

Think Automation and beyond...



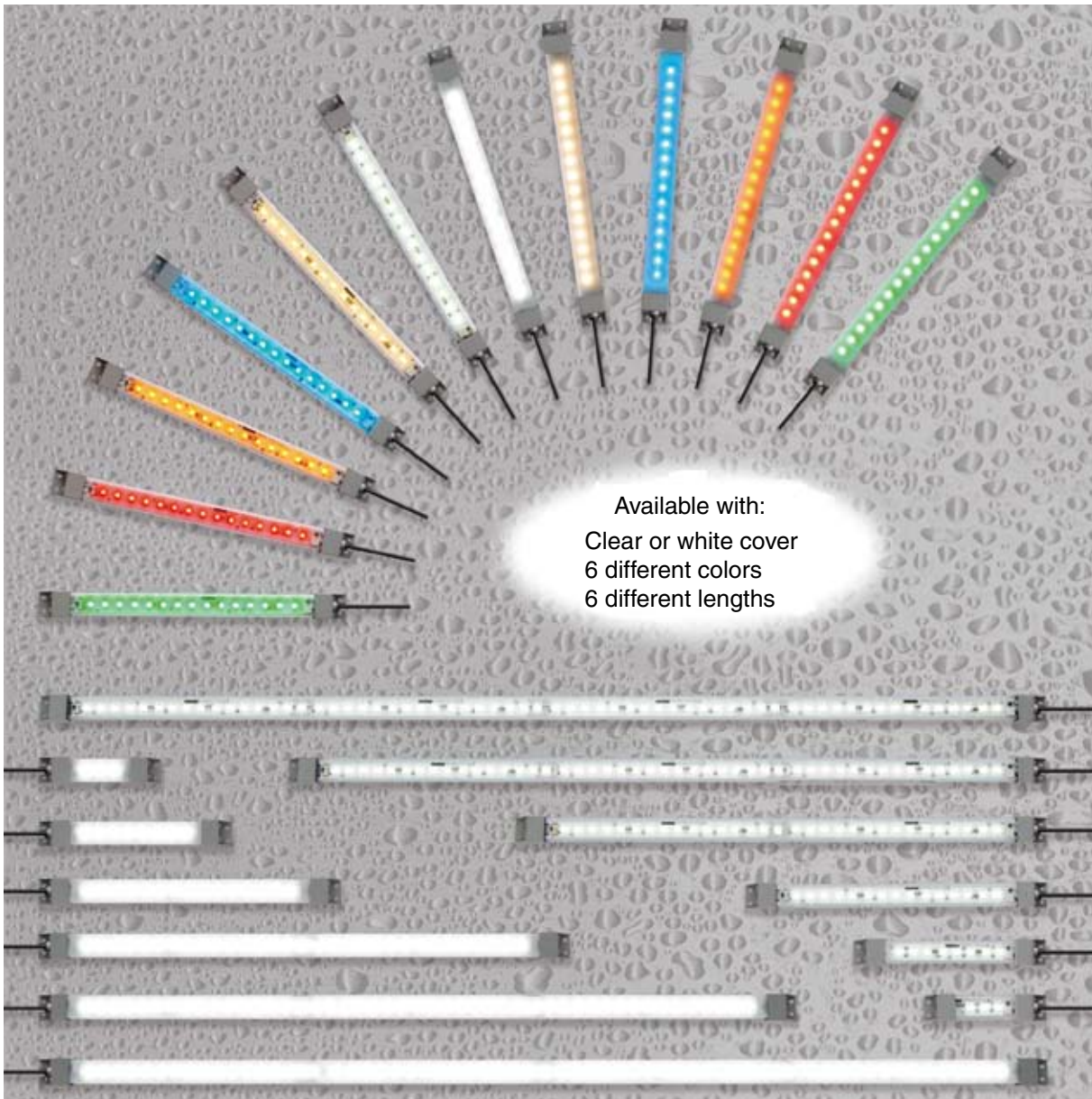
LUMIFA™



LF1B-N LED Illumination Units

IP65 (waterproof, dustproof) slim style.

