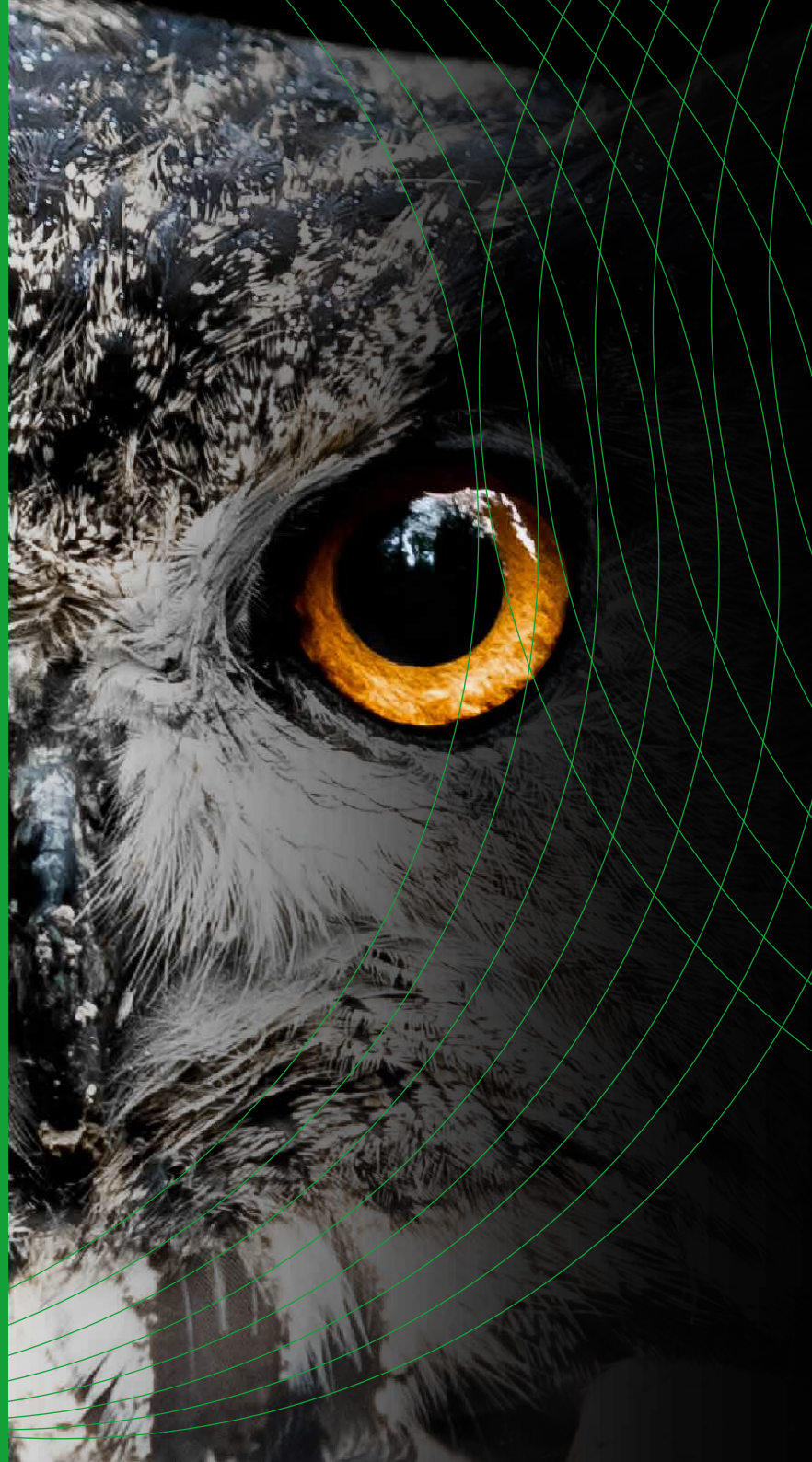


EASY LED

# BUBO 2.0

## FLOODLIGHT SYSTEM

WWW.EASYLED.FI

EASY LED 6/2023

# BUBO 2.0

## BUBO® 2.0 IS VERSATILE

**Comprehensive control methods such as DALI-2 and DMX/RDM. RGB-version. 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 NEST and Bubo CAVE electrical 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 1,520 W |
| **Light output** | up to 212,000 lm |
| **Efficacy** | up tp 160 lm/W |
| **Light quality** | The LED technology of the Bubo floodlight system 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<br>**Gear Unit:** BG: Die-cast aluminium chassis with powder coating RAL9006, anodized aluminium lids<br>BGS: Extruded aluminum frame with anodizing, corrosion-resistant steel ends<br>BGE: Die-cast aluminium chassis with powder coating RAL7016<br>BGSE: Die-cast aluminium chassis with powder coating RAL7016<br>**Condensation control:** Pressure balancing valves<br>**Lens cover:** Extra clear tempered glass, anti corrosion treated steel frame<br>**Mounting components:** Hot-galvanized steel, corrosion-proof steel; screws made of Delta corrosion-proof coated stainless steel |
| **Optics** | Standard symmetrical optics for area, street, hallway and rotation lighting. Special optics for special requirements |
| **IP and IK class** | IP66, IK08 |
| | CE |
| **Operating temperature** | Up to -40°C ...+55°C (95% RH), depending on the model |
| **Operating enviroment** | Suitable for both outdoor and indoor |
| **Maintanence-free operating life** | Up to 100,000 hours |
| **Control** | Standard DALI-2 or DALI-2 compatible control (1 - 3 addresses/luminaire)<br>DMX-RDM available for selected models<br>1-10V and 1-10V with a turn-off system available for selected BG and BGS models<br>A selection of smart lighting control solutions<br>CLO can be programmed at the factory (DALI versions) |
| **Dimming features** | Light HDFF flicker-free capability up to<1%. Dimmable up to 2%.<br>On the lowest dimming levels PWM (500 Hz or 1200 Hz)<br>Night-time dimming options can be programmed at the factory (DALI versions) |

| Available colour rendering: | CRI > 70 | CRI > 80 | CRI > 90 |
|---|---|---|---|
| 5700 K | | X | o |
| 5000 K | X | o | |
| 4000 K | X | X | |
| 3000 K | o | | |

