



# FlowStar – LED tunnel entrance and point-source interior lighting

## FlowStar Large

Tunnel operators are looking for an LED solution for both interior and entrance lighting that delivers cost, safety and availability benefits over the full lifetime of the product. FlowStar's stainless-steel modular build and dedicated LED design provide a long-lasting and efficient LED alternative to conventional HPS lighting. FlowStar can also be combined with our controls and services for the highest levels of performance.

### Benefits

- High lumen output; dedicated tunnel luminaire that can replace HPS entrance lighting
- Long-lasting, highly efficient lighting solution for the whole tunnel
- Easy to install and maintain

### Features

- A lifetime solution for both tunnel entrance and interior lighting in combination with service packages
- Designed for maintenance (modular build and glass cover)
- Can be integrated with controls (e.g. TunneLogic) and services for best system performance
- True point-for-point LED alternative to HPS up to 400 W
- For entrance lighting, it can be combined with the FlowLine linear interior luminaire
- Can compete on Total Cost of Ownership with current HPS solutions within the TotalTunnel approach

# FlowStar Large

## Application

- Traffic tunnels and underpasses

## Specifications

|   |  |
|---|--|
| <b>Type</b>                                 | BGB300 (ENTRANCE version)<br>BGB310 (INTERIOR version)   |
| <b>Light source</b>                         | Integral LED-module  |
| <b>System power</b>                         | BGB300: 79 up to 435 W<br>BGB310: 68 up to 370 W   |
| <b>Luminous flux</b>                        | BGB300: 9,200 up to 50,000 lm<br>BGB310: 8,200 up to 44,000 lm   |
| <b>Luminaire efficacy</b>                   | > 100 lm/W   |
| <b>Correlated Color</b>                     | 4000 K (neutral white, NW)   |
| <b>Temperature</b>                          | 5700 K (cool white, CW)  |
| <b>Color Rendering Index</b>                | > 70   |
| <b>Maintenance of lumen output - L80F10</b> | > 100,000 hours at 25 °C   |
| <b>Operating temperature range</b>          | -25 to +40 °C  |
| <b>Driver</b>                               | Separate (non-self ballasted LED-module)   |
| <b>Mains voltage</b>                        | 220-240 V / 50-60 Hz   |
| <b>Dimming</b>                              | DALI or SDU dimmable   |
| <b>Optic</b>                                | Tunnel asymmetrical (DTA)<br>Tunnel counter-beam (DTCB)<br>Tunnel symmetrical (DTS)<br>Tunnel asymmetrical wide beam (DTA-WB)<br>Tunnel symmetrical wide beam (DTS-WB) |

|                      |  |
|----------------------|--|
| <b>Optical cover</b> | Tempered glass, hard   |
| <b>Material</b>      | Housing: stainless steel<br>Heatsink: aluminum<br>Cover: glass, thermally toughened  |
| <b>Color</b>         | Not painted stainless steel and anodized aluminum  |
| <b>Connection</b>    | Plugs connections or flying lead   |
| <b>Maintenance</b>   | Long lasting sealed units easy and fast to exchange  |
| <b>Installation</b>  | Ceiling mounted<br>6 flange mounting clamps included for fast installation and alignment in the horizontal plane<br>Option for plugs connection for plug and play installation<br>Recommended mounting height: > 4 m   |
| <b>Cable gland</b>   | Flying lead versions: M20<br>Plug and play version: 2 receptacles for DALI (in and out) and 1 receptacle for power in  |
| <b>Remarks</b>       | Separate FlowStar LED units are available (BGB300 and BGB310 with dedicated designations)<br>Separate FlowStar driver units are available (EGB300 and EGB310 with dedicated designations)<br>Separate mounting clamp sets (set of 4 and set of 6 pcs) are available<br>For the versions equipped with connection sockets, cables with matching plugs are available |

## Versions



**FLOWSTAR MEDIUM - LED**  
**module 35,700 lm - LED - Power**  
**supply unit with DALI interface -**  
**Special housing - Distribution**  
**tunnel symmetrical - Flat glass -**  
**148° x 148° - DALI -**

# FlowStar Large

## Versions



FLOWSTAR SMALL - LED module  
21,400 lm - LED - Power supply  
unit with DALI interface - Special  
housing - Distribution tunnel  
symmetrical - Flat glass - 148° x  
148° - DALI -



