

Think Automation and beyond...



IDEC LUMIFA Family
LED Lighting Solutions



# Lighting your way

For over two decades, IDEC has produced LEDs for applications requiring indicator lights and signaling towers. Which is why it was a natural progression to begin developing lighting products and construct the world's first building illuminated with 100% of our own LED technology. New LUMIFA LED lights provide a brighter, longer-lasting, cost-effective and more environmentally-friendly lighting source.

• 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

Rugged:

Heavy-duty, durable, water/oil resistant

Variety of Colors:

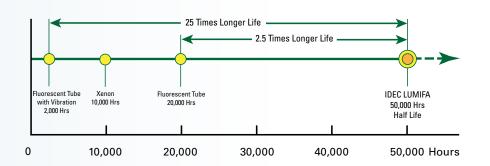
Cool white, warm white, red, and yellow

800.262.4332

### **Suitable for Harsh Environments**

With their IP67/IP67f rating, the LF1D and 2D series can be used in wet and harsh environments. Resistant to water, oil and metal shavings, they are perfect for many industrial applications. In addition, the LF1E series can withstand temperatures down to -40°C making them ideal for freezers and refrigerated environments.



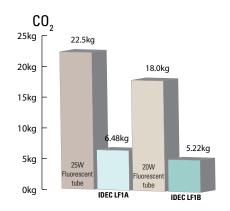


## **Heat Dissipation Technology**

In an 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.

## **Environmentally-friendly**

LUMIFA LEDs are made from non-toxic materials and produce 71% less  $\mathrm{CO_2}$  emissions compared with a 20W/25W fluorescent tube. LUMIFA are also great for green applications such as solar panels, which have a low power requirement and can't supply the energy necessary for fluorescent bulbs.





# **LUMIFA LF1B**

# Control Panels • Industrial Equipment

### **LF1B Series**

LF1B miniature LED lights 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
- Cable length: 10ft
- IP54
- 12V DC models available (contact IDEC for details)

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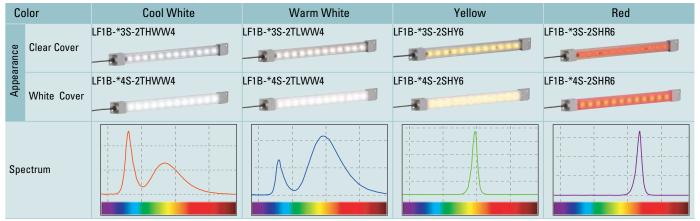


### **LED Optical Specifications**

Color	Color		Warm White	Yellow	Red
Luminous Intensity (Single LED module)		5,000mcd	4,500mcd	2,300mcd	1,800mcd
Color Temperature /Dominant Wavelength		5,500K	2,800K	590nm	625nm
	LED Array 3 x 1	90lx	60lx	20lx	20lx
Reference Illuminance at	LED Array 6 x 1	170lx	110lx	40lx	40lx
0.5m (clear cover)	LED Array 12 x 1	330lx	200lx	75lx	75lx
	LED Array 24 x 1	560lx	350lx	125lx	125lx

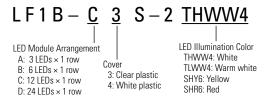
### **General Specifications**

Model	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		
Insulation Resistance		100 MΩ minimu	um (500V DC megger)			
Dielectric Strength		1,000V AC, 1 minute (bety	veen live and dead metal parts)			
Vibration Resistance		Frequency: 5 to 55	5 Hz, Amplitude: 0.5mm			
Shock Resistance (damage limits)		1000m/s²				
Operating Temperature		−30 to +55	5°C (no freezing)			
Operating Humidity		45 to 85% RF	H (no condensation)			
Storage Temperature		−35 to +70	O°C (no freezing)			
Operating Atmosphere		No co	orrosive gas			
Life	40,000 hours (The total	al illumination duration in which th	e 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.)	95g	125g	165g	255g		

