

# 2.4" General Downlight Drivers + Controls



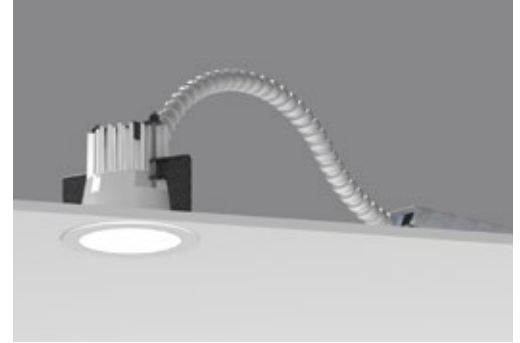
🔗 click driver names for technical information

## Integral Drivers

- S = Standard non-dim driver, 120-277V
- S010 = 0-10V >10% dimming, 120-277V
- SPH = Standard Phase Dimming, 120VAC  
(available in low and medium power only)

## Remote Drivers

- D010 = EldoLED, 1%, 0-10V dimming, 120-277V
- PEQ0 = Lutron Hi-lume Premier 0.1% EcoSystem, 120-277V
- DFPN = Lutron Forward Phase 1%, 120VAC only



## 0-10V drivers (D010) - Compatible controls:

- **Linear controls (our EldoLED drivers are programmed to Linear dimming curve by default):**
  - Lutron Diva DVSTV (Wallbox dimmer)
  - Lutron Nova T NTSTV (Wallbox dimmer)
  - Lutron Maestro MS-Z101/MS-Z101-V (Wallbox dimmer/sensor)
  - Lutron PowPak 0-10V RMJ-5T-DV-B (Energi Tripak)
  - Lutron GRX-TVI (0-10V interface for Grafik QS and some commercial dimming panels)
  - Lutron TVI-LMF-2A (EcoSystem to 0-10V interface)
  - Lutron QSN-4T16-S (Energi Savr Node 0-10V)
  - Lutron TVM2 module (HomeWorks and commercial dimming panels)
  - Sensor Switch nIO-EZ
  
- **Logarithmic controls (PLEASE NOTE: if programming the Eldoled drivers to a logarithmic dimming curve is required, consult factory before ordering, and add the MOD\_LOG suffix to the appropriate driver part #):**
  - Leviton IllumaTech IP710-DLX
  - Lightolier ZP600FAM120
  - Pass & Seymour CD4FB-W (Requires a PWP120277 Power Pack)
  - Synergy ISD BC
  - Crestron GLX-DIMFLV8, GLXP-DIMFLV8
  - Crestron GLPAC-DIMFLV4-x, GLPAC-DIMFLV8-x
  - Crestron GLPP-DIMFLVEX-PM
  - Crestron GLPP-1DIMFLV2EX-PM
  - Crestron GLPP-1DIMFLV3EX-PM, DIN-AO8
  - Crestron DIN-4DIMFLV4, CLS-EXP-DIMFLV
  - Crestron CLCI-1DIMFLV2EX

### Maximum Lead Length (Constant Current)\*

Wire Gauge	Maximum Lead Length
18	72 ft (22 m)
16	118 ft (36 m)
14	150 ft (46 m)
12	200 ft (61 m)

### Maximum Lead Length (Constant Voltage 24V)\*

		Load per driver		
		≤48W	≤72W	≤96W
Wire gauge	#18AWG	37'	25'	18'
	#16AWG	59'	39'	29'
	#14AWG	95'	63'	47'
	#12AWG	151'	101'	75'
	#10AWG	241'	160'	120'

## D010 Wiring Diagrams

\*Actual distance must be calculated by installer.  
Must comply with NEC code.

