EASY LED

BUBO 2.0

FLOODLIGHT SYSTEM

BUBO 2.0

BUBO® 2.0 IS VERSATILE

**Comprehensive control methods such as DALI-2 and DMX/RDM.
Broad selection of optics.**

BUBO® 2.0 IS SMART

Lighting control solutions with remote control.

BUBO® 2.0 IS LIGHT

Lighter structure with easier installation and maintenance.

BUBO® 2.0 IS SUITABLE FOR TV

The high-quality, flicker-free light is compatible with broadcasting requirements, which is especially important in sports broadcasting.

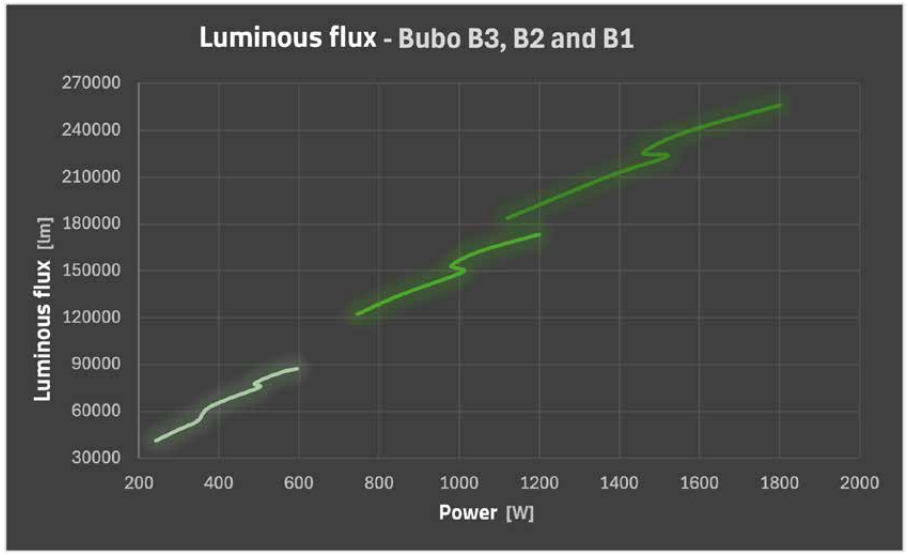
Compatible with Bubo Base gear unit cabinets.

EASY LED

Models/versions	High power LED luminaires with three (B3) and two (B2) light units as well as versatile floodlight with one light unit (B1)
Power	up to 1800 W
Light output	up to 260 000 lm
Efficacy	up to 172 lm/W
Light quality	The LED technology available in the Bubo series meets the strictest TLCI (Television Lighting Consistency Index) requirements for comprehensive high-definition broadcasting with highest quality motion reproduction using flicker-free technology.
Materials	**Light engine:** Die-cast aluminium chassis with powder coating RAL9006 **Gear Unit:** BGN: Die-cast aluminium chassis with powder coating RAL9006 BGSN: Die-cast aluminium chassis with powder coating RAL9006 **Condensation control:** Pressure relief valves **Lens cover:** Extra clear tempered glass, anti corrosion treated steel frame. Polycarbonate (PC) available. **Mounting components:** Hot-galvanized steel, corrosion-proof steel; screws made of Delta corrosion-proof coated stainless steel
Optics	A wide range of area, street, corridor and rotationally symmetrical optics are standard. Special optics for special requirements.
Protection rating	IP66, IK08
Approvals	CE
Operating temperature	Up to -40°C ...+55°C (95% RH), depending on the model. HotDuty models up to +65°C
Operating enviroment	Suitable for both outdoor and indoor
Maintanence-free operating life	Up to 100 000 hours
Control	Standard DALI-2 control (1 address/luminaire. 2 - 3 addresses/luminaire available) Zhaga connectors and D4i available DMX-RDM available (1 address/luminaire. 2 - 3 addresses/luminaire available) A selection of smart lighting control solutions CLO can be programmed at the factory Preprogrammed stand-alone dimming (Kaamos) can be programmed at the factory (DALI and ZD4i versions)
Dimming features	Light HDFF flicker-free capability up to<1% index 0,001). Dimmable down to 1%.

