High power LED bars
EFFI-Flex-BL for Backlight Web Inspection

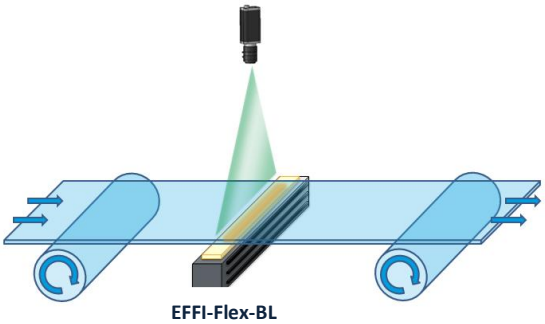
- **Intense** and **uniform**
- **Standard** connections and fasteners
- **Full range of colors**: from blue to IR, white
- **Long lifetime** and few maintenance
- **Illumination length from 200 mm to 3.6 meters**

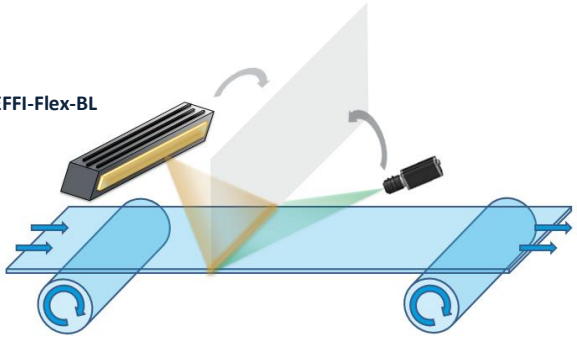
APPLICATIONs:

Web and linescan applications of:

- Paper
- Glass
- Plastic film
- Currency
- Any semi-transparent materials

Example : Foreign matter inspection for transparent material





OVERVIEW OF THE CHARACTERISTICS

Electronics	*Power supply*	24V DC
	Illumination mode	Continuous with DIM process [0-24V]
	Connectors	M12 4 pins
	Power consumption	Depends on the lenght
Optics	*Wavelength*	Various wavelengths (from blue to IR, white)
	Outout window	Opalin to homogenize the light repartition
Mechanics	*Width and height*	51mm x 49mm
	Fastener	2 rails: one on the back – another one on the side
	Material	Device body : Aluminum alloy ; Window: Acrylic
Environment	*Working temperature*	0°C to 50°C
	IP code	IP40 (option IP54)

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TECHNICAL CHARACTERISTICS

How to create the EFFI-Flex-BL?

EFFI-Flex-BL_XXX_XXX

Length* Wavelength (nm)

Available wavelengths:

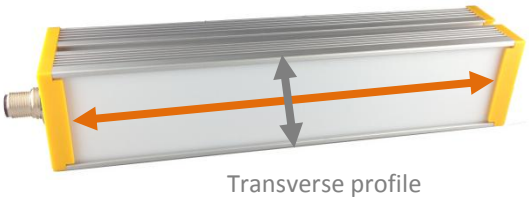
- White: ***000***
- Blue: ***465***
- Green: ***525***
- Red: ***625***
- Far Infrared: ***850***

