# IDEC

*Think Automation and beyond...*

# IDEC *LUMIFA*
## *LED Illumination for Industrial Automation*

# LUMIFA

## Lighting your way

For over two decades, IDEC has been producing LEDs for applications requiring indicator lights and signaling towers. In 1999, IDEC received an award for Excellence in Energy Conservation Equipment for LED display development. Now, new LUMIFA LED light strips represent the future of brighter, longer-lasting and environmentally-friendly lighting sources. LUMIFA series offers:

- **Bright**: 65.3 Lumens/Watt (LUMIFA Series average)

- **Long Lasting:** 70% of Initial Luminance at 50,000 Hrs

- **Efficient:** 1/3 the energy of Fluorescent Tubes

- **Compact:** Width as narrow as 27.5mm

- **Safe:** RoHS Compliant, IP67f degree of protection (dust, water and oil tight)

- **Variety of Colors:** Cool White, Warm White, Red, and Yellow

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## Brightest in the Industry

Our innovative Heat Dissipation Technology integrated with our core LED design enables IDEC LUMIFA light strips to emit only the highest quality light. The LUMIFA series is brightest in the industry, producing an average of 65.3 Lumens/Watt.

Lumens/Watt chart: IDEC LUMIFA ~62, Industry Avg ~37
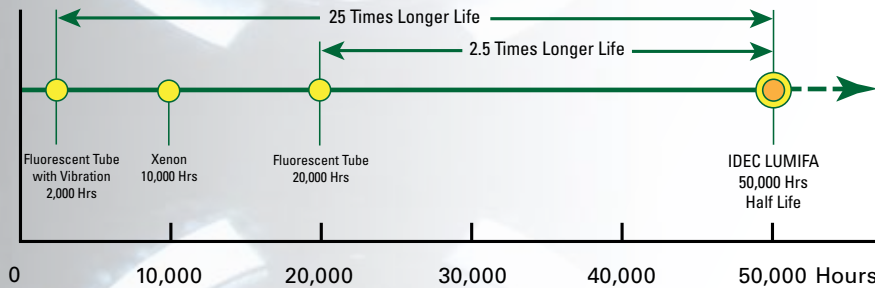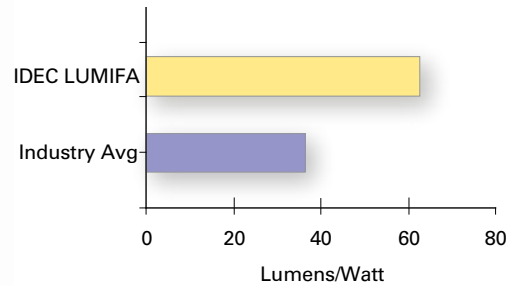
## Heat Dissipation Technology

In a LED, only 20% of the energy converts into light while 80% is lost in the form of heat. For that reason, proper heat management is critical. IDEC Heat Dissipation Technology (patent pending) uses dissipation pins to transfer heat generated in the LED chip to a heat dissipation plate. This minimizes the buildup of heat in the LED element and results in a longer-lasting LED.

Lifespan timeline:
- Fluorescent Tube with Vibration 2,000 Hrs
- Xenon 10,000 Hrs
- Fluorescent Tube 20,000 Hrs
- IDEC LUMIFA 50,000 Hrs Half Life
- 25 Times Longer Life
- 2.5 Times Longer Life

## Environmentally-friendly

LUMIFA LEDs are made from non-toxic materials and produce 71% less $CO_2$ emissions compared with a 20W/25W fluorescent tube. LUMIFA are also ideal for green applications such as solar panels, which have a low power requirement and can't support the energy necessary for fluorescent bulbs.
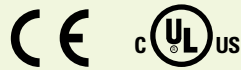
$CO_2$ chart:
- 25W Fluorescent tube: 22.5kg
- IDEC LF1A: 6.48kg
- 20W Fluorescent tube: 18.0kg
- IDEC LF1B: 5.22kg

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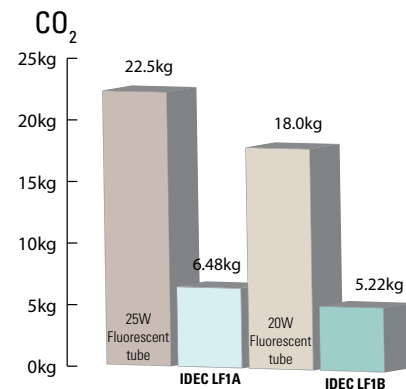
# LUMIFA LF1A

## LF1A Series (IP40)

LF1A LED strips use super-bright multi-chip LEDs providing illumination equivalent to a 25W fluorescent lamp, while consuming only one-third the power. They come in a thin housing available in three sizes with four color configurations: cool white (5500K), warm white (2800K), yellow (590nm) and red (625nm).

- Brightness: 66.6 Lumens/Watt
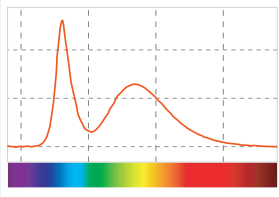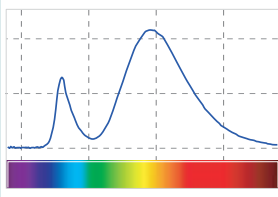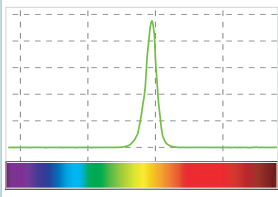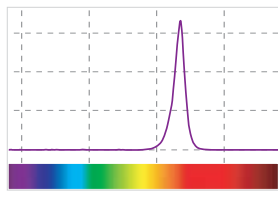- Energy saving: One-third of fluorescent lamps
- Long life: 40,000 Hrs (Half-life)
- UL Listed
- RoHS Compliant

CE   c(UL)us

| Color | Cool White | Warm White | Yellow | Red |
|---|---|---|---|---|
| Part No. | LF1A-*-2THWW6 | LF1A-*-2TLWW6 | LF1A-*-2SHY8 | LF1A-*-2SHR8 |
| Appearance | | | | |
| Spectrum | | | | |

### LF1A Series LED Optical Specifications

| Part No. | | LF1A-*-2THWW6 | LF1A-*-2TLWW6 | LF1A-*-2SHY8 | LF1A-*-2SHR8 |
|---|---|---|---|---|---|
| Illumination Color | | Cool White | Warm White | Yellow | Red |
| Luminous Intensity (Single LED module) | | 6000mcd | 4000mcd | 4000mcd | 2500mcd |
| Color Temperature / Dominant Wavelength | | 5500K | 2800K | 590nm | 625nm |
| Reference Illuminance at 0.5m | LED Array 3 x 2 | 190lx | 130lx | 130lx | 85lx |
| | LED Array 6 x 2 | 380lx | 260lx | 260lx | 170lx |
| | LED Array 12 x 2 | 760lx | 520lx | 520lx | 340lx |