## Lutron EcoSystem drivers (DES/PEQ) - Compatible controls:

Lutron EcoSystem Compatible Controls	Part Number		Drivers per Control		
	120 V~	277 V~	EcoSystem Loops per Control	Drivers per EcoSystem Loop	Maximum Drivers per Control
PowPak Dimming Modules	RMJ-ECO32-DV-B		1	32	32
	FCJ/FCJS-ECO <sup>1</sup> ,		1	3	3
Energi Savr Node	QSN-1ECO-S	N/A	1	64	64
	QSN-2ECO-S		2	64	128
GRAFIK Eye QS / HomeWorks QS control unit	QSGRJ-_E (wireless) QSGR-_E	N/A	1	64	64
Quantum Hub	QP2-__2C	N/A	2	64	128
	QP2-__4C		4	64	256
	QP2-__6C		6	64	384
	QP2-__8C		8	64	512
HomeWorks QS / myRoom Plus power module	LQSE-2ECO-D	N/A	2	64	128

<sup>1</sup> All devices connected to one FCJ/FCJS-ECO will be controlled together. Devices will dim to the same level as the result of a control command. For more detail on adjusting low-end light level refer to Application Note #556 (048556) at [www.lutron.com](http://www.lutron.com)

Wire Gauge	Maximum Lead Length ( <b>Constant Current</b> )		
	150 mA to 700 mA	710 mA to 1.50 A	1.51 A to 2.10 A
18 AWG (0.75 mm <sup>2</sup> )	30 ft (9 m)	15 ft (4.5 m)	10 ft (3 m)
16 AWG (1.5 mm <sup>2</sup> )	35 ft (10.5 m)	25 ft (7.5 m)	15 ft (4.5 m)
14 AWG (2.5 mm <sup>2</sup> )	50 ft (15 m)	40 ft (12 m)	25 ft (7.5 m)
12 AWG (4.0 mm <sup>2</sup> )	100 ft (30 m)	60 ft (18 m)	40 ft (12 m)

Wire Gauge	Maximum Lead Length ( <b>Constant Voltage 24V</b> )
18 AWG (0.75 mm <sup>2</sup> )	25 ft (7.62 m)
16 AWG (1.0 mm <sup>2</sup> )	40 ft (12.2 m)
14 AWG (1.5 mm <sup>2</sup> )	60 ft (18.3 m)
12 AWG (2.5 mm <sup>2</sup> )	100 ft (30.5 m)
10 AWG (4.0 mm <sup>2</sup> )	150 ft (45.7 m)

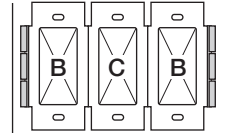
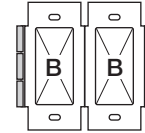
Wire Gauge	Digital <b>EcoSystem</b> Link Length (max)
12 AWG	2200 ft
14 AWG	1400 ft
16 AWG	900 ft
18 AWG	550 ft