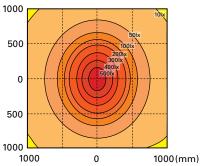


\*LED Array A = 3x1 , B = 6x1, C = 12x1, D = 24x1

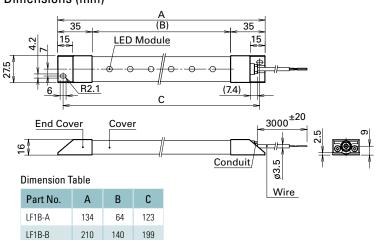
Part Number Structure (use for interpreting part numbers only)

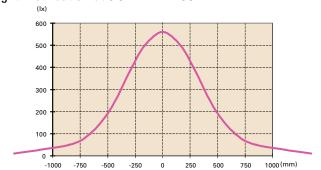


## Illuminance Chart LF1B-D3S-2THWW4 (Cool White)



Dimensions (mm) Light Distribution at 0.5m LF1B-D3S-2THWW4









319

569

LF1B-C

LF1B-D

330

580

260

510

# **LUMIFA LF1D & LF2D**

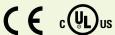
Machine Tools • Food & Beverage Processing Equipment

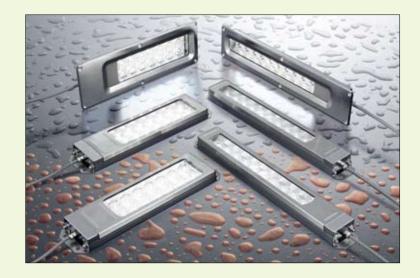
## LF1D and LF2D Series (IP67, IP67f)

LF1D and LF2D LED units are the brightest in their class. With their rugged construction they are ideal for machine tools, and food and beverage processing equipment. Offered in a wide or slim package, the design of these LED lights provides equally brilliant light at the center or edges of the units.

- Brightness: Slim: 66.6 Lumens/Watt Wide: 67.2 Lumens/Watt
- Life: 70% of initial luminance at 50,000 Hrs
- Rugged & durable for harsh environments
- IP67 (Polycarbonate lens) or IP67f (Reinforced glass lens)
- Stainless steel cover, diecast aluminum housing
- UL Listed (wet locations)
- RoHS Compliant







### **LED Optical Specifications**

Model	LF1D				LF2D			
Wodel	SI	im	W	ide	SI	im	W	ide
Illumination Surface	Clear	Diffused	Clear	Diffused	Clear	Diffused	Clear	Diffused
Illumination Color		Cool White						
Total Luminous Flux	600lm		840lm		600lm		840lm	
Color Temperature	5700K							
Reference Illuminance at 1.0m	1,100lx	1,000lx	1,100lx	1,000lx	1,100lx	1,000lx	1,100lx	1,000lx

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



### **General Specifications**

Model	LF	-1D	LF2D		
Model	Slim	Wide	Slim	Wide	
Rated Voltage		24	4V DC		
Voltage Range		21.6 to	26.4V DC		
Rated Power (typ.)	9W	12.5W	9W	12.5W	
Insulation Resistance		1MΩ minimum	(500V DC megger)		
Dielectric Strength		1,000V AC, 5	0/60Hz, 1 minute		
Vibration Resistance (damage limits)	Frequency 5 to 55Hz, amplitude 0.5mm				
Shock Resistance (damage limits)	1000m/s²				
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 Environment		No corr	osive gases		
Life (Note 1)	50,000 hours (The illumination duration in which the illuminance maintains a minimum of 70% of the initial value at 25°C.)				
Degree of Protection (Note 2)	IP67f (reinforced glass), IP67 (polycarbonate)				
Material (Note 3)	Housing: Diecast aluminu Front cover: Stainless ste Lens: Reinforced glass or	el	Housing & Flange: Diecast Lens: Reinforced glass or p		
Weight (approx.)	LF1D-E**-2W*: 750g LF1D-E**-2W-A*: 950g	LF1D-F**-2W*: 800g LF1D-F**-2W-*: 1000g	LF2D-E**-2W*: 850g LF2D-E**-2W-A*: 1000g	LF2D-F**-2W*: 900g LF2D-F**-2W-A*: 1050g	

Note 1: LED life depends on the operating environment.