### LF1A Series General Specifications

| Part No. | | LF1A-*-2THWW6 | LF1A-*-2TLWW6 | LF1A-*-2SHY8 | LF1A-*-2SHR8 |
|---|---|---|---|---|---|
| Rated Voltage | | 24V DC (non-polarized) | | | |
| Input Current (at rated voltage) | LED Array 3 x 2 | 75mA | | 90mA | |
| | LED Array 6 x 2 | 150mA | | 180mA | |
| | LED Array 12 x 2 | 300mA | | 360mA | |
| Rated Power (at rated voltage) | LED Array 3 x 2 | 1.8W | | 2.2W | |
| | LED Array 6 x 2 | 3.6W | | 4.4W | |
| | LED Array 12 x 2 | 7.2W | | 8.7W | |

*LED Array A1 = 3x2 , B1 = 6x2, D1 = 12x2

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## Light Distribution at 0.5m LF1A-D1-THWW6 (Cool White)

(lx)

750
700
500
300
100
0

-750  -500  -250  0  250  500  750  (mm)
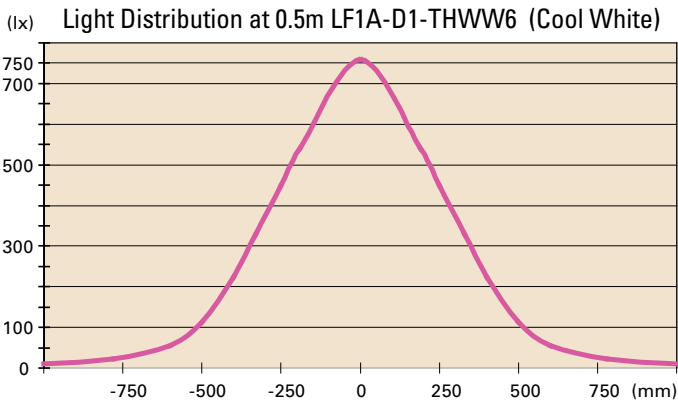
## Illuminance Chart LF1A-D1-2THWW6

1000
500
0
500

5lx
10lx
20lx
50lx
100lx
200lx
300lx
400lx
500lx

1000  500  0  500  1000(mm)
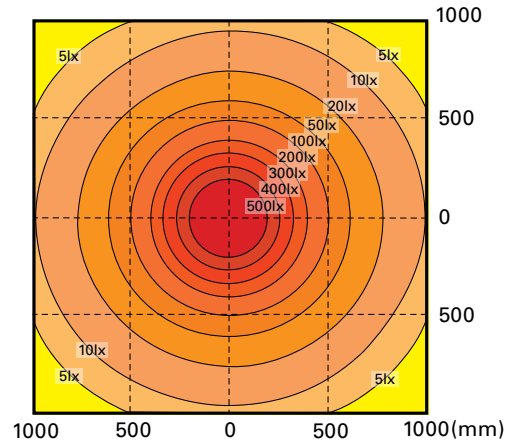
# LF1A-D2F Series (IP67f)

An internal waterproof gasket and transparent panel with thick reinforced glass make LF1A-D2F LED light strips perfect for use in a manufacturing line or outdoors where they might be immersed or sprayed with water or oil. These light strips are IP67f rated as water, dust and oil resistant.
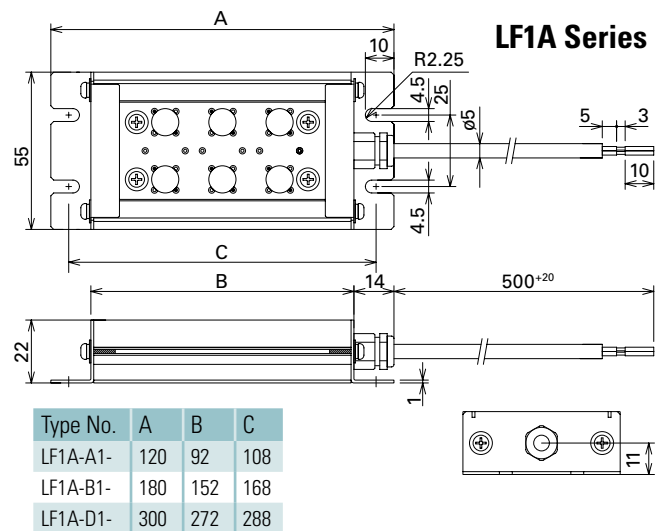
**Note:** LF1A-D2F is not UL Listed

## LF1A-D2F LED Optical Specifications

| Illumination Color | Cool White |
| --- | --- |
| Chromaticity Coordinate Value | X: 033,Y: 0.33 |
| Luminous Intensity | 6000mcd |
| Color Temperature | 5500K |
| Reference Illuminance at 500mm | 600lx |

## LF1A-D2F General Specifications

| Rated Voltage | 24V DC (non-polarized) |
| --- | --- |
| Input Current | 300mA (at rated voltage) |
| Rated Power | 7.2W (at rated voltage) |
| Half Life | 40,000 Hours |

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## LF1A-D2F

5000±50  3  10
3.5
24
8
27
91  88  74
231
247
217
2
4-ø5.5

All dimensions in mm

## LF1A Series

A
10
R2.25
4.5  25  ø5
55
C
5  3
10
4.5
B  14  500+20
22
1

| Type No. | A | B | C |
| --- | --- | --- | --- |
| LF1A-A1- | 120 | 92 | 108 |
| LF1A-B1- | 180 | 152 | 168 |
| LF1A-D1- | 300 | 272 | 288 |

