



GEN2 CLARIS LED Retrofit Kits

2'x2' Linear Troffers

PROJECT NAME
ORDERING #

LED Living Technology's GEN2 CLARIS LED Retrofit Kit is the next generation in energy efficient LED upgrades for linear fluorescent troffers. Payback has never made more sense with 65-80% energy savings over fluorescent lamps and up to 24 years operation once installed.

2'x2' upgrades include system efficacies ranging from 151-158lm/W, increased thermal performance for extended LED lifetimes exceeding 200,000hrs, and the integration of permanent rare-earth magnets for easy and quick installation.

KEY SPECIFICATIONS

Housing For Upgrade LED Retrofit	2'x2' (610mm x 610mm)
Input Power	16W, 24W, 30W, 45W
Input Voltage	120-277VAC
Delivered Light Output	16W - up to 2500 lms 24W - up to 3700 lms 30W - up to 4600 lms 45W - up to 6800 lms
System Efficacy w/LED Power Supply	16W - up to 158 lms/W 24W - up to 151 lm/W 30W - up to 151 lms/W 45W - up to 151 lms/W
CRI	82-86 CRI
CCT	2700K, 3000K, 3500K, 4000K, 5000K
System Lifetime	>60,000 hours (only driver replacement required)
LED Lifetime (L80 Lumen Maintenance)	>110,000 hours [see LED Lifetime chart for kit specific]
Controls	Standard - D Option: 1-10V; PWM; Resistance Dimming Line Voltage - T Option: 120VAC ELV Dimming; 120VAC TRIAC Dimming; 120/277 VAC 1% 0-10V Dimming ● LUTRON - A Option: Hi-lume™ 1% EcoSystem™ LED driver; Hi-lume™ 3-wire LED driver ● LUTRON - E Option: 5-Series EcoSystem™ LED driver
Mounting	Existing linear fluorescent fixtures, w/Permanent Neodymium Magnets, and Rapid Thermafuse Technology
Limited Warranty	7 Years LED Power Supply, 10 Years all other components.

Not all products are qualified on the DLC QPL. To view our DLC qualified products, please consult the DLC Qualified Products List at www.designlights.org/search.



Emergency Battery Pack Ordering Example: **CLA-EM10**

Root	Emergency Battery Pack	Mounting Options
CLA	EM5 - >800 lumens / 5 Watts EM7 - >1200 lumens / 7 Watts EM10 - >1600 lumens / 10 Watts	Blank - Standard Integral Style No-Flex Unit TM** - Top Mount Non-Flex Unit A** - External Mount Dual Flex Unit J** - Box Mount Unit Single Flex Junction Box R** - Dual Flex w/Reflector-Mount R-J** - Single Flex w/Reflector-Mount

SEE PAGE 3 FOR DETAILS



KIT ORDERING

Example: **G2CLA-24-2-D-40-1K-22**

Model Root	Kit*	Dimming	LED Color	Quantity Of Kit Per Housing	Housing Type	Lens Adders
G2CLA	16-2 - 2 Lamp, 16W approx. 2400 lms, 1,200 lms/ft 24-2 - 2 Lamp, 24W approx. 3400 lms, 1,700 lms/ft 16-3 - 3 Lamp, 16W approx. 2500 lms, 1,250 lms/ft 24-3 - 3 Lamp, 24W approx. 3600 lms, 1,800 lms/ft 30-3 - 3 Lamp, 30W approx. 4500 lms, 2,250 lms/ft 16-4 - 4 Lamp, 16W approx. 2500 lms, 1,250 lms/ft 24-4 - 2 UBend/ 4 Lamp, 24W approx. 3700 lms, 1,850 lms/ft 30-4 - 2 Biax Lamp, 30W approx. 4600 lms, 2,300 lms/ft 45-4 - 2/3 Biax Lamp, 45W approx. 6500 lms, 3,250 lms/ft 45-6 - 3 Biax Lamp, 45W approx. 6800 lms, 3,450 lms/ft	D - Standard 0-10V Low Voltage T - Triac / ELV *Available only in 16W, 24W, 30W A - ● LUTRON Hi-lume™ 1% Eco-System™ LED driver; Hi-lume™ 3-wire LED driver E - ● LUTRON 5-Series EcoSystem™ LED driver	27 - 2700K† 30 - 3000K 35 - 3500K 40 - 4000K 50 - 5000K	1K - Standard 1 Kit 2K - Custom 2 Kits	22 - 2X2	BLANK - No Lens LENS22 - 2'x2' Prismatic Overlay Lens SL21 - Frosted Snap-On LED Strip Covers for Parabolic Application

* Lumen value are based on an LED CCT of 5000K maintaining a tolerance of +/- 5% ** Special Order † Not currently listed on the DLC QPL

Please see product specification sheet or DLC QPL list for DLC approved model numbers.