FLOWSTAR MEDIUM - LED  
module 35,700 lm - LED - Special  
housing - Distribution tunnel  
symmetrical - Flat glass - 148° x  
148° -



FLOWSTAR SMALL - LED module  
21,400 lm - LED - Special housing  
- Distribution tunnel symmetrical -  
Flat glass - 148° x 148° -



## Accessories



Ordercode 12043600



FLOWSTAR MEDIUM - LED  
module 35,700 lm - 4th  
generation, screw fixation - Power  
supply unit with DALI interface -  
Special housing - Dimming via  
external communication DALI -  
Mains outlet socket and 2 DALI  
sockets

Ordercode 12044300



FLOWSTAR SMALL - LED module  
21,400 lm - 4th generation, screw  
fixation - Power supply unit with  
DALI interface - Special housing -  
Dimming via external  
communication DALI - Mains  
outlet socket and 2 DALI sockets

Ordercode 912300023907,  
912300023908

# FlowStar Large

## Approval and Application

|                              |      |
|------------------------------|------|
| Mech. impact protection code | IK08 |
|------------------------------|------|

## General Information

|                             |  |
|-----------------------------|--|
| Luminaire light beam spread | 148° x 148°                              |
| CE mark                     | CE mark                                  |
| Light source colour         | 740 neutral white                        |
| Optical cover/lens type     | FG                                       |
| Flammability mark           | F  |
| Light source replaceable    | No                                       |
| Lamp version                | 4S                                       |
| Optic type                  | Distribution<br>symmetrical<br>medium 11 |

## Initial Performance (IEC Compliant)

|                                |        |
|--------------------------------|--------|
| Init. Corr. Colour Temperature | 4000 K |
| Init. Colour Rendering Index   | >70    |

## Light Technical

|                                |    |
|--------------------------------|----|
| Standard tilt angle side entry | 0° |
| Standard tilt angle posttop    | 0° |
| Upward light output ratio      | 0  |

## Mechanical and Housing

|        |       |
|--------|-------|
| Colour | Steel |
|--------|-------|

## Application Conditions

| Order Code | Full Product Name                      | Maximum dim level |
|------------|--|-------------------|
| 12035100   | BGB300 LED660--4S/740 PSD DSM11 D9 MDD | 10%               |
| 12036800   | BGB301 LED399--4S/740 PSD DSM11 D9 MDD | 10%               |
| 12037500   | BGB302 LED239--4S/740 PSD DSM11 D9 MDD | 10%               |
| 12038200   | BGB302 LED105--4S/740 PSD DSM11 D9 MDD | 10%               |
| 12039900   | BGB300 LED660--4S/740 SH DSM11         | Not applicable    |
| 12040500   | BGB301 LED399--4S/740 SH DSM11         | Not applicable    |
| 12041200   | BGB302 LED239--4S/740 SH DSM11         | Not applicable    |
| 12042900   | BGB302 LED105--4S/740 SH DSM11         | Not applicable    |

## Approval and Application

| Order Code | Full Product Name                      | Surge Protection (Common/Differential)     |
|------------|--|--|
| 12035100   | BGB300 LED660--4S/740 PSD DSM11 D9 MDD | Philips standard surge protection level kV |
| 12036800   | BGB301 LED399--4S/740 PSD DSM11 D9 MDD | Philips standard surge protection level kV |
| 12037500   | BGB302 LED239--4S/740 PSD DSM11 D9 MDD | Philips standard surge protection level kV |

| Order Code | Full Product Name                      | Surge Protection (Common/Differential)     |
|------------|--|--|
| 12038200   | BGB302 LED105--4S/740 PSD DSM11 D9 MDD | Philips standard surge protection level kV |
| 12039900   | BGB300 LED660--4S/740 SH DSM11         | -  |
| 12040500   | BGB301 LED399--4S/740 SH DSM11         | -  |
| 12041200   | BGB302 LED239--4S/740 SH DSM11         | -  |
| 12042900   | BGB302 LED105--4S/740 SH DSM11         | -  |

