
GW 94 005	RCBO C.1P+N C 6 4.5KA AC/0.03 2M	1
GW 94 329	RCBO C.2P C25 6KA AC/0.03 2M	2
GW 96 114	Switch disconnector 2P 32A AC23B	1
GW 96 215	Disconnectable fuse holder 1P+N 10.3X38 400V 32A	1
GW 96 218	Disconnectable fuse holder 1P+N 22X58 690V	1
GW 96 581	Single red indicator lamp 230V 1M	1
GW D6 644	Latching relay 1NO 16A 230V	2
GW D6 404	Surge protective device 1P+N 25KA AUX TYPE 1+2	1
GW D6 721	Contactor 40A 2NO 230V 3M	2

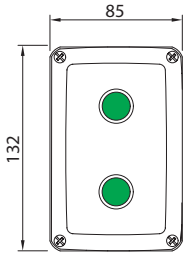
STANDARD DISTRIBUTION BOARD



DISTRIBUTION BOARD COMPONENTS

Code	Description	Qty
GW 44 691	2-pole terminal block 4 mod. EN 50022	1
GW 46 204	Polyester board with window 650X405X200	1
GW 46 421 F	Panel without windows 18 mod.	3
GW 46 426 F	Blank panel 1M. 405MM GR.RAL7035	1
GW 46 437 F	Pair of uprights for boards 650X405X200	1
GW 46 531 F	Quick-assembly double rail 18M	1

STANDARD PUSH-BUTTON CONTROL PANEL



PUSH-BUTTON PANEL COMPONENTS

Code	Description	Qty
GW 27 102	2-gang push-button panel IP66	1
GW 74 341	Illuminated green push-button	2
GW 74 501	1 NO contact 10A 250V	2
GW 74 511	Lamp-holder - BA95 coupling	2
GW 74 518	Lamp - BA95 coupling	2

The electrical scheme shown here is merely an example; it can be modified to suit the installation requirements. It should not be considered as a substitute for the necessary electrical project, which must be based on the technical standards.

OUTDOOR

Tennis - 300 lx - Medium-level competitions

Project compliant with:
EN 12193 (2008): Class II

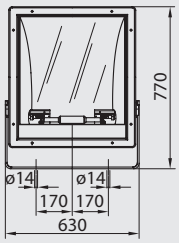
REQUISITES

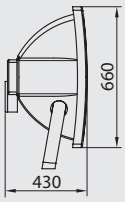
PLAY AREA DIMENSIONS	
Length [m]	36
Width [m]	36
Grid points (length)	15
Grid points (width)	7

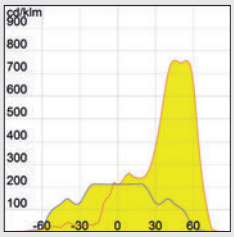
VALUES REQUIRED				
Class	EAv [lx]	Emin/EAv	GR	Colour rendering index [CRI]
II	300	0.7	50	60

PROPOSED SOLUTION

ASYMMETRICAL STADIUM FLOODLIGHT 1000W GW 84 667







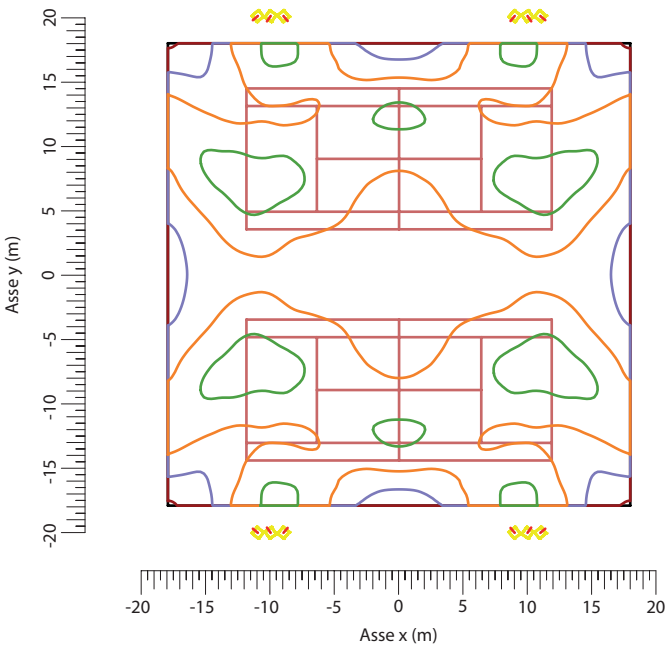
TECHNICAL DATA OF THE LAMP	
Maintenance factor	0.80
Floodlight	Stadium
Optic	Asymmetrical
Lamp	MHN-LA 1000W/842
Lamp flux (lm)	100,000

TECHNICAL DATA OF THE HIGH MASTS	
Number of high masts	4
High mast height (m. above ground)	14
Number of floodlights	12
Number of floodlights per high mast	3

The lighting values actually measured may differ from the project ones due to the intrinsic tolerance levels of the light sources and devices, for their orientation, and for the different electricity supply parameters.

FLOODLIGHT POSITIONING			
Lighting tower	Position of devices in X	Position of devices in Y	Device rotation X°; Y°; Z°
1	-11.00	-20.00	0°; 0°; 140°
1	-10.00	-20.00	0°; 0°; 125°
1	-9.00	-20.00	0°; 0°; 50°
2	-11.00	20.00	0°; 0°; -140°
2	-10.00	20.00	0°; 0°; -125°
2	-9.00	20.00	0°; 0°; -50°
3	11.00	20.00	0°; 0°; -40°
3	10.00	20.00	0°; 0°; -55°
3	9.00	20.00	0°; 0°; -130°
4	11.00	-20.00	0°; 0°; 40°
4	10.00	-20.00	0°; 0°; 55°
4	9.00	-20.00	0°; 0°; 130°

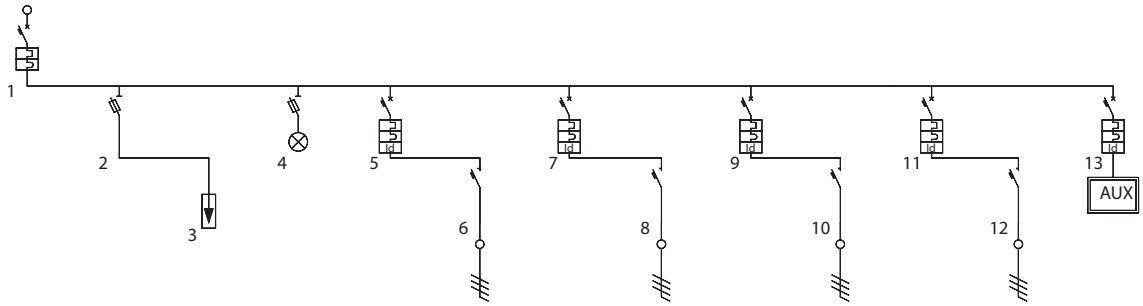
CALCULATION RESULTS



GRID 15x7	
EAv [lx]	308
Emin/EAv	0.73
GR	26
CRI	80
No. floodlights	12
floodlight height [m]	14

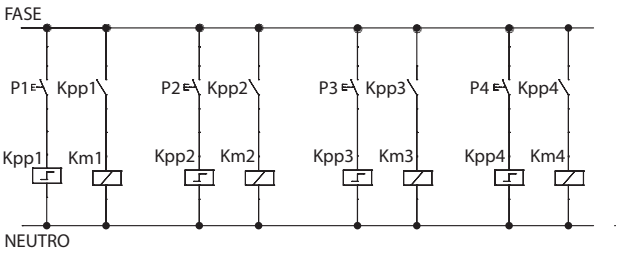
KEY
200.0 lx
250.0 lx
300.0 lx
350.0 lx

STANDARD ELECTRICAL SCHEME -System power: 12kW, three-phase



Line description	Main device		Surge protective device	Lamp	High mast 1	km1	High mast 2	km2	High mast 3	km3	High mast 4	km4	Auxiliaries circuit
Power	12.000 kW	0.000 kW			3.000 kW	3.000 kW	3.000 kW	3.000 kW	3.000 kW	3.000 kW	3.000 kW	3.000 kW	0.000 kW
Operating current Ib [A]	19.27	0.00			4.82	4.82	4.82	4.82	4.82	4.82	4.82	4.82	0.00
Rated current In [A]	32.00	50.00			10.00	24.00	10.00	24.00	10.00	24.00	10.00	24.00	6.00
Article description	MT100 D32 4P	Disconnectable fuse holder 3P+N 22x58 690V 50A	Surge protective device 3P+N 25kA Type 1+2	Triple red signalling lamp with fuse holder 230V	MCB MT60 D10 4P + BD 4P 63A 30mA A-IR	Contactor 4NO 230V AC/DC 24A - 2M	MCB MT60 D10 4P + BD 4P 63A 30mA A-IR	Contactor 4NO 230V AC/DC 24A - 2M	MCB MT60 D10 4P + BD 4P 63A 30mA A-IR	Contactor 4NO 230V AC/DC 24A - 2M	MCB MT60 D10 4P + BD 4P 63A 30mA A-IR	Contactor 4NO 230V AC/DC 24A - 2M	MDC60 C6 2P Id=30mA AC
Code	GW 92 790	GW 96 314	GW D6 405	GW 96 592	GW 92 486	GW D6 715	GW 92 486	GW D6 715	GW 92 486	GW D6 715	GW 92 486	GW 96 712	GW 94 125
Breaking capacity [kA]	10.00				6.00		6.00		6.00		6.00		6.00
RCCB					GW 94 586		GW 94 586		GW 94 586		GW 94 586		

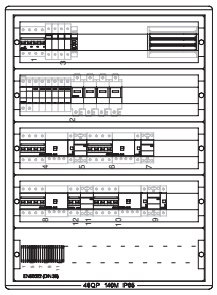
STANDARD AUXILIARIES CIRCUIT



COMPONENTS OF THE ELECTRICAL SCHEME AND AUXILIARIES CIRCUIT

Code	Description	Qty
GW 92 790	MCB 4P D32 10KA 4M	1
GW 96 314	Disconnectable fuse holder 3P+N 22X58 400V 100A	1
GW D6 405	Surge protective device 3P+N 25KA TYPE 1+2	1
GW 96 312	Disconnectable fuse holder 3P+N 10.3X38 400V 32A	1
GW 96 592	Triple red indicator lamp 230V 1M	1
GW 92 486	MCB 4P D10 6KA 4M	4
GW 94 586	Residual current device 4P IN<63A Immun. A/0.03	4
GW D6 715	Contactor 230V 4NO 24A	4
GW D6 644	Latching relay 1NO 16A 230V	4
GW 94 125	RCBO 2P C6 6KA AC/0.03 2M	1

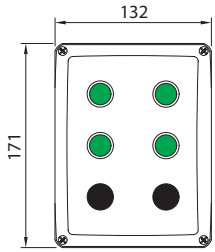
STANDARD DISTRIBUTION BOARD



DISTRIBUTION BOARD COMPONENTS

Code	Description	Qty
GW 46 206	Polyester board with window 800x585x300	1
GW 46 423 F	Panel without windows - 28 mod.	4
GW 46 428 F	Blank panel 1M. 515MM	1
GW 46 438 F	Pair of uprights	1
GW 46 446	Set of 4 galvanised fixing brackets	1
GW 46 533 F	Double rail 28M	1
GW 44 698	4-pole terminal block 8M	1

STANDARD PUSH-BUTTON CONTROL PANEL



PUSH-BUTTON PANEL COMPONENTS

Code	Description	Qty
GW 27 104	6-gang push-button panel IP66	1
GW 74 341	Illuminated green push-button	4
GW 74 501	1 NO contact 10A 250V	4
GW 74 511	Lamp-holder - BA95 coupling	4
GW 74 518	Lamp - BA95 coupling	4
GW 74 521	Black cap	2

The electrical scheme shown here is merely an example; it can be modified to suit the installation requirements. It should not be considered as a substitute for the necessary electrical project, which must be based on the technical standards.

OUTDOOR

Tennis - 200 lx- Training activities

Project compliant with:
EN 12193 (2008): Class III

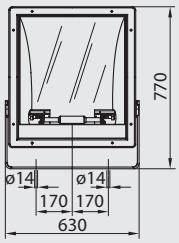
REQUISITES

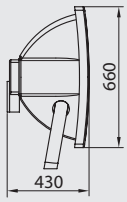
PLAY AREA DIMENSIONS	
Length [m]	36
Width [m]	36
Grid points (length)	15
Grid points (width)	7

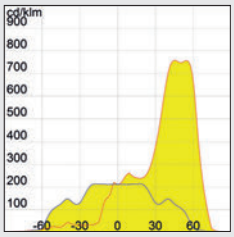
VALUES REQUIRED				
Class	EAv [lx]	Emin/EAv	GR	Colour rendering index [CRI]
III	200	0.6	55	20

PROPOSED SOLUTION

ASYMMETRICAL
STADIUM FLOODLIGHT
1000W
GW 84 667







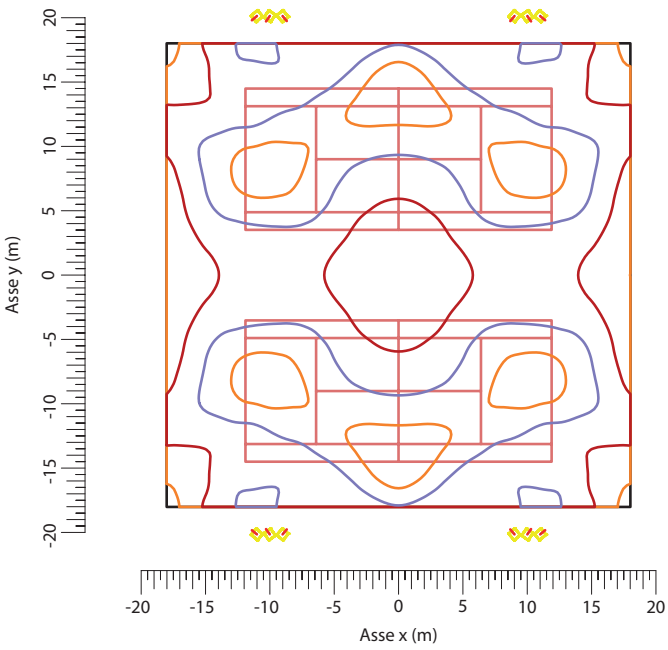
TECHNICAL DATA OF THE LAMP	
Maintenance factor	0.80
Floodlight	Stadium
Optic	Asymmetrical
Lamp	MHN-LA 1000W/842
Lamp flux (lm)	100,000

TECHNICAL DATA OF THE HIGH MASTS	
Number of high masts	4
High mast height (m. above ground)	13
Number of floodlights	8
Number of floodlights per high mast	2

FLOODLIGHT POSITIONING			
Lighting tower	Position of devices X	Position of devices Y	Device rotation X°; Y°; Z°
1	-12.00	-20.00	0°; 0°; 120°
1	-11.00	-20.00	0°; 0°; 55°
2	-12.00	20.00	0°; 0°; -120°
2	-11.00	20.00	0°; 0°; -55°
3	12.00	20.00	0°; 0°; -60°
3	11.00	20.00	0°; 0°; -125°
4	12.00	-20.00	0°; 0°; 60°
4	11.00	-20.00	0°; 0°; 125°

The lighting values actually measured may differ from the project ones due to the intrinsic tolerance levels of the light sources and devices, for their orientation, and for the different electricity supply parameters.

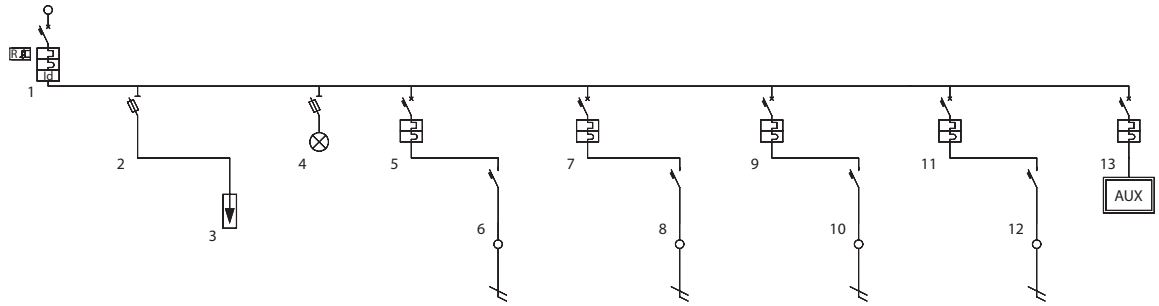
CALCULATION RESULTS



GRID 15x7	
EAv [lx]	242
Emin/EAv	0.66
GR	27
CRI	80
No. floodlights	8
floodlight height [m]	13

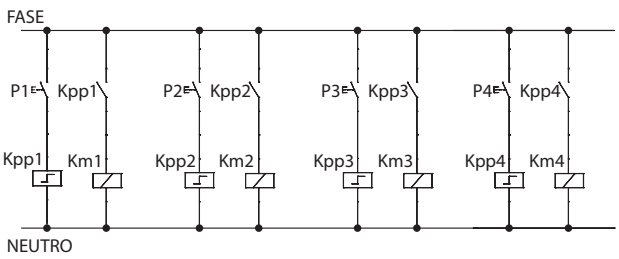
KEY
150.0 lx
200.0 lx
250.0 lx
300.0 lx

STANDARD ELECTRICAL SCHEME -System power: 8kW, three-phase



Line description	Main device		Surge protective device	Lamp	High mast 1	km1	High mast 2	km2	High mast 3	km3	High mast 4	km4	Auxiliaries circuit
Power	8.000 kW	0.000 kW			2.000 kW	2.000 kW	2.000 kW	2.000 kW	2.000 kW	2.000 kW	2.000 kW	2.000 kW	0.000 kW
Operating current Ib [A]	19.32	0.00			9.66	9.66	9.66	9.66	9.66	9.66	9.66	9.66	0.00
Rated current In [A]	20.00	20.00			16.00	20.00	16.00	20.00	16.00	20.00	16.00	20.00	6.00
Article description	MCB MT100 D20 4P + BD 4P 63A 30mA A-IR	Disconnectable fuse holder 3P+N 22x58 690V 100A	Surge protective device 3P+N 25kA Type 1+2	Triple red signalling lamp with fuse holder 230V	MT60 D16 2P	Contactor 2NO 230V AC - 20A 1M	MT60 D16 2P	Contactor 2NO 230V AC - 20A 1M	MT60 D16 2P	Contactor 2NO 230V AC - 20A 1M	MT60 D16 2P	Contactor 2NO 230V AC - 20A 1M	MTC60 C6 1P+N
Code	GW 92 788	GW 96 314	GW D6 405	GW 96 592	GW 92 447	GWD6703	GW 92 447	GWD6703	GW 92 447	GWD6703	GW 92 447	GWD6703	GW 90 225
Breaking capacity [kA]	10.00				6.00		6.00		6.00		6.00		6.00
RCCB	GW 94 586 + GW 90 893												

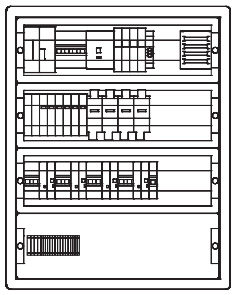
STANDARD AUXILIARIES CIRCUIT



COMPONENTS OF THE ELECTRICAL SCHEME AND AUXILIARIES CIRCUIT

Code	Description	Qty
GW 92 788	MCB 4P D20 10KA 4M	1
GW 94 586	Residual current device 4P IN<63A Immun. A/0.03	1
GW 90 893	Adjustable reset RM TOP 4P	1
GW 96 314	Disconnectable fuse holder 3P+N 22X58 690V 100A	1
GW D6 405	Surge protective device 3P+N 25KA TYPE 1+2	1
GW 96 312	Disconnectable fuse holder 3P+N 10.3X38 400V 32A	1
GW 96 592	Triple red indicator lamp 230V 1M	1
GW 92 447	MCB 2P D16 6KA 2M	4
GW D6 703	Contactor 230V 2NO 20A	4
GW D6 644	Latching relay 1NO 16A 230V	4
GW 90 225	Compact MCB 1P+N C 6 6KA 1M	1

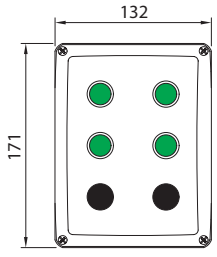
STANDARD DISTRIBUTION BOARD



DISTRIBUTION BOARD COMPONENTS

Code	Description	Qty
GW 46 205	Polyester board with window 650x515x250	1
GW 46 422 F	Panel without windows 24 mod.	3
GW 46 427 F	Blank panel 1M. 515MM	1
GW 46 437 F	Pair of uprights	1
GW 46 446	Set of 4 galvanised fixing brackets	1
GW 46 532 F	Double rail 24M	1
GW 44 696	4-pole terminal block 4M	1

STANDARD PUSH-BUTTON CONTROL PANEL



PUSH-BUTTON PANEL COMPONENTS

Code	Description	Qty
GW 27 104	6-gang push-button panel IP66	1
GW 74 341	Illuminated green push-button	4
GW 74 501	1 NO contact 10A 250V	4
GW 74 511	Lamp-holder - BA95 coupling	4
GW 74 518	Lamp - BA95 coupling	4
GW 74 521	Black cap	2

The electrical scheme shown here is merely an example; it can be modified to suit the installation requirements. It should not be considered as a substitute for the necessary electrical project, which must be based on the technical standards.

INDOOR

Tennis - 750 lx - High-level competitions

Project compliant with:
EN 12193 (2008): Class I

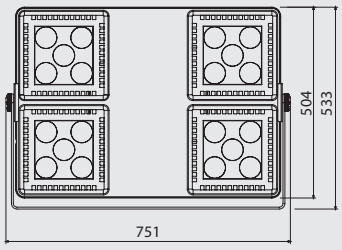
REQUISITES

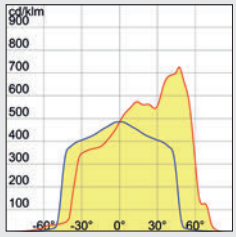
PLAY AREA DIMENSIONS	
Length [m]	36
Width [m]	18
Grid points (length)	15
Grid points (width)	7

VALUES REQUIRED			
Class	EAv [lx]	Emin/EAv	Colour rendering index [CRI]
I	750	0.7	60

PROPOSED SOLUTION

ASYMMETRICAL SMART [4] 2.0 FLOODLIGHT
GW S4 176 GS





TECHNICAL DATA OF THE LAMP	
Maintenance factor	0.80
Floodlight	Smart [4] 2.0
Optic	Asymmetrical
Power system (W)	232
Lumen output (lm)	25,560

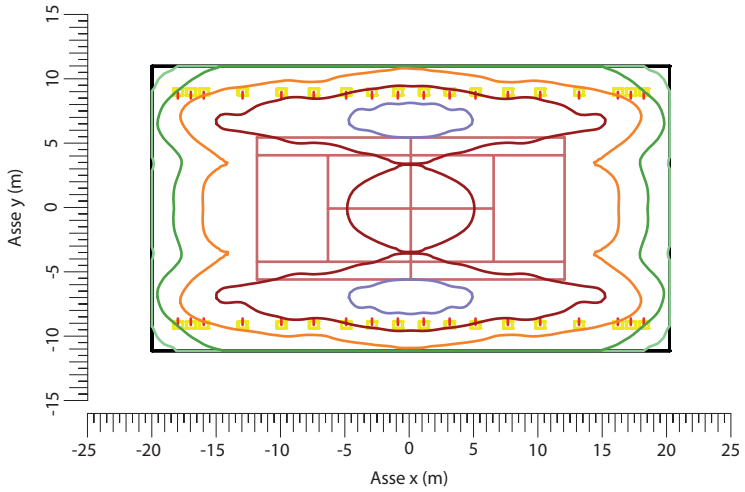
TECHNICAL DATA OF THE FLOODLIGHTS	
Floodlight assembly height (m)	10
Number of floodlights	36

The lighting values actually measured may differ from the project ones due to the intrinsic tolerance levels of the light sources and devices, for their orientation, and for the different electricity supply parameters.

