



# SUSTAINABLE LIGHTING SOLUTIONS

LED SOLUTIONS

12257 Florence Avenue Santa Fe Springs, CA 90670 USA

www.espentech.com





Espen Technology is dedicated to delivering sustainable and environmentally progressive lighting solutions. As a manufacturer and designer of high efficiency lighting products, Espen continually strives to improve the efficiency of lighting technology. Our products reflect an emphasis on sustainability, quality, and reliability. Our product development is driven by a simple commitment: to improve people's lives and build a better future for generations to come.

Our ballasts, fluorescent lamps, LED drivers, LED lamps and LED modules are complemented by an industry-leading warranty policy. The goal is to offer our customers and end-users an invaluable asset: peace of mind. With an emphasis on quality and a focus on efficiency, Espen Technology's engineers have developed a whole line of LED drivers, LED lamps and LED modules that are worthy of the latest LED luminaries. High efficiency, advanced thermal management, increased life, and versatility in form create the ultimate LED systems for today's most advanced LED lighting. Stringent component qualification and quality control guarantee a long life and increased overall system longevity.























### PLUG & PLAY, BALLAST COMPATIBLE LED LAMPS

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### LED LAMPS WITH EXTERNAL DRIVER FOR FULL CONTROLLABILITY

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# **RetroFlex**<sup>TM</sup>

### PLUG & PLAY, BALLAST COMPATIBLE LED LAMPS



#### **ABOUT ESPEN RETROFLEX LED LAMPS**

Espen Retroflex LED lamps lead the industry with ballast compatible, plug & play technology. These high-performance lamps don't require any alteration to the fixture. The upgrade to LED technology is as simple as replacing the old fluorescent lamps with new Retroflex lamps. This saves you up to 50% of system power while maintaining or increasing illumination levels. These lamps work directly off your existing electronic ballasts, within your fixtures, and come in a range of shapes and sizes.

## Commercial Grade LED T8 Lamp

### FEATURES AND BENEFITS

- · No rewiring needed
- Works with fluorescent electronic ballast (Instant Start, Programmed Start, Dimming)\*
- · Long life
- High CRI
- Instant on, no delay
- · Convenient and quick installation
- Utilizes existing instant start or rapid start sockets
- No Mercury, No UV

- · Compatible with controls and sensors
- · Works in cold temperature applications
- · Glass tube for superior optical performance
- 5 Year Warranty
- Super Wide View Angle



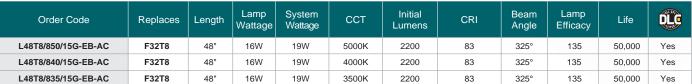
Order Code	Replaces	Length	Lamp Wattage	System Wattage	ССТ	Initial Lumens	CRI	Beam Angle	Lamp Efficacy	Life	DLC
L48T8/850/15G-EB	F32T8	48"	16W	19W	5000K	2200	83	325°	135	50,000	Yes
L48T8/840/15G-EB	F32T8	48"	16W	19W	4000K	2200	83	325°	135	50,000	Yes
L48T8/835/15G-EB	F32T8	48"	16W	19W	3500K	2200	83	325°	135	50,000	Yes
L48T8/850/12G-EB	F32T8	48"	12W	14W	5000K	1800	82	325°	135	50,000	Yes
L48T8/840/12G-EB	F32T8	48"	12W	14W	4000K	1800	82	325°	135	50,000	Yes
L48T8/835/12G-EB	F32T8	48"	12W	14W	3500K	1800	82	325°	135	50,000	Yes
L36T8/850/10G-EB	F25T8	36"	10W	13W	5000K	1400	82	325°	135	50,000	No
L36T8/840/10G-EB	F25T8	36"	10W	13W	4000K	1400	82	325°	135	50,000	No
L36T8/835/10G-EB	F25T8	36"	10W	13W	3500K	1400	82	325°	135	50,000	No
L24T8/850/8G-EB	F17T8	24"	8W	11W	5000K	1100	82	325°	135	50,000	Yes
L24T8/840/8G-EB	F17T8	24"	8W	11W	4000K	1100	82	325°	135	50,000	Yes
L24T8/835/8G-EB	F17T8	24"	8W	11W	3500K	1100	82	325°	135	50,000	Yes

