



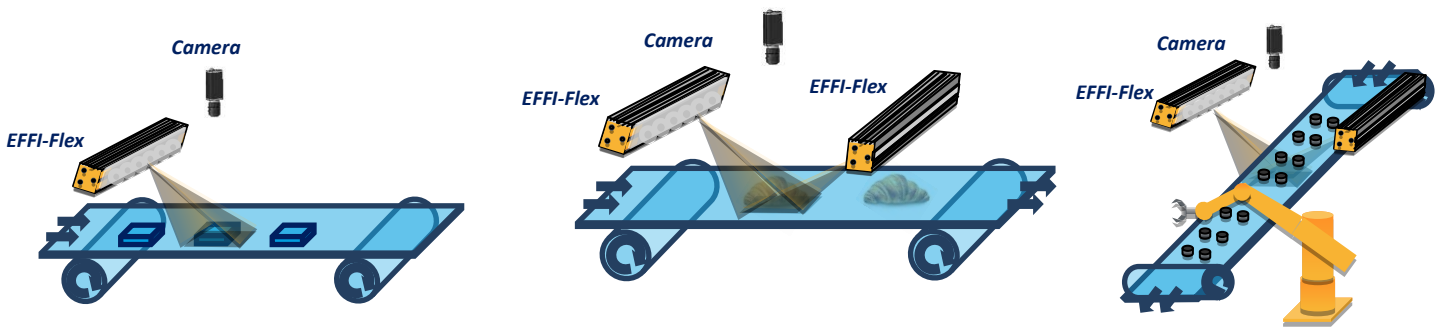
# High power LED bars

## EFFI-Flex

- **Intense and uniform** illuminated area
- **Standard** connections and fasteners
- **Flexible:**
  - **Adjustable** illumination angles (4 angles)
  - Different projection **windows** and **optical accessories**
- **Full range of colors:** from UV to IR, white
- **Long lifetime** and few maintenance



### APPLICATIONS:

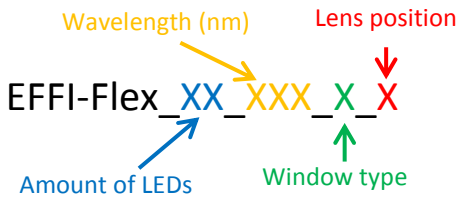


### OVERVIEW OF THE CHARACTERISTICS

<b>Electronics</b>	<i>Power supply</i>	24V DC
	<i>Illumination mode</i>	Continuous or strobe modes
	<i>Connectors</i>	M12 4 pins
	<i>Power consumption</i>	Depends on the amount of LEDs
<b>Optics</b>	<i>Wavelength</i>	Various wavelengths (from UV to IR, white)
	<i>Projection system</i>	4 possible output angles
	<i>Optical options</i>	Different output windows, diffusor and polarizer
<b>Mechanics</b>	<i>Width and height</i>	51mm x 49mm
	<i>Fastener</i>	2 rails: one on the back and one on the side
	<i>Material</i>	Device body : Aluminum alloy ; Window: Acrylic
<b>Environment</b>	<i>Working temperature</i>	0°C to 50°C
	<i>IP code</i>	IP40 (option IP54)

# TECHNICAL CHARACTERISTICS

## How to create the EFFI-Flex?



- Available wavelengths:
- White: **000**
  - Green: **525**
  - Red: **625**
  - Far Infrared: **850**
- Other wavelengths are available upon request

- Window type
- 1 – Diffusive
  - 2 – Transparent
  - 3 – Opalin
- Not specified : diffusive window

- Lens position
- 0 – No lens
  - 1 – Lower position
  - 2 – Middle position
  - 3 – Higher position
- Not specified : middle position

### Available options

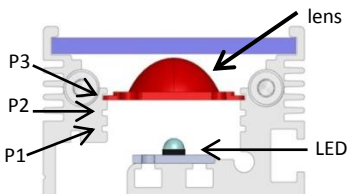
- Add ‘\_1/2’ to consider a LED every 40mm
- Add ‘\_ELS350’ to consider the linescan electronic configuration

Example: EFFI-Flex\_15\_000\_3\_3\_1/2\_ELS350

### Available accessories

- Flex-Linescan\_XX for linescan applications
- Flex-Polariser\_XX to polarize the light output

