



### **Lighting Assessment for:**

Proposed installation of a new Drive Thru facility with a restaurant building, associated parking and 2no EV charging bays with associated equipment.

572 London Road, Camberley, Surrey GU15 3UF

### **Exterior Lighting for New Works**

(Please refer to drawing DM182.1 and DM182.2)

### **Lighting Description**

The new and existing lighting locations are notated on illuminance drawing DM182.1 (A, A1, B, C, D&D1) with a product description for each luminaire type within the key. All exterior lighting is specified with an LED beam control system enabling sharp cut off and control of beam direction (below 70 degrees), avoiding glare, trespass and night sky pollution.

Lighting Product datasheets are included for reference.

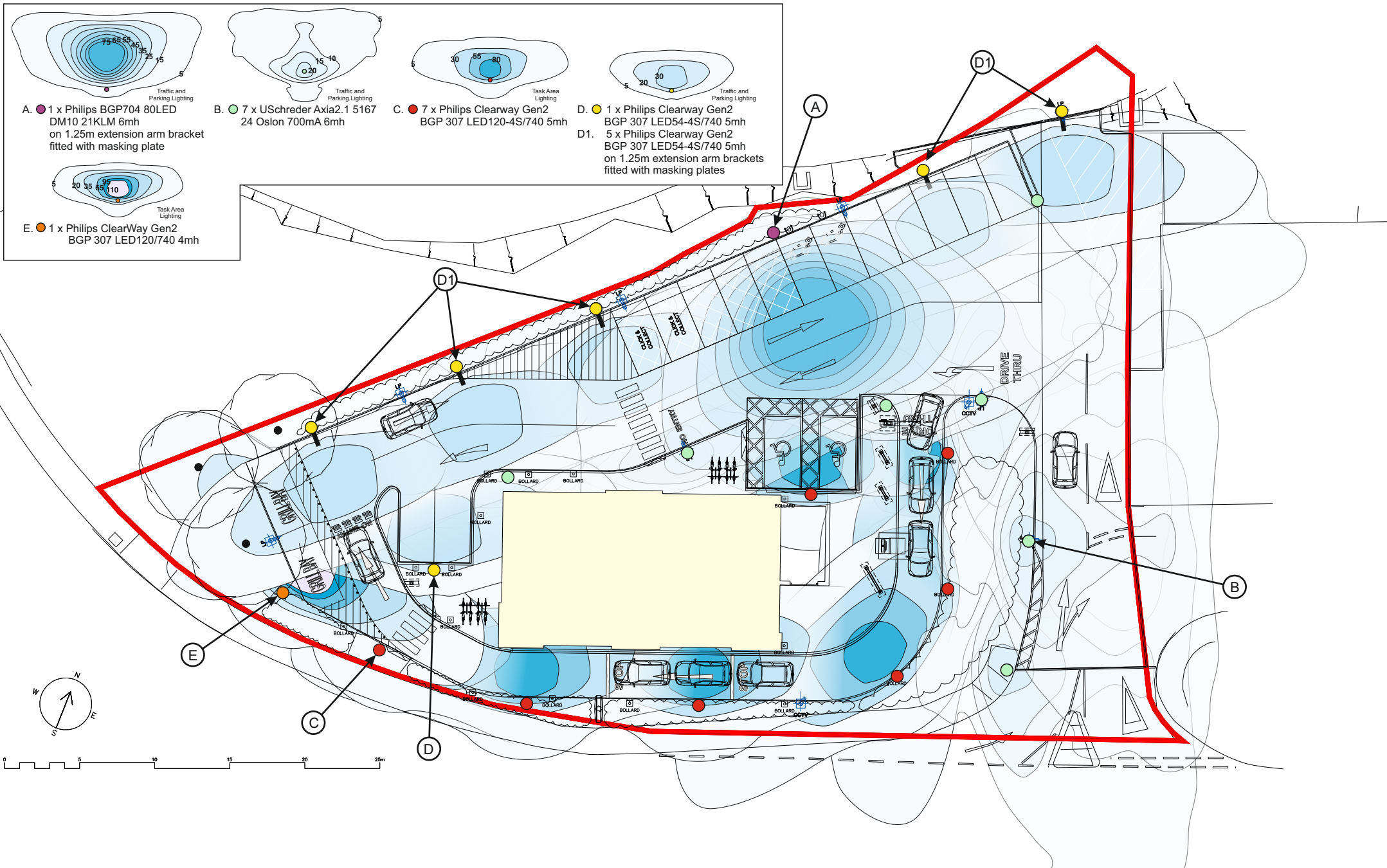
### **Impact on neighbouring property by the new scheme and compliance.**

Condition 7 REF: 22/0540/FFU States: Prior to the commencement of the development a Sensitive Lighting Management Plan shall be submitted to and approved in writing by the Local Planning Authority. The document should demonstrate that the proposed development will result in no net increase to external artificial lighting at primary bat foraging and commuting routes across the development site.

Illuminance contours for the new luminaires and locations are shown on drawing DM182.1 with horizontal illuminance values in Lux shown in chart form across the site on drawing DM182.2

Particular attention has been given to the proximity of the identified bat foraging area to the northwest boundary of the site. A reduction of floodlight luminaire mounting heights with 1.25m extension arm brackets and 1x1m masking plates fitted to relevant locations has been designed into the scheme to remove the risk of light trespass on this boundary adjacent to the woodland area.

Existing and proposed boundary treatment to adjacent property along with the benefit of good lighting design utilising new LED technology will provide a high degree of control to restrict any boundary spillage of light and eliminate nuisance to neighbouring residents and the adjacent wildlife habitats.



The lighting information provided on this drawing is for planning purposes only. The specified product manufacturer must be contacted for a comprehensive design and limited warranty information prior to product procurement. Emergency and Escape Lighting (not shown) is to be installed and compliant with BS5266-1 and The Regulatory Reform (Fire Safety) Order 2005 respectively.

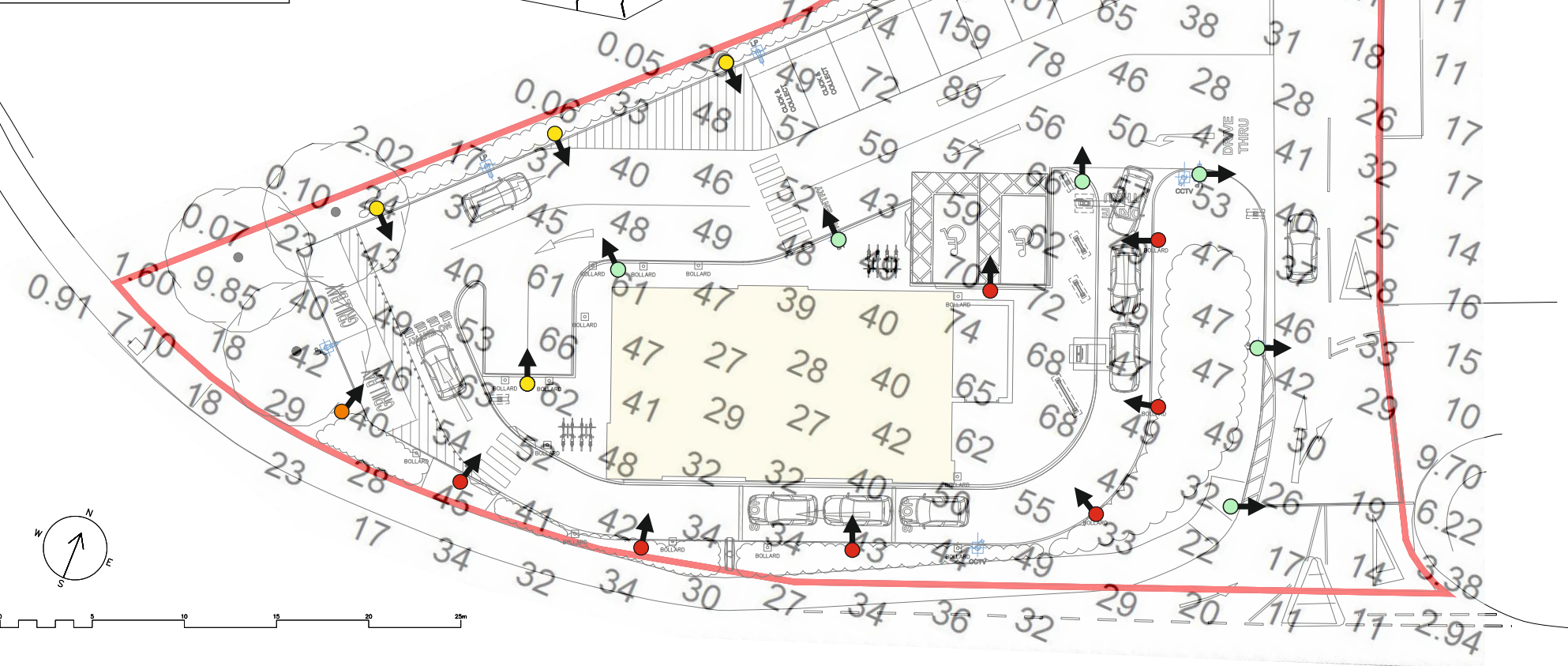
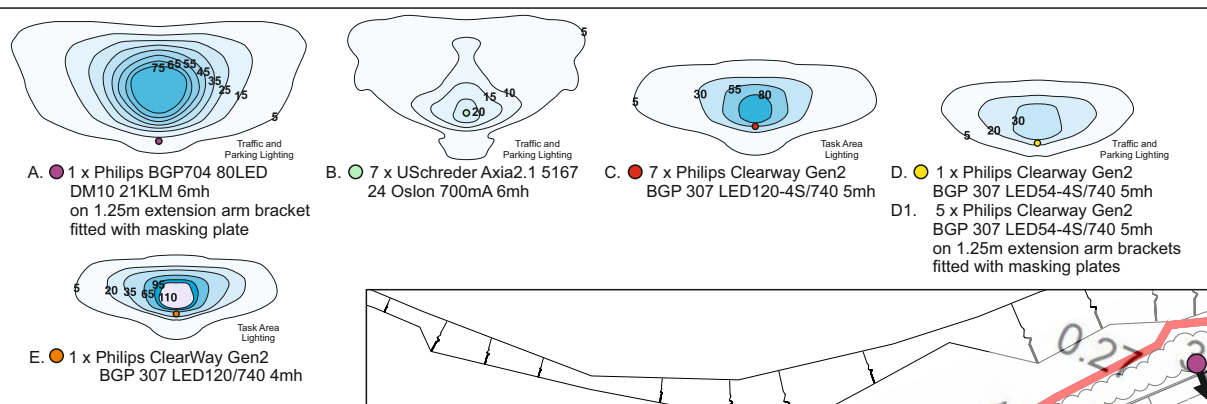
TITLE: Proposed lighting layout - BK CAMBERLY SERVICE STATION