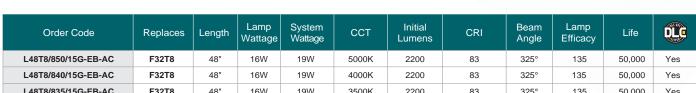


### FEATURES AND BENEFITS

- Complete Containment
  - · Safety Compliance:
- · Protection from end to end
- FDA, USDA, OSHA







## LED T5/HO Lamp • Simplicity

### FEATURES AND BENEFITS

- · No rewiring needed
- · Long life
- High CRI
- · Instant on, no delay
- Convenient and quick installation
- Utilizes existing G5 sockets for T5 & T5HO
- No Mercury, No UV

- · Compatible with controls and sensors
- · Works in cold temperature applications
- Works with fluorescent electronic T5/HO ballast
- Super Wide View Angle up to 240°
- 5 Year Warranty



*Glass Series Model No.	Replaces	Length	Lamp Wattage	System Wattage	сст	Initial Lumens	CRI	Beam Angle	Lamp Efficacy	Life
L48T5/850/24G-EB	F54T5HO	48"	24W	27W	5000K	3200	83	240°	133	50,000
L48T5/840/24G-EB	F54T5HO	48"	24W	27W	4000K	3200	83	240°	133	50,000
L48T5/835/24G-EB	F54T5HO	48"	24W	27W	3500K	3200	83	240°	133	50,000

*Plastic Series Model No.	Replaces	Length	Lamp Wattage	System Wattage	сст	Initial Lumens	CRI	Beam Angle	Lamp Efficacy	Life
L48T5/850/24P-EB	F54T5HO	48"	24W	27W	5000K	3000	83	180°	125	40,000
L48T5/840/24P-EB	F54T5HO	48"	24W	27W	4000K	3000	83	180°	125	40,000
L48T5/835/24P-EB	F54T5HO	48"	24W	27W	3500K	3000	83	180°	125	40,000

\*STANDARD REPLACEMENT BALLASTS: VE254MVHRP AND VE454MVHRP

# COMMERCIAL GRADE U-BENT SERIES FEATURES AND BENEFITS

- No rewiring needed
- Works with fluorescent electronic ballast (Instant Start, Programmed Start, and Dimming)\*
- Long life
- High CRI
- · Instant on, no delay
- · Convenient and quick installation
- Wide View Angle
- Utilizes existing instant start or rapid start sockets

- No Mercury, No UV
- Compatible with controls and sensors
- Works in cold temperature applications
- 5 Year Warranty

LB32T8

LB48TU6

LB31T8



## Slimline/HO/VHO · Specialty

### FEATURES AND BENEFITS

- No rewiring needed
- Works with fluorescent electronic ballast
- Long life
- High CRI
- Instant on, no delay
- · Convenient and quick installation
- Utilizes existing FA8 or R17d sockets
- · Compatible with controls and sensors

- Works in cold temperature applications
- Glass tube for superior optical performance
- 5 Year Warranty
- Wide View Angle