		CRI > 70	CRI > 80	CRI > 90
Available colour rendering:	**5700 K**		**X**	**o**
	5000 K	**X**	**o**	
	4000 K	**X**	**X**	
	3000 K	**o**	**o**	
	2200 K	**o**		
TLCI	Television Lighting Consistency Index over 90 available			
Gear	BGN: B3GN ja B2GN B3, B2 and B1			

X = STANDARD
o = OPTION



Operating voltage	200-480 VAC (operating area: 180-528 VAC)
DC operation	BGN and BGSN available for 255–500 VDC operation
Operating frequency	50/60 Hz
Power factor (PF)	> 0,95
Protection class	CL I
Electrical connectionsl	Spring clamp terminals
Surge protection	BGN: L-GND, N-GND 10 kV, L-N 10 kV BGSN: L-GND, N-GND 10 kV, L-N 10 kV
Inrush control	Standard
Automatic thermal protection	Mono- or bi-functional protection with smart power limiting function depending on model

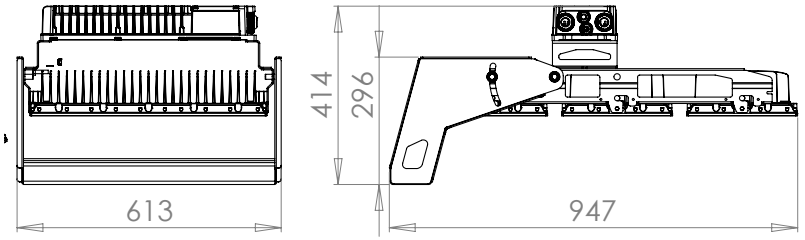
Luminous flux for 740 type, depending on selected options. Contact us for light distribution files for the latest values.
Performance ambient temperature Tq 25°C
Given values are nominal values and may vary +/- 10

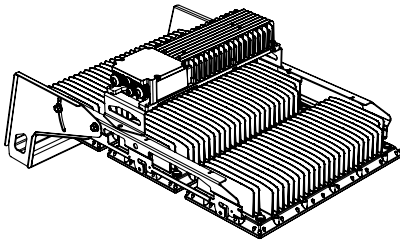
	Luminaire	Bracket			
	Light engine, rack & gear	**Area**	**Stadium**	**Pendant S**	**Pendant L**
Bubo B3GN	39 kg	8 kg	8 kg	6 kg	6 kg
Bubo B2GN	27 kg	5 kg	5 kg	4 kg	4 kg
	Light engine and gear	**Area**	**Floodlight**	**Pendant**	**Pendant B1GN**
Bubo B1GN	14 kg	2 kg	2 kg	2 kg	2 kg

	Luminaire	Drivers
	Light engine and rack	**BGN**
Bubo B3	31 kg	6 kg
Bubo B2	20 kg	5 kg
	Light engine	**BGSN**
Bubo B1 - 136LED	9 kg	3 kg

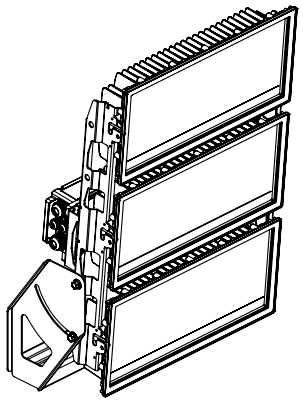
Weights in kg are valid for standard models. Customer-specific changes may affect the weights.

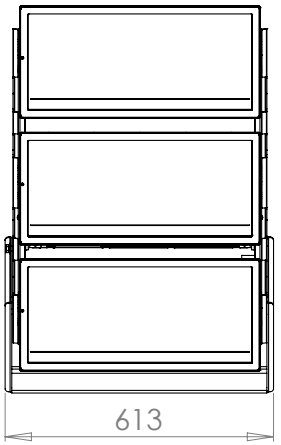
B3GN AREA (BGN GEAR)

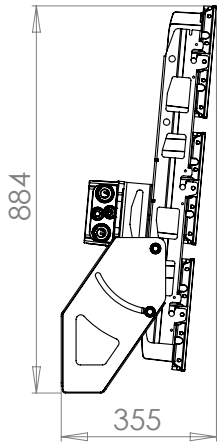




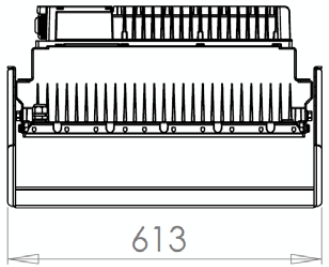
B3GN STADIUM (BGN GEAR)

