

Midnight



Project: \_\_\_\_\_  
 Location: \_\_\_\_\_  
 Cat. #: \_\_\_\_\_  
 Type: \_\_\_\_\_  
 Quantity: \_\_\_\_\_



## FFL G2 24 Midnight Edition | LED Lay-In

### Features:

- High performance LED technology
- 90+ CRI standard
- 0-10V dimming drivers standard
- Field replaceable LED boards and drivers
- Frosted diffuser optimized to balance efficiency and aesthetics
- Available in a wide variety of lumen outputs for maximum flexibility
- Low profile and lightweight housing allows for easy installation
- Advanced controls available
- Buy American Act compliant *(All base luminaires are BAA compliant. Addition of options may change eligibility. Contact factory for details.)*

### Applications:

- Suitable for most commercial and institutional applications - ideal for settings with black ceilings
- Retail
  - Nightlife
  - Restaurants
  - Bars
  - Movie theaters / auditoriums

### Predicted Lifetime:

- L70: 129,000 hrs (calculated)
- L80: 81,000 hrs (calculated)
- L90: 39,000 hrs (reported)
- 85% lumen maintenance @ 60,000 hrs *(based on LM80 and insitu laboratory testing)*

### Construction:

- Precision brake formed aluminum LED tray and ballast housing
- Frosted Acrylic Diffuser
- Matte black finish

### Certifications:

- UL 1598 listed for US and Canada, suitable for damp locations



### Warranty:

- 5 year limited system warranty - see [www.LumenFocus.com](http://www.LumenFocus.com) for complete warranty terms and conditions
- 10 year warranty option available on specific models *(Not available on all models. Certain conditions apply. Consult factory or sales representative for details.)*

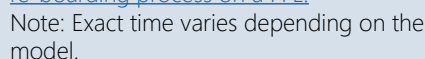


example: FFL G2 24 MD UV FA 935 EM1 BK

## Notes

Consult factory or sales representative for details.

ex. FFL G2 24 MD UV FA 940 EM10 BK → 117.2 LPW x 10W = 1,172 lm



LiteTrace Bluetooth-enabled Programmable 0-10V fixture controller with Task Tuning, Grouping, Scheduling, Advanced Networking & IoT Capabilities

Buy American Act  
Compliant

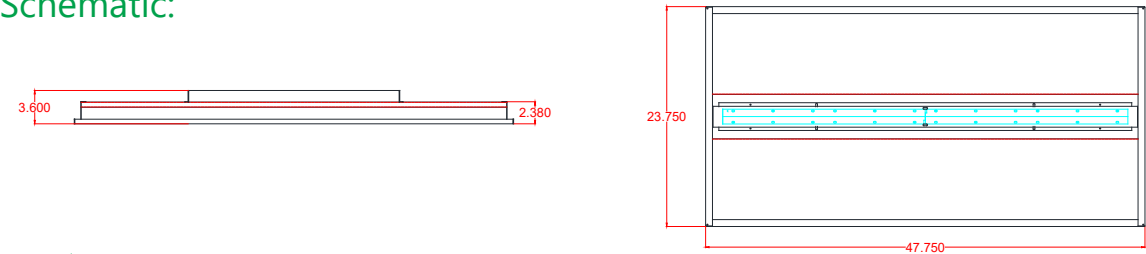
Controls Accessories *(order separately)*

Accessory Code	Description	Control Compatibility	Additional Info
ZLSOR-RA1	Wireless IR Configuration Tool	ZSOL	pg. 4
KTSL-WS1-B-SG/G2	5-Button Bluetooth Wireless Wall Switch (battery powered)	ZSLFC2	pg. 4
KTSL-TK1-USB	USB Time Keeper	ZSLFC2	pg. 4
ZBT-S1AWH	Single Rocker ZigBee Wireless Wall Switch (self powered)	ZESMC	pg. 5
ZBT-S2AWH	Dual Rocker ZigBee Wireless Wall Switch (self powered)	ZESMC	pg. 5
SWS200	Philips Zigbee Green Power 4-Button Wall Switch (battery powered)	ZESMC	pg. 5
DRKDN-U1W	1-Button Wireless Wall Controller (line voltage powered)	ZL7S, ZL7C, ZLDS, ZLDC	pg. 5
DRKDN-U2W	2-Button Wireless Wall Controller (line voltage powered)	ZL7S, ZL7C, ZLDS, ZLDC	pg. 5
DRKDN-U4W	4-Button Wireless Wall Controller (line voltage powered)	ZL7S, ZL7C, ZLDS, ZLDC	pg. 5
DRKDN-U8W	8-Button Wireless Wall Controller (line voltage powered)	ZL7S, ZL7C, ZLDS, ZLDC	pg. 5
WP1013	3-Button Bluetooth Wireless Wall Switch (battery powered)	ZLTS, ZLTC	pg. 6
WP1025	5-Button Bluetooth Wireless Wall Switch (battery powered)	ZLTS, ZLTC	pg. 6
WP1018	8-Button Bluetooth Wireless Wall Switch (battery powered)	ZLTS, ZLTC	pg. 6
WP1018A	8-Button Bluetooth Wireless Wall Switch (battery powered)	ZLTS, ZLTC	pg. 6
WP10135S	3-Button Bluetooth Wireless Wall Switch (line voltage)	ZLTS, ZLTC	pg. 6
WP1017S	7-Button Bluetooth Wireless Wall Switch (line voltage)	ZLTS, ZLTC	pg. 6
IWS102	Bluetooth Wireless Wall Switch w/ PIR Sensor (line voltage)	ZLTC	pg. 6

