



# SPECIFICATION SHEET

## T8 Direct Install LED Lamp†

Operates with Applicable Ballast

Item Number **33653**

### Specifications

Energy Used (Watts).....	17
Domestic Code .....	LED 17T8/48"/40 Direct Install
Volts .....	220
Brightness (Lumens) .....	2200
Average Rated Hours .....	50,000
Life (in years)*.....	45.6
Light Appearance (Kelvin).....	4000
CRI .....	82
Efficacy (LPW).....	129
Number of LED Modules.....	80
Minimum Starting Temperature.....	-20°C/-4°F
Estimated Yearly Energy Cost**.....	\$2.05
Package Type .....	Sleeve

† Dimmable when used with applicable ballast.



### Physical Characteristics

Color Designation .....	Cool White
Finish.....	Frost
Base.....	G13 (Medium BiPin)
MOL .....	48"



### Warning

- Turn power off before inspection, installation, or removal.
- Risk of electric shock - Do not use where exposed to water or weather.
- For use in totally enclosed fixtures.
- Do not open – no user serviceable parts inside.
- This device is not intended for use with emergency exit luminaires or emergency exit lights.
- This device complies with Part 15 of the FCC rules and has been tested and found to comply with the limits for a Class B digital device. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. Any changes or modifications not expressly approved by the manufacturer could void the user's authority to operate the equipment.

\*Based on 3 hrs./day

\*\* Based on 3 hrs./day 11¢/kWh - Cost depends on rates and use.

# Compatible Ballasts (Instant Start)

## One Lamp, Instant Start, Normal Ballast Factor

Manufacturer	Series/Model
EIKO	PM-2X32T8-UNV-IS, PM-3X32T8-UNV-IS, PM-4X32T8-UNV-IS
ESPEN	VE232MVIHPE
GENERAL ELECTRIC	GE132MAXP-N/ULTRA, GE132MAXG-N, GE-232-MV-N, GE232MAX-N/ULTRA, GE232MV-N-DIY, GE232-120-RES, GE332MV-N, GE332MAX-G-N, GE332MAX-N/ULTRA, GE432MAX-G-N, GE432-120-RES, GE432MV-N-42T, GE432MAX-N/ULTRA
HALCO	EP232IS/MV/HE, EP332IS/MV/HE, EP432IS/MV/HE, E432IS/120/R/SL
HOWARD INDUSTRIES	E2/32IS-120MC, EP2/32IS/MV/MC/HE, EP3/32IS/MV/SC/HE, EP3/32IS/MV/MC/HE, EP4/32IS/MV/MC/HE
KEYSTONE	KTEB-232-UV-IS-N-P, KTEB-332-UV-IS-N-P, KTEB-432-UV-IS-N-P, KTEB-432RIS-1-TP-SL
LUMAPRO	4KGHI EB-432IS-120
MAXLITE	SKEU323L/SC, SKEU324HE/SC, MLEU324HE/SC
OSRAM SYLVANIA	QHE 1X32T8/UNV ISN-SC, QTP 1X32T8/UNV ISN-SC, QTP 2X32T8/UNV ISN-SC, QHE 2X32T8/UNV ISN-SC, QTP 3X32T8/UNV ISN-SC, QHE 3X32T8/UNV ISN-SC, QHE 4X32T8/UNV ISN-SC
PHILIPS-ADVANCE	ICN-1P32-N, IOPA-1P32-N, IOP-1P32-N, ICN-2P32-N, IOPA-2P32-N, IOP2P32-N, ICN-3P32-N, ICN-4P32-SC, ICN-4P32-N, IOP-4P32-N, REB-4P32-SC
PLUSRITE	BAF232IS/MV, BAF332IS/MV
ROBERTSON	ISU232T8120 3P20116
SOLA	E-758-F-232-SC, E-758-U-232-MC
SUNPARK	120-1/32IS HPF, U-3/32ISE, 120-3/32IS MPF, U-4/32IS HPF
TCP	E3P32ISUNVE, E4P32ISUNVE
UNIVERSAL LIGHTING TECHNOLOGIES	B132IUNVHP-N, B232IUNVHP-N, B233IUNVHE-A, B232I120RES-A, B332IUNVHP-A, B432IUNVHP-A, B432I120RES-A
WORK HORSE	WHS3-UNV-T8-IS, WHSG4-UNV-T8-IS, WHCG4-120-T8-IS