Order Code	Replace	Length	Lamp Power	System Power	ССТ	Initial Lumens	CRI	Beam Angle	Lamp Efficacy	System Efficacy	Life
L96T8/850/24G-EB	F96T8, F96T12	96"	24W	27W	5000K	3500	83	325°	135	120	50,000
L96T8/840/24G-EB	F96T8, F96T12	96"	24W	27W	4000K	3500	83	325°	135	120	50,000
L96T8/835/24G-EB	F96T8, F96T12	96"	24W	27W	3500K	3500	83	325°	135	120	50,000
L72T8/SL/850/18G-EB	F72T8, F72T12	72"	18W	21W	5000K	2700	83	325°	135	120	50,000
L72T8/SL/840/18G-EB	F72T8, F72T12	72"	18W	21W	4000K	2700	83	325°	135	120	50,000
L72T8/SL/835/18G-EB	F72T8, F72T12	72"	18W	21W	3500K	2700	83	325°	135	120	50,000
L60T8/SL/850/15G-EB	F60T12	60"	15W	18W	5000K	2200	83	325°	135	120	50,000
L60T8/SL/840/15G-EB	F60T12	60"	15W	18W	4000K	2200	83	325°	135	120	50,000
L60T8/SL/835/15G-EB	F60T12	60"	15W	18W	3500K	2200	83	325°	135	120	50,000
L96T8HO/850/42G-EB	F96T12HO, F96T12VHO	96"	42W	45W	5000K	5500	83	325°	135	120	50,000
L96T8HO/840/42G-EB	F96T12HO, F96T12VHO	96"	42W	45W	4000K	5500	83	325°	135	120	50,000
L96T8HO/835/42G-EB	F96T12HO, F96T12VHO	96"	42W	45W	3500K	5500	83	325°	135	120	50,000
L72T8HO/850/18G-EB	F72T12HO, F72T12VHO	72"	18W	21W	5000K	2700	83	325°	135	120	50,000
L72T8HO/840/18G-EB	F72T12HO, F72T12VHO	72"	18W	21W	4000K	2700	83	325°	135	120	50,000
L72T8HO/835/18G-EB	F72T12HO, F72T12VHO	72"	18W	21W	3500K	2700	83	325°	135	120	50,000
L60T8HO/850/15G-EB	F60T12HO, F60T12VHO	60"	15W	18W	5000K	2200	83	325°	135	120	50,000
L60T8HO/840/15G-EB	F60T12HO, F60T12VHO	60"	15W	18W	4000K	2200	83	325°	135	120	50,000
L60T8HO/835/15G-EB	F60T12HO, F60T12VHO	60"	15W	18W	3500K	2200	83	325°	135	120	50,000

\*STANDARD REPLACEMENT BALLASTS FOR L96T8/L96T8HO: VE259MVHIP

\*STANDARD REPLACEMENT BALLASTS FOR L72T8/L72T8HO & L60T8/L60T8HO: VE2P32MVHIPE



# Retro Flex\*\*

## **LED Drivers**

### NON-DIMMABLE DRIVERS FEATURES AND BENEFITS

- Instant Start
- Constant Current
- Universal Voltage (120-277V)
- 5 Year Warranty
- Energy Efficient Design
- Micro Case: Same mounting for T8 and T12
- High Performance
- Model No.: VEL50BN-2C (2 LAMP) VEL100BN-4C (4 LAMP)



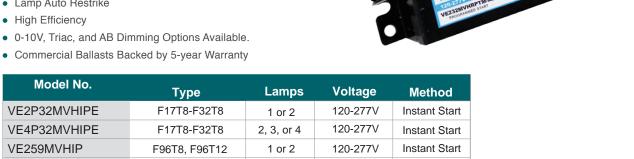
## DIMMABLE DRIVERS FEATURES AND BENEFITS

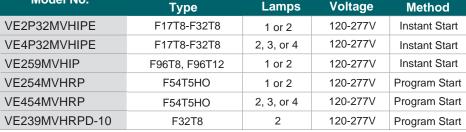
- Instant Start
- Constant Current
- 0-10V Continuous Dimming: 10%-100%
- Universal Voltage (120-277V)
- Slim Profile
- 5 Year Warrenty
- Model No.: VEL30BN-2C-10V (2 LAMP) VEL60BN-4C-10V (4 LAMP)



### ELECTRONIC BALLASTS FEATURES AND BENEFITS

- Full Ballast Line
- Slim Profile
- Lamp Auto Restrike





SUGGESTED BALLAST REPLACEMENTS FOR RETROFLEX LED LAMPS. FOR MORE BALLAST OPTIONS PLEASE CHECK ESPEN WEBSITE WWW.ESPENTECH.COM

## **Emergency Ballast**

The LED emergency ballast works in conjunction with the AC ballast and LED lamps to allow the same fluorescent fixture to be used for both normal and emergency operations.