Other wavelengths are available upon request

* Minimum length: 200 mm – then, available in 100 mm increments

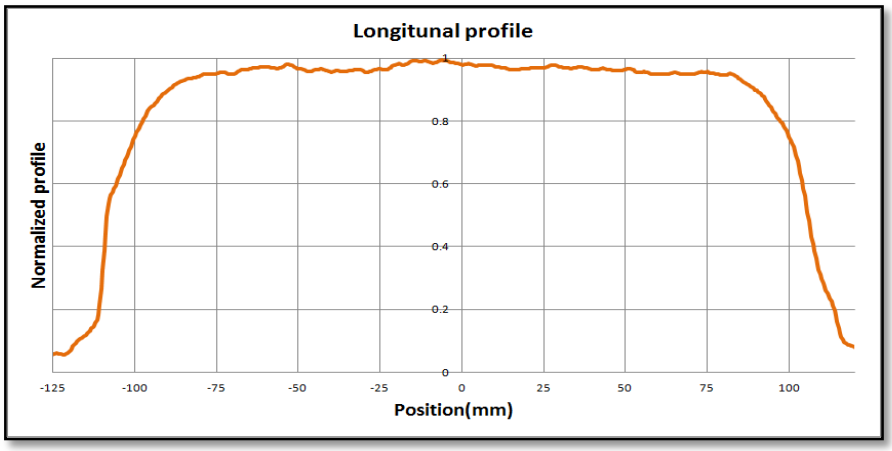
Optical characteristics

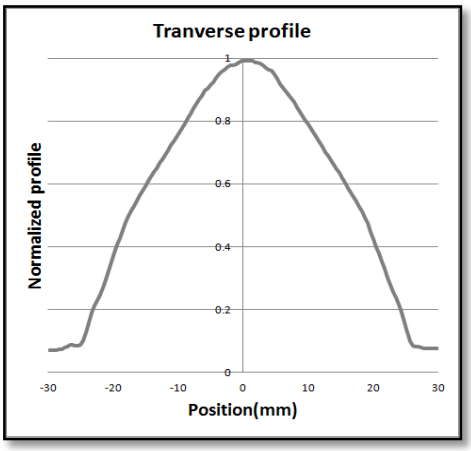
Homogeneity



Longitudinal profile*

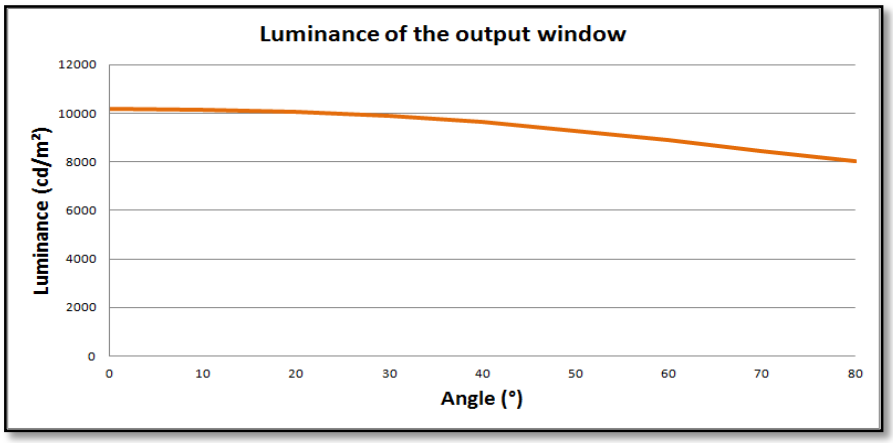
Transverse profile





** length of backlight : 200 mm*

Optical power (luminance in the middle of the output window)



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Efficient Led Lighting

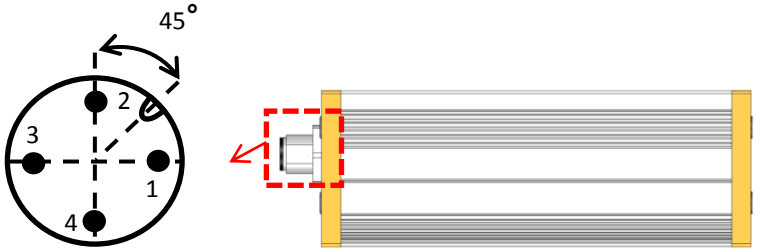
CE RoHS

Electrical characteristics

Connector

To connect the product, use a M12 4 poles connector

Pin number	*Cable color*	*Designation*
1	Brown	+24V ± 5%
2	White	n.a.
3	Blue	GND
4	Black	DIM – *max 24V*