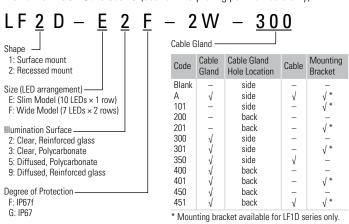
Note 2: Waterproof or oil-proof characteristics specified by IEC 60529 and JEM1030. For illumination units without accessories, use a cable gland and cables that satisfy IP67f or IP67 degree of protection.

Note 3: The reinforced glass and polycarbonate illumination surfaces have the same appearance, but have different degrees of protection (IP67f or IP67).

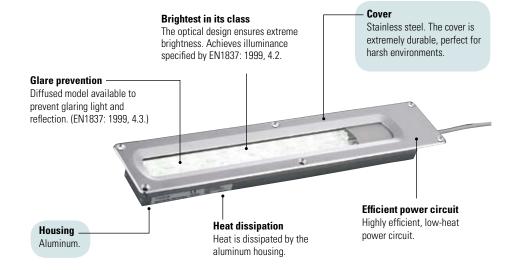
	Model		Slim Model LF1D-E	(10 LEDs × 1 row)	Wide Model LF1D-F (7 LEDs × 2 rows)	
Cable Gland	Cable	Mounting Bracket	Clear Reinforced Glass	Clear Polycarbonate	Clear Reinforced Glass	Clear Polycarbonate
Appearance						
Without (Cable gland hole on the side)	_		LF*D-E2F-2W LF1D-E2F-2W-101	LF*D-E3G-2W LF1D-E3G-2W-101	LF*D-F2F-2W LF1D-F2F-2W-101	LF*D-F3G-2W LF1D-F3G-2W-101
Without (Cable gland hole on the back)	_		LF*D-E2F-2W-200 LF1D-E2F-2W-201	LF*D-E3G-2W-200 LF1D-E3G-2W-201	LF*D-F2F-2W-200 LF1D-F2F-2W-201	LF*D-F3G-2W-200 LF1D-F3G-2W-201
With (Side)	_		LF*D-E2F-2W-300 LF1D-E2F-2W-301	LF*D-E3G-2W-300 LF1D-E3G-2W-301	LF*D-F2F-2W-300 LF1D-F2F-2W-301	LF*D-F3G-2W-300 LF1D-F3G-2W-301
with (olde)	V		LF1D-E2F-2W-350 LF*D-E2F-2W-A	LF1D-E3G-2W-350 LF*D-E3G-2W-A	LF1D-F2F-2W-350 LF*D-F2F-2W-A	LF1D-F3G-2W-350 LF*D-F3G-2W-A
With (Back)	_		LF*D-E2F-2W-400 LF1D-E2F-2W-401	LF*D-E3G-2W-400 LF1D-E3G-2W-401	LF*D-F2F-2W-400 LF1D-F2F-2W-401	LF*D-F3G-2W-400 LF1D-F3G-2W-401
vvitii (Dack)	V		LF*D-E2F-2W-450 LF1D-E2F-2W-451	LF*D-E3G-2W-450 LF1D-E3G-2W-451	LF*D-F2F-2W-450 LF1D-F2F-2W-451	LF*D-F3G-2W-450 LF1D-F3G-2W-451

<sup>\*</sup>Insert 1 for surface mount models and 2 for recessed models.

### Part Number Structure (use for interpreting part numbers only)



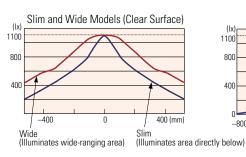


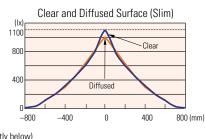


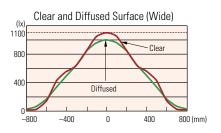
# **LUMIFA LF1D & LF2D**

Machine Tools • Food & Beverage Processing Equipment

### Distribution Characteristics (reference value at 1.0m)

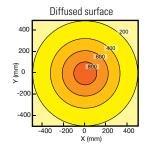






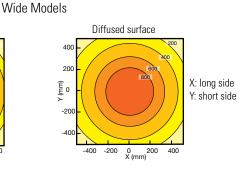
### **Illuminance Charts**

Slim Models



Clear surface

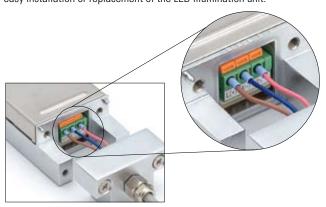
400
200
800
1000
1000
200
400
X (mm)



