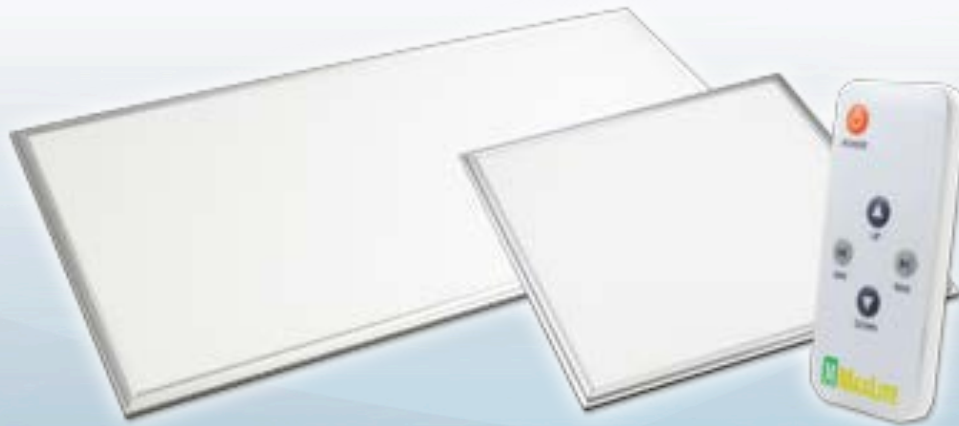




WELCOME

LED PANELS 101

7/31/14 Webinar
Presented by: Greg Murphy



MAXLITE PRESENTS: LED PANELS 101

Topics:

- LED Panels In General
- Form, Shape and Style
- Mounting, Lay-in for Grid, Flush Mount and Surface Mount
- Dimming Control Options
- Q&A Session
- MaxLite Services



MAXLITE PRESENTS: LED PANELS 101

MaxLite has one of the broadest product offerings of LED panels in the market today. MaxLite was one of first in North America with LED panels and is still leading the industry with many new models, options, accessories and more price points than anyone in the industry.

With this new technology comes questions such as, which type is best for my application? Are dimming and other controls available? Will these new products be compatible with my current building controls? Join us to learn the answers these questions and many more!

Become an active participant to the upcoming MaxLite LED Panel Webinar by asking your questions in advance and we will address those specific questions live during the presentation.



QUESTIONS?
Have your voice heard, ask your question in advance while filling out the registration form. Your question/comments will be addressed live during the webinar!

JOIN US TO LEARN MORE!



Thurs, July 31 at 12pm EST

To register click the "REGISTER NOW" button below

REGISTER NOW

Follow us on:



 Add webinar to your Calendar (If prompted to OPEN or SAVE, choose OPEN)

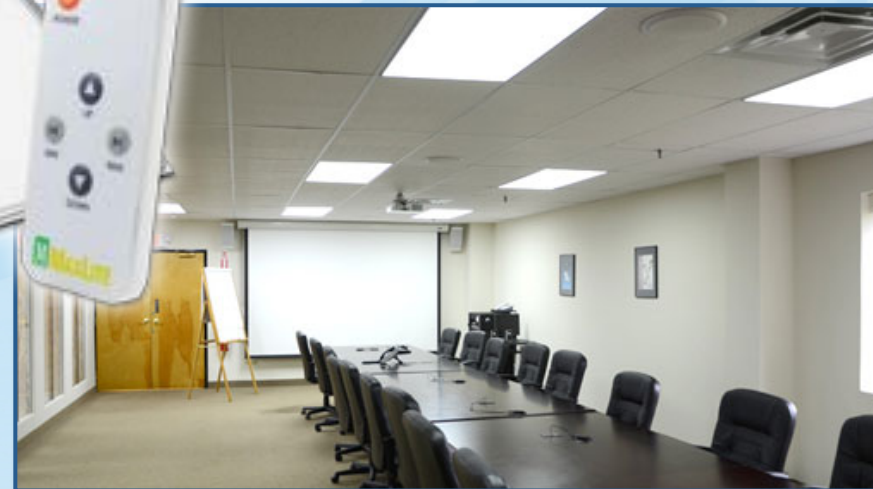
LED PANELS IN GENERAL:

LED PANELS IN GENERAL

- A brief history of panels in North America:** Designed for drop in ceilings, MaxLite's high performance LED ceiling panels are the ideal energy efficient replacement for fluorescent fixtures in offices, schools, hospitality, healthcare and other commercial and industrial applications.

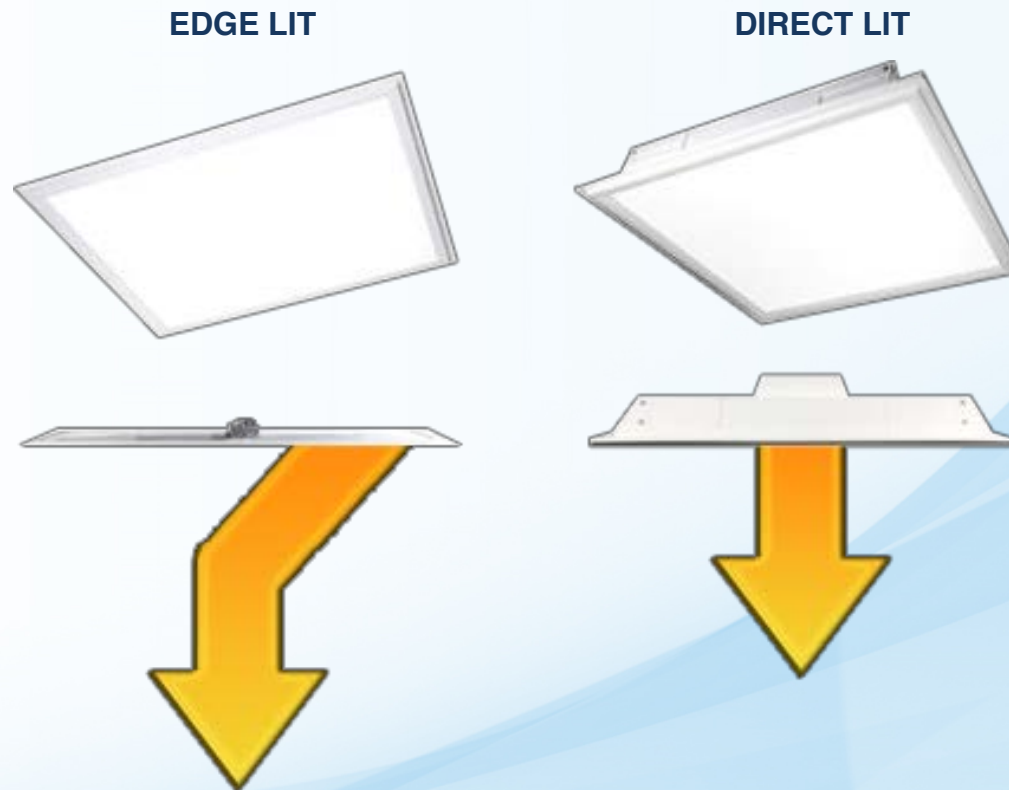


**FIRST IN USA
2009**



LED PANELS IN GENERAL

- Edge Lit technology (how it works) vs. Direct Lit:



ARCMAx VOLUMETRIC LED PANELS

- Designed as cost-effective replacements for volumetric fluorescent troffers, the DLC-qualified **ArcMAX™ Volumetric LED Panels** are ideal for installation in T-bar grid or drop-in ceilings. The ArcMAX delivers excellent color rendering and smooth light output from ceiling to floor in offices, schools, hospitals, government buildings, retailers and other commercial settings.