All dimensions in mm

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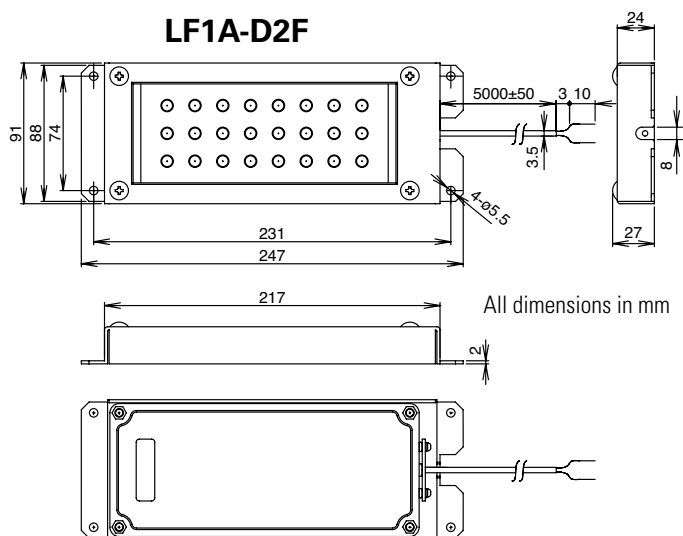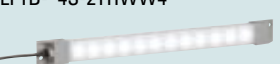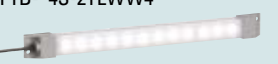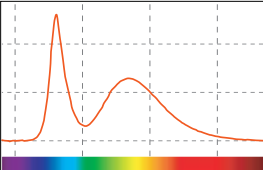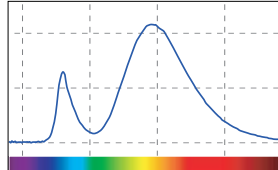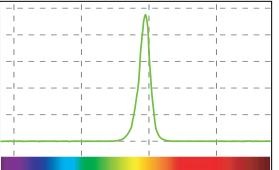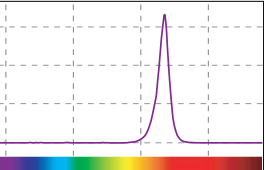
# LUMIFA LF1B

## LF1B Series (IP54)

LF1B miniature LED light strips are enclosed in a thin light strip, and are available in four sizes with a choice of two covers (clear or white).

- Brightness: 62.5 Lumens/Watt
- Space saving: Width 27.5mm; Thickness 16mm
- Four lengths to choose from
- Long life: 70% of initial luminance at 40,000 Hrs
- UL Listed
- RoHS Compliant

| Color | | Cool White | Warm White | Yellow | Red |
|---|---|---|---|---|---|
| Appearance | Clear Cover | LF1B-*3S-2THWW4 | LF1B-*3S-2TLWW4 | LF1B-*3S-SHY6 | LF1B-*3S-SHR6 |
| | White Cover | LF1B-*4S-2THWW4 | LF1B-*4S-2TLWW4 | LF1B-*4S-SHY6 | LF1B-*4S-SHR6 |
| Spectrum | | | | | |

### LF1B LED Optical Specifications

| Color | | Cool White | Warm White | Yellow | Red |
|---|---|---|---|---|---|
| Luminous Intensity (Single LED module) | | 5000mcd | 4500mcd | 2300mcd | 1800mcd |
| Color Temperature /Dominant Wavelength | | 5500K | 2800K | 590nm | 625nm |
| Reference Illuminance at 0.5m (clear cover) | LED Array 3 x 1 | 90lx | 60lx | 20lx | 20lx |
| | LED Array 6 x 1 | 170lx | 110lx | 40lx | 40lx |
| | LED Array 12 x 1 | 330lx | 200lx | 75lx | 75lx |
| | LED Array 24 x 1 | 560lx | 350lx | 125lx | 125lx |

*LED Array A = 3 x 1 , B = 6 x 1, C = 12 x 1, D = 24 x 1

### LF1B Series General Specifications

| Part No. | LF1B-A (LED Array 3x1) | LF1B-B (LED Array 6x1) | LF1B-C (LED Array 12x1) | LF1B-D (LED Array 24x1) |
|---|---|---|---|---|
| Rated Voltage | 24V DC (non-polarized) | | | |
| Input Current (at the rated voltage) | 30mA | 60mA | 120mA | 240mA |
| Rated Power (at the rated voltage) | 0.8W | 1.5W | 2.9W | 5.8W |
| Vibration Resistance | Frequency: 5 to 55 Hz, Amplitude: 0.5mm | | | |

## Illuminance Chart LF1B-D3S-2THWW4 (Cool White)
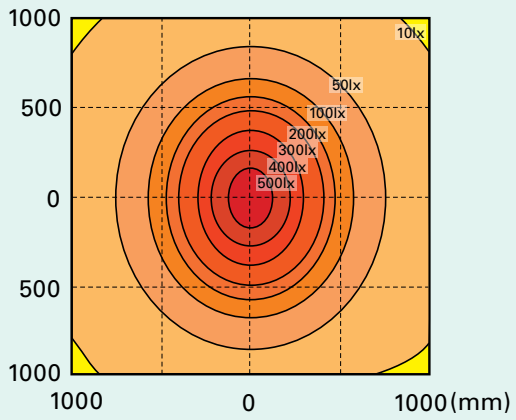


## Light Distribution at 0.5m LF1B-D3S-2THWW4
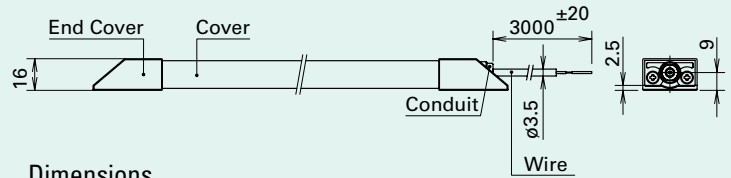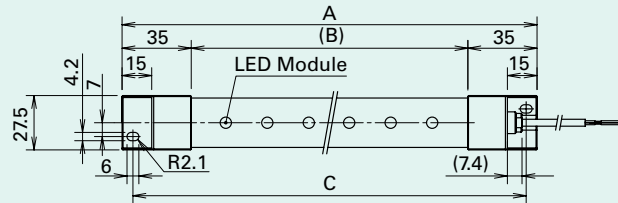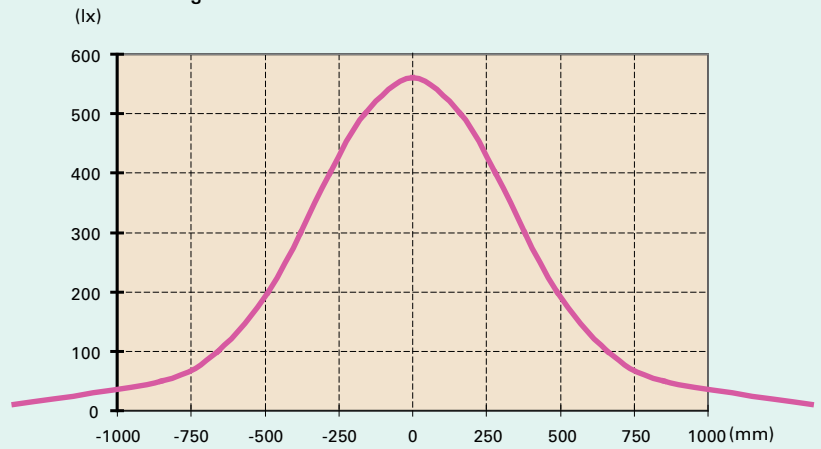




### Dimensions

| Model | 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

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# LUMIFA LF1D

## LF1D Series (IP67, IP67f)

LF1D LED units are the brightest in their class with the ability to target illumination with accuracy and making them ideal for machine tools. Offered as a wide or slim-type, these LED units provide high brilliance at the center and periphery.