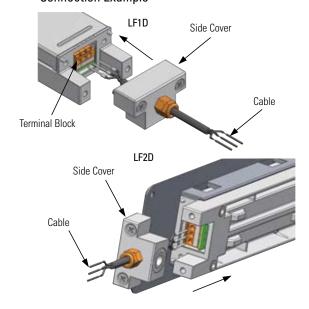
### Easy Maintenance

### Spring-clamp Terminal Blocks

Removable direct plug-in terminal blocks, with spring clamp connections, ensure a high-quality connection. This provides for easy installation or replacement of the LED illumination unit.



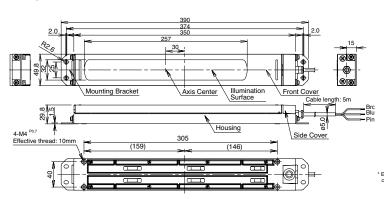
### **Connection Example**



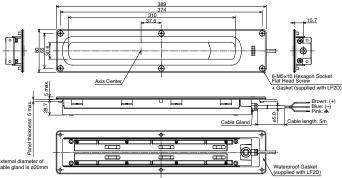


### Dimensions (mm)

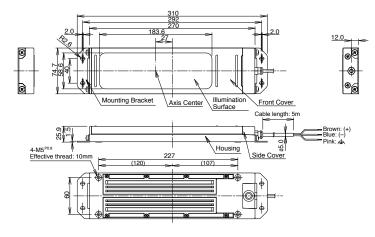




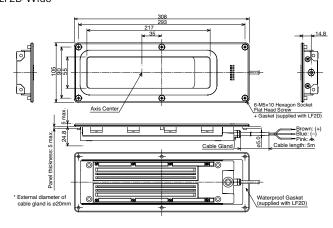
### LF2D Slim



### LF1D Wide



### LF2D Wide



# 800.262.4332







# LUMIFA LF1E

Freezers • Refrigerated Display Cases • Testing Chambers

### **LF1E Series**

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 and dual
- Life: 70% of initial luminance at 40,000 Hrs
- Available in 4 lengths
- Plastic lens suitable for food industry
- IP54 protection against dust and water
- CE marked, UL Listed (damp locations)







Illumination Color		Cool White	Warm White
Color Temperature		5000K	3000K
Lens Type	Unit Length	Reference	Illumination
	550mm	950lx	750lx
No Lens (Note 1)	808mm	1,100lx	900lx
INO Letts (INOTE 1)	1066mm	1,200lx	950lx
	1450mm	1,250lx	1,000lx
	550mm	1,950lx	1,500lx
Condensing	808mm	2,000lx	1,550lx
Lens (Note 2)	1066mm	2,000lx	1,550lx
	1450mm	2,000lx	1,550lx
Dual Lens	See Illumination	Distrbution Chart n	ext page