ArcMAX™ LAY-IN LED PANEL 2'x4'



The MaxLite 2'x4' ArcMAX™ Lay-In LED panels are LED replacements fluorescent lay-in troffers in new or remodel construction. MaxLite's performance optic system, advanced light distribution and architectural styling delivers unprecedented value. High efficacy, excellent color rendering, and low glare combined with a sustainable construction positions these fixtures as ideal solutions for offices, schools, hospitals, retail, and other applications.

PROJECT NAME	
CATALOG NUMBER	
NOTES	
FIXTURE TYPE	ROOM SCHEDULE

FEATURES:

- Watts: 55 nominal
- Avail. color temps: 3500, 4100 and 5000K
- 50,000 hr. life
- Dimming: 0-10V standard
- Warranty: five year limited
- CRI: >82
- Controlled brightness optic eliminates pixelation
- LM-79 test data available
- Available in 1'x4' and 2'x2'



REQUIRE ORDERING INFORMATION:

WATTS	ORDER CODE	MODEL	DELIVERED LUMENS	LIFE	DIMENSIONS	CCT
55	72480	MLVT24D5535	4,600*	50,000	47.8 X 23.7 X 3.5	3500
55	72479	MLVT24D5541	4,800*	50,000	47.8 X 23.7 X 3.5	4100
		MLVT24D5550	5,000*	50,000	47.8 X 23.7 X 3.5	5000

*contact MaxLite for final data.

Installation instructions available online

MaxLite®: 1-800-555-5629 | Fax: 973-244-7333 | Web: www.maxlite.com | E-mail: info@maxlite.com



MaxLite
Revised: 1-8-14

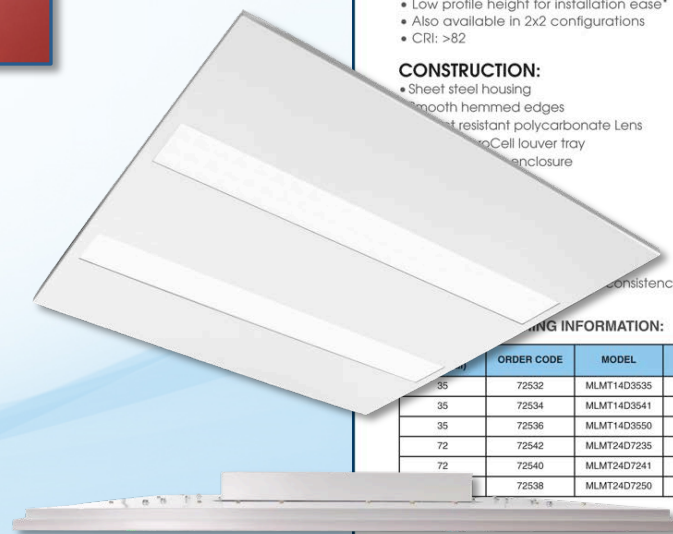


MICRO-T LED PANELS

- MaxLite's **Micro-T™ Lay-In LED Panel** is the next evolution of LED troffer lighting that departs from standard designs by using single or multiple strips, comprised of LM-80 tested LED chips individually enclosed in **MicroCell™ louvers**.



- MicroCell Benefits**
 - Edgelit profile with direct lit performance.
 - Best replacement for a fluorescent fixture.



MICRO-T™ LAY-IN LED PANELS MLMT14D/MLMT24D



MaxLite's Micro-T™ Lay-In LED Panel is the next evolution of LED troffer lighting that departs from standard designs by using single or multiple strips, comprised of LM-80 tested LED chips individually enclosed in MicroCell™ louvers. The Micro-T panel is designed for remodel or new construction installations in gridded lay-ins and troffers in offices, retail, public spaces, and businesses.

PROJECT NAME	
CATALOG NUMBER	
NOTES	
FIXTURE TYPE	ROOM SCHEDULE

FEATURES:

- Full metal housing
- Individual MicroCell™ LED arrays
- White post formed finish standard
- 0-10V dimmable
- Multiple rear KO for installation
- 100° optics
- Low profile height for installation ease*
- Also available in 2x2 configurations
- CRI: >82

CONSTRUCTION:

- Sheet steel housing
- Smooth hemmed edges
- Impact resistant polycarbonate Lens
- MicroCell louver tray
- Enclosure



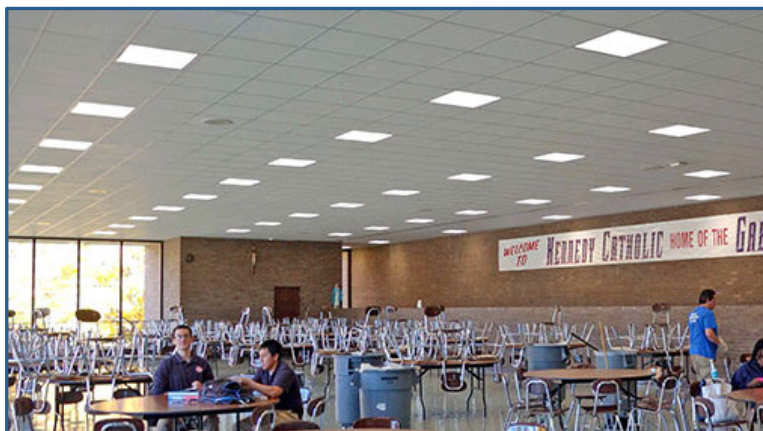
ORDERING INFORMATION:

ORDER CODE	MODEL	DELIVERED LUMENS	LIFE	DIMENSIONS (L" X W" X H")	CCT
35 72532	MLMT14D3535	3,150	50,000	47.6 x 11.8 x 1.8	3500
35 72534	MLMT14D3541	3,310	50,000	47.6 x 11.8 x 1.8	4100
35 72536	MLMT14D3550	3,485	50,000	47.6 x 11.8 x 1.8	5000
72 72542	MLMT24D7235	6,750	50,000	47.6 x 23.6 x 1.8	3500
72 72540	MLMT24D7241	7,100	50,000	47.6 x 23.6 x 1.8	4100
72 72538	MLMT24D7250	7,450	50,000	47.6 x 23.6 x 1.8	5000



ECO-T LED RECESSED TROFFER

- Designed as an economical LED replacement for a fluorescent fixture, the **ECO-T™ LED Recessed Troffer** offers a classic recessed troffer housing with LED strips that emulate fluorescent lamps, but operates with the energy saving and long life benefits of LED technology.