## One Lamp, Instant Start, Low Ballast Factor

Manufacturer	Series/Model
EIKO	PM-2X32T8-UNV-IS-L, PM-3X32T8-UNV-IS-L, PM-4X32T8-UNV-IS-L
ESPEN	VE232MVIHPE
GENERAL ELECTRIC	GE132MAX-L/ULTRA, GE232MAX-L/ULTRA, GE332MAX-L/ULTRA, GE432MAX-L/ULTRA
HALCO	EP232IS/L/MV/SL, EP432IS/L/MV/HE
HOWARD INDUSTRIES	EPL2/32IS/MV/MC/HE, EPL3/32IS/MV/SC/HE, EPL4/32IS/MV/MC/HE
MAXLITE	SKEU322HEL/SC, MLEU322HEL/SC
OSRAM SYLVANIA	QHE 1X32T8/UNV ISL-SC, QHE 2X32T8/UNV ISL-SC, QHE 3X32T8/UNV ISL-SC, QHE 4X32T8/UNV ISL-SC
PHILIPS-ADVANCE	IOP-2P32-LW-N, IOPA-3P32-LW-N, IOP-4P32-LW-N
SUNPARK	U-2/32ISE-LBF, U-4/32ISE-LBF
TCP	E3P32ISUNVLE
UNIVERSAL LIGHTING TECHNOLOGIES	B232IUNVEL-A, B432IUNVHE L-A

## One Lamp, Instant Start, High Ballast Factor

Manufacturer	Series/Model
EIKO	PM-3X32T8-UNV-IS-H
ESPEN	VE232MVIHPE
GENERAL ELECTRIC	GE132MAX-H/ULTRA, GE-232-MAX-H/Ultra, GE332MAXP-H/ULTRA, GE432MAX-H/ULTRA
HOWARD INDUSTRIES	EPH2/32IS/MV/MC/HE, EPH4/32IS/MV/SC/HE
MAXLITE	MLEU323H/SC
OSRAM SYLVANIA	QHE 3X32T8/UNV ISH-SC
PHILIPS-ADVANCE	IOPA-2P32HL-SC, IOPA-4P32-HL-SC
SUNPARK	U-2/32IS HBF, U-3/32ISE-HBF, U-4/32IS HBF
TCP	E2P32ISUNVHE, E4P32ISUNVHE
UNIVERSAL LIGHTING TECHNOLOGIES	B232IUNVHEH-A

# Compatible Ballasts (Instant Start)

## Two Lamps, Instant Start, Normal Ballast Factor

Manufacturer	Series/Model
EIKO	PM-2X32T8-UNV-IS, PM-3X32T8-UNV-IS, PM-4X32T8-UNV-IS
ESPEN	VE232MVHIPE
GENERAL ELECTRIC	GE-232-MV-N, GE232MAX-N/ULTRA, GE232MV-N-DIY, GE232-120-RES, GE332 MV-N, GE332MAX-G-N, GE332MAX-N/ULTRA, GE432MAX-G-N, GE432-120-RES, GE432MV-N-42T, GE432MAX-N/ULTRA
HALCO	EP232IS/MV/HE, EP332IS/MV/HE, E432IS/120/R/SL, EP432IS/MV/HE
HOWARD INDUSTRIES	E2/32IS-120MC, EP2/32IS/MV/MC/HE, EP3/32IS/MV/SC/HE, EP3/32IS/MV/MC/HE, EP4/32IS/MV/MC/HE
KEYSTONE	KTEB-232-UV-IS-N-P, KTEB-332-UV-IS-N-P, KTEB-432-UV-IS-N-P, KTEB-432RIS-1-TP-SL
LUMAPRO	4KGHI EB-432IS-120
MAXLITE	SKEU323L/SC, SKEU324HE/SC, MLEU324HE/SC
OSRAM SYLVANIA	QTP 2X32T8/UNV ISN-SC, QHE 2X32T8/UNV ISN-SC, QTP 3X32T8/UNV ISN-SC, QHE 3X32T8/UNV ISN-SC, QHE 4X32T8/UNV ISN-SC
PHILIPS-ADVANCE	ICN-2P32-N, IOPA-2P32-N, IOP2P32-N, ICN-3P32-N, ICN-4P32-SC, ICN-4P32-N, IOP-4P32-N, REB-4P32-SC
PLUSRITE	BAF232IS/MV, BAF332IS/MV
ROBERTSON	ISU232T8120 3P20116
SOLA	E-758-F-232-SC, E-758-U-232-MC
SUNPARK	U-3/32ISE, 120-3/32IS MPF, U-4/32IS HPF
TCP	E3P32ISUNVE, E4P32ISUNVE
UNIVERSAL LIGHTING TECHNOLOGIES	B232IUNVHP-N, B233IUNVHE-A, B232I120RES-A, B332IUNVHP-A, B432IUNVHP-A, B432I120RES-A
WORK HORSE	WHSG3-UNV-T8-IS, WHSG4-UNV-T8-IS, WHCG4-120-T8-IS

