



# 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) BGB310 (INTERIOR version)
<b>Light source</b>	Integral LED-module
<b>System power</b>	BGB300: 79 up to 435 W BGB310: 68 up to 370 W
<b>Luminous flux</b>	BGB300: 9,200 up to 50,000 lm 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) Tunnel counter-beam (DTCB) Tunnel symmetrical (DTS) Tunnel asymmetrical wide beam (DTA-WB) Tunnel symmetrical wide beam (DTS-WB)

<b>Optical cover</b>	Tempered glass, hard
<b>Material</b>	Housing: stainless steel Heatsink: aluminum 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 6 flange mounting clamps included for fast installation and alignment in the horizontal plane Option for plugs connection for plug and play installation Recommended mounting height: > 4 m
<b>Cable gland</b>	Flying lead versions: M20 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) Separate FlowStar driver units are available (EGB300 and EGB310 with dedicated designations) Separate mounting clamp sets (set of 4 and set of 6 pcs) are available For the versions equipped with connection sockets, cables with matching plugs are available

## Versions



Svítidlo pro osvětlování tunelů a podchodů FlowStar Large BGB300/BGB310



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 -

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## 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 -



LED jednotka FlowStar Large  
BGB300/BGB310



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° -

### 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  
symmetrical  
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°  
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

# FlowStar Large

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)

Order Code	Full Product Name	Driver included	Lamp family code	Number of gear units	Number of light sources
12035100	BGB300 LED660-4S/740 PSD DSM11 D9 MDD	Yes	LED660	3 unit	200
12036800	BGB301 LED399-4S/740 PSD DSM11 D9 MDD	Yes	LED399	2 units	120
12037500	BGB302 LED239-4S/740 PSD DSM11 D9 MDD	Yes	LED239	1 unit	72 pcs
12038200	BGB302 LED105-4S/740 PSD 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 LED660-4S/740 SH DSM11	No	LED660	-	200
12040500	BGB301 LED399-4S/740 SH DSM11	No	LED399	-	120
12041200	BGB302 LED239-4S/740 SH DSM11	No	LED239	-	72 pcs
12042900	BGB302 LED105-4S/740 SH 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

## Light Technical

## FlowStar Large

Order Code	Full Product Name	Standard tilt angle posttop
12035100	BGB300 LED660-4S/740 PSD DSM11 D9 MDD	0°
12036800	BGB301 LED399-4S/740 PSD DSM11 D9 MDD	0°
12037500	BGB302 LED239-4S/740 PSD DSM11 D9 MDD	0°
12038200	BGB302 LED105-4S/740 PSD DSM11 D9 MDD	0°

Order Code	Full Product Name	Standard tilt angle posttop
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	-