- UL listed
- Compatible with RetroFlex and RetroFlex HE plug & play LED lamps
- Dual input voltage (120/277V)
- 500 Lumen, 700 Lumen, 800 Lumen and 1300 Lumen options
- Maintenance-free, long-life,
- High temperature Ni-Cad battery
- Durable, heavy duty steel housing in painted white finish
- Low-profile design fits most Fluorescent fixtures
- 7-Year warranty

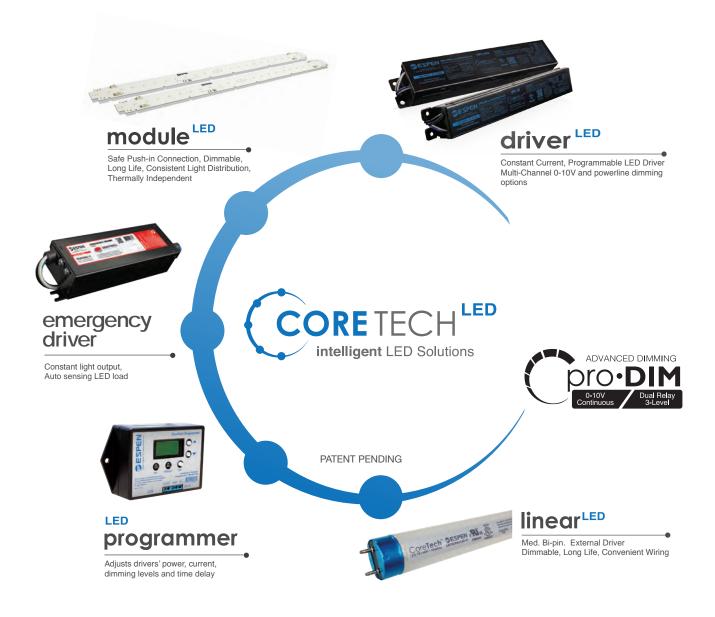
Model No.	Lumens	Input Voltage	Operation Hours	Case
VEM500DV-L	500	120/277	90 mins	Regular
VEM700DV-L	700	120/277	90 mins	Regular
VEM1300DV-L	1300	120/277	90 mins	Regular
VEM500DV-T5-L	500	120/277	90 mins	Slim
VEM800DV-T5-L	800	120/277	90 mins	Slim
VEM1300DV-T5-L	1300	120/277	90 mins	Slim











#### **ESPEN CORETECH LED SYSTEM**

LED lamps with external driver for full controllability Espen's CoreTech LED system consists of industry-leading LED lamps and programmable multi-channel drivers. The CoreTech system utilizes the exact same wiring diagram as fluorescent ballasts. The Upgrade is handled the same as replacing an electronic ballast and lamps. Your facility can save up to 50% of system power while maintaining or increasing illumination levels.

The CoreTech multi-channel design permits all lamps to work independently to prevent total darkness when one lamp fails. The user-friendly programmability allows you to set the same system for normal output, high output, or low output, to match your application requirements.



### FEATURES AND BENEFITS

- No Polarity: lamp ends can be reversed
- Same wiring as fluorescent lamp/ballast
- UL 1598C for safety
- Full Glass as Fluorescent T8
- No Mercury, No UV
- Suitable for Dry and Damp Locations
- Low Temperature Operation
- Instant On

- 60,000 hours with no limitation on On/Off Cycles
- 5-year Warranty
- Evaluated for use in totally enclosed, recessed luminaires, surface mount wall and ceiling luminaires, outdoor luminaires (open surface mount luminaires with compartment protection from weather)
- · For use with Class 2 driver only



### Normal Output (300mA Driving Current)

Model No.	System Wattage	Lamp Wattage	CRI	Length (in)	System Efficacy (Im/W)	Initial Lumens	Beam Angle	ССТ
L48T8/8XX/15G-XT	15	12	82	48"	120	1800	325°	XX
L36T8/8XX/11G-XT	14	11	82	36"	115	1600	325°	35 = 3500K 40 = 4000K
L24T8/8XX/8G-XT	11	8	82	24"	110	1200	325°	50 = 5000K

## High Output (360mA Driving Current)

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Model No.	System Wattage	Lamp Wattage	CRI	Length (in)	System Efficacy (Im/W)	Initial Lumens	Beam Angle	ССТ
L48T8/8XX/15G-XT	18	15	82	48"	122	2200	325°	XX
L36T8/8XX/11G-XT	16	13	82	36"	118	1900	325°	35 = 3500K 40 = 4000K
L24T8/8XX/8G-XT	13	10	82	24"	108	1400	325°	50 = 5000K

