

**Homogeneous**

**High-pressure  
Washdown  
resistant**

**Intense**

**Food  
Compatibility**

**LED Backlight**

UNIFORMITY  
**80%**



**IP69K**

**CE**

# effiBL-IP69K

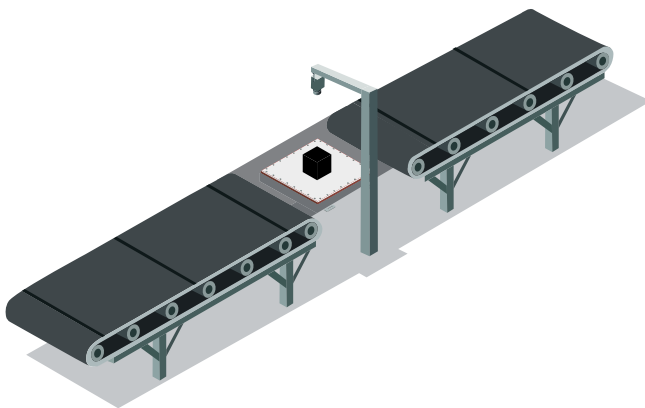
Waterproof backlight for food and chemical environment.

# INTRODUCTION

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## APPLICATIONS



### Inspection:

- Edge measurements.
- Absence/presence of holes.
- Size control.
- And many other machine vision applications.

### Robotics:

- Object location for pick and place.

## RELATED PRODUCT

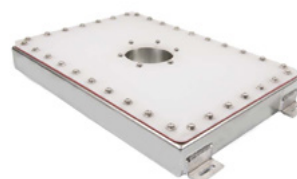
Refer to the datasheets of the products below for more details on those related products.

### EFFI-BL



High power & uniformity LED Backlight

### EFFI-FD-IP69K



IP69K version equivalent but with a hole for the camera

# PART NUMBERING

## STANDARD VERSION

EFFI-BL-IP69K	- XXX	- YYY	- ZZZ
	<b>Optical width (mm)</b>	<b>Optical length (mm)</b>	<b>Wavelength (nm)</b>
	100	100	● 465 (Blue)
	200	200	● 525* (Green)
	300	300	● 625 (Red)
	...Every 100mm steps	...Every 100mm steps	● 850 (Infrared)
	600	600	● 940* (Infrared)
			○ 000 (White 5500K)

### Important notes:

- YYY must be larger than XXX in the part number.
- (\*) Only on request, contact EFFILUX.

## AVAILABLE VERSIONS & OPTIONS

VERSION	
Food version	EFFI-BL-IP69K- <b>FOOD</b> -XXX-YYY-ZZZ For food processing environment, the nickel-plated brass gland can be replaced with a stainless steel one.
ELECTRONICAL OPTION	
Power option (\$150)	EFFI-BL-IP69K-XXX-YYY-ZZZ- <b>S150</b> Triples the power output but the maximum duty cycle for this option is 30%.
MECHANICAL OPTION	
5m cable length	EFFI-BL-IP69K-XXX-YYY-ZZZ- <b>L5</b> Default configuration: cable length 10 meters. This option reduces the length to 5 meters.
Venting option	EFFI-BL-IP69K-XXX-ZZZ-WW-PP- <b>V</b> Vent to equalize pressure and minimize condensation. Not compatible with FOOD version.

# GENERAL SPECIFICATIONS

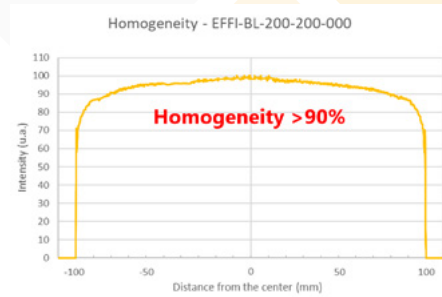
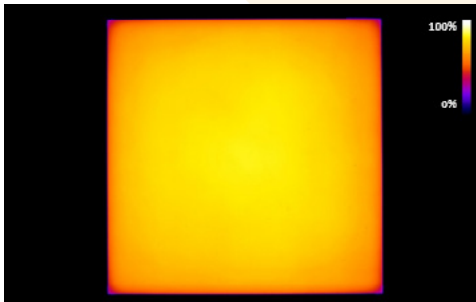
## effiBL-IP69K