X = STANDARD
o = OPTION

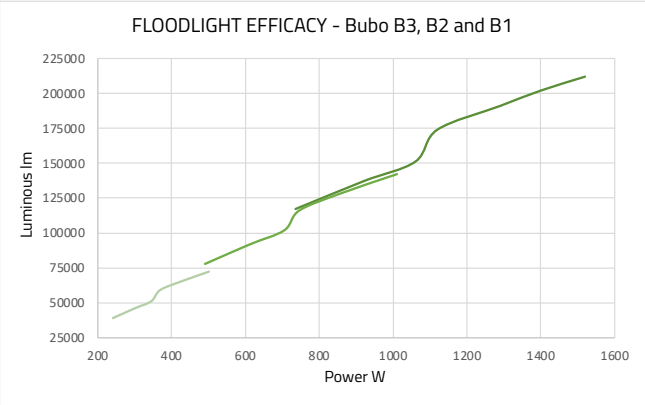
| | |
|---|---|
| **TLCI** | Television Lighting Consistency Index over 90 available |
| **RGB version** | RGB version available for both DMX-RDM or DALI controls |

| | Model | | Voltage (operating area) | | |
|---|---|---|---|---|---|
| **Gear** | **Luminaire with gear unit** | **Luminaire separated from gear unit** | **120 LED lighting units** | **96 LED lighting units** | **As emergency lighting** |
| BGS | B1G | - | 230VAC (198-264VAC) | 230VAC(202-254VAC) | 230VDC |
| BG | B2G, B3G | B1, B2, ja B3 | 230VAC (198-264VAC) | 230VAC(202-254VAC) | 230VDC |
| BGE | B2G, B3G | B1, B2, ja B3 | 230...400VAC (190-400VAC) | 230...400VAC (190-400VAC) | - |
| BGSE | B1GE | B1 | 220...480 VAC (198 - 528 VAC) | 220...480 VAC (198 - 528 VAC) | - |

| | |
|---|---|
| **Operating frequency** | 50/60 Hz |
| **Power factor (PF)** | > 0,95 |
| **Protection class** | CL I |
| **Electrical connections** | Spring clamp terminals |
| **Surge protection** | BG and BGS (BL:120LED) L-GND, N-GND 6 kV, L-N 4 kV<br>BG and BGS (BL:96LED) L-GND, N-GND 10 kV, L-N 6 kV<br>BGE: 10 kV<br>BGSE: L-GND, N-GND 10 kV, L-N 6 kV<br>Available BG & BGS: 10 kV, 10kV including DALI control line protection or 20 kV protection devices designed especially for floodlights in high installation positions |
| **Inrush control** | BG and BGS (BL120LED) intelligent as standard, BG and BGS (BL96LED) standard, BGE and BGSE as standard |
| **Intelligent drive current control** | BG and BGS (BL120LED) Soft start in cold conditions protects the LED components. |
| **Automatic thermal protection** | Mono- or bi-functional protection with smart power limiting function depending on model |

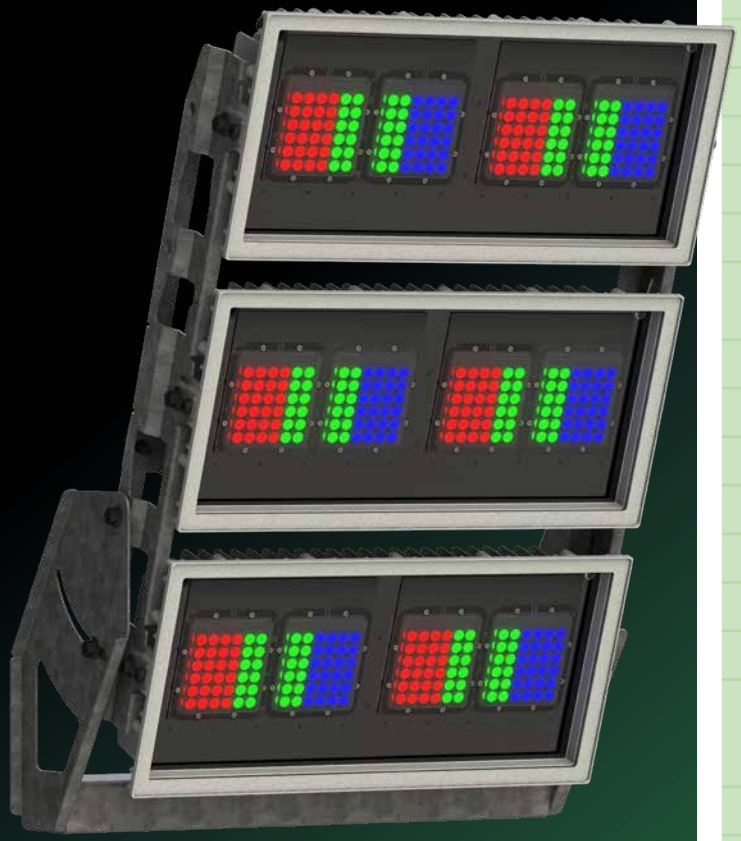
Luminous flux for 740 type, depending on optional selected gear. Contact us for light distribution files for the latest values. Defining temperature for performance Tq 25°C
Given values are nominal values and may vary +/- 10%

## FLOODLIGHT EFFICACY GRAPH



BUBO party

**BUBO Party offers a highly saturated color space, ultra stable optics, exceptionally long lifespan and good thermal resistance.**



EASY LED

# BUBO PARTY

BUBO PARTY DMX-RDM RGB floodlight offers a highly saturated color space. This is made possible by specially selected LEDs that are connected to a specially designed black circuit board and protected by ultra stable optics and tempered glass. Optimised red, green and blue can be projected in rich hues.

The floodlight is available as a set of three Bubo B1 luminaires controlled by a BGE gear unit. B1 floodlight units can be installed and moved independent of each other. This option enables versatile combinations with B3 and B2 solutions.
Mounting options are diverse, and there is a separate floodlight model for installations with lighting aimed above the horizon.