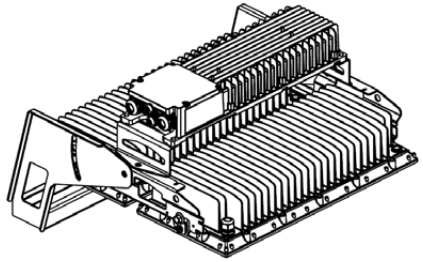


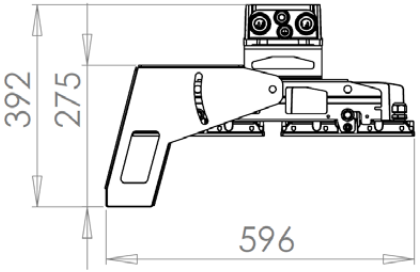




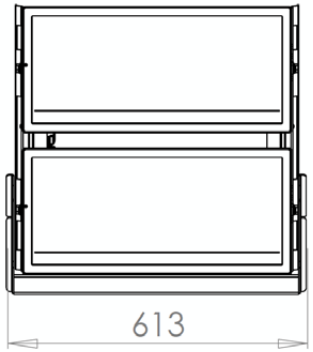
B2GN AREA (BGN GEAR)

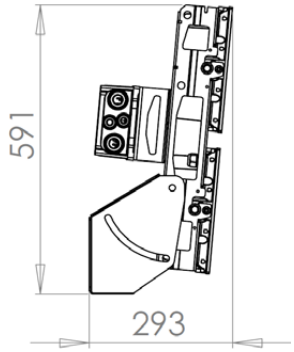


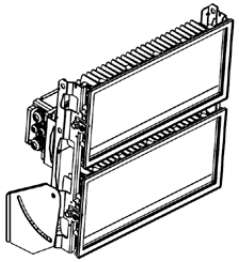




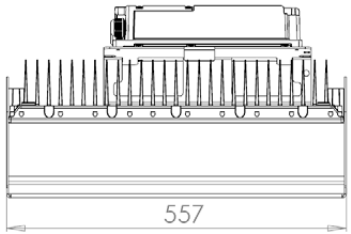
B2GN STADIUM (BGN GEAR)

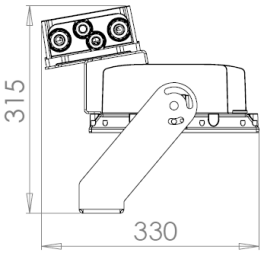


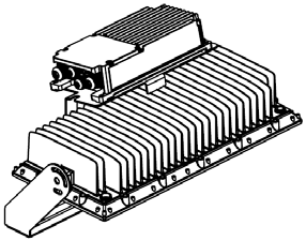




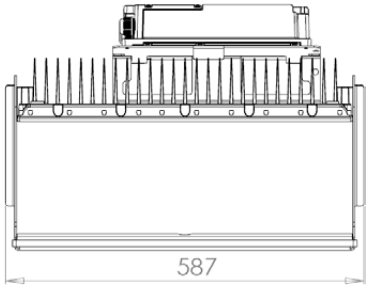
B1GN AREA (BGSN GEAR)

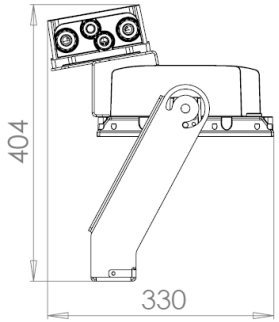




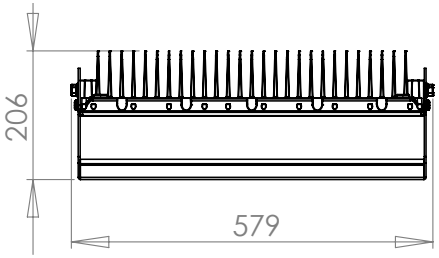


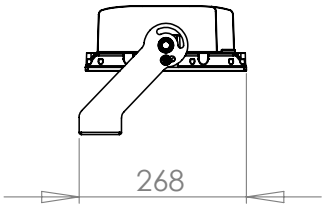
B1GN STADIUM (BGSN GEAR)