## Two Lamps, Instant Start, Low Ballast Factor

Manufacturer	Series/Model
EIKO	PM-2X32T8-UNV-IS-L, PM-3X32T8-UNV-IS-L, PM-4X32T8-UNV-IS-L
ESPEN	VE232MVHIPL
GENERAL ELECTRIC	GE232MAX-L/ULTRA, GE332MAX-L/ULTRA, GE432MAX-L/ULTRA
HALCO	EP232IS/L/MV/SL, EP432IS/L/MV/HE
HOWARD INDUSTRIES	EPL2/32IS/MV/MC/HE, EPL3/32IS/MV/SC/HE, EPL4/32IS/MV/MC/HE
MAXLITE	SKEU322HEL/SC, MLEU322HEL/SC
OSRAM SYLVANIA	QHE 2X32T8/UNV ISL-SC, QHE 3X32T8/UNV ISL-SC, QHE 4X32T8/UNV ISL-SC
PHILIPS-ADVANCE	IOP-2P32-LW-N, IOPA-3P32-LW-N, IOP-4P32-LW-N
SUNPARK	U-2/32ISE-LBF, U-4/32ISE-LBF
TCP	E3P32ISUNVLE
UNIVERSAL LIGHTING TECHNOLOGIES	B232IUNVEL-A, B432IUNVHE L-A

## Two Lamps, Instant Start, High Ballast Factor

Manufacturer	Series/Model
EIKO	PM-3X32T8-UNV-IS-H
ESPEN	VE232MVHIPHE
GENERAL ELECTRIC	GE-232-MAX-H/ULTRA, GE332MAXP-H/ULTRA, GE432MAX-H/ULTRA
HOWARD INDUSTRIES	EPH2/32IS/MV/MC/HE, EPH4/32IS/MV/SC/HE
MAXLITE	MLEU323H/SC
OSRAM SYLVANIA	QHE 3X32T8/UNV ISH-SC
PHILIPS-ADVANCE	IOPA-2P32HL-SC, IOPA-4P32-HL-SC
SUNPARK	U-2/32IS HBF, U-3/32ISE-HBF, U-4/32IS HBF
TCP	E2P32ISUNVHE, E4P32ISUNVHE
UNIVERSAL LIGHTING TECHNOLOGIES	B232IUNVHEH-A



# Compatible Ballasts (Instant Start)

## Three Lamps, Instant Start, Normal Ballast Factor

Manufacturer	Series/Model
EIKO	PM-3X32T8-UNV-IS, PM-4X32T8-UNV-IS
GENERAL ELECTRIC	GE332 MV-N, GE332MAX-G-N, GE332MAX-N/ULTRA, GE432MAX-G-N, GE432-120-RES, GE432MV-N-42T, GE432MAX-N/ULTRA
HALCO	EP332IS/MV/HE, E432IS/120/R/SL, EP432IS/MV/HE
HOWARD INDUSTRIES	EP3/32IS/MV/SC/HE, EP3/32IS/MV/MC/HE, EP4/32IS/MV/MC/HE
KEYSTONE	KTEB-332-UV-IS-N-P, KTEB-432RIS-1-TP-SL, KTEB-432-UV-IS-N-P
LUMAPRO	4KGHI EB-432IS-120
MAXLITE	SKEU323L/SC, SKEU324HE/SC, MLEU324HE/SC
OSRAM SYLVANIA	QTP 3X32T8/UNV ISN-SC, QHE 3X32T8/UNV ISN-SC, QHE 4X32T8/UNV ISN-SC
PHILIPS-ADVANCE	ICN-3P32-N, ICN-4P32-SC, ICN-4P32-N, IOP-4P32-N, REB-4P32-SC
PLUSRITE	BAF332IS/MV
SUNPARK	U-3/32ISE, 120-3/32IS MPF, U-4/32IS HPF
TCP	E3P32ISUNVE, E4P32ISUNVE
UNIVERSAL LIGHTING TECHNOLOGIES	B332IUNVHP-A, B432IUNVHP-A, B432I120RES-A
WORK HORSE	WHSG3-UNV-T8-IS, WHSG4-UNV-T8-IS, WHCG4-120-T8-IS