### Plastic Series (500mA Driving Current)

Model No.	System Wattage	Lamp Wattage	CRI	Length (in)	System Efficacy (Im/W)	Initial Lumens	Beam Angle	ССТ
L48T8/8XX/22W-XT	25	22	82	48"	100	2200	160°	XX
L36T8/8XX/15W-XT	18	15	82	36"	100	1800	160°	35 = 3500K 40 = 4000K
L24T8/8XX/11W-XT	15	12	82	24"	80	1200	160°	50 = 5000K



# ADVANCED LED DRIVERS FEATURES AND BENEFITS

- Advanced dimming with Pro-DIM technology: 0-10V and/or AB dimming
- Same wiring as fluorescent lamp/ballast
- Suitable for Dry and Damp Locations
- UL Recognized, Class 2
- Low Temperature Operation
- Instant On
- 5-year Warranty



Model No.	Output Current	Wattage	Input Voltage	Dimming Capabilities	Driver Type	No. of Channel	Life
VPL50-2C	Programmable	50	120-277V	0-10V/AB	Constant Current	2	50,000
VPL100-4C	Programmable	100	120-277V	0-10V/AB	Constant Current	4	50,000
VEL50-500-MVHDA-10V-2C	500mA	50	120-277V	0-10V	Constant Current	2	50,000

System Applications:	For LED CoreTech LED T8 Lamp and LED Modules
Applications:	For LED CoreTech LED T8 Lamp and LED Module

### LED PROGRAMMER

#### **VPL-PROG**

The CoreTech VPL Programmer connects to CoreTech LED drivers to adjust and configure specifications according to LED system needs.



# EMERGENCY DRIVER FEATURES AND BENEFITS

- Constant light output
- Auto sensing LED load
- Universal Input (120-277V)
- Thermally Independent
- UL Recognized
- Heavy duty battery
- Programmable for Lumen Output
- Model No.
   Battery Package
   Operation Hours
   Lumens

   VEM20MV-Y
   BA/XX/4AH
   90 mins
   500-800

   BA/XX/6AH
   90 mins
   800-1300





## LED MODULES FEATURES AND BENEFITS

- High Efficacy
- Push-In Connectors
- Long Life
- Flexibility in Design
- Consistent and Even Light Distribution
- Thermally Independent
- UL for Safety: UL1598C for LED Retrofit Kits
- Suitable for DLC Applications
- 5-year Warranty



Model No.	Lumen	ССТ	CRI	SDCM	Driving Current (mA)	P (W) Module Tc 55°C	lm.W * Module Tc 55°C	L70 B50 * (h)
VLM9L/250/830/1R/560x20	1578	3000	> 80	6	300	11.0	143	50,000
VLM9L/250/835/1R/560x20	1603	3500	> 80	6	300	11.0	145	50,000
VLM9L/250/840/1R/560x20	1653	4000	> 80	6	300	11.0	150	50,000
VLM9L/250/850/1R/560x20	1703	5000	> 80	6	300	11.0	154	50,000
VLM14L/500/830/1R/560x20	2630	3000	> 80	6	500	18.4	143	50,000
VLM14L/500/835/1R/560x20	2672	3500	> 80	6	500	18.4	145	50,000
VLM14L/500/840/1R/560x20	2755	4000	> 80	6	500	18.4	150	50,000
VLM14L/500/850/1R/560x20	2839	5000	> 80	6	500	18.4	154	50,000
VLM20L/500/830/1R/560x20	3358	3000	> 80	6	500	23.5	143	50,000
VLM20L/500/835/1R/560x20	3412	3500	> 80	6	500	23.5	145	50,000
VLM20L/500/840/1R/560x20	3518	4000	> 80	6	500	23.5	150	50,000
VLM20L/500/850/1R/560x20	3626	5000	> 80	6	500	23.5	154	50,000

# ADVANCED LED DRIVERS FEATURES AND BENEFITS

Espen's extensive range of advanced LED drivers offer:

