

LF1E Series


Key features:


The LF1E illumination lights are designed to be used in freezers or refrigerated display cases where the ambient temperature is as low as -40°C. These energy saving units, with a long service life, compact size and low heat generation make them perfect for illuminating areas with very low temperatures.

- Three types of light distribution: no-lens, condensing lens and dual lens
- Life: 70% of initial luminance at 40,000 Hrs
- Available in 4 lengths
- Plastic lenses suitable for food industry
- IP54 protection against dust and water
- CE marked, UL Listed (damp locations)

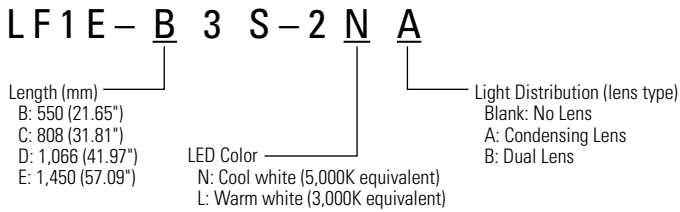


Part Numbers

LF1E-B3S-2*† (550mm)	LF1E-C3S-2*† (808mm)	LF1E-D3S-2*† (1066mm)	LF1E-E3S-2*† (1450mm)
 warm white shown	 cool white shown	 cool white shown	 cool white shown

 * N = Cool white, L: Warm white. † Blank = No lens, A = Condensing Lens, B = Dual Lens.


Part Number Structure (use for interpreting part numbers only)



Note: Mounting brackets included


Specifications

Model (length)	LF1E-B (550mm)	LF1E-C (808mm)	LF1E-D (1066mm)	LF1E-E (1450mm)	
Rated Voltage	24V DC (Voltage range: 21.6 - 26.4VDC)				
Input Current (at rated voltage)	24V DC	350mA (404mA max)	525mA (606mA max)	700mA (807mA max)	950mA (1004mA max)
Power Consumption (typ. at rated input)	24V DC	8.4W (9.7W max)	12.6W (14.6W max)	16.8W (19.4W max)	22.8W (26.3W max)
Insulation Resistance	100 MΩ minimum (500V DC megger) between input and housing				
Dielectric Strength	500V AC, 1 minute				
Vibration Resistance (damage limits)	Frequency 5 to 55Hz, amplitude 0.17mm				
Shock Resistance (damage limits)	300m/s ²				
Operating Temperature	-40 to +40°C (no freezing)				
Operating Humidity	45 to 85% RH (no condensation)				
Storage Temperature	-40 to +70°C (no freezing)				
Operating Environment	No corrosive gases				
Life	40,000 hours (The illumination duration in which the illuminance maintains a minimum of 70% of the initial value at 25°C.)				
Weight (approx.) ¹	275g	390g	515g	690g	
Degree of protection	IP54				
Material	End cover, conduit: polyamide, Cover: polycarbonate, Cable: PVC, Mounting bracket: stainless steel				

 1. Dual lens type.

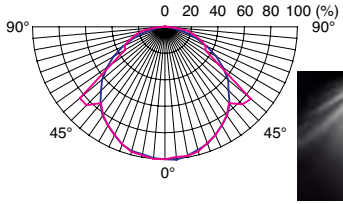
LED Optical Specifications

Color Temperature	Cool White	Warm White	
Color Temperature	5000K	3000K	
Lens Type	Unit Length	Reference Illumination	
No Lens ¹	550mm	950lx	750lx
	808mm	1,100lx	900lx
	1066mm	1,200lx	950lx
	1450mm	1,250lx	1,000lx
Condensing Lens ²	550mm	1,950lx	1,500lx
	808mm	2,000lx	1,550lx
	1066mm	2,000lx	1,550lx
	1450mm	2,000lx	1,550lx
Dual Lens	See Illumination Distribution Chart		