## How to use the EFFI-Flex



Position	Projection angle (°)
P0	90
P1	45
P2	25
P3	10



Unscrew the M4 screws on the side of the device



Slide the diffusing window

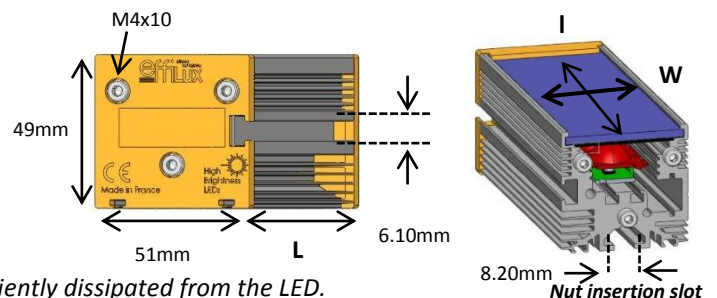
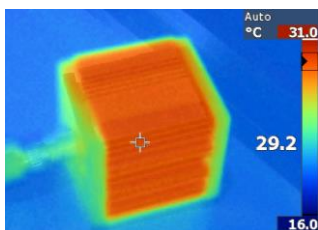


Slide the lens

## Mechanical considerations

Designation	Amount of LEDs	L (mm)	W x l (mm)	Amount of connectors
EFFI-Flex_1_XXX (spot)	1	55	45 x 35	1
EFFI-Flex_3_XXX	3	95	45 x 75	1
EFFI-Flex_5_XXX	5	135	45 x 115	1
EFFI-Flex_10_XXX	10	235	45 x 215	1
EFFI-Flex_15_XXX	15	335	45 x 315	1
EFFI-Flex_20_XXX	20	435	45 x 415	1
EFFI-Flex_25_XXX	25	535	45 x 515	1
EFFI-Flex_30_XXX	30	635	45 x 615	1
EFFI-Flex_40_XXX	40	835	45 x 815	1
EFFI-Flex_50_XXX	50	1035	45 x 1015	1
EFFI-Flex_60_XXX	60	1235	45 x 1215	1
EFFI-Flex_70_XXX	70	1435	45 x 1415	2
EFFI-Flex_80_XXX	80	1635	45 x 1615	2
EFFI-Flex_90_XXX	90	1835	45 x 1815	2

Designation	Amount of LEDs	L (mm)	W x l (mm)	Amount of connectors
EFFI-Flex_5_XXX_1/2	5	235	45 x 215	1
EFFI-Flex_10_XXX_1/2	10	435	45 x 415	1
EFFI-Flex_15_XXX_1/2	15	635	45 x 615	1
EFFI-Flex_20_XXX_1/2	20	835	45 x 815	1
EFFI-Flex_25_XXX_1/2	25	1035	45 x 1015	1
EFFI-Flex_30_XXX_1/2	30	1235	45 x 1215	1
EFFI-Flex_40_XXX_1/2	40	1635	45 x 1615	1
EFFI-Flex_50_XXX_1/2	50	2035	45 x 2015	1
EFFI-Flex_60_XXX_1/2	60	2435	45 x 2415	1
EFFI-Flex_70_XXX_1/2	70	2835	45 x 2815	2
EFFI-Flex_80_XXX_1/2	80	3235	45 x 3215	2
EFFI-Flex_90_XXX_1/2	90	3635	45 x 3615	2



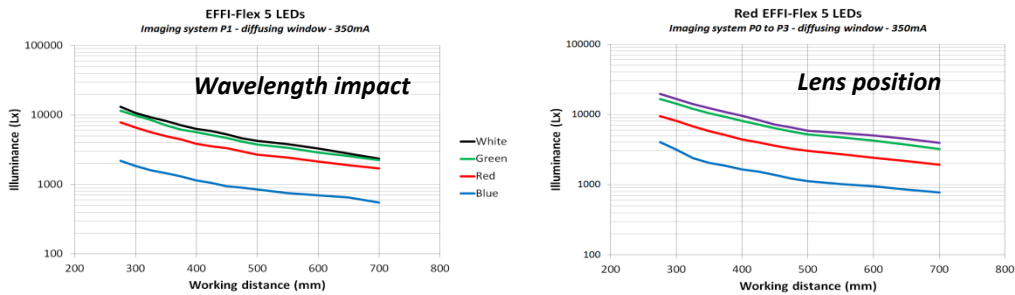
Thanks to its design, the heat is efficiently dissipated from the LED.