- Brightness: Slim: 66.6 Lumens/Watt
             Wide: 67.2 Lumens/Watt
- Life: 70% of initial luminance at 50,000 Hrs
- IP67 (Polycarbonate lens) or IP67f (Reinforced glass lens)
- UL Pending
- RoHS Compliant

CE

### LF1D LED Optical Specifications

| Type | Slim | Wide |
|---|---|---|
| Illumination Color | Cool White | |
| Total Luminous Flux | 600lm | 840lm |
| Color Temperature | 5700K | |
| Reference Illuminance at 1.0m | 1100lx | |

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

### LF1D General Specifications

| Type | Slim | Wide |
|---|---|---|
| Rated Voltage | 24V DC | |
| Voltage Range | 21.6 to 26.4V DC | |
| Rated Power (typ.) | 9W | 12.5W |
| Dielectric Strength | 1000V AC, 50/60Hz, 1 minute | |
| Vibration Resistance (damage limits) | Frequency 5 to 55Hz, amplitude 0.5mm | |
| Shock Resistance (damage limits) | $1000m/s^2$ | |
| Life (Note 1) | 50,000 hours (The illumination duration in which the illuminance maintains a minimum of 70% of the initial value at $25^0$C.) | |
| Material | Housing:    Diecast aluminum<br>Front cover: Stainless steel<br>Lens:        Reinforced glass or polycarbonate (Note 2) | |

Note 1: LED life depends on the operating environment.
Note 2: The reinforced glass and polycarbonate lenses have the same appearance, but have different degrees of protection (IP67f or IP67).

Polycarbonate Lens or Reinforced glass

Stainless steel

Diecast aluminum
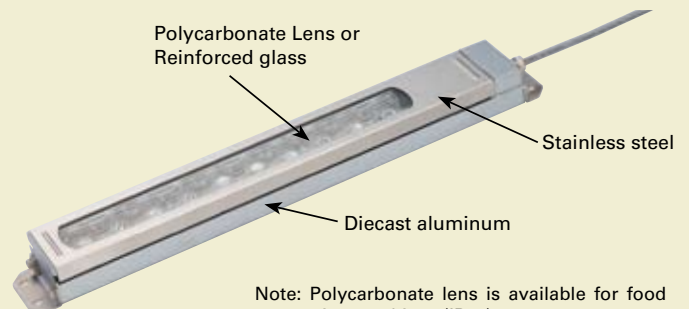
Note: Polycarbonate lens is available for food processing machines (IP67).

Spring-clamp terminal block
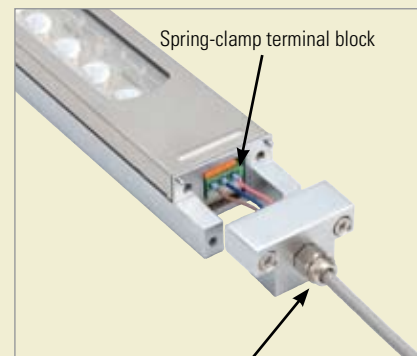
### Two Cable Options
1. Side connection (as shown).
2. Back connection (cable connection at back of unit).

### Spring-Clamp Terminal Blocks
Removable direct plug-in terminal block and spring clamp connections ensure a high-quality connection, making it easy to install or replace the LED illumination unit.

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## Light Distribution at 1.0m LF1D
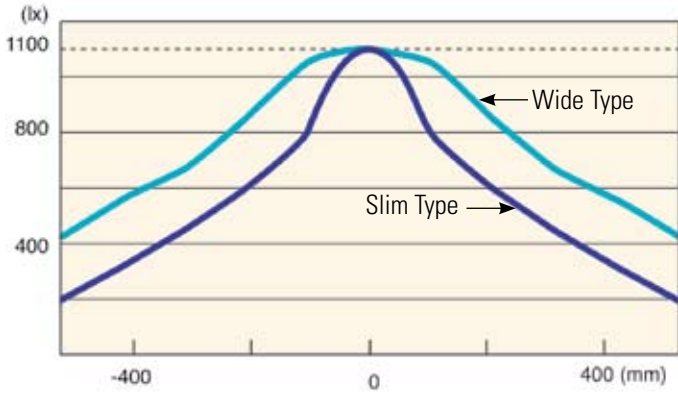