 1. LED life depends on the operating environment.
 2. Measured at 0.3m directly below unit.

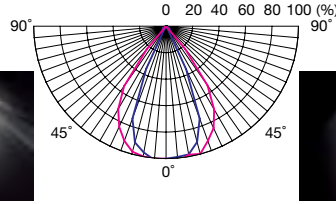
Illuminance Distribution Charts

No-lens



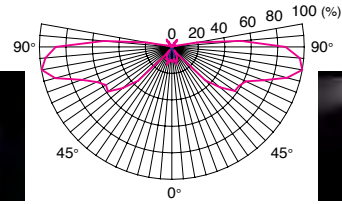
Y (short side) image

Condensing Lens



Y (short side) image

Dual Lens

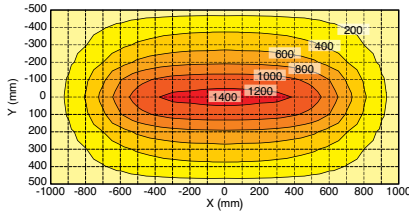


Y (short side) image

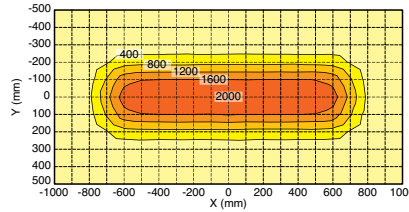
— X: long side
— Y: short side

Illuminance Charts

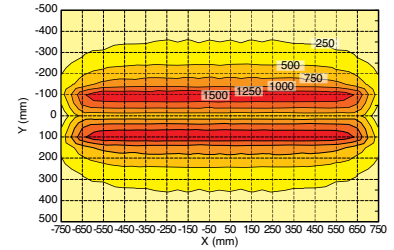
No-lens (LF1E-E3S-2N)



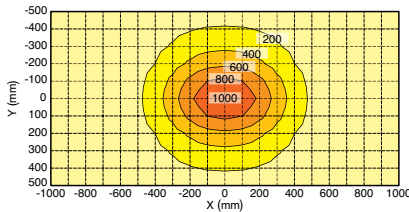
Condensing Lens (LF1E-E3S-2NA)



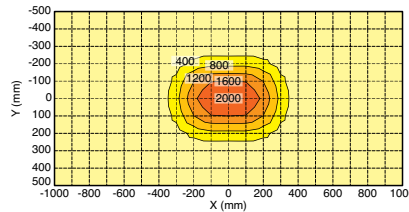
Dual Lens (LF1E-E3S-2NB)



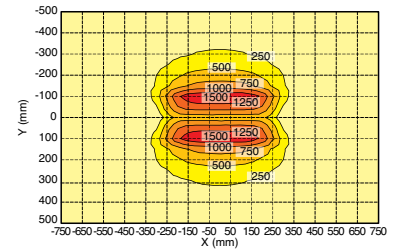
No-lens (LF1E-B3S-2N)



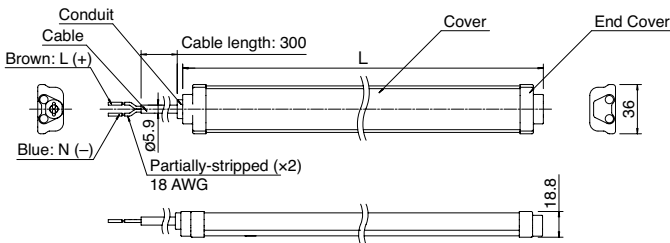
Condensing Lens (LF1E-B3S-2NA)



Dual Lens (LF1E-B3S-2NB)



Dimensions (mm)



Dimension Table

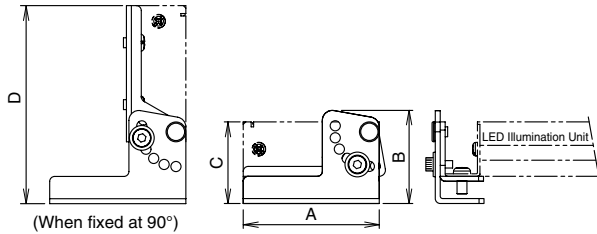
Part No.	L		A		B		C		D		Mounting Bracket Quantity Included
	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	
LF1E-B3	550	21.65	585	23.03	30	1.18	490	19.29	490	19.29	2
LF1E-C3	808	31.81	843	33.19	29	1.14	750	29.53	375	14.76	3
LF1E-D3	1,066	41.97	1,101	43.35	30.5	1.20	1,005	39.57	335	13.19	4
LF1E-E3	1,450	57.09	1,485	48.46	32	1.26	1,386	54.57	462	18.19	4

Accessories

Item	Mounting Bracket						Cable Gland	Cable
Part No.	LF9Z-1MB1	LF9Z-1MA1	LF9Z-B12	LF9Z-B11	LF9Z-1MDE1	LF9Z-1MDF1	LF9Z-A11	LF9Z-C05
Applicable Unit	LF1B-NA, -B, -C (-D not applicable)	LF1A-A, -B, -D	LF1D (Slim)		LF1D (Wide)		LF1E	LF1D
Material	Stainless Steel						Brass	PVC
Notes	1 pair Left and Right					1 piece	M8, applicable wire size (10-12 AWG)	Length: 5m