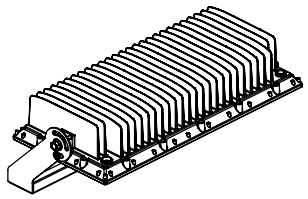




B1 AREA







EASY LED

BUBO 2.0 STADIUM

Light engines	**B3 (luminaire with separate gear)**							**B3GN (with gear unit)**						
Version	408-1450	408-1300	408-1200	360-1400	360-1300	360-1200	360-1050	408-1450	408-1300	408-1200	360-1400	360-1300	360-1200	360-1050
Max temperature outdoors [°C]	30	30	35	35	35	40	45	30	30	35	30	35	35	40
Max temperature indoors [°C]	25	20	25	25	30	35	40	20	20	25	20	25	30	35
Luminous flux (lm) (740)	256 000	239 000	226 000	224 000	213 000	202 000	184 000	256 000	239 000	226 000	224 000	213 000	202 000	184 000
Input power [W]	1800	1570	1460	1520	1400	1290	1120	1800	1570	1460	1520	1400	1290	1120
Lumen maintenance 100 000 [h]	0.89	0.91	0.92	0.93	0.95	0.96	0.98	0.89	0.91	0.92	0.93	0.95	0.96	0.98
Lumen maintenance L90 [h]	90 000	>100 000						90 000	>100 000					
Gear unit lifespan (ta 25) [h]	>100 000							>100 000						
Available:														
DALI 2 addresses	1 or 3							1 or 3						
ZD4i addresses	1							1						
DMX-RDM addresses	1 or 3							1 or 3						
BUBO BASE	no	yes						no						
Light minimum level BGN	<1%							<1%						
Light minimum level BASE		5%					6%							

Available optical solutions: Rotationally symmetrical: HP-12, HP-25, HP-50, HP-68, Clear.Asymmetric: HP-15A. Corridor optics: SP-C, SP-V. Street optics: e.g. SP-J

BUBO 2.0 STADIUM

Light engines	**B2 (luminaire with separate gear)**						**B2GN (with gear unit)**					
Version	272-1450	272-1300	272-1200	240-1400	240-1200	240-1050	272-1450	272-1300	272-1200	240-1400	240-1200	240-1050
Max temperature outdoors [°C]	35	35	35	35	40	45	35	35	35	35	40	45
Max temperature indoors [°C]	25	25	30	25	35	40	25	25	25	25	35	40
Luminous flux (lm) (740)	174 000	163 000	153 000	150 000	135 000	122 000	174 000	163 000	153 000	150 000	135 000	122 000
Input power [W]	1200	1050	980	1010	855	745	1200	1050	980	1010	855	745
Lumen maintenance 100 000 [h]	0.89	0.91	0.92	0.93	0.96	0.98	0.89	0.91	0.92	0.93	0.96	0.98
Lumen maintenance L90 [h]	90 000	>100 000					90 000	>100 000				
Gear unit lifespan (ta 25) [h]	>100 000						>100 000					
Available:												
DALI 2 addresses	1 or 2						1 or 2					
ZD4i addresses	1						1					
DMX-RDM addresses	1 or 2						1 or 2					
BUBO BASE	no	yes					no					
Light minimum level BGN	<1%						<1%					
Light minimum level BASE		5%			6%							

Available optical solutions: Rotationally symmetrical: HP-12, HP-25, HP-50, HP-68, Clear.Asymmetric: HP-15A. Corridor optics: SP-C, SP-V. Street optics: e.g. SP-J

EASY LED

BUBO 2.0 STADIUM

Light engines	**B1 (luminaire with separate gear)**										**B1GN (with gear unit)**									
Version	136-1450	136-1400	136-1300	136-1200	120-1400	120-1200	120-1050	96-1200	96-1050	96-850	136-1450	136-1400	136-1300	136-1200	120-1400	120-1200	120-1050	96-1200	96-1050	96-850
Max temperature outdoors [°C]	45	35	40	40	40	45	45	50	55	55	35	35	40	40	40	45	45	45	50	55
Max temperature indoors [°C]	35	25	30	35	30	35	40	45	50	55	30	25	30	30	30	35	40	40	45	50
Luminous flux (lm) (740)	87 000	86 000	82 000	78 000	76 000	68 000	62 000	54 000	48 800	41 400	87 000	86 000	82 000	78 000	76 000	68 000	62 000	54 000	48 800	41 400
Input power [W]	595	566	518	488	502	426	370	346	302	242	595	566	518	488	502	426	370	346	302	242
Lumen maintenance 100 000 [h]	0.90	0.91	0.92	0.93	0.93	0.96	0.98	0.96	0.98	0.98	0.9	0.91	0.92	0.93	0.93	0.96	0.98	0.96	0.98	0.98
Lumen maintenance L90 [h]	100 000	>100 000									100 000	>100 000								
Gear unit lifespan (ta 25) [h]	>100 000										>100 000									
Available:																				
DALI 2 addresses	1										1									
ZD4i addresses	1										1									
DMX-RDM addresses	1										1									
BUBO BASE	no			yes							no									
Light minimum level BGSN	<1%										<1%									
Light minimum level BASE				5%			6%	5%	6%	7%										