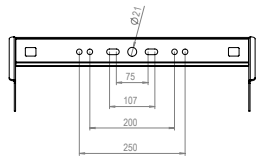
Floodlights are available with multiple symmetric and oval beams, making them suitable for a broad scope of uses. The floodlight is designed for challenging installation conditions and offers exceptional lifespan, dimming control and good thermal resistance. The operation even under harsher conditions is maintained, thanks to the Bubo series IP66 and IK08 frame.

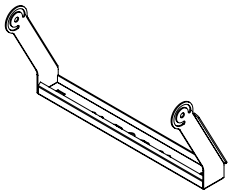
| | |
|---|---|
| **Mains voltage** | BGE: 230...400 VAC (operating area: 190 - 440 VAC) |
| **Frequency** | 50/60 Hz |
| **Power** | 1290 W (3 * 430 W) |
| **Protection class** | CL I |
| | CE |
| **Electrical connections** | Spring clamp terminals |
| **Control** | DMX-RDM channel-specific RGB control. Available with DALI-2 or DALI-2 compatible control (1 - 3 addresses/luminaire) |
| **Dimming curves** | Linear and logarithmic |
| **Frame** | Die-cast aluminium chassis, tempered glass and corrosion-protected steel structures |
| **IP- and IK -classes** | IP66, IK08 |
| **Light aiming** | Downwards from the horizon as standard. Luminaires with upwards facing light also available |
| **Thermal management** | Fully passive |
| **Operating temperature** | All channels and full power: -40...+35°C, 3 x B1 configuration -40...+30°C 1 x B3 configuration |
| **Luminious flux** | 3 x B1 configuration 3 x 18 000 lm (x: 0,242 y:0,152), B3 configuration 54 000 lm |
| **Optics** | NP-Oval 15°x40° FWHM optics<br>Symmetrical NP-optics 15° - 45° FWHM<br>Clear glass 140° FWHM version |
| **Light unit lifetime L90** | All channels and full power: 60 000 h 3 x B1 configuration, 50 000 h 1 x B3 configuration |
| **Flicker-free** | HDFF flicker-free light level down to 18% . Dimming down to 1% (1200Hz pwm) |

# Brackets

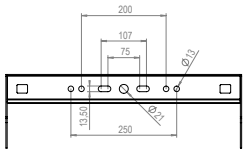
## B1 & B1G, B1GE

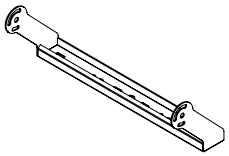
### Flood light bracket



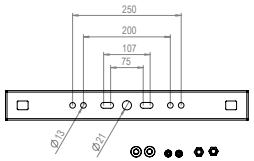



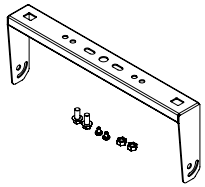
### Area bracket



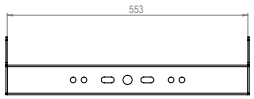



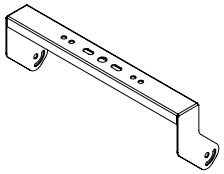
### Bracket



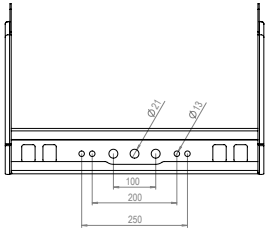
### Bracket B1GE

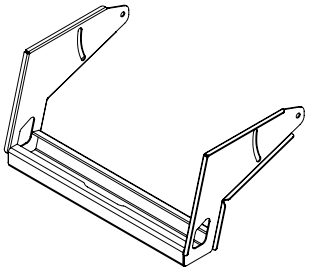


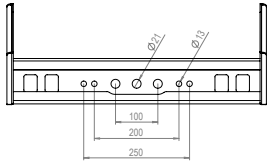
## B2 & B2G, B3 & B3G

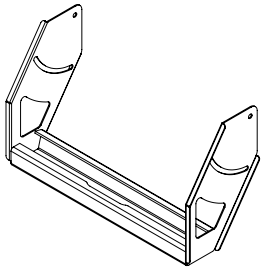
### Area bracket



### Stadium bracket



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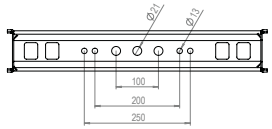
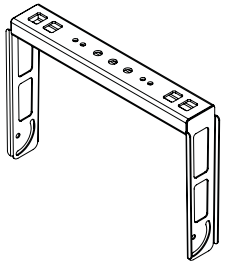
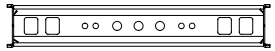
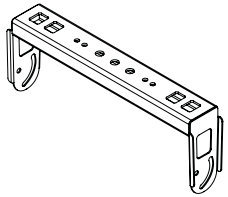


### Bracket S





# WEIGHT

| | Luminaire | Bracket | | | |
|---|---|---|---|---|---|
| | Light engine, rack & gear | Area | Stadium | Pendant L | Pendant S |
| **Bubo B3G - 360LED** | 40 | 8,2 | 8,1 | 6,4 | 5,6 |
| **Bubo B3G - 288LED** | 41 | | | | |
| **Bubo B2G - 240LED** | 28 | 5,0 | 5,1 | 4,0 | 3,6 |
| **Bubo B2G - 192LED** | 29 | | | | |
| | Light engine and gear | Area | Flood light | Pendant | B1G bracket |
| **Bubo B1G - 120LED** | 13,1 | 2,1 | 2,4 | 2,0 | 2,2 |
| **Bubo B1G - 96LED** | 13,4 | | | | |
| **Bubo B1GE - 120LED** | 12,8 | | | | |
| **Bubo B1GE - 96LED** | 12,6 | | | | |

| | Luminaire | | Drivers | |
|---|---|---|---|---|
| | Valoyksikkö ja räkki | | BG | BGE |
| **Bubo B3 - 360LED** | 31 | | 8,5 | 6,1 |
| **Bubo B3 - 288LED** | 30 | | 10,3 | |
| **Bubo B2 - 240LED** | 20 | | 7,6 | 5,4 |
| **Bubo B2 - 192LED** | 20 | | 8,8 | |
| | Light engine | | | BGSE |
| **Bubo B1 - 120LED** | 9,1 | | | 3,4 |
| **Bubo B1 - 96LED** | 9,0 | | | |