<b>Illumination Mode</b>	Continuous with AIC (Analog Intensity Control)	
<b>Wavelengths</b>	465nm, 525nm*, 625nm, 850nm, 940nm*, White (5500K ±500K)	
<b>Power Supply</b>	24V DC	
<b>Connector(s)</b>	<b>Cable with flying leads</b>	<b>Cable with M12 - 5 pins</b>
<b>Power Consumption</b>	Related to the dimensions	
<b>Analog Intensity Control (AIC)</b>	The output optical power is adjustable from 20% to 100% by applying a signal from [5V-24V DC] Total voltage range [0V-24VDC] / Don't exceed 24V DC / Max. signal consumption: 11mA	
<b>Weight</b>	Related to the dimensions	
<b>Thickness</b>	35.6 mm	
<b>Dimensions</b>	From 100mm x 100mm to 600mm x 600mm	
<b>Fastener</b>	4 holes (Ø 5.5mm/ 20mm length)	
<b>Material</b>	Device body: Stainless steel; Window: PMMA	
<b>IP rating</b>	IP69K	
<b>Operation environment</b>	Temperature: 0°C to 40°C - Humidity: 20 to 85%RH (with no condensation) - Altitude: Up to 2000m	
<b>Storage environment</b>	Temperature: -20° to 60°C - Humidity: 20 to 85%RH (with no condensation)	
<b>Informations</b>	Overvoltage category I - Protective class III - Pollution degree 3	
<b>Regulations &amp; Marking</b>	CE - UKCA	
<b>Environmental Standards</b>	RoHS Directives (2011/65/EU, 2015/863/EU and China RoHS) - REACH Regulation - WEEE Regulation	
<b>Country of Origin</b>	France	

(\*) On request only, contact EFFILUX.

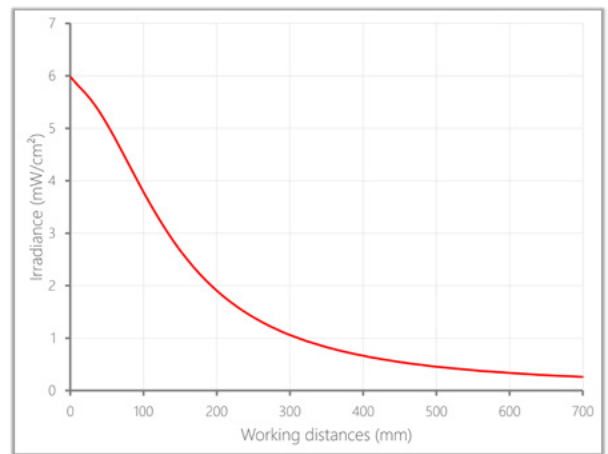
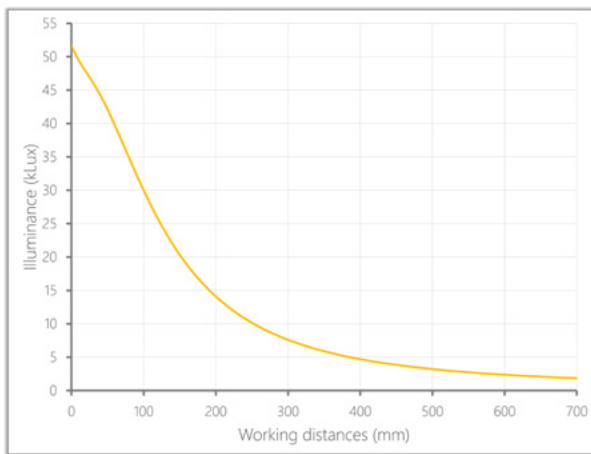
# OPTICAL SPECIFICATIONS

## HOMOGENEITY



**Note:** The homogeneity is calculated on the optical area (5mm of edge effect)

## OUTPUT POWER



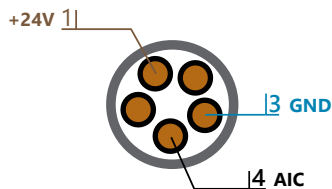
— White 5500K — Red 625nm & IR850

# ELECTRONICAL SPECIFICATIONS

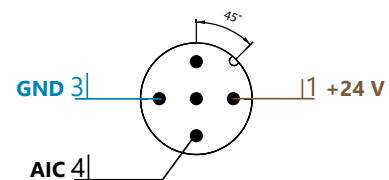
## WIRING LAYOUT

Depending on the product size and the chosen options, the light comes with different connectors. (See the Power Consumption section).