← Wide Type

Slim Type →

## Illuminance Chart

### Slim Type


### Wide Type


## LF1D Slim Type



Mounting Bracket · Axis Center · Illumination Surface · Front Cover

Cable length: 5m
Brown: (+)
Blue: (−)
Pink: ⏚

Housing · Side Cover

4-M4 P0.7
Effective thread: 10 mm

## LF1D Wide Type



Mounting Bracket · Axis Center · Illumination Surface · Front Cover

Cable length: 5m
Brown: (+)
Blue: (−)
Pink: ⏚

Housing · Side Cover

4-M5 P0.8
Effective thread: 10 mm

All dimensions in mm

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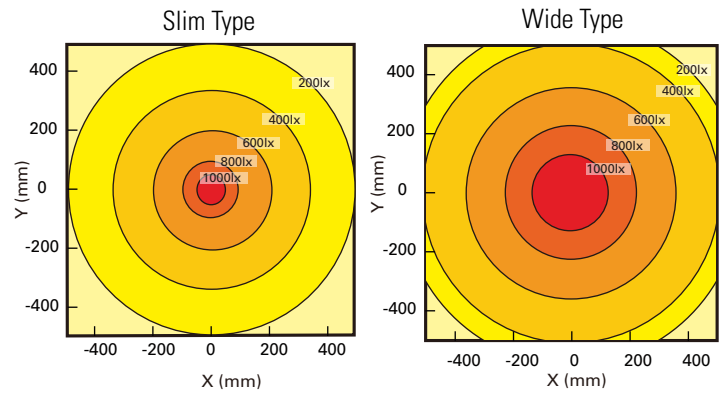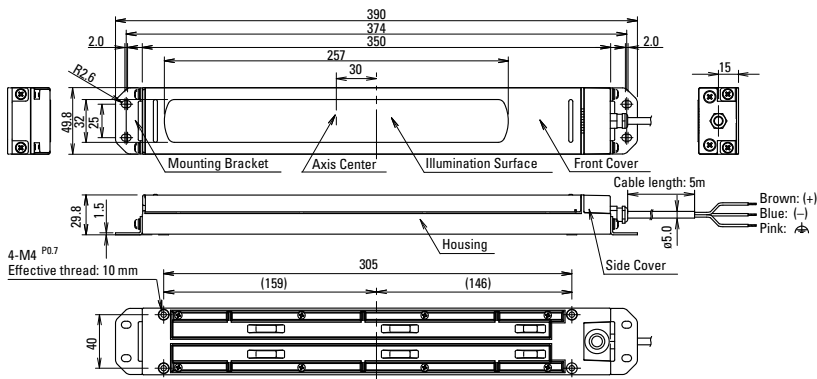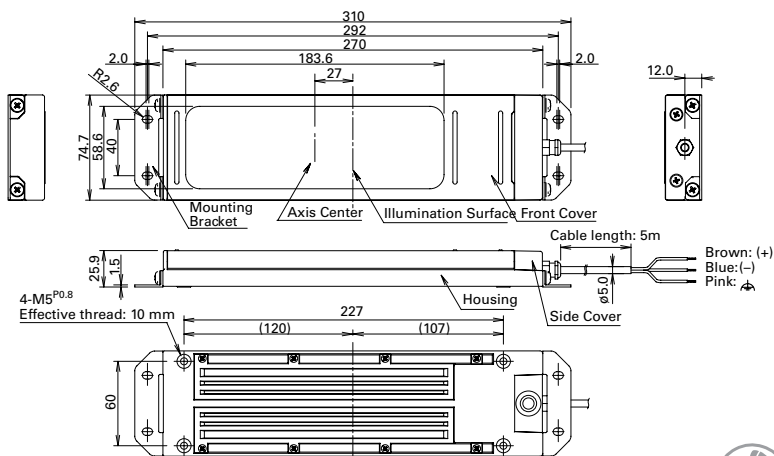
# Cost Savings Over Time

<div style="border:1px solid">

## LUMIFA versus Fluorescent

The following chart shows a comparison of cost savings year-by-year. As you can see, the break even point for LUMIFA light strips compared with fluorescent bulbs is approximately 2 years. That means in just two years time, you will be saving money by using a Lumifa light strip instead of a fluorescent bulb.

### Cost Savings Over Time

*Only 2 Year Cost Return!*

LF1B-D

Break Even Point

Fluorescent

| | | | | | |
|---|---|---|---|---|---|
| $1,800 | | | | | |
| $1,400 | | | | | |
| $1,000 | | | | | |
| $600 | | | | | |
| $200 | | | | | |
| 0 | 2 | 4 | 6 | 8 | 10 |

Year
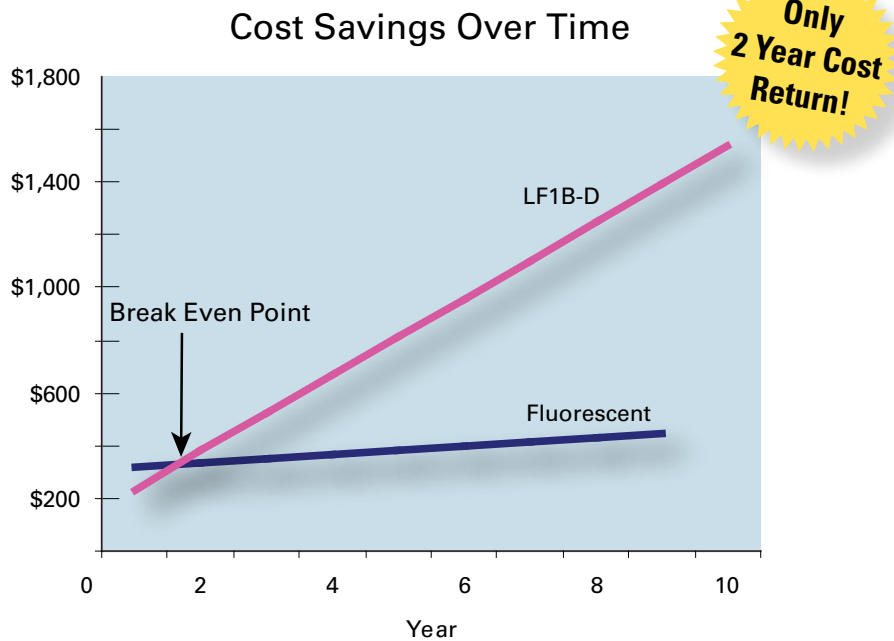
**Note:** This data assumes a single light source used 8 hours/day, 5 days/week, annually with electricity costs of $0.10 per KWh (based on average California cost). Other variables, such as machine vibration, can cause the fluorescent tube to need to be changed twice a year. This adds the cost of an electrician's labor; time and cost to shutdown the machine; and cost of the replacement tube. However, as LUMIFA lasts for 40,000 Hrs (half-life) and is resistant to machine vibration; no replacement is needed.

</div>

### Applications:

- Machine Tool Manufacturing
- Control Panel Lighting
- Printing Machines
- Food Processing Equipment
- Semiconductor Manufacturing
- Commercial Laundry Equipment Manufacturing
- Food Display Lighting
- Retail Store Displays

# Choose Your LUMIFA

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*To order LF1D installed with:
- Cable gland, mounting bracket and cable (side connection), add "-A" to the part number. Eg: LF1D-F2F-2W becomes LF1D-F2F-2W-A.
- Back cable connection option, add "-200" to the part number. Eg: LF1D-F2F-2W becomes LF1D-F2F-2W-200.
- Cable gland, mounting bracket and cable (back connection) add "-451" to the part number. Eg: LF1D-F2F-2W-451.