## Three Lamps, Instant Start, Low Ballast Factor

Manufacturer	Series/Model
EIKO	PM-3X32T8-UNV-IS-L, PM-4X32T8-UNV-IS-L
GENERAL ELECTRIC	GE332MAX-L/ULTRA, GE432MAX-L/ULTRA
HALCO	EP432IS/L/MV/HE
HOWARD INDUSTRIES	EPL3/32IS/MV/SC/HE, EPL4/32IS/MV/MC/HE
OSRAM SYLVANIA	QHE 3X32T8/UNV ISL-SC, QHE 4X32T8/UNV ISL-SC
PHILIPS-ADVANCE	IOPA-3P32-LW-N, IOP-4P32-LW-N
SUNPARK	U-4/32ISE-LBF
TCP	E3P32ISUNVLE
UNIVERSAL LIGHTING TECHNOLOGIES	B432IUNVHE L-A

## Three Lamps, Instant Start, High Ballast Factor

Manufacturer	Series/Model
EIKO	PM-3X32T8-UNV-IS-H
GENERAL ELECTRIC	GE332MAXP-H/ULTRA, GE432MAX-H/ULTRA
HOWARD INDUSTRIES	EPH4/32IS/MV/SC/HE
MAXLITE	MLEU323H/SC
OSRAM SYLVANIA	QHE 3X32T8/UNV ISH-SC
PHILIPS-ADVANCE	IOPA-4P32-HL-SC
SUNPARK	U-3/32ISE-HBF, U-4/32IS HBF
TCP	E4P32ISUNVHE

## Four Lamps, Instant Start, Normal Ballast Factor

Manufacturer	Series/Model
EIKO	PM-4X32T8-UNV-IS
GENERAL ELECTRIC	GE432MAX-G-N, GE432-120-RES, GE432MV-N-42T, GE432MAX-N/ULTRA
HALCO	E432IS/120/R/SL, EP432IS/MV/HE
HOWARD INDUSTRIES	EP4/32IS/MV/MC/HE
KEYSTONE	KTEB-432RIS-1-TP-SL, KTEB-432-UV-IS-N-P
LUMAPRO	4KGHI EB-432IS-120
MAXLITE	SKEU324HE/SC, MLEU324HE/SC
OSRAM SYLVANIA	QHE 4X32T8/UNV ISN-SC
PHILIPS-ADVANCE	ICN-4P32-SC, ICN-4P32-N, IOP-4P32-N, REB-4P32-SC
SUNPARK	U-4/32IS HPF
TCP	E4P32ISUNVE
UNIVERSAL LIGHTING TECHNOLOGIES	B432IUNVHP-A, B432I120RES-A
WORK HORSE	WHSG4-UNV-T8-IS, WHCG4-120-T8-IS

## Four Lamps, Instant Start, Low Ballast Factor

Manufacturer	Series/Model
EIKO	PM-4X32T8-UNV-IS-L
GENERAL ELECTRIC	GE432MAX-L/ULTRA
HALCO	EP432IS/L/MV/HE
HOWARD INDUSTRIES	EPL4/32IS/MV/MC/HE
OSRAM SYLVANIA	QHE 4X32T8/UNV ISL-SC
PHILIPS-ADVANCE	IOP-4P32-LW-N
SUNPARK	U-4/32ISE-LBF
UNIVERSAL LIGHTING TECHNOLOGIES	B432IUNVHE L-A

## Four Lamps, Instant Start, High Ballast Factor

Manufacturer	Series/Model
GENERAL ELECTRIC	GE432MAX-H/ULTRA
HOWARD INDUSTRIES	EPH4/32IS/MV/SC/HE
PHILIPS-ADVANCE	IOPA-4P32-HL-SC
SUNPARK	U-4/32IS HBF
TCP	E4P32ISUNVHE