Ideal for installing in small areas subject to splashing water.



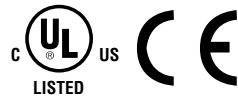
IDEC CORPORATION

LF1B-N LED Illumination Units

Thin and slim styles fit into compact spaces.

IP65 (waterproof, dustproof). 6 different lengths and 6 distinct colors.

- Compact design (27.5mm wide, 16mm high, and 134 to 1,080mm long) fits into narrow spaces.
- Improved brightness with white illumination color.
- White, warm white, yellow, red, blue, and green illumination colors.
- Two cover colors: clear and white.



Part Numbers

| Illumination Color | | White | Warm White | Yellow | Red | Blue | Green |
|--------------------|-------------|--|---|---|--|---|------------------|
| Appearance | Clear cover | | | | | | |
| | White cover | | | | | | |
| LF1B-NA (134mm) | Clear cover | LF1B-NA3P-2THWW2* | LF1B-NA3P-2TLWW2* | LF1B-NA3P-2SHY2* | LF1B-NA3P-2SHR2* | LF1B-NA3P-2THS2* | LF1B-NA3P-2SHG2* |
| | White cover | LF1B-NA4P-2THWW2* | LF1B-NA4P-2TLWW2* | LF1B-NA4P-2SHY2* | LF1B-NA4P-2SHR2* | LF1B-NA4P-2THS2* | LF1B-NA4P-2SHG2* |
| LF1B-NB (210mm) | Clear cover | LF1B-NB3P-2THWW2* | LF1B-NB3P-2TLWW2* | LF1B-NB3P-2SHY2* | LF1B-NB3P-2SHR2* | LF1B-NB3P-2THS2* | LF1B-NB3P-2SHG2* |
| | White cover | LF1B-NB4P-2THWW2* | LF1B-NB4P-2TLWW2* | LF1B-NB4P-2SHY2* | LF1B-NB4P-2SHR2* | LF1B-NB4P-2THS2* | LF1B-NB4P-2SHG2* |
| LF1B-NC (330mm) | Clear cover | LF1B-NC3P-2THWW2* | LF1B-NC3P-2TLWW2* | LF1B-NC3P-2SHY2* | LF1B-NC3P-2SHR2* | LF1B-NC3P-2THS2* | LF1B-NC3P-2SHG2* |
| | White cover | LF1B-NC4P-2THWW2* | LF1B-NC4P-2TLWW2* | LF1B-NC4P-2SHY2* | LF1B-NC4P-2SHR2* | LF1B-NC4P-2THS2* | LF1B-NC4P-2SHG2* |
| LF1B-ND (580mm) | Clear cover | LF1B-ND3P-2THWW2* | LF1B-ND3P-2TLWW2* | LF1B-ND3P-2SHY2* | LF1B-ND3P-2SHR2* | LF1B-ND3P-2THS2* | LF1B-ND3P-2SHG2* |
| | White cover | LF1B-ND4P-2THWW2* | LF1B-ND4P-2TLWW2* | LF1B-ND4P-2SHY2* | LF1B-ND4P-2SHR2* | LF1B-ND4P-2THS2* | LF1B-ND4P-2SHG2* |
| LF1B-NE (830mm) | Clear cover | LF1B-NE3P-2THWW2* | LF1B-NE3P-2TLWW2* | LF1B-NE3P-2SHY2* | LF1B-NE3P-2SHR2* | LF1B-NE3P-2THS2* | LF1B-NE3P-2SHG2* |
| | White cover | LF1B-NE4P-2THWW2* | LF1B-NE4P-2TLWW2* | LF1B-NE4P-2SHY2* | LF1B-NE4P-2SHR2* | LF1B-NE4P-2THS2* | LF1B-NE4P-2SHG2* |
| LF1B-NF (1,080mm) | Clear cover | LF1B-NF3P-2THWW2* | LF1B-NF3P-2TLWW2* | LF1B-NF3P-2SHY2* | LF1B-NF3P-2SHR2* | LF1B-NF3P-2THS2* | LF1B-NF3P-2SHG2* |
| | White cover | LF1B-NF4P-2THWW2* | LF1B-NF4P-2TLWW2* | LF1B-NF4P-2SHY2* | LF1B-NF4P-2SHR2* | LF1B-NF4P-2THS2* | LF1B-NF4P-2SHG2* |
| Application | | <ul style="list-style-type: none"> • Machine tools • Plant equipment • Inspection/test equipment • Control panel | <ul style="list-style-type: none"> • Food processing machines • Cosmetic plants • Chemical plants • Showcases | <ul style="list-style-type: none"> • Semiconductor manufacturing equipment • IC foundries | <ul style="list-style-type: none"> • Photosensitive materials • Semiconductor manufacturing equipment • Darkroom experiment | <ul style="list-style-type: none"> • Sign • Light ornaments | |