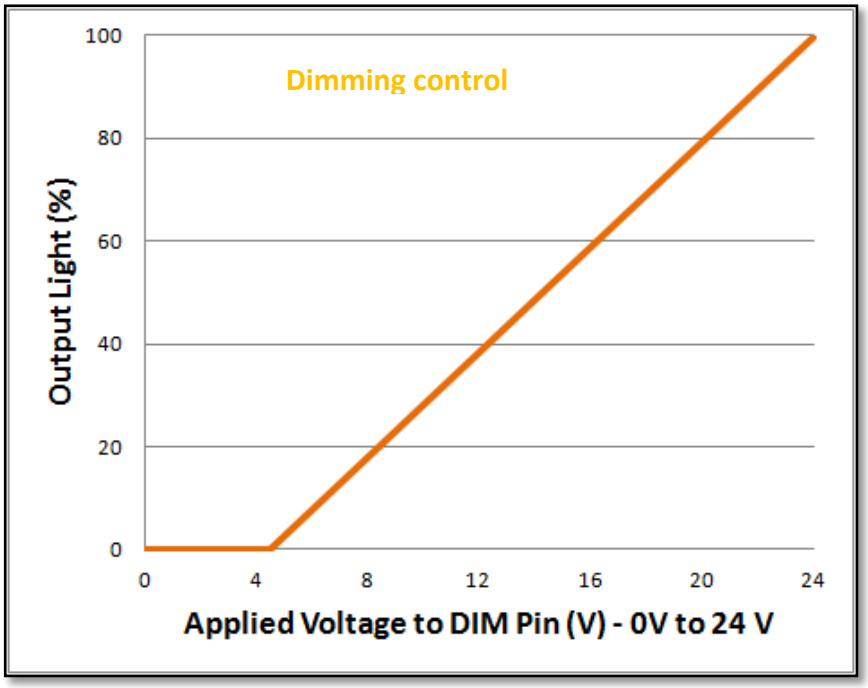


Dimming control

The DIM pin has to be used: if not, the device is OFF.

The EFFI-Flex-BL, with a reference EFFI-Flex-BL_XXX _XXX, is supplied with a 24V constant voltage source.
Using the DIM pin, the light intensity can be linearly increased:

- 0V – OFF
- 24V - full power



Electrical Power requirement

Apply the next formula to determine the electrical power of your lighting :

$$\text{Power}_{\text{electrical}} = \frac{\text{Length}_{\text{in mm}}}{100} * 5\ W$$

Example : EFFI-Flex-BL-500 is made of 5 segment

$$\text{Power}_{\text{electrical}} = \frac{\text{Length}_{\text{in mm}}}{100} * 5\ W = \frac{500}{100} * 5\ W = 25\ Watts$$

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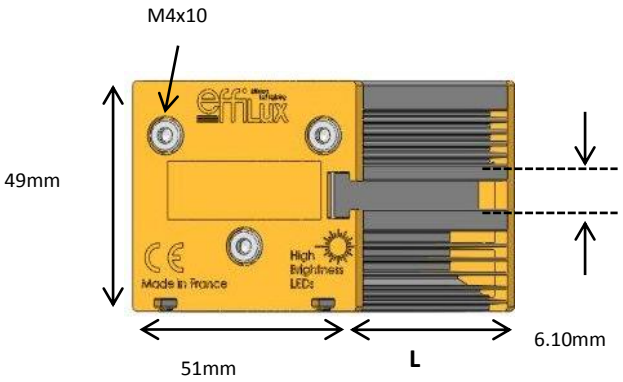
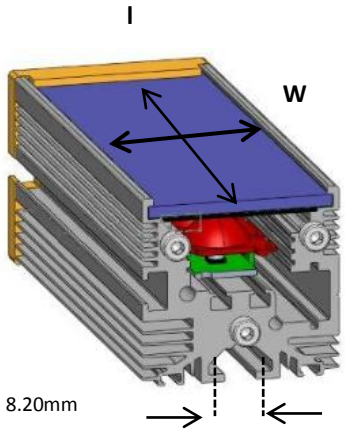
Mechanical considerations