| Color | IP Rating | Lens/Cover | Lumifa Unit Length LED Array (Column x Row) | Part Number |
|---|---|---|---|---|
| **Cool white** (Color Temp Range: 5500K - 5700K) | IP40 | Clear | 120mm (3 x 2) | LF1A-A1-2THWW6 |
| | | | 180mm (6 x 2) | LF1A-B1-2THWW6 |
| | | | 300mm (12 x 2) | LF1A-D1-2THWW6 |
| | IP54 | Clear | 134mm (3 x 1) | LF1B-A3S-2THWW4 |
| | | | 210mm (6 x 1) | LF1B-B3S-2THWW4 |
| | | | 330mm (12 x 1) | LF1B-C3S-2THWW4 |
| | | | 580mm (24 x 1) | LF1B-D3S-2THWW4 |
| | | White | 134mm (3 x 1) | LF1B-A4S-2THWW4 |
| | | | 210mm (6 x 1) | LF1B-B4S-2THWW4 |
| | | | 330mm (12 x 1) | LF1B-C4S-2THWW4 |
| | | | 580mm (24 x 1) | LF1B-D4S-2THWW4 |
| | IP67 | Polycarbonate | 390mm (10 x 1) | LF1D-E3G-2W* |
| | | | 310mm (7 x 2) | LF1D-F3G-2W* |
| | IP67f | Reinforced Glass | 390mm (10 x 1) | LF1D-E2F-2W* |
| | | | 310mm (7 x 2) | LF1D-F2F-2W* |
| | | | 247mm (8 x 3) | LF1A-D2F-2THWW6 |
| **Warm white** (Color Temp: 2800K) | IP40 | Clear | 120mm (3 x 2) | LF1A-A1-2TLWW6 |
| | | | 180mm (6 x 2) | LF1A-B1-2TLWW6 |
| | | | 300mm (12 x 2) | LF1A-D1-2TLWW6 |
| | IP54 | Clear | 134mm (3 x 1) | LF1B-A3S-2TLWW4 |
| | | | 210mm (6 x 1) | LF1B-B3S-2TLWW4 |
| | | | 330mm (12 x 1) | LF1B-C3S-2TLWW4 |
| | | | 580mm (24 x 1) | LF1B-D3S-2TLWW4 |
| | | White | 134mm (3 x 1) | LF1B-A4S-2TLWW4 |
| | | | 210mm (6 x 1) | LF1B-B4S-2TLWW4 |
| | | | 330mm (12 x 1) | LF1B-C4S-2TLWW4 |
| | | | 580mm (24 x 1) | LF1B-D4S-2TLWW4 |
| **Yellow** (Dominant Wavelength: 590nm) | IP40 | Clear | 120mm (3 x 2) | LF1A-A1-2SHY8 |
| | | | 180mm (6 x 2) | LF1A-B1-2SHY8 |
| | | | 300mm (12 x 2) | LF1A-D1-2SHY8 |
| | IP54 | Clear | 134mm (3 x 1) | LF1B-A3S-2SHY6 |
| | | | 210mm (6 x 1) | LF1B-B3S-2SHY6 |
| | | | 330mm (12 x 1) | LF1B-C3S-2SHY6 |
| | | | 580mm (24 x 1) | LF1B-D3S-2SHY6 |
| | | White | 134mm (3 x 1) | LF1B-A4S-2SHY6 |
| | | | 210mm (6 x 1) | LF1B-B4S-2SHY6 |
| | | | 330mm (12 x 1) | LF1B-C4S-2SHY6 |
| | | | 580mm (24 x 1) | LF1B-D4S-2SHY6 |
| **Red** (Dominant Wavelength: 625nm) | IP40 | Clear | 120mm (3 x 2) | LF1A-A1-2SHR8 |
| | | | 180mm (6 x 2) | LF1A-B1-2SHR8 |
| | | | 300mm (12 x 2) | LF1A-D1-2SHR8 |
| | IP54 | Clear | 134mm (3 x 1) | LF1B-A3S-2SHR6 |
| | | | 210mm (6 x 1) | LF1B-B3S-2SHR6 |
| | | | 330mm (12 x 1) | LF1B-C3S-2SHR6 |
| | | | 580mm (24 x 1) | LF1B-D3S-2SHR6 |
| | | White | 134mm (3 x 1) | LF1B-A4S-2SHR6 |
| | | | 210mm (6 x 1) | LF1B-B4S-2SHR6 |
| | | | 330mm (12 x 1) | LF1B-C4S-2SHR6 |
| | | | 580mm (24 x 1) | LF1B-D4S-2SHR6 |

11

# Accessories

| | Part No. | Compatible Unit | Material | Note |
|---|---|---|---|---|
| | Mounting Bracket LF9Z-1MB1 | LF1B-A, -B and -C (-D not applicable) | Stainless Steel | 1 pair Left and Right |
| | Mounting Bracket LF9Z-1MA1 | LF1A-A, -B and -D | | |
| | Mounting Bracket LF9Z-1MAD1 | LF1A-D2F | | |
| | Mounting Bracket LF9Z-B12 | LF1D (Wide Type) | | |
| | Mounting Bracket LF9Z-B11 | LF1D (Slim Type) | | |
| | Cable Gland LF9Z-A11 | LF1D | Brass | M8, applicable wire size (10-12 AWG) |
| | Cable LF9Z-C05 | LF1D | PVC | Length: 5m |

## Support Information

**IDEC LED Illumination**
www.IDEC.com/usa/LED

**Technical support:**
support@IDEC.com

**800-262-IDEC**
**www.IDEC.com/usa**

**IDEC** *Think Automation and beyond...*

FSC registration

Phone:  817-595-8572 (77572)
Fax:     817-595-6470 (77470)
Web:    http://www.alliedelec.com


Please consider the environment before printing this email

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**From:** Juanita Westover [mailto:juanita@idec.com]
**Sent:** Wednesday, July 28, 2010 3:13 PM
**To:** Kent Kern
**Cc:** Tomoko Okada Noya; Mike Suzuki; Vishal Kalia
**Subject:** Re: Allied catalog page 891 &1249

Hi Kent,

According to our Product Manager that accessory originally was thought not to work with the LF1B-D models, but when we tested it, it does work so we don't need the note (actually the † should also be removed from the table as well.

Thanks,

Juanita


Juanita Westover
IDEC Corporation
Marketing Communication Department
Ph: 408-745-5257
Fax: 408-745-5258
www.idec.com

*Think Automation and beyond...*


On Jul 28, 2010, at 12:39 PM, Kent Kern wrote:

Juanita,

Was wondering why you are removing that footnote? Because that was taken direct from you spec sheet.

Kent Kern
Product Manager
**A**llied Electronics

Kent Kern | **Allied Electronics**
Product Manager
Ft. Worth, TX

Phone:  817-595-8572 (77572)
Fax:    817-595-6470 (77470)
Web:    http://www.alliedelec.com

Please consider the environment before printing this email

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**From:** Juanita Westover [mailto:juanita@idec.com]
**Sent:** Wednesday, July 28, 2010 11:50 AM
**To:** Kent Kern
**Cc:** Tomoko Okada Noya; Mike Suzuki; Vishal Kalia
**Subject:** Re: Allied catalog page 891 &1249

