

LF1B Series

LED Illumination Units

LUMIFA™

Low heat generation.
Various illumination colors available.

Heat generation reduced by 70%*

Slim, space-saving design (only 16mm thick)

20% brighter*

Less power consumption
71% less CO₂ emission*

5 times longer life*

* Compared to 20W fluorescent lamps.

Illumination Colors and Application Examples

Illumination Color	White	Warm White	Yellow	Red
Power Voltage	24V DC			
Appearance	<div style="display: flex; justify-content: space-around;"> <div style="text-align: center;"> </div> <div style="text-align: center;"> </div> <div style="text-align: center;"> </div> <div style="text-align: center;"> </div> </div>			
Spectrum	<div style="display: flex; justify-content: space-around;"> </div>			
Features	Suppressing glare, the bright, clear white illumination color lights up a target object clearly. This illumination color gives off a color temperature of 5500K.	Warm color similar to that of incandescent lamps. This illumination color gives off a color temperature of 2800K.	Yellow illumination color gives off an emission spectrum with a dominant wavelength of 590 nm.	Red illumination color gives off an emission spectrum with a dominant wavelength of 625 nm.
Applications	<ul style="list-style-type: none"> Control panel Plant equipment Refrigerator/freezer Inspection/test equipment Advertising display/board Machine tool 	<ul style="list-style-type: none"> Food processing machines Cosmetic plants Chemical plants Showcases Food display cases 	<ul style="list-style-type: none"> Manufacturing equipment IC foundries 	<ul style="list-style-type: none"> Photosensitive materials Semiconductor manufacturing equipment Darkroom experiment

Features

- Small heat generation.
- Less energy usage, longer operation life, smaller mounting space, and no electrical noise.
- 71% reduction of power and CO₂ emission when compared to 20W fluorescent lamps (LF1B-C/D)
- Thin and slim style fits into compact spaces.
- Two cover colors: transparent and white (diffused light)
- White, warm white, yellow and red illumination colors available.
- IP54 protection against dust and water splash (IEC 60529)

Type No. Development

LF1B- C 3 S - 2 THWW4

<p>LED Module Arrangement</p> <p>A: 3 LEDs × 1 row B: 6 LEDs × 1 row C: 12 LEDs × 1 row D: 24 LEDs × 1 row</p>	<p>Rated Voltage</p> <p>2: 24V DC</p> <p>Degree of Protection</p> <p>S: IP54</p> <p>Cover</p> <p>3: Clear plastic 4: White plastic</p>	<p>LED Illumination Color</p> <p>THWW4: White TLWW4: Warm white SHY6: Yellow SHR6: Red</p>
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LED Optics Specifications

Illumination Color	White	Warm White	Yellow	Red
Luminous Intensity (typ.) (Single LED module)	5000 mcd	4500 mcd	2300 mcd	1800 mcd
Color Temperature (typ.)/Dominant Wavelength (typ.)	5500K	2800K	590 nm	625 nm
Reference Illuminance (typ.) at 500 mm (clear cover)	3 LEDs × 1 row 90 lx	6 LEDs × 1 row 170 lx	12 LEDs × 1 row 330 lx	24 LEDs × 1 row 560 lx
	6 LEDs × 1 row 170 lx	12 LEDs × 1 row 330 lx	24 LEDs × 1 row 560 lx	3 LEDs × 1 row 90 lx
	6 LEDs × 1 row 170 lx	12 LEDs × 1 row 330 lx	24 LEDs × 1 row 560 lx	6 LEDs × 1 row 170 lx
	12 LEDs × 1 row 330 lx	24 LEDs × 1 row 560 lx	3 LEDs × 1 row 90 lx	6 LEDs × 1 row 170 lx
	24 LEDs × 1 row 560 lx	3 LEDs × 1 row 90 lx	6 LEDs × 1 row 170 lx	12 LEDs × 1 row 330 lx

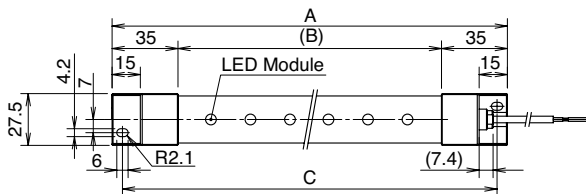
Note: LED modules and illumination units may vary in illumination colors and illuminance. Luminous intensity, color temperature, and illuminance shown in the above table are typical values.

