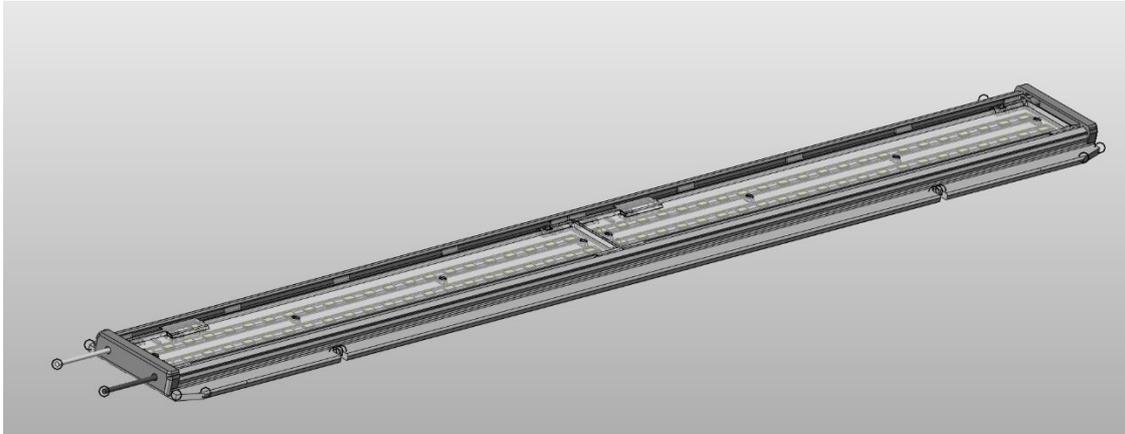


TECHNICAL DATA

ARC BG4 600 & 1200

LED MODULE FOR Ex-ENVIRONMENT



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Rev 8
Date: 20.04.2020

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1 General

These operating instructions apply to the products listed under 3.1.
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1.1 Manufacturer

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1.2 Applications

The ARC LED MODULE is designed to replace fluorescent lamps in Ex e luminaires. State of the art LED technology is utilized to increase efficiency and cold-area performance over fluorescent solutions. The LED system is suitable for installation in Ex e enclosures, together with a suitable LED driver like the Barel HFX or HFXE LED. This luminaire is suitable for use in explosive gas atmospheres like:

- Oil Industry On- & Off-shore Installations, Gas Stations, Fuel Reservoirs, Oil Tankers
- Chemical Industry Production Plants

2 Approvals

Approvals:

- QAN/QAR 0470 Nemko 01ATEX452Q/NO/NEM/QAR08.0001/04
- Ex protection Code Ex II 2 G Ex mb op is IIC
- IECEx Certificate: IECEx EXV 19.0027U
- ATEX no. ExVeritas 19 ATEX 0478U

According to directives and standards listed:

ATEX Directive 2014/34/EU

- EN 60079-0:2018 Explosive atmospheres -- Part 0: Equipment - General requirements
- EN 60079-18:2015/A1:2017 Explosive atmospheres - Part 18: Equipment protection by encapsulation "m"
- EN 60079-28:2015 Explosive atmospheres - Part 28: Protection of equipment and transmission systems using optical radiation

IECEx Scheme

- IEC 60079-0:2017 Explosive atmospheres - Part 0: Equipment - General requirements
- IEC 60079-18:2014/AMD1:2017 Explosive atmospheres - Part 18: Equipment protection by encapsulation "m"
- IEC 60079-28:2015 Explosive atmospheres - Part 28: Protection of equipment and transmission systems using optical radiation

RoHS Directive 2011/65/EU

- EN 50581:2012 Technical documentation for the assessment of electrical and electronic products with respect to the restriction of hazardous substances

