GMR ENLIGHTS

HIBRA02

The pictures shown are for illustrative purposes only. For shape, material and color specifications refer to internal descriptions.

Hibra Plus 02

Technical data

GMR ENLIGHTS

rev. 2023.09

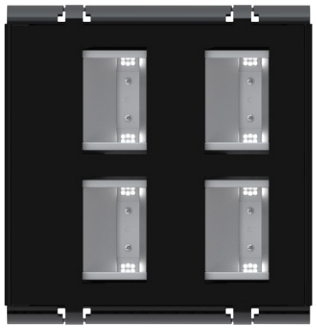
INSTALL: Indoor and Outdoor

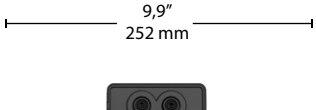
ACCESSIBILITY

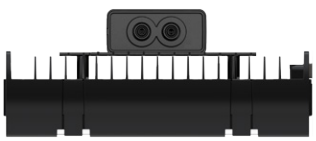
Timeless
Tool-free openable fixture. Replaceable internal components without the need of tools.

OPTICAL TECHNOLOGY

Reflexa
Refracting optical system consist of single-chip LED, aluminium reflector extra-pure with silver PDV treatment and extra clear tempered glass.







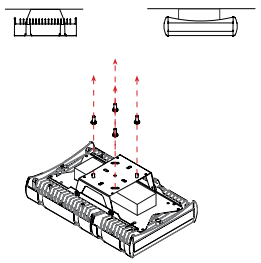
Scale: 1:10

Max. weight
HP2: 12,3 lb (5,6 Kg)

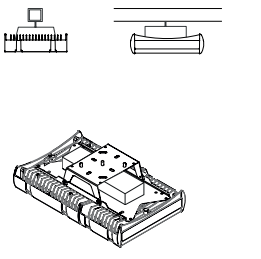
EPA (CXS)
Plan: 1,2 ft² (0,11 m²)

FIXING TYPE

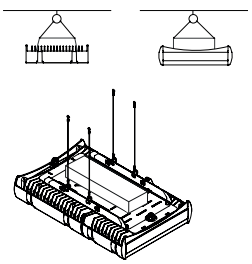
Ceiling support



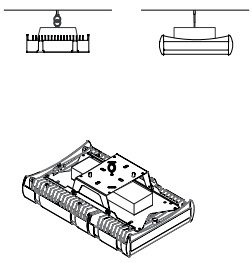
Busbar



Steel cables



Loop



Infographic related to the Hibra family and not to the single product

STANDARD

Compliance: UL Standard 1598-CSA C22,2no.250.0.

CONFORMITY | PROTECTION

Conformity

c ETL us Intertek (PENDING)

CE

Salt spray test

ISO 9227

8000 hr

Safety classes

Class I

Protection classes

WET LOCATION · IK 09 · 4 NEMA

Photobiological safety

Classe 0 Exempt group IEC/TR62471

PLUS

- DARK SKY FRIENDLY
- OPTICAL FLEXIBILITY
- LOW GLARE
- SEPARATE UNITS (ELECTRICAL AND OPTICAL)

LIGHTING FIXTURE FEATURES

General features

Power source:	120-277V | 50/60Hz | tolerance +/-10%
Current supply:	350 mA | 525 mA |700 mA | 1050 mA (P_{max} = 161W)
Power Factor | THD:	≥0.95 | <10 % (At full load)
Expected life (Ta=77°F|25°C):	> 100.000 h | L90B10 | @ LED 700mA
Operational temperature (Ta):	T_{min} = -40°F (-40°C) T_{max} = 131°F (55°C) |101,5W 122°F (50°C) |146W
Storage temperature:	-40°F/+176°F (-40°C/+80°C)
Overcharge protection:	Main surge immunity up to 10kV
Standard functions:	Current fixed |Virtual midnight |1-10V|CLO

Materials

Lighting fixture:	Powder coated Die cast aluminium | EN1706
Optical system:	Aluminum reflector with silver PVD treatment, purity 99.7% oxidized and polished.
Screen:	Screen-printed ultraclear tempered glass | Th. 0,15in (4mm)
Fixing plate:	Galvanized steel S235
Gaskets:	Removable silicon
Cable gland:	Polyamide PA66 | PG16 | Ø 0,55in (14mm) MAX
Screws and bolts:	AISI 304 stainless steel
Fixture color:	RAL 9005