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

### **General Specifications**

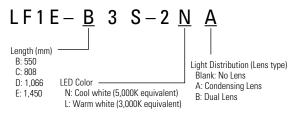
Model (length)		LF1E-B (550mm)	LF1E-C (808mm)	LF1E-D (1066mm)	LF1E-E (1450mm)		
Rated Voltage		24V DC					
Input Current (at rated voltage)	24V DC	350mA (404mA max)	525mA (606mA max)	700mA (807mA max)	950mA (1004mA max)		
Power Consumption (typ. at rated input)	24V DC	8.4W (9.7W max)	12.6W (14.6W max)	16.8W (19.4W max)	22.8W (26.3W max)		
Insulation Resistance		100 N	1Ω minimum (500V DC me	gger) between input and h	ousing		
Dielectric Strength			500V AC	, 1 minute			
Vibration Resistance (damage limits)			Frequency 5 to 55Hz	z, amplitude 0.17mm			
Shock Resistance (damage limits)		300m/s <sup>2</sup>					
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.) (Note 1)	275g	390g	515g	690g			
Degree of protection	Degree of protection			IP54			
Material	End cover, conduit: polyamide, Cover: polycarbonate, Cable: PVC, Mounting bracket: stainless steel						

Note 1: Dual lens type.

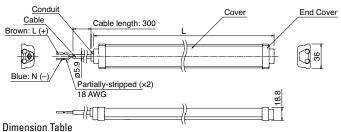


<sup>\*</sup> N = Cool white, L: Warm white. † Blank = No lens, A = Condensing Lens, B = Dual Lens.

### Part Number Structure (use for interpreting part numbers only)



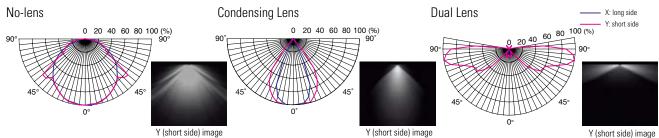
### Dimensions (mm)



	Tubic					
Part No.	L	Α	В	С	D	Mounting Bracket Oty
LF1E-B3	550	585	30	490	490	2

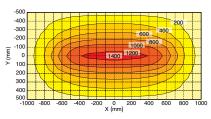
	_		_	_	_	3 =
LF1E-B3	550	585	30	490	490	2
LF1E-C3	808	843	29	750	375	3
LF1E-D3	1,066	1,101	30.5	1,005	335	4
LF1E-E3	1,450	1,485	32	1,386	462	4

### Illuminance Distribution Charts

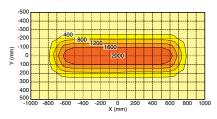


### **Illuminance Charts**

No-lens (LF1E-E3S-2N)

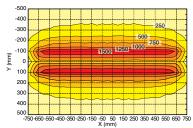


Condensing Lens (LF1E-E3S-2NA)





### Dual Lens (LF1E-E3S-2NB)



# LUMIFA LF1A

# Control Panels • Manufacturing Equipment

### **LF1A Series**

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









### **LED Optical Specifications**

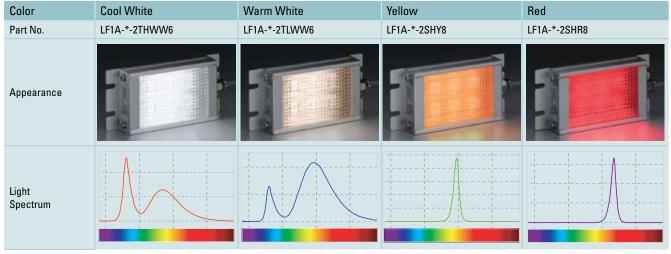
Model		LF1A-*-2THWW6	LF1A-*-2TLWW6	LF1A-*-2SHY8	LF1A-*-2SHR8
Illumination Color		Cool White	Warm White	Yellow	Red
Luminous Intensity (Single LED module)		6,000mcd	4,000mcd	4,000mcd	2,500mcd
Color Temperature / Dominant Waveleng		5,500K	2,800K	590nm	625nm
Reference	LED Array 3 x 2	190lx	130lx	130lx	85lx
Illuminance	LED Array 6 x 2	380lx	260lx	260lx	170lx
at 0.5m	LED Array 12 x 2	760lx	520lx	520lx	340lx