## Optical characteristics

### Characteristics of the projected pattern

	White 5 LEDs EFFI-Flex (diffusing window)		
	Illuminance (Lux)		Projection type
	500mm	1000mm	
P0	1500	600	Wide angle
P1	3000	950	Intermediate position
P2	4000	1100	Intermediate position
P3	10000	6300	Focused light configuration

### Evolution of the illuminance with the working distance for different configurations

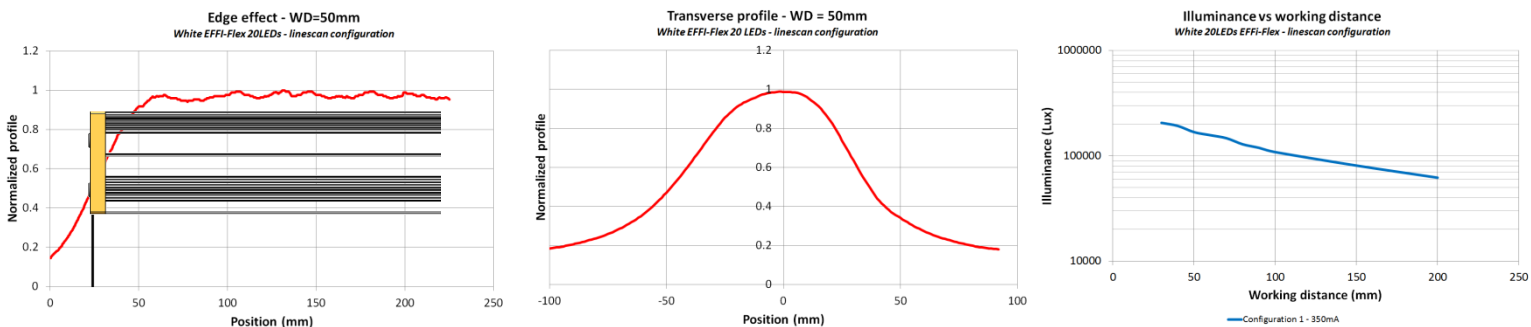


Complete details concerning the optical performances of the EFFI-Flex can be obtained upon request.

### Overview of the performances with optical accessories

#### Linescan configuration

Specific details concerning the linescan configuration can be found in the dedicated datasheet.

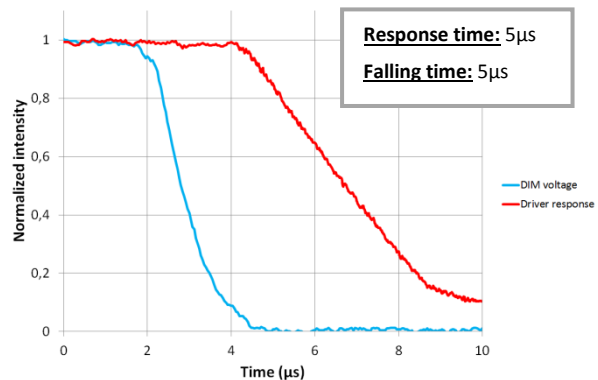
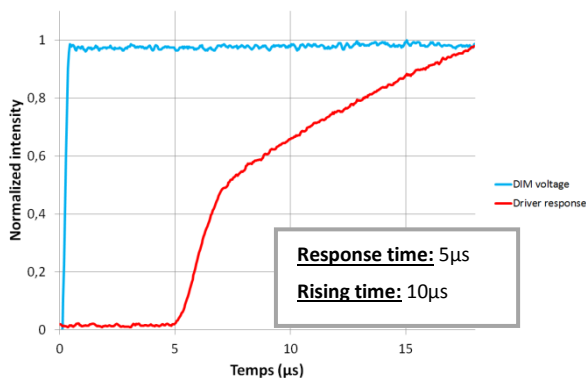
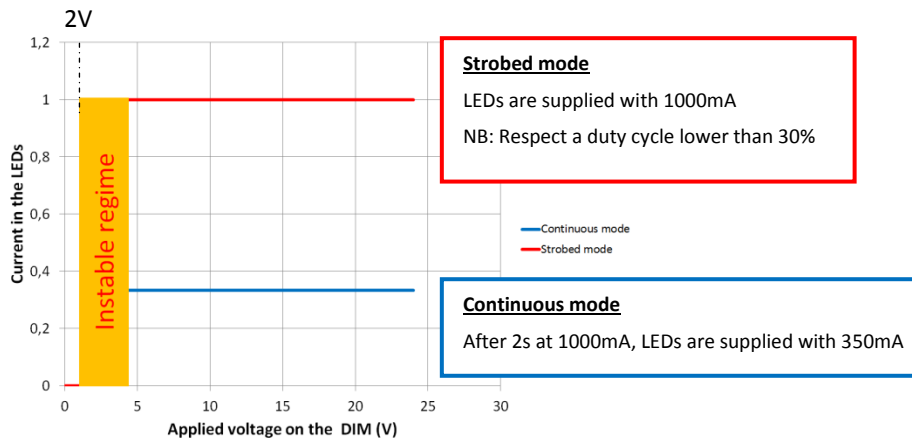
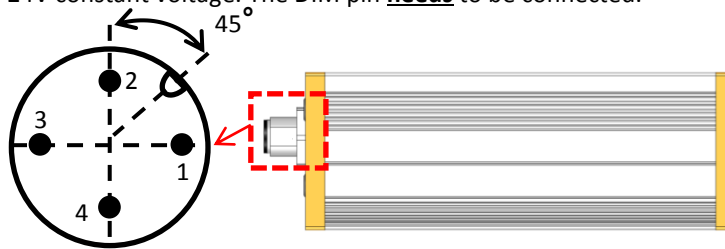