LED FEATURES

LED data 4.000 K - 700mA:	340 lm/LED | 180 lm/W | 77°F (25°C) [Tj] | ≤ 3 step MacAdam
Color temperature:	3.000 K | 4.000 K | 5.700 K| CRI ≥ 70

OPTIONAL

Additional surge protector device:	SPD | Max peak current 10kV/kA 8/20µs
Electrical optional	1,64ft (0,5m) power cable with 2-3 or 4-5 core connector
Optional functions:	DALI-DALI2 | DALI SENSOR | Presence sensor
Connectors and sockets:	NM (Nema Socket) | LM (Lumawise Zhaga Socket)
Smart sensors:	Zhaga type presence sensors

Hibra Plus 02

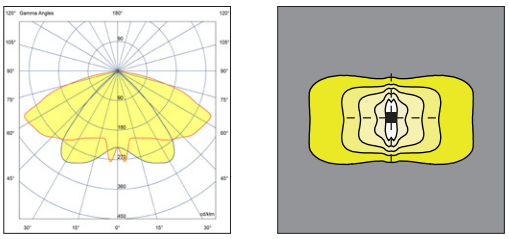
Available optical system

GMR ENLIGHTS

rev. 2023.09

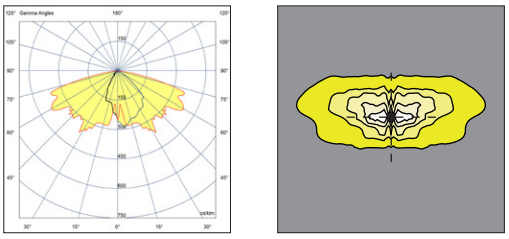
ASYMMETRICAL DISTRIBUTION \\

R1A

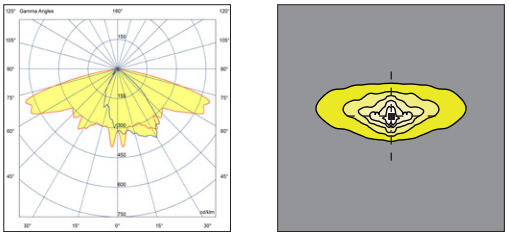


SYMMETRICAL DISTRIBUTION \\

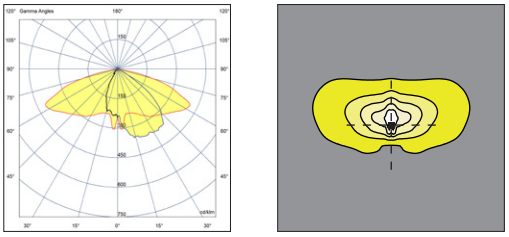
R2A



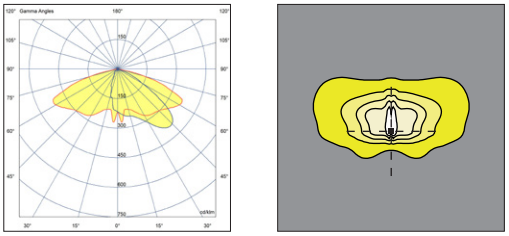
R2B



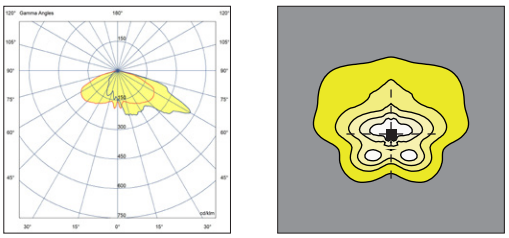
R3A



R3B

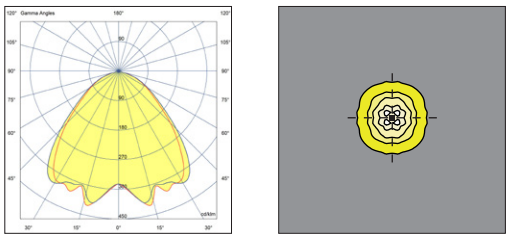


R3C

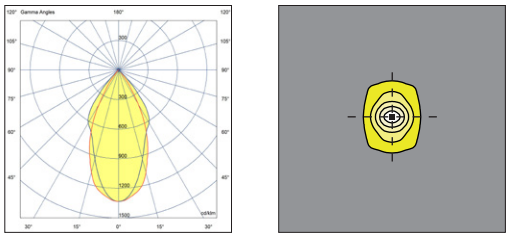


FLOODLIGHT DISTRIBUTION\\

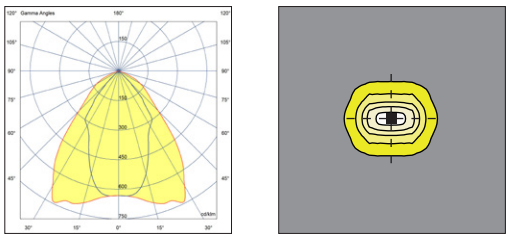
R9A



R9B



R10A



R2B

R3A

Hibra Plus 02

Photometric data | LED modules nominal data

GMR ENLIGHTS

rev. 2023.09

The LED modules nominal data refers only to the LED light sources in a standard version, with 4000 K color temperature, color rendering index CRI 70 min. and a junction temperature tj of 77°F (25°C). The LED nominal data are extrapolated from the manufacturer documentations.

LED code	(•) I [mA]	Luminous flux [lm]	Power [W]	Efficiency [lm/W]
RF09	350	6934	35,3	196
	525	9839	54,1	182
	700	12360	73,2	169
	1050	16868	112,8	150
RF12	350	9246	47,1	196
	525	12867	71,8	179
	700	16157	97,1	166
	1050	22037	149,5	147

Hibra Plus 02