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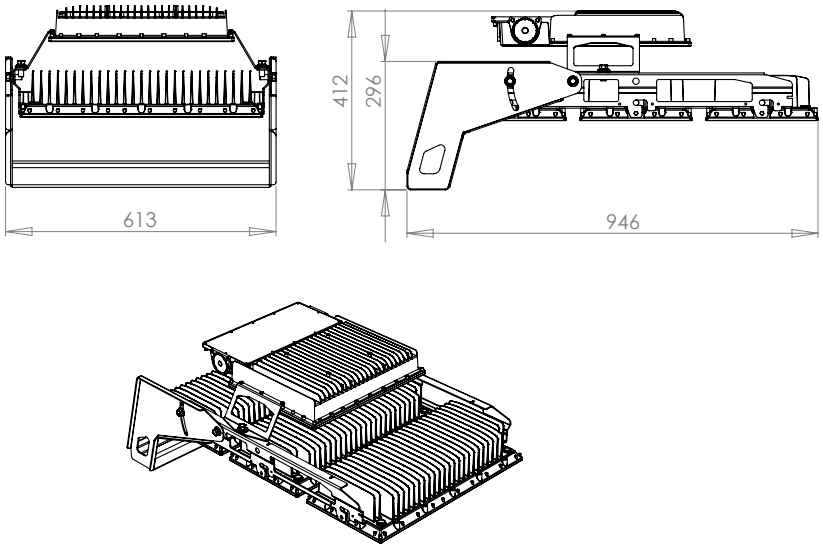
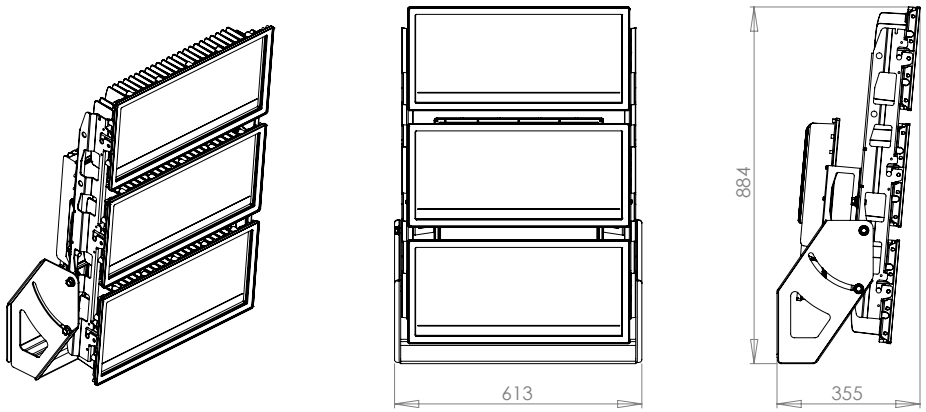
## B3G AREA




## B3G STADIUM



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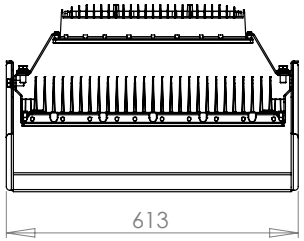
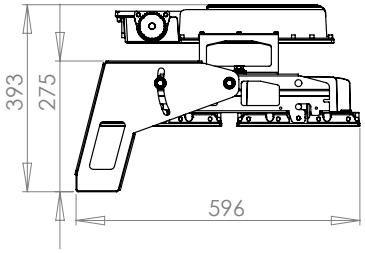
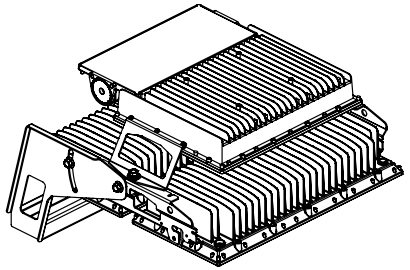
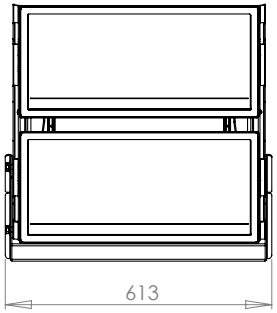
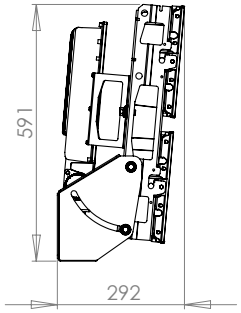