FILE REF: DM182.1

CLIENT: JMS

**THE GRAHAM WHITE LIGHTING CONSULTANCY**  
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 www.gwlc.co.uk





The lighting information provided on this drawing is for planning purposes only. The specified product manufacturer must be contacted for a comprehensive design and limited warranty information prior to product procurement. Emergency and Escape Lighting (not shown) is to be installed and compliant with BS5266-1 and The Regulatory Reform (Fire Safety) Order 2005 respectively.

TITLE: Proposed lighting layout Value Charts - BK CAMBERLY SERVICE STATION

FILE REF: DM182.2

CLIENT: JMS

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# Luma gen2 – The standard in road lighting, redefined

## Luma gen2

Luma gen2 is the next generation of the Luma LED luminaire family, fully optimised to become your long-term lighting and innovation partner. While keeping the distinctive design characteristics of the first generation, Luma gen2 gives you the benefits of the latest technologies thanks to its future-proof System Ready architecture, use of optimised Ledgine LED and optical platform ensuring best-in-class lighting performance in a broad range of applications. It also offers improved serviceability. Installation has also become easier and faster, and thanks to the Service tag, you have access to all relevant documentations onsite. Also, the cable feed-through has been redesigned and access to the gear components is easy thanks to top down tool-less access. Luma gen2 also offers all connectivity and dimming options available today and thanks to being System Ready, it can also be paired with lighting management systems such as Interact City or existing and upcoming sensor innovations. The Luma gen2 has been developed to optimise and simplify spare part repair and maintenance work using a new plug-and-play GearFlex module containing all electrical components in an easy to handle and accessible box inside the housing. As a company conscious about the impact of light on the environment and biodiversity, we also equipped the Luma gen2 with dedicated light recipes that help with maintaining the optimal ecosystems for bats or preserve a dark night sky.



## Benefits

- Ease of maintenance and spare part repair enabled through the dedicated GearFlex module
- Best-in-class efficiency and light performance in a broad range of applications
- Future-ready thanks to the SR (System Ready) socket
- The luminaire is also equipped with dedicated light recipes that help with: 1) maintaining the optimal ecosystems for bats 2) preserve a dark night sky and reduce light pollution
- Equipped with a service tag, a QR-based identification system that makes each luminaire uniquely identifiable and provides maintenance, installation and spare part information

## Features

- Dedicated GearFlex module enabling faster, safer and tool-less maintenance
- New cable feed-through for easy installation
- Ready to be connected to the Interact City lighting management software
- Ready to be paired with third-party lighting management systems and sensors
- Tilt now with 2-5-degree precision
- Efficacy up to 155 lm/W
- Choice of 40+ different beams and the option of different internal louvres
- Further optimisation on performance flux level enabled by the Philips L-Tune
- Surge protection up to 10 kV
- Wide range of lumen packages, ranging from 1,000 to 55,000 lm

## Application

- Motorways, inter-urban main roads, boulevards and avenues, roundabouts, pedestrian crossings
- Residential streets, side streets, squares, parks, cycle and pedestrian paths, playgrounds
- Parking areas, industrial areas, petrol stations, rail yards, airports, harbours, waterways

## Specifications

<b>Ambient Temperature</b>	-40 to +50 °C
<b>Main colour of the luminaire</b>	Grey
<b>Dimming</b>	No, yes
<b>Driver</b>	Power supply unit with DALI and SystemReady interface (Power supply unit with DALI and SystemReady interface)
<b>Driver failure rate at 5,000 h in %</b>	0.005 %
<b>Initial correlated colour temperature</b>	1000 K, 3000 K, 4000 K
<b>Initial input power</b>	21.5 W, 25 W, 38 W, 40.5 W, 52 W, 6.1 W, 74 W, 83 W, 87 W, 91 W
<b>Initial LED luminaire efficacy</b>	86, 111, 119, 120, 142, 144, 146, 148, 153, 155 lm/W
<b>Initial luminous flux</b>	10800 lm, 10920 lm, 12740 lm, 13500 lm, 3185 lm, 3600 lm, 4482 lm, 4500 lm, 5400 lm, 728 lm
<b>Input frequency</b>	50 to 60 Hz
<b>Input voltage</b>	220 to 240 V
<b>Inrush current (A)</b>	4, 11.5, 18, 21 A

<b>Light source colour</b>	510 ClearField, 740 neutral white, 830 warm white
<b>Light source replaceable</b>	Yes
<b>Material</b>	Bracket:
<b>Material</b>	Gear box:
<b>Material</b>	Housing: aluminium die-cast
<b>Optic</b>	Distribution medium 10, distribution medium 11, distribution medium 50
<b>Optical cover</b>	Polymethyl methacrylate
<b>Surge protection</b>	Luminaire surge protection level up to 6 kV differential mode and 8 kV common mode
<b>Tilt angle housing</b>	Standard tilt angle post-top: 0° Standard tilt angle side entry: -
<b>Type</b>	BGP701
	BGP702
	BGP703
	BGP704
	BGP705

# Luma gen2

## Versions



LUMA GEN2 MICRO - LED module  
6000 lm - LED - 70° x 37°



LUMA GEN2 MINI - LED module  
12000 lm - LED - 154° - 31° x 54°



LUMA GEN2 MEDIUM - LED  
module 14000 lm - LED - 154° - 31°  
x 54°



LUMA GEN2 MEDIUM - LED  
module 14000 lm - LED - 70° x 37°



LUMA GEN2 LARGE - LED module  
12000 lm - LED - 154° - 31° x 54°



LUMA GEN2 NANO - LED Module,  
system flux 800 lm - LED - 160° -  
42° x 54°

# Luma gen2

## Product details

BGP705 Luma gen2 Large FG DPP



BGP705 Luma gen2 Large Open1 DPP



BGP701 Luma gen2 Nano FG DPP



BGP701 Luma gen2 Nano Open2 DPP



### Application Conditions

Maximum dim level	Not applicable
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### Approval and Application

Surge Protection (Common/Differential)	Luminaire surge protection level up to 6 kV differential mode and 8 kV common mode
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### General Information

CE mark	CE mark
Optical cover/lens type	G
Driver included	Yes
Flammability mark	NO
Light source replaceable	Yes
Number of gear units	1 unit

### Light Technical

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

### Mechanical and Housing

Colour	Grey
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Order Code	Full Product Name	Driver failure rate at 5000 h
05966500	BGP702 LED60-4S/740 DM11 GF SRT SRB 60/7	0.005 %
05967200	BGP702 LED40-4S/740 DM10 GF SRT SRB 60/7	0.005 %
05968900	BGP702 LW10 LED50-4S/830 DM11 GF CTGO	0.005 %
05970200	BGP703 LED120-4S/740 DM50 GF SRT SRB 60	0.005 %
05972600	BGP703 LED54-4S/610 DM11 GF SRT SRB 60/7	0.005 %
05974000	BGP704 LED140-4S/740 DM50 GF SRT SRB 60	0.005 %
05976400	BGP704 LW10 LED120-4S/830 DM11 GF CTGO	0.005 %
05977100	BGP704 LED140-4S/740 DM11 GF EZR SRB	0.005 %
10403700	BGP705 LED150-4S/740 DM11 GF SRT SRB 60/	0.005 %
10583600	BGP701 LED8-4S/740 DM11 FG GR 42/60P	-
10584300	BGP701 LED40-4S/740 DM10 GF SRT SRB 42/6	-
10585000	BGP701 LW10 LED50-4S/830 DM11 GF CTGO-DG	-
10586700	BGP701 LED35-4S/740 II DM11 GF EZR SRB 4	-