PROJECT NAME: _____ CATALOG NUMBER: _____
NOTES: _____ FIXTURE SCHEDULE: _____

Page: 1 of 3

ECO-T 2X4 LED RECESSED TROFFER
MLRT24D

PRODUCT DESCRIPTION:
Combining high efficiency and a high quality light in a performance- and value-optimized package, MaxLite's ECO-T LED Recessed Troffer represents the inflection point to making LEDs a cost-effective replacement for fluorescent troffers in lay-in or T-grid ceilings for the commercial and institutional market, including schools and municipalities.

ECO-T offers a classic recessed housing with LED strips that resemble fluorescent tubes when lit. While fluorescent fixtures can buzz and flicker and contribute to headache and eye fatigue, ECO-T is constructed with LM-80-rated LEDs and a prismatic clear diffuser for higher lumens, making it the silent and flicker-free solution for offices, lobbies, hallways and conference rooms in schools, municipalities, airports, healthcare facilities, showrooms, corporate campuses and retailers trying to stretch renovation and construction budgets. With standard 0-10v dimming provided, ECO-T maintains 90 percent of the light in a 60-degree beam angle to project light downward towards surfaces.

FEATURES:

- 85,000 hour life at L70 standards
- 10.0 lbs.
- 0-10V dimming standard
- Five year limited warranty
- CRI: 80
- Fits standard T-bar grid (drop ceilings)
- Also available in 2'x2'
- Prismatic diffuser is standard
- Room side access door to service and upgrade LED strips

Order codes on pg. 2 | Typical order example: MLRT24D4550 EM

45	WATTAGE	COLOR TEMPERATURE (CTT)	EMERGENCY BACKUP
45	45 watts	35= 3500K 41= 4100K 50= 5000K	(OMIT)= No Emergency Power 'EM'= Emergency Battery Backup

ACCESSORIES

ORDER	MODEL NUMBER	DESCRIPTION
		Prismatic Diffuser
		Mounting kit

NOTES:
1. In the event of a power failure, the battery backup units switch to emergency mode (700 lumen output) and operates the fixture for a minimum of 90 minutes.

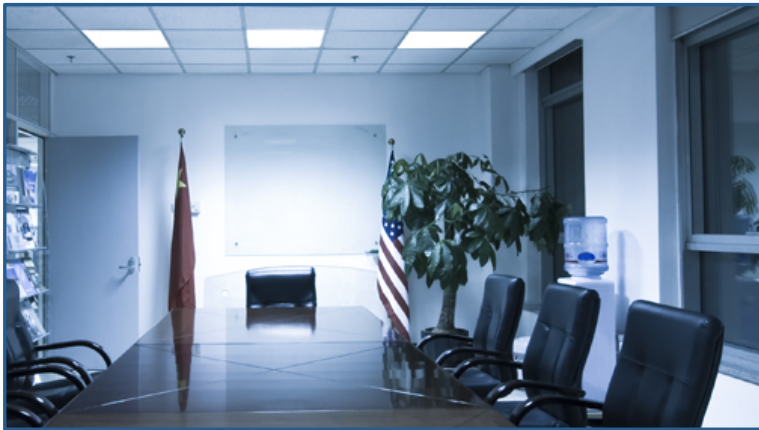
Phone: 1-800-555-5629 | Fax: 973-244-7333 | Web: www.maxlite.com | E-mail: info@maxlite.com

MAX14024
Revised: 06-20-14



DIRECT LIT LED FLAT PANELS

- Designed for drop in ceilings, MaxLite offers **Direct Lit LED Flat Panel Performance and Saver Series** that are ideal energy-efficient replacement for fluorescent fixtures in offices, schools, hospitality, healthcare and other commercial and industrial applications requiring only a minimal installation depth.



Simple Dimming

Simple Dimming Drivers eliminate the questions and hassle associated with dimming LEDs. MaxLite saver series Direct Lit panels don't require a power pack or separate switch to shut off. Simply select any fluorescent or LED 0-10v dimming control and the driver will automatically shut off when the control reaches the bottom of its' range.

Direct Lit LED 2X2 Flat Panel SAVER SERIES



Typically used to replace 2x2' and 2x4' fluorescent fixtures, the Direct Lit LED Flat Panel Saver Series™ is designed to lay in drop ceilings in offices, schools and healthcare applications. The flat panels are fully dimmable, and are compatible with building controls, motion sensors, timers, and daylight harvesting systems.

The design of the panels produces an even, consistent shadowless light. The LEDs enable long life, high lumen maintenance, and high CRI, and are low maintenance and constructed without hazardous materials.

PROJECT NAME	
CATALOG NUMBER	
NOTES	
FIXTURE TYPE	ROOMS SCHEDULE

FEATURES:

- Lumens delivered: 3500K CCT: 3540
4100K CCT: 3770
5000K CCT: 3745
- 40 watts nominal
- 50,000 hour life at L70 standards
- 9.25 lbs.
- Features 0-1-10v Simple Dimming*
- Optional dimming: IR Remote
- Five year limited warranty
- CRI: >82
- Fits standard T-bar and narrow grid drop ceilings
- LM-79 test data is available online
- Also available in 1'x4' and 2'x4'
- Standard white finish
- Translucent white polycarbonate face frame
- Includes interlocking tabs



CONSTRUCTION:

- Face frame is satin polycarbonate
- Housing is steel
- Lens is translucent white polystyrene
- Profile, including the control box, is 4.0 inches
- Unique mounting gives flush-fit in drop ceiling
- Modular construction for easy replacement of drivers or light boards
- Fixtures are Type IC rated for contact with insulation after installation

QUANTITATIVE ORDERING INFORMATION:

Watts	Order Number	Model Number	Lumens	Lamp Life (Hrs.)	Dimensions (LxWxH)	CCT
40	72586	MLFP22DS4035	3540	50,000	23.8" X 23.8" X 4.0"	3500
40	72587	MLFP22DS4041	3770	50,000	23.8" X 23.8" X 4.0"	4100
40	72588	MLFP22DS4041	3745	50,000	23.8" X 23.8" X 4.0"	5000



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Revised: 5-28-14



FLATMAX EDGE LIT LED FLAT PANELS

- Designed for drop in ceilings, MaxLite's high performance FlatMAX® Edge Lit LED Flat Panels are the ideal energy-efficient replacements for fluorescent fixtures in offices, schools, hospitality, healthcare and other commercial and industrial applications that require a two inch or less installation depth.



FlatMAX™ Edge Lit LED 2x4 Panel

PERFORMANCE SERIES



Typically used to replace 2'x2' and 2'x4' fluorescent fixtures, the FlatMAX Edge Lit LED Flat Panel Performance Series™ is designed to lay in drop ceilings in offices, schools and healthcare applications. The flat panels are fully dimmable, and are compatible with building controls, motion sensors, timers, and daylight harvesting systems.

The design of the panels produces an even, consistent shadowless light. The LEDs enable long life, high lumen maintenance, and high CRI, and are low maintenance and constructed without hazardous materials.