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PRODUCT SPECIFICATIONS

The GEN2 CLARIS LED Retrofit Kit was designed as a powerful step-up over existing LED Upgrade retrofit kits. Power Supply Efficiency, LED Efficiency, Thermal Performance, Ease of Installation, and Controllability were all optimized and improved upon with the latest and most advanced components. Affordability through innovation, has always been LED Living Technology's design approach and with the GEN2 CLARIS LED Retrofit Kit, LLT has once again raised the bar in LED retrofit kit performance, while improving upon energy savings, and cost.

ELECTRICAL PERFORMANCE

Input Voltage: 120-277VAC ALL LED DRIVERS
 Frequency Range: 47 ~ 60Hz

MODEL	DIMENSIONS	CONTROL COMPATIBILITIES								PROTECTIONS	THD (TOTAL HARMONIC DISTORTION)	POWER FACTOR	AMBIENT OPERATING TEMPERATURE
		Dimmable Range	0-10V	Ω	PWM	TRIAC (120V) ELV	0LUTRON Hi-Lume™ 1% EcoSystem™ LED driver; Hi-Lume™ 3-Wire LED driver	0LUTRON 5-Series EcoSystem™ LED Driver					
G2CLA-XX-X-D	L 163mm x W 43mm x H 32mm L 6.41in x W 1.69in x H 1.26in	10%	✓	✓	✓					Short Circuit/Over Current [95-108%] Over Voltage [28 ~ 35V]/Over Temp.	<20%	>.9	-40°F (-40°C) ~ 122°F (50°C)
G2CLA-XX-X-T	L 84mm x W 40mm x H 25.3mm L 3.3in x W 1.57in x H 1in	1%	✓			✓	✓			Short Circuit/Over Current/Over Temp/Output Open Load	<20%	>.9	-22°F (-30°C) ~ 122°F (50°C)
G2CLA-XX-X-A	L 359mm x W 30mm x H 25mm L 14.13in x W 1.18in x H 1in	1%						✓	✓	Short Circuit/Inrush Current limiting <2A / Over Temp/ Open Circuit Protected Output	<20%	>.9	32°F (0°C) ~ 122°F (50°C)
G2CLA-XX-X-E	L 359mm x W 30mm x H 25mm L 14.13in x W 1.18in x H 1in	5%							✓	Short Circuit/Inrush current less than NEMA 410-2011 limit/Overload-protected output/Open Circuit Protected Output	<20%	>.9	32°F (0°C) ~ 122°F (50°C)

THERMAL PERFORMANCE & LED LIFETIME

Information in the chart below reflects individual LED Drive Currents, Measured LED Junction Temperatures installed in troffer housing, and LED Lifetime LM80 Testing.

MODEL	LED JUNCTION TEMPERATURE @25C [77°F] AMBIENT	LUMEN MAINTENANCE @10,000 HRS	L80 LUMEN MAINTENANCE*	L70 LUMEN MAINTENANCE**
G2CLA-16-2	35°C	98.98%	220,000 hrs	350,000 hrs
G2CLA-24-2	41°C	97.95%	110,000 hrs	170,000 hrs
G2CLA-16-3	32°C	99.72%	>850,000 hrs	>850,000 hrs
G2CLA-24-3	35°C	98.98%	220,000 hrs	350,000 hrs
G2CLA-30-3	38°C	98.42%	130,000 hrs	210,000 hrs
G2CLA-16-4	32°C	100.05%	>850,000 hrs	>850,000 hrs
G2CLA-24-4	33°C	99.55%	630,000 hrs	>850,000 hrs
G2CLA-30-4	35°C	99.16%	240,000 hrs	380,000 hrs
G2CLA-45-4	40°C	98.10%	110,000 hrs	180,000 hrs
G2CLA-45-6	35°C	99.13%	250,000 hrs	400,000 hrs

*Time in operation hours before an LED system reaches 80% lumen maintenance.
 **Time in operation hours before an LED system reaches 70% lumen maintenance.