## Controls and Dimming

| Order Code | Full Product Name                      | Dimmable |
|------------|--|----------|
| 12035100   | BGB300 LED660--4S/740 PSD DSM11 D9 MDD | Yes      |
| 12036800   | BGB301 LED399--4S/740 PSD DSM11 D9 MDD | Yes      |
| 12037500   | BGB302 LED239--4S/740 PSD DSM11 D9 MDD | Yes      |
| 12038200   | BGB302 LED105--4S/740 PSD DSM11 D9 MDD | Yes      |

| Order Code | Full Product Name              | Dimmable |
|------------|--------------------------------|----------|
| 12039900   | BGB300 LED660--4S/740 SH DSM11 | No       |
| 12040500   | BGB301 LED399--4S/740 SH DSM11 | No       |
| 12041200   | BGB302 LED239--4S/740 SH DSM11 | No       |
| 12042900   | BGB302 LED105--4S/740 SH DSM11 | No       |

## General Information (1/2)

## FlowStar Large

| Order Code | Full Product Name                            | Driver included | Lamp family code | Number of gear units | Number of light sources |
|------------|--|-----------------|------------------|----------------------|-------------------------|
| 12035100   | BGB300<br>LED660--4S/740 PSD<br>DSM11 D9 MDD | Yes             | LED650           | 3 unit               | 200                     |
| 12036800   | BGB301<br>LED399--4S/740 PSD<br>DSM11 D9 MDD | Yes             | LED399           | 2 units              | 120                     |
| 12037500   | BGB302<br>LED239--4S/740 PSD<br>DSM11 D9 MDD | Yes             | LED239           | 1 unit               | 72 pcs                  |
| 12038200   | BGB302<br>LED105--4S/740 PSD<br>DSM11 D9 MDD | Yes             | LED105           | 1 unit               | 32                      |

| Order Code | Full Product Name                    | Driver included | Lamp family code | Number of gear units | Number of light sources |
|------------|--------------------------------------|-----------------|------------------|----------------------|-------------------------|
| 12039900   | BGB300<br>LED660--4S/740 SH<br>DSM11 | No              | LED650           | -                    | 200                     |
| 12040500   | BGB301<br>LED399--4S/740 SH<br>DSM11 | No              | LED399           | -                    | 120                     |
| 12041200   | BGB302<br>LED239--4S/740 SH<br>DSM11 | No              | LED239           | -                    | 72 pcs                  |
| 12042900   | BGB302<br>LED105--4S/740 SH<br>DSM11 | No              | LED105           | -                    | 32                      |

### General Information (2/2)

| Order Code | Full Product Name                      | Product Family Code |
|------------|--|---------------------|
| 12035100   | BGB300 LED660--4S/740 PSD DSM11 D9 MDD | BGB300              |
| 12036800   | BGB301 LED399--4S/740 PSD DSM11 D9 MDD | BGB301              |
| 12037500   | BGB302 LED239--4S/740 PSD DSM11 D9 MDD | BGB302              |
| 12038200   | BGB302 LED105--4S/740 PSD DSM11 D9 MDD | BGB302              |

| Order Code | Full Product Name              | Product Family Code |
|------------|--------------------------------|---------------------|
| 12039900   | BGB300 LED660--4S/740 SH DSM11 | BGB300              |
| 12040500   | BGB301 LED399--4S/740 SH DSM11 | BGB301              |
| 12041200   | BGB302 LED239--4S/740 SH DSM11 | BGB302              |
| 12042900   | BGB302 LED105--4S/740 SH DSM11 | BGB302              |

### Initial Performance (IEC Compliant)

| Order Code | Full Product Name                      | Initial luminous flux |
|------------|--|-----------------------|
| 12035100   | BGB300 LED660--4S/740 PSD DSM11 D9 MDD | 54780 lm              |
| 12036800   | BGB301 LED399--4S/740 PSD DSM11 D9 MDD | 33200 lm              |
| 12037500   | BGB302 LED239--4S/740 PSD DSM11 D9 MDD | 19920 lm              |
| 12038200   | BGB302 LED105--4S/740 PSD DSM11 D9 MDD | 8925 lm               |

| Order Code | Full Product Name              | Initial luminous flux |
|------------|--------------------------------|-----------------------|
| 12039900   | BGB300 LED660--4S/740 SH DSM11 | 54780 lm              |
| 12040500   | BGB301 LED399--4S/740 SH DSM11 | 33200 lm              |
| 12041200   | BGB302 LED239--4S/740 SH DSM11 | 19920 lm              |
| 12042900   | BGB302 LED105--4S/740 SH DSM11 | 8925 lm               |