Hi Kent,

**IDEC**

## LED Spider Lights

| Stock No. | Mfr.'s Type | Lens Shape | Lens Color | EACH |
|---|---|---|---|---|
| 814-1228 | LH1D-D2HQ4C10-A | Dome | Amber | 60.00 |
| 814-1229 | LH1D-D2HQ4C10-G | Dome | Green | 60.00 |
| 814-1230 | LH1D-D2HQ4C10-RG | Dome | Alt: Red-Green | 70.00 |
| 814-1231 | LH1D-D2HQ4C10-PW | Dome | Cool White | 60.00 |
| 814-1232 | LH1D-D2HQ4C10-R | Dome | Red | 60.00 |
| 814-1233 | LH1D-D2HQ4C10-S | Dome | Blue | 60.00 |
| 814-1234 | LH1D-D2HQ4C10-W | Dome | Warm White | 60.00 |
| 814-1235 | LH1D-D2HQ4C10-Y | Dome | Yellow | 60.00 |
| 814-1236 | LH1D-H2HQ4C10-A | Flat | Amber | 65.00 |
| 814-1237 | LH1D-H2HQ4C10-G | Flat | Green | 65.00 |
| 814-1238 | LH1D-H2HQ4C10-RG | Flat | Alt: Red-Green | 75.00 |
| 814-1239 | LH1D-H2HQ4C10-PW | Flat | Cool White | 65.00 |
| 814-1240 | LH1D-H2HQ4C10-R | Flat | Red | 65.00 |
| 814-1241 | LH1D-H2HQ4C10-S | Flat | Blue | 65.00 |
| 814-1242 | LH1D-H2HQ4C10-W | Flat | Warm White | 65.00 |
| 814-1243 | LH1D-H2HQ4C10-Y | Flat | Yellow | 65.00 |

**LH1D-D2HQ4C10-A**    **LH1D-H2HQ4C10-G**

- ▶ Direct Screw Mounting on Panel Surfaces, Aluminum Frames and Walls
- ▶ Slim Design Well Suited for Installation in Small Spaces
- ▶ 1 m Wiring Cable Standard. 3 m and 5 m Cables Available
- ▶ 24 VAC/VDC and IP67 (IEC60529) Rated
- ▶ Excellent Visibility from the Front and Side
- ▶ Legends and Symbols Can Be Printed on Marking Film for Flat Type
- ▶ Red/Green Two-Color Alternate Illumination Available
- ▶ NEMA Type 4X

## LED Machine Lights

### LF1A Series (IP40)

**LF1A-A1-2SHR8**    **LF1A-B1-2TLWW6**

**LF1A-B1-2SHY8**    **LF1A-D1-2THWW6**

- ▶ Brightness: 66.6 Lumens/Watt
- ▶ Long Life: 40,000 Hrs. (Half Life)
- ▶ Energy Savings: $\frac{1}{3}$ of Fluorescent Lamps
- ▶ UL Listed

| Stock No. | Mfr.'s Type | Length (mm) | LED | Power Rating (W) @ 24 VDC | Color | EACH |
|---|---|---|---|---|---|---|
| 814-1176 | LF1A-A1-2THWW6 | 120 | 3 × 2 rows | 1.8 | Cool White | 180.00 |
| 814-1177 | LF1A-A1-2TLWW6 | 120 | 3 × 2 rows | 1.8 | Warm White | 180.00 |
| 814-1175 | LF1A-A1-2SHY8 | 120 | 3 × 2 rows | 2.2 | Yellow | 180.00 |
| 814-1174 | LF1A-A1-2SHR8 | 120 | 3 × 2 rows | 2.2 | Red | 180.00 |
| 814-1180 | LF1A-B1-2THWW6 | 180 | 6 × 2 rows | 3.6 | Cool White | 260.00 |
| 814-1181 | LF1A-B1-2TLWW6 | 180 | 6 × 2 rows | 3.6 | Warm White | 260.00 |
| 814-1179 | LF1A-B1-2SHY8 | 180 | 6 × 2 rows | 4.4 | Yellow | 260.00 |
| 814-1178 | LF1A-B1-2SHR8 | 180 | 6 × 2 rows | 4.4 | Red | 260.00 |
| 814-1184 | LF1A-D1-2THWW6 | 300 | 12 × 2 rows | 7.2 | Cool White | 390.00 |
| 814-1185 | LF1A-D1-2TLWW6 | 300 | 12 × 2 rows | 7.2 | Warm White | 390.00 |
| 814-1183 | LF1A-D1-2SHY8 | 300 | 12 × 2 rows | 8.7 | Yellow | 390.00 |
| 814-1182 | LF1A-D1-2SHR8 | 300 | 12 × 2 rows | 8.7 | Red | 390.00 |

### LF1A-D2F Series (IP67f)*

**LF1A-D2F-2THWW6**

| 814-1186 | LF1A-D2F-2THWW6 | 247 | 8 × 3 rows | 7.2 | Cool White | 650.00 |
|---|---|---|---|---|---|---|

*LF1A-D2F is not UL Listed.

### Accessories (LF1A, LF1B and LF1D Series)

| Stock No. | Mfr.'s Type | Description | EACH |
|---|---|---|---|
| 814-1195 | LF9Z-1MA1* | Mounting Bracket — LF1A Series | 47.00 |
| 814-1196 | LF9Z-1MAD1* | Mounting Bracket — LF1A-D2F Series | 55.00 |
| 814-1197 | LF9Z-1MB1* | Mounting Bracket — LF1B Series† | 39.00 |
| 814-1319 | LF9Z-B11* | Mounting Bracket — LF1D Series Slim Type (10 × 1) | 15.00 |
| 814-1320 | LF9Z-B12* | Mounting Bracket — LF1D Series Wide Type (7 × 2) | 15.00 |
| 814-1321 | LF9Z-C05 | Cable — LF1D Length 5 meters | 30.00 |
| 814-1322 | LF9Z-A11 | Cable Gland M8 — LF1D Series | 25.00 |

*Comes as a pair (Left and Right). †Not applicable for LF1B-D.

### LF1B Series (IP54)
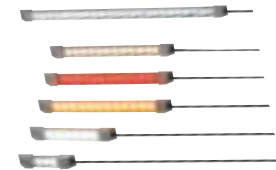
- ▶ Brightness: 62.5 Lumens/Watt
- ▶ Long life: 70% of initial luminance at 40,000 Hrs
- ▶ Space Savings: Width 27.5 mm, Thickness 16 mm
- ▶ UL Listed