<sup>\*</sup>LED Array A1 = 3x2 , B1 = 6x2, D1 = 12x2

### **General Specifications**

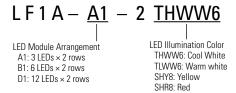
Model		LF1A-*-2THWW6	LF1A-*-2TLWW6	LF1A-*-2SHY8	LF1A-*-2SHR8		
Rated Voltage			24V DC (n	on-polarized)	n-polarized)		
	LED Array 3 x 2	75m	nA		90mA		
Input Current (at rated voltage)	LED Array 6 x 2	150r	mA	1	180mA		
(at rated voltage)	LED Array 12 x 2	300r	mA	3	360mA		
D . ID	LED Array 3 x 2	1.8	W		2.2W		
Rated Power (at rated voltage)	LED Array 6 x 2	3.6	W		4.4W		
(at rated voltage)	LED Array 12 x 2	7.2	W	8.7W			
Dielectric Strength			Between live and dead	parts: 1000V AC, 1 minute			
Insulation Resistance	е		Between live and dead par	ts: 100 MΩ (500V DC megger)			
Operating Temperat	ure		-20 t	to +50°C			
Storage Temperatur	е		-25 t	to +70°C			
Operating/Storage H	Humidity		45 to 85% RH	I (no condensation)			
Life (half luminance)			40,00	000 hours			
Weight (approx.)			LF1A-A1: 190g, LF1A-	B1: 270g, LF1A-D1: 470g			
Degree of Protection	1		I	P40			

<sup>\*</sup>LED Array A1 = 3x2, B1 = 6x2, D1 = 12x2

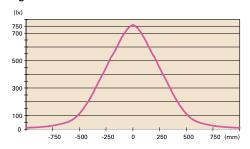


\*LED Array A1 = 3x2, B1 = 6x2, D1 = 12x2

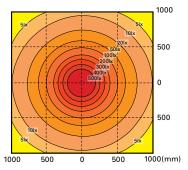
### Part Number Structure (use for interpreting part numbers only)



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

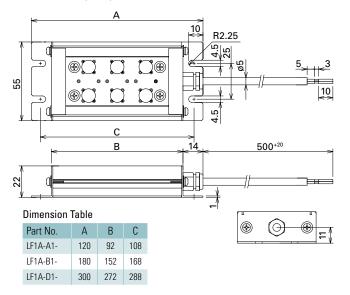


### Illuminance Chart LF1A-D1-2THWW6





### Dimensions (mm)





# **LUMIFA LF1F**

# Visual Inspection Lighting • Elevator Ceiling Lighting

### **LF1F Series**

Unlike fluorescent lights, LED lights do not flicker and therefore illuminate objects evenly. Uneven surfaces, such as scratches and flaws, are more visible providing more accurate inspections. The LF1F provides steady light regardless of ambient temperature and the narrow profile saves space allowing mounting flexibility.

- · Energy saving
- · Long operating life
- Maintenance free
- 12mm-thin bezel saves space
- 300mm square illuminated surface
- Wider operating temperature range than fluorescent lighting

### **LED Optical Specifications**

Model	LF1F
Color Temperature	8,500K
Reference Illuminance at 1.0m	5,800lx minimum (panel center)

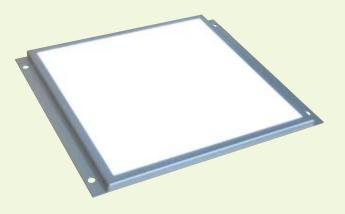
### **Operating Specifications**

Model	LF1F
Operating Voltage Range	21.6 ~ 26.4V DC
Wattage (typ.)	11W
Insulation Resistance	100MΩ minimum
Dielectric Strength	1,000V, 50/60Hz, 1 minute
Vibration Resistance	5 ~ 55Hz, amplitude 0.5mm, 60m/s² (3 directions, 2 hours each)
Shock Resistance	1,000m/s <sup>2</sup>
Operating Temperature	-10° ~ 60 (no freezing)
Operating Humidity	45 ~ 85% RH (no condensation)
Storage Temperature	-20° ~ 70°C (no freezing)
Operating Environment	No corrosive gases, no harmful dust
Life	40,000 hours
Degree of Protection	IP20 (IEC60529)
Materials	Housing: Aluminum Light emitting part: acrylic; Cover: acrylic
Weight (approx.)	1.1kg