Available optical solutions: Rotationally symmetrical: HP-12, HP-25, HP-50, HP-68, Clear. Asymmetric: HP-15A. Corridor optics: SP-C, SP-V. Street optics: e.g. SP-J

BUBO 2.0 AREA

Light engines	**B3 (luminaire with separate gear)**							**B3GN (with gear unit)**						
Version	408-1450	408-1300	408-1200	360-1400	360-1300	360-1200	360-1050	408-1450	408-1300	408-1200	360-1400	360-1300	360-1200	360-1050
Max temperature outdoors [°C]	35	30	35	35	35	40	45	30	30	35	30	35	35	40
Max temperature indoors [°C]	25	20	25	25	30	30	35	20	20	25	20	25	30	35
Luminous flux (lm) (740)	244 000	228 000	215 000	213 000	203 000	193 000	175 000	244 000	228 000	215 000	213 000	203 000	193 000	175 000
Input power [W]	1800	1570	1460	1520	1400	1290	1120	1800	1570	1460	1520	1400	1290	1120
Lumen maintenance 100 000 [h]	0.89	0.91	0.92	0.93	0.95	0.96	0.98	0.89	0.91	0.92	0.93	0.95	0.96	0.98
Lumen maintenance L90 [h]	90 000	>100 000						90 000	>100 000					
Gear unit lifespan (ta 25) [h]	>100 000							>100 000						
Available:														
DALI 2 addresses	1 or 3							1 or 3						
ZD4i addresses	1							1						
DMX-RDM addresses	1 or 3							1 or 3						
BUBO BASE	no	yes						no						
Light minimum level BGN	<1%							<1%						
Light minimum level BASE		5%					6%							

Available optical solutions: Area optics: SP-UP-F, SP-UP-F2, SP-F, SP-A Corridor optics: SP-C, SP-V Rotationally symmetrical: HP-12, HP-25, HP-50, HP-68, Clear Street optics and Indirect indoor lighting for B3 and B2 models always with separate drivers. For indirect lighting with B3, B2, B1 and B1GN, see the table for heat limits and lumen depreciation for B3GN.
B1(GN) 136-1400 not suitable for indirect lighting.

EASY LED

BUBO B2 AREA

Light engines	**B2 (luminaire with separate gear)**						**B2GN (with gear unit)**					
Version	272-1450	272-1300	272-1200	240-1400	240-1200	240-1050	272-1450	272-1300	272-1200	240-1400	240-1200	240-1050
Max temperature outdoors [°C]	30	30	35	35	40	45	30	30	35	35	40	40
Max temperature indoors [°C]	20	20	25	25	35	35	20	20	25	25	30	35
Luminous flux (lm) (740)	166 000	155 000	146 000	143 000	129 000	117 000	166 000	155 000	146 000	143 000	129 000	117 000
Input power [W]	1200	1050	980	1010	855	745	1200	1050	980	1010	855	745
Lumen maintenance 100 000 [h]	0.89	0.91	0.92	0.93	0.96	0.98	0.89	0.91	0.92	0.93	0.96	0.98
Lumen maintenance L90 [h]	90 000	>100 000					90 000	>100 000				
Gear unit lifespan (ta 25) [h]	>100 000						>100 000					
Available:												
DALI 2 addresses	1 or 2						1 or 2					
ZD4i addresses	1						1					
DMX-RDM addresses	1 or 2						1 or 2					
BUBO BASE	no	yes					no					
Light minimum level BGN	<1%						<1%					
Light minimum level BASE		5%				6%						

Available optical solutions: Area optics: SP-UP-F, SP-UP-F2, SP-F, SP-A Corridor optics: SP-C, SP-V Rotationally symmetrical: HP-12, HP-25, HP-50, HP-68, Clear Street optics and Indirect indoor lighting for B3 and B2 models always with separate drivers. For indirect lighting with B3, B2, B1 and B1GN, see the table for heat limits and lumen depreciation for B3GN. B1(GN) 136-1400 not suitable for indirect lighting.