FLOODLIGHT POSITIONING

Device	Position of devices in X	Position of devices in Y	Device rotation X°; Y°; Z°
1	-18.00	-9.00	0°; 0°; 90°
2	-17.00	-9.00	0°; 0°; 90°
3	-16.00	-9.00	0°; 0°; 90°
4	-13.00	-9.00	0°; 0°; 90°
5	-10.00	-9.00	0°; 0°; 90°
6	-7.50	-9.00	0°; 0°; 90°
7	-5.00	-9.00	0°; 0°; 90°
8	-3.00	-9.00	0°; 0°; 90°
9	-1.00	-9.00	0°; 0°; 90°

CALCULATION RESULTS

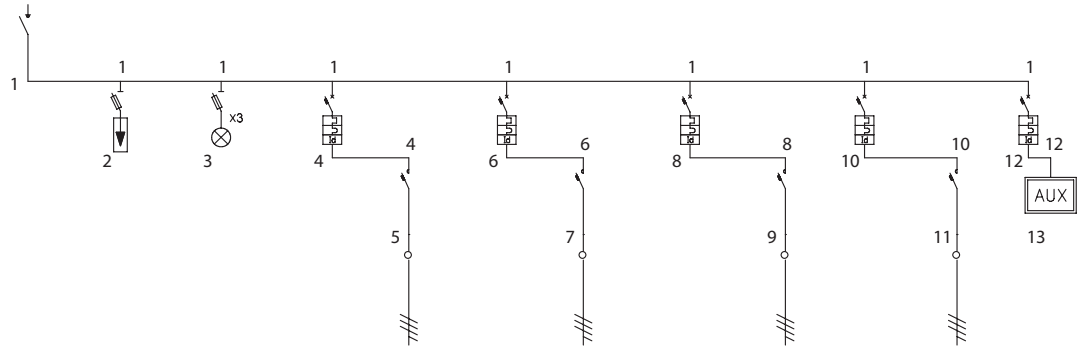


GRID 15x7	
EAv [lx]	773
Emin/EAv	0.80
CRI	80
No. floodlights	36
floodlight height [m]	10

KEY	
	500.0 lx
	600.0 lx
	700.0 lx
	800.0 lx
	900.0 lx

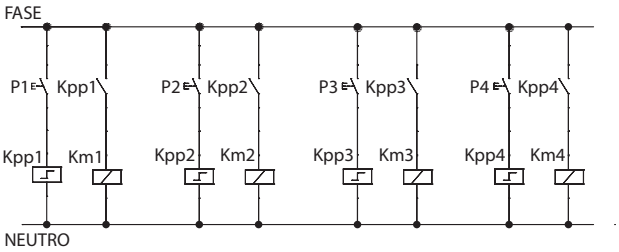
Lighting project for indoor sports centre.

STANDARD ELECTRICAL SCHEME -System power: 8.4kW, three-phase



Line description	Main device		Lamp	Line 1	km1	Line 2	km2	Line 3	km3	Line 4	km4	Auxiliaries line
Power	8.400 kW			2.100 kW	2.100 kW	2.100 kW	2.100 kW	2.100 kW	2.100 kW	2.100 kW	2.100 kW	0.000 kW
Operating current Ib [A]	13.20			3.30	3.30	3.30	3.30	3.30	3.30	3.30	3.30	0.00
Rated current In [A]	32.00			40.00	25.00	40.00	25.00	40.00	25.00	40.00	25.00	6.00
Article description	Control switch disconnector 4P 32A	Surge protective device 3P+N 25kA Aux. Type 1+2 + fuse holder 22x58 - 16M	Triple red signalling lamp with fuse holder 230V 10.3x38 - 5M	MT60 C40 4P+ BD 4P 63A 30mA S	Contactor 25A 4NO - 230V AC/ 220V DC - 2M	MT60 C40 4P+ BD 4P 63A 30mA A	Contactor 25A 4NO - 230V AC/ 220V DC - 2M	MT60 C40 4P+ BD 4P 63A 30mA A	Contactor 25A 4NO - 230V AC/ 220V DC - 2M	MT60 C40 4P+ BD 4P 63A 30mA A	Contactor 25A 4NO - 230V AC/ 220V DC - 2M	MDC60 C6 2P Id=30mA AC
Code	GW 96 134	GW D6 405	GW 96 592	GW 92 091	GW D6 715	GW 92 091	GW D6 715	GW 92 091	GW D6 715	GW 92 091	GW D6 715	GW 94 125
Breaking capacity Icn/Icu [kA]				6.00		6.00		6.00		6.00		6.00
RCCB				GW 94 532		GW 94 532		GW 94 532		GW 94 532		

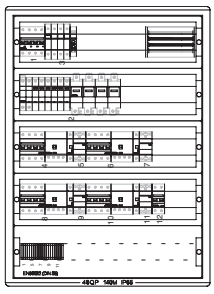
STANDARD AUXILIARIES CIRCUIT



COMPONENTS OF THE ELECTRICAL SCHEME AND AUXILIARIES CIRCUIT

Code	Description	Qty
GW 72 104	Cylindrical fuse type GG 10.3X38 500V 2A	3
GW 92 091	MCB 4P C40 6KA 4M	4
GW 94 125	RCBO C.2P C 6 6KA AC/0.03 2M	1
GW 94 532	Residual current device 4P IN<63A Instant. A/0.03 3.5M	4
GW 96 134	Switch disconnector 4P 32A AC23B	1
GW 96 312	Disconnectable fuse holder 3P+N 10.3X38 400V 32A	1
GW 96 314	Disconnectable fuse holder 3P+N 22X58 690V	1
GW 96 592	Triple red indicator lamp 230V 1M	1
GW D6 644	Latching relay 1NO 16A 230V	4
GW D6 405	Surge protective device 3P+N 25KA AUX TYPE 1+2	1
GW D6 715	Contactor 25A 4NO 230V 2M	4

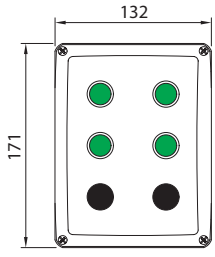
STANDARD DISTRIBUTION BOARD



DISTRIBUTION BOARD COMPONENTS

Code	Description	Qty
GW 44 698	4-pole terminal block 8 mod.EN 50022	1
GW 46 206	Polyester board with window 800X585X300	1
GW 46 423 F	Panel without windows 28 mod.	4
GW 46 428 F	Blank panel 1M. 585MM GR.RAL7035	1
GW 46 438 F	Pair of uprights for boards 800X585X300	1
GW 46 446	Set of 4 galvanised steel brackets for fixing surface-mounting boards	1
GW 46 533 F	Quick-assembly double rail 28M	1

STANDARD PUSH-BUTTON CONTROL PANEL



PUSH-BUTTON PANEL COMPONENTS

Code	Description	Qty
GW 27 104	6-gang push-button panel IP66	1
GW 74 341	Illuminated green push-button	4
GW 74 501	1 NO contact 10A 250V	4
GW 74 511	Lamp-holder - BA95 coupling	4
GW 74 518	Lamp - BA95 coupling	4
GW 74 521	Black cap	2

The electrical scheme shown here is merely an example; it can be modified to suit the installation requirements. It should not be considered as a substitute for the necessary electrical project, which must be based on the technical standards.

INDOOR

Tennis - 500 lx - Medium-level competitions

Project compliant with:
EN 12193 (2008): Class II

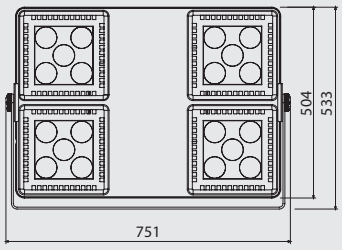
REQUISITES

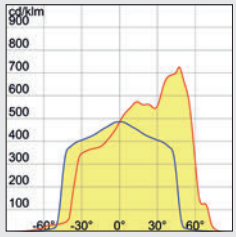
PLAY AREA DIMENSIONS	
Length [m]	36
Width [m]	18
Grid points (length)	15
Grid points (width)	7

VALUES REQUIRED			
Class	EAv [lx]	Emin/EAv	Colour rendering index [CRI]
II	500	0.7	60

PROPOSED SOLUTION

ASYMMETRICAL SMART [4] 2.0 FLOODLIGHT
GW S4 176 GS





TECHNICAL DATA OF THE LAMP	
Maintenance factor	0.80
Floodlight	Smart [4] 2.0
Optic	Asymmetrical
Power system (W)	232
Lumen output (lm)	25,560

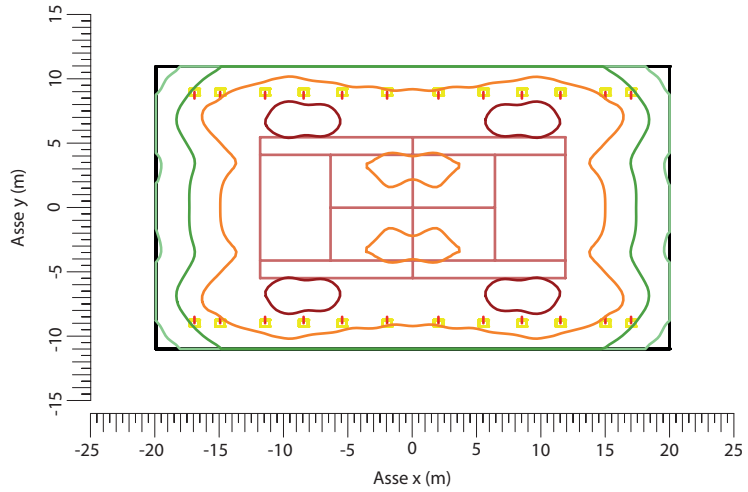
TECHNICAL DATA OF THE FLOODLIGHTS	
Floodlight assembly height (m)	10
Number of floodlights	24

FLOODLIGHT POSITIONING

Device	Position of devices in X	Position of devices in Y	Device rotation X°; Y°; Z°
1	-17.00	-9.00	0°; 0°; 90°
2	-15.00	-9.00	0°; 0°; 90°
3	-11.50	-9.00	0°; 0°; 90°
4	-8.50	-9.00	0°; 0°; 90°
5	-5.50	-9.00	0°; 0°; 90°
6	-2.00	-9.00	0°; 0°; 90°

The lighting values actually measured may differ from the project ones due to the intrinsic tolerance levels of the light sources and devices, for their orientation, and for the different electricity supply parameters.

CALCULATION RESULTS

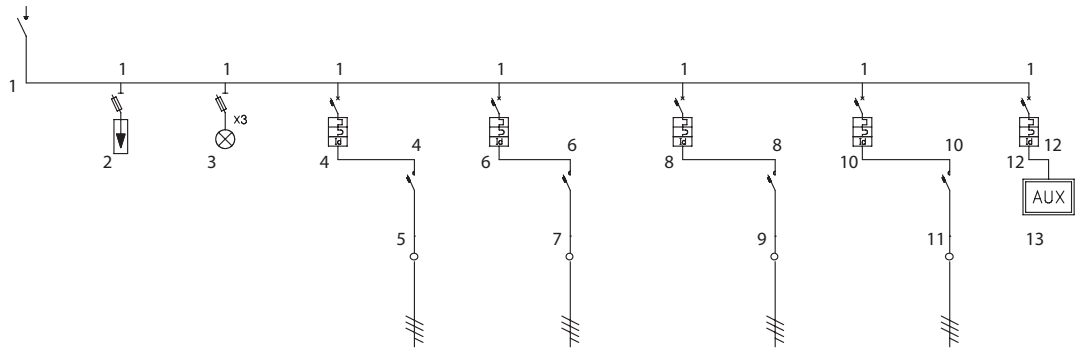


GRID 15x7	
EAv [lx]	526
Emin/EAv	0.75
CRI	80
No. floodlights	24
floodlight height [m]	10

KEY	
	300.0 lx
	400.0 lx
	500.0 lx
	600.0 lx

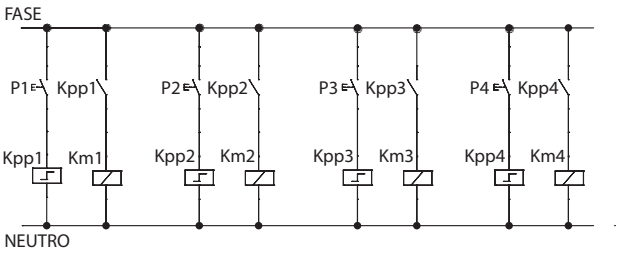
Lighting project for indoor sports centre.

STANDARD ELECTRICAL SCHEME -System power: 5.6kW, three-phase



Line description	Main device		Lamp	Line 1	km1	Line 2	km2	Line 3	km3	Line 4	km4	Auxiliaries line
Power	5.600 kW			1.400 kW	1.400 kW	1.400 kW	1.400 kW	1.400 kW	1.400 kW	1.400 kW	1.400 kW	0.000 kW
Operating current Ib [A]	8.80			2.20	2.20	2.20	2.20	2.20	2.20	2.20	2.20	0.00
Rated current In [A]	32.00			32.00	25.00	32.00	25.00	32.00	25.00	32.00	25.00	6.00
Article description	Control switch disconnector 4P 32A	Surge protective device 3P+N 25kA Aux. Type 1+2 + fuse holder 22x58 - 16M	Triple red signalling lamp with fuse holder 230V 10.3x38 - 5M	MT60 C32 4P+ BD 4P 63A 30mA S	Contactor 25A 4NO - 230V AC/ 220V DC - 2M	MT60 C32 4P+ BD 4P 63A 30mA S	Contactor 25A 4NO - 230V AC/ 220V DC - 2M	MT60 C32 4P+ BD 4P 63A 30mA S	Contactor 25A 4NO - 230V AC/ 220V DC - 2M	MT60 C32 4P+ BD 4P 63A 30mA S	Contactor 25A 4NO - 230V AC/ 220V DC - 2M	MDC60 C6 2P Id=30mA AC
Code	GW 96 134	GW D6 405	GW 96 592	GW 92 090	GW D6 715	GW 92 090	GW D6 715	GW 92 090	GW D6 715	GW 92 090	GW D6 715	GW 94 125
Breaking capacity Icn/Icu [kA]				6.00		6.00		6.00		6.00		6.00
RCCB				GW 94 532		GW 94 532		GW 94 532		GW 94 532		

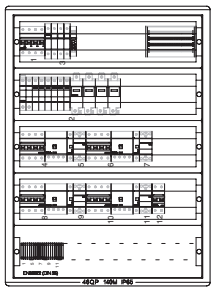
STANDARD AUXILIARIES CIRCUIT



COMPONENTS OF THE ELECTRICAL SCHEME AND AUXILIARIES CIRCUIT

Code	Description	Qty
GW 72 104	Cylindrical fuse type GG 10.3X38 500V 2A	3
GW 92 090	MCB 4P C32 6KA 4M	4
GW 94 125	RCBO C.2P C 6 6KA AC/0.03 2M	1
GW 94 532	Residual current device 4P IN<63A Instant. A/0.03 3.5M	4
GW 96 134	Switch disconnector 4P 32A AC23B	1
GW 96 312	Disconnectable fuse holder 3P+N 10.3X38 400V 32A	1
GW 96 314	Disconnectable fuse holder 3P+N 22X58 690V	1
GW 96 592	Triple red indicator lamp 230V 1M	1
GW D6 644	Latching relay 1NO 16A 230V	4
GW D6 405	Surge protective device 3P+N 25KA AUX TYPE 1+2	1
GW D6 715	Contactor 25A 4NO 230V 2M	4

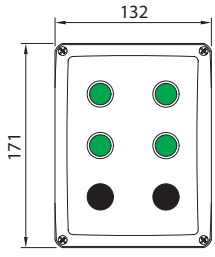
STANDARD DISTRIBUTION BOARD



DISTRIBUTION BOARD COMPONENTS

Code	Description	Qty
GW 44 698	4-pole terminal block 8 mod.EN 50022	1
GW 46 206	Polyester board with window 800X585X300	4
GW 46 423 F	Panel without windows 28 mod.	1
GW 46 428 F	Blank panel 1M. 585MM GR.RAL7035	1
GW 46 438 F	Pair of uprights for boards 800X585X300	1
GW 46 446	Set of 4 galvanised steel brackets for fixing surface-mounting boards	1
GW 46 533 F	Quick-assembly double rail 28M	1

STANDARD PUSH-BUTTON CONTROL PANEL



PUSH-BUTTON PANEL COMPONENTS

Code	Description	Qty
GW 27 104	6-gang push-button panel IP66	1
GW 74 341	Illuminated green push-button	4
GW 74 501	1 NO contact 10A 250V	4
GW 74 511	Lamp-holder - BA95 coupling	4
GW 74 518	Lamp - BA95 coupling	4
GW 74 521	Black cap	2

The electrical scheme shown here is merely an example; it can be modified to suit the installation requirements. It should not be considered as a substitute for the necessary electrical project, which must be based on the technical standards.

INDOOR

Tennis - 300 lx- Training activities

Project compliant with:
EN 12193 (2008): Class III

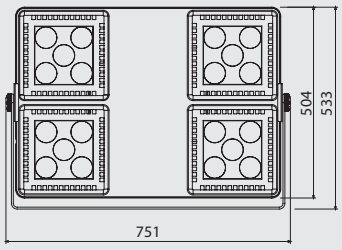
REQUISITES

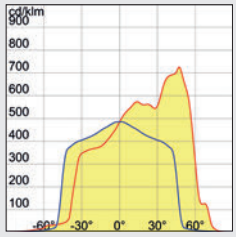
PLAY AREA DIMENSIONS	
Length [m]	36
Width [m]	18
Grid points (length)	15
Grid points (width)	7

VALUES REQUIRED			
Class	EAv [lx]	Emin/EAv	Colour rendering index [CRI]
III	300	0.5	20

PROPOSED SOLUTION

ASYMMETRICAL SMART [4] 2.0 FLOODLIGHT
GW S4 176 GS





TECHNICAL DATA OF THE LAMP	
Maintenance factor	0.80
Floodlight	Smart [4] 2.0
Optic	Asymmetrical
Power system (W)	232
Lumen output (lm)	25,560

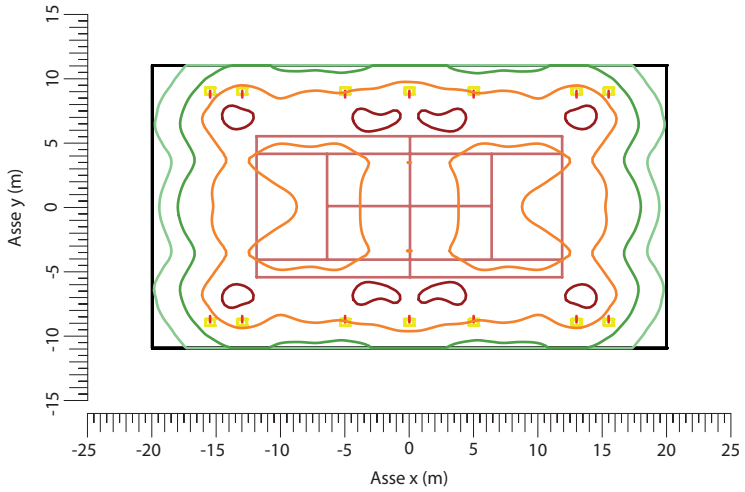
TECHNICAL DATA OF THE FLOODLIGHTS	
Floodlight assembly height (m)	10
Number of floodlights	14

FLOODLIGHT POSITIONING

Device	Position of devices in X	Position of devices in Y	Device rotation X°; Y°; Z°
1	-15.50	-9.00	0°; 0°; 90°
2	-13.00	-9.00	0°; 0°; 90°
3	-5.00	-9.00	0°; 0°; 90°
4	0.00	-9.00	0°; 0°; 90°
11	0.00	9.00	0°; 0°; -90°
12	5.00	9.00	0°; 0°; -90°
13	13.00	9.00	0°; 0°; -90°
14	15.50	9.00	0°; 0°; -90°

The lighting values actually measured may differ from the project ones due to the intrinsic tolerance levels of the light sources and devices, for their orientation, and for the different electricity supply parameters.

CALCULATION RESULTS

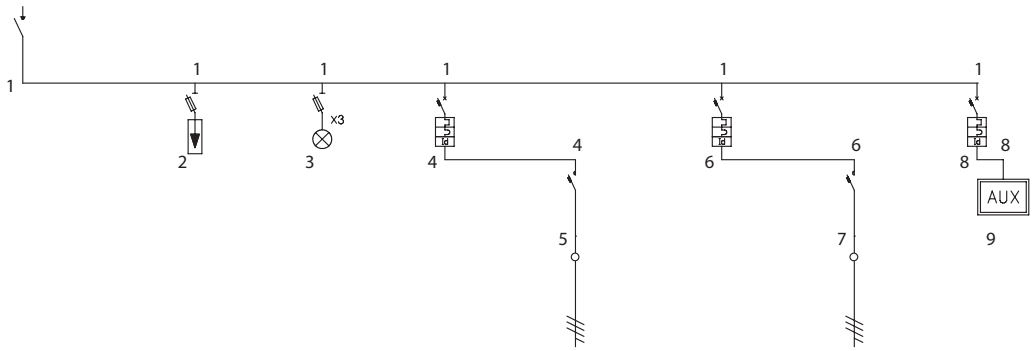


GRID 15x7	
EAv [lx]	302
Emin/EAv	0.79
CRI	80
No. floodlights	14
floodlight height [m]	10

KEY	
	200.0 lx
	250.0 lx
	300.0 lx
	350.0 lx

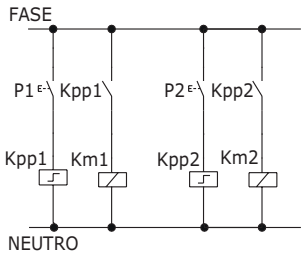
Lighting project for indoor sports centre.