### Part Numbers

Appearance	Model	Cable Length	Size	Color Temperature	
	LF1F-B4-2D1	1m	300mm	0.5001/	
	LF1F-B4-2D3	3m	square	8,500K	





### **Applications**

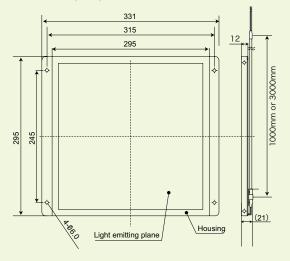
Ideal for visual inspection, as the LF1F makes it easy to see even the slightest surface flaws.



#### Application examples for product inspections

- Detect uneven plastic and rubber part surfaces
- Detect dust on glass or plastic plates
- Illuminate marks on metal surfaces during cutting and marking
- Detect flaws on painted or plated surfaces
- Detect scratches and unevenness on embossed materials
- Detect scratches and foreign materials on silicon wafers
- Elevator illumination

### Dimensions (mm)



# Choose Your LUMIFA

## **Comparison Chart**

Color		IP Rating	Lens/Cover	Mounting	Series
		IP40	Clear	Standard	LF1A
		IP54	Clear	Standard	LF1B
			Cledi	Standard	LF1E
			White	Standard	LF1B
APPENDENT HERE		IP67	Class and Dalisasshanata	Standard	LF1D
	Cool white (Color Temp Range:		Clear and Polycarbonate	Flush	LF2D
	5000K - 5700K)		Diffused & Polycarbonate	Standard	LF1D
			Dilluseu & Folycarbollate	Flush	LF2D
			Clear & Reinforced Glass	Standard	LF1D
		IP67f	Clear & Heimorcea diass	Flush	LF2D
		11 071	Diffused & Reinforced	Standard	LF1D
			Glass	Flush	LF2D
		IP54	Clear	Standard	LF1B
	Warm white (Color Temp:		Oledi	Standard	LF1E
			White	Standard	LF1B
	2800K-3000K)	IP40	Clear	Standard	LF1A
		11 40	Oledi	Standard	LF1B
	Yellow (Dominant Wavelength: 590nm)	IP54	Clear	Standard	LF1B
		II 04	White	Standard	LF1B
		IP40	Clear	Standard	LF1A
	Red (Dominant Wavelength: 625nm)	IP54	Clear	Standard	LF1B
			White	Standard	LF1B
		IP40	Clear	Standard	LF1A
		IP40	Clear	Standard	LF1A









### **Accessories**

			02			030	
Part No.	Mounting Bracket LF9Z-1MB1	Mounting Bracket LF9Z-1MA1	Mounting Bracket LF9Z-B12	Mounting Bracket LF9Z-B11	Mounting Bracket LF9Z-1SE1	Cable Gland LF9Z-A11	Cable LF9Z-C05
Applicable Unit	LF1B-A, -B and -C (-D not applicable)	LF1A-A, -B and -D	LF1D (Wide)	LF1D (Slim)	LF1E	LF1D	LF1D
Material	Stainless Steel 1 pair Left and Right				Brass	PVC	
Notes				1 piece	M8, applicable wire size (10-12 AWG)	Length: 5m	

### **PS5R Slim Line Power Supplies**

- · Lightweight and compact in size
- Wide power range: 10W-240W
- Universal input: 10W to 90W: 85-264V AC/100-370V DC 120W and 240W: 85-264V AC/100-350V DC
- Power Factor Correction for 60W to 240W (EN61000-3-2)
- Meets SEMI F47 Sag Immunity (120W & 240W only)
- UL Listed for Class 1, Div. 2 Hazardous Locations



**Support Information** 

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

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

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

Need a reliable, lightweight power supply? PS5R Slim Line models give you all the power of a traditional power supply in only half the space. The 10W and 15W are only 22.5mm wide, the 30W and 60W are 36mm wide, and the 90W is 46mm wide. The 120W unit has a width of only 50mm while the 240W is 80mm wide. They also come with all the convenient features you've come to expect from IDEC.



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