* Specify cable length in place of * in part number. 1M: 1m, 3M: 3m

Part Number Development

LF1B - NC3P - 2THWW2 - 1M

| | | | |
|--|----------------------|---|---------------------|
| Length | Cover | Illumination color | Cable length |
| A: 134mm B: 210mm C: 330mm D: 580mm E: 830mm F: 1,080mm | 3: Clear 4: White | THWW2: White TLWW2: Warm white SHY2: Yellow SHR2: Red THS2: Blue SHG2: Green | 1M: 1m 3M: 3m |

Specifications

| Part Number | | LF1B-NA (134mm) | LF1B-NB (210mm) | LF1B-NC (330mm) | LF1B-ND (580mm) | LF1B-NE (830mm) | LF1B-NF (1,080mm) |
|--|--|--------------------|--------------------|--------------------|--------------------|---|----------------------|
| Rated Voltage | 24V DC (operating voltage range: 21.6 to 26.4V) | | | | | | |
| Input Current (typ.) (at the rated current) | white/warm white/ blue | 60mA | 120mA | 180mA | 360mA | 540mA | 720mA |
| | red/yellow/green | 40mA | 80mA | 120mA | 240mA | 360mA | 480mA |
| Power Consumption (typ.) (at the rated voltage) | white/warm white/ blue | 1.5W | 2.9W | 4.4W | 8.7W | 13.0W | 17.3W |
| | red/yellow/green | 1.0W | 2.0W | 2.9W | 5.8W | 8.7W | 11.6W |
| Insulation Resistance | 100MΩ minimum (500V DC megger) | | | | | | |
| Dielectric Strength | 1,000V AC, 1 minute (between live and dead parts) | | | | | | |
| Vibration Resistance (damage limits) | Frequency: 5 to 55 Hz, Amplitude 0.5mm Acceleration 60m/s ² , 2 hours each in 3 axes | | | | | Frequency: 5 to 55 Hz, Amplitude 0.17mm Acceleration 20m/s ² , 2 hours each in 3 axes | |
| Shock Resistance (damage limits) | 1,000m/s ² , 5 shocks each in 6 axes | | | | | 300m/s ² , 5 shocks each in 6 axes | |
| Operating Temperature | -30 to +50°C (no freezing) | | | | | | |
| Operating Humidity | 45 to 85% RH (no condensation) | | | | | | |
| Storage Temperature | -30 to +70°C (no freezing) | | | | | | |
| Operating Atmosphere | No corrosive gases | | | | | | |
| Life (Note) | 40,000 hours (Ta = 25°C) (The total illumination life in which the illuminance maintains a minimum of 70% of the initial value.) | | | | | | |
| Degree of Protection | IP65 (IEC 60529) | | | | | | |
| Material | Cover: polycarbonate, End cover/cable gland: polyamide, Wire: PVC (24AWG × 2C) | | | | | | |
| Weight (approx.) | | 95g | 125g | 165g | 255g | 430g | 740g |