STANDARD ELECTRICAL SCHEME -System power: 3.3kW, three-phase



Line description	Main device		Lamp	Line 1	km1	Line 2	km2	Auxiliaries line
Power	3.300 kW			1.650 kW	1.650 kW	1.650 kW	1.650 kW	0.000 kW
Operating current Ib [A]	5.20			2.60	2.60	2.60	2.60	0.00
Rated current In [A]	32.00			40.00	25.00	40.00	25.00	6.00
Article description	Control switch disconnector 4P 32A	Surge protective device 3P+N 25kA Aux. Type 1+2 + fuse holder 22x58 - 16M	Triple red signalling lamp with fuse holder 230V 10.3x38 - 5M	MT60 C40 4P+ BD 4P 63A 30mA S	Contactor 25A 4NO - 230V AC/ 220V DC - 2M	MT60 C40 4P+ BD 4P 63A 30mA S	Contactor 25A 4NO - 230V AC/ 220V DC - 2M	MDC45 C6 1P+N Id=30mA AC
Code	GW 96 134	GW D6 405	GW 96 592	GW 92 091	GW D6 715	GW 92 091	GW D6 715	GW 94 005
Breaking capacity Icn/Icu [kA]				6.00		6.00		4.50
RCCB				GW 94 532		GW 94 532		

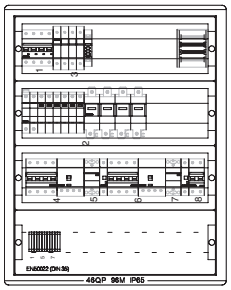
STANDARD AUXILIARIES CIRCUIT



COMPONENTS OF THE ELECTRICAL SCHEME AND AUXILIARIES CIRCUIT

Code	Description	Qty
GW 72 104	Cylindrical fuse type GG 10.3X38 500V 2A	3
GW 92 091	MCB 4P C40 6KA 4M	2
GW 94 005	RCBO C.1P+N C 6 4.5KA AC/0.03 2M	1
GW 94 532	Residual current device 4P IN<63A Instant. A/0.03 3.5M	2
GW 96 134	Switch disconnector 4P 32A AC23B	1
GW 96 312	Disconnectable fuse holder 3P+N 10.3X38 400V 32A	1
GW 96 314	Disconnectable fuse holder 3P+N 22X58 690V	1
GW 96 592	Triple red indicator lamp 230V 1M	1
GW D6 644	Latching relay 1NO 16A 230V	2
GW D6 405	Surge protective device 3P+N 25KA AUX TYPE 1+2	1
GW D6 715	Contactor 25A 4NO 230V 2M	2

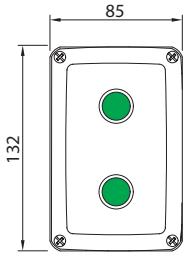
STANDARD DISTRIBUTION BOARD



DISTRIBUTION BOARD COMPONENTS

Code	Description	Qty
GW 44 696	4-pole terminal block 4 mod.EN 50022	1
GW 46 205	Polyester board with window 650X515X250	1
GW 46 422 F	Panel without windows 24 mod.	3
GW 46 427 F	Blank panel 1M. 515MM GR.RAL7035	1
GW 46 437 F	Pair of uprights for boards 650X405X200	1
GW 46 532 F	Quick-assembly double rail 24M	1

STANDARD PUSH-BUTTON CONTROL PANEL



PUSH-BUTTON PANEL COMPONENTS

Code	Description	Qty
GW 27 102	2-gang push-button panel IP66	1
GW 74 341	Illuminated green push-button	2
GW 74 501	1 NO contact 10A 250V	2
GW 74 511	Lamp-holder - BA95 coupling	2
GW 74 518	Lamp - BA95 coupling	2

The electrical scheme shown here is merely an example; it can be modified to suit the installation requirements. It should not be considered as a substitute for the necessary electrical project, which must be based on the technical standards.

OUTDOOR

Swimming - 300 lx - Medium-level competitions

Project compliant with:
EN 12193 (2008): Class II

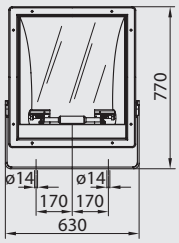
REQUISITES

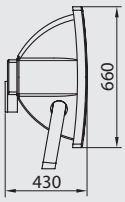
PLAY AREA DIMENSIONS	
Length [m]	50
Width [m]	21
Grid points (length)	17
Grid points (width)	7

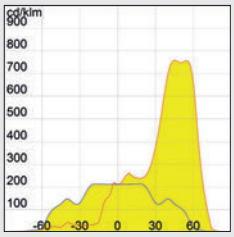
VALUES REQUIRED				
Class	EAv [lx]	Emin/EAv	GR	Colour rendering index [CRI]
II	300	0.7	-	60

PROPOSED SOLUTION

ASYMMETRICAL
STADIUM FLOODLIGHT
1000W
GW 84 667







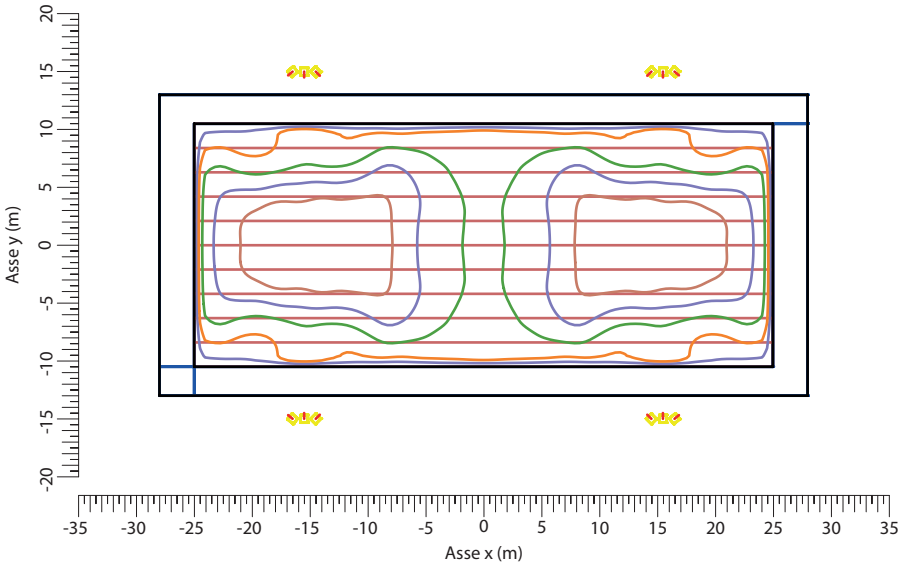
TECHNICAL DATA OF THE LAMP	
Maintenance factor	0.80
Floodlight	Stadium
Optic	Asymmetrical
Lamp	MHN-LA 1000W/842
Lamp flux (lm)	100,000

TECHNICAL DATA OF THE HIGH MASTS	
Number of high masts	4
High mast height (m. above ground)	14
Number of floodlights	12
Number of floodlights per high mast	3

The lighting values actually measured may differ from the project ones due to the intrinsic tolerance levels of the light sources and devices, for their orientation, and for the different electricity supply parameters.

FLOODLIGHT POSITIONING			
Lighting tower	Position of devices in X	Position of devices in Y	Device rotation X°; Y°; Z°
1	-16.50	-15.00	0°; 0°; 140°
1	-15.50	-15.00	0°; 0°; 90°
1	-14.50	-15.00	0°; 0°; 45°
2	-16.50	15.00	0°; 0°; -140°
2	-15.50	15.00	0°; 0°; -90°
2	-14.50	15.00	0°; 0°; -45°
3	16.50	15.00	0°; 0°; -40°
3	15.50	15.00	0°; 0°; -90°
3	14.50	15.00	0°; 0°; -135°
4	16.50	-15.00	0°; 0°; 40°
4	15.50	-15.00	0°; 0°; 90°
4	14.50	-15.00	0°; 0°; 135°

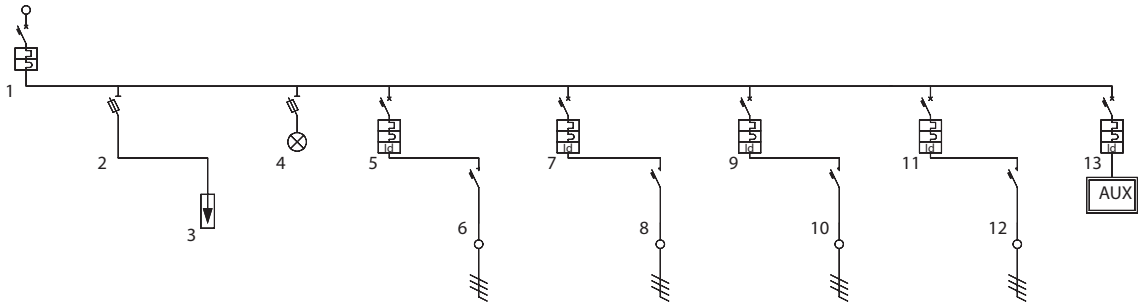
CALCULATION RESULTS



GRID 17x7	
EAv [lx]	380
Emin/EAv	0.71
GR	-
CRI	80
No. floodlights	12
floodlight height [m]	14

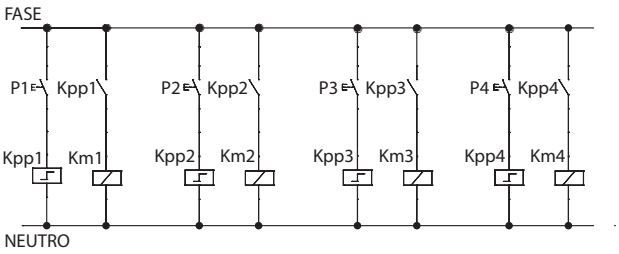
KEY	
	50.0 lx
	100.0 lx
	150.0 lx
	200.0 lx
	250.0 lx
	300.0 lx
	350.0 lx
	400.0 lx
	450.0 lx

STANDARD ELECTRICAL SCHEME -System power: 12kW, three-phase



Line description	Main device		Surge protective device	Lamp	High mast 1	km1	High mast 2	km2	High mast 3	km3	High mast 4	km4	Auxiliaries circuit
Power	12.000 kW	0.000 kW			3.000 kW	3.000 kW	3.000 kW	3.000 kW	3.000 kW	3.000 kW	3.000 kW	3.000 kW	0.000 kW
Operating current Ib [A]	19.27	0.00			4.82	4.82	4.82	4.82	4.82	4.82	4.82	4.82	0.00
Rated current In [A]	32.00	50.00			10.00	24.00	10.00	24.00	10.00	24.00	10.00	24.00	6.00
Article description	MT100 D32 4P	Disconnectable fuse holder 3P+N 22x58 690V 50A	Surge protective device 3P+N 25kA Type 1+2	Triple red signalling lamp with fuse holder 230V	MCB MT60 D10 4P + BD 4P 63A 30mA A-IR	Contactor 4 NO 230V AC/DC 24A - 2M	MCB MT60 D10 4P + BD 4P 63A 30mA A-IR	Contactor 4 NO 230V AC/DC 24A - 2M	MCB MT60 D10 4P + BD 4P 63A 30mA A-IR	Contactor 4 NO 230V AC/DC 24A - 2M	MCB MT60 D10 4P + BD 4P 63A 30mA A-IR	Contactor 4 NO 230V AC/DC 24A - 2M	MDC60 C6 2P Id=30mA AC
Code	GW 92 790	GW 96 314	GW D6 405	GW 96 592	GW 92 486	GW D6 715	GW 92 486	GW D6 715	GW 92 486	GW D6 715	GW 92 486	GW D6 715	GW 94 125
Breaking capacity [kA]	10.00				6.00		6.00		6.00		6.00		6.00
RCCB					GW 94 586		GW 94 586		GW 94 586		GW 94 586		

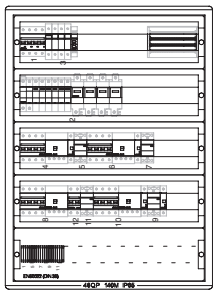
STANDARD AUXILIARIES CIRCUIT



COMPONENTS OF THE ELECTRICAL SCHEME AND AUXILIARIES CIRCUIT

Code	Description	Qty
GW 92 790	MCB 4P D32 10KA 4M	1
GW 96 314	Disconnectable fuse holder 3P+N 22X58 400V 100A	1
GW D6 405	Surge protective device 3P+N 25KA TYPE 1+2	1
GW 96 312	Disconnectable fuse holder 3P+N 10.3X38 400V 32A	1
GW 96 592	Triple red indicator lamp 230V 1M	1
GW 92 486	MCB 4P D10 6KA 4M	4
GW 94 586	Residual current device 4P IN<63A Immun. A/0.03	4
GW D6 715	Contactor 230V 4NO 24A	4
GWD6644	Latching relay 1NO 16A 230V	4
GW 94 125	RCBO 2P C6 6KA AC/0.03 2M	1

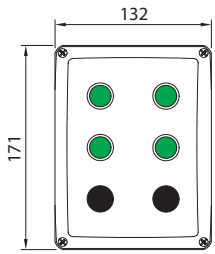
STANDARD DISTRIBUTION BOARD



DISTRIBUTION BOARD COMPONENTS

Code	Description	Qty
GW 46 206	Polyester board with window 800X585X300	1
GW 46 423 F	Panel without windows - 28 mod.	4
GW 46 428 F	Blank panel 1M. 515MM	1
GW 46 438 F	Pair of uprights	1
GW 46 446	Set of 4 galvanised fixing brackets	1
GW 46 533 F	Double rail 28M	1
GW 44 698	4-pole terminal block 8M	1

STANDARD PUSH-BUTTON CONTROL PANEL



PUSH-BUTTON PANEL COMPONENTS

Code	Description	Qty
GW 27 104	6-gang push-button panel IP66	1
GW 74 341	Illuminated green push-button	4
GW 74 501	1 NO contact 10A 250V	4
GW 74 511	Lamp-holder - BA95 coupling	4
GW 74 518	Lamp - BA95 coupling	4
GW 74 521	Black cap	2

The electrical scheme shown here is merely an example; it can be modified to suit the installation requirements. It should not be considered as a substitute for the necessary electrical project, which must be based on the technical standards.

OUTDOOR

Swimming - 200 lx - Training activities

Project compliant with:
EN 12193 (2008): Class III

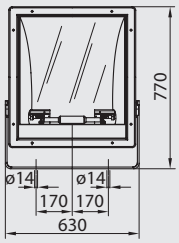
REQUISITES

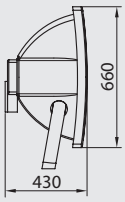
PLAY AREA DIMENSIONS	
Length [m]	50
Width [m]	21
Grid points (length)	17
Grid points (width)	7

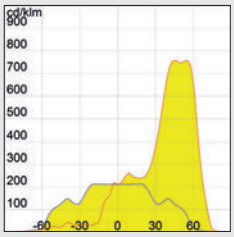
VALUES REQUIRED				
Class	EAv [lx]	Emin/EAv	GR	Colour rendering index [CRI]
III	200	0.5	-	20

PROPOSED SOLUTION

ASYMMETRICAL STADIUM FLOODLIGHT 1000W - GW 84 667







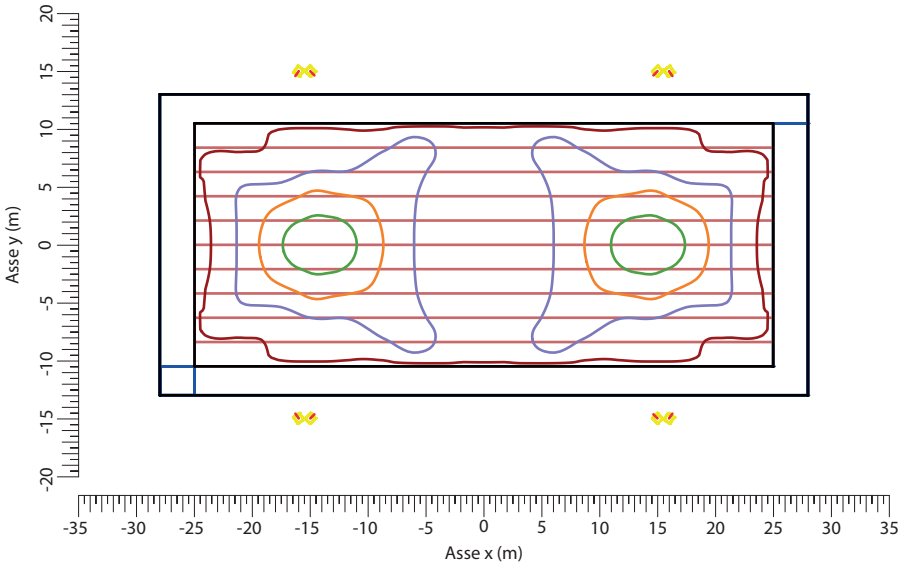
TECHNICAL DATA OF THE LAMP	
Maintenance factor	0.80
Floodlight	Stadium
Optic	Asymmetrical
Lamp	MHN-LA 1000W/842
Lamp flux (lm)	100,000

TECHNICAL DATA OF THE HIGH MASTS	
Number of high masts	4
High mast height (m. above ground)	14
Number of floodlights	8
Number of floodlights per high mast	2

FLOODLIGHT POSITIONING			
Lighting tower	Position of devices in X	Position of devices in Y	Device rotation X°; Y°; Z°
1	-16.00	-15.00	0°; 0°; 125°
1	-15.00	-15.00	0°; 0°; 45°
2	-16.00	15.00	0°; 0°; -125°
2	-15.00	15.00	0°; 0°; -45°
3	16.00	15.00	0°; 0°; -55°
3	15.00	15.00	0°; 0°; -135°
4	16.00	-15.00	0°; 0°; 55°
4	15.00	-15.00	0°; 0°; 135°

The lighting values actually measured may differ from the project ones due to the intrinsic tolerance levels of the light sources and devices, for their orientation, and for the different electricity supply parameters.

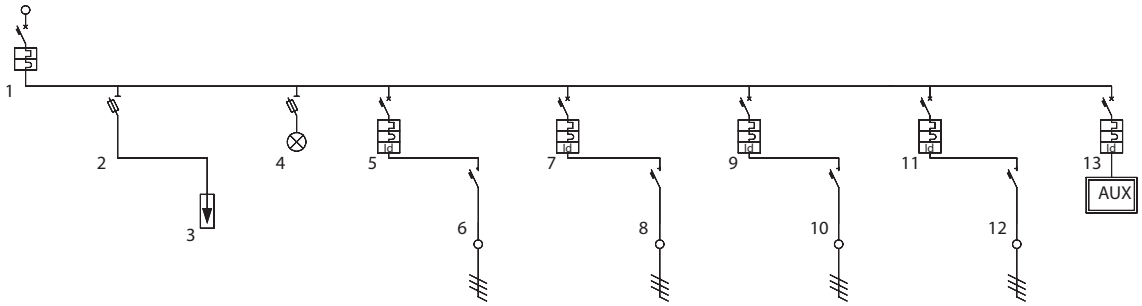
CALCULATION RESULTS



GRID 17x7	
EAv [lx]	252
Emin/EAv	0.71
GR	-
CRI	80
No. floodlights	8
floodlight height [m]	14

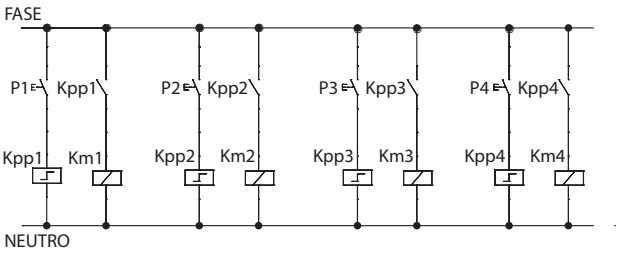
KEY	
	50.0 lx
	100.0 lx
	150.0 lx
	200.0 lx
	250.0 lx
	300.0 lx
	350.0 lx

STANDARD ELECTRICAL SCHEME -System power: 8kW, three-phase



Line description	Main device		Surge protective device	Lamp	High mast 1	km1	High mast 2	km2	High mast 3	km3	High mast 4	km4	Auxiliaries circuit
Power	8.000 kW	0.000 kW			2.000 kW	2.000 kW	2.000 kW	2.000 kW	2.000 kW	2.000 kW	2.000 kW	2.000 kW	0.000 kW
Operating current Ib [A]	12.85	0.00			3.21	3.21	3.21	3.21	3.21	3.21	3.21	3.21	0.00
Rated current In [A]	20.00	20.00			10.00	24.00	10.00	24.00	10.00	24.00	10.00	24.00	6.00
Article description	MT100 D20 4P	Disconnectable fuse holder 3P+N 22x58 690V 100A	Surge protective device 3P+N 25kA Type 1+2	Triple red signalling lamp with fuse holder 230V	MCB MT60 D10 4P + BD 4P 63A 30mA A-IR	Contactor 4 NO 230V AC/DC 24A - 2M	MCB MT60 D10 4P + BD 4P 63A 30mA A-IR	Contactor 4 NO 230V AC/DC 24A - 2M	MCB MT60 D10 4P + BD 4P 63A 30mA A-IR	Contactor 4 NO 230V AC/DC 24A - 2M	MCB MT60 D10 4P + BD 4P 63A 30mA A-IR	Contactor 4 NO 230V AC/DC 24A - 2M	MDC60 C6 2P Id=30mA AC
Code	GW 92 788	GW 96 314	GW D6 405	GW 96 592	GW 92 486	GW D6 715	GW 92 486	GW D6 715	GW 92 486	GW D6 715	GW 92 486	GW D6 715	GW 94 125
Breaking capacity [kA]	10.00				6.00		6.00		6.00		6.00		6.00
RCCB					GW 94 586		GW 94 586		GW 94 586		GW 94 586		

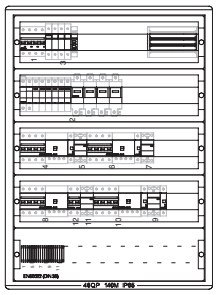
STANDARD AUXILIARIES CIRCUIT



COMPONENTS OF THE ELECTRICAL SCHEME AND AUXILIARIES CIRCUIT

Code	Description	Qty
GW 92 788	MCB 4P D20 10KA 4M	1
GW 96 314	Disconnectable fuse holder 3P+N 22X58 400V 100A	1
GW D6 405	Surge protective device 3P+N 25KA TYPE 1+2	1
GW 96 312	Disconnectable fuse holder 3P+N 10.3X38 400V 32A	1
GW 96 592	Triple red indicator lamp 230V 1M	1
GW 92 486	MCB 4P D10 6KA 4M	4
GW 94 586	Residual current device 4P IN<63A Immun. A/0.03	4
GW D6 715	Contactor 230V 4NO 24A	4
GW D6 644	Latching relay 1NO 16A 230V	4
GW 94 125	RCBO 2P C6 6KA AC/0.03 2M	1

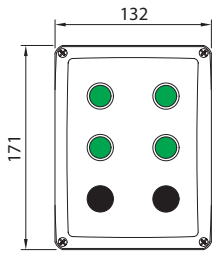
STANDARD DISTRIBUTION BOARD



DISTRIBUTION BOARD COMPONENTS

Code	Description	Qty
GW 46 206	Polyester board with window 800X585X300	1
GW 46 423 F	Panel without windows - 28 mod.	4
GW 46 428 F	Blank panel 1M. 515MM	1
GW 46 438 F	Pair of uprights	1
GW 46 446	Set of 4 galvanised fixing brackets	1
GW 46 533 F	Double rail 28M	1
GW 44 698	4-pole terminal block 8M	1

STANDARD PUSH-BUTTON CONTROL PANEL



PUSH-BUTTON PANEL COMPONENTS

Code	Description	Qty
GW 27 104	6-gang push-button panel IP66	1
GW 74 341	Illuminated green push-button	4
GW 74 501	1 NO contact 10A 250V	4
GW 74 511	Lamp-holder - BA95 coupling	4
GW 74 518	Lamp - BA95 coupling	4
GW 74 521	Black cap	2

The electrical scheme shown here is merely an example; it can be modified to suit the installation requirements. It should not be considered as a substitute for the necessary electrical project, which must be based on the technical standards.