## Approval and Application

Order Code	Full Product Name	Mech. impact protection code
05966500	BGP702 LED60-4S/740 DM11 GF SRT SRB 60/7	IK09
05967200	BGP702 LED40-4S/740 DM10 GF SRT SRB 60/7	IK09
05968900	BGP702 LW10 LED50-4S/830 DM11 GF CTGO	IK09
05970200	BGP703 LED120-4S/740 DM50 GF SRT SRB 60	IK09
05972600	BGP703 LED54-4S/610 DM11 GF SRT SRB 60/7	IK09
05974000	BGP704 LED140-4S/740 DM50 GF SRT SRB 60	IK09
05976400	BGP704 LW10 LED120-4S/830 DM11 GF CTGO	IK09

Order Code	Full Product Name	Mech. impact protection code
05977100	BGP704 LED140-4S/740 DM11 GF EZR SRB	IK09
10403700	BGP705 LED150-4S/740 DM11 GF SRT SRB 60/	IK09
10583600	BGP701 LED8-4S/740 DM11 FG GR 42/60P	IK10
10584300	BGP701 LED40-4S/740 DM10 GF SRT SRB 42/6	IK09
10585000	BGP701 LW10 LED50-4S/830 DM11 GF CTGO-DG	IK09
10586700	BGP701 LED35-4S/740 II DM11 GF EZR SRB 4	IK09

## Controls and Dimming

Order Code	Full Product Name	Dimmable
05966500	BGP702 LED60-4S/740 DM11 GF SRT SRB 60/7	No
05967200	BGP702 LED40-4S/740 DM10 GF SRT SRB 60/7	No
05968900	BGP702 LW10 LED50-4S/830 DM11 GF CTGO	Yes
05970200	BGP703 LED120-4S/740 DM50 GF SRT SRB 60	No
05972600	BGP703 LED54-4S/610 DM11 GF SRT SRB 60/7	No
05974000	BGP704 LED140-4S/740 DM50 GF SRT SRB 60	No
05976400	BGP704 LW10 LED120-4S/830 DM11 GF CTGO	Yes

Order Code	Full Product Name	Dimmable
05977100	BGP704 LED140-4S/740 DM11 GF EZR SRB	No
10403700	BGP705 LED150-4S/740 DM11 GF SRT SRB 60/	No
10583600	BGP701 LED8-4S/740 DM11 FG GR 42/60P	No
10584300	BGP701 LED40-4S/740 DM10 GF SRT SRB 42/6	No
10585000	BGP701 LW10 LED50-4S/830 DM11 GF CTGO-DG	Yes
10586700	BGP701 LED35-4S/740 II DM11 GF EZR SRB 4	No

## General Information (1/2)

Order Code	Full Product Name	Luminaire		Lamp	
		light beam spread	Light source colour	family code	Optic type
05966500	BGP702 LED60-4S/740 DM11 GF SRT SRB 60/7	70° x 37°	740 neutral white	LED60	Distribution medium 11
05967200	BGP702 LED40-4S/740 DM10 GF SRT SRB 60/7	73° x 44°	740 neutral white	LED40	Distribution medium 10
05968900	BGP702 LW10 LED50-4S/830 DM11 GF CTGO	70° x 37°	830 warm white	LED50	Distribution medium 11
05970200	BGP703 LED120-4S/740 DM50 GF SRT SRB 60	154° - 31° x 54°	740 neutral white	LED120	Distribution medium 50
05972600	BGP703 LED54-4S/610 DM11 GF SRT SRB 60/7	70° x 37°	510 ClearField	LED54	Distribution medium 11
05974000	BGP704 LED140-4S/740 DM50 GF SRT SRB 60	154° - 31° x 54°	740 neutral white	LED140	Distribution medium 50
05976400	BGP704 LW10 LED120-4S/830 DM11 GF CTGO	70° x 37°	830 warm white	LED120	Distribution medium 11

Order Code	Full Product Name	Luminaire		Lamp	
		light beam spread	Light source colour	family code	Optic type
05977100	BGP704 LED140-4S/740 DM11 GF EZR SRB	70° x 37°	740 neutral white	LED140	Distribution medium 11
10403700	BGP705 LED150-4S/740 DM11 GF SRT SRB 60/	70° x 37°	740 neutral white	LED150	Distribution medium 11
10583600	BGP701 LED8-4S/740 DM11 FG GR 42/60P	70° x 37°	740 neutral white	LED8	Distribution medium 11
10584300	BGP701 LED40-4S/740 DM10 GF SRT SRB 42/6	73° x 44°	740 neutral white	LED40	Distribution medium 10
10585000	BGP701 LW10 LED50-4S/830 DM11 GF CTGO-DG	70° x 37°	830 warm white	LED50	Distribution medium 11
10586700	BGP701 LED35-4S/740 II DM11 GF EZR SRB 4	70° x 37°	740 neutral white	LED35	Distribution medium 11



General Information (2/2)

Order Code	Full Product Name	Product Family Code
05966500	BGP702 LED60-4S/740 DM11 GF SRT SRB 60/7	BGP702
05967200	BGP702 LED40-4S/740 DM10 GF SRT SRB 60/7	BGP702
05968900	BGP702 LW10 LED50-4S/830 DM11 GF CTGO	BGP702
05970200	BGP703 LED120-4S/740 DM50 GF SRT SRB 60	BGP703
05972600	BGP703 LED54-4S/610 DM11 GF SRT SRB 60/7	BGP703
05974000	BGP704 LED140-4S/740 DM50 GF SRT SRB 60	BGP704
05976400	BGP704 LW10 LED120-4S/830 DM11 GF CTGO	BGP704

Order Code	Full Product Name	Product Family Code
05977100	BGP704 LED140-4S/740 DM11 GF EZR SRB	BGP704
10403700	BGP705 LED150-4S/740 DM11 GF SRT SRB 60/	BGP705
10583600	BGP701 LED8-4S/740 DM11 FG GR 42/60P	BGP701
10584300	BGP701 LED40-4S/740 DM10 GF SRT SRB 42/6	BGP701
10585000	BGP701 LW10 LED50-4S/830 DM11 GF CTGO-DG	BGP701
10586700	BGP701 LED35-4S/740 II DM11 GF EZR SRB 4	BGP701

Initial Performance (IEC Compliant)

Order Code	Full Product Name	Init. Colour	Initial
		Init. Corr. Colour Temperature	Rendering Index luminous flux
05966500	BGP702 LED60-4S/740 DM11 GF SRT SRB 60/7	4000 K	>70 5400 lm
05967200	BGP702 LED40-4S/740 DM10 GF SRT SRB 60/7	4000 K	>70 3600 lm
05968900	BGP702 LW10 LED50-4S/830 DM11 GF CTGO	3000 K	>80 4500 lm
05970200	BGP703 LED120-4S/740 DM50 GF SRT SRB 60	4000 K	>70 10800 lm
05972600	BGP703 LED54-4S/610 DM11 GF SRT SRB 60/7	1000 K	>60 4482 lm
05974000	BGP704 LED140-4S/740 DM50 GF SRT SRB 60	4000 K	>70 12740 lm
05976400	BGP704 LW10 LED120-4S/830 DM11 GF CTGO	3000 K	>80 10920 lm

Order Code	Full Product Name	Init. Colour	Initial
		Init. Corr. Colour Temperature	Rendering Index luminous flux
05977100	BGP704 LED140-4S/740 DM11 GF EZR SRB	4000 K	>70 12740 lm
10403700	BGP705 LED150-4S/740 DM11 GF SRT SRB 60/	4000 K	>70 13500 lm
10583600	BGP701 LED8-4S/740 DM11 FG GR 42/60P	4000 K	>70 728 lm
10584300	BGP701 LED40-4S/740 DM10 GF SRT SRB 42/6	4000 K	>70 3600 lm
10585000	BGP701 LW10 LED50-4S/830 DM11 GF CTGO-DG	3000 K	>80 4500 lm
10586700	BGP701 LED35-4S/740 II DM11 GF EZR SRB 4	4000 K	>70 3185 lm



# AXIA 2.1

## 5167

<b>Optic</b>	5167
<b>Protector</b>	Integrated lenses
<b>Source</b>	24 Osram OSOLON SQUARE GIANT
<b>Matrix</b>	434362