3 Technical data

3.1 Product range

Barel art	Name	Length mm	Color temp CRI80	Input rating	Nominal power W	Total lumen output (calc)	Service temperature	Ts life
11283	ARC BG4 600 830	574	3000K	370mA/64V	23,7	3365	-40 to +80°C	60°C
11284	ARC BG4 600 840	574	4000K			3484		
11286	ARC BG4 600 860	574	6000K			3602		
11283HF	ARC BG4 600 830 HF	574	3000K	550mA/64V	35,2	4998	-40 to +80°C	55°C
11284HF	ARC BG4 600 840 HF	574	4000K			5174		
11286HF	ARC BG4 600 860 HF	574	6000K			5350		
11483	ARC BG4 1200 830	1134	3000K	370mA/128V	47,3	6717	-40 to +80°C	60°C
11484	ARC BG4 1200 840	1134	4000K			6953		
11486	ARC BG4 1200 860	1134	6000K			7190		
11483HF	ARC BG4 1200 830 HF	1134	3000K	550mA/128V	70	9940	-40 to +80°C	55°C
11484HF	ARC BG4 1200 840 HF	1134	4000K			10290		
11486HF	ARC BG4 1200 860 HF	1134	6000K			10640		

General tolerance +/- 10%.

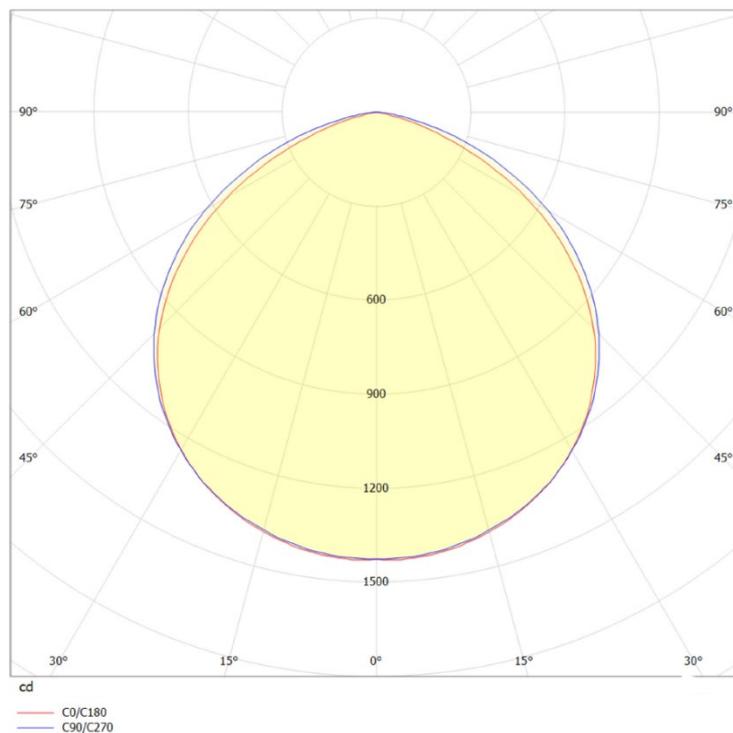
Within 4-step MacAdam.

6000K - real color temp is 5700K

Photometric measurements must be done in final application.

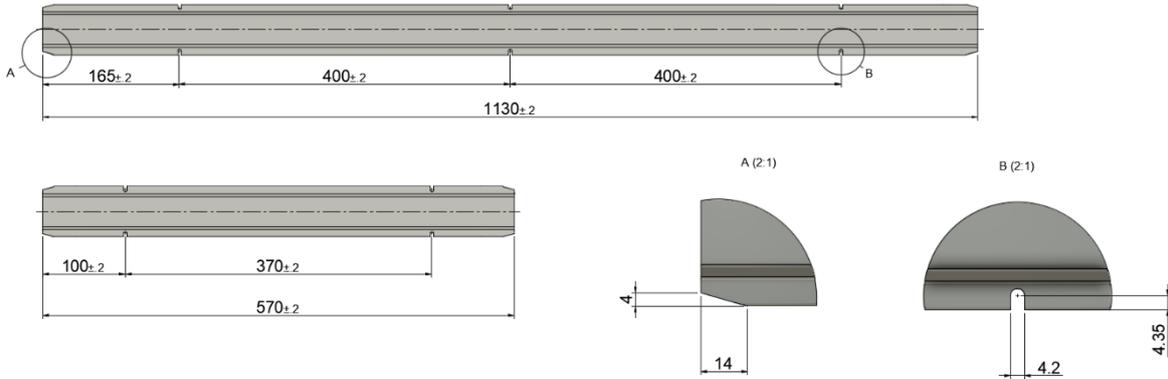
3.2 Polar diagram

Luminous intensity distribution (polar)