BUBO 2.0 AREA

Light engines	**B1 (luminaire with separate gear)**										**B1GN (with gear unit)**									
Version	136-1450	136-1400	136-1300	136-1200	120-1400	120-1200	120-1050	96-1200	96-1050	96-850	136-1450	136-1400	136-1300	136-1200	120-1400	120-1200	120-1050	96-1200	96-1050	96-850
Max temperature outdoors [°C]	40	35	35	35	35	40	45	45	50	55	35	30	35	35	35	40	45	45	50	55
Max temperature indoors [°C]	30	25	30	30	25	35	40	40	45	50	25	20	25	30	25	30	40	40	45	50
Luminous flux (lm) (740)	84 000	82 000	78 000	74 000	72 000	65 000	59 000	51 300	46 400	39 400	84 000	82 000	78 000	74 000	72 000	65 000	59 000	51 300	46 400	39 400
Input power [W]	595	566	518	488	502	426	370	346	302	242	595	566	518	488	502	426	370	346	302	242
Lumen maintenance 100 000 [h]	0.90	0.91	0.92	0.93	0.93	0.96	0.98	0.96	0.98	0.98	0.90	0.91	0.92	0.93	0.93	0.96	0.98	0.96	0.98	0.98
Lumen maintenance L90 [h]	100 000	>100 000									100 000	>100 000								
Gear unit lifespan (ta 25) [h]	>100 000										>100 000									
Available:																				
DALI 2 addresses	1										1									
ZD4i addresses	1										1									
DMX-RDM addresses	1										1									
BUBO BASE	no		yes								no									
Light minimum level BGSN	<1%										<1%									
Light minimum level BASE			5%		6%	5%	6%	7%												

Available optical solutions: Area optics: SP-UP-F, SP-UP-F2, SP-F, SP-A Corridor optics: SP-C, SP-V Rotationally symmetrical: HP-12, HP-25, HP-50, HP-68, Clear Street optics and Indirect indoor lighting for B3 and B2 models always with separate drivers. For indirect lighting with B3, B2, B1 and B1GN, see the table for heat limits and lumen depreciation for B3GN. B1(GN) 136-1400 not suitable for indirect lighting.

B1GN HOTDUTY

DURABLE LIGHT OUTPUT FOR THE MOST DEMANDING ENVIRONMENTS

This compact and long-lasting lighting solution is designed for the hottest and most demanding areas in process industries, where high light output is essential. Its remarkably low lumen depreciation ensures excellent safety and efficiency throughout the entire service life.

A wide range of optical solutions – from narrow beams to the asymmetrical SP-UP-F optics – allows precise light distribution for different applications. The luminaire can be installed flexibly in both low and high spaces, on the sides of machines, or on the walls of work areas.

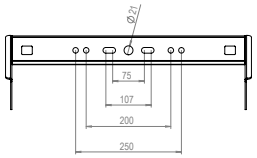
The control gear can be placed separately from the light unit and replaced independently when needed, making installation and maintenance easier. A polycarbonate light shield is also available for areas requiring shatter protection.

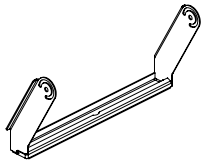
Version	136-500	
Max temperature indoors [°C]	65	
ta min = -40 °C	ta +25°C	ta +60°C
Luminous flux (lm) (740)	36 400	35 000
Input power [W]	194	
Lumen maintenance		
100kh	0,98	0,9
L90	>100 000	50000
Gear unit lifespan (ta 25) [h]	>100 000	100000
Available DALI 2 addresses	1	
Light minimum level BGSN	<1%	