INDOOR

Swimming - 500 lx - High-level competitions

Project compliant with:
EN 12193 (2008): Class I

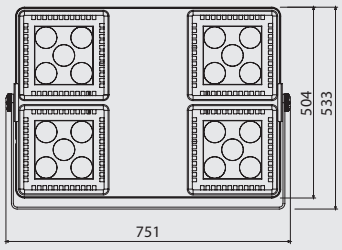
REQUISITES

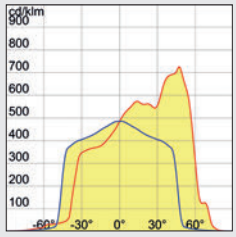
PLAY AREA DIMENSIONS	
Length [m]	50
Width [m]	21
Grid points (length)	17
Grid points (width)	7

VALUES REQUIRED			
Class	EAv [lx]	Emin/EAv	Colour rendering index [CRI]
I	500	0.7	60

PROPOSED SOLUTION

ASYMMETRICAL SMART [4] 2.0 FLOODLIGHT
GW S4 176 GS





TECHNICAL DATA OF THE LAMP	
Maintenance factor	0.80
Floodlight	Smart [4] 2.0
Optic	Asymmetrical
Power system (W)	232
Lumen output (lm)	25,560

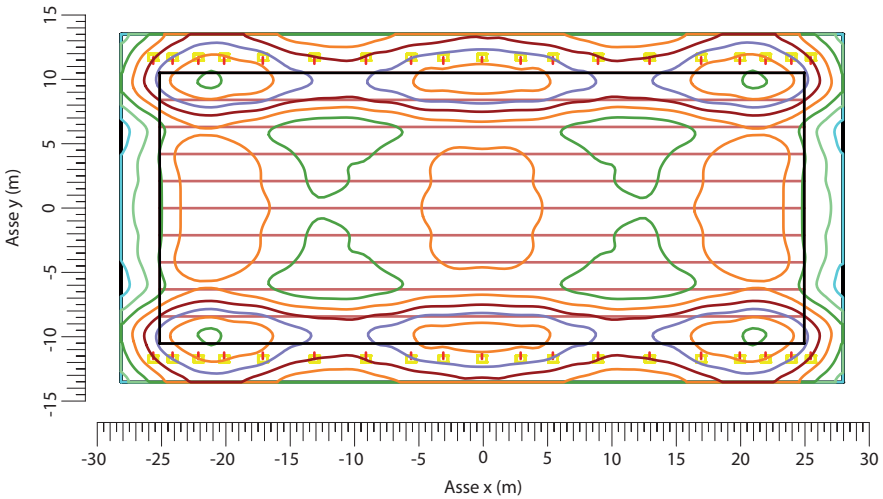
TECHNICAL DATA OF THE FLOODLIGHTS	
Floodlight assembly height (m)	10
Number of floodlights	38

The lighting values actually measured may differ from the project ones due to the intrinsic tolerance levels of the light sources and devices, for their orientation, and for the different electricity supply parameters.

FLOODLIGHT POSITIONING

Device	Position of devices in X	Position of devices in Y	Device rotation X°; Y°; Z°
1	-25.50	-11.70	0°; 0°; 90°
2	-24.00	-11.70	0°; 0°; 90°
3	-22.00	-11.70	0°; 0°; 90°
4	-20.00	-11.70	0°; 0°; 90°
5	-17.00	-11.70	0°; 0°; 90°
6	-13.00	-11.70	0°; 0°; 90°
7	-9.00	-11.70	0°; 0°; 90°
8	-5.50	-11.70	0°; 0°; 90°
9	-3.00	-11.70	0°; 0°; 90°
10	0.00	-11.70	0°; 0°; 90°

CALCULATION RESULTS

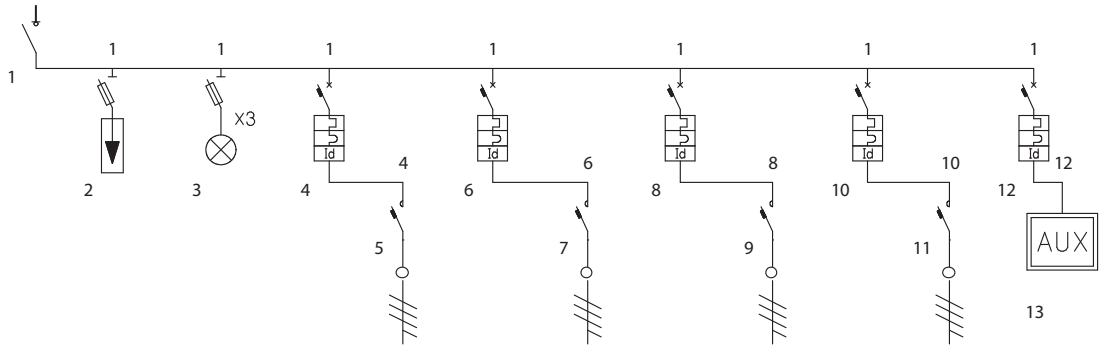


GRID 17x7	
EAv [lx]	520
Emin/EAv	0.83
CRI	80
No. floodlights	38
floodlight height [m]	10

KEY	
	350.0 lx
	400.0 lx
	450.0 lx
	500.0 lx
	550.0 lx
	600.0 lx
	650.0 lx
	700.0 lx

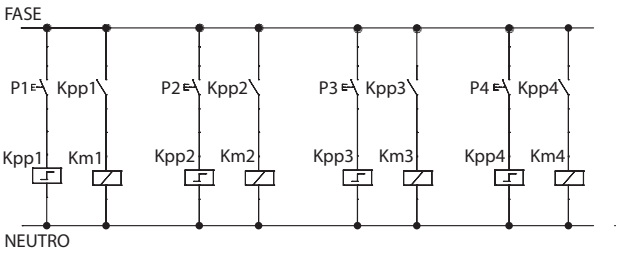
Lighting project for indoor sports centre.

STANDARD ELECTRICAL SCHEME -System power: 8.9kW, three-phase



Line description	Main device		Lamp	Line 1	km1	Line 2	km2	Line 3	km3	Line 4	km4	Auxiliaries line
Power	8.900 kW			2.350 kW	2.350 kW	2.100 kW	2.100 kW	2.350 kW	2.350 kW	2.100 kW	2.100 kW	0.000 kW
Operating current Ib [A]	14.0			3.70	3.70	3.30	3.30	3.70	3.70	3.30	3.30	0.00
Rated current In [A]	40.00			50.00	25.00	50.00	25.00	50.00	25.00	50.00	25.00	6.00
Article description	Control switch disconnector 4P 40A	Surge protective device 3P+N 25kA Aux. Type 1+2 + fuse holder 22x58 - 16M	Triple red signalling lamp with fuse holder 230V 10.3x38 - 5M	MT60 C50 4P + BD 4P 63A 30mA S	Contactor 25A 4NO - 230V AC / 220V DC - 2M	MT60 C50 4P + BD 4P 63A 30mA S	Contactor 25A 4NO - 230V AC / 220V DC - 2M	MT60 C50 4P + BD 4P 63A 30mA S	Contactor 25A 4NO - 230V AC / 220V DC - 2M	MT60 C50 4P + BD 4P 63A 30mA S	Contactor 25A 4NO - 230V AC / 220V DC - 2M	MDC60 C6 2P Id=30mA AC
Code	GW 96 135	GW D6 405	GW 96 592	GW 92 092	GW D6 715	GW 92 092	GW D6 715	GW 92 092	GW D6 715	GW 92 092	GW D6 715	GW 94 125
Breaking capacity Icn/Icu [kA]				6.00		6.00		6.00		6.00		6.00
RCCB				GW 94 532		GW 94 532		GW 94 532		GW 94 532		

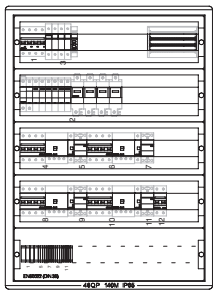
STANDARD AUXILIARIES CIRCUIT



COMPONENTS OF THE ELECTRICAL SCHEME AND AUXILIARIES CIRCUIT

Code	Description	Qty
GW 72 104	Cylindrical fuse type GG 10.3X38 500V 2A	3
GW 92 092	MCB 4P C50 6KA 4M	4
GW 94 125	RCBO C.2P C 6 6KA AC/0.03 2M	1
GW 94 532	Residual current device 4P IN<63A Instant. A/0.03 3.5M	4
GW 96 176	Control switch disconnector 4P 63A AC22B	1
GW 96 312	Disconnectable fuse holder 3P+N 10.3X38 400V 32A	1
GW 96 314	Disconnectable fuse holder 3P+N 22X58 690V	1
GW 96 592	Triple red indicator lamp 230V 1M	1
GW 96 623	Latching relay 1NO 16A 230V	4
GW D6 405	Surge protective device 3P+N 25KA AUX TYPE 1+2	1
GW D6 715	Contactor 25A 4NO 230V 2M	4

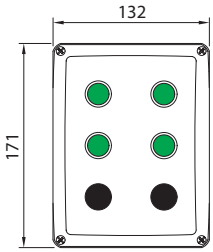
STANDARD DISTRIBUTION BOARD



DISTRIBUTION BOARD COMPONENTS

Code	Description	Qty
GW 44 698	4-pole terminal block 8 MOD.EN 50022	1
GW 46 206	Polyester board with window 800X585X300	1
GW 46 423 F	Panel without windows 28 mod.	4
GW 46 428 F	Blank panel 1M. 585MM GR.RAL7035	1
GW 46 438 F	Pair of uprights for boards 800X585X300	1
GW 46 446	Set of 4 steel brackets for fixing surface-mounting boards	1
GW 46 533 F	Quick-assembly double rail 28M	1

STANDARD PUSH-BUTTON CONTROL PANEL



PUSH-BUTTON PANEL COMPONENTS

Code	Description	Qty
GW 27 104	6-gang push-button panel IP66	1
GW 74 041	Illuminated green push-button	4
GW 74 201	1 NO contact 10A 250V	4
GW 74 211	Lamp-holder - BA95 coupling	4
GW 74 218	Lamp - BA95 coupling	4
GW 74 221	Black cap	2

The electrical scheme shown here is merely an example; it can be modified to suit the installation requirements. It should not be considered as a substitute for the necessary electrical project, which must be based on the technical standards.

INDOOR

Swimming - 300 lx - Medium-level competitions

Project compliant with:
EN 12193 (2008): Class II

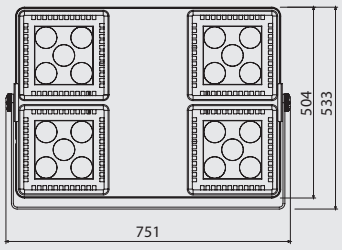
REQUISITES

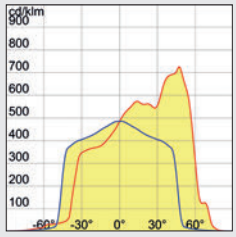
PLAY AREA DIMENSIONS	
Length [m]	50
Width [m]	21
Grid points (length)	17
Grid points (width)	7

VALUES REQUIRED			
Class	EAv [lx]	Emin/EAv	Colour rendering index [CRI]
II	300	0.7	60

PROPOSED SOLUTION

ASYMMETRICAL SMART [4] 2.0 FLOODLIGHT
GW S4 176 GS





TECHNICAL DATA OF THE LAMP	
Maintenance factor	0.80
Floodlight	Smart [4] 2.0
Optic	Asymmetrical
Power system (W)	232
Lumen output (lm)	25,560

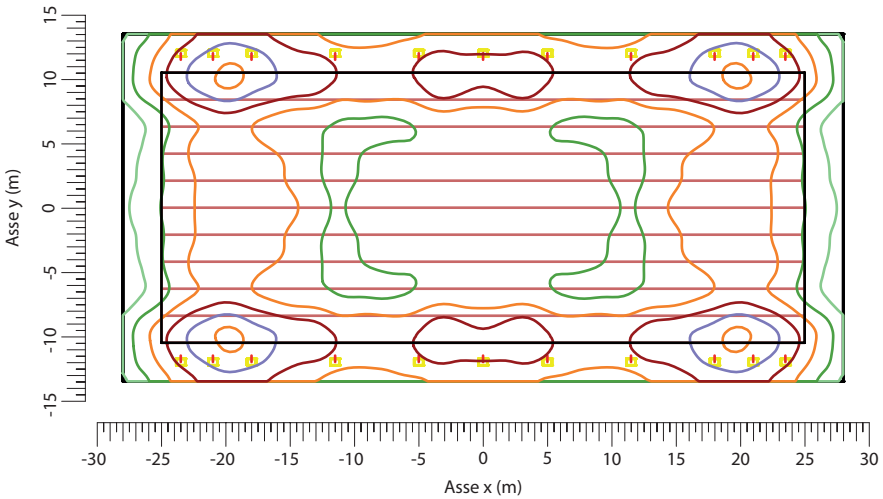
TECHNICAL DATA OF THE FLOODLIGHTS	
Floodlight assembly height (m)	10
Number of floodlights	22

The lighting values actually measured may differ from the project ones due to the intrinsic tolerance levels of the light sources and devices, for their orientation, and for the different electricity supply parameters.

FLOODLIGHT POSITIONING

Device	Position of devices in X	Position of devices in Y	Device rotation X°; Y°; Z°
1	-23.50	-12.00	0°; 0°; 90°
2	-21.00	-12.00	0°; 0°; 90°
3	-18.00	-12.00	0°; 0°; 90°
4	-11.50	-12.00	0°; 0°; 90°
5	-5.00	-12.00	0°; 0°; 90°
6	0.00	-12.00	0°; 0°; 90°
7	5.00	-12.00	0°; 0°; 90°
8	11.50	-12.00	0°; 0°; 90°
9	18.00	-12.00	0°; 0°; 90°
10	21.00	-12.00	0°; 0°; 90°
11	23.50	-12.00	0°; 0°; 90°

CALCULATION RESULTS

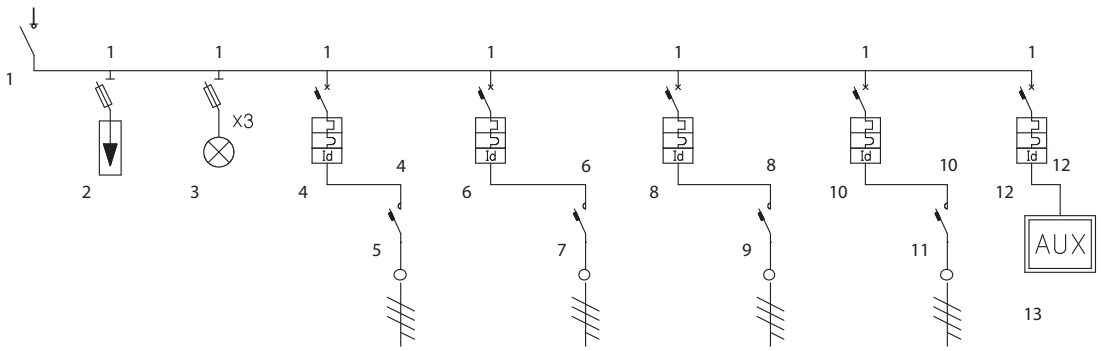


GRID 17x7	
EAv [lx]	301
Emin/EAv	0.81
CRI	80
No. floodlights	22
floodlight height [m]	10

KEY	
	200.0 lx
	250.0 lx
	300.0 lx
	350.0 lx
	400.0 lx
	450.0 lx

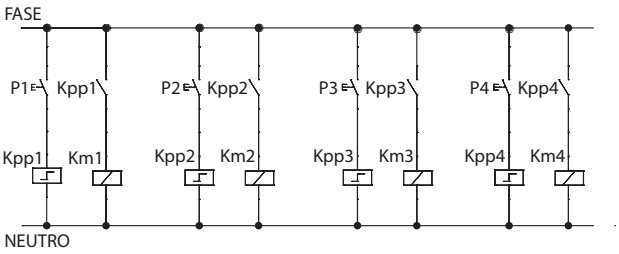
Lighting project for indoor sports centre.

STANDARD ELECTRICAL SCHEME -System power: 5.2kW, three-phase



Line description	Main device		Lamp	Line 1	km1	Line 2	km2	Line 3	km3	Line 4	km4	Auxiliaries line
Power	5.200 kW			1.400 kW	1.400 kW	1.200 kW	1.200 kW	1.400 kW	1.400 kW	1.200 kW	1.200 kW	0.000 kW
Operating current Ib [A]	8.20			2.20	2.20	1.90	1.90	2.20	2.20	1.90	1.90	0.00
Rated current In [A]	40.00			32.00	25.00	32.00	25.00	32.00	25.00	32.00	25.00	6.00
Article description	Control switch disconnector 4P 40A	Surge protective device 3P+N 25kA Aux. Type 1+2 + fuse holder 22x58 - 16M	Triple red signal-ling lamp with fuse holder 230V 10.3x38 - 5M	MT60 C32 4P + BD 4P 63A 30mA S	Contactor 25A 4NO - 230V AC / 220V DC - 2M	MT60 C32 4P + BD 4P 63A 30mA S	Contactor 25A 4NO - 230V AC/ 220V DC - 2M	MT60 C32 4P + BD 4P 63A 30mA S	Contactor 25A 4NO - 230V AC/ 220V DC - 2M	MT60 C32 4P + BD 4P 63A 30mA S	Contactor 25A 4NO - 230V AC / 220V DC - 2M	MDC60 C6 2P Id=30mA AC
Code	GW 96 135	GW D6 405	GW 96 592	GW 92 090	GW D6 715	GW 92 090	GW D6 715	GW 92 090	GW D6 715	GW 92 090	GW D6 715	GW 94 125
Breaking capacity Icn/Icu [kA]				6.00		6.00		6.00		6.00		6.00
RCCB				GW 94 532		GW 94 532		GW 94 532		GW 94 532		

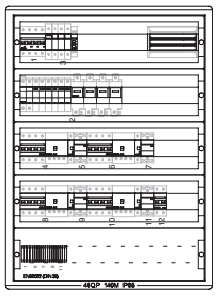
STANDARD AUXILIARIES CIRCUIT



COMPONENTS OF THE ELECTRICAL SCHEME AND AUXILIARIES CIRCUIT

Code	Description	Qty
GW 72 104	Cylindrical fuse type GG 10.3X38 500V 2A	3
GW 92 090	MCB 4P C32 6KA 4M	4
GW 94 125	RCBO C.2P C 6 6KA AC/0.03 2M	1
GW 94 532	Residual current device 4P IN<63A Instant. A/0.03 3.5M	4
GW 96 135	Switch disconnector 4P 40A AC23B	1
GW 96 312	Disconnectable fuse holder 3P+N 10.3X38 400V 32A	1
GW 96 314	Disconnectable fuse holder 3P+N 22X58 690V	1
GW 96 592	Triple red indicator lamp 230V 1M	1
GW D6 644	Latching relay 1NO 16A 230V	4
GW D6 405	Surge protective device 3P+N 25KA AUX TYPE 1+2	1
GW D6 715	Contactor 25A 4NO 230V 2M	4

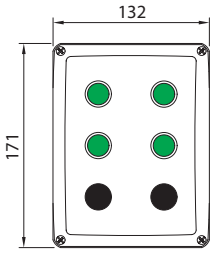
STANDARD DISTRIBUTION BOARD



DISTRIBUTION BOARD COMPONENTS

Code	Description	Qty
GW 44 698	4-pole terminal block 8 mod. EN 50022	1
GW 46 206	Polyester board with window 800X585X300	1
GW 46 423 F	Panel without windows 28 mod.	4
GW 46 428 F	Blank panel 1M. 585MM GR.RAL7035	1
GW 46 438 F	Pair of uprights for boards 800X585X300	1
GW 46 446	Set of 4 steel brackets for fixing surface-mounting boards	1
GW 46 533 F	Quick-assembly double rail 28M	1

STANDARD PUSH-BUTTON CONTROL PANEL



PUSH-BUTTON PANEL COMPONENTS

Code	Description	Qty
GW 27 104	6-gang push-button panel IP66	1
GW 74 341	Illuminated green push-button	4
GW 74 501	1 NO contact 10A 250V	4
GW 74 511	Lamp-holder - BA95 coupling	4
GW 74 518	Lamp - BA95 coupling	4
GW 74 521	Black cap	2

The electrical scheme shown here is merely an example; it can be modified to suit the installation requirements. It should not be considered as a substitute for the necessary electrical project, which must be based on the technical standards.

INDOOR

Swimming - 200 lx - Training activities

Project compliant with:
EN 12193 (2008): Class III

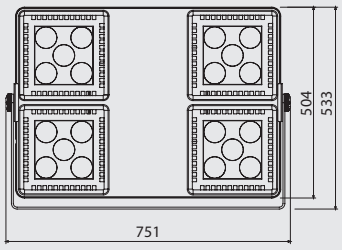
REQUISITES

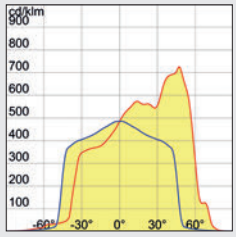
PLAY AREA DIMENSIONS	
Length [m]	50
Width [m]	21
Grid points (length)	17
Grid points (width)	7

VALUES REQUIRED			
Class	EAv [lx]	Emin/EAv	Colour rendering index [CRI]
III	200	0.5	20

PROPOSED SOLUTION

ASYMMETRICAL SMART [4] 2.0 FLOODLIGHT
GW S4 176 GS





TECHNICAL DATA OF THE LAMP	
Maintenance factor	0.80
Floodlight	Smart [4] 2.0
Optic	Asymmetrical
Power system (W)	232
Lumen output (lm)	25,560

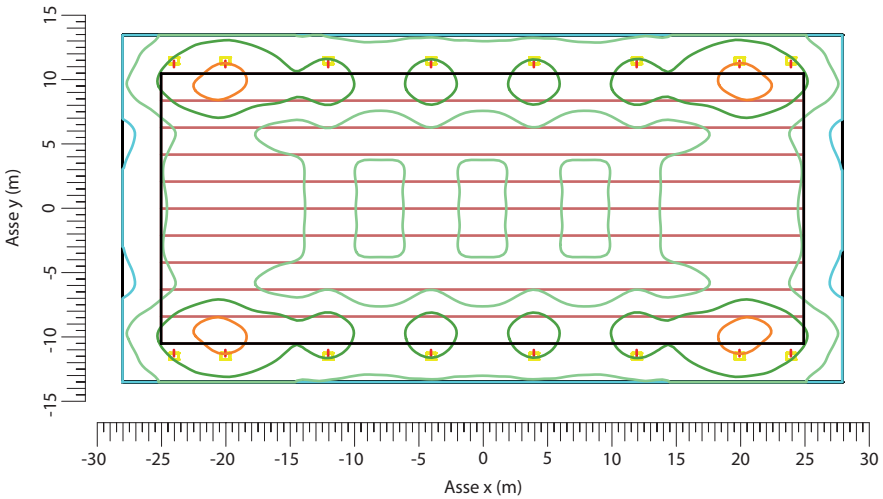
TECHNICAL DATA OF THE FLOODLIGHTS	
Floodlight assembly height (m)	10
Number of floodlights	16

The lighting values actually measured may differ from the project ones due to the intrinsic tolerance levels of the light sources and devices, for their orientation, and for the different electricity supply parameters.

