Project: _____

Location: _____

Cat. #: _____

Type: _____

Quantity: _____

90+ CRI   LED

FFR P G2 8 | LED Industrial Retrofit Kit

Features:
- High performance LED technology
- 90+ CRI standard
- 0-10V dimming drivers standard
- DALI drivers available
- 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
- Quick and easy installation helps save on labor costs
- Advanced controls available
- Buy American Act compliant *(All base luminaires are BAA compliant. Addition of options may change eligibility. Contact factory for details.)*

Applications:
Custom fit for 8' industrial-style louvered luminaires. Specifications of existing fixture required to ensure proper fit.

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 from cold rolled steel
- Frosted acrylic diffuser
- Matte white finish

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

  c(UL)us

Warranty:
- 5 year limited system warranty - see 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.)

MADE IN USA
USING DOMESTIC AND FOREIGN COMPONENTS

BAA
BUY AMERICAN ACT COMPLIANT

10 YEAR EXTENDED WARRANTY
AVAILABLE ON CERTAIN MODELS

FORMFOCUS

Ordering Guide:

example: FFR P G2 4 MD UV FA 935 ZSOL BAA

Series	Length	Output	Voltage	Shielding	CRI/CCT	Controls	Options
FFR P G2	8			FA			
FFR P G2 FFR P Gen 2	**8** 8'	**SL** Super Low	**UV** 120-277	**FA** Frosted Acrylic	**930** 90 CRI/3000K	**Blank** No Controls	**Blank** No Options
		VL Very Low	**34** 347V		**935** 90 CRI/3500K	**ZSOL** Leviton Programmable PIR Occupancy/Daylight Harvesting Sensor (On/Off/Dim)[1]	**EXT10** 10-Year Extended Warranty[4]
		LW Low			**940** 90 CRI/4000K	**ZOSMD** Microwave Daylight/Motion Sensor With Step-Dimming (High/Low/Off)[2]	**EM6** 6.5W Emergency Pack[5]
		MD Medium			**950** 90 CRI/5000K	**ZSLFC2** Keystone SmartLoop Wireless Bluetooth Mesh Occupancy/Daylight Harvesting Smart Sensor[1]	**EM10** 10W Emergency Pack[5]
		HI High				**ZLDS** Leviton Intellect DALI Sensor with Dimming/Occupancy/Daylight Harvesting with Newtork Capabilities[3]	**EM14** 14W Emergency Pack[5]
		VH Very High				**ZL7S** Leviton Intellect 0-10V Sensor with Dimming/Occupancy/Daylight Harvesting with Newtork Capabilities[3]	**LVL** 0-10V Dimming Leads for Easy Field Access
		SH Super High				**ZLDC** Leviton Intellect DALI Fixture Controller with Newtork Capabilities[3]	**BAA** Buy American Act Compliant
						ZL7C Leviton Intellect 0-10V Fixture Controller with Newtork Capabilities[3]	
						ZENLC Enlighted Connected Micro Sensor with Dimming/Occupancy/Daylight Harvesting[3]	
						ZENLI Enlighted IoT Micro Sensor with Dimming/Occupancy/Daylight Harvesting[3]	

Notes

[1] See page 4 for more details.
[2] 120-277V only. See page 4 for more details.
[3] See page 5 for more details.
[4] Not available on all models. Certain conditions apply. Consult factory or sales representative for details.
[5] 120-277V / 0°C-55°C ambient. To estimate lumen output in emergency mode, multiply EM wattage by the Lumens per Watt of the luminaire it is installed in.
ex. FFL P G2 8 MD UV FA 940 EM10 → 147.0 LPW x 10W = 1,470 lm

Controls Accessories *(order separately)*

For Leviton Programmable Sensor
ZLS0R-RA1   IR Programming Remote

For Keystone SmartLoop Controls
KTSL-WS1-B-SG/G2   5-Button Bluetooth Wireless Wall Switch
KTSL-TK1-USB   USB Time Keeper

For Leviton Intellect Controls
DRKDN-U1W   1-Button Wireless Wall Controller
DRKDN-U2W   2-Button Wireless Wall Controller
DRKDN-U4W   4-Button Wireless Wall Controller
DRKDN-U8W   8-Button Wireless Wall Controller

For Enlighted Controls
WS-2-00   Enlighted Remote Control Wall Switch (for Enlighted Connected & IoT)

Performance Chart:

Catalog #	Watts	Lumens (930)	LPW (930)	Lumens (935)	LPW (935)	Lumens (940)	LPW (940)	Lumens (950)	LPW (950)
FFR P G2 8 SL UV FA 9xx	28.2	4025.3	142.7	4042.3	143.3	4138.3	146.7	4138.3	146.7
FFR P G2 8 VL UV FA 9xx	41.1	5915.6	144.1	5940.6	144.7	6081.7	148.1	6081.7	148.1
FFR P G2 8 LW UV FA 9xx	55.0	7928.6	144.2	7962.1	144.8	8151.2	148.3	8151.2	148.3
FFR P G2 8 MD UV FA 9xx	69.2	9888.4	142.9	9930.1	143.6	10165.9	147.0	10165.9	147.0
FFR P G2 8 HI UV FA 9xx	85.1	11894.5	139.7	11944.6	140.3	12228.3	143.6	12228.3	143.6
FFR P G2 8 VH UV FA 9xx	113.7	15730.1	138.4	15796.4	139.0	16171.6	142.3	16171.6	142.3
FFR P G2 8 SH UV FA 9xx	148.9	19747.9	132.6	19831.1	133.2	20302.1	136.4	20302.1	136.4

Re-boardABILITY

The FFR P G2 features field replaceable boards and drivers. This allows you to upgrade to more efficient technology in the future. Or, in the rare event of a failure, you can rapidly replace defective components. Re-boardABILITY helps to ensure you won't get stuck with an obsolete light fixture. Learn more about Re-boardABILITY here.