BRACKETS

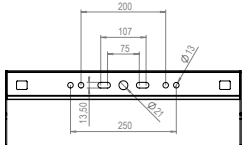
B1 & B1GN

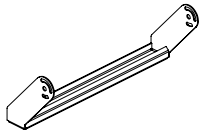
Flood light bracket



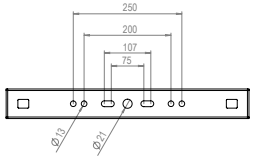


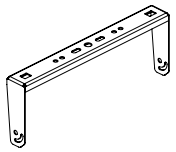
Area bracket



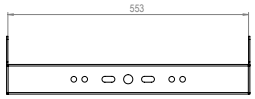


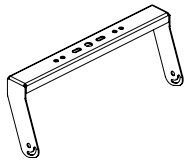
Pendant





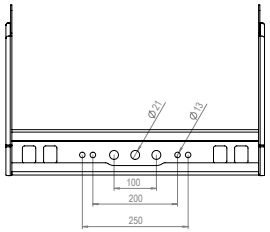
Pendant B1GN

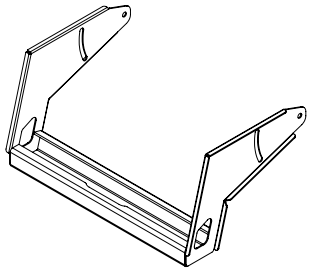




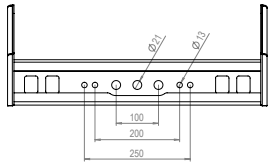
B2 & B2GN, B3 & B3GN

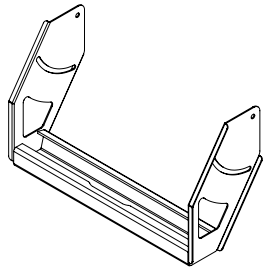
Area bracket



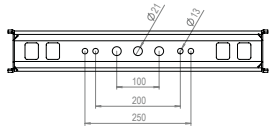


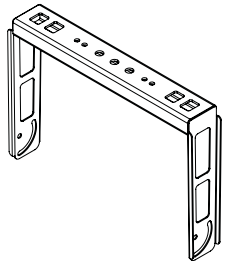
Stadium bracket



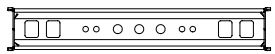


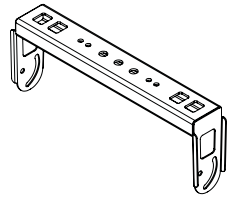
Pendant L



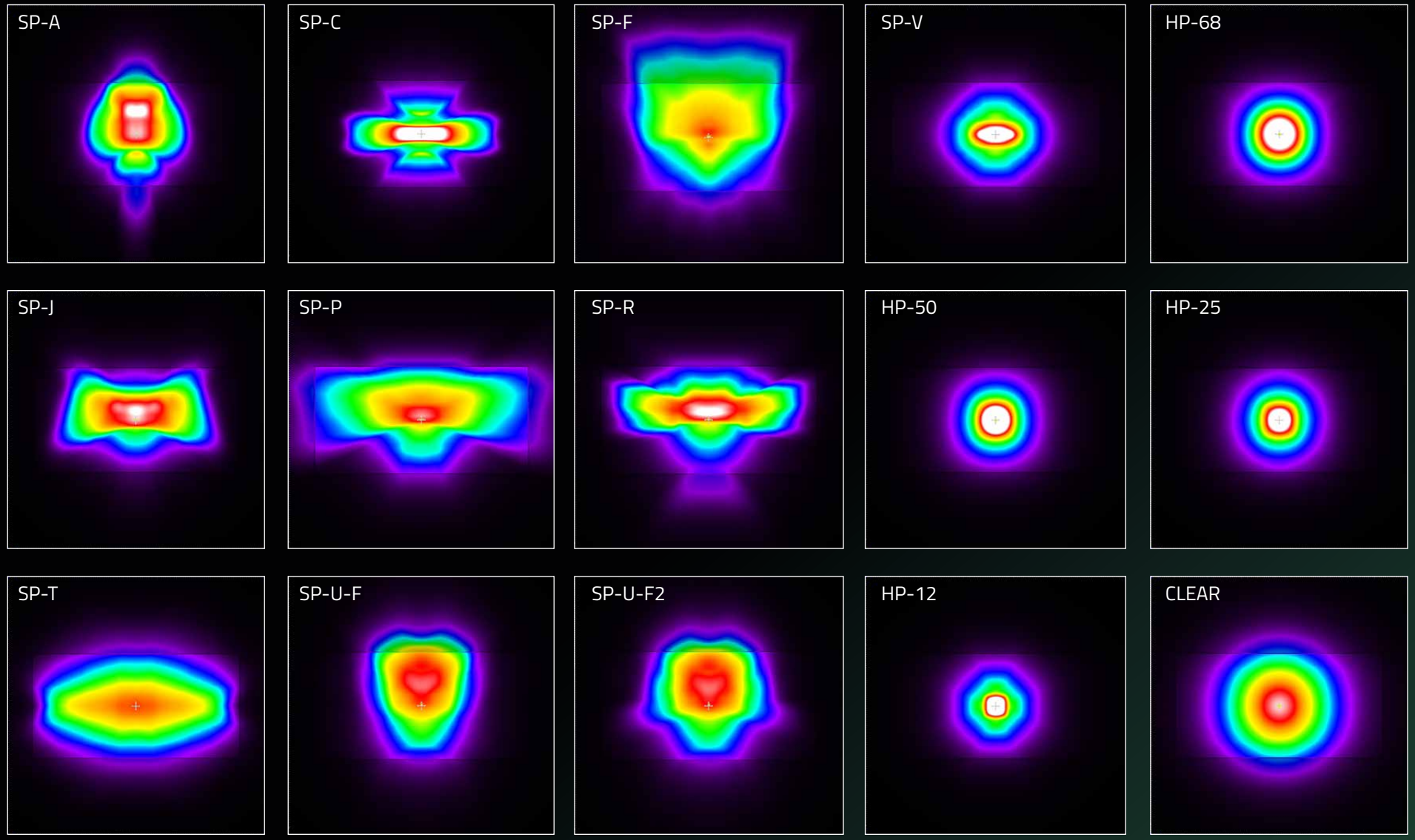


Pendant S

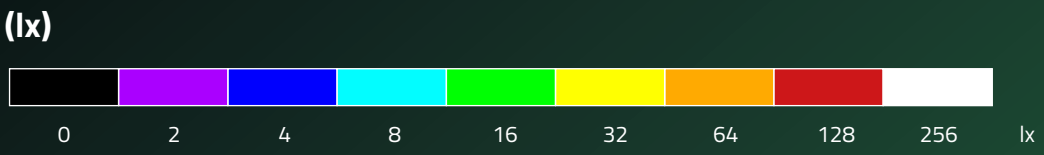




BUBO - OPTICS



Luminaire at a height of 10 m
In the middle of rectangle of 80 x 40 m, at an angle of 0 to the ground.



BUBO 2.0 SYSTEMS AND ACCESSORIES

INSTALLATION

- clear and versatile