Performance Chart:

Catalog #	Watts	Lumens (930)	LPW (930)	Lumens (935)	LPW (935)	Lumens (940)	LPW (940)	Lumens (950)	LPW (950)
FFL G2 24 SL UV FA xxx BK	20.5	2335.7	113.9	2345.5	114.4	2401.2	117.1	2401.2	117.1
FFL G2 24 VL UV FA xxx BK	25.8	2995.3	116.1	3007.9	116.6	3079.4	119.4	3079.4	119.4
FFL G2 24 LW UV FA xxx BK	29.4	3409.8	116.0	3424.2	116.5	3505.5	119.2	3505.5	119.2
FFL G2 24 ML UV FA xxx BK	33.7	3933.8	116.7	3950.4	117.2	4044.2	120.0	4044.2	120.0
FFL G2 24 MD UV FA xxx BK	41.4	4721.2	114.0	4741.1	114.5	4853.7	117.2	4853.7	117.2
FFL G2 24 HI UV FA xxx BK	49.3	5515.0	111.9	5538.2	112.3	5669.8	115.0	5669.8	115.0
FFL G2 24 VH UV FA xxx BK	54.1	6258.7	115.7	6285.1	116.2	6434.4	118.9	6434.4	118.9
FFL G2 24 SH UV FA xxx BK	62.7	7113.7	113.5	7143.8	113.9	7313.4	116.6	7313.4	116.6

Schematic:



## Controls Summary:

Control Code	Occupancy	Daylight	Tech	Voltage	Dim	Max Mounting Ht.	Networking	Scheduling	BMS Integration	User Interface	Add. Info
ZSOL	High/Low/Off	Daylight Harvesting	PIR	12-24VDC	0-10V	10'	N/A	X	X	On Device, IR Remote*	pg. 4
ZSLFC2	High/Low/Off	Daylight Harvesting	PIR	10-15VDC	0-10V	16'	Bluetooth Mesh	✓	X	iOS / Android App, Wireless Wall Switch*	pg. 4
ZESMC	High/Low/Off	Daylight Harvesting	PIR	DALI-2 (120-277V)	DALI	10'	ZigBee 2.4GHz Mesh	✓	X	iOS / Android App, Wireless Wall Switch*	pg. 5
ZL7S	High/Low/Off	Daylight Harvesting	PIR	12-24VDC	0-10V	20'	ZigBee 2.4GHz Mesh	✓	✓	iOS / Android App, Wireless Wall Switch (required)*	pg. 5
ZL7C	N/A	N/A	N/A	12-24VDC	0-10V	N/A	ZigBee 2.4GHz Mesh	✓	✓	iOS / Android App, Wireless Wall Switch (required)*	pg. 5
ZLDS	High/Low/Off	Daylight Harvesting	PIR	DALI-2 (120-277V)	DALI	20'	ZigBee 2.4GHz Mesh	✓	✓	iOS / Android App, Wireless Wall Switch (required)*	pg. 5
ZLDC	N/A	N/A	N/A	DALI-2 (120-277V)	DALI	N/A	ZigBee 2.4GHz Mesh	✓	✓	iOS / Android App, Wireless Wall Switch (required)*	pg. 5
ZLTS	High/Low/Off	Daylight Harvesting	PIR	120-277V	0-10V	18'	Bluetooth LE Mesh	✓	✓	iOS / Android App, Wireless Wall Switch*, Autani Web Interface*	pg. 6
ZLTC	N/A	N/A	N/A	12VDC	0-10V	N/A	Bluetooth LE Mesh	✓	✓	iOS / Android App, Wireless Wall Switch*, Autani Web Interface*	pg. 6

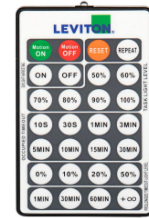
\* Sold Separately

## ZSOL option: Leviton Intellect Solo Sensor

The FFL can be equipped with an integrated Leviton Intellect Solo Sensor ("ZSOL" option). This is a 0-10V dimming Passive Infrared (PIR) occupancy and daylight harvesting sensor.