# Compatible Ballasts (Programmed Start)

## One Lamp, Programmed Start, Normal Ballast Factor

Manufacturer	Series/Model
GENERAL ELECTRIC	GE232-MVPS-N, GE-332-MVPS-N, GE-232-MV-PS-N, GE432-MVPS-N
OSRAM SYLVANIA	QHE 2X32T8/UNV PSN-MC, QHE 3X32T8/UNV PSN-SC, QHE 4X32T8/UNV PSN-SC
PHILIPS-ADVANCE	IOP-3PSP32-SC, IOP-4PSP32-SC
SUNPARK	LC 12013T, SL15T
SUPERIOR LIFE	70210, 70211
UNIVERSAL LIGHTING TECHNOLOGIES	B232PUNVHE-B, B332PUNVHE-A, B432PUNVHE-A

## One Lamp, Programmed Start, Low Ballast Factor

Manufacturer	Series/Model
OSRAM SYLVANIA	QHE 4X32T8/UNV PSX-SC
PHILIPS-ADVANCE	IOP-2PSP32-LW-N, IOP-3PSP32-LW-SC, IOP-4PSP32-LW-SC

## One Lamp, Programmed Start, High Ballast Factor

Manufacturer	Series/Model
OSRAM SYLVANIA	QHE 2X32T8/UNV PSH-HT

## Two Lamps, Programmed Start, Normal Ballast Factor

Manufacturer	Series/Model
GENERAL ELECTRIC	GE232-MVPS-N, GE-332-MVPS-N, GE432-MVPS-N, GE-232-MV-PS-N
OSRAM SYLVANIA	QHE 2X32T8/UNV PSN-MC, QHE 3X32T8/UNV PSN-SC, QHE 4X32T8/UNV PSN-SC
PHILIPS-ADVANCE	IOP-3PSP32-SC, IOP-4PSP32-SC
SUNPARK	SL15T
SUPERIOR LIFE	70210, 70211
UNIVERSAL LIGHTING TECHNOLOGIES	B232PUNVHE-B, B332PUNVHE-A, B432PUNVHE-A

## Two Lamps, Programmed Start, Low Ballast Factor

Manufacturer	Series/Model
OSRAM SYLVANIA	QHE 4X32T8/UNV PSX-SC
PHILIPS-ADVANCE	IOP-2PSP32-LW-N, IOP-3PSP32-LW-SC, IOP-4PSP32-LW-SC

## Two Lamps, Programmed Start, High Ballast Factor

Manufacturer	Series/Model
OSRAM SYLVANIA	QHE 2X32T8/UNV PSH-HT

## Three Lamps, Programmed Start, Normal Ballast Factor

Manufacturer	Series/Model
GENERAL ELECTRIC	GE-332-MVPS-N, GE432-MVPS-N
OSRAM SYLVANIA	QHE 3X32T8/UNV PSN-SC, QHE 4X32T8/UNV PSN-SC
PHILIPS-ADVANCE	IOP-3PSP32-SC, IOP-4PSP32-SC
SUPERIOR LIFE	70211
UNIVERSAL LIGHTING TECHNOLOGIES	B332PUNVHE-A, B432PUNVHE-A

## Three Lamps, Programmed Start, Low Ballast Factor

Manufacturer	Series/Model
OSRAM SYLVANIA	QHE 4X32T8/UNV PSX-SC
PHILIPS-ADVANCE	IOP-3PSP32-LW-SC, IOP-4PSP32-LW-SC

## Four Lamps, Programmed Start, Normal Ballast Factor

Manufacturer	Series/Model
GENERAL ELECTRIC	GE432-MVPS-N
OSRAM SYLVANIA	QHE 4X32T8/UNV PSN-SC
PHILIPS-ADVANCE	IOP-4PSP32-SC
SUPERIOR LIFE	70211
UNIVERSAL LIGHTING TECHNOLOGIES	B432PUNVHE-A

## Four Lamps, Programmed Start, Low Ballast Factor

Manufacturer	Series/Model
OSRAM SYLVANIA	QHE 4X32T8/UNV PSX-SC
PHILIPS-ADVANCE	IOP-4PSP32-LW-SC

Specifications are subject to change without notice, please visit [www.westinghouselighting.com](http://www.westinghouselighting.com) for latest information.

Call 1-800-999-2226 or visit [www.westinghouselighting.com](http://www.westinghouselighting.com).

®, WESTINGHOUSE, and INNOVATION YOU CAN BE SURE OF are trademarks of Westinghouse Electric Corporation.

Used under license by Westinghouse Lighting. All Rights Reserved.