FLOODLIGHT POSITIONING

Device	Position of devices in X	Position of devices in Y	Device rotation X°; Y°; Z°
1	-24.00	-11.50	0°; 0°; 90°
2	-20.00	-11.50	0°; 0°; 90°
3	-12.00	-11.50	0°; 0°; 90°
4	-4.00	-11.50	0°; 0°; 90°
13	4.00	11.50	0°; 0°; -90°
14	12.00	11.50	0°; 0°; -90°
15	20.00	11.50	0°; 0°; -90°
16	24.00	11.50	0°; 0°; -90°

CALCULATION RESULTS

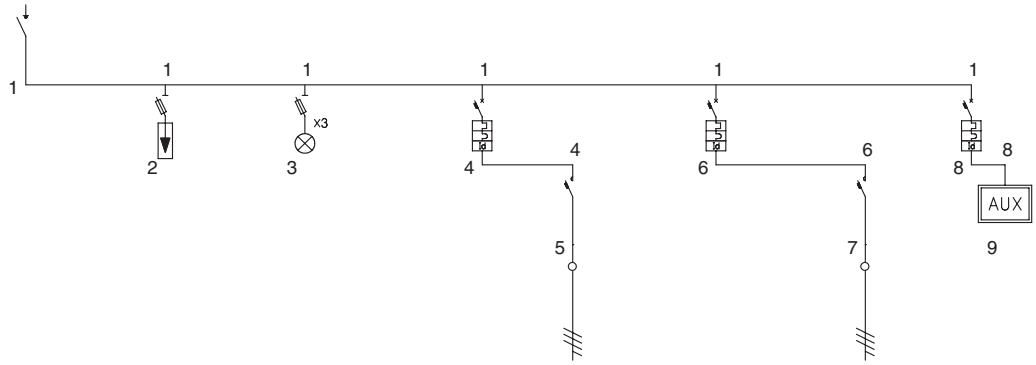


GRID 17x7	
EAv [lx]	220
Emin/EAv	0.80
CRI	80
No. floodlights	16
floodlight height [m]	10

KEY	
	150.0 lx
	200.0 lx
	250.0 lx
	300.0 lx

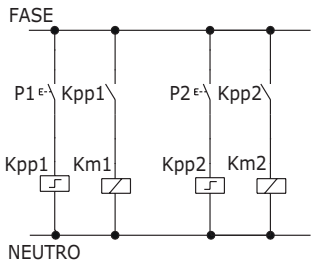
Lighting project for indoor sports centre.

STANDARD ELECTRICAL SCHEME -System power: 3.8kW, three-phase



Line description	Main device		Lamp	Line 1	km1	Line 2	km2	Auxiliaries line
Power	3.800 kW			1.900 kW	1.900 kW	1.900 kW	1.900 kW	0.000 kW
Operating current Ib [A]	6.00			3.00	3.00	3.00	3.00	0.00
Rated current In [A]	63.00			40.00	25.00	40.00	25.00	6.00
Article description	Control switch disconnector 4P 63A	Surge protective device 3P+N 25kA Aux. Type 1+2 + fuse holder 22x58 - 16M	Triple red signalling lamp with fuse holder 230V 10.3x38 - 5M	MT60 C40 4P + BD 4P 63A 30mA S	Contactor 25A 4NO - 230V AC/ 220V DC - 2M	MT60 C40 4P + BD 4P 63A 30mA S	Contactor 25A 4NO - 230V AC/ 220V DC - 2M	MDC45 C6 1P+N Id=30mA AC
Code	GW 96 176	GW D6 405	GW 96 592	GW 92 091	GW D6 715	GW 92 091	GW D6 715	GW 94 005
Breaking capacity Icn/Icu [kA]				6.00		6.00		4.50
RCCB				GW 94 532		GW 94 532		

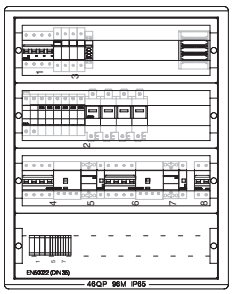
STANDARD AUXILIARIES CIRCUIT



COMPONENTS OF THE ELECTRICAL SCHEME AND AUXILIARIES CIRCUIT

Code	Description	Qty
GW 72 104	Cylindrical fuse type GG 10.3X38 500V 2A	3
GW 92 091	MCB 4P C40 6KA 4M	2
GW 94 005	RCBO C.1P+N C 6 4.5KA AC/0.03 2M	1
GW 94 532	Residual current device 4P IN<63A Instant. A/0.03 3.5M	2
GW 96 176	Control switch disconnector 4P 63A AC22B	1
GW 96 312	Disconnectable fuse holder 3P+N 10.3X38 400V 32A	1
GW 96 314	Disconnectable fuse holder 3P+N 22X58 690V	1
GW 96 592	Triple red indicator lamp 230V 1M	1
GW D6 644	Latching relay 1NO 16A 230V	2
GW D6 405	Surge protective device 3P+N 25KA aux type 1+2	1
GW D6 715	Contactor 25A 4NO 230V 2M	2

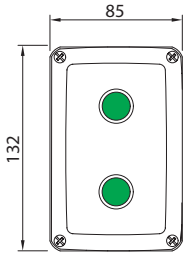
STANDARD DISTRIBUTION BOARD



DISTRIBUTION BOARD COMPONENTS

Code	Description	Qty
GW 44 696	4-pole terminal block 4 mod. EN 50022	1
GW 46 205	Polyester board with window 650X515X250	1
GW 46 422 F	Panel without windows 24 mod.	3
GW 46 427 F	Blank panel 1M. 515MM GR.RAL7035	1
GW 46 437 F	Pair of uprights for boards 650X405X200	1
GW 46 532F	Quick-assembly double rail 24M	1

STANDARD PUSH-BUTTON CONTROL PANEL



PUSH-BUTTON PANEL COMPONENTS

Code	Description	Qty
GW 27 102	2-gang push-button panel IP66	1
GW 74 341	Illuminated green push-button	2
GW 74 501	1 NO contact 10A 250V	2
GW 74 511	Lamp-holder - BA95 coupling	2
GW 74 518	Lamp - BA95 coupling	2

The electrical scheme shown here is merely an example; it can be modified to suit the installation requirements. It should not be considered as a substitute for the necessary electrical project, which must be based on the technical standards.

INDOOR

Squash - 750 lx - Medium-level competitions

Project compliant with:
EN 12193 (2008): Class I

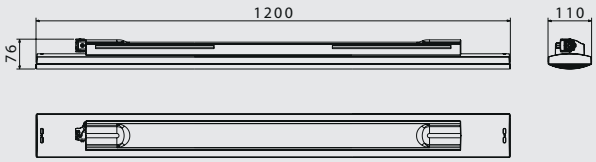
REQUISITES

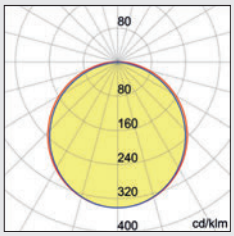
PLAY AREA DIMENSIONS	
Length [m]	9.75
Width [m]	6.40
Grid points (length)	9
Grid points (width)	5

VALUES REQUIRED			
Class	EAv [lx]	Emin/EAv	Colour rendering index [CRI]
I	750	0.7	60

PROPOSED SOLUTION

LED WATERTIGHT LUMINAIRE
SMART[3] 1600MM
GW S3 258 P





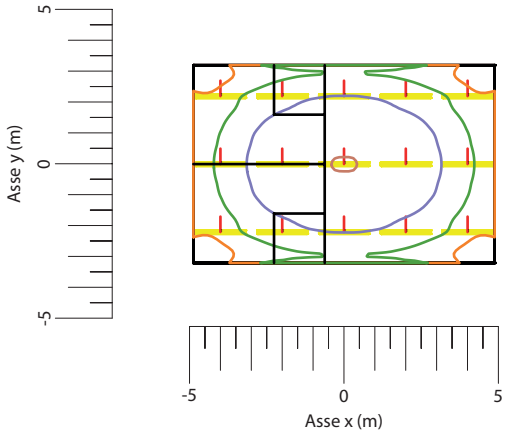
TECHNICAL DATA OF THE LAMP	
Maintenance factor	0.80
Ceiling-mounting luminaire	SMART [3]
Optic	Opal
Power system (W)	51
Lumen output (lm)	5977

TECHNICAL DATA OF THE WATERTIGHT LUMINAIRES	
Floodlight assembly height (m)	4.5
Number of floodlights	15

The lighting values actually measured may differ from the project ones due to the intrinsic tolerance levels of the light sources and devices, for their orientation, and for the different electricity supply parameters.

WATERTIGHT LUMINAIRES POSITIONING			
Device	Position of devices in X	Position of devices in Y	Device rotation X°; Y°; Z°
1	-4.00	-2.20	0°; 0°; 90°
2	-4.00	0.00	0°; 0°; 90°
3	-4.00	2.20	0°; 0°; 90°
4	-2.00	-2.20	0°; 0°; 90°
5	-2.00	0.00	0°; 0°; 90°
6	-2.00	2.20	0°; 0°; 90°
7	0.00	-2.20	0°; 0°; 90°
8	0.00	0.00	0°; 0°; 90°
9	0.00	2.20	0°; 0°; 90°
10	2.00	-2.20	0°; 0°; 90°
11	2.00	0.00	0°; 0°; 90°
12	2.00	2.20	0°; 0°; 90°
13	4.00	-2.20	0°; 0°; 90°
14	4.00	0.00	0°; 0°; 90°
15	4.00	2.20	0°; 0°; 90°

CALCULATION RESULTS

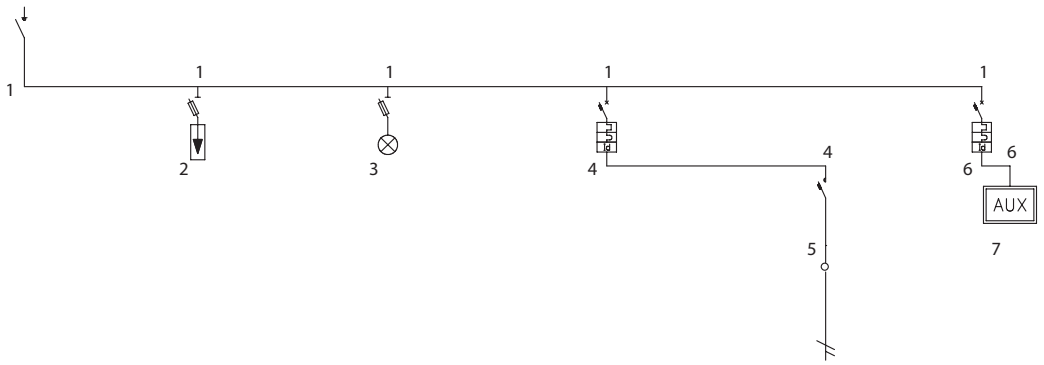


GRID 9x5	
EAv [lx]	772
Emin/EAv	0.80
CRI	80
No. of luminaires	15
luminaire h. [m]	4.5

KEY	
	700.0 lx
	800.0 lx
	900.0 lx
	1000.0 lx

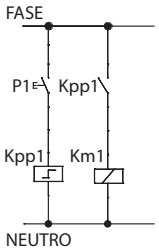
Lighting project for indoor sports centre.

STANDARD ELECTRICAL SCHEME -System power: 0.77kW, single-phase



Line description	Main device		Lamp	Line 1	km1	Auxiliaries line
Power	0.770 kW			0.770 kW	0.770 kW	0.000 kW
Operating current Ib [A]	3.72			3.72	3.72	0.00
Rated current In [A]	32.00			20.00	25.00	6.00
Article description	Control switch disconnector 2P 32A	Surge protective device 1P+N 25kA Aux. Type 1+2 + fuse holder 22x58 - 8M	Red signalling lamp with fuse holder 230V 10.3x38 - 3M	MDC60 C20 2P Id=30mA A	Contactor 25A 2NO - 230V AC / 220V DC 2M	MDC45 C6 1P+N Id=30mA AC
Code	GW 96 114	GW D6 404	GW 96 581	GW 94 328	GW D6 712	GW 94 005
Breaking capacity [kA]				6.00		4.50

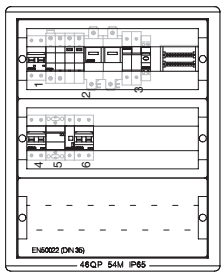
STANDARD AUXILIARIES CIRCUIT



COMPONENTS OF THE ELECTRICAL SCHEME AND AUXILIARIES CIRCUIT

Code	Description	Qty
GW 72 104	Cylindrical fuse type GG 10.3X38 500V 2A	1
GW 94 005	RCBO C.1P+N C 6 4.5KA AC/0.03 2M	1
GW 94 328	RCBO C.2P C20 6KA A/0.03 2M	1
GW 96 114	Switch disconnector 2P 32A AC23B	1
GW 96 215	Disconnectable fuse holder 1P+N 10.3X38 400V 32A	1
GW 96 218	Disconnectable fuse holder 1P+N 22X58 690V	1
GW 96 581	Single red indicator lamp 230V 1M	1
GW D6 644	Latching relay 1NO 16A 230V	1
GW D6 404	Surge protective device 1P+N 25KA AUX TYPE 1+2	1
GW D6 712	Contactor 25A 2NO 230V 2M	1

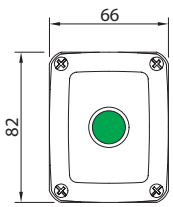
STANDARD DISTRIBUTION BOARD



DISTRIBUTION BOARD COMPONENTS

Code	Description	Qty
GW 44 691	2-pole terminal block 4 MOD.EN 50022	1
GW 46 203	Polyester board with window 500X405X200	1
GW 46 421 F	Panel without windows 18 mod.	2
GW 46 426 F	Blank panel 1M. 405MM GR.RAL7035	1
GW 46 436 F	Pair of uprights for boards 500X405X200	1
GW 46 531 F	Quick-assembly double rail 18M	1

STANDARD PUSH-BUTTON CONTROL PANEL



PUSH-BUTTON PANEL COMPONENTS

Code	Description	Qty
GW 27 101	1-gang push-button panel IP66	1
GW 74 341	Illuminated green push-button	1
GW 74 501	1 NO contact 10A 250V	1
GW 74 511	Lamp-holder - BA95 coupling	1
GW 74 518	Lamp - BA95 coupling	1

The electrical scheme shown here is merely an example; it can be modified to suit the installation requirements. It should not be considered as a substitute for the necessary electrical project, which must be based on the technical standards.

INDOOR

Squash - 500 lx - Medium-level competitions

Project compliant with:
EN 12193 (2008): Class II

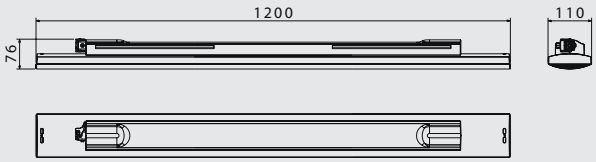
REQUISITES

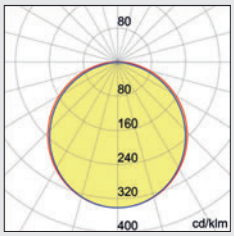
PLAY AREA DIMENSIONS	
Length [m]	9.75
Width [m]	6.40
Grid points (length)	9
Grid points (width)	5

VALUES REQUIRED			
Class	EAv [lx]	Emin/EAv	Colour rendering index [CRI]
II	500	0.7	60

PROPOSED SOLUTION

LED WATERTIGHT LUMINAIRE
SMART[3] 1600MM
GW S3 258 P





TECHNICAL DATA OF THE LAMP	
Maintenance factor	0.80
Ceiling-mounting luminaire	SMART [3]
Optic	Opal
Power system (W)	51
Lumen output (lm)	5977

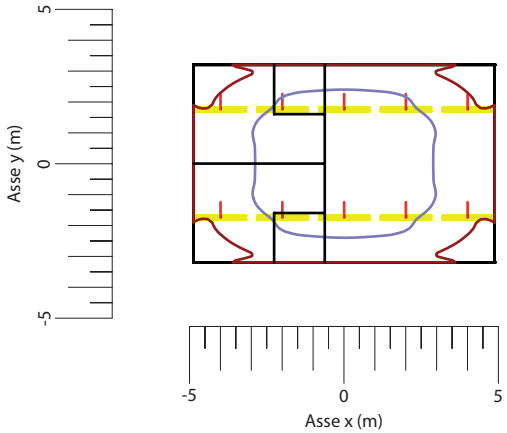
TECHNICAL DATA OF THE WATERTIGHT LUMINAIRES	
Floodlight assembly height (m)	4.5
Number of floodlights	10

The lighting values actually measured may differ from the project ones due to the intrinsic tolerance levels of the light sources and devices, for their orientation, and for the different electricity supply parameters.

WATERTIGHT LUMINAIRES POSITIONING

Device	Position of devices in X	Position of devices in Y	Device rotation X°; Y°; Z°
1	-4.00	-1.75	0°; 0°; 90°
2	-4.00	1.75	0°; 0°; 90°
3	-2.00	-1.75	0°; 0°; 90°
4	-2.00	1.75	0°; 0°; 90°
5	0.00	-1.75	0°; 0°; 90°
6	0.00	1.75	0°; 0°; 90°
7	2.00	-1.75	0°; 0°; 90°
8	2.00	1.75	0°; 0°; 90°
9	4.00	-1.75	0°; 0°; 90°
10	4.00	1.75	0°; 0°; 90°

CALCULATION RESULTS

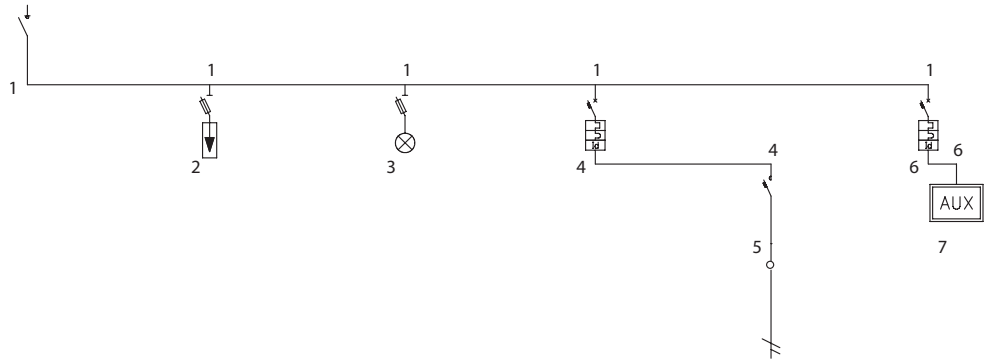


GRID 9x5	
EAv [lx]	521
Emin/EAv	0.80
CRI	80
No. of luminaires	10
luminaire h. [m]	4.5

KEY	
	500.0 lx
	600.0 lx

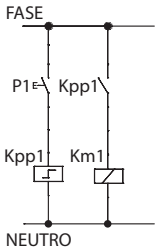
Lighting project for indoor sports centre.

STANDARD ELECTRICAL SCHEME -System power: 0.50kW, single-phase



Line description	Main device		Lamp	Line 1	km1	Auxiliaries line
Power	0.500 kW			0.500 kW	0.500 kW	0.000 kW
Operating current Ib [A]	2.42			2.42	2.42	0.00
Rated current In [A]	32.00			16.00	25.00	6.00
Article description	Control switch disconnector 2P 32A	Surge protective device 1P+N 25kA Aux. Type 1+2 + fuse holder 22x58 - 8M	Red signalling lamp with fuse holder 230V 10.3x38 - 3M	MDC60 C16 2P Id=30mA A	Contactor 25A 2NO - 230V AC/ 220V DC - 2M	MDC45 C6 1P+N Id=30mA AC
Code	GW 96 114	GW D6 404	GW 96 581	GW 94 327	GW D6 712	GW 94 005
Breaking capacity Icn/Icu [kA]				6.00		4.50

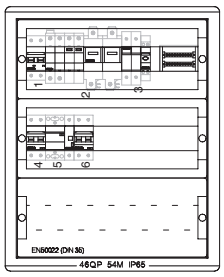
STANDARD AUXILIARIES CIRCUIT



COMPONENTS OF THE ELECTRICAL SCHEME AND AUXILIARIES CIRCUIT

Code	Description	Qty
GW 72 104	Cylindrical fuse type GG 10.3X38 500V 2A	1
GW 94 005	RCBO C.1P+N C 6 4.5KA AC/0.03 2M	1
GW 94 327	RCBO C.2P C16 6KA A/0.03 2M	1
GW 96 114	Switch disconnector 2P 32A AC23B	1
GW 96 215	Disconnectable fuse holder 1P+N 10.3X38 400V 32A	1
GW 96 218	Disconnectable fuse holder 1P+N 22X58 690V	1
GW 96 581	Single red indicator lamp 230V 1M	1
GW D6 644	Latching relay 1NO 16A 230V	1
GW D6 404	Surge protective device 1P+N 25KA AUX TYPE 1+2	1
GW D6 712	Contactor 25A 2NO 230V 2M	1

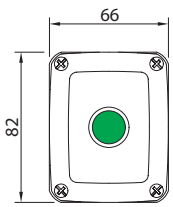
STANDARD DISTRIBUTION BOARD



DISTRIBUTION BOARD COMPONENTS

Code	Description	Qty
GW 44 691	2-pole terminal block 4 MOD.EN 50022	1
GW 46 203	Polyester board with window 500X405X200	1
GW 46 421 F	Panel without windows 18 mod.	2
GW 46 426 F	Blank panel 1M. 405MM GR.RAL7035	1
GW 46 436 F	Pair of uprights for boards 500X405X200	1
GW 46 531 F	Quick-assembly double rail 18M	1

STANDARD PUSH-BUTTON CONTROL PANEL



PUSH-BUTTON PANEL COMPONENTS

Code	Description	Qty
GW 27 101	1-gang push-button panel IP66	1
GW 74 341	Illuminated green push-button	1
GW 74 501	1 NO contact 10A 250V	1
GW 74 511	Lamp-holder - BA95 coupling	1
GW 74 518	Lamp - BA95 coupling	1

The electrical scheme shown here is merely an example; it can be modified to suit the installation requirements. It should not be considered as a substitute for the necessary electrical project, which must be based on the technical standards.