Other features:

- Partial-on
- Partial-off
- **8' to 10' mounting height**
- IP20 rated
- Detection angle: 120 degrees
- IR remote available for programming sensor from the floor (sold separately)
- Can be used to comply with IECC, ASHRAE 90.1 and 2019 Title 24, Part 6 dimming, occupancy/vacancy sensing and daylight harvesting requirements.



ZLSOR-RA1

## Keystone SmartLoop Wireless Control System

The SmartLoop wireless lighting control system by Keystone is a Bluetooth mesh lighting control system that allows you to set up and manage your lighting ecosystem quickly and easily. It's powerful enough to run a space with multiple lighting zones, but simple enough to program in minutes with your smartphone – perfect for warehouses, offices, schools, and auditoriums, whether new construction or retrofit.

- Wireless Bluetooth 2.4 GHz mesh network
- Supports up to 100 devices on a single region, with unlimited regions
- Independent per-fixture control: Occupancy, Daylight Harvesting, Task Tuning, Grouping, Scene Setting, Scheduling
- Commissioned via SmartLoop mobile app for iPhone and Android



- Low voltage individual fixture controller for SmartLoop system
- Integrated daylight and PIR motion sensors
- **Up to 16' mounting height.** 16' radius at 16' height.
- Works with 0-10V dim-to-off drivers with 12V aux. power

### SmartLoop Accessories

- Bluetooth Wireless Wall Switch: **KTSL-WS1-B-SG/G2**
  - Battery Powered: 2x CR2032
  - 5 Button: Power Toggle, Dimming, Automatic Sensor/Preset Level Operation, Scene Activation
- USB Time Keeper: **KTSL-TK1-USB**
  - Relays time to system components after a power loss
  - Powered by standard USB charging port
  - Internal CR1220 battery backup



## FormFocus available with Philips EasySense Sensors

EasySense MC Sensors are the ideal solution for per-luminaire control of new LED luminaires. It combines occupancy and daylight sensing in one package. The result is a cost-effective and easy-to-install solution ideal for energy savings. Commissioning and configuration during and after installation is quick and easy using the Philips MasterConnect app. This app works via Bluetooth Low Energy (BLE) technology and is available for free in the App Store and the Google Play Store.

### ZESMC

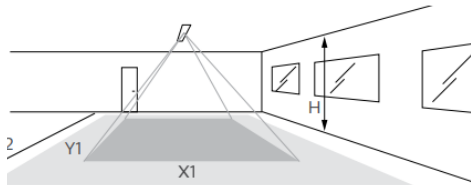


- Occupancy sensing, daylight harvesting, and task tuning in one device
- **8' to 10' mounting height**
- Groups/networks up to 120 lights
- Enables auto-off/manual-on and auto-off/partial-on application
- Independent per-fixture control: Occupancy, Daylight Harvesting, Task Tuning
- Occupancy Sharing
- Scene Setting
- Advanced grouping to select Zigbee wireless wall switches
- Simple room level energy reporting with CSV file saved on the phone
- ZigBee 2.4 GHz Wireless Mesh Network
- Works with Advance Xitanium SR 120-277V drivers or other D4i certified LED drivers

### Detection Area:

Longer dimension of detection area (Y1, Y2) is parallel to longer dimension of EasySense

- Minor movement (movement of a person sitting at an office desk reaching for a telephone, turning the pages in a book, opening a file folder, picking up a coffee cup, etc.)
- Major movement (movement of a person walking into or through an area.)



Height	Minor Movement		Major Movement	
H	X1	Y1	X2	Y2
8'	6'	10'	9'	14'
10'	8'	12'	12'	18'

### Room Controllers

- Illumra **ZBT-S1AWH** (Single Rocker) or **ZBT-S2AWH** (Dual Rocker) wireless Zigbee wall switch
  - Self-Powered
  - Up to 120 sensors can be grouped to a single switch
  - Functions: On/Off, Dim-Up/Dim-Down, Scene 1, Scene 2 (Scenes: Dual Rocker Only)
  - Range: 30-100' (typical)
- Philips **SWS200** Zigbee Green Power 4-button Wall Switch
  - Battery Powered
  - Up to 120 sensors can be grouped to a single switch
  - Functions: On/Off, Dim-Up/Dim-Down, Scene 1, Scene 2
  - Range: 33' (typical)



ZBT-S1AWH



ZBT-S2AWH



SWS200

## GreenMAX DRC Wireless Networked Control System with Leviton Intellect Sensors & Controllers

The GreenMAX DRC Wireless Keypad Room Controllers are used as the brain of the system, managing the fixture integrated Leviton Intellect sensors & controllers. Wirelessly commission, configure, control, monitor and provision the GreenMAX DRC system using the GreenMAX DRC App and an Android or iOS smart device.