### Characteristics

650	250	132	6.7	IP 66	IK 09	I EU, II EU	0.054
Length (mm)	Width (mm)	Height (mm)	Weight (kg)	Tightness level*	Impact resistance*	Electrical class*	CxS (m <sup>2</sup> )

\* According to IEC-EN60598 and IEC-EN62262

### Features

The most comprehensive and economical LED lighting solution

- Cost-effective and efficient lighting solution for a fast return on investment
- Smart City connectivity
- Photometric engine with light distributions adapted to various applications
- ThermiX® for long lasting performance
- FutureProof: follows the principles of circular economy
- Universal fixation adapted for side-entry and post-top mounting
- Adjustable inclination in steps of 2.5°

### Information for 1000 lm matrix

<b>Efficacy (%)</b>	88.5	<b>G Class (EN 13201-2)</b>	G1	<b>I 70-80-90-95 (cd)</b>	1028 - 179 - 3 - 2
<b>DLOR (%)</b>	88.3	<b>G* (EN 13201 2015)</b>	Unclassified	<b>CIE flux code N 1→5 (%)</b>	21.7 - 48.4 - 91.6 - 99.9 - 88.4
<b>ULOR (%)</b>	0.1	<b>Imax (cd)</b>	1042	<b>Gradient 90°</b>	76cd
<b>ULR (%)</b>	0.1	<b>Aperture 0-180°</b>	X - X	<b>Gradient 270°</b>	25cd
<b>Incl ULR 4%</b>	-28/23°	<b>Aperture 90-270°</b>	X - X		

## Photometrical characteristics

LED count	Colour code	Current (mA)	Luminaire power (W)	Source flux (lm)	Luminaire output flux (lm)	Luminaire efficacy (lm/W)	Peak (cd)	BUG Rating	Voltage (V)
Ambient temp = 25°									
24	WW 727	200	15	2339	2069	138	2438	B1 U1 G1	230
24	WW 727	300	22	3400	3007	137	3543	B1 U1 G1	230
24	WW 727	350	26	3912	3460	133	4077	B1 U1 G1	230
24	WW 727	400	30	4413	3903	130	4599	B1 U1 G1	230
24	WW 727	500	37	5375	4754	128	5602	B1 U1 G2	230
24	WW 727	540	41	5747	5083	127	5990	B1 U1 G2	230
24	WW 727	600	46	6287	5561	121	6553	B2 U1 G2	230
24	WW 727	700	53	7151	6325	119	7454	B2 U1 G2	230
24	WW 727	800	61	7965	7045	115	8302	B2 U1 G2	230
24	WW 727	890	68	8657	7658	113	9023	B2 U2 G2	230
24	NW 740	200	15	2698	2387	159	2812	B1 U1 G1	230
24	NW 740	300	22	3921	3468	158	4087	B1 U1 G1	230
24	NW 740	350	26	4512	3991	154	4703	B1 U1 G1	230
24	NW 740	400	30	5090	4502	150	5305	B1 U1 G1	230
24	NW 740	500	37	6199	5484	148	6462	B2 U1 G2	230
24	NW 740	540	41	6628	5863	147	6909	B2 U1 G2	230
24	NW 740	600	46	7251	6413	139	7558	B2 U1 G2	230
24	NW 740	700	53	8248	7295	138	8597	B2 U1 G2	230
24	NW 740	800	61	9186	8126	133	9575	B2 U2 G2	230
24	NW 740	890	68	9985	8832	130	10407	B2 U2 G2	230
24	WW 730	200	15	2483	2196	146	2588	B1 U1 G1	230
24	WW 730	300	22	3608	3191	145	3761	B1 U1 G1	230
24	WW 730	350	26	4152	3673	141	4328	B1 U1 G1	230
24	WW 730	400	30	4683	4143	138	4882	B1 U1 G1	230
24	WW 730	500	37	5705	5046	136	5946	B1 U1 G2	230
24	WW 730	540	41	6099	5395	135	6357	B2 U1 G2	230
24	WW 730	600	46	6672	5902	128	6955	B2 U1 G2	230
24	WW 730	700	53	7590	6713	127	7911	B2 U1 G2	230
24	WW 730	800	61	8453	7477	123	8811	B2 U1 G2	230
24	WW 730	890	68	9188	8127	120	9577	B2 U2 G2	230
24	WW 830	200	15	2268	2006	134	2364	B1 U1 G1	230
24	WW 830	300	22	3295	2915	133	3435	B1 U1 G1	230
24	WW 830	350	26	3792	3354	129	3952	B1 U1 G1	230
24	WW 830	400	30	4277	3783	126	4458	B1 U1 G1	230
24	WW 830	500	37	5210	4609	125	5431	B1 U1 G2	230
24	WW 830	540	41	5570	4927	123	5806	B1 U1 G2	230
24	WW 830	600	46	6094	5390	117	6352	B2 U1 G2	230
24	WW 830	700	53	6932	6131	116	7225	B2 U1 G2	230
24	WW 830	800	61	7721	6829	112	8047	B2 U1 G2	230
24	WW 830	890	68	8392	7423	109	8747	B2 U1 G2	230

Tolerance on flux +- 7% - Tolerance on power +- 5%

## Summary

### CONCEPT

Luminaire specifically designed for LEDs

Recommended installation height: between 5-8m for AXIA 2.1 and 6-10m for AXIA 2.2

For optimal heat dissipation, the driver and LED engine are in separate compartments and juxtaposed in a horizontal section

### HOUSING & FINISH

- Housing in high-pressure, die-cast aluminium, polyester powder coated, with a flat area for a photoelectric cell.
- Housing is surrounded by lateral cooling fins for optimal heat extraction.
- Colour: RAL grey 7040 or black RAL 9005.

### INSTALLATION

- Incorporated universal fixation with adjustable inclination in 2.5° steps
- Fixation with tiltable clamp and 2 Allen grub screws M8x45 in stainless steel
- Post-top 48-60mm and 76mm spigot at 5° inclination, allows tilt on a vertical pole from 0 to +10° by 2.5° steps
- Lateral mounting on 32 (with sleeve), 42, 48 or 60mm spigot at 0°, allows tilt on horizontal spigot from +5° to -10° by 2.5° steps
- Cover opens via 2 stainless screws positioned on the lower side of the housing to prevent dirt and corrosion build up

### OPTICAL UNIT

- Flatbed PCB with polycarbonate lens overlay principle offering various photometric distributions from narrow, medium to wide road; the IP 66 level allows long lasting performance
- CRI > 70
- ULOR: 0%
- Lifetime residual flux @ Tq=25°C @ 100.000 hrs: 90%

### ELECTRICAL

- Class I or Class II (size 2 only)
- Input voltage: 230V ± 10% - 50-60Hz
- Power factor > 85% at full load
- 10kV, 10kA surge protection

### STANDARDS & CERTIFICATIONS

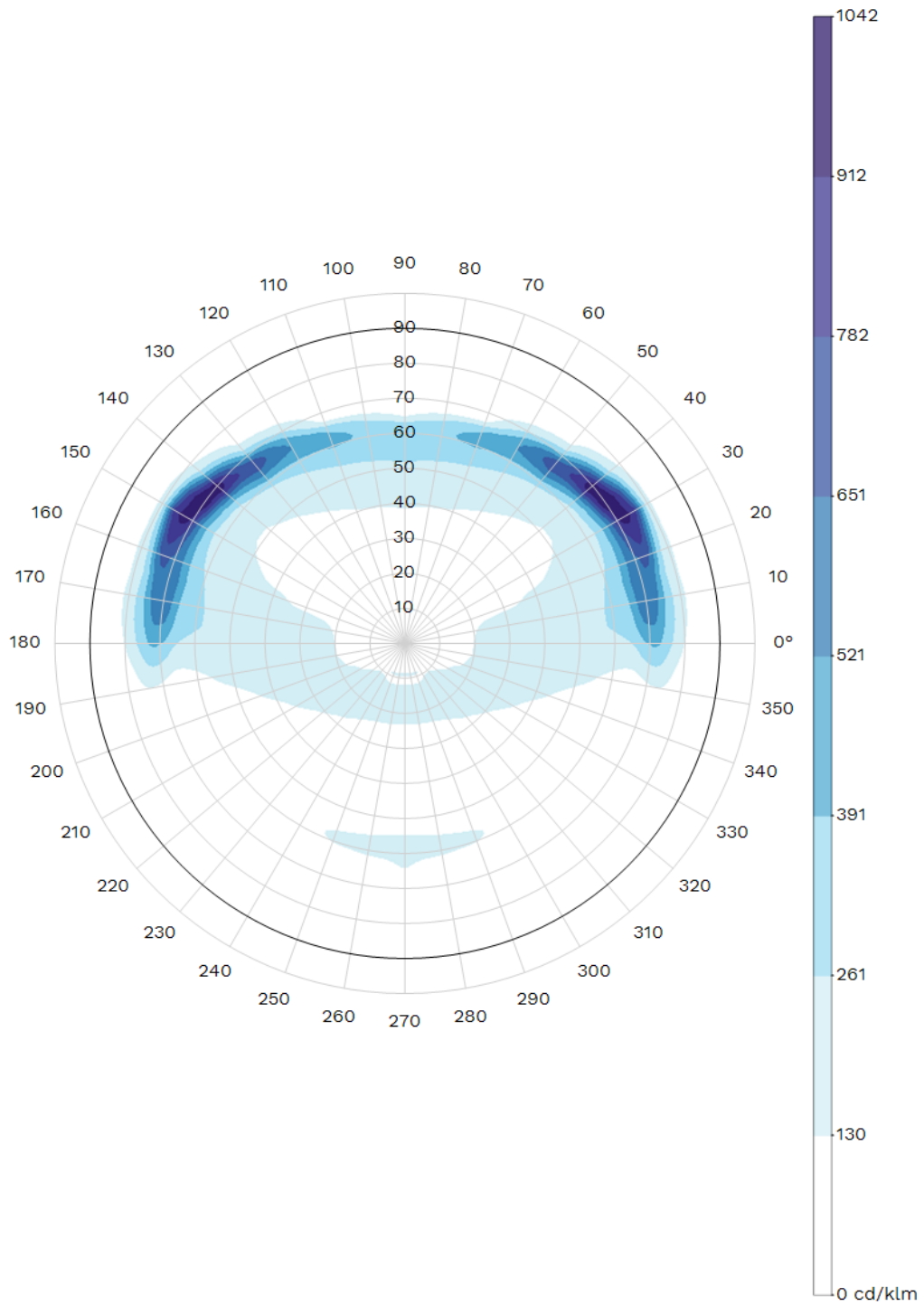
- CE
- ENEC
- LM79-80
- ROHS
- All measurements in ISO17025 accredited laboratory