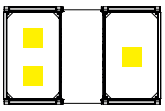
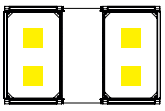
Photometric data | Lighting fixture measured data

rev. 2023.09

The lighting fixture measured data refers to GMR ENLIGHTS products in a standard version, with 4000 K color temperature, optica type R3A and an ambient temperature ta of 77°F(25 °C).

GMR ENLIGHTS offers the possibility of driving the device with custom currents (•).

Feature availability is subject to configurations. To obtain luminous fluxes and efficiencies of the lighting fixture in case of optic type and/or color temperature and/or color rendering index different from the standard use the conversion factors shown in the tables.

		(•) I [mA]	Luminous flux [lm]	Power [W]	Efficiency [lm/W]
RF09		350	6516	40,0	163
		525	9246	61,5	150
		700	11616	83,0	140
		1050	15852	124,0	128
RF12		350	8689	53,0	164
		525	12092	80,5	150
		700	15183	109,0	139
		1050	20710	161,5	128

OPTIC CONVERSION FACTOR LUMINOUS FLUX

Optic type	Flux multiplier
R2A	0,99
R2B	0,98
R3B | R3C	1,00
R9A	1,00
R9B	0,98
R10A	0,99

Tk CONVERSION FACTOR LUMINOUS FLUX

Tk [K]	Flux multiplier
3.000	0,94
5.700	1,01

CRI CONVERSION FACTOR LUMINOUS FLUX

CRI (color render index)	Flux multiplier
70	1,00
80	0,93

(*) See pag: Available optical system, to check the optic type availability.
(**) See pag: Technical data, to check the colour temperatureb availability.

Functions

rev. 2023.09

Standard functionality

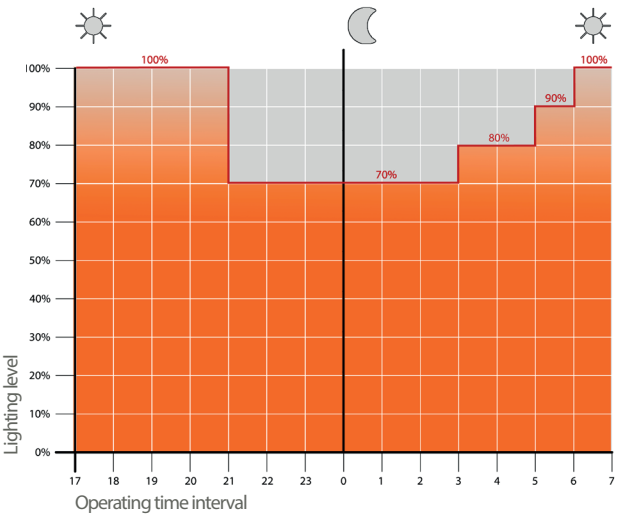
Fixed current
During production, the light fixture is pre-set with a fixed current amongst the standard settings that appear in the tables on page 3. Upon customer's request, it is also possible to set a specific current (custom setting).