INDOOR

Squash - 300 lx- Training activities

Project compliant with:
EN 12193 (2008): Class III

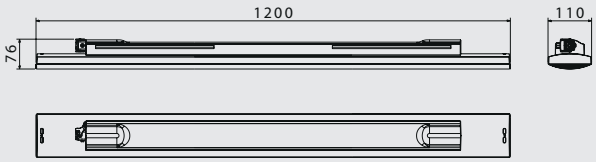
REQUISITES

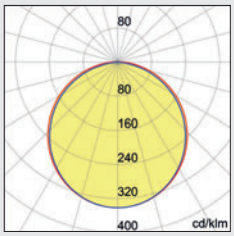
PLAY AREA DIMENSIONS	
Length [m]	9.75
Width [m]	6.40
Grid points (length)	9
Grid points (width)	5

VALUES REQUIRED			
Class	EAv [lx]	Emin/EAv	Colour rendering index [CRI]
III	300	0.7	20

PROPOSED SOLUTION

LED WATERTIGHT LUMINAIRE
SMART[3] 1600MM
GW S3 258 P





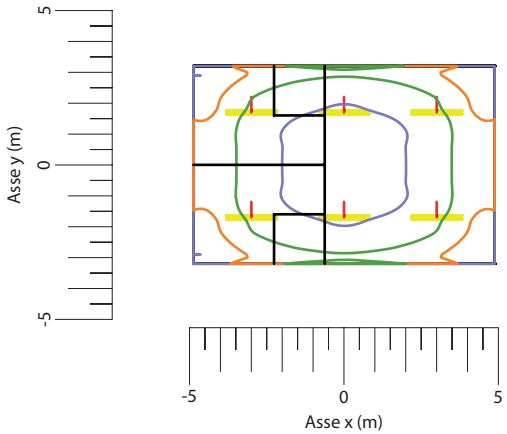
TECHNICAL DATA OF THE LAMP	
Maintenance factor	0.80
Ceiling-mounting luminaire	SMART [3]
Optic	Opal
Power system (W)	51
Lumen output (lm)	5977

TECHNICAL DATA OF THE WATERTIGHT LUMINAIRES	
Floodlight assembly height (m)	4.5
No. of luminaires	6

WATERTIGHT LUMINAIRES POSITIONING			
Device	Position of devices in X	Position of devices in Y	Device rotation X°; Y°; Z°
1	-3.00	-1.70	0°; 0°; 90°
2	-3.00	1.70	0°; 0°; 90°
3	0.00	-1.70	0°; 0°; 90°
4	0.00	1.70	0°; 0°; 90°
5	3.00	-1.70	0°; 0°; 90°
6	3.00	1.70	0°; 0°; 90°

The lighting values actually measured may differ from the project ones due to the intrinsic tolerance levels of the light sources and devices, for their orientation, and for the different electricity supply parameters.

CALCULATION RESULTS

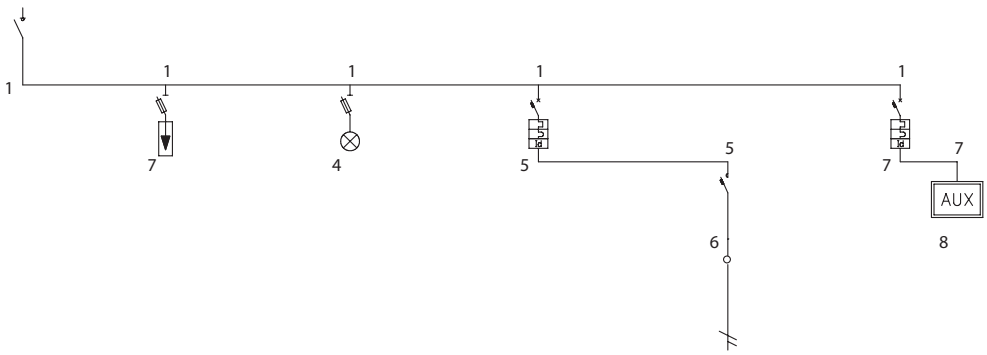


GRID 9x5	
EAv [lx]	322
Emin/EAv	0.77
CRI	80
No. of luminaires	6
luminaire h. [m]	4.5

KEY	
	250.0 lx
	300.0 lx
	350.0 lx
	400.0 lx

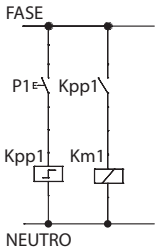
Lighting project for indoor sports centre.

STANDARD ELECTRICAL SCHEME -System power: 0.3kW, single-phase



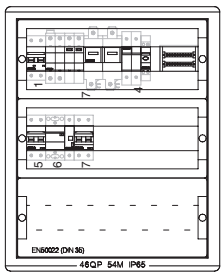
Line description	Main device		Lamp	Line 1	km1	Auxiliaries line
Power	0.300 kW			0.300 kW	0.300 kW	0.000 kW
Operating current Ib [A]	1.45			1.45	1.45	0.00
Rated current In [A]	32.00			10.00	25.00	6.00
Article description	Control switch disconnector 2P 32A	Surge protective device 1P+N 25kA Aux. Type 1+2 + fuse holder 22x58 - 8M	Red signalling lamp with fuse holder 230V 10.3x38 - 3M	MDC60 C10 2P Id=30mA A	Contactor 25A 2NO - 230V AC / 220V DC 2M	MDC45 C6 1P+N Id=30mA AC
Code	GW 96 114	GW D6 404	GW 96 581	GW 94 326	GW D6 712	GW 94 005
Breaking capacity Icn/Icu [kA]				6.00		4.50

STANDARD AUXILIARIES CIRCUIT



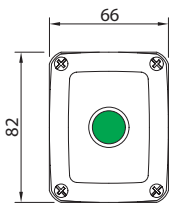
COMPONENTS OF THE ELECTRICAL SCHEME AND AUXILIARIES CIRCUIT		
Code	**Description**	**Qty**
GW 72 104	Cylindrical fuse type GG 10.3X38 500V 2A	1
GW 94 005	RCBO C.1P+N C 6 4.5KA AC/0.03 2M	1
GW 94 326	RCBO C.2P C10 6KA A/0.03 2M	1
GW 96 114	Switch disconnector 2P 32A AC23B	1
GW 96 215	Disconnectable fuse holder 1P+N 10.3X38 400V 32A	1
GW 96 218	Disconnectable fuse holder 1P+N 22X58 690V	1
GW 96 581	Single red indicator lamp 230V 1M	1
GW D6 644	Latching relay 1NO 16A 230V	1
GW D6 404	Surge protective device 1P+N 25KA AUX TYPE 1+2	1
GW D6 712	Contactor 25A 2NO 230V 2M	1

STANDARD DISTRIBUTION BOARD



DISTRIBUTION BOARD COMPONENTS		
Code	**Description**	**Qty**
GW 44 691	2-pole terminal block 4 MOD.EN 50022	1
GW 46 203	Polyester board with window 500X405X200	1
GW 46 421 F	Panel without windows 18 mod.	2
GW 46 426 F	Blank panel 1M. 405MM GR.RAL7035	1
GW 46 436 F	Pair of uprights for boards 500X405X200	1
GW 46 531 F	Quick-assembly double rail 18M	1

STANDARD PUSH-BUTTON CONTROL PANEL



PUSH-BUTTON PANEL COMPONENTS		
Code	**Description**	**Qty**
GW 27 101	1-gang push-button panel IP66	1
GW 74 341	Illuminated green push-button	1
GW 74 501	1 NO contact 10A 250V	1
GW 74 511	Lamp-holder - BA95 coupling	1
GW 74 518	Lamp - BA95 coupling	1

The electrical scheme shown here is merely an example; it can be modified to suit the installation requirements. It should not be considered as a substitute for the necessary electrical project, which must be based on the technical standards.

INDOOR

Bocce - 300 lx
Medium-level competitions - Training Activities

Project compliant with:
EN 12193 (2008): Class I

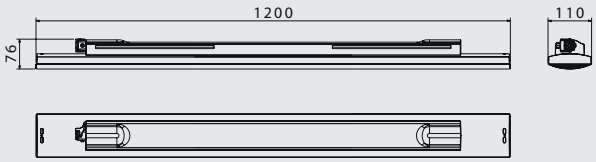
REQUISITES

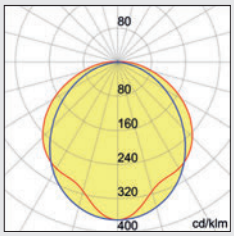
PLAY AREA DIMENSIONS	
Length [m]	27.5
Width [m]	4
Grid points (length)	15
Grid points (width)	4

VALUES REQUIRED			
Class	EAv [lx]	Emin/EAv	Colour rendering index [CRI]
I	300	0.7	60

PROPOSED SOLUTION

LED WATERTIGHT LUMINAIRE
SMART[3] 1600MM
GW S3 258 T





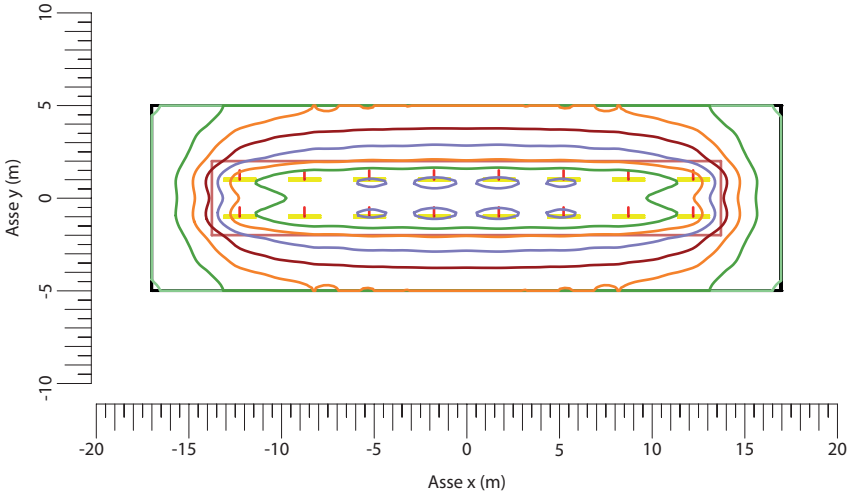
TECHNICAL DATA OF THE LAMP	
Maintenance factor	0.80
Ceiling-mounting luminaire	SMART [3]
Optic	Transparent
Power system (W)	51
Lumen output (lm)	6453

TECHNICAL DATA OF THE WATERTIGHT LUMINAIRES	
Floodlight assembly height (m)	4.5
No. of luminaires	16

The lighting values actually measured may differ from the project ones due to the intrinsic tolerance levels of the light sources and devices, for their orientation, and for the different electricity supply parameters.

WATERTIGHT LUMINAIRES POSITIONING			
Device	Position of devices in X	Position of devices in Y	Device rotation X°; Y°; Z°
1	-12.25	-1.00	0°; 0°; 90°
2	-12.25	1.00	0°; 0°; 90°
3	-8.75	-1.00	0°; 0°; 90°
4	-8.75	1.00	0°; 0°; 90°
5	-5.25	-1.00	0°; 0°; 90°
6	-5.25	1.00	0°; 0°; 90°
7	-1.75	-1.00	0°; 0°; 90°
8	-1.75	1.00	0°; 0°; 90°
9	1.75	-1.00	0°; 0°; 90°
10	1.75	1.00	0°; 0°; 90°
11	5.25	-1.00	0°; 0°; 90°
12	5.25	1.00	0°; 0°; 90°
13	8.75	-1.00	0°; 0°; 90°
14	8.75	1.00	0°; 0°; 90°
15	12.25	-1.00	0°; 0°; 90°
16	12.25	1.00	0°; 0°; 90°

CALCULATION RESULTS

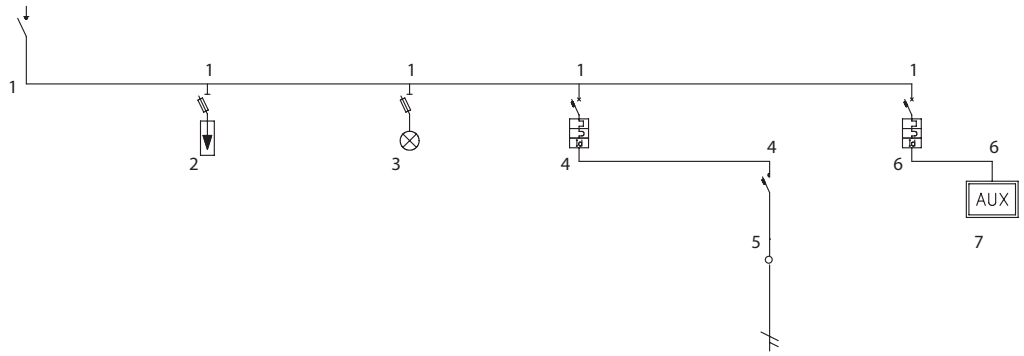


GRID 11x4	
EAv [lx]	308
Emin/EAv	0.73
CRI	80
No. of luminaires	16
luminaire h. [m]	4.5

KEY	
	50.0 lx
	100.0 lx
	150.0 lx
	200.0 lx
	250.0 lx
	300.0 lx
	350.0 lx
	400.0 lx

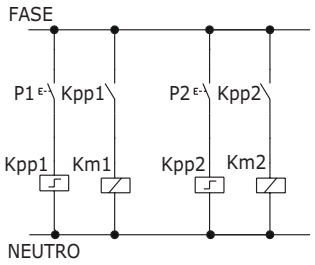
Lighting project for indoor sports centre.

STANDARD ELECTRICAL SCHEME -System power: 0.82kW, single-phase



Line description	Main device		Lamp	Line 1	km1	Auxiliaries line
Power	0.82 kW			0.82 kW	0.82 kW	0.000 kW
Operating current Ib [A]	3.96			3.96	3.96	0.00
Rated current In [A]	32.00			20.00	25.00	6.00
Article description	Control switch disconnector 2P 32A	Surge protective device 1P+N 25kA Aux. Type 1+2 + fuse holder 22x58 - 8M	Red signalling lamp with fuse holder 230V 10.3x38 - 3M	MDC60 C20 2P Id=30mA A	Contactor 25A 2NO - 230V AC/ 220V DC - 2M	MDC45 C6 1P+N Id=30mA AC
Code	GW 96 114	GW D6 404	GW 96 581	GW 94 328	GW D6 712	GW 94 005
Breaking capacity Icn/Icu [kA]				6.00		4.50

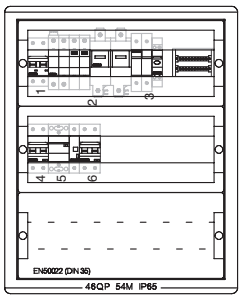
STANDARD AUXILIARIES CIRCUIT



COMPONENTS OF THE ELECTRICAL SCHEME AND AUXILIARIES CIRCUIT

Code	Description	Qty
GW 72 104	Cylindrical fuse type GG 10.3X38 500V 2A	1
GW 94 005	RCBO C.1P+N C 6 4.5KA AC/0.03 2M	1
GW 94 328	RCBO C.2P C20 6KA A/0.03 2M	1
GW 96 114	Switch disconnector 2P 32A AC23B	1
GW 96 215	Disconnectable fuse holder 1P+N 10.3X38 400V 32A	1
GW 96 218	Disconnectable fuse holder 1P+N 22X58 690V	1
GW 96 581	Single red indicator lamp 230V 1M	1
GW 96 623	Latching relay 1NO 16A 230V	1
GW D6 404	Surge protective device 1P+N 25KA AUX TYPE 1+2	1
GW D6 712	Contactor 25A 2NO 230V 2M	1

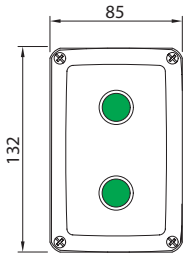
STANDARD DISTRIBUTION BOARD



DISTRIBUTION BOARD COMPONENTS

Code	Description	Qty
GW 44 691	2-pole terminal block 4 MOD.EN 50022	1
GW 46 203	Polyester board with window 500X405X200	1
GW 46 421 F	Panel without windows 18 mod.	2
GW 46 426 F	Blank panel 1M. 405MM GR.RAL7035	1
GW 46 436 F	Pair of uprights for boards 500X405X200	1
GW 46 531 F	Quick-assembly double rail 18M	1

STANDARD PUSH-BUTTON CONTROL PANEL



PUSH-BUTTON PANEL COMPONENTS

Code	Description	Qty
GW 27 102	2-gang push-button panel IP66	1
GW 74 341	Illuminated green push-button	2
GW 74 501	1 NO contact 10A 250V	2
GW 74 511	Lamp holder - BA95 coupling	2
GW 74 518	Lamp - BA95 coupling	2

The electrical scheme shown here is merely an example; it can be modified to suit the installation requirements. It should not be considered as a substitute for the necessary electrical project, which must be based on the technical standards.

INDOOR

Bocce - 200 lx
Medium-level competitions - Training Activities

Project compliant with:
EN 12193 (2008): Class II – III

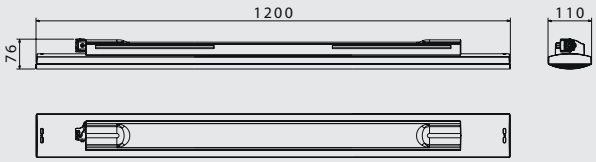
REQUISITES

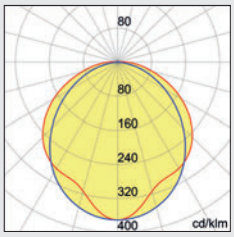
PLAY AREA DIMENSIONS	
Length [m]	27.5
Width [m]	4
Grid points (length)	15
Grid points (width)	4

VALUES REQUIRED			
Class	EAv [lx]	Emin/EAv	Colour rendering index [CRI]
II - III	200	0.5 - 0.7	60 - 20

PROPOSED SOLUTION

LED WATERTIGHT LUMINAIRE
SMART[3] 1600MM
GW S3 258 T





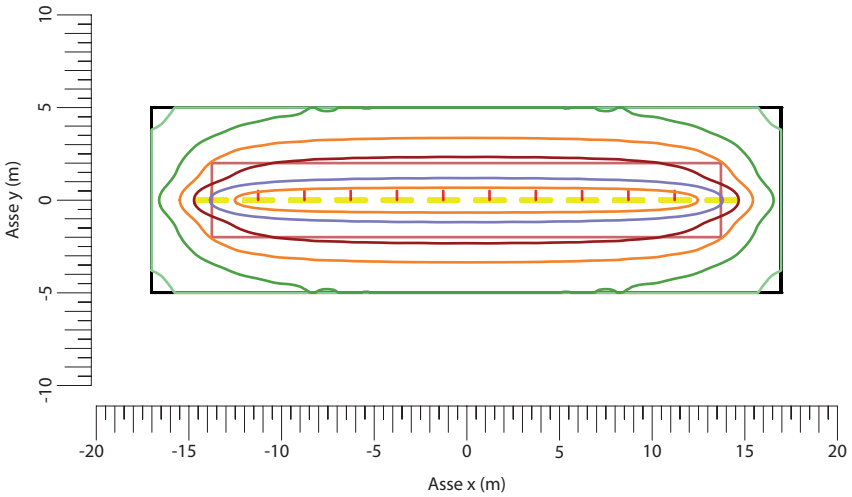
TECHNICAL DATA OF THE LAMP	
Maintenance factor	0.80
Ceiling-mounting luminaire	SMART [3]
Optic	Transparent
Power system (W)	51
Lumen output (lm)	6453

TECHNICAL DATA OF THE WATERTIGHT LUMINAIRES	
Floodlight assembly height (m)	4.5
No. of luminaires	12

The lighting values actually measured may differ from the project ones due to the intrinsic tolerance levels of the light sources and devices, for their orientation, and for the different electricity supply parameters.

WATERTIGHT LUMINAIRES POSITIONING			
Device	Position of devices in X	Position of devices in Y	Device rotation X°; Y°; Z°
1	-13.75	0.00	0°; 0°; 90°
2	-11.25	0.00	0°; 0°; 90°
3	-8.75	0.00	0°; 0°; 90°
4	-6.25	0.00	0°; 0°; 90°
5	-3.75	0.00	0°; 0°; 90°
6	-1.25	0.00	0°; 0°; 90°
7	1.25	0.00	0°; 0°; 90°
8	3.75	0.00	0°; 0°; 90°
9	6.25	0.00	0°; 0°; 90°
10	8.75	0.00	0°; 0°; 90°
11	11.25	0.00	0°; 0°; 90°
12	13.75	0.00	0°; 0°; 90°

CALCULATION RESULTS

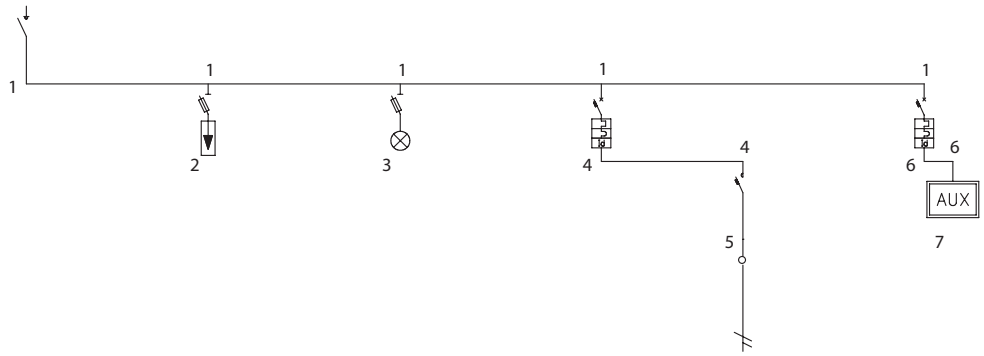


GRID 11x4	
EAv [lx]	228
Emin/EAv	0.71
CRI	80
No. of luminaires	12
luminaire h. [m]	4.5

KEY	
	50.0 lx
	100.0 lx
	150.0 lx
	200.0 lx
	250.0 lx
	300.0 lx

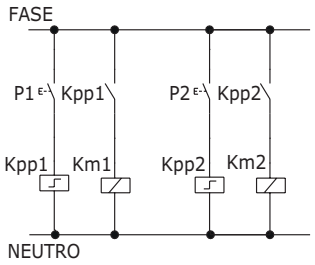
Lighting project for indoor sports centre.