## Electrical characteristics

### Standard configuration

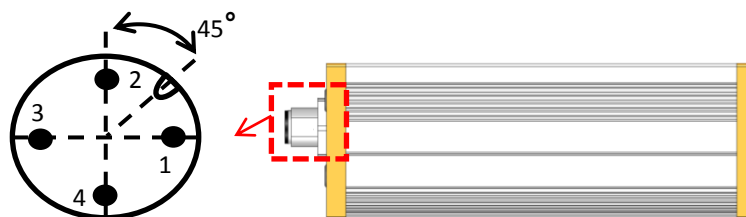
The EFFI-Flex is supplied with a 24V constant voltage. The DIM pin needs to be connected.

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



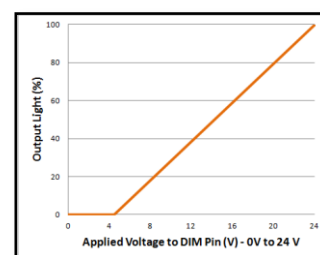
### Linescan configuration (ELS350)

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

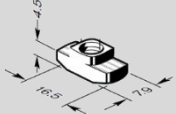
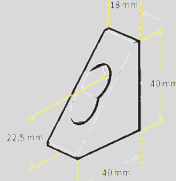
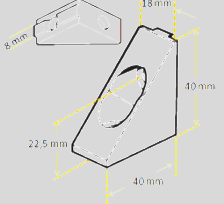
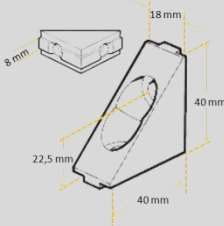
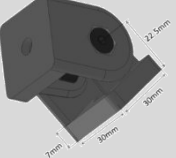


The EFFI-Flex, with a reference EFFI-Flex\_XX\_XXX\_ELS350, is supplied with a 24V constant voltage source. Using the DIM pin, the light intensity can be linearly decreased:

- 0V – OFF
- 24V – full ON



## Accessories

	EFFILUX reference	Description
Mechanics	EFFV-Bolt_0011	 <p>T-nut to insert in the slot – For M6 screw</p>
	EFFM_1_0017	 <p>Bracket to fasten the EFFI-BL (no ridge) <i>Delivered with 2 EFFV-Bolt_0011, 2 screws and 2 flat washers</i></p>
	EFFM_1_0019	 <p>Bracket to fasten the EFFI-BL (1 ridge) <i>Delivered with 2 EFFV-Bolt_0011, 2 screws and 2 flat washers</i></p>
	EFFM_1_0021	 <p>Bracket to fasten the EFFI-BL (2 ridges) <i>Delivered with 2 EFFV-Bolt_0011, 2 screws and 2 flat washers</i></p>
	EFFM_1_0002	 <p>Fastener used to simplify the projector integration (orientation) <i>Delivered with EFFV-Bolt_0011 and 2 M6x14 screws</i></p>
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
Optics	EFFO_0005	Optical sheet for linescan applications
	EFFO-Polariser_0003	Optical sheet to polarize the output light
	EFFO-Window1	Semi-diffuse output window
	EFFO-Window2	Transparent output window
	EFFO-Window3	Window for backlight applications