### OPTIONS

- Other RAL or AKZO colours
- Owllet remote management
- Custom dimming profile; Constant Light Output (CLO); Dali; 0-10V
- Photocell
- Presence detection

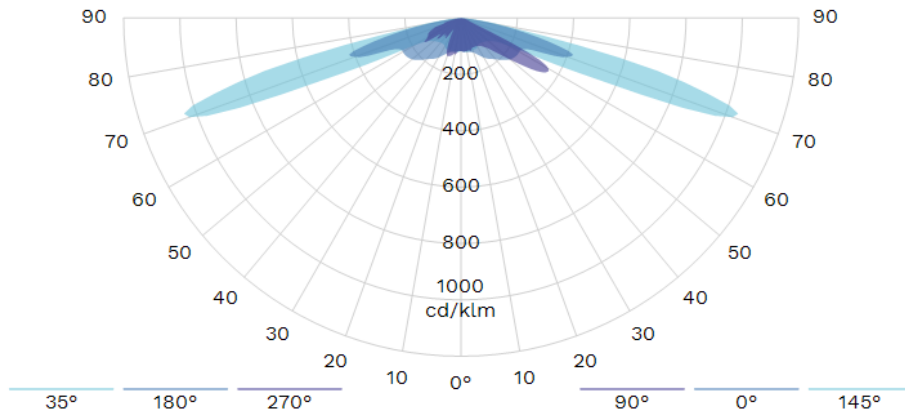
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- External light control louvres
- Supplied pre-cabled for easy installation

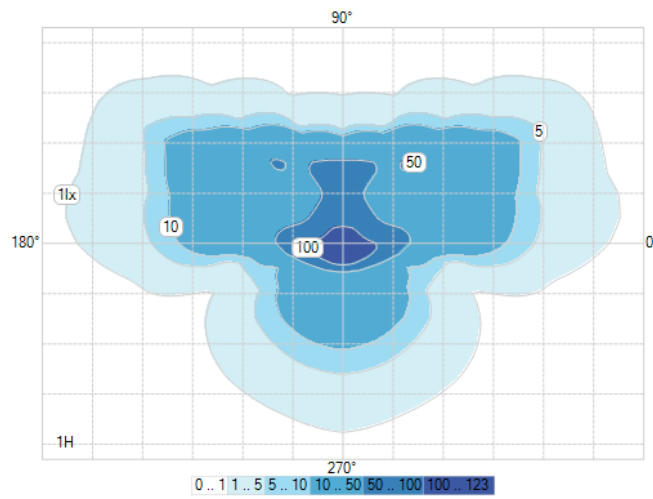




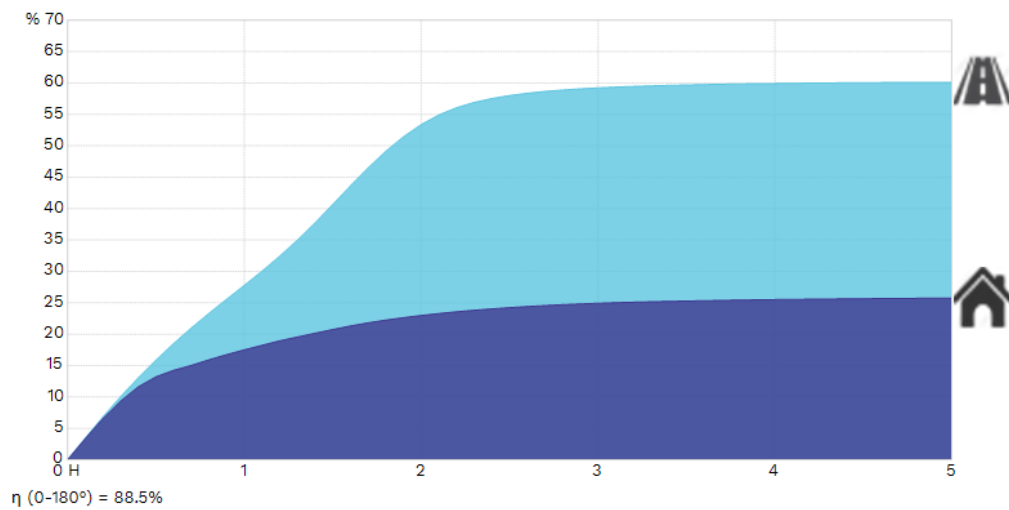
Polar/Cartesian diagram



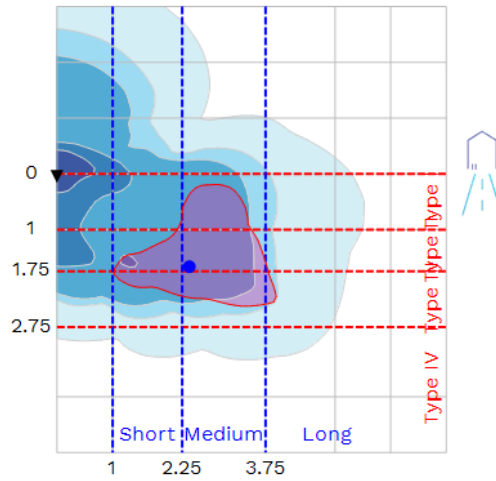
Isolux



K-Curve

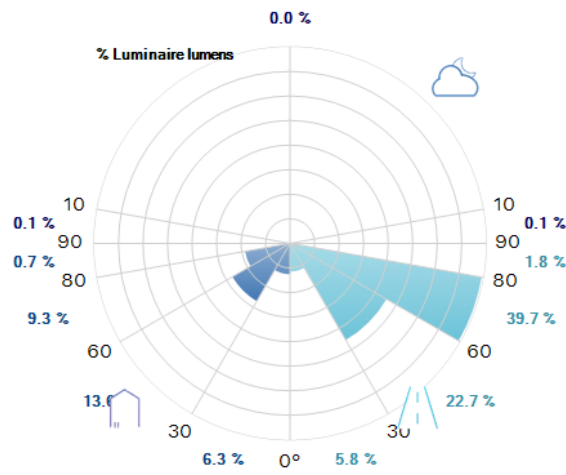


IES Roadway Classification / Nema Classification

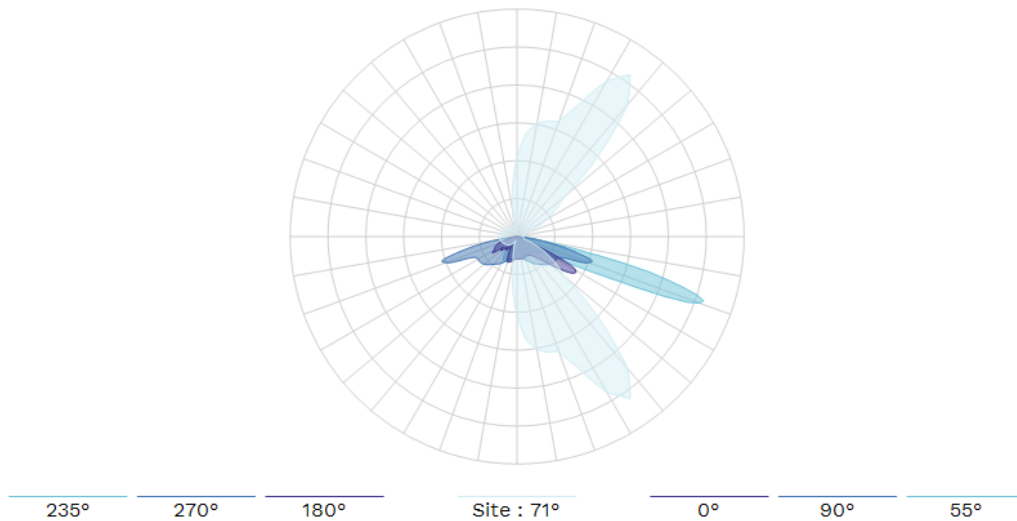


III - Medium

Luminaire classification system (LCS)