- Occupancy/Vacancy Sensing
- Multi-Level Lighting, Partial-On, Partial-Off
- Daylight Harvesting
- Task Tuning
- Scheduling
- Grouping
- Demand Response
- BMS Integration
- ZigBee 2.4 GHz Wireless Mesh Network
- Up to 75' between devices

\* DRKDN-UxW room controller required for full functionality and programming of Intellect sensors & controllers



### ZLxS



- PIR Occupancy Sensor
- Daylight Sensor
- 0-10V or DALI
- **Up to 20' mounting height**

### ZLxC



- Wireless fixture controller, no sensor
- 0-10V or DALI

### DRKDN-UxW Room Controllers



- 1-, 2-, 4-, and 8-button configurations
- Line voltage powered: 120-277V
- Max capacity: 60 devices
- Programmable: On/Off/Raise/Lower/ Toggle/Scene
- Use any Android or iOS device for configuration using the GreenMAX DRC App



## LiteTrace | Keilton+autani: Wireless networked controls, upgradeable systems

LiteTrace makes your existing building smarter by integrating the Keilton lighting controls platform with Autani's proven energy management, reporting, and control platform. Keilton+autani systems are flexible, adaptable, and resilient, providing solutions designed to scale up without having to change hardware.

Scalable product tiers allow implementing a solution aligned to your current needs, with robust upgrade pathways to expand capabilities as requirements evolve.

Capabilities	Keilton+autani (ZLTSx)	Energy Center by Autani *	Autani Insights *
Motion and Switch Groups	✓	✓	✓
Daylight Harvesting	✓	✓	✓
Schedule Lighting	✓	✓	✓
Energy Reporting & Optimization	✓	✓	✓
Overrides & Automated Demand Response	✓	✓	✓
Environment Data & Lighting Controls API		✓	✓
Building Management & System Integration		✓	✓
Building Optimization Application			✓
Location & Occupancy APIs & Beacons			✓
Future App & API Ready			✓

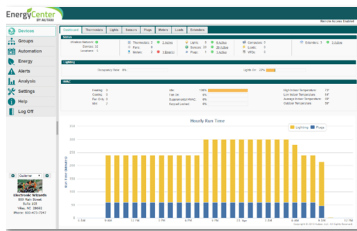
\* additional hardware and software required.

**Keilton+autani** An easy and affordable stand-alone (gateway-free) room-based Bluetooth lighting control solution controllable via mobile app (iOS & Android).



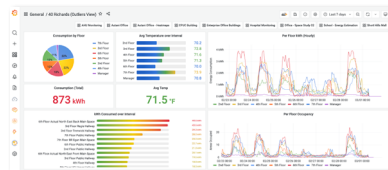
**EnergyCenter**  
BY AUTANI

A networked control solution which offers additional functionality such as advanced scheduling, reporting, metering, and building management integration.



**INSIGHTS**  
**Autani**

The most advanced offering, providing valuable data insights into a single building or a portfolio of buildings. This allows for asset tracking, campus-wide wayfinding, 3D facility monitoring and more.



### ZLTS



- Requires a dim-to-off LED driver with 12V Aux output
- PIR + Daylight Harvesting
- IP20 Rated
- 0-10V DC dimmable
- Bluetooth-enabled
- **Up to 18' mounting height.** 16' radius at 15' height.

### ZLTC



- Wireless 0-10V fixture controller
- Integral Bluetooth module
- 12VDC Input

### Room Controllers



WP1013 WP1025 WP1018 WP1018A

#### Battery Powered

- 3-, 5-, and 8-button configurations
- Bluetooth Enabled
- 1 x CR2032 battery (WP1013, WP1025, WP1018)
- 2 x AAA batteries (WP1018A)
- Approx. 3 year battery life (batteries not included)



WP1013S WP1017S IWS102

#### Line Voltage

- 3-, 7-button configurations, and Occ/Vac Sensor Switch
- Line voltage powered: 120-277V
- Bluetooth Enabled