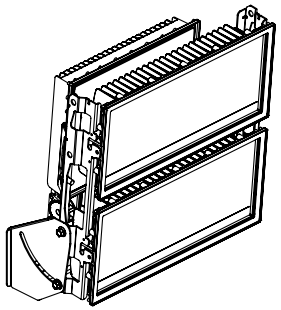



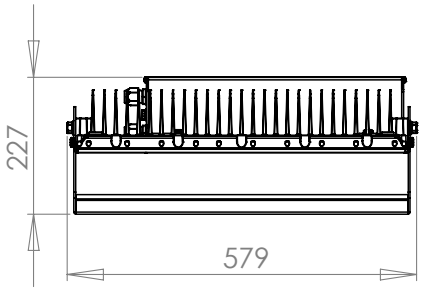
## B2G STADIUM

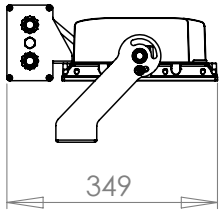


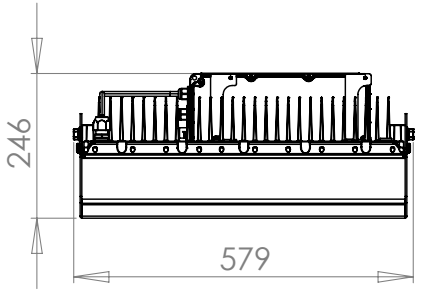



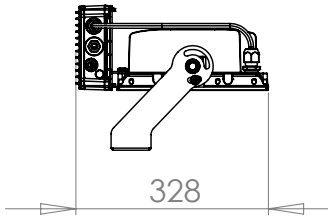
## B1G AREA



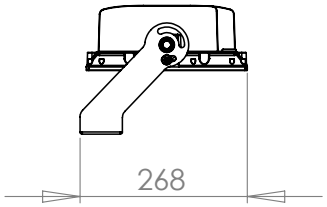



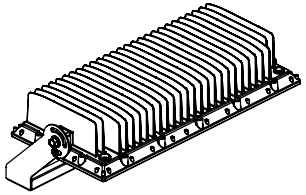

## B1GE AREA




## B1 AREA



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## BUBO 2.0 STADIUM

| Light engines | B3 (luminaire with separate gear) | | | | | | | B3G (with gear unit) | | | | | | | B2 (luminaire with separate gear) | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Version** | 360-1400 | 360-1300 | 360-1200 | 360-1050 | 288-1200 | 288-1050 | 288-850 | 360-1400 | 360-1300 | 360-1200 | 360-1050 | 288-1200 | 288-1050 | 288-850 | 240-1400 | 240-1200 | 240-1050 | 192-1200 | 192-1050 | 192-850 |
| **Max temperature outdoors** | 35 | 35 | 40 | 45 | 45 | 50 | 55 | 30 | 35 | 35 | 40 | 45 | 45 | 55 | 35 | 40 | 45 | 45 | 50 | 55 |
| **Max temperature indoors** | 25 | 30 | 35 | 40 | 40 | 45 | 50 | 20 | 25 | 30 | 35 | 40 | 40 | 50 | 25 | 35 | 40 | 40 | 45 | 50 |
| **Ta min = -40** | | | | | | | | | | | | | | | | | | | | |
| **Luminous flux (lm) (740)** | 212 000 | 202 000 | 191 000 | 174 000 | 151 000 | 137 000 | 117 000 | 212 000 | 202 000 | 191 000 | 174 000 | 151 000 | 137 000 | 117 000 | 142 000 | 128 000 | 116 000 | 102 000 | 92 000 | 78 000 |
| **Input power (W)** | 1520 | 1400 | 1290 | 1120 | 1060 | 920 | 735 | 1520 | 1400 | 1290 | 1120 | 1060 | 920 | 735 | 1010 | 855 | 745 | 705 | 612 | 490 |
| **Lumen maintenance (CRI70 & CRI80 & CRI90)** | | | | | | | | | | | | | | | | | | | | |
| **100kh** | 0,93 | 0,95 | 0,96 | 0,98 | 0,96 | 0,98 | 0,98 | 0,93 | 0,95 | 0,96 | 0,98 | 0,96 | 0,98 | 0,98 | 0,93 | 0,96 | 0,98 | 0,96 | 0,98 | 0,98 |
| **L95** | 70 000 | 100 000 | >100 000 | | | | | 70 000 | 100 000 | >100 000 | | | | | 70 000 | >100 000 | | | | |
| **L90** | >100 000 | | | | | | | >100 000 | | | | | | | >100 000 | | | | | |
| **BG(S) gear unit lifespan (indoor)** | | | | | | | | | | | | | | | | | | | | |
| **Lifespan [h]** | >100 000 | >100 000 | >100 000 | >100 000 | >100 000 | >100 000 | >100 000 | >100 000 | >100 000 | >100 000 | >100 000 | >100 000 | >100 000 | >100 000 | >100 000 | >100 000 | >100 000 | >100 000 | >100 000 | >100 000 |
| **BG(S):** | | | | | | | | | | | | | | | | | | | | |
| **DALI addresses** | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 2 | 2 | 2 | 2 | 2 | 2 |
| **DMX-RDM available** | x | x | x | x | | | | x | x | x | x | | | | x | x | x | | | |
| **1-10V available** | x | x | x | x | | | | x | x | x | x | | | | x | x | x | | | |
| **Flicker %** | <1% | <1% | <1% | <1% | <1% | <1% | <1% | <1% | <1% | <1% | <1% | <1% | <1% | <1% | <1% | <1% | <1% | <1% | <1% | <1% |
| **Flicker Index** | 0,001 | 0,001 | 0,002 | 0,002 | 0,002 | 0,002 | 0,002 | 0,001 | 0,001 | 0,002 | 0,002 | 0,002 | 0,002 | 0,002 | 0,001 | 0,002 | 0,002 | 0,002 | 0,002 | 0,002 |
| **HDFF minimum level** | 14 % | 15 % | 16 % | 17 % | 25 % | 28 % | 33 % | 14 % | 15 % | 16 % | 17 % | 25 % | 28 % | 33 % | 14 % | 16 % | 17 % | 25 % | 28 % | 33 % |
| **Light minimum level** | 1 % | 1 % | 1 % | 2 % | 12 % | 13 % | 15 % | 1 % | 1 % | 1 % | 2 % | 12 % | 13 % | 15 % | 1 % | 1 % | 2 % | 11 % | 12 % | 14 % |
| **Power minimum level [W]** | 19 | 19 | 19 | 19 | 104 | 104 | 104 | 19 | 19 | 19 | 19 | 104 | 104 | 104 | 13 | 13 | 13 | 70 | 70 | 70 |

**Clear corridor optics: SP-C, SP-V. Street optics: e.g SP-J**
**Standard symmetrical optics: HP-12, HP-25, HP-50, HP-68, Clear.**