Intensity diagram in max Cone and in CPlane



Intensities 1/2 - Format : CIE 30.2

G/C	270.0	285.0	300.0	310.0	315.0	320.0	325.0	330.0	335.0	340.0	345.0	350.0	355.0	0.0	5.0	10.0	15.0	20.0	25.0	30.0	35.0	40.0	45.0	50.0	60.0	75.0
0.0	117.6	117.6	117.6	117.6	117.6	117.6	117.6	117.6	117.6	117.6	117.6	117.6	117.6	117.6	117.6	117.6	117.6	117.6	117.6	117.6	117.6	117.6	117.6	117.6	117.6	117.6
10.0	127.6	128.7	128.4	127.7	126.1	124.5	122.3	120.0	119.8	119.5	120.1	120.6	120.8	120.9	121.6	122.1	122.8	122.4	122.2	121.8	121.5	121.3	121.9	122.4	119.0	119.0
20.0	142.3	141.4	141.1	141.1	140.9	140.6	140.0	139.3	138.1	137.0	134.0	131.0	130.8	130.5	129.9	129.0	127.7	125.5	123.1	122.3	121.5	121.3	121.9	122.4	119.0	114.8
30.0	71.3	77.0	96.1	113.2	124.2	135.1	142.3	149.5	155.0	160.6	162.9	165.2	163.3	161.5	152.8	143.1	134.1	127.2	122.7	122.0	115.1	112.0	113.4	114.8	115.7	116.1
35.0	59.9	52.4	60.9	71.9	85.7	99.4	118.6	137.9	149.3	160.8	170.6	180.5	178.5	176.5	163.6	148.8	136.9	129.6	125.8	116.2	111.4	109.9	110.7	111.5	116.4	121.2
40.0	81.9	89.5	70.1	48.1	52.9	57.6	79.3	101.1	126.7	152.3	168.8	185.2	188.0	190.8	175.5	159.0	147.7	138.0	124.7	116.9	113.0	112.1	113.8	115.4	122.3	130.6
45.0	78.8	91.7	91.6	87.1	68.3	49.4	54.1	58.7	90.1	121.6	154.9	188.1	199.1	210.0	194.9	178.0	165.1	146.4	132.3	122.7	118.4	117.9	120.9	123.9	135.8	152.8
47.5	105.2	96.0	85.9	78.8	75.8	72.8	59.4	46.1	72.8	99.5	141.9	184.2	202.0	219.7	206.6	190.2	176.4	153.7	138.2	127.2	122.4	121.8	126.4	131.0	149.0	174.1
50.0	109.9	111.9	95.7	78.8	75.9	73.1	58.3	43.5	60.0	76.5	125.9	175.3	201.3	227.2	218.9	203.9	188.4	163.5	145.9	132.6	127.1	126.9	133.7	140.5	167.6	203.7
52.5	94.0	96.5	92.7	88.1	73.8	59.5	57.9	56.3	56.3	56.4	108.5	160.6	196.8	233.0	231.5	219.9	202.3	176.7	157.2	140.3	133.8	134.0	145.2	156.3	195.5	245.1
55.0	135.5	114.4	104.4	101.4	83.1	64.7	67.5	70.2	57.1	43.9	92.4	140.9	188.8	236.7	244.4	237.5	219.6	193.1	170.0	150.7	143.6	144.7	162.8	180.9	234.5	297.7
57.5	154.4	138.7	114.2	94.8	86.3	77.7	65.1	52.5	47.5	42.5	80.7	119.0	178.9	238.9	257.8	257.4	242.9	214.7	187.6	165.2	160.1	165.9	197.1	228.4	291.2	355.0
60.0	139.0	134.2	113.9	95.1	89.3	83.5	63.7	44.0	46.5	49.0	73.4	97.9	168.4	238.9	273.1	281.5	274.6	245.0	217.1	192.0	194.9	212.7	276.0	339.3	369.9	390.1
62.5	132.1	124.5	111.8	101.7	90.2	78.6	64.3	49.9	51.4	52.9	64.9	76.9	159.8	242.7	298.2	317.5	322.8	296.6	272.0	252.1	288.6	328.2	429.0	529.9	472.8	384.9
65.0	128.6	119.0	106.1	96.5	88.1	79.7	65.5	51.3	48.6	45.8	54.3	62.7	162.1	261.5	346.1	382.3	406.5	383.3	371.3	377.9	455.6	557.6	623.9	690.3	518.4	289.6
67.5	117.3	109.0	96.0	85.8	80.0	74.2	61.2	48.1	38.4	28.6	47.5	66.4	201.2	336.1	472.1	530.2	559.2	527.2	532.9	573.7	770.4	880.3	789.6	699.0	407.0	97.8
70.0	101.0	95.2	83.8	74.3	68.2	62.2	52.8	43.3	33.4	23.5	65.1	106.7	254.3	401.8	539.1	604.2	623.8	630.3	706.2	864.3	1028.1	975.7	700.8	425.9	235.9	42.8
72.5	66.7	70.2	65.6	59.8	55.0	50.3	43.5	36.7	28.6	20.5	74.2	127.8	268.5	409.1	515.5	585.2	620.1	686.6	833.8	957.7	960.4	717.6	462.8	207.9	121.2	32.6
75.0	60.0	52.5	46.9	43.8	42.5	41.2	36.3	31.4	25.5	19.6	70.3	120.9	222.3	323.6	384.9	424.8	447.0	601.7	745.6	890.9	722.9	383.9	241.7	99.5	63.2	25.7
77.5	41.3	42.7	36.6	30.0	33.1	36.2	30.8	25.3	20.6	15.8	41.3	66.8	146.1	225.5	266.9	274.4	251.3	295.1	388.8	539.0	366.1	197.1	127.9	58.8	40.8	21.4
80.0	25.2	28.9	26.7	23.3	25.5	27.7	23.8	19.9	15.4	11.0	15.9	20.9	76.5	132.1	170.2	177.5	156.8	164.6	173.9	179.4	154.4	112.3	71.9	31.6	23.9	15.2
82.5	12.4	15.9	17.2	17.5	18.3	19.1	17.1	15.1	11.8	8.4	8.8	9.2	35.6	62.0	91.4	101.0	87.9	94.3	87.9	92.8	89.9	63.5	40.2	16.9	14.2	10.6
85.0	0.7	5.3	10.3	13.8	13.3	12.9	11.7	10.4	8.3	6.2	5.9	5.6	14.9	24.2	37.9	45.2	41.0	46.5	38.8	39.8	39.3	31.4	19.8	8.2	7.4	6.0
87.5	0.5	1.6	4.2	6.5	6.3	6.1	5.9	5.6	4.7	3.7	3.5	3.2	4.9	6.6	6.6	8.8	9.3	12.7	10.1	7.1	7.1	11.9	7.5	3.1	3.0	2.7
90.0	0.5	0.7	1.3	1.8	2.1	2.3	2.5	2.6	2.5	2.5	2.3	2.2	2.0	1.8	1.7	1.5	1.2	1.2	1.1	1.1	1.0	1.1	1.0	1.0	1.0	1.1