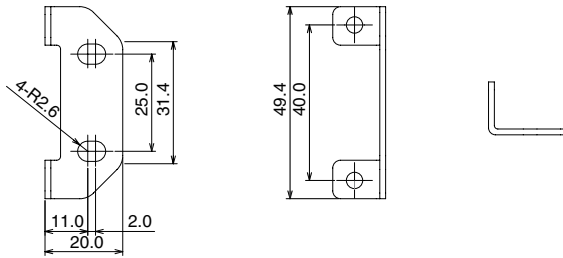
Dimensions (mm)

LF9Z-1MB1/1MA1

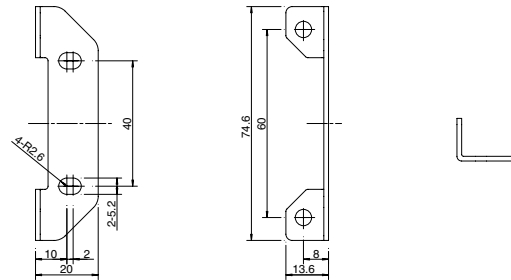


Part No.	A		B		C		D	
	mm	inch	mm	inch	mm	inch	mm	inch
LF9Z-1MB1	27.5	1.08	35.2	1.39	27	1.06	50.5	1.99
LF9Z-1MA1	55	2.17	37.9	1.49	33	1.30	80	3.15

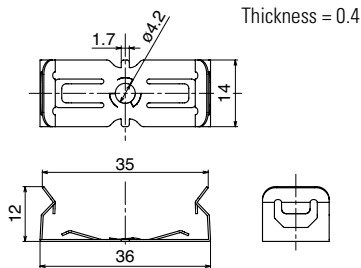
LF9Z-B11



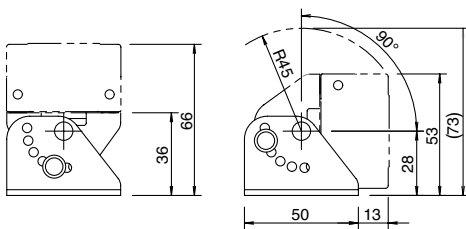
LF9Z-B12



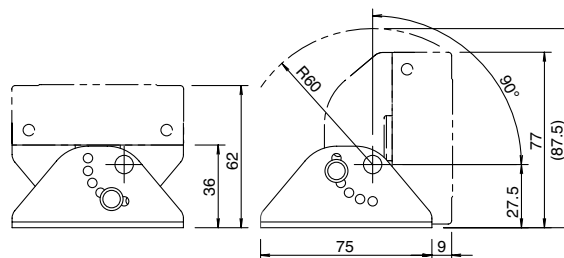
LF9Z-1SE1



LF9Z-1MDE1



LF9Z-1MDF1



Safety Precautions

- To avoid electric shock, fire, or malfunction do not disassemble, repair, or modify the unit.
- Turn power off before wiring. To prevent electric shock or damage, ensure wiring is correct.
- Do not stare directly into the LF1B-N unit while it is lit, and do not project the light towards other people, as their eyes may be injured.
- The LF1B-N is a general-purpose industrial electric device. Do not use with electronic equipment which may cause harm or injury to anyone in case a malfunction or failure occurs.
- Please adhere to the operating temperature specification. A rise in internal temperature may damage the product.

Instructions

- LED modules may vary slightly in color and brightness.
- Before designing equipment and powering up units, confirm the specifications described in the instruction sheet.
- Apply voltage within the rated values, otherwise the LED elements may be damaged.
- The unit is vulnerable to static electricity. Take sufficient measures for protection against static electricity and voltage surges.
- Make sure that the unit is not dropped during transportation, installation, and operation, otherwise damage may result.
- Do not pull or push the cable, otherwise damage may result. Allow sufficient slack to the cable while wiring.
- Do not apply excessive force. Do not leave a damaged unit unattended or use a damaged unit.
- Ensure the correct operating temperature, as rise in internal temperature may result in damage to the unit.
- Do not use or store in a location subject to vibration and shock.
- Do not use in the following locations:
 - Exposure to direct sunlight, near heaters, high temperatures
 - Subject to chemicals, and corrosive gases
 - Cold storage warehouses (make sure that no freezing occurs)
 - Places with high humidity such as basements and greenhouses
- 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. Moisture may be drawn in to the unit if water splashes directly onto the cable sheath.