### Flying lead - 1 input (Standard)



### M12 5pins - 1 input (Food version)



#### Important notes:

- The EFFI-BL-IP69K requires 24V DC input power.
- The AIC contact needs to be connected.
- The standard cable included is resistant to detergent, hot water, bio-oil, harsh environment and can be used outdoor.
- A M12-5pins connector is molded at the end of the FOOD cable contrary to the standard which is a flying lead.
- Please note that for the FOOD option above 500mm x 500mm the EFFI-BL-IP69K must be supplied with 2 cables.

# POWER CONSUMPTION

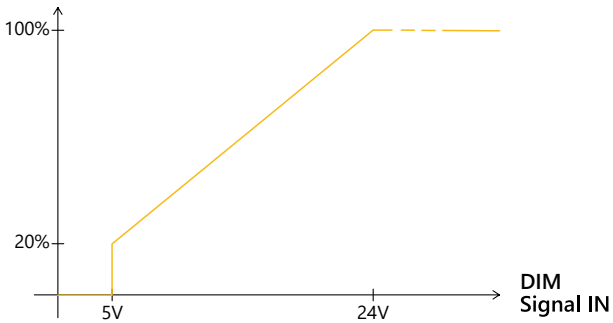
Refer to the below table to get the power consumption depending on the product dimensions.

		Maximum electrical power consumption @24V (W) of standard white EFFI-BL-IP69K						
		Optical length (mm)						
		100	150	200	300	400	500	600
Optical width (mm)	100	5	8	8	13	15	18	23
	150		10	13	18	23	28	33
	200			15	23	28	35	43
	300				33	43	53	63
	400					55	70	85
	500						88	110
	600							125

# DIMMING CONTROL

		Optical length (mm)						
		100	150	200	300	400	500	600
Optical width (mm)	100	0.3	0.9	0.6	0.9	1.2	1.5	1.8
	150		1.8	1.8	2.7	3.6	4.5	5.4
	200			1.2	1.8	2.4	3	3.6
	300				2.7	3.6	4.5	5.4
	400					4.8	6	7.2
	500						7.5	9.0
	600							10.8

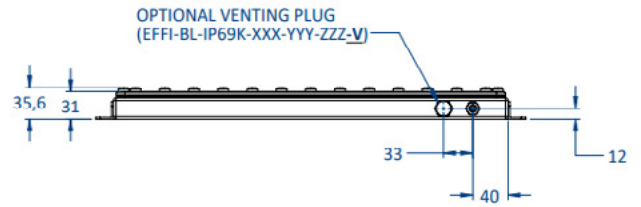
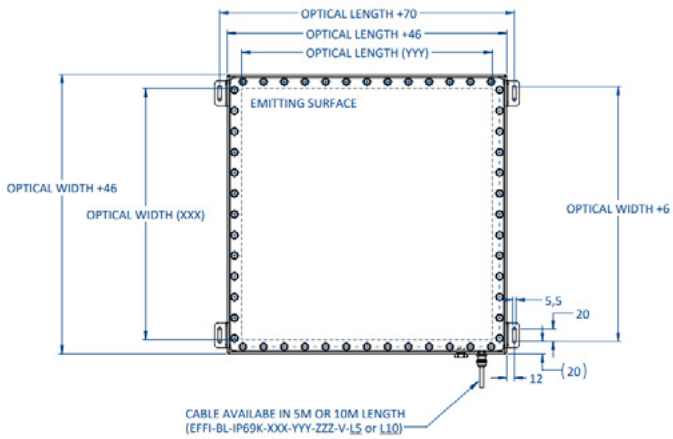
Output Intensity



The output optical power of the EFFI-BL is adjustable from 20% to 100% by applying a signal from 0V to 24V on the AIC pin.

The control range can be changed to 0-10V or 0-5V on request.

# MECHANICAL SPECIFICATIONS (DIMENSIONS IN MM)



## ACCESSORIES

Please refer to the specific documentation for additional information on the accessories of the EFFI-BL-IP69K



Potentiometer

EFFI-DIMMER  
EFFI-DIMMER2

## CONTACT INFORMATION

Please refer to the specific documentation (datasheet, user manual and drawing) for complementary information. Contents of this document are based on information available as of March-2025 and may be changed without prior notice.



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