**Intensities 2/2 - Format : CIE 30.2**

G/C	90.0	105.0	120.0	130.0	135.0	140.0	145.0	150.0	155.0	160.0	165.0	170.0	175.0	180.0	185.0	190.0	195.0	200.0	205.0	210.0	215.0	220.0	225.0	230.0	240.0	255.0
0.0	117.6	117.6	117.6	117.6	117.6	117.6	117.6	117.6	117.6	117.6	117.6	117.6	117.6	117.6	117.6	117.6	117.6	117.6	117.6	117.6	117.6	117.6	117.6	117.6	117.6	117.6
10.0	118.4	119.0	119.7	120.2	120.8	121.5	121.8	122.2	122.4	122.4	122.8	122.1	121.6	120.9	120.8	120.6	120.1	119.5	119.8	120.0	122.3	124.5	126.1	127.7	128.4	128.7
20.0	112.5	114.8	119.0	122.4	121.9	121.3	121.5	122.3	123.1	125.5	127.7	129.0	129.9	130.5	130.8	131.0	134.0	137.0	138.1	139.3	140.0	140.6	140.9	141.1	141.1	141.4
30.0	115.0	116.1	115.7	114.8	113.4	112.0	115.1	122.0	122.7	127.2	134.1	143.1	152.8	161.5	163.3	165.2	162.9	160.6	155.0	149.5	142.3	135.1	124.2	113.2	96.1	77.0
35.0	120.6	121.2	116.4	111.5	110.7	109.9	111.4	116.2	125.8	129.6	136.9	148.8	163.6	176.5	178.5	180.5	170.6	160.8	149.3	137.9	118.6	99.4	85.7	71.9	60.9	52.4
40.0	135.3	130.6	122.3	115.4	113.8	112.1	113.0	116.9	124.7	138.0	147.7	159.0	175.5	190.8	188.0	185.2	168.8	152.3	126.7	101.1	79.3	57.6	52.9	48.1	70.1	89.5
45.0	168.0	152.8	135.8	123.9	120.9	117.9	118.4	122.7	132.3	146.4	165.1	178.0	194.9	210.0	199.1	188.1	154.9	121.6	90.1	58.7	54.1	49.4	68.3	87.1	91.6	91.7
47.5	195.0	174.1	149.0	131.0	126.4	121.8	122.4	127.2	138.2	153.7	176.4	190.2	206.6	219.7	202.0	184.2	141.9	99.5	72.8	46.1	59.4	72.8	75.8	78.8	85.9	96.0
50.0	230.9	203.7	167.6	140.5	133.7	126.9	127.1	132.6	145.9	163.5	188.4	203.9	218.9	227.2	201.3	175.3	125.9	76.5	60.0	43.5	58.3	73.1	75.9	78.8	95.7	111.9
52.5	276.2	245.1	195.5	156.3	145.2	134.0	133.8	140.3	157.2	176.7	202.3	219.9	231.5	233.0	196.8	160.6	108.5	56.4	56.3	56.3	57.9	59.5	73.8	88.1	92.7	96.5
55.0	326.4	297.7	234.5	180.9	162.8	144.7	143.6	150.7	170.0	193.1	219.6	237.5	244.4	236.7	188.8	140.9	92.4	43.9	57.1	70.2	67.5	64.7	83.1	101.4	104.4	114.4
57.5	357.9	355.0	291.2	228.4	197.1	165.9	160.1	165.2	187.6	214.7	242.9	257.4	257.8	238.9	178.9	119.0	80.7	42.5	47.5	52.5	65.1	77.7	86.3	94.8	114.2	138.7
60.0	358.9	390.1	369.9	339.3	276.0	212.7	194.9	192.0	217.1	245.0	274.6	281.5	273.1	238.9	168.4	97.9	73.4	49.0	46.5	44.0	63.7	83.5	89.3	95.1	113.9	134.2
62.5	292.4	384.9	472.8	529.9	429.0	328.2	288.6	252.1	272.0	296.6	322.8	317.5	298.2	242.7	159.8	76.9	64.9	52.9	51.4	49.9	64.3	78.6	90.2	101.7	111.8	124.5
65.0	118.9	289.6	518.4	690.3	623.9	557.6	455.6	377.9	371.3	383.3	406.5	382.3	346.1	261.5	162.1	62.7	54.3	45.8	48.6	51.3	65.5	79.7	88.1	96.5	106.1	119.0
67.5	46.3	97.8	407.0	699.0	789.6	880.3	770.4	573.7	532.9	527.2	559.2	530.2	472.1	336.1	201.2	66.4	47.5	28.6	38.4	48.1	61.2	74.2	80.0	85.8	96.0	109.0
70.0	33.7	42.8	235.9	425.9	700.8	975.7	1028.1	864.3	706.2	630.3	623.8	604.2	539.1	401.8	254.3	106.7	65.1	23.5	33.4	43.3	52.8	62.2	68.2	74.3	83.8	95.2
72.5	27.0	32.6	121.2	207.9	462.8	717.6	960.4	957.7	833.8	686.6	620.1	585.2	515.5	409.1	268.5	127.8	74.2	20.5	28.6	36.7	43.5	50.3	55.0	59.8	65.6	70.2
75.0	22.1	25.7	63.2	99.5	241.7	383.9	722.9	890.9	745.6	601.7	447.0	424.8	384.9	323.6	222.3	120.9	70.3	19.6	25.5	31.4	36.3	41.2	42.5	43.8	46.9	52.5
77.5	17.3	21.4	40.8	58.8	127.9	197.1	366.1	539.0	388.8	295.1	251.3	274.4	266.9	225.5	146.1	66.8	41.3	15.8	20.6	25.3	30.8	36.2	33.1	30.0	36.6	42.7
80.0	12.3	15.2	23.9	31.6	71.9	112.3	154.4	179.4	173.9	164.6	156.8	177.5	170.2	132.1	76.5	20.9	15.9	11.0	15.4	19.9	23.8	27.7	25.5	23.3	26.7	28.9
82.5	8.1	10.6	14.2	16.9	40.2	63.5	89.9	92.8	87.9	94.3	87.9	101.0	91.4	62.0	35.6	9.2	8.8	8.4	11.8	15.1	17.1	19.1	18.3	17.5	17.2	15.9
85.0	4.4	6.0	7.4	8.2	19.8	31.4	39.3	39.8	38.8	46.5	41.0	45.2	37.9	24.2	14.9	5.6	5.9	6.2	8.3	10.4	11.7	12.9	13.3	13.8	10.3	5.3
87.5	2.1	2.7	3.0	3.1	7.5	11.9	7.1	7.1	10.1	12.7	9.3	8.8	6.6	6.6	4.9	3.2	3.5	3.7	4.7	5.6	5.9	6.1	6.3	6.5	4.2	1.6
90.0	1.2	1.1	1.0	1.0	1.0	1.1	1.0	1.1	1.1	1.2	1.2	1.5	1.7	1.8	2.0	2.2	2.3	2.5	2.5	2.6	2.5	2.3	2.1	1.8	1.3	0.7

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<http://www.schreder.com>



# Versatile and cost-efficient LED lighting

## ClearWay gen2

The ClearWay Gen2 enables you to enjoy the benefits of LED technology for urban lighting right from the start. This new second generation of the luminaire builds on the strengths of its predecessor and is designed to further minimise your Total Cost of Ownership. The ClearWay Gen2 significantly improves the most important aspects of the street-lighting experience compared to conventional urban lighting. Ideal for new streets and for renovating existing installations, this affordable range of urban ClearWay lighting solutions combines clean design, high-quality light with significant energy and maintenance savings. In short, ClearWay Gen2 means good-quality light with all the added benefits of LED – energy savings and long lifetime. Offering more benefits, yet packaged in a thinner and lighter design which makes it easier to install.

### Benefits

- A range of benefits packaged in one single luminaire architecture
- Easy to install
- Low initial cost
- Reasonable Total Cost of Ownership
- Signify Service tag (unique QR identification) for maintenance, installation and spare parts information

### Features

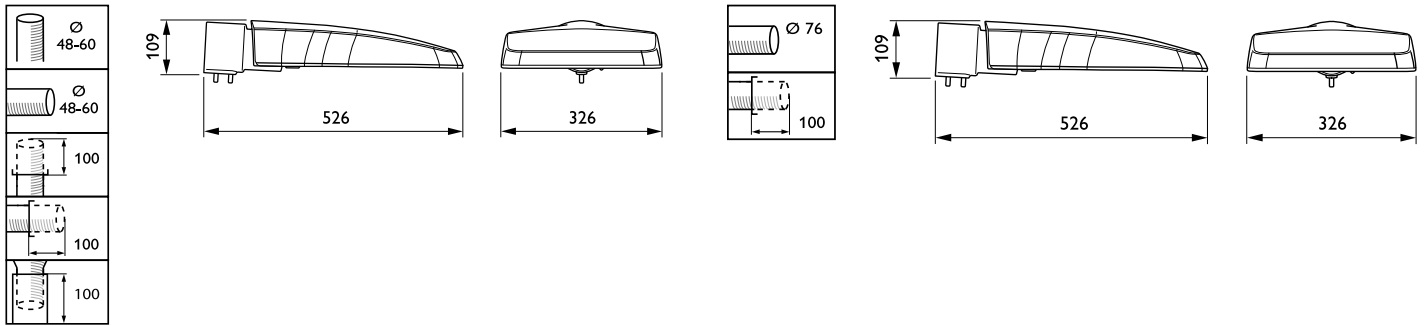
- One flexible design that offers different options depending on application needs
- Includes a dedicated light recipe that preserves dark night skies
- Compact and efficient design
- Tilt regulation with no need to open the cover

# ClearWay gen2

## Application

- Urban and residential roads
- Cycle and pedestrian paths
- Minor roads
- Car parks

## Dimensional drawing





## General Information

CE mark	Yes
Driver included	Yes
Flammability mark	-
Light source replaceable	Yes
Number of gear units	Unit
Product family code	BGP307