## BUBO 2.0 STADIUM

| Light engines | B2G (with gear unit) | | | | | | B1 (luminaire with separate gear) | | | | | | B1G (with gear unit) | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Version** | 240-1400 | 240-1200 | 240-1050 | 192-1200 | 192-1050 | 192-850 | 120-1400 | 120-1200 | 120-1050 | 96-1200 | 96-1050 | 96-850 | 120-1400 | 120-1200 | 120-1050 | 96-1200 | 96-1050 | 96-850 |
| **Max temperature outdoors** | 35 | 40 | 45 | 45 | 50 | 55 | 40 | 45 | 45 | 50 | 55 | 55 | 40 | 45 | 45 | 45 | 50 | 55 |
| **Max temperature indoors** | 25 | 35 | 40 | 40 | 45 | 50 | 30 | 35 | 40 | 45 | 50 | 55 | 30 | 35 | 40 | 40 | 45 | 50 |
| **Ta min = -40** | | | | | | | | | | | | | | | | | | |
| **Luminous flux (lm) (740)** | 142 000 | 128 000 | 116 000 | 102 000 | 92 000 | 78 000 | 72 000 | 65 000 | 59 000 | 51 100 | 46 200 | 39 200 | 72 000 | 65 000 | 59 000 | 51 100 | 46 200 | 39 200 |
| **Input power (W)** | 1010 | 855 | 745 | 705 | 612 | 490 | 502 | 426 | 370 | 346 | 302 | 242 | 502 | 426 | 370 | 346 | 302 | 242 |
| **Lumen maintenance (CRI70 & CRI80 & CRI90)** | | | | | | | | | | | | | | | | | | |
| **100kh** | 0,93 | 0,96 | 0,98 | 0,96 | 0,98 | 0,98 | 0,93 | 0,96 | 0,98 | 0,96 | 0,98 | 0,98 | 0,93 | 0,96 | 0,98 | 0,96 | 0,98 | 0,98 |
| **L95** | 70 000 | >100 000 | | | | | 70 000 | >100 000 | | | | | 70 000 | >100 000 | | | | |
| **L90** | >100 000 | | | | | | >100 000 | | | | | | >100 000 | | | | | |
| **BG(S) gear unit lifespan (indoor)** | | | | | | | | | | | | | | | | | | |
| **Lifespan [h]** | >100 000 | >100 000 | >100 000 | >100 000 | >100 000 | >100 000 | >100 000 | >100 000 | >100 000 | >100 000 | >100 000 | >100 000 | >100 000 | >100 000 | >100 000 | >100 000 | >100 000 | >100 000 |
| **BG(S):** | | | | | | | | | | | | | | | | | | |
| **DALI adresses** | 2 | 2 | 2 | 2 | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| **DMX-RDM available** | x | x | x | | | | x | x | x | | | | x | x | x | | | |
| **1-10V available** | x | x | x | | | | x | x | x | | | | x | x | x | | | |
| **Flicker %** | <1% | <1% | <1% | <1% | <1% | <1% | <1% | <1% | <1% | <1% | <1% | <1% | <1% | <1% | <1% | <1% | <1% | <1% |
| **Flicker Index** | 0,001 | 0,002 | 0,002 | 0,002 | 0,002 | 0,002 | 0,001 | 0,002 | 0,002 | 0,002 | 0,002 | 0,002 | 0,001 | 0,002 | 0,002 | 0,002 | 0,002 | 0,002 |
| **HDFF minimum level** | 14 % | 16 % | 17 % | 25 % | 28 % | 33 % | 14 % | 16 % | 17 % | 24 % | 27 % | 32 % | 14 % | 16 % | 17 % | 24 % | 27 % | 32 % |
| **Light minimum level** | 1 % | 1 % | 2 % | 11 % | 12 % | 14 % | 1 % | 1 % | 1 % | 10 % | 11 % | 13 % | 1 % | 1 % | 1 % | 10 % | 11 % | 13 % |
| **Power minimum level [W]** | 13 | 13 | 13 | 70 | 70 | 70 | 6 | 6 | 6 | 34 | 34 | 34 | 6 | 6 | 6 | 34 | 34 | 34 |
| **BGSE minimum level HDFF** | | | | | | | 40 % | 44 % | 49 % | 45 % | 50 % | 59 % | 40 % | 44 % | 49 % | 45 % | 50 % | 59 % |
| **BGSE minimum level** | | | | | | | 16 % | 18 % | 20 % | 18 % | 20 % | 24 % | 16 % | 18 % | 20 % | 18 % | 20 % | 24 % |
| **BGSE power minimum level [W]** | | | | | | | 71 | 71 | 71 | 57 | 57 | 57 | 71 | 71 | 71 | 57 | 57 | 57 |