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COMPONENTS & MATERIALS

GEN2 CLARIS LED Retrofit Kits are RoHS Compliant, and vibration resistant. LED Boards are mounted with high performance slow-bonding thermally conductive adhesive, reinforced with permanent Neodymium magnets. All components are thermally managed, including LED power supply, for maximum system lifetime.

Table of Components

MODEL	TOTAL LED RAPID THERMAFUSE STRIPS	QTY DRIVER	CONNECTOR BOARDS	QTY 25" JUMPER CABLES	POWER SUPPLY SCREWS	OPTIONAL LED STRIP SCREWS	UL 1598C LABEL
G2CLA-16-2-W-XX-1K-22 G2CLA-24-2-W-XX-1K-22	2	1	1	2	2	2	2
G2CLA-16-3-W-XX-1K-22 G2CLA-24-3-W-XX-1K-22 G2CLA-30-3-W-XX-1K-22	3	1	1	3	2	3	1
G2CLA-16-4-W-XX-1K-22 G2CLA-24-4-W-XX-1K-22 G2CLA-30-4-W-XX-1K-22 G2CLA-45-4-W-XX-1K-22	4	1	1	4	2	4	1
G2CLA-45-6-W-XX-1K-22	6	1	1	6	2	6	1

EMERGENCY BATTERY PACK *CONSTANT POWER FOR UP TO 120 MINUTES WITH NO LIGHT DEGRADATION*

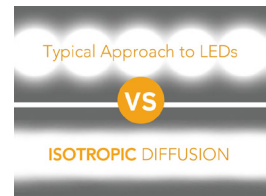
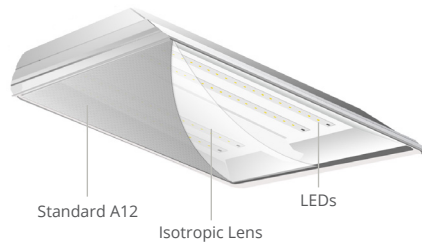


- Exceeds standard 90 minutes of illumination minimum
- Features IOTA's constant power technology for maximum sustained light output
- Able to purchase separately or at a later date and still maintain UL1598C rating
- Can be installed in past CLARIS LED Retrofit Kit Installations
- See CLA-EM Spec Sheet for specifications on new EM Battery Packs

LENS ACCESSORIES

LENS24 - Prismatic Upgrade Applications

Description: This .033" thick acrylic film diffuser overlays over existing Prismatic 2x4 A12 lenses. With beam shaping isotropic diffusion, individual LED hot spots are beam shaped into one continuous line for additional eye-comfort.



Typical Approach to LEDs
VS Isotropic Diffusion

SL21 - Parabolic / Open Housing Applications

Description: Diffusion installs literally with a snap, with LED Living Technology's new and exclusive snap on frosted strip lenses. Designers will find an increased area of diffusion, as the LEDs and snap on diffuser are mounted directly to the back of the housing, effectively eliminating unsightly dark shadowing.



SL21 - Parabolic Snap on Lens Cover



2x4 Parabolic 24W 3 Strip Lens with SL21

ADDITIONAL SPECIFICATIONS

PHOTOMETRICS

Due to the quantity of options available we ask that you please contact an LED Living Technology lighting representative for Photometrics of your specific kit configuration. Photometrics are tested to IESNA LM-7908 standards.

THERMAL MANAGEMENT

LED Boards 21.3" x 1" and LED High Performance Drivers are equipped with Rapid ThermoFUSE Technology: thermally conductive industrial strength adhesive for recycling existing housing as effective heat sink material.

MOUNTING

5-10 minute install. Housing maintains its UL rating with the kit installed (UL1598C). Fluorescent lamps and ballasts are removed, housing is cleaned with a 70% min. alcohol solution. LED Strips in LED Upgrade Retrofit Kit are installed in existing housing with thermally conductive adhesive reinforced with **permanent rare earth magnets**, LED Power supply is mounted underneath existing ballast cover plate. Plug and play design.

Please refer to installation guide for complete installation instructions. Retrofit Housings will retain UL listing if complete Claris LED Retrofit kit is installed utilizing provided installation guide.

WARRANTY

10 Year Limited Warranty on all components with the exception of LED Power Supply.
7 Year Limited Warranty on LED Power Supply.