FEATURES:

- 45 watts nominal
- 100,000 hour life at L70 standards
- 15 lbs.
- Standard dimming: 0-10V dimming; 10%-100%
- Five year limited warranty
- CRI: >80
- Fits standard T-bar and narrow grid drop ceilings
- Also available in 1'x4' and 2'x2'
- Standard white finish
- (3) 1/2" conduit knock out provided
- Includes California-rated seismic clips
- Includes integrated hard lid tie points
- Unique optic light guide plate controls glare and provides uniform lighting distribution

CONTROL:

- Standard integrated driver
- Up to 12 panels can be linked to each master panel

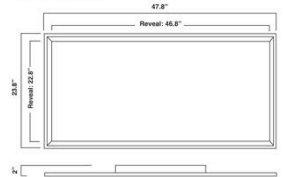
CONSTRUCTION:

- Face frame is extruded aluminum painted white
- Housing is aluminum
- Lens is translucent white PMMA
- Profile, including the control box, is 2.0 inches
- Unique mounting gives flush-fit in drop ceiling
- Fixtures are Type IC rated for contact with insulation after installation

PROJECT NAME	
CATALOG NUMBER	
NOTES	
FIXTURE TYPE	FIXTURE SCHEDULE



DIMENSIONS:



Luminaire Ordering Information:

Watts	Order Number	Model Number	Nominal Lumens	Lamp Life (Hrs.)	Dimensions (L"xW"xH")	CCT
45	72141	MLFP24EP4535	4100*	100,000	47.8" X 23.8" X 2.0"	3500
45	72142	MLFP24EP4541	4300*	100,000	47.8" X 23.8" X 2.0"	4100
45	72147	MLFP24EP4550	4500*	100,000	47.8" X 23.8" X 2.0"	5000



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MRI/REMOTE DRIVER PANELS

- The **FlatMAX® MRI LED Flat Panels** are high-performance alternatives to traditional fluorescent fixtures in drop ceilings. Ideal for the medical imaging and educational markets, this versatile fixture system features a many-to-one linking driver up to eight panels can be linked and controlled from a single driver.



FlatMAX® Edge Lit MRI 2'x2' LED Flat Panel



The FlatMAX® MRI LED Flat Panels are high-performance alternatives to traditional fluorescent fixtures in drop ceilings. Ideal for the medical imaging and educational markets, this versatile fixture system features a many-to-one linking driver. In fact, up to eight panels can be linked and controlled from a single driver; this reduces the average cost per panel as more panels are linked in a single system. Additionally, the MRI models remote the driver to adjacent spaces for MRI compliance, while school class rooms can have a driver that is located at a lower, more accessible vantage point, which enables serviceability of the driver from the floor level without the use of a man lift. The fully-dimmable flat panels are compatible with building controls, motion sensors, fitness and daylight harvesting systems.

PROJECT NAME
CATALOG NUMBER
NOTES
FIXTURE TYPE

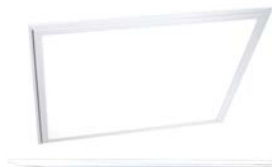
FEATURES:

- Lumens: 3780
- Watts: 45
- 3500K CCT
- MRI compatible
- 50,000 hour life (L70)
- 7.6 lbs.
- 0-10V dimming
- Five year warranty
- CR6 >80
- Remote power supply comes standard
- LM-79 test data available
- Also available in 2'x4' models

IMPORTANT WARNING

The MRI flat panel system utilizes a driver which is constant current. In order to ensure proper distribution of current among the panels the system should not be energized until all panels are connected. Failing to follow this step will likely create a condition that can permanently damage the panels.

For non-standard/architectural T-bar ceiling systems (i.e., "Donn Fineline"), please CONSULT FACTORY

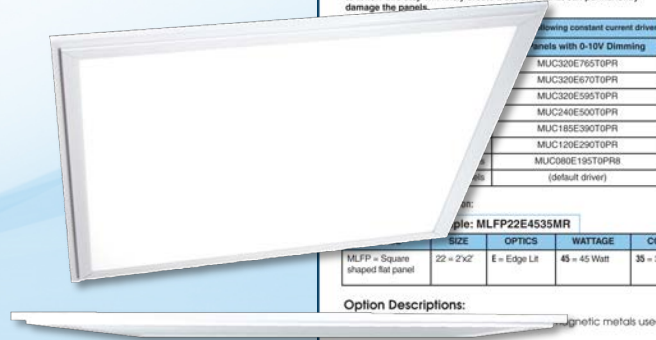


CONTROL:

- Standard Class I driver (Power feed must be enclosed in conduit)
- Up to eight panels can be remotely controlled from one driver

CONSTRUCTION:

- The housing and back panel are aluminum, providing heat sink and thermal control capabilities
- Lens is translucent white polycarbonate
- Thin profile of just a half-inch
- Unique mounting gives flush-fit in drop ceilings
- Modular construction for easy replacement



Model	Size	Optics	Wattage	Color	Finish	Options	Version
MUC320E765TQPR	22" x 24"	E = Edge Lit	45 = 45 Watt	35 = 3500K	Blank = White Standard	= No options MR = MRI Compliant	= 1st Gen
MUC320E670TQPR							
MUC320E595TQPR							
MUC240E500TQPR							
MUC185E390TQPR							
MUC120E290TQPR							
MUC080E195TQPR8							
(default driver)							

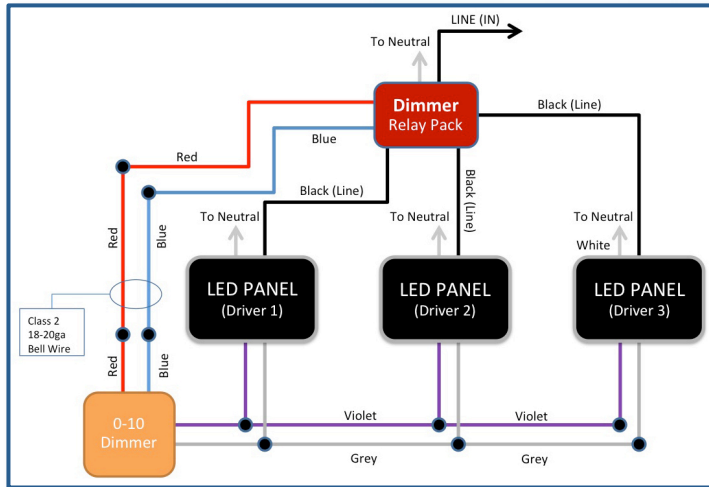
Option Descriptions:

Installation instructions, LM-79 testing and IES files are available online

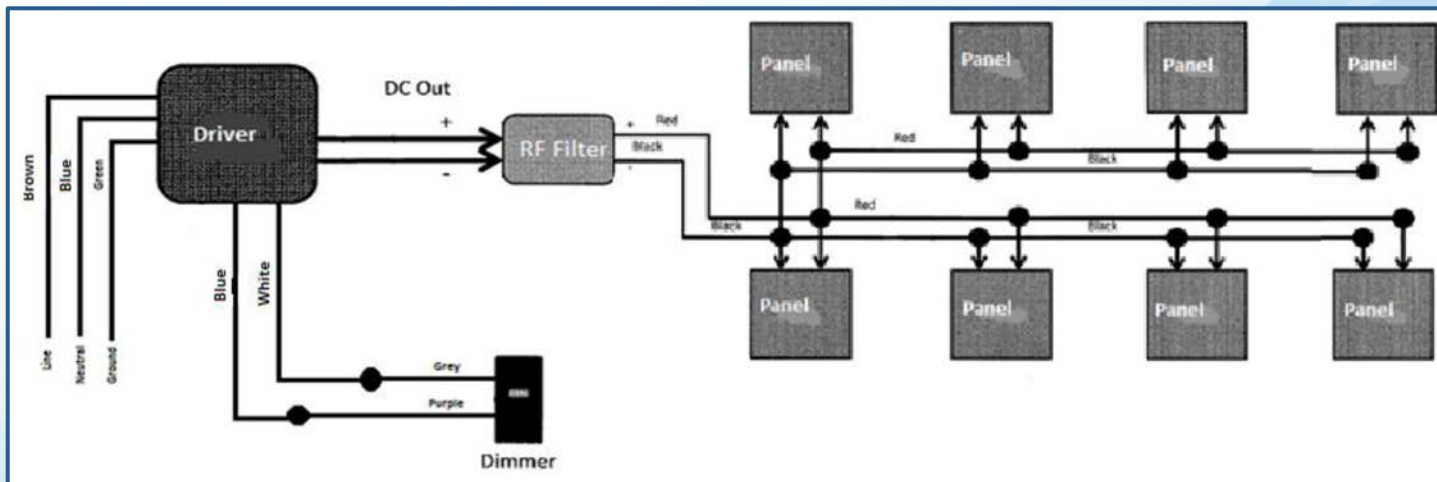
LED PANELS IN GENERAL

- Remote Driver Advantages/Individual Driver Advantages:

ONE FOR ONE DRIVER:



SINGLE DRIVER FOR MULTIPLE PANELS:

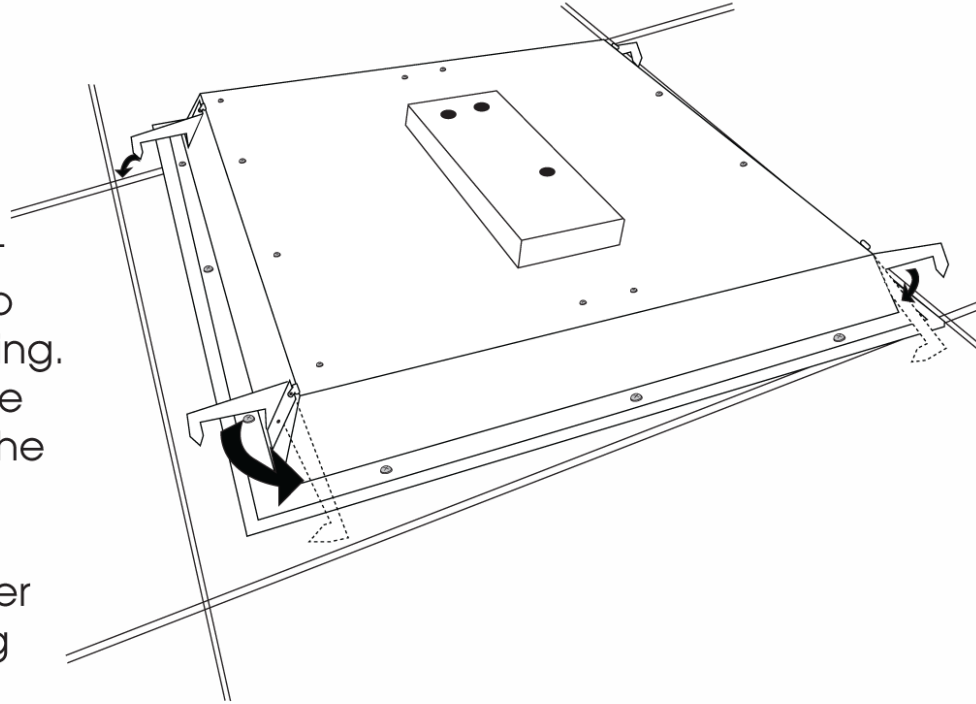


LAY-IN FOR GRID

Ceiling Grid Groove:

1) The MaxLite LED Flat Panels are designed to lay into a gridded ceiling. Simply start on one side and gently lay down the panel.

2) Open seismic hanger 180° to engage ceiling grid frame.



* Model shown for reference only

* Note: Uniform support is vital; for safety purposes, each panel must have support wire attached.

SURFACE MOUNT

MLSMK

MaxLED Surface Mount Kits



In locations without T-grid or lay in ceilings, MaxLite's MaxLED Surface Mount Kits are designed to hold ECO-T LED Recessed Troffers and Direct Lit LED Flat Panels securely in place on the surface of drywall or concrete ceilings. Ideal for offices, schools, hospitals and medical facility applications where surface-mount troffer installation is required, the MaxLED Surface Mount kits are heavy duty and contain a blind access panel for easy maintenance and installation.

PROJECT NAME	
CATALOG NUMBER	
NOTES	
FIXTURE TYPE	ROOM SCHEDULE

FEATURES:

- Fully painted inside and out
- Blind access panel for easy maintenance and installation
- 22 Ga. steel construction
- 3- 3/4" knock outs provided
- 3- 1" knock outs provided
- Standard ceiling box attachment pattern
- Guide rails to prevent "lift out" and allow for set screw lock ins
- Available for 1'x4', 2'x2' and 2'x4' models



Ordering Information:

Order Number	Model Number	Description	Color	Dimensions (L"xW"xH")
71372	MLSMKFP14D	Surface mount kit for 1'x4' Direct Lit LED Flat Panel	White	48.12" x 12.06" x 4.5"
71373	MLSMKFP22D	Surface mount kit for 2'x2' Direct Lit LED Flat Panel	White	24.06" x 24.06" x 4.5"
71663	MLSMKFP24D	Surface mount kit for 2'x4' Direct Lit LED Flat Panel	White	48.12" x 24.06" x 4.5"
71885	MLSMKRT22D	Surface mount kit for 2'x2' ECO-T Recessed Troffer	White	24.06" x 24.06" x 4.5"
71884	MLSMKRT24D	Surface mount kit for 2'x4' ECO-T Recessed Troffer	White	48.12" x 24.06" x 4.5"

Installation instructions available online: Specifications are subject to change without notice

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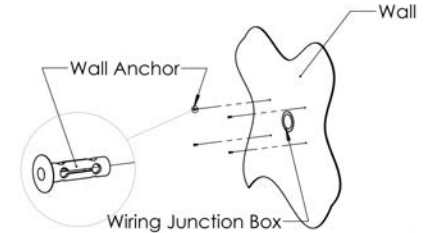
Revised: 10-26-12

REV2 20130221

Edgelit Surface Mount Kit Installation Guide

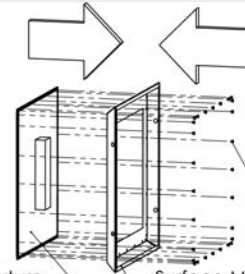
STEP ONE

-Mark locations for, Drill, and Install Wall Anchors



STEP TWO

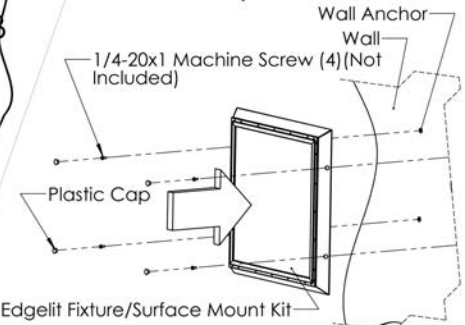
-Attach Edgelit Fixture to Surface Mount Kit with Supplied Fasteners
-Use #6 Washer between screw head and Surface Mount Kit