EASY LED

## BUBO 2.0 AREA

| Light engines | B3 (luminaire with separate gear) | | | | | | | B3G (lwith gear unit) | | | | | | | B2 (luminaire with separate gear) | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Version | 360-1400 | 360-1300 | 360-1200 | 360-1050 | 288-1200 | 288-1050 | 288-850 | 360-1400 | 360-1300 | 360-1200 | 360-1050 | 288-1200 | 288-1050 | 288-850 | 240-1400 | 240-1200 | 240-1050 | 192-1200 | 192-1050 | 192-850 |
| Max temperature outdoors | 35 | 35 | 40 | 45 | 45 | 50 | 55 | 30 | 35 | 35 | 40 | 40 | 45 | 50 | 35 | 40 | 45 | 45 | 50 | 55 |
| Max temperature indoors | 25 | 30 | 30 | 35 | 40 | 45 | 50 | 20 | 25 | 30 | 35 | 35 | 40 | 45 | 25 | 35 | 35 | 40 | 45 | 50 |
| Ta min = -40 | | | | | | | | | | | | | | | | | | | | |
| Luminous flux (lm) (740) | 207000 | 197000 | 187000 | 170000 | 148000 | 134000 | 114000 | 207000 | 197000 | 187000 | 170000 | 148000 | 134000 | 114000 | 138000 | 125000 | 113000 | 99000 | 90000 | 76000 |
| Input power (W) | 1520 | 1400 | 1290 | 1120 | 1060 | 920 | 735 | 1520 | 1400 | 1290 | 1120 | 1060 | 920 | 735 | 1010 | 855 | 745 | 705 | 612 | 490 |
| Lumen maintenance (CRI70 & CRI80 & CRI90) | | | | | | | | | | | | | | | | | | | | |
| 100kh | 0,93 | 0,95 | 0,96 | 0,98 | 0,96 | 0,98 | 0,98 | 0,92 | 0,94 | 0,96 | 0,98 | 0,96 | 0,98 | 0,98 | 0,93 | 0,96 | 0,98 | 0,96 | 0,98 | 0,98 |
| L95 | 70 000 | 100 000 | >100 000 | | | | | 65 000 | 85 000 | >100 000 | | | | | 70 000 | >100 000 | | | | |
| L90 | >100 000 | | | | | | | >100 000 | | | | | | | >100 000 | | | | | |
| BG(S) gear unit lifespan (indoor) | | | | | | | | | | | | | | | | | | | | |
| Lifespan [h] | >100 000 | >100 000 | >100 000 | >100 000 | >100 000 | >100 000 | >100 000 | >70 000 | >100 000 | >100 000 | >100 000 | >75 000 | >100 000 | >100 000 | >100 000 | >100 000 | >100 000 | >100 000 | >100 000 | >100 000 |
| BG(S): | | | | | | | | | | | | | | | | | | | | |
| DALI addresses | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 2 | 2 | 2 | 2 | 2 | 2 |
| DMX-RDM available | x | x | x | x | | | | x | x | x | x | | | | x | x | x | | | |
| 1-10V available | x | x | x | x | | | | x | x | x | x | | | | x | x | x | | | |
| Flicker % | <1% | <1% | <1% | <1% | <1% | <1% | <1% | <1% | <1% | <1% | <1% | <1% | <1% | <1% | <1% | <1% | <1% | <1% | <1% | <1% |
| Flicker Index | 0,001 | 0,001 | 0,002 | 0,002 | 0,002 | 0,002 | 0,002 | 0,001 | 0,001 | 0,002 | 0,002 | 0,002 | 0,002 | 0,002 | 0,001 | 0,002 | 0,002 | 0,002 | 0,002 | 0,002 |
| HDFF minimum level | 14 % | 15 % | 16 % | 17 % | 25 % | 28 % | 33 % | 14 % | 15 % | 16 % | 17 % | 25 % | 28 % | 33 % | 14 % | 16 % | 17 % | 25 % | 28 % | 33 % |
| Light minimum level | 1 % | 1 % | 1 % | 2 % | 12 % | 13 % | 15 % | 1 % | 1 % | 1 % | 2 % | 12 % | 13 % | 15 % | 1 % | 1 % | 2 % | 11 % | 12 % | 14 % |
| Power minimum level [W] | 19 | 19 | 19 | 19 | 104 | 104 | 104 | 19 | 19 | 19 | 19 | 104 | 104 | 104 | 13 | 13 | 13 | 70 | 70 | 70 |

**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.**
**Indirect indoor lighting for B3 and B2 models always with separate drivers. B3, B2 and B1 and B1G thermal limits and luminous flux lifespan according to B3G values.**

## BUBO 2.0 AREA

| Light engines | B2G (with gear unit) | | | | | | B1 (luminaire with separate gear) | | | | | | B1G (with gear unit) | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Version** | 240-1400 | 240-1200 | 240-1050 | 192-1200 | 192-1050 | 192-850 | 120-1400 | 120-1200 | 120-1050 | 96-1200 | 96-1050 | 96-850 | 120-1400 | 120-1200 | 120-1050 | 96-1200 | 96-1050 | 96-850 |
| **Max temperature outdoors** | 35 | 40 | 40 | 40 | 45 | 55 | 35 | 40 | 45 | 45 | 50 | 55 | 35 | 40 | 45 | 45 | 50 | 55 |
| **Max temperature indoors** | 25 | 30 | 35 | 35 | 40 | 50 | 25 | 35 | 40 | 40 | 45 | 50 | 25 | 30 | 40 | 40 | 45 | 50 |
| **Ta min = -40** | | | | | | | | | | | | | | | | | | |
| **Luminous flux (lm) (740)** | 138000 | 125000 | 113000 | 99000 | 90000 | 76000 | 70000 | 63000 | 57000 | 50000 | 45200 | 38300 | 70000 | 63000 | 57000 | 50000 | 45200 | 38300 |
| **Input power (W)** | 1010 | 855 | 745 | 705 | 612 | 490 | 502 | 426 | 370 | 346 | 302 | 242 | 502 | 426 | 370 | 346 | 302 | 242 |
| **Lumen maintenance (CRI70 & CRI80 & CRI90)** | | | | | | | | | | | | | | | | | | |
| **100kh** | 0,93 | 0,96 | 0,98 | 0,96 | 0,98 | 0,98 | 0,93 | 0,96 | 0,98 | 0,96 | 0,98 | 0,98 | 0,93 | 0,96 | 0,98 | 0,96 | 0,98 | 0,98 |
| **L95** | 70 000 | >100 000 | | | | | 70 000 | >100 000 | | | | | 70 000 | >100 000 | | | | |
| **L90** | >100 000 | | | | | | >100 000 | | | | | | >100 000 | | | | | |
| **BG(S) gear unit lifespan (indoor)** | | | | | | | | | | | | | | | | | | |
| **Lifespan [h]** | >100 000 | >100 000 | >100 000 | >90 000 | >100 000 | >100 000 | >100 000 | >100 000 | >100 000 | >100 000 | >100 000 | >100 000 | >100 000 | >100 000 | >100 000 | >100 000 | >100 000 | >100 000 |
| **BG(S):** | | | | | | | | | | | | | | | | | | |
| **DALI addresses** | 2 | 2 | 2 | 2 | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| **DMX-RDM available** | x | x | x | | | | x | x | x | | | | x | x | x | | | |
| **1-10V available** | x | x | x | | | | x | x | x | | | | x | x | x | | | |
| **Flicker %** | <1% | <1% | <1% | <1% | <1% | <1% | <1% | <1% | <1% | <1% | <1% | <1% | <1% | <1% | <1% | <1% | <1% | <1% |
| **Flicker Index** | 0,001 | 0,002 | 0,002 | 0,002 | 0,002 | 0,002 | 0,001 | 0,002 | 0,002 | 0,002 | 0,002 | 0,002 | 0,001 | 0,002 | 0,002 | 0,002 | 0,002 | 0,002 |
| **HDFF minimum level** | 14 % | 16 % | 17 % | 25 % | 28 % | 33 % | 14 % | 16 % | 17 % | 24 % | 27 % | 32 % | 14 % | 16 % | 17 % | 24 % | 27 % | 32 % |
| **Light minimum level** | 1 % | 1 % | 2 % | 11 % | 12 % | 14 % | 1 % | 1 % | 1 % | 10 % | 11 % | 13 % | 1 % | 1 % | 1 % | 10 % | 11 % | 13 % |
| **Power minimum level [W]** | 13 | 13 | 13 | 70 | 70 | 70 | 6 | 6 | 6 | 34 | 34 | 34 | 6 | 6 | 6 | 34 | 34 | 34 |
| **BGSE minimum level HDFF** | | | | | | | 40 % | 44 % | 49 % | 45 % | 50 % | 59 % | 40 % | 44 % | 49 % | 45 % | 50 % | 59 % |
| **BGSE minimum level** | | | | | | | 16 % | 18 % | 20 % | 18 % | 20 % | 24 % | 16 % | 18 % | 20 % | 18 % | 20 % | 24 % |
| **BGSE power minimum level [W]** | | | | | | | 71 | 71 | 71 | 57 | 57 | 57 | 71 | 71 | 71 | 57 | 57 | 57 |