## Light Technical

Luminaire light beam spread	154° - 31° x 54°
Light source colour	740 neutral white
Correlated Colour Temperature	4000 K
Optical cover/lens type	Flat glass
Colour rendering index (CRI)	70
Optic type outdoor	Distribution medium 50
Standard tilt angle side entry	0°
Standard tilt angle post-top	0°
Upwards light output ratio	0

## Mechanical and Housing

Housing Colour	Grey
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## Approval and Application

Mech. impact protection code	IK09
Ingress protection code	IP66
Surge Protection (Common/ Differential)	Luminaire surge protection level up to 6 kV differential mode and 8 kV common mode

## Over Time Performance (IEC Compliant)

Driver failure rate at 5,000 hours	0.5 %
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## General Information

Order Code	Full Product Name	Lamp family code
98795700	BGP307 LED18-4S/740 I DM50 48/60S	LED18
98796400	BGP307 LED25-4S/740 I DM50 48/60S	LED25
98797100	BGP307 LED30-4S/740 I DM50 48/60S	LED30
98798800	BGP307 LED35-4S/740 I DM50 48/60S	LED35
98799500	BGP307 LED40-4S/740 I DM50 48/60S	LED40
98800800	BGP307 LED45-4S/740 I DM50 48/60S	LED45
98801500	BGP307 LED54-4S/740 I DM50 48/60S	LED54
98802200	BGP307 LED69-4S/740 I DM50 48/60S	LED69
98804600	BGP307 LED99-4S/740 I DM50 48/60S	LED99
98805300	BGP307 LED109-4S/740 I DM50 48/60S	LED109
98698100	BGP307 LED25-4S/740 II DM50 48/60S	LED25
98705600	BGP307 LED84-4S/740 II DM50 48/60S	LED84
99608900	BGP307 LED18-4S/740 I DM50 DDF27 D18 48/	LED18
99609600	BGP307 LED30-4S/740 I DM50 DDF27 D18 48/	LED30
99610200	BGP307 LED35-4S/740 I DM50 DDF27 D18 48/	LED35
99611900	BGP307 LED54-4S/740 I DM50 DDF27 D18 48/	LED54
99612600	BGP307 LED69-4S/740 I DM50 DDF27 D18 48/	LED69
99613300	BGP307 LED120-4S/740 I DM50 DDF27 D18 48	LED120

## Light Technical

Order Code	Full Product Name	Luminous Flux	Order Code	Full Product Name	Luminous Flux
98795700	BGP307 LED18-4S/740 I DM50 48/60S	1,584 lm	98805300	BGP307 LED109-4S/740 I DM50 48/60S	9,460 lm
98796400	BGP307 LED25-4S/740 I DM50 48/60S	2,175 lm	98698100	BGP307 LED25-4S/740 II DM50 48/60S	2,175 lm
98797100	BGP307 LED30-4S/740 I DM50 48/60S	2,610 lm	98705600	BGP307 LED84-4S/740 II DM50 48/60S	7,308 lm
98798800	BGP307 LED35-4S/740 I DM50 48/60S	3,080 lm	99608900	BGP307 LED18-4S/740 I DM50 DDF27 D18 48/	1,584 lm
98799500	BGP307 LED40-4S/740 I DM50 48/60S	3,520 lm	99609600	BGP307 LED30-4S/740 I DM50 DDF27 D18 48/	2,610 lm
98800800	BGP307 LED45-4S/740 I DM50 48/60S	3,960 lm	99610200	BGP307 LED35-4S/740 I DM50 DDF27 D18 48/	3,080 lm
98801500	BGP307 LED54-4S/740 I DM50 48/60S	4,698 lm	99611900	BGP307 LED54-4S/740 I DM50 DDF27 D18 48/	4,698 lm
98802200	BGP307 LED69-4S/740 I DM50 48/60S	6,160 lm	99612600	BGP307 LED69-4S/740 I DM50 DDF27 D18 48/	6,160 lm
98804600	BGP307 LED99-4S/740 I DM50 48/60S	8,600 lm	99613300	BGP307 LED120-4S/740 I DM50 DDF27 D18 48	10,200 lm

## Operating and Electrical

## ClearWay gen2

Order Code	Full Product Name	Power Consumption
98795700	BGP307 LED18-4S/740 I DM50 48/60S	11.6 W
98796400	BGP307 LED25-4S/740 I DM50 48/60S	16.2 W
98797100	BGP307 LED30-4S/740 I DM50 48/60S	19.6 W
98798800	BGP307 LED35-4S/740 I DM50 48/60S	21.5 W
98799500	BGP307 LED40-4S/740 I DM50 48/60S	24.5 W
98800800	BGP307 LED45-4S/740 I DM50 48/60S	27.5 W
98801500	BGP307 LED54-4S/740 I DM50 48/60S	33.5 W
98802200	BGP307 LED69-4S/740 I DM50 48/60S	40.5 W
98804600	BGP307 LED99-4S/740 I DM50 48/60S	59 W

Order Code	Full Product Name	Power Consumption
98805300	BGP307 LED109-4S/740 I DM50 48/60S	65 W
98698100	BGP307 LED25-4S/740 II DM50 48/60S	16.2 W
98705600	BGP307 LED84-4S/740 II DM50 48/60S	49.5 W
99608900	BGP307 LED18-4S/740 I DM50 DDF27 D18 48/	11.6 W
99609600	BGP307 LED30-4S/740 I DM50 DDF27 D18 48/	19.6 W
99610200	BGP307 LED35-4S/740 I DM50 DDF27 D18 48/	21.5 W
99611900	BGP307 LED54-4S/740 I DM50 DDF27 D18 48/	33.5 W
99612600	BGP307 LED69-4S/740 I DM50 DDF27 D18 48/	40.5 W
99613300	BGP307 LED120-4S/740 I DM50 DDF27 D18 48	72 W

### Controls and Dimming

Order Code	Full Product Name	Dimmable
98795700	BGP307 LED18-4S/740 I DM50 48/60S	No
98796400	BGP307 LED25-4S/740 I DM50 48/60S	No
98797100	BGP307 LED30-4S/740 I DM50 48/60S	No
98798800	BGP307 LED35-4S/740 I DM50 48/60S	No
98799500	BGP307 LED40-4S/740 I DM50 48/60S	No
98800800	BGP307 LED45-4S/740 I DM50 48/60S	No
98801500	BGP307 LED54-4S/740 I DM50 48/60S	No
98802200	BGP307 LED69-4S/740 I DM50 48/60S	No
98804600	BGP307 LED99-4S/740 I DM50 48/60S	No

Order Code	Full Product Name	Dimmable
98805300	BGP307 LED109-4S/740 I DM50 48/60S	No
98698100	BGP307 LED25-4S/740 II DM50 48/60S	No
98705600	BGP307 LED84-4S/740 II DM50 48/60S	No
99608900	BGP307 LED18-4S/740 I DM50 DDF27 D18 48/	Yes
99609600	BGP307 LED30-4S/740 I DM50 DDF27 D18 48/	Yes
99610200	BGP307 LED35-4S/740 I DM50 DDF27 D18 48/	Yes
99611900	BGP307 LED54-4S/740 I DM50 DDF27 D18 48/	Yes
99612600	BGP307 LED69-4S/740 I DM50 DDF27 D18 48/	Yes
99613300	BGP307 LED120-4S/740 I DM50 DDF27 D18 48	Yes

### Application Conditions

Order Code	Full Product Name	Maximum dim level
98795700	BGP307 LED18-4S/740 I DM50 48/60S	Not applicable
98796400	BGP307 LED25-4S/740 I DM50 48/60S	Not applicable
98797100	BGP307 LED30-4S/740 I DM50 48/60S	Not applicable
98798800	BGP307 LED35-4S/740 I DM50 48/60S	Not applicable
98799500	BGP307 LED40-4S/740 I DM50 48/60S	Not applicable
98800800	BGP307 LED45-4S/740 I DM50 48/60S	Not applicable
98801500	BGP307 LED54-4S/740 I DM50 48/60S	Not applicable
98802200	BGP307 LED69-4S/740 I DM50 48/60S	Not applicable
98804600	BGP307 LED99-4S/740 I DM50 48/60S	Not applicable

Order Code	Full Product Name	Maximum dim level
98805300	BGP307 LED109-4S/740 I DM50 48/60S	Not applicable
98698100	BGP307 LED25-4S/740 II DM50 48/60S	Not applicable
98705600	BGP307 LED84-4S/740 II DM50 48/60S	Not applicable
99608900	BGP307 LED18-4S/740 I DM50 DDF27 D18 48/	0% (digital)
99609600	BGP307 LED30-4S/740 I DM50 DDF27 D18 48/	0% (digital)
99610200	BGP307 LED35-4S/740 I DM50 DDF27 D18 48/	0% (digital)
99611900	BGP307 LED54-4S/740 I DM50 DDF27 D18 48/	0% (digital)
99612600	BGP307 LED69-4S/740 I DM50 DDF27 D18 48/	0% (digital)
99613300	BGP307 LED120-4S/740 I DM50 DDF27 D18 48	0% (digital)