- Constant current or constant voltage
- 0-10V or triac dimming options
- Ul recognized
- 5-Year warranty
- Protections: short circuit, open
- · Circuit, overload, and overheat
- Advance thermal management
- for long life
- Multiple case options





## LED T8 with Internal Driver

### **Espen Flex LED Lamps**

Espen Flex LED lamps have an internal driver that frees linear luminaires from old fluorescent ballasts and lamps. The lamp works directly off of line input voltage 120/277V. Flex lamps make convenient and effective retrofit solutions for any old T12 system, especially with magnetic ballasts. Simply remove the old fluorescent ballast and wire line voltage directly to one side of the unshunted lampholder. Flex lamps can save you up to 50% of system power, while maintaining or increasing illumination levels. Flex lamps come in a range of sizes, including linear 2ft, 3ft, 4ft.

### FEATURES AND BENEFITS

- Internal Driver
- Smooth, Consistent Light
- UL for Safety
- No UV, No Mercury
- Long Life
- High CRI
- Instant on, no delay or warm up time
- Convenient and quick installation

- Utilizes unshunted (rapid start) sockets
- Compatible with controls and sensors
- Works in cold temperature applications
- 5 Year Warranty
- Glass tube for superior optical performance
- Superior Wide View Angle



Model No.	Length	Lamp Wattage	Input Voltage	CCT	Initial Lumens	CRI	View Angle	Lamp Efficacy	Life	
L48T8/835/14G-ID	48"	14W	100-277V	3500K	1800	83	325	120	50,000	Yes
L48T8/840/14G-ID	48"	14W	100-277V	4000K	1800	83	325	120	50,000	Yes
L48T8/850/14G-ID	48"	14W	100-277V	5000K	1800	83	325	120	50,000	Yes
L48T8/835/18G-ID	48"	18W	100-277V	3500K	2200	83	325	120	50,000	Yes
L48T8/840/18G-ID	48"	18W	100-277V	4000K	2200	83	325	120	50,000	Yes
L48T8/850/18G-ID	48"	18W	100-277V	5000K	2200	83	325	120	50,000	Yes
L36T8/835/12G-ID	36"	12W	100-277V	3500K	1400	83	325	120	50,000	No
L36T8/840/12G-ID	36"	12W	100-277V	4000K	1400	83	325	120	50,000	No
L36T8/850/12G-ID	36"	12W	100-277V	5000K	1400	83	325	120	50,000	No
L24T8/835/9G-ID	24"	9W	100-277V	3500K	1100	83	325	120	50,000	Yes
L24T8/840/9G-ID	24"	9W	100-277V	4000K	1100	83	325	120	50,000	Yes
L24T8/850/9G-ID	24"	9W	100-277V	5000K	1100	83	325	120	50,000	Yes

### SOCKETS

NOTE: Will not operate on shunted sockets. Use only with unshunted (rapid start) sockets.







### FEATURES AND BENEFITS

- Internal Driver
- Smooth, Consistent Light
- UL for Safety
- No UV, No Mercury
- Long Life
- High CRI
- Instant on, no delay or warm up time
- Convenient and quick installation
- Utilizes current lamp sockets
- Compatible with controls and sensors
- Works in cold temperature applications
- 5 Year Warranty



Model No.	Replace	Lamp Wattage	Input Voltage	Initial Lumens	CRI	ССТ	Life
LT40W/835-ID	FT40W/FT55W	18W	120-277V	1800	83	XX	50,000
LT36W/835-ID	FT36W	15W	120-277V	1200	83	35 = 3500K	50,000
LT24W/835-ID	FT24W	10W	120-277V	800	83	40 = 4000K	50,000
LT18W/835-ID	FT18W	8W	120-277V	640	83	50 = 5000K	50,000

Model No.	Replace	Lamp Wattage	Input Voltage	Initial Lumens	CRI	ССТ	Life
CLD18WH/8XX-ID	18W, 26W,32W, 42W CFQ	11W	120-277V	1000	83	<b>XX</b> 35 = 3500K	50,000
CLD18WV/8XX-ID	18W, 26W,32W, 42W CFQ	11W	120-277V	1000	83	40 = 4000K 50 = 5000K	50,000





#### **HEADQUARTERS**

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