6-32x3/8 Machine Screw (12)(Supplied)

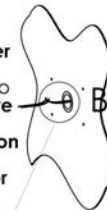
STEP FOUR

-Mount Surface Mount Kit and Edgelit Fixture to Wall using Supplied Fasteners
-Cover Fastener Holes with Supplied Plastic Caps



STEP THREE

-Turn Off Circuit Breaker to Fixture
-Connect Wall Wiring to Fixture Wiring using Wire Nuts
-Tuck Wires into Junction Box
-Turn on Circuit Breaker to Fixture



Wiring Junction Box to Fixture



MaxLite: 12 York Ave, Westfield, NJ 07006 Tel: 973-244-7300 Fax: 973-244-7333 Email: info@maxlite.com

FLANGE MOUNTING KIT

MLFPPK

Flat Panel Flange Mounting Kit

The Flat Panel Flange Mounting Kit is designed for recess installation in drywall ceiling applications.

APPLICATION:

- Designed to permit use of grid (NEMA G) fixtures in ceilings requiring flanges
- Designed to be used with any grid (NEMA G) troffer
- Suitable for individual and continuous row applications

CONSTRUCTION/FINISH:

- Side and end rails are extruded aluminum and finished in a baked white polyester coating
- Corner clips are zinc-plated steel and slide into slots provided in side and end rails

ORDERING INFORMATION:

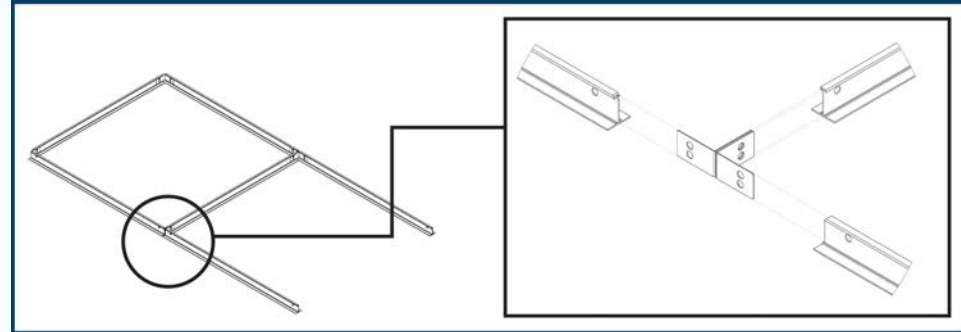
Order Number	Model Number	Description	Dimensions
70818	MLFPPK1X4	LED Flat Panel Flange Kit for 1'x4'	See page 2
70816	MLFPPK2X2	LED Flat Panel Flange Kit for 2'x2'	See page 2
70817	MLFPPK2X4	LED Flat Panel Flange Kit for 2'x4'	See page 2

FITS:

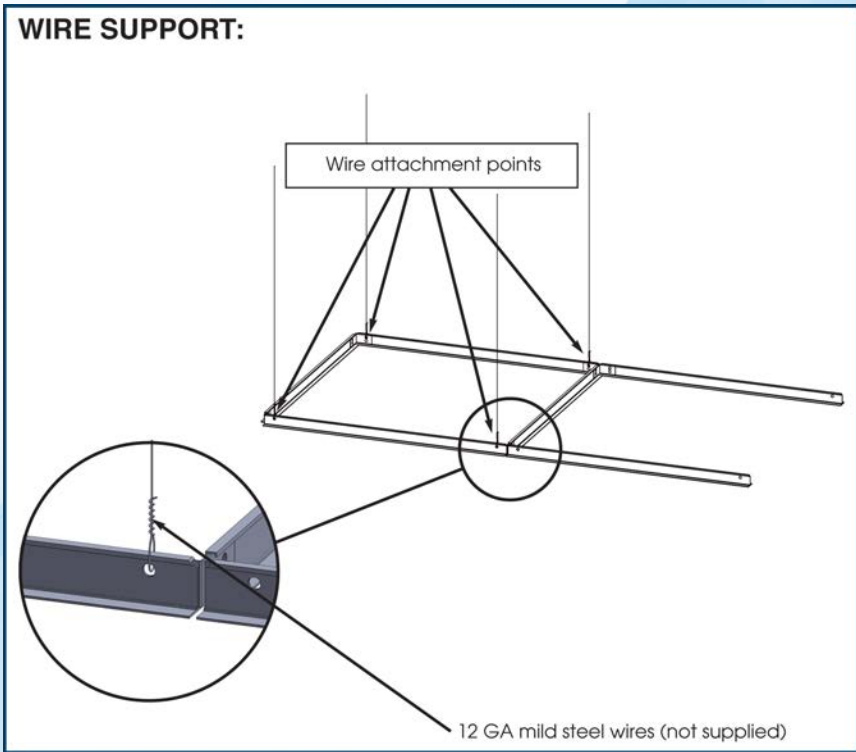
- MaxLED® ECO-T™; 2'x2' and 2'x4'
- Direct Lit Performance LED Flat Panels: 1'x4', 2'x2' and 2'x4'
- FlatMax™ LED Flat Panels: 1'x4', 2'x2' and 2'x4'
- Recessed Architectural Fixtures: 1'x4', 2'x2' and 2'x4'