STANDARD ELECTRICAL SCHEME -System power: 0.62kW, single-phase



Line description	Main device		Lamp	Line 1	km1	Auxiliaries line
Power	0.620 kW			0.620 kW	0.620 kW	0.000 kW
Operating current Ib [A]	3.00			3.00	3.00	0.00
Rated current In [A]	32.00			16.00	25.00	6.00
Article description	Control switch disconnector 2P 32A	Surge protective device 1P+N 25kA Aux. Type 1+2 + fuse holder 22x58 - 8M	Red signalling lamp with fuse holder 230V 10.3x38 - 3M	MDC60 C16 2P Id=30mA A	Contactor 25A 2NO - 230V AC/ 220V DC - 2M	MDC45 C6 1P+N Id=30mA AC
Code	GW 96 114	GW D6 404	GW 96 581	GW 94 327	GW D6 712	GW 94 005
Breaking capacity Icn/Icu [kA]				6.00		4.50

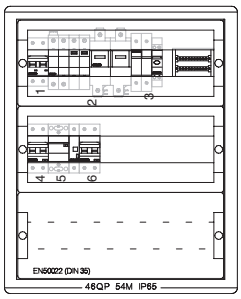
STANDARD AUXILIARIES CIRCUIT



COMPONENTS OF THE ELECTRICAL SCHEME AND AUXILIARIES CIRCUIT

Code	Description	Qty
GW 72 104	Cylindrical fuse type GG 10.3X38 500V 2A	1
GW 94 005	RCBO C.1P+N C 6 4.5KA AC/0.03 2M	1
GW 94 327	RCBO C.2P C16 6KA A/0.03 2M	1
GW 96 114	Switch disconnector 2P 32A AC23B	1
GW 96 215	Disconnectable fuse holder 1P+N 10.3X38 400V 32A	1
GW 96 218	Disconnectable fuse holder 1P+N 22X58 690V	1
GW 96 581	Single red indicator lamp 230V 1M	1
GW D6 644	Latching relay 1NO 16A 230V	1
GW D6 404	Surge protective device 1P+N 25KA AUX TYPE 1+2	1
GW D6 712	Contactor 25A 2NO 230V 2M	1

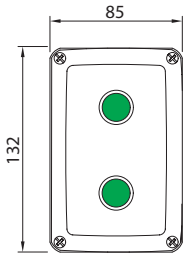
STANDARD DISTRIBUTION BOARD



DISTRIBUTION BOARD COMPONENTS

Code	Description	Qty
GW 44 691	2-pole terminal block 4 MOD.EN 50022	1
GW 46 203	Polyester board with window 500X405X200	1
GW 46 421 F	Panel without windows 18 mod.	2
GW 46 426 F	Blank panel 1M. 405MM GR.RAL7035	1
GW 46 436 F	Pair of uprights for boards 500X405X200	1
GW 46 531 F	Quick-assembly double rail 18M	1

STANDARD PUSH-BUTTON CONTROL PANEL



PUSH-BUTTON PANEL COMPONENTS

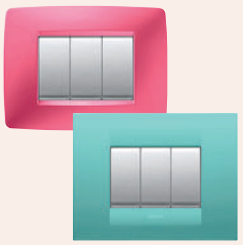
Code	Description	Qty
GW 27 102	2-gang push-button panel IP66	1
GW 74 341	Illuminated green push-button	2
GW 74 501	1 NO contact 10A 250V	2
GW 74 511	Lamp-holder - BA95 coupling	2
GW 74 518	Lamp - BA95 coupling	2

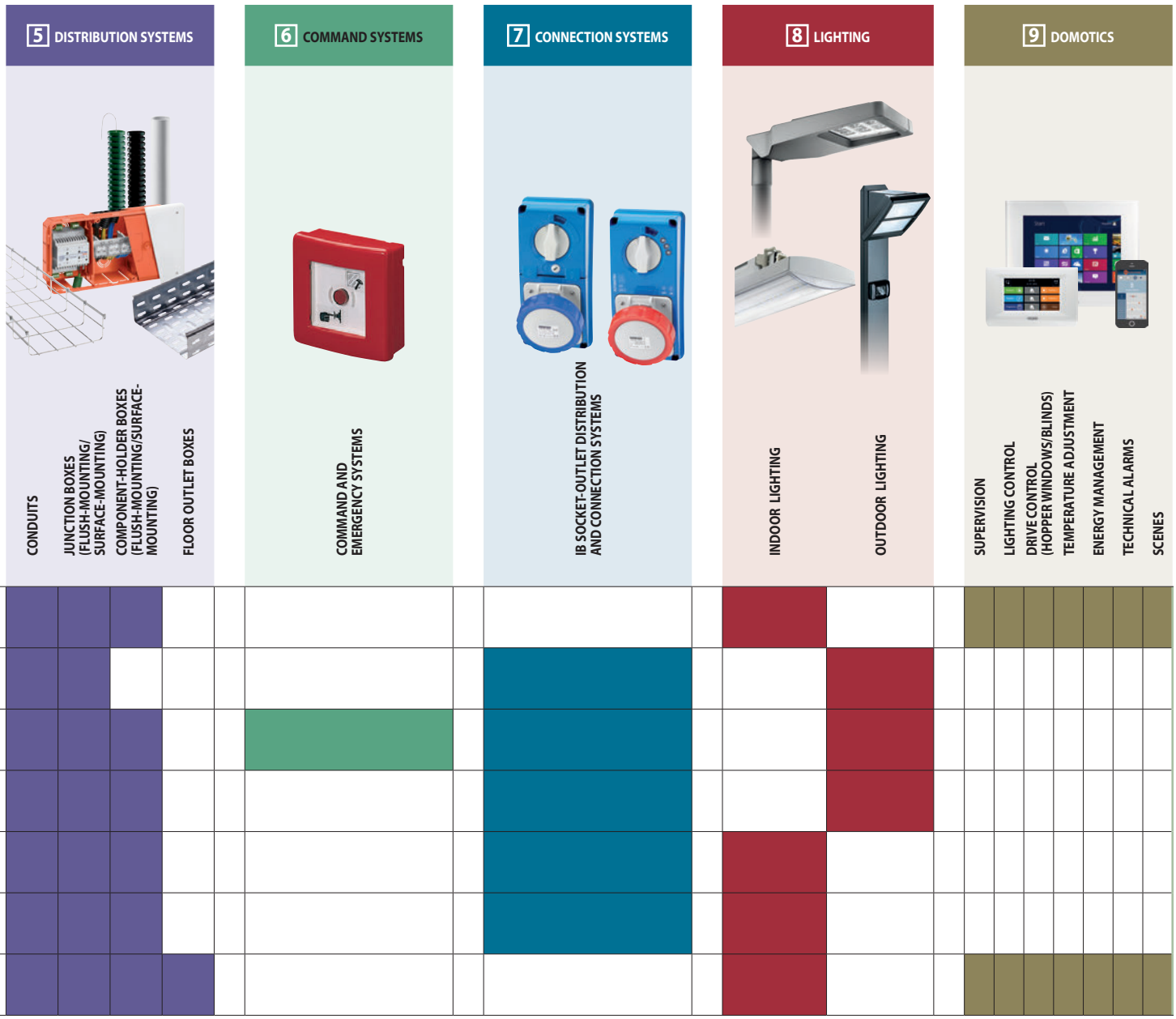
The electrical scheme shown here is merely an example; it can be modified to suit the installation requirements. It should not be considered as a substitute for the necessary electrical project, which must be based on the technical standards.

COMPLEMENTARY AREAS

An overview of the GEWISS range

Apart from lighting devices, the GEWISS range also includes solutions for protection, management, connection and energy distribution: 20,000 products offering professionals the possibility to design complete systems for all sports facilities service infrastructures.

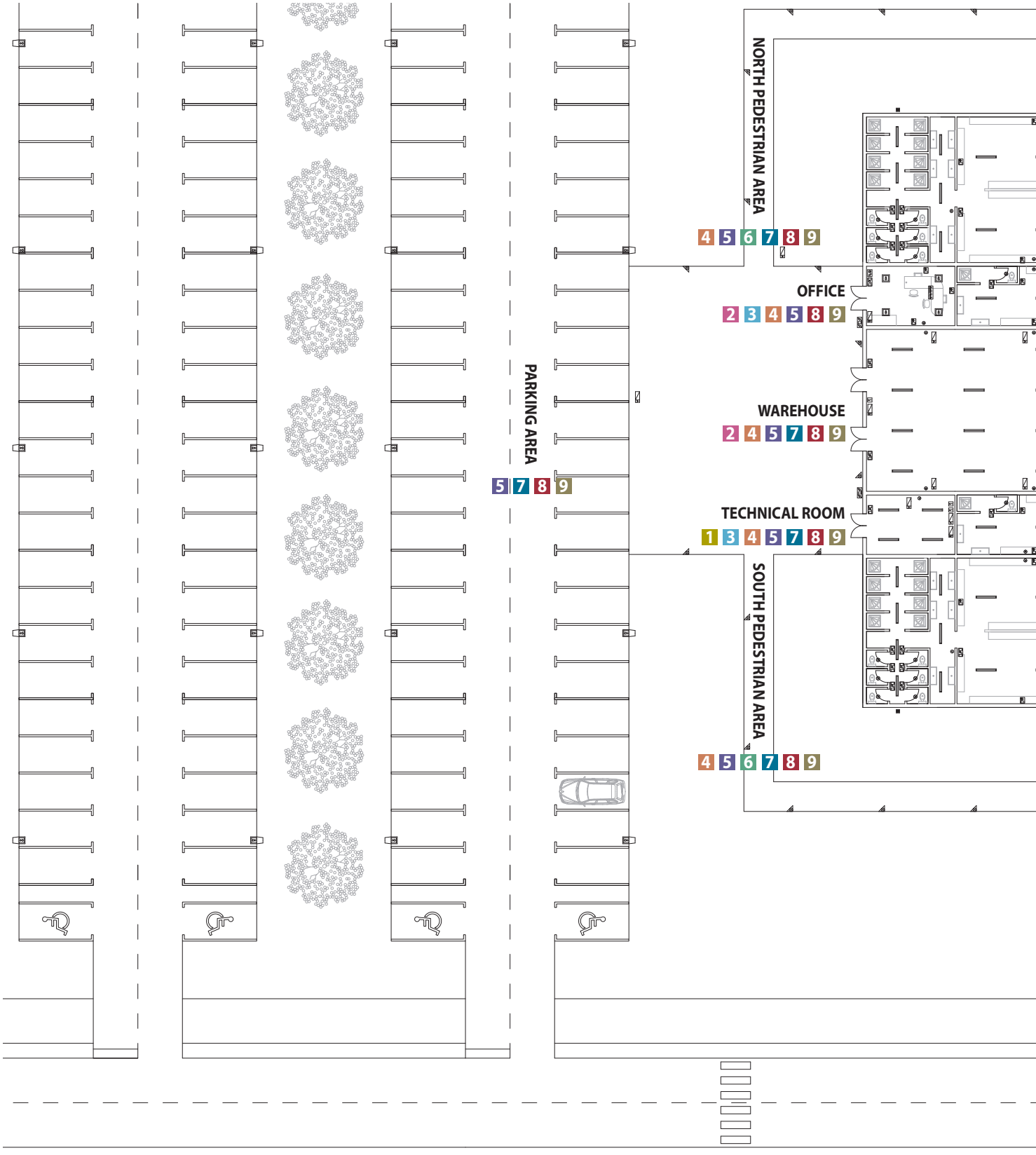
	1 LOW VOLTAGE DISTRIBUTION BOARD		2 BOARDS		3 WIRING		4 DOMESTIC RANGE					
												
	DISTRIBUTION BOARDS UP TO 1,600A		SECONDARY DISTRIBUTION BOARDS		NETWORK CABLING		COMMANDS	ENERGY SOCKET-OUTLETS	DATA SOCKET-OUTLETS	TEMPERATURE ADJUSTMENT	TECHNICAL ALARMS	
CHANGING ROOM			■				■	■		■		
STAND												
ACCESS PATH							■				■	
PARKING AREA												
TECHNICAL PREMISES	■				■		■	■				
STOREHOUSE			■				■	■				
OFFICES			■		■		■	■	■	■		

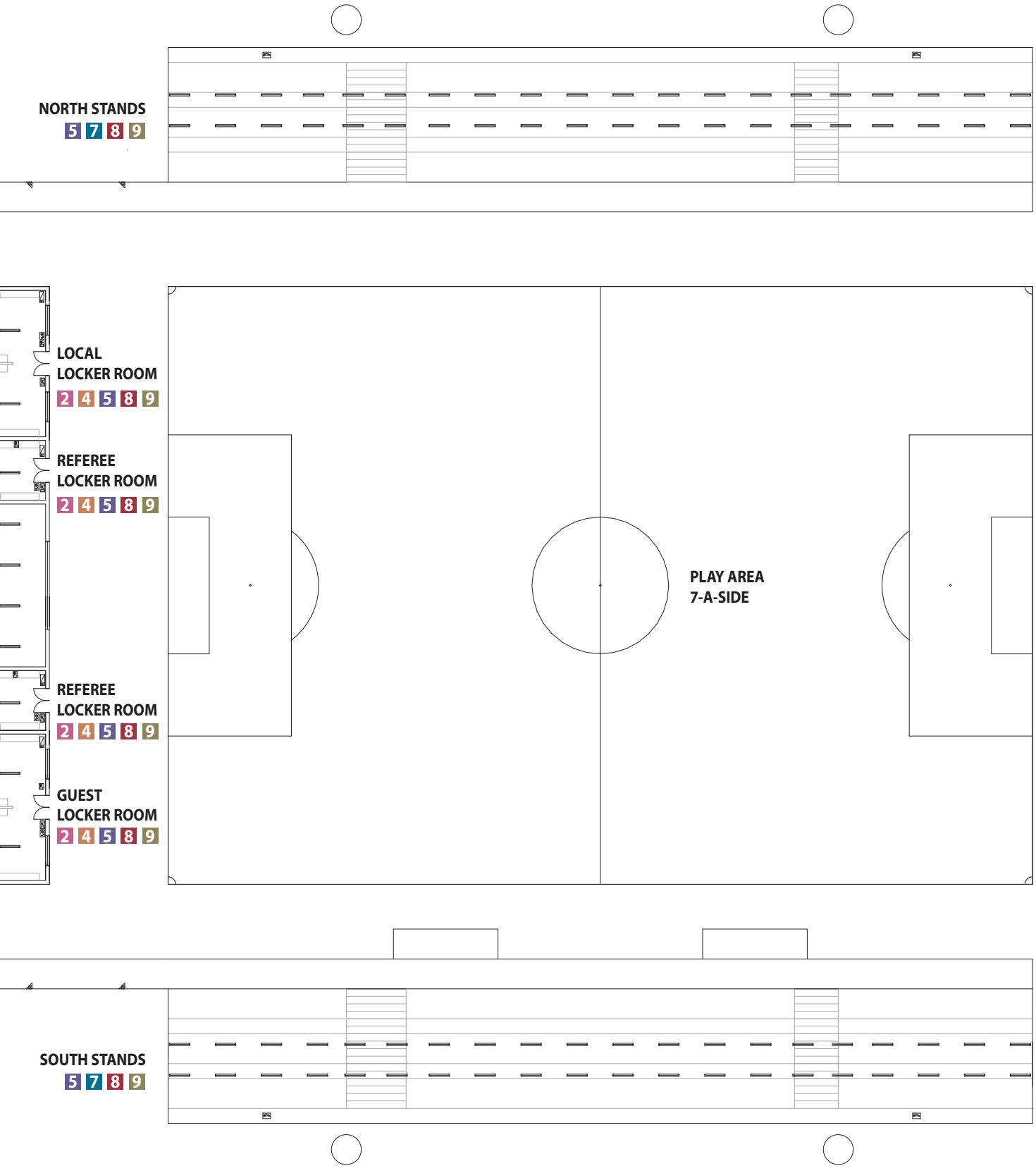

5 DISTRIBUTION SYSTEMS
6 COMMAND SYSTEMS
7 CONNECTION SYSTEMS
8 LIGHTING
9 DOMOTICS
CONDUITS
JUNCTION BOXES (FLUSH-MOUNTING/ SURFACE-MOUNTING)
COMPONENT-HOLDER BOXES (FLUSH-MOUNTING/SURFACE-MOUNTING)
FLOOR OUTLET BOXES
COMMAND AND EMERGENCY SYSTEMS
IB SOCKET-OUTLET DISTRIBUTION AND CONNECTION SYSTEMS
INDOOR LIGHTING
OUTDOOR LIGHTING
SUPERVISION
LIGHTING CONTROL
DRIVE CONTROL (HOPPER WINDOWS/BLINDS)
TEMPERATURE ADJUSTMENT
ENERGY MANAGEMENT
TECHNICAL ALARMS
SCENES

Standard example of sports facilities layout

KEY

1. LOW VOLTAGE DISTRIBUTION BOARD
2. BOARDS
3. WIRING
4. DOMESTIC RANGE
5. DISTRIBUTION SYSTEMS
6. COMMAND SYSTEMS
7. CONNECTION SYSTEMS
8. LIGHTING
9. DOMOTICS




NORTH STANDS
5 7 8 9
LOCAL
LOCKER ROOM
2 4 5 8 9
REFEREE
LOCKER ROOM
2 4 5 8 9
REFEREE
LOCKER ROOM
2 4 5 8 9
GUEST
LOCKER ROOM
2 4 5 8 9
PLAY AREA
7-A-SIDE
SOUTH STANDS
5 7 8 9

List of products

Code	Description	Qty
1.1 PARKING AREA		
1.1.1 Lighting		
GW R5 272	ROAD [5] 2M 4000K 700mA	20 pcs
GW 84 097	CONICAL STEEL HIGH MAST H=7M ABOVE GROUND	20 pcs
1.1.2 Power take-off outlet box		
GW 20 246	SOCKET-OUTLET 2P+E 16A DUAL AMP. ITALIAN/GERMAN STD. SY/WT	2 pcs
GW 27 403	2-GANG BLANK WATERTIGHT CAP SYSTEM	2 pcs
GW 66 304 N	INTERLOCKED SWITCHED SOCKET-OUTLET IP67 S.F.2P+E 16A 230V 6H SBF	1 pcs
GW 66 309 N	INTERLOCKED SWITCHED SOCKET-OUTLET IP67 S.F.3P+N+E 16A 400V 6H SBF	1 pcs
GW 66 709 N	FLANGED COVER, 2 CAPS IP67	1 pcs
GW 68 715 A	EMPTY PEDESTALS WITH SINGLE-SIDED TAKE-OFF QMC 125B LIGHT BLUE	1 pcs
GW 68 731 W	PANEL 3 INTERLOCKED SWITCHED SOCKET-OUTLETS VERT. IP55 BIA	1 pcs
GW 68 741 A	PANEL WITH ENCLOSURE AZ	1 pcs
GW 68 765	TERMINAL BLOCK FOR QMC: CABLES UP TO 16SQ.MM	1 pcs
GW 94 167	RCBO C.4P C16 6KA AC/0.03 4M	2 pcs
GW 96 135	CONTROL SWITCH DISCONNECTOR 4P 40A	1 pcs
1.1.3 Routing and boxes		
DX 59 401	ELECTRICAL BOX 200X200	12 pcs
DX 35 003	FU15/ 75R.50M FLEXIBLE CABLE DUCT	300 m
DX 58 203	FUM/ 75 COUPLING	12 pcs
1.2 NORTH STANDS		
1.2.1 Lighting		
GW S3 136 T	SMART [3] - 1200mm - 20W	40 pcs
1.2.2 Routing and boxes		
DX 25 732	RKB32-3M HEAVY SOLID CONDUIT, GREY	50 m
DX 43 232	MS 32 MORBIDX BOX-CONDUIT COUPLING	40 pcs
DX 25 720	RKB20-3M HEAVY SOLID CONDUIT, GREY	10 m
DX 43 220	MS 20 MORBIDX BOX-CONDUIT COUPLING	44 pcs
GW 44 208	BOX IP56 SMOOTH WALLS 240X190X90	20 pcs
GW 50 604	SNAP-ON SUPPORT FOR CONDUIT D.32 GR.RAL7035	25 pcs
GW 50 602	SNAP-ON SUPPORT FOR CONDUIT D.20 GR.RAL7035	5 pcs
1.2.3 Socket-outlets		
GW 66 204 N	INTERLOCKED SWITCHED SOCKET-OUTLET IP67 C.F.2P+E 16A 230V 6H SBF	1 pcs
GW 66 209 N	INTERLOCKED SWITCHED SOCKET-OUTLET IP67 C.F.3P+N+E 16A 400V 6H SBF	1 pcs

Code	Description	Qty
1.3 SOUTH STANDS		
1.3.1 Lighting		
GW S3 136 T	SMART [3] - 1200mm - 20W	40 pcs
1.3.2 Routing and boxes		
DX 25 732	RKB32-3M HEAVY SOLID CONDUIT, GREY	50 m
DX 43 232	MS 32 MORBIDX BOX-CONDUIT COUPLING	40 pcs
DX 25 720	RKB20-3M HEAVY SOLID CONDUIT, GREY	10 m
DX 43 220	MS 20 MORBIDX BOX-CONDUIT COUPLING	44 pcs
GW 44 208	BOX IP56 SMOOTH WALLS 240X190X90	20 pcs
GW 50 604	SNAP-ON SUPPORT FOR CONDUIT D.32 GR.RAL7035	25 pcs
GW 50 602	SNAP-ON SUPPORT FOR CONDUIT D.20 GR.RAL7035	5 pcs
1.3.3 Socket-outlets		
GW 66 204 N	INTERLOCKED SWITCHED SOCKET-OUTLET IP67 C.F.2P+E 16A 230V 6H SBF	1 pcs
GW 66 209 N	INTERLOCKED SWITCHED SOCKET-OUTLET IP67 C.F.3P+N+E 16A 400V 6H SBF	1 pcs
1.4 PEDESTRIANS AREA		
1.4.1 Lighting		
GW S2 401	EXTRO LED 13W 4000K 220-240V 50-60HZ G	20 pcs
GW 82 292	EXTRO COLUMN SING.H.1300 GRAPHITE GREY	20 pcs
GW 82 297	RECTANGULAR BASE FOR EXTRO COLUMN GRAPHITE GREY	20 pcs
1.4.2 Routing and boxes		
DX 59 401	ELECTRICAL BOX 200X200	6 pcs
DX 35 003	FU15/ 75R.50M FLEXIBLE CABLE DUCT	90 m
DX 58 203	FUM/ 75 COUPLING	6 pcs
1.4.3 Commands		
GW 16 703 TB	WATERTIGHT PLATE 3P IP55 WHITE	2 pcs
GW 24 403	BIGBOX 3-GANG BOX FOR MASONRY WALLS	2 pcs
GW 10 195	BLANKING MODULE 1M WHITE	2 pcs
GW 10 051	TWO-WAY SWITCH 1M 1P 16AX WHITE	4 pcs
GW 42 201	WATERTIGHT ENCLOSURE FOR EMERGENCY SYSTEMS, WITH PUSH-BUTTON	2 pcs
1.4.4 Power take-off outlet box		
GW 20 246	SOCKET-OUTLET 2P+E 16A DUAL AMP. ITALIAN/GERMAN STD. SY/WT	2 pcs
GW 27 403	2-GANG BLANK WATERTIGHT CAP SYSTEM	2 pcs
GW 66 304 N	INTERLOCKED SWITCHED SOCKET-OUTLET IP67 S.F.2P+E 16A 230V 6H SBF	1 pcs
GW 66 309 N	INTERLOCKED SWITCHED SOCKET-OUTLET IP67 S.F.3P+N+E 16A 400V 6H SBF	1 pcs
GW 66 709 N	FLANGED COVER, 2 CAPS IP67	1 pcs
GW 68 715 A	EMPTY PEDESTALS WITH SINGLE-SIDED TAKE-OFF QMC 125B LIGHT BLUE	1 pcs

Code	Description	Qty
GW 68 731 W	PANEL 3 INTERLOCKED SWITCHED SOCKET-OUTLETS VERT. IP55 BIA	1 pcs
GW 68 741 A	PANEL WITH ENCLOSURE AZ	1 pcs
GW 68 765	TERMINAL BLOCK FOR QMC: CABLES UP TO 16SQ.MM	1 pcs
GW 94 167	RCBO C.4P C16 6KA AC/0.03 4M	2 pcs
GW 96 135	CONTROL SWITCH DISCONNECTOR 4P 40A	1 pcs