| Stock No. | Mfr.'s Type | Length (mm) | LED | Power Rating (W) @ 24 VDC | Color | EACH |
|---|---|---|---|---|---|---|
| 814-1187 | LF1B-A3S-2THWW4 | 134 | 3 × 1 row | 0.8 | Cool White | 90.00 |
| 814-1188 | LF1B-A4S-2THWW4 | 134 | 3 × 1 row | 0.8 | Cool White | 90.00 |
| 814-1189 | LF1B-B3S-2THWW4 | 210 | 6 × 1 row | 1.5 | Cool White | 120.00 |
| 814-1190 | LF1B-B4S-2THWW4 | 210 | 6 × 1 row | 1.5 | Cool White | 120.00 |
| 814-1191 | LF1B-C3S-2THWW4 | 330 | 12 × 1 row | 2.9 | Cool White | 180.00 |
| 814-1192 | LF1B-C4S-2THWW4 | 330 | 12 × 1 row | 2.9 | Cool White | 180.00 |
| 814-1193 | LF1B-D3S-2THWW4 | 580 | 24 × 1 row | 5.8 | Cool White | 300.00 |
| 814-1194 | LF1B-D4S-2THWW4 | 580 | 24 × 1 row | 5.8 | Cool White | 300.00 |
| 814-1276 | LF1B-A3S-2TLWW4 | 134 | 3 × 1 row | 0.8 | Warm White | 90.00 |
| 814-1280 | LF1B-A4S-2TLWW4 | 134 | 3 × 1 row | 0.8 | Warm White | 90.00 |
| 814-1281 | LF1B-B3S-2TLWW4 | 210 | 6 × 1 row | 1.5 | Warm White | 120.00 |
| 814-1282 | LF1B-B4S-2TLWW4 | 210 | 6 × 1 row | 1.5 | Warm White | 120.00 |
| 814-1283 | LF1B-C3S-2TLWW4 | 330 | 12 × 1 row | 2.9 | Warm White | 180.00 |
| 814-1284 | LF1B-C4S-2TLWW4 | 330 | 12 × 1 row | 2.9 | Warm White | 180.00 |
| 814-1285 | LF1B-D3S-2TLWW4 | 580 | 24 × 1 row | 5.8 | Warm White | 300.00 |
| 814-1286 | LF1B-D4S-2TLWW4 | 580 | 24 × 1 row | 5.8 | Warm White | 300.00 |
| 814-1287 | LF1B-A3S-2SHY6 | 134 | 3 × 1 row | 0.8 | Yellow | 90.00 |
| 814-1288 | LF1B-A4S-2SHY6 | 134 | 3 × 1 row | 0.8 | Yellow | 90.00 |
| 814-1289 | LF1B-B3S-2SHY6 | 210 | 6 × 1 row | 1.5 | Yellow | 120.00 |
| 814-1290 | LF1B-B4S-2SHY6 | 210 | 6 × 1 row | 1.5 | Yellow | 120.00 |
| 814-1291 | LF1B-C3S-2SHY6 | 330 | 12 × 1 row | 2.9 | Yellow | 180.00 |
| 814-1292 | LF1B-C4S-2SHY6 | 330 | 12 × 1 row | 2.9 | Yellow | 180.00 |
| 814-1293 | LF1B-D3S-2SHY6 | 580 | 24 × 1 row | 5.8 | Yellow | 300.00 |
| 814-1294 | LF1B-D4S-2SHY6 | 580 | 24 × 1 row | 5.8 | Yellow | 300.00 |
| 814-1295 | LF1B-A3S-2SHR6 | 134 | 3 × 1 row | 0.8 | Red | 90.00 |
| 814-1296 | LF1B-A4S-2SHR6 | 134 | 3 × 1 row | 0.8 | Red | 90.00 |
| 814-1297 | LF1B-B3S-2SHR6 | 210 | 6 × 1 row | 1.5 | Red | 120.00 |
| 814-1298 | LF1B-B4S-2SHR6 | 210 | 6 × 1 row | 1.5 | Red | 120.00 |
| 814-1299 | LF1B-C3S-2SHR6 | 330 | 12 × 1 row | 2.9 | Red | 180.00 |
| 814-1300 | LF1B-C4S-2SHR6 | 330 | 12 × 1 row | 2.9 | Red | 180.00 |
| 814-1301 | LF1B-D3S-2SHR6 | 580 | 24 × 1 row | 5.8 | Red | 300.00 |
| 814-1302 | LF1B-D4S-2SHR6 | 580 | 24 × 1 row | 5.8 | Red | 300.00 |

### LF1D Series (IP67)

**LF1D-E2F-2W**    **LF1D-F2F-2W**

- ▶ Brightness — Slim: 66.6 Lumens/Watt, Wide: 67.2 Lumens/Watt
- ▶ Life: 70% of Initial Luminance at 50,000 Hrs
- ▶ IP67 (Polycarbonate Lens) or IP67f (Reinforced Glass Lens)
- ▶ Type 4/4X/13 Rated (Rated for Wet Locations Also)

| Stock No. | Mfr.'s Type | Length (mm) | LED | Power Rating (W) @ 24 VDC | Color | EACH |
|---|---|---|---|---|---|---|
| 814-1307 | LF1D-E3G-2W | 350 | 10 × 1 row | 9.0 | Cool White | 395.00 |
| 814-1308 | LF1D-E3G-2W-200 | 350 | 10 × 1 row | 9.0 | Cool White | 395.00 |
| 814-1309 | LF1D-E3G-2W-A | 390 | 10 × 1 row | 9.0 | Cool White | 465.00 |
| 814-1310 | LF1D-E3G-2W-451 | 390 | 10 × 1 row | 9.0 | Cool White | 465.00 |
| 814-1315 | LF1D-F3G-2W | 270 | 7 × 2 rows | 12.5 | Cool White | 495.00 |
| 814-1316 | LF1D-F3G-2W-200 | 270 | 7 × 2 rows | 12.5 | Cool White | 495.00 |
| 814-1317 | LF1D-F3G-2W-A | 310 | 7 × 2 rows | 12.5 | Cool White | 565.00 |
| 814-1318 | LF1D-F3G-2W-451 | 310 | 7 × 2 rows | 12.5 | Cool White | 565.00 |

### LF1D Series (IP67f)

| Stock No. | Mfr.'s Type | Length (mm) | LED | Power Rating (W) @ 24 VDC | Color | EACH |
|---|---|---|---|---|---|---|
| 814-1303 | LF1D-E2F-2W | 350 | 10 × 1 row | 9.0 | Cool White | 395.00 |
| 814-1304 | LF1D-E2F-2W-200 | 350 | 10 × 1 row | 9.0 | Cool White | 395.00 |
| 814-1305 | LF1D-E2F-2W-A | 390 | 10 × 1 row | 9.0 | Cool White | 465.00 |
| 814-1306 | LF1D-E2F-2W-451 | 390 | 10 × 1 row | 9.0 | Cool White | 465.00 |
| 814-1311 | LF1D-F2F-2W | 270 | 7 × 2 rows | 12.5 | Cool White | 495.00 |
| 814-1312 | LF1D-F2F-2W-200 | 270 | 7 × 2 rows | 12.5 | Cool White | 495.00 |
| 814-1313 | LF1D-F2F-2W-A | 310 | 7 × 2 rows | 12.5 | Cool White | 565.00 |
| 814-1314 | LF1D-F2F-2W-451 | 310 | 7 × 2 rows | 12.5 | Cool White | 565.00 |