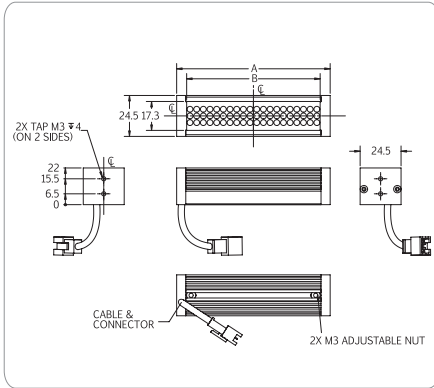
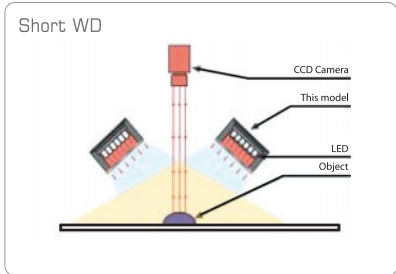
## LBRX 3 ROW SERIES

### SMD High Density, Rectangular Illumination

(for short working distance)

3 Row SMD LED with lens arrays are arranged in rectangular array to provide rectangular illumination. The rectangular illumination can be mounted with different angle to provide difference in illumination reflection for image processing. Optional diffuser can be added to all LBRX series for more even light distribution.

Application: general illumination, label inspection, character inspection, code recognition.



#### Technical Specification:

- Color Red, Green, Blue and White
- 24V DC Input Power
- Continuous and Strobe Applications
- Compact Size
- Lighting Cable 500mm

#### Customize Lighting:

- Customize Sizes, Mounting requirements
- Color and Voltage Available
- Consult Technical Sales for More Information

Model	Dimensions (MM)		Color	Voltage / Watt	Current
	A	B			
LBRX-00-040-3-X	52.0	40.0	● ● ●	24V / 0,79W 24V / 1,01W	33mA 42mA
LBRX-00-080-3-X	92.0	80.0	● ● ●	24V / 1,56W 24V / 2,02W	66mA 84mA
LBRX-00-120-3-X	132.0	120.0	● ● ●	24V / 2,38W 24V / 3,02W	99mA 126mA
LBRX-00-160-3-X	172.0	160.0	● ● ●	24V / 3,17W 24V / 4,03W	132mA 168mA
LBRX-00-200-3-X	212.0	200.0	● ● ●	24V / 3,96W 24V / 5,04W	165mA 210mA



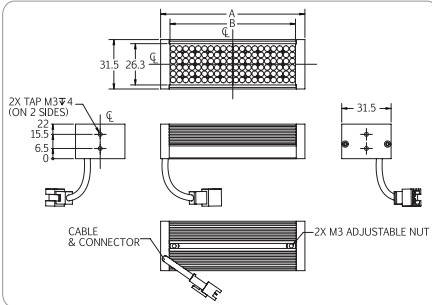
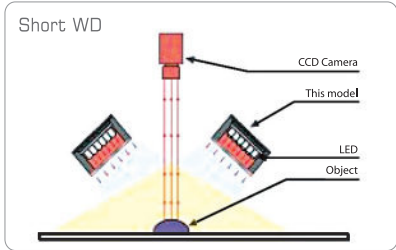
## LBRX 6 ROW SERIES

### SMD High Density, Rectangular Illumination

(for short working distance)

6 Row SMD LED with lens arrays are arranged in rectangular array to provide rectangular illumination. The rectangular illumination can be mounted with different angle to provide difference in illumination reflection for image processing. Optional diffuser can be added to all LBRX series for more even light distribution.

Application: general illumination, label inspection, character inspection, code recognition.



**Technical Specification:**

- Color Red, Green, Blue and White
- 24V DC Input Power
- Continuous and Strobe Applications
- Compact Size
- Lighting Cable 500mm

**Customize Lighting:**

- Customize Sizes, Mounting requirements
- Color and Voltage Available
- Consult: Technical Sales for More Information

Model	Dimensions (MM)		Color	Voltage / Watt	Current
	A	B			
LBRX-00-040-6-X	52.0	40.0	● ● ● ● ● ●	24V / 1.87W 24V / 1.73W	78mA 72mA
LBRX-00-080-6-X	92.0	80.0	● ● ● ● ● ●	24V / 3.74W 24V / 3.46W	156mA 144mA
LBRX-00-120-6-X	132.0	120.0	● ● ● ● ● ●	24V / 5.62W 24V / 5.18W	234mA 216mA
LBRX-00-160-6-X	172.0	160.0	● ● ● ● ● ●	24V / 7.49W 24V / 6.91W	312mA 288mA
LBRX-00-200-6-X	212.0	200.0	● ● ● ● ● ●	24V / 9.36W 24V / 8.64W	390mA 360mA