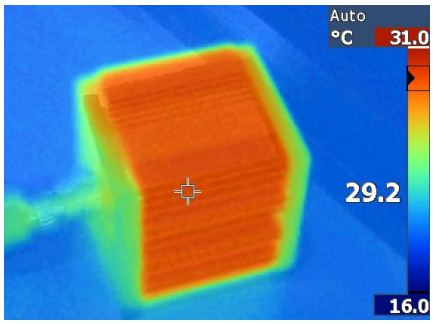
Nut insertion slot

Designation	Electrical Power (@24 V) en Watt	L (mm)	W x l (mm)	Amount of connectors
EFFI-Flex-BL_200_XXX	10	235	45 x 215	1
EFFI-Flex-BL_300_XXX	15	335	45 x 315	1
EFFI-Flex-BL_400_XXX	20	435	45 x 415	1
EFFI-Flex-BL_500_XXX	25	535	45 x 515	1
EFFI-Flex-BL_600_XXX	30	635	45 x 615	1
EFFI-Flex-BL_700_XXX	35	735	45 x 715	1
EFFI-Flex-BL_800_XXX	40	835	45 x 815	1
EFFI-Flex-BL_900_XXX	45	935	45 x 915	1
EFFI-Flex-BL_1000_XXX	50	1035	45 x 1015	1
EFFI-Flex-BL_1600_XXX	80	1635	45 x 1615	1
EFFI-Flex-BL_1700_XXX	85	1735	45 x 1715	2
EFFI-Flex-BL_2500_XXX	115	2535	45 x 2515	2
EFFI-Flex-BL_3200_XXX	160	3200	45 x 3256	*Specific connector
EFFI-Flex-BL_4000_XXX	200	4000	45 x 4056	*Specific connector

**For length higher than 2500mm, a high power connector must be used (Cable RD24 male 4 pin – reference 7902322004 from Binder)*

Thermal considerations

Thanks to its design, the heat is efficiently dissipated from the LED.



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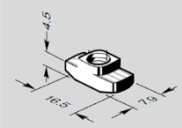
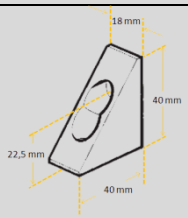
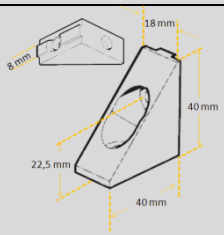
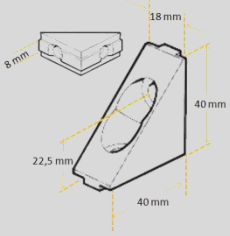
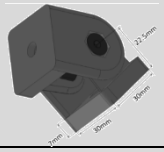
Accessories

	EFFILUX reference	Description
Mechanics	EFFV-Bolt_0011	 T-nut to insert in the slot – For M6 screw
	EFFM_1_0017	 Bracket to fasten the EFFI-BL (no ridge) *Delivered with 2 EFFV-Bolt_0011, 2 screws and 2 flat washers*
	EFFM_1_0019	 Bracket to fasten the EFFI-BL (1 ridge) *Delivered with 2 EFFV-Bolt_0011, 2 screws and 2 flat washers*
	EFFM_1_0021	 Bracket to fasten the EFFI-BL (2 ridges) *Delivered with 2 EFFV-Bolt_0011, 2 screws and 2 flat washers*
	EFFM_1_0002	 Fastener used to simplify the projector integration (orientation) *Delivered with EFFV-Bolt_0011 and 2 M6x14 screws*
Electronics	EFFC-Cable_M12_0002 Binder : *79 343 13 04*	M12 cable – 4 pins – 2m long
	EFFC-Cable_M12_0003 Binder : *79 3430 17 04*	M12 cable – 4 pins – 5m long
	EFFC-Cable_M12_0004 Binder : *79 3430 30 04*	M12 cable – 4 pins – 10m long
	EFFC-Cable_M12_0025 Phoenix : *1456938*	M12 cable – 4 pins – High Flex- 1500mm long
	EFFC-Cable_M12_0026 Phoenix : *1456941*	M12 cable – 4 pins – High Flex- 3000mm long
	EFFC-Cable_RD24_0001 Binder : *79 0232 20 04*	RD24 cable – 4 pins – 2000mm long
	EFFC-Connector_RD24_0001 *Binder : 99 0210 00 04*	RD24 connector – 4 pins – to be mounted – cable not supplied