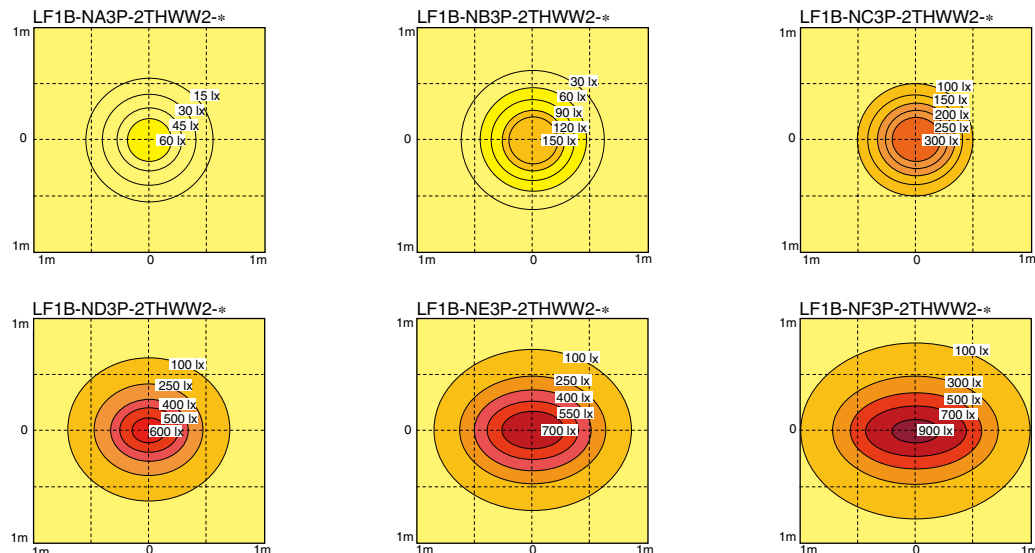
Note: LED life depends on the operating environment.

LED Optical Specifications

| Illumination Color | | White | Warm White | Yellow | Red | Green | Blue |
|--|---------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|------------------------------|
| Color Temperature/ Dominant Wavelength (typ.) | | 5,500K | 2,900K | 590nm | 620nm | 525nm | 455nm |
| Reference Illuminance (typ.) at 0.5m directly below | LF1B-NA | Clear: 90 lx White: 80 lx | Clear: 60 lx White: 55 lx | Clear: 20 lx White: 18 lx | Clear: 20 lx White: 18 lx | Clear: 30 lx White: 27 lx | Clear: 10 lx White: 9 lx |
| | LF1B-NB | Clear: 220 lx White: 200 lx | Clear: 145 lx White: 130 lx | Clear: 40 lx White: 36 lx | Clear: 40 lx White: 36 lx | Clear: 60 lx White: 55 lx | Clear: 20 lx White: 18 lx |
| | LF1B-NC | Clear: 400 lx White: 360 lx | Clear: 250 lx White: 225 lx | Clear: 75 lx White: 65 lx | Clear: 75 lx White: 65 lx | Clear: 110 lx White: 100 lx | Clear: 30 lx White: 27 lx |
| | LF1B-ND | Clear: 660 lx White: 600 lx | Clear: 455 lx White: 410 lx | Clear: 125 lx White: 110 lx | Clear: 125 lx White: 110 lx | Clear: 190 lx White: 170 lx | Clear: 50 lx White: 45 lx |
| | LF1B-NE | Clear: 820 lx White: 740 lx | Clear: 560 lx White: 500 lx | Clear: 160 lx White: 145 lx | Clear: 160 lx White: 145 lx | Clear: 260 lx White: 235 lx | Clear: 60 lx White: 55 lx |
| | LF1B-NF | Clear: 935 lx White: 850 lx | Clear: 620 lx White: 555 lx | Clear: 180 lx White: 160 lx | Clear: 180 lx White: 160 lx | Clear: 300 lx White: 270 lx | Clear: 80 lx White: 70 lx |