3.3 Mechanical data:

- Aluminium profile to be fastened with screws or other suitable means.
- ARC 600: 574 x 61 x 11mm
- ARC 1200: 1134 x 61 x 11mm

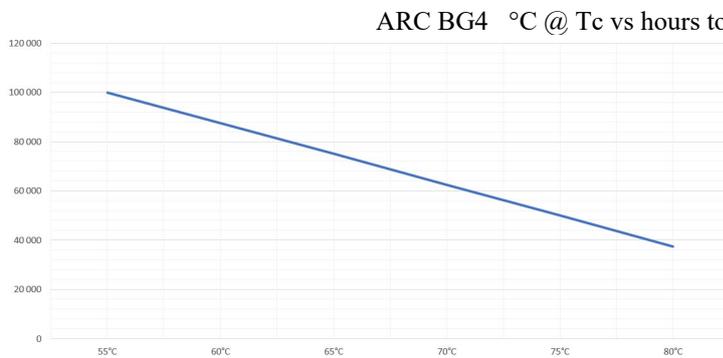


3.4 Optical data:

- Light output and performance to be tested in actual application.
- Separate diffuser could be used for glare reduction and light pattern shaping. (Add suffix “D” to part-number)

3.5 Expected lifetime:

The expected lifetime of ARC to L80B50 exceeds 100.000 hours at $T_s < 55/60^\circ\text{C}$.



4 Installation

These components do not cause harm or injury when used as specified in these instructions. If this equipment is not utilized in a manner specified by the manufacturer, the protection by the equipment may be impaired. Wire length: ARC 1200 - 850mm, ARC 600 – 350mm (special length on request)

Do not energize circuit before all components and LED module are connected properly.

In case of no function or malfunction: first de-energize the circuit. Disconnect mains and battery supply before LED module is disconnected.

The LED module must be connected to correct polarity.

4.1 ESD:

ESD (Electrostatic Discharge) protective measures should be considered during installation. Connection wires should not meet charged objects before properly connected to HFX/HFXE LED driver.

4.2 Schedule of limitations:

When the ARC BG4 strip lighting luminaire is installed in an enclosure, the assembly shall be tested, evaluated and approved according to the standards IEC 60079-0, IEC 60079-7, IEC 60079-28 and any other applicable standards from series IEC 60079. The enclosure where this component is installed must provide a ingress protection rating IP54 or better. The device has been passed the thermal endurance test for heat and cold according IEC 60079-0 considering the service temperature range of -40 °C to +80 °C.

Connect only to suitable protective device capable of limiting the maximum current to 850 mA and interrupting current of 1500 A.

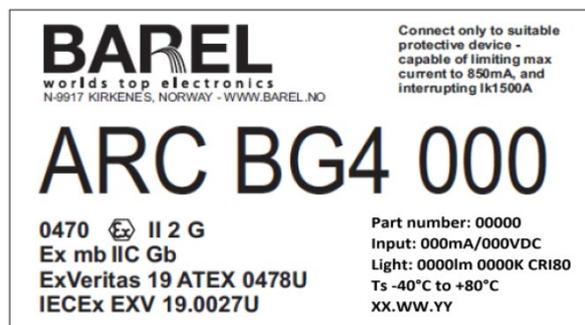
4.3 Electrical connection

Connect wires to suitable constant current LED driver. White + and black -.

LED-driver must be de-energized before connection or disconnection of LED module.

4.4 Marking

Example:



4.5 Temperature

Temperature to be measured in final application. Special thermal interface material may be used between ARC and luminaire gear-tray to improve thermal characteristics. Contact Barel for assistance.

5 What to do if...

No light when first connected to the mains:

- Make sure all components are the correct type and suitable for LED module/driver type, mains supply voltage and frequency range.
- Make sure all connections are correct.
- Allow a reset of LED driver.
- Do not attempt to open or repair these units. ARC should be replaced in case of failure – to avoid premature failure of the other component.

If problems with conducted emission during EMC measurements, contact Barel for assistance.

Important issues are:

Keep all wires short.

Separate LED module wires from mains supply wires