FFR Demonstration

Click here for a video demonstration of the re-boarding process on a FFR.
Note: Exact time varies depending on the model.

Controls Summary:

Control Code	Type	Capabilities	Communication
ZSOL	Motion (PIR), Daylight Harvesting	High/Low/Off, High-End Trim	Wired 0-10V, Programmable via IR remote (sold separately) or via dip switches on sensor
ZOSMD	Motion (Microwave), Photosensor	On/Low/Off	Wired 1-10V
ZSLFC2	Motion (PIR), Daylight Harvesting	High/Low/Off, High-End Trim, Grouping, Scheduling, LLLC (Keystone Tech.-SmartLoop)	Wireless Bluetooth Mesh, Programmable via Keystone SmartLoop App for iOS or Android
ZLxS	Motion (PIR), Daylight Harvesting	High/Low/Off, High-End Trim, Grouping, Scheduling, Demand Response*, BMS Integration*, LLLC (GreenMAX DRC)	Wireless Zigbee 2.4 GHz Mesh, Programmable via GreenMAX DRC app. for iOS or Android along with DRKDN-UxW Wall Controller (sold separately)
ZLxC	Controller, No Sensors	High/Low/Off, High-End Trim, Grouping, Scheduling, Demand Response*, BMS Integration*, LLLC (GreenMAX DRC)	Wireless Zigbee 2.4 GHz Mesh, Programmable via GreenMAX DRC app. for iOS or Android along with DRKDN-UxW Wall Controller (sold separately)
ZENLC	Motion (PIR), Daylight Harvesting	High/Low/Off, High-End Trim, Grouping, Scheduling*, Energy Monitoring*, BMS Integration*, Upgradable to IoT (ZENLI), LLLC (Enlighted IoT)*	Wireless Bluetooth Low Energy Mesh, Programmable via Enlighted IoT Software
ZENLI	Motion (PIR), Daylight Harvesting	High/Low/Off, High-End Trim, Grouping, Scheduling*, Energy Monitoring*, BMS Integration*, LLLC (Enlighted IoT)*, Space - Building Utilization*, Where - Real Time Location Services*	Wireless Bluetooth Low Energy Mesh, Programmable via Enlighted IoT Software

LLLC = Luminaire Level Lighting Control
* Additional equipment required. Contact LumenFocus representative for details

ZSOL option: **Leviton Intellect Solo Sensor**

The FFR P G2 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.

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.

ZOSMD option: **Leviton 0-10V High Frequency Microwave Sensor**

The FFR P G2 can be equipped with an integrated Leviton 0-10V dimming high frequency microwave sensor ("ZOSMD" option). The ZOSMD detects motion through low density materials allowing it to be installed out of site, under the FFR P's frosted lens. The high frequency waves offer less interference and false tripping than traditional sensing technology for reliable occupancy applications. The integrated daylighting sensor detects natural light and turns lights ON or keeps lights OFF in response to available natural light or the daylight set point when motion is detected.

Features:
• Automatic switching or dimming based on motion
• Ambient light override
• Designed to detect movement behind low-density fixture materials or behind objects made of plastic or glass

• **up to 40' mounting height**
• Detection Zone: 52' diameter x 40' Height Max
• Standby Dimming Level: 10% / 20% / 30% / 50%
• IP20 rated
• 120-277V

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

ZSLFC2

• 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

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

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Enlighted: All-in-one sensors, upgradeable systems

Enlighted's SMART Micro Sensor is an all-in-one unit: task tuning, high-end trimming, daylight harvesting, and occupancy/vacancy detection. **Max installation height is 15 feet.**
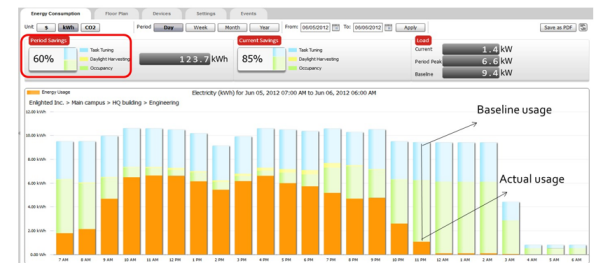
Enlighted Connected ("ZENLC") offers many features, including motion and switch groups, daylight harvesting, energy reporting, and more. The Enlighted IoT ("ZENLI") option allows the full implementation of Enlighted's services. Enlighted Connected can be fully upgraded to the next tier in the future. So if you start with ZENLC but want to add the functionality of the ZENLI option, you can.

Enlighted Capabilities*	Enlighted Connected (ZENLC)	Enlighted IoT (ZENLI)
Motion and Switch Groups	✔	✔
Daylight Harvesting	✔	✔
Schedule Lighting	✔	✔
Energy Reporting & Optimization	✔	✔
Environment Data & Lighting Controls API	✔	✔
Building Management System Integration	✔	✔
Where & Space Applications		✔
Location & Occupancy APIs & Beaconing		✔
Future App & API Ready		✔

Real-time data analytics

Enlighted's control units compile data in real-time, which can be viewed via the Energy Manager. The Energy Manager is part of the Enlighted Connected and Enlighted IoT configurations.
- Real-time measurements and verification of energy savings
- Space analytics - data can be compiled into motion trails and heat maps
- Analyze traffic density and congestion in a space

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