PROJECT NAME
CATALOG NUMBER
NOTES
FIXTURE TYPE



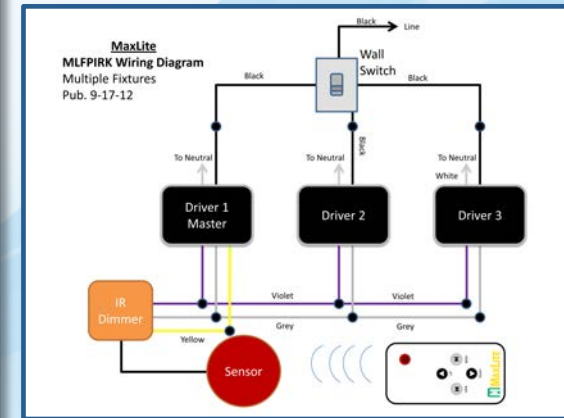
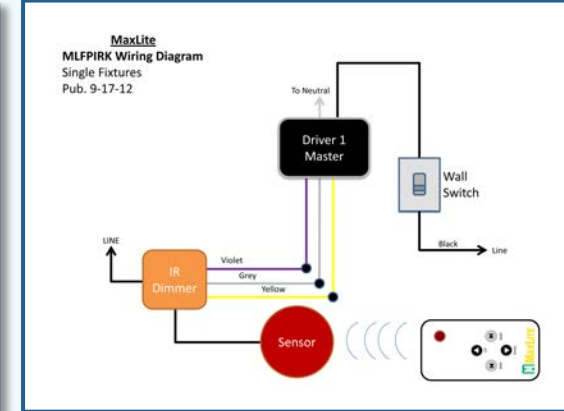
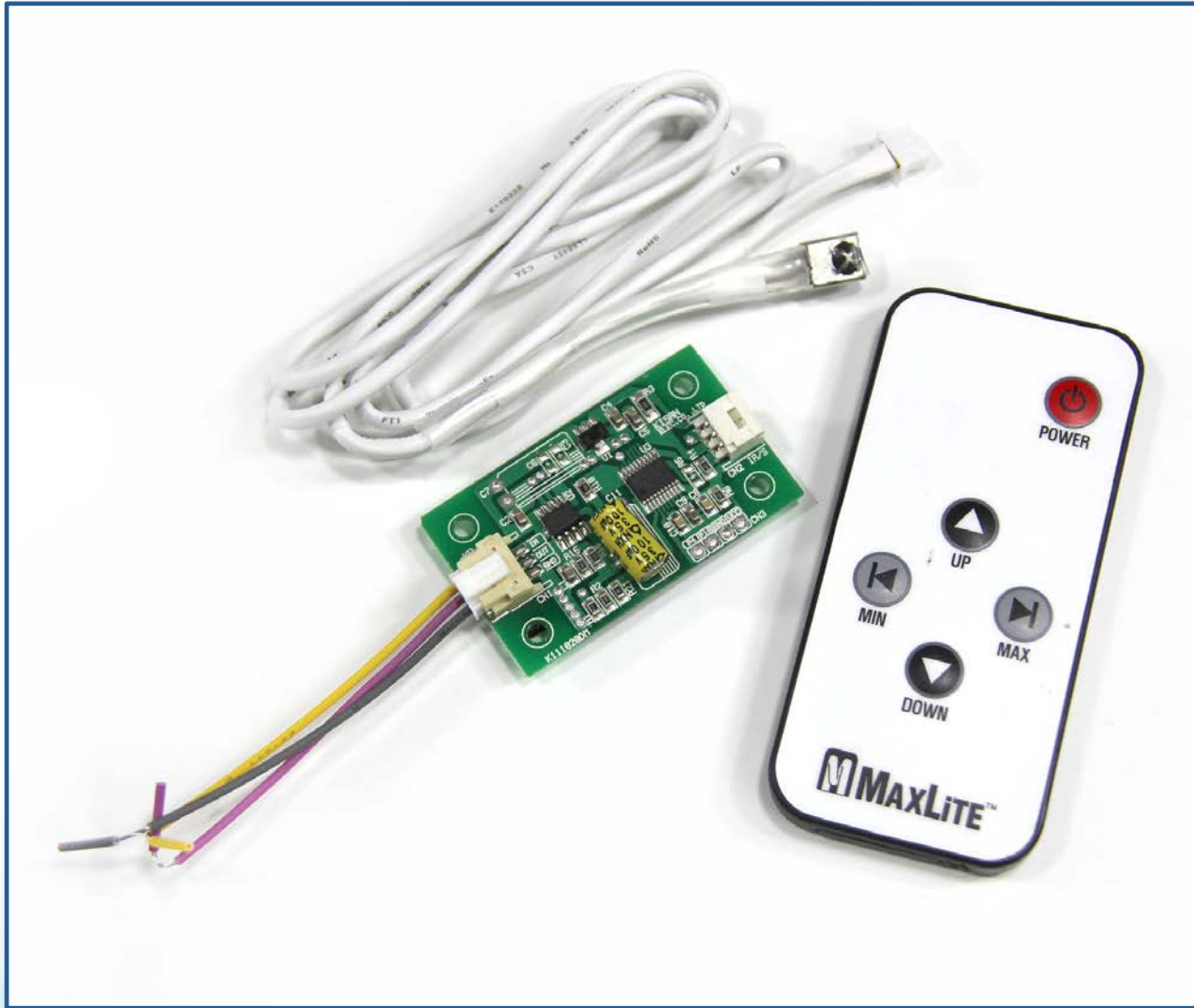
WIRE SUPPORT:



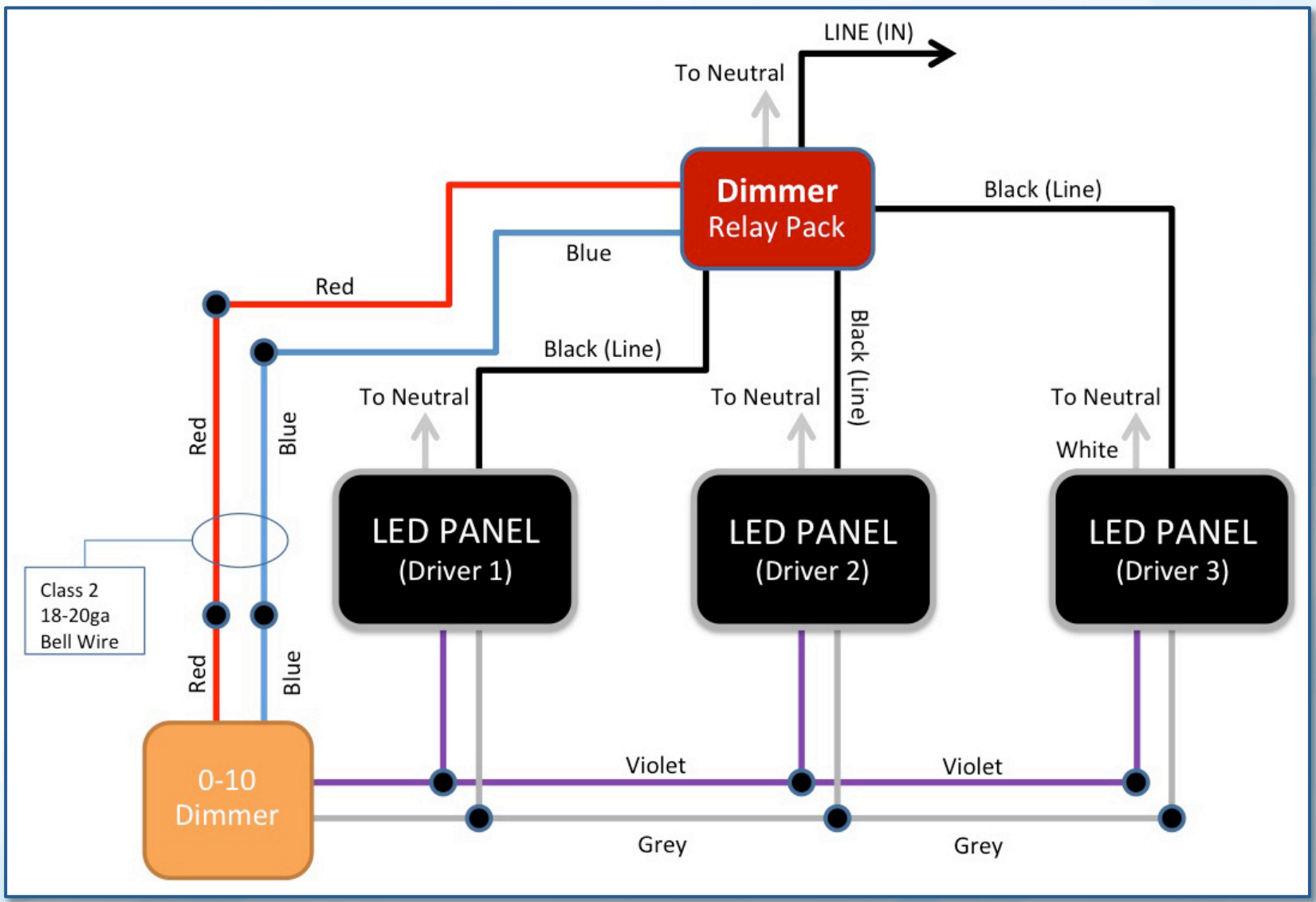
CABLE HUNG KIT



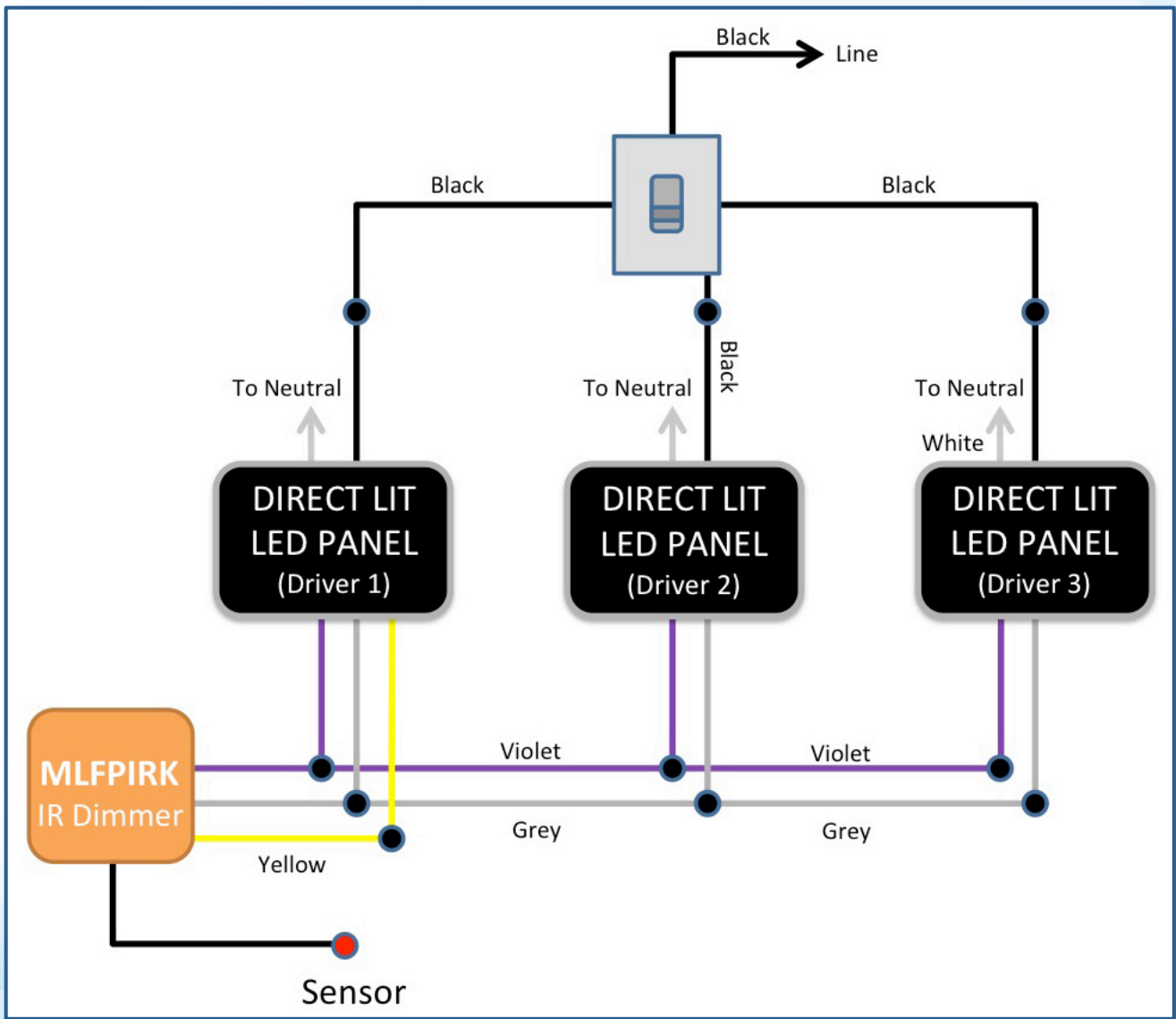
MLFPIRK – REMOTE WIRELESS DIMMING



2-WIRE 0-10V DIMMING



3-WIRE 0-10V DIMMING



YOUR QUESTIONS

- **Question:** Which panel works best for which application?
- **Question:** Why are surface mount kits so pricey? Customers always balk at that and I don't know what to tell them.
- **Question:** Can you talk about your surface mount options?
- **Question:** What is heat output of LED lights per 100watt in comparison with fluorescent tubes T8 or T5?
- **Question:** Can you talk about dimming controls with the flat panels?
- **Question:** How exactly do your panels come prepared to be electrically and physically installed? IE what kind and size of wires stick out of what is to be connected to what size connector, box, etc, AND are these designed to be literally just dropped into a suspended ceiling grid, or what modifications if any are required?

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MAXLITE LIGHTING & TECHNOLOGY UNIVERSITY



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Lighting Degree**



**Other Lighting &
Technology Resources**

The department function is to train and provide product training material for all MaxLite representatives, customers and employees. The goal of the department is to educate the staff and rep network to a full and complete understanding of our products, technologies, marketplace, and business environments. We endeavor to educate how and why lighting functions, repair and replacement, as well as compare to competitors or listing requirements. We will accomplish this by providing the tools and services proactively and as needed to supplement.

[Click here to get started!](#)

Custom Product & Technology Training

Ask about our FREE custom webinar/training services!

- Lunch and Learn
- Breakfast and Learn
- Online via webinar
- Focus on a specific MaxLite product or a broad overview
- Focus on LED Technology or general lighting training
- Custom Presentations for your customers or staff



Email Greg Murphy at gmurphy@maxlite.com for more info!

MAXLITE'S UTILITY REBATE SERVICES

MaxLite makes it easy to find and complete rebates for you and your customers!

- C&I Rebate Finder
- Utility Rebate Flyers
- Custom Rebate Calculator
- DLC / ENERGY STAR / LDL Product Listings
- Utility Rebate Paperwork Service



Email Joe Pater at jpater@maxlite.com for more info!

QUESTIONS/ANSWERS

Thank you everyone for your attention! Please feel free to use this opportunity to ask any questions you may have about MaxLite or the products/topics discussed in this presentation.

FOR MORE INFORMATION ABOUT OTHER MAXLITE PRODUCTS, OR FOR LIGHTING QUESTIONS IN GENERAL; PLEASE CONTACT:

info@maxlite.com

<http://www.maxlite.com>

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