Virtual Midnight | Automatic dimming
The driver is programmed to automatically dim the light output according to the time. As required by regulations, the maximum output is set during initial hours and towards the end of the light fixture's operating time interval. During these hours there is statistically more traffic. The light output is then dimmed during the central hours of the operating time interval. This management is achievable through a self-learning process of the device, that establishes the centre point of the time interval. This moment is called "virtual midnight" and it is the point that the dimming profile refers to in order to know when to reduce the light output. We can manage up to 8hrs of programming that evolve around the virtual midnight and up to 5 steps of dimming. This way the light output will adjust automatically, adapting throughout the year to the duration of the nighttime, by referring to the pre-set parameters based on the centre point of the operating time interval.

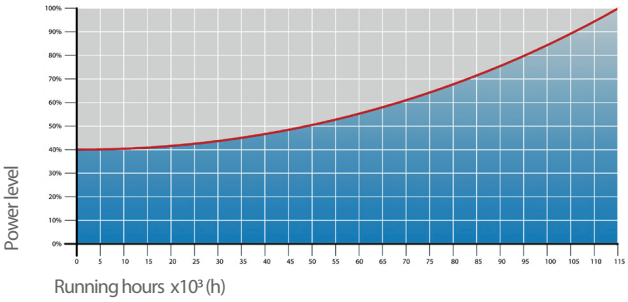
CLO Constant Lumen Output
LEDs over time are inevitably subject to performance depreciation. This light reduction may be compensated by gradually increasing the LED's current during its lifespan, this corresponds to a gradual increase of lumen output proportional to the amount that is naturally depreciated.

On request functionality

DALI - DALI2 Control and monitoring system
On request, the fixture can be fitted with a DALI2 communication interface. This protocol allows it to be monitored and controlled remotely through use of Dali control buses.



Example of 4-step adjustment with virtual midnight



CLO Light Flow Compensation

Protection cycles

rev. 2023.09

GMR ENLIGHTS works with cast iron, steel and aluminum. The materials are selected and processed to maximize performance and quality.

GALVANIZED STEEL

Protection of galvanized steel surfaces for poles

The protection of galvanized steel elements is achieved by following steps:

- Micro sandblasting;
- First epoxy layer application followed by:
Wilting > Drying > Cooling;
- Acrylic glaze layer application followed by:
Wilting > Drying > Cooling;
- Packing at least after 24-hour-drying at room temperature.

Protection of galvanized steel surfaces for brackets and pastorals

The protection of the galvanized steel elements is achieved thanks to:

- Micro sandblasting;
- Phosphoric pickling bath at a ph level ranging from 1.5 to 3;
- Rinsing with demineralised water;
- First powder layer application;
- Kiln firing;
- Application of a final powder layer;
- Kiln roasting of the final powder layer at 180°C (356°F);
- Cooling.

CAST IRON

Protection of cast iron surfaces for bases

The protection of cast iron elements is achieved by the following treatments:

- Surface micro shotblasting;
- Mono-component dip galvanizing followed by:
Wilting > Drying > Cooling;
- Epoxy micaceous primer application followed by:
Wilting > Drying > Cooling;
- Acrylic enamel application followed by:
Wilting > Drying > Cooling;
- Packing at least after 24-hour-drying at room temperature.

DIE-CAST ALUMINIUM

Protection of die-cast aluminium surfaces for lighting fixtures, tops, collars, brackets and pastorals

Lighting fixtures, brackets, pastoral, and die-cast accessories undergo a cycle of powder painting which creates a barrier against the corrosion of metal parts. Moreover this barrier makes the finished product comply with design specifications in terms of surface roughness, color and reflectance.
The cycle consists of the following steps:

- Micro sandblasting;
- Hot pickling bath in a zinc-based phosphodegreasing solution;
- Specific process for the preparation of surfaces before painting;
- Washing with water;
- Rinsing with demineralised water and subsequent drying;
- First bowder layer application followed by kiln baking at 180°C (356°F);
- Final powder layer application using a High Durability product and final kiln roasting at 180°C (356°F).

Salt spray test

The top quality of such treatments is confirmed by salt spray tests performed in accordance with standard ISO 9227:2017 Neutral Salt Spray test (NSS).
The test was carried out for 8.000 hours at 35°C (95°F) and demostrated through the report test released.

GMR ENLIGHTS s.r.l

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