- brackets available for stadium, area, pendant, floodlight, track, pole and wire installations
- alternative mounting options for the gear unit
- light shields and bird spike available
- precision aiming tool available
- versions available for indirect lighting or for directing light above the horizon
- intermediate cables and long-distance cabling solutions available
- compatible with the BUBO BASE system

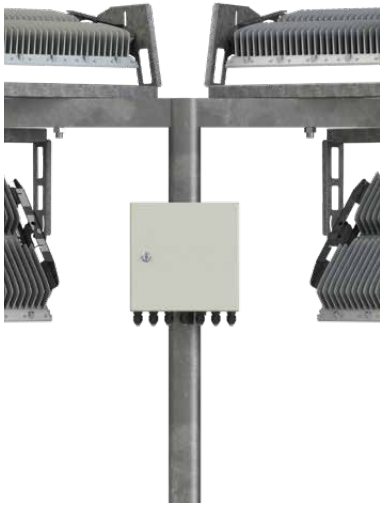
For more information, please contact us:
info@easyled.fi

BUBO BASE

GEAR UNIT AND CABIN:

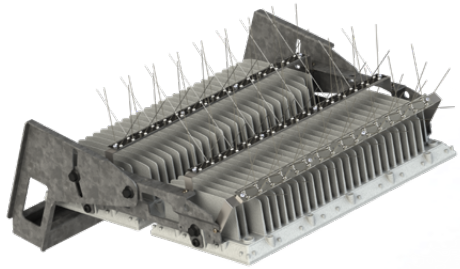
Bubo Base ja Bubo Base Twin

JUNCTION BOXES



ANTI-GLARE VISORS

BIRD SPIKES



Easy LED Oy
Meriniitynkatu 11
FI-24100 Salo, FINLAND
tel. +358 2 737 44 20

EASY LED

Investing in high quality LED lighting today will pay off far into the future. Easy LED Oy is a Finnish company specialized in manufacturing of energy efficient LED lighting systems for different environments, such as sports arenas, industrial premises, roads and areas as well as retail and office spaces.

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