1.5 WAREHOUSE

1.5.1 Lighting

GW S3 236 T	SMART [3] - 1200mm - 39W	12 pcs

1.5.2 Control panel

GW 40 045	DECORATIVE ENCLOSURE 12M IP40	1 pcs
GW 90 090	COMPACT MCB 4P C32 4.5KA 2M	1 pcs
GW 90 286	COMPACT MCB 4P C10 6KA 2M	1 pcs
GW D4 122	RCCB 4P 40A AC/0.03 4M	1 pcs

1.5.3 Socket-outlet board

GW 20 246	SOCKET-OUTLET 2P+E 16A DUAL AMP. ITALIAN/GERMAN STD. SY/WT	8 pcs
GW 27 403	2-GANG BLANK WATERTIGHT CAP SYSTEM	8 pcs
GW 46 446	SET OF 4 GALVANISED STEEL BRACKETS FOR FIXING SURFACE-MOUNTING BOARDS	4 pcs
GW 66 304 N	INTERLOCKED SWITCHED SOCKET-OUTLET IP67 S.F.2P+E 16A 230V 6H SBF	4 pcs
GW 66 320 N	INTERLOCKED SWITCHED SOCKET-OUTLET IP67 S.F.3P+N+E 32A 400V 6H SBF	4 pcs
GW 66 709 N	FLANGED COVER, 2 CAPS IP67	4 pcs
GW 68 010 N	Q-DIN 14M 3 FLANGES VERTICAL INTERLOCKED SOCKET-OUTLET SBF IP65	4 pcs
GW 90 247	COMPACT MCB 2P C16 6KA 1M	12 pcs
GW 90 290	COMPACT MCB 4P C32 6KA 2M	4 pcs
GW D4 122	RCCB 4P 40A AC/0.03 4M	4 pcs

1.5.4 Routing and boxes

DX 25 720	RKB20-3M HEAVY SOLID CONDUIT, GREY	150 m
DX 40 220	RKT/20G T-JOINT FOR INSPECTIONS, GREY	25 pcs
DX 43 220	MS 20 MORBIDX BOX-CONDUIT COUPLING	42 pcs
DX 40 120	RKS/20G NARROW RADIUS ELBOW	6 pcs
GW 44 204	BOX IP56 SMOOTH WALLS 100X100X50	3 pcs
GW 44 209	BOX IP56 SMOOTH WALLS 300X220X120	4 pcs
GW 50 602	SNAP-ON SUPPORT FOR CONDUIT D.20 GR.RAL7035	75 pcs

1.5.5 Commands

GW 27 003	3-GANG HORIZ. WATERTIGHT CONTAINER	2 pcs
GW 20 576	TWO-WAY SWITCH 1P 16AX SY/WT	2 pcs
GW 20 056	BLANKING MODULE, 1 MODULE SY/WT	4 pcs
GW 70 403	BOX ROTARY SWITCH ISO.4P 16A BLACK HANDLE	1 pcs

Code	Description	Qty

1.6 LOCAL LOCKER ROOM

1.6.1 Lighting

GW S3 136 T	SMART [3] - 1200mm - 20W	11 pcs
GW S2 801	ASTRID 75 - 11.5W LED G2 350mA WHITE	6 pcs

1.6.2 Control panel

GW 40 225 TB	DECORATIVE ENCLOSURE 8M MILK WHITE	1 pcs
GW 90 026	COMPACT MCB 1P+N C10 4.5KA 1M	1 pcs
GW 90 027	COMPACT MCB 1P+N C16 4.5KA 1M	1 pcs
GW 94 008	RCBO C.1P+N C20 4.5KA AC/0.03 2M	1 pcs

1.6.3 Routing and boxes

DX 15 120	FK15/20F MEDIUM PLIABLE CONDUIT, BLACK, WITH PROBE	100 m
GW 48 005	FLUSH-MOUNTING JUNCTION BOX 160X130X70	2 pcs

1.6.4 Commands

GW 24 403	BIGBOX 3-GANG BOX FOR MASONRY WALLS	8 pcs
GW 10 195	BLANKING MODULE 1M WHITE	16 pcs
GW 10 001	ONE-WAY SWITCH 1M 1P 16AX WHITE	8 pcs
GW 16 703 TB	WATERTIGHT PLATE 3P IP55 WHITE	8 pcs

1.6.5 Socket-outlets

GW 24 403	BIGBOX 3-GANG BOX FOR MASONRY WALLS	4 pcs
GW 10 195	BLANKING MODULE 1M WHITE	4 pcs
GW 10 204	SOCKET-OUTLET 2M 2P+E 16A DUAL AMP.P30-17 ITAL-IAN/GERMAN STD.B.	4 pcs
GW 16 703 TB	WATERTIGHT PLATE 3P IP55 WHITE	4 pcs

1.6.6 Temperature adjustment

GW 16 103 TB	ONE PLATE 3P MILK WHITE	1 pcs
GW 16 803	SUPPORTS, ITALIAN STD. 3P	1 pcs
GW 24403	BIGBOX 3-GANG BOX FOR MASONRY WALLS	1 pcs
GW 10 195	BLANKING MODULE 1M WHITE	1 pcs
GW 10 703	FLUSH-MOUNTING TIMED THERMOSTAT 2M 230V AC, WHITE	1 pcs

1.7 GUEST LOCKER ROOM

1.7.1 Lighting

GW S3 136 T	SMART [3] - 1200mm - 20W	11 pcs
GW S2 801	ASTRID 75 - 11.5W LED G2 350mA WHITE	6 pcs

1.7.2 Control panel

GW 40 225 TB	DECORATIVE ENCLOSURE 8M MILK WHITE	1 pcs
GW 90 026	COMPACT MCB 1P+N C10 4.5KA 1M	1 pcs

Metric calculation

Code	Description	Qty
GW 90 027	COMPACT MCB 1P+N C16 4.5KA 1M	1 pcs
GW 94 008	RCBO C.1P+N C20 4.5KA AC/0.03 2M	1 pcs

1.7.3 Routing and boxes

DX 15 120	FK15/20F MEDIUM PLIABLE CONDUIT, BLACK, WITH PROBE	100 m
GW 48 005	FLUSH-MOUNTING JUNCTION BOX 160X130X70	2 pcs

1.7.4 Commands

GW 24 403	BIGBOX 3-GANG BOX FOR MASONRY WALLS	8 pcs
GW 10 195	BLANKING MODULE 1M WHITE	16 pcs
GW 10 001	ONE-WAY SWITCH 1M 1P 16AX WHITE	8 pcs
GW 16 703 TB	WATERTIGHT PLATE 3P IP55 WHITE	8 pcs

1.7.5 Socket-outlets

GW 24 403	BIGBOX 3-GANG BOX FOR MASONRY WALLS	4 pcs
GW 10 195	BLANKING MODULE 1M WHITE	4 pcs
GW 10 204	SOCKET-OUTLET 2M 2P+E 16A DUAL AMP.P30-17 ITALIAN/ GERMAN STD.B.	4 pcs
GW 16 703 TB	WATERTIGHT PLATE 3P IP55 WHITE	4 pcs

1.7.6 Temperature adjustment

GW 16 103 TB	ONE PLATE 3P MILK WHITE	1 pcs
GW 16 803	SUPPORTS, ITALIAN STD. 3P	1 pcs
GW 24 403	BIGBOX 3-GANG BOX FOR MASONRY WALLS	1 pcs
GW 10 195	BLANKING MODULE 1M WHITE	1 pcs
GW 10 703	FLUSH-MOUNTING TIMED THERMOSTAT 2M 230V AC, WHITE	1 pcs

1.8 TECHNICAL ROOM

1.8.1 Lighting

GW S3 136 T	SMART [3] - 1200mm - 20W	4 pcs

1.8.2 Control panel

GW 44 698	4-POLE TERMINAL BLOCK 8 MOD. EN 50022	1 pcs
GW 45 057	CVX630M - STRUCTURE 600X1600	1 pcs
GW 45 077	CVX630M - PAIR OF SIDE PANELS H1600	1 pcs
GW 45 157	CVX630M - GLASS DOOR IP55 600X1600	1 pcs
GW 45 202	CVX630K - DIN PANEL KIT 600X200	7 pcs
GW 45 304	CVX630K - SOLID PANEL 600X200	1 pcs
GW 45 412	CVX630K - PROFILE G32 B600	1 pcs
GW 45 526	CVX630K - 2 HORIZ. TERMINAL BLOCK SUPPORTS 45°	1 pcs
GW 47 491	CVX630 - BRACKETS FOR SURFACE-MOUNTING	1 pcs
GW 72 104	CYLINDRICAL FUSE TYPE GG 10.3X38 500V 2A	6 pcs
GW 90 026	COMPACT MCB 1P+N C10 4.5KA 1M	1 pcs
GW 90 028	COMPACT MCB 1P+N C20 4.5KA 1M	5 pcs
GW 92 046	MINIATURE CIRCUIT BREAKER 2P C10 6KA 2M	1 pcs
GW 92 086	MINIATURE CIRCUIT BREAKER 4P C10 6KA 4M	5 pcs
GW 92 087	MINIATURE CIRCUIT BREAKER 4P C16 6KA 4M	2 pcs
GW 92 088	MINIATURE CIRCUIT BREAKER 4P C20 6KA 4M	1 pcs
GW 92 089	MINIATURE CIRCUIT BREAKER 4P C25 6KA 4M	2 pcs
GW 92 090	MINIATURE CIRCUIT BREAKER 4P C32 6KA 4M	4 pcs
GW 92 091	MINIATURE CIRCUIT BREAKER 4P C40 6KA 4M	3 pcs
GW 92 093	MINIATURE CIRCUIT BREAKER 4P C63 6KA 4M	1 pcs
GW 94 422	RESIDUAL CURRENT DEVICE 4P IN<25A INSTANT.AC/0.03 3.5M	6 pcs
GW 94 423	RESIDUAL CURRENT DEVICE 4P IN<25A INSTANT.AC/0.3 3.5M	1 pcs
GW 94 432	RESIDUAL CURRENT DEVICE 4P IN<63A INSTANT.AC/0.03 3.5M	3 pcs
GW 94 433	RESIDUAL CURRENT DEVICE 4P IN<63A INSTANT.AC/0.3 3.5M	1 pcs
GW 96 312	DISCONNECTABLE FUSE HOLDER 3P+N 10.3X38 690V 32A	2 pcs
GW 96 446	CURRENT TRANSFORMER 100A	3 pcs
GW 96 581	SINGLE RED INDICATOR LAMP 230V 1M	3 pcs
GW 96 897	VOLTAGE/CURRENT MULTIMETER	1 pcs
GW D4 124	RCCB 4P 40A AC/0.3 4M	1 pcs

1.8.3 Socket-outlet board

GW 20 246	SOCKET-OUTLET 2P+E 16A DUAL AMP. ITALIAN/GERMAN STD. SY/WT	2 pcs
GW 27 403	2-GANG BLANK WATERTIGHT CAP SYSTEM	2 pcs
GW 46 446	SET OF 4 GALVANISED STEEL BRACKETS FOR FIXING SURFACE-MOUNTING BOARDS	1 pcs
GW 66 304 N	INTERLOCKED SWITCHED SOCKET-OUTLET IP67 S.F.2P+E 16A 230V 6H SBF	1 pcs
GW 66 320 N	INTERLOCKED SWITCHED SOCKET-OUTLET IP67 S.F.3P+N+E 32A 400V 6H SBF	1 pcs
GW 66 709 N	FLANGED COVER, 2 CAPS IP67	1 pcs
GW 68 010 N	Q-DIN 14M 3 FLANGES VERTICAL INTERLOCKED SOCKET-OUTLET SBF IP65	1 pcs
GW 90 247	COMPACT MCB 2P C16 6KA 1M	3 pcs
GW 90 290	COMPACT MCB 4P C32 6KA 2M	1 pcs
GW D4 122	RCCB 4P 40A AC/0.03 4M	1 pcs

1.8.4 Routing and boxes

DX 25 720	RKB20-3M HEAVY SOLID CONDUIT, GREY	15 m
DX 40 220	RKT/20G T-JOINT FOR INSPECTIONS, GREY	2 pcs
DX 43 220	MS 20 MORBIDX BOX-CONDUIT COUPLING	4 pcs
DX 40 120	RKS/20G NARROW RADIUS ELBOW	1 pcs
GW 44 206	BOX IP56 SMOOTH WALLS 150X110X70	2 pcs
GW 50 602	SNAP-ON SUPPORT FOR CONDUIT D.20 GR.RAL7035	8 pcs

1.8.5 LAN board

GW 38 431	SOHO LAN BOARD 10" 400x350x265 8U	1 pcs
GW 38 441	SOHO PANEL 10" SUPPLY SOCKET-OUTLETS	1 pcs
GW 38 437	UNWIRED PANEL FOR 8 CONNECTORS	2 pcs
GW 38 012	RJ45 SOCKET CAT.5e UTP TOOL LESS	16 pcs
GW 38 189	CABLE LSZH CAT.5E UTP 24 AWG	50 m
GW 38 439	SOHO BRACKET 10" MINI HUB	1 pcs
GW 38 440	SOHO PANEL 10" CABLE GLANDS	1 pcs
GW 38 117	CORD RJ45-RJ45 CAT.5E UTP 1M WHITE	16 pcs

1.8.6 Commands

GW 27 003	3-GANG HORIZ. WATERTIGHT CONTAINER	1 pcs
GW 20 056	BLANKING MODULE, 1 MODULE SY/WT	2 pcs
GW 20 571	ONE-WAY SWITCH 1P 16AX SY/WT	1 pcs
GW 70 403	BOX ROTARY SWITCH ISO.4P 16A BLACK HANDLE	2 pcs

1.9 OFFICE

1.9.1 Lighting

GW S2 506	ASTRID 60X60 DIFFUSED OPTIC 36W LED 4000K WHITE	4 pcs

1.9.2 Control panel

GW 40 225 TB	DECORATIVE ENCLOSURE 8M MILK WHITE	1 pcs
GW 90 026	COMPACT MCB 1P+N C10 4.5KA 1M	1 pcs

Code	Description	Qty
GW 90 027	COMPACT MCB 1P+N C16 4.5KA 1M	1 pcs
GW 94 328 P	ONE-WAY SWITCH MDC+RESTART RMPRO 2P20A 6 0.03-A-4M	1 pcs

1.9.3 Routing and boxes

DX 15 120	FK15/20F MEDIUM PLIABLE CONDUIT, BLACK, WITH PROBE	60 m
GW 48 005	FLUSH-MOUNTING JUNCTION BOX 160X130X70	1 pcs

1.9.4 Commands

GW 16 103 TB	ONE PLATE 3P MILK WHITE	1 pcs
GW 16 803	SUPPORTS, ITALIAN STD. 3P	1 pcs
GW 24 403	BIGBOX 3-GANG BOX FOR MASONRY WALLS	1 pcs
GW 10 195	BLANKING MODULE 1M WHITE	2 pcs
GW 10 001	ONE-WAY SWITCH 1M 1P 16AX WHITE	1 pcs

1.9.5 Socket-outlets

GW 16 103 TB	ONE PLATE 3P MILK WHITE	3 pcs
GW 16 803	SUPPORTS, ITALIAN STD. 3P	3 pcs
GW 24 403	BIGBOX 3-GANG BOX FOR MASONRY WALLS	3 pcs
GW 10 203	SOCKET-OUTLET 1M 2P+E 16A DUAL AMP.P17-11 ITALIAN STD. WHITE	3 pcs
GW 10 204	SOCKET-OUTLET 2M 2P+E 16A DUAL AMP.P30-17 ITALIAN/GERMAN STD.B.	3 pcs

1.9.6 Underfloor outlet box

GW 24 611	UNDERFLOOR OUTLET BOX 10P STAINLESS STEEL COVER	1 pcs
GW 20 271	DATA CONNECTOR RJ45 CAT.5e UTP SY/WT	3 pcs
GW 20 251	TELEPHONE CONNECTOR RJ11 SY/WT	2 pcs
GW 20 246	SOCKET-OUTLET 2P+E 16A DUAL AMP. ITALIAN/GERMAN STD. SY/WT	2 pcs
GW 20 203	SOCKET-OUTLET 2P+E 16A 230V ITALIAN/GERMAN	1 pcs

1.9.7 Temperature adjustment

GW 16 103 TB	ONE PLATE 3P MILK WHITE	1 pcs
GW 16 803	SUPPORTS, ITALIAN STD. 3P	1 pcs
GW 24 403	BIGBOX 3-GANG BOX FOR MASONRY WALLS	1 pcs
GW 10 195	BLANKING MODULE 1M WHITE	1 pcs
GW 10 703	FLUSH-MOUNTING TIMED THERMOSTAT 2M 230V AC, WHITE	1 pcs

1.10 REFEREE LOCKER ROOM

1.10.1 Lighting

GW S3 136 T	SMART [3] - 1200mm - 20W	2 pcs
GW S2801	ASTRID 75 - 11.5W LED G2 350mA WHITE	1 pcs

1.10.2 Control panel

GW 40 225 TB	DECORATIVE ENCLOSURE 8M MILK WHITE	1 pcs
GW 90 026	COMPACT MCB 1P+N C10 4.5KA 1M	1 pcs
GW 90 027	COMPACT MCB 1P+N C16 4.5KA 1M	1 pcs
GW 94 008	RCBO C.1P+N C20 4.5KA AC/0.03 2M	1 pcs

1.10.3 Routing and boxes

DX 15 120	FK15/20F MEDIUM PLIABLE CONDUIT, BLACK, WITH PROBE	60 m
GW 48 005	FLUSH-MOUNTING JUNCTION BOX 160X130X70	1 pcs

Code	Description	Qty

1.10.4 Commands

GW 24 403	BIGBOX 3-GANG BOX FOR MASONRY WALLS	2 pcs
GW 10 195	BLANKING MODULE 1M WHITE	4 pcs
GW 10 001	ONE-WAY SWITCH 1M 1P 16AX WHITE	2 pcs
GW 16 703 TB	WATERTIGHT PLATE 3P IP55 WHITE	2 pcs

1.10.5 Socket-outlets

GW 24 403	BIGBOX 3-GANG BOX FOR MASONRY WALLS	3 pcs
GW 10 195	BLANKING MODULE 1M WHITE	3 pcs
GW 10 204	SOCKET-OUTLET 2M 2P+E 16A DUAL AMP.P30-17 ITALIAN/GERMAN STD.B.	3 pcs
GW 16 703 TB	WATERTIGHT PLATE 3P IP55 WHITE	3 pcs

1.10.6 Temperature adjustment

GW 16 103 TB	ONE PLATE 3P MILK WHITE	1 pcs
GW 16 803	SUPPORTS, ITALIAN STD. 3P	1 pcs
GW 24 403	BIGBOX 3-GANG BOX FOR MASONRY WALLS	1 pcs
GW 10 195	BLANKING MODULE 1M WHITE	1 pcs
GW 10 703	FLUSH-MOUNTING TIMED THERMOSTAT 2M 230V AC, WHITE	1 pcs

1.11 REFEREE LOCKER ROOM

1.11.1 Lighting

GW S3 136 T	SMART [3] - 1200mm - 20W	2 pcs
GW S2 801	ASTRID 75 - 11.5W LED G2 350mA WHITE	1 pcs

1.11.2 Control panel

GW 40 225 TB	DECORATIVE ENCLOSURE 8M MILK WHITE	1 pcs
GW 90 026	COMPACT MCB 1P+N C10 4.5KA 1M	1 pcs
GW 90 027	COMPACT MCB 1P+N C16 4.5KA 1M	1 pcs
GW 94 008	RCBO C.1P+N C20 4.5KA AC/0.03 2M	1 pcs

1.11.3 Routing and boxes

DX 15 120	FK15/20F MEDIUM PLIABLE CONDUIT, BLACK, WITH PROBE	60 m
GW 48 005	FLUSH-MOUNTING JUNCTION BOX 160X130X70	1 pcs

1.11.4 Commands

GW 24 403	BIGBOX 3-GANG BOX FOR MASONRY WALLS	2 pcs
GW 10 195	BLANKING MODULE 1M WHITE	4 pcs
GW 10 001	ONE-WAY SWITCH 1M 1P 16AX WHITE	2 pcs
GW 16 703 TB	WATERTIGHT PLATE 3P IP55 WHITE	2 pcs

1.11.5 Socket-outlets

GW 24 403	BIGBOX 3-GANG BOX FOR MASONRY WALLS	3 pcs
GW 10 195	BLANKING MODULE 1M WHITE	3 pcs
GW 10 204	SOCKET-OUTLET 2M 2P+E 16A DUAL AMP.P30-17 ITALIAN/GERMAN STD.B.	3 pcs
GW 16 703 TB	WATERTIGHT PLATE 3P IP55 WHITE	3 pcs

1.11.6 Temperature adjustment

GW 16 103 TB	ONE PLATE 3P MILK WHITE	1 pcs
GW 16 803	SUPPORTS, ITALIAN STD. 3P	1 pcs
GW 24 403	BIGBOX 3-GANG BOX FOR MASONRY WALLS	1 pcs
GW 10 195	BLANKING MODULE 1M WHITE	1 pcs
GW 10 703	FLUSH-MOUNTING TIMED THERMOSTAT 2M 230V AC, WHITE	1 pcs

Commercial documentation

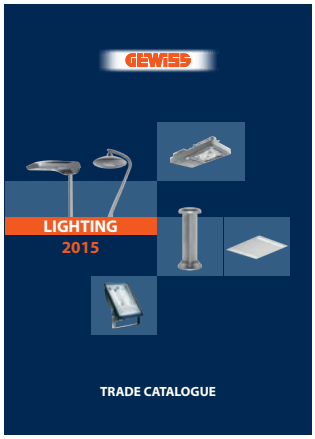
Smart [4]

Street [0_3] Urban [0_3]

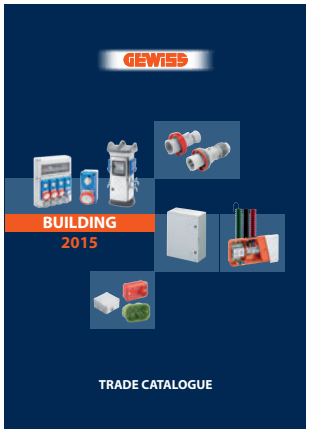
Astrid Range

Smart [3]

Road [5]

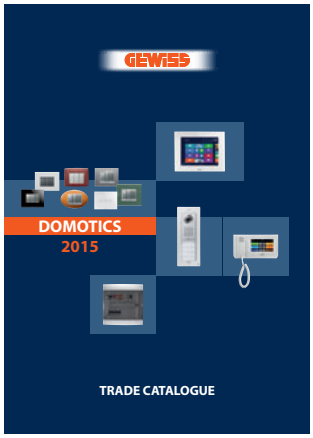


Lighting Catalogue



Building Catalogue

Power Catalogue



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GEWISS S.p.A. Registered office: Via A. Volta, 1 - 24069 CENATE SOTTO (Bergamo) - Italy
Tel. +39 035 946 111 - Fax +39 035 945 222 - gewiss@gewiss.com - www.gewiss.com
Sole Shareholder company - Bergamo Register of Companies / VAT / Tax code (IT) 00385040167 - REA 107496 - Share capital 60,000,000.00 EUR fully paid up

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