Performance Specifications

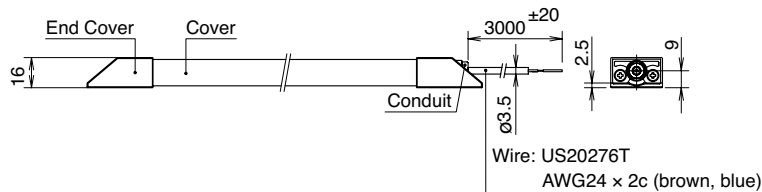
Rated Voltage	24V DC (non-polarized)	
Input Current (typ.) (at the rated voltage)	LF1B-A	30 mA
	LF1B-B	60 mA
	LF1B-C	120 mA
	LF1B-D	240 mA
Power Consumption (typ.) (at the rated voltage)	LF1B-A	0.8W
	LF1B-B	1.5W
	LF1B-C	2.9W
	LF1B-D	5.8W
Insulation Resistance	100 MΩ minimum (500V DC megger)	
Dielectric Strength	1000V AC, 1 minute (between live and dead parts)	
Vibration Resistance (damage limits)	Frequency: 5 to 55 Hz Amplitude: 0.5 mm	
Shock Resistance (damage limits)	1000 m/s ²	
Operating Temperature	-30 to +55°C (no freezing)	
Operating Humidity	45 to 85% RH (no condensation)	
Storage Temperature	-35 to +70°C (no freezing)	
Operating Atmosphere	No corrosive gas	
Life	40000 hours (The total illumination duration in which the luminance maintains a minimum of 70% of the initial value.)	
Degree of Protection	IP54	
Material	End cover, conduit: polyamide Cover: polycarbonate Wire: US20276T AWG24 × 2C	
Weight (approx.)	LF1B-A	95g
	LF1B-B	125g
	LF1B-C	165g
	LF1B-D	255g

- Do not use the LF1B illumination units in environment subject to corrosive gases, otherwise illuminance may deteriorate.

Dimensions

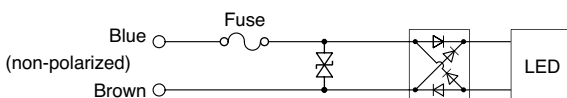


Type No.	A	B	C
LF1B-A	134	64	123
LF1B-B	210	140	199
LF1B-C	330	260	319
LF1B-D	580	510	569



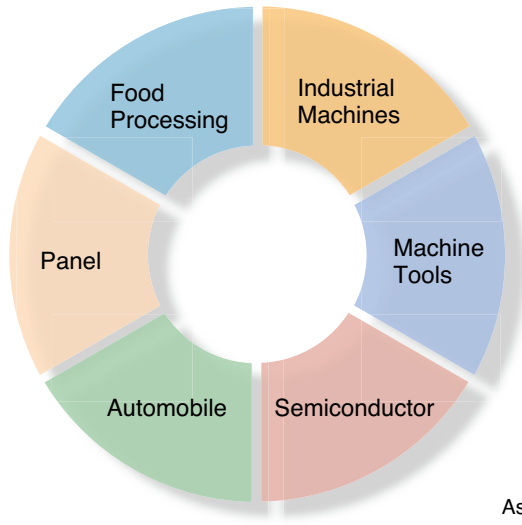
All dimensions in mm.

Internal Circuit

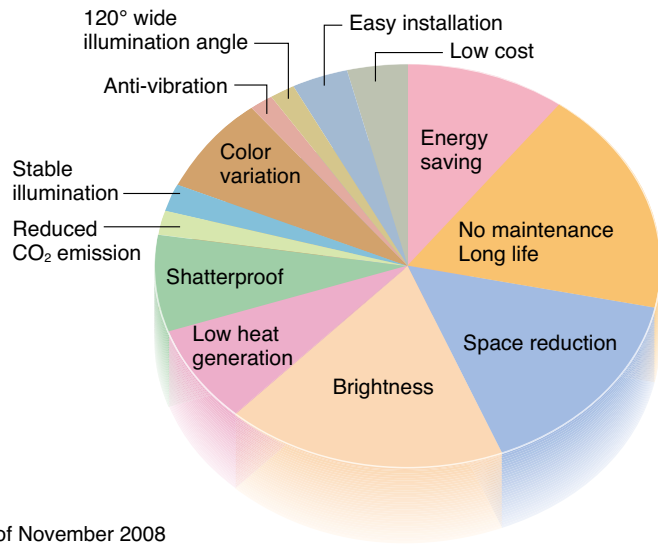


IDEC LED Illumination Units Applications

Industries using Lumifa



Why users are choosing Lumifa?



As of November 2008

LF1A Series LED Illumination Units



• **LF1A**
White, warm white, red, and yellow illumination colors. IP40 protection.



• **LF1A-D2F**
Waterproof, dust proof, and oil proof. (IP67 protection)



• **LF9Z-1M (Adjustable Support)**
Adjustable mounting angle 0° to 90° in 10° increments.

Specifications and other descriptions in this catalog are subject to change without notice.



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