# BUBO 2.0 SYSTEMS AND ACCESSORIES

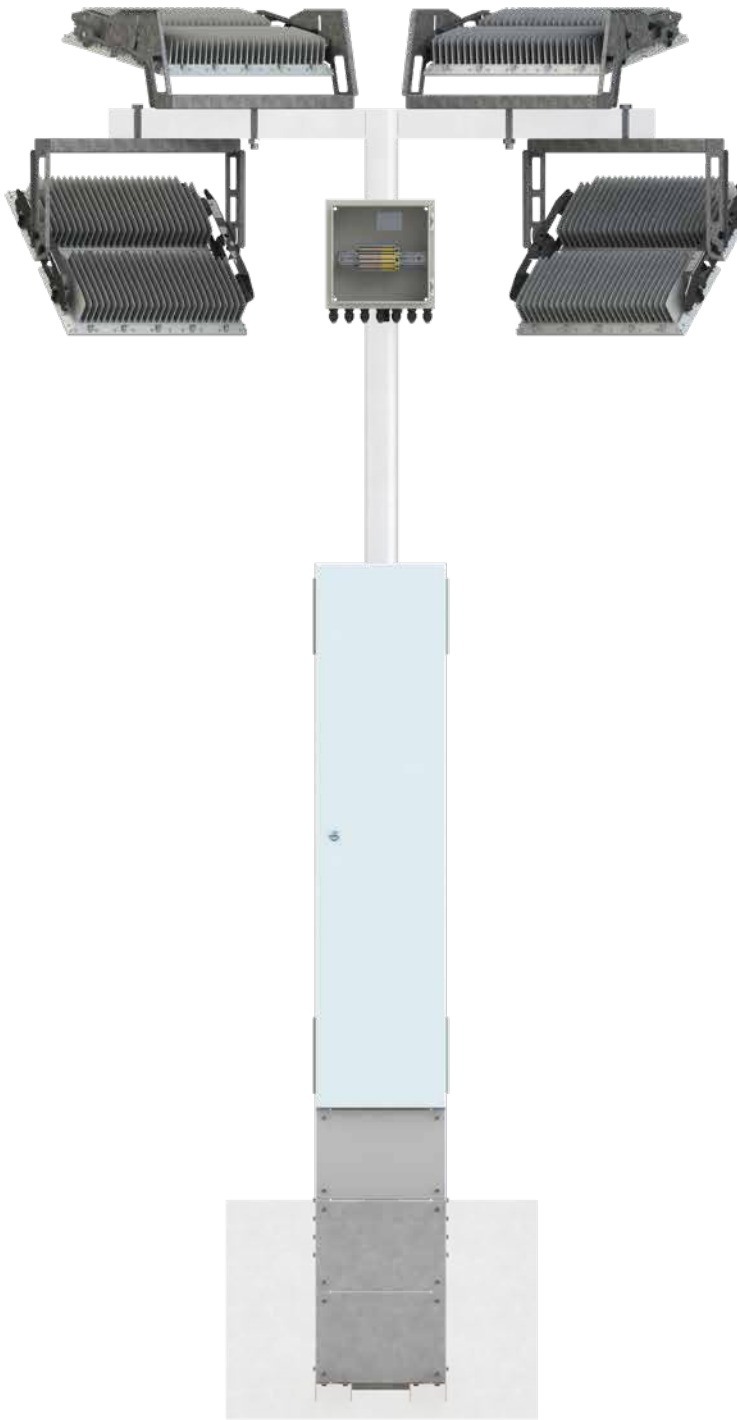
For more information contact:
info@easyled.fi

EASY LED

## GEAR UNIT AND CABIN: Bubo Nest and Bubo Cave

BUBO NEST

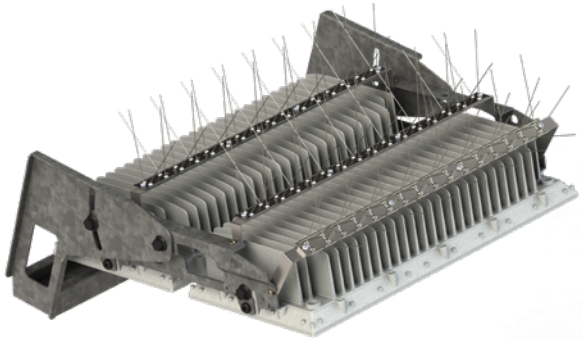
BUBO CAVE



## JUNCTION BOXES

## ANTI-GLARE VISORS

## BIRD SPIKES



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