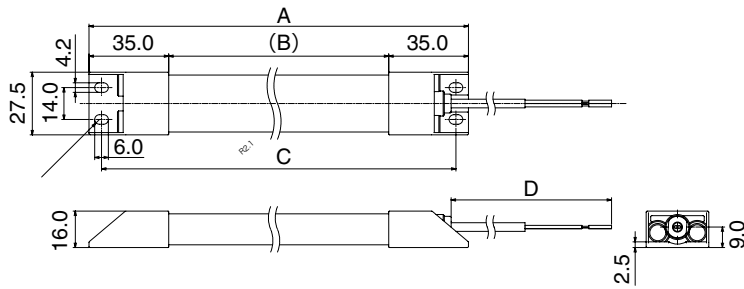
• LED modules and illumination units may vary in illumination colors and illuminance.

Illuminance Distribution at 0.5m (reference value)



LF1B-N LED Illumination Units

Dimensions

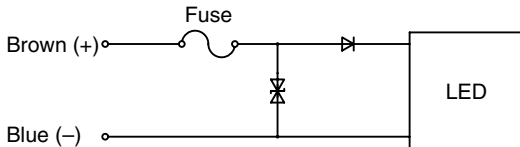


| Part Number | A | B | C |
|-------------|-------|-------|-------|
| LF1B-NA | 134 | 64 | 123 |
| LF1B-NB | 210 | 140 | 199 |
| LF1B-NC | 330 | 260 | 319 |
| LF1B-ND | 580 | 510 | 569 |
| LF1B-NE | 830 | 760 | 819 |
| LF1B-NF | 1,080 | 1,010 | 1,069 |

| Part Number | D |
|---------------|-------|
| LF1B-N*-2*-1M | 1,000 |
| LF1B-N*-2*-3M | 3,000 |

All dimensions in mm.

Internal Circuit



Safety Precautions

- Do not disassemble, repair, or modify the LF1B-N. Otherwise electric shock, fire, or malfunction may occur.
- Turn off power before wiring. Make sure of correct wiring, otherwise electric shock or damage may result.
- Do not stare directly into the LF1B-N unit while it is lit, and do not project the light to other people, otherwise eyes may be injured.
- The LF1B-N is a general-purpose industrial electric device. Do not use for electronic equipment which may damage the human body or threaten life in case a malfunction or failure occurs.

Instructions

- LED modules may vary in illumination colors and illuminance.
- Before designing equipment and powering up illumination units, confirm the specifications described in the instruction sheet.
- Apply voltage within the rated value, otherwise the LED elements may be damaged.
- The illumination unit is vulnerable to static electricity. Take sufficient measure for protection against static electricity and voltage surges.
- Make sure that the illumination unit does not fall during transportation, installation, and operation, otherwise damage may result.
- Do not pull or push the cable of the illumination unit, otherwise damage may result. Allow sufficient slack to the cable while wiring.
- Do not apply excessive force. Do not leave a damaged illumination unit unattended or use a damaged illumination unit.
- Ensure the correct operating temperature. Otherwise internal temperature rise may result in damage.
- Do not use or store in a place subjected to vibration and shock.
- Do not use in the following places:
 - * Exposed to direct sunlight, near heaters, high temperatures
 - * Subject to chemicals, and corrosive gases (Plastic illumination surface types: Iron powder and oil)
 - * Basements, greenhouses, or other humid places
 - * Cold storage warehouses (make sure that no freezing occurs)
- Do not loosen screws, otherwise the protection characteristics will be impaired.
- To clean the cover, use a soft cloth with water or neutral detergent. Do not use solvents such as thinners, benzene, or alkaline, otherwise discoloration, deterioration, or decrease in strength may occur.
- The edge of the cable sheath is not waterproof construction. Water may invade the LF1B in a capillary action when water splashes directly onto the cable sheath.

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



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