### DES/PEQ Wiring Diagrams

## Lutron Forward Phase 2-wire drivers (DFPN) - Compatible controls:

### Controls Requiring Neutral

Compatible Controls: Lutron Neutral-wire Dimmers



Product	Part Number	Low-End Setting/ Load-Type Setting <sup>1</sup>	Drivers per Control		
			A: Not Ganged	B: End of Gang	C: Middle of Gang
RadioRA 2 adaptive dimmer*	RRD-6NA-	Hi-lume 1% 2-Wire LTE LED <sup>2</sup>	1 – 10, 400 W max	1 – 10, 400 W max	1 – 10, 400 W max
RA2 Select/RadioRA 2 600 W dimmer	RRD-6ND	Hi-lume 1% 2-Wire LTE LED <sup>2</sup>	1 – 8, 350 W max	1 – 8, 350 W max	1 – 8, 350 W max
RadioRA 2 1000 W dimmer*	RRD-10ND-	Set Device type to “INC/MLV Neutral Dimmer”; Set High-End Trim to 99%; Set Low-End Trim to 35%	1 – 13	1 – 13	1 – 13
RadioRA 2 Architectural RF GRAFIK T phase selectable dimmer <sup>3</sup>	RRT-G5NEW- <sup>3</sup>	Trim low-end per APM App Note (Lutron P/N 048534)	1 – 10, 400 W max	1 – 10, 400 W max	1 – 10, 400 W max
RadioRA 2 Architectural RF GRAFIK T dimmer	RRT-G25LW-	Trim low-end per APM App Note (Lutron P/N 048534)	1 – 10, 400 W max	1 – 10, 400 W max	1 – 10, 400 W max
RadioRA 2 C•L hybrid seeTouch keypad	RRD-HN	Hi-lume 1% 2-Wire LTE LED	1 – 10, 200 W max	1 – 10, 200 W max	1 – 10, 200 W max
RadioRA 2 GRAFIK T C•L hybrid keypad	RRT-GH	Hi-lume 1% 2-Wire LTE LED	1 – 10, 400 W max	1 – 10, 400 W max	1 – 10, 400 W max
HomeWorks QS adaptive dimmer*	HQRD-6NA-	Hi-lume 1% 2-Wire LTE LED <sup>2</sup>	1 – 10, 400 W max	1 – 10, 400 W max	1 – 10, 400 W max
HomeWorks QS 600 W dimmer*	HQRD-6ND-	Hi-lume 1% 2-Wire LTE LED <sup>2</sup>	1 – 8, 350 W max	1 – 8, 350 W max	1 – 8, 350 W max
HomeWorks QS 1000 W dimmer*	HQRD-10ND-	Hi-lume 1% 2-Wire LTE LED <sup>2</sup>	1 – 13	1 – 13	1 – 13
Maestro Wireless 600 W dimmer*	MRF2-6ND-120-	Trim low-end per APM App Note (Lutron P/N 048370)	1 – 8, 350 W max	1 – 8, 350 W max	1 – 8, 350 W max
Vive Maestro Wireless 600 W dimmer*	MRF2S-6ND-120-	Trim low-end per APM App Note (Lutron P/N 048370)	1 – 8, 350 W max	1 – 8, 350 W max	1 – 8, 350 W max
HomeWorks QS GRAFIK T hybrid keypad	HQRT-GH	Hi-lume 1% 2-Wire LTE LED	1 – 10, 400 W max	1 – 10, 400 W max	1 – 10, 400 W max
HomeWorks QS Architectural GRAFIK T dimmer	HQRT-G25LW-	Hi-lume 1% 2-Wire LTE LED	1 – 10, 400 W max	1 – 10, 400 W max	1 – 10, 400 W max
HomeWorks QS Architectural GRAFIK T phase selectable dimmer <sup>3</sup>	HQRT-G5NEW- <sup>3</sup>	Hi-lume 1% 2-Wire LTE LED	1 – 10, 400 W max	1 – 10, 400 W max	1 – 10, 400 W max
HomeWorks QS designer C•L hybrid seeTouch keypad	HQRD-HN	Hi-lume 1% 2-Wire LTE LED	1 – 10, 200 W max	1 – 10, 200 W max	1 – 10, 200 W max
GRAFIK T C•L 250 W dimmer*	GT-250M-, GTJ-250M-	Set low-end trim per dimmer installation instructions	1 – 10, 400 W max	1 – 10, 400 W max	1 – 10, 400 W max
Caséta Wireless Pro 1000 W dimmer*	PD-10NXD-	Trim low-end per instructions at <a href="http://www.casetawireless.com/lowend">www.casetawireless.com/lowend</a>	1 – 13	1 – 13	1 – 13
Caséta Wireless phase selectable dimmer <sup>3</sup>	PD-5NE- <sup>3</sup>	Trim low-end per instructions at <a href="http://www.casetawireless.com/lowend">www.casetawireless.com/lowend</a>	1 – 20, 400 W max	1 – 20, 400 W max	1 – 20, 400 W max
Maestro PRO phase selectable dimmer	MA-PRO <sup>3</sup>	Trim low-end per APM App Note (Lutron P/N 048703)	1 – 20, 400 W max	1 – 20, 400 W max	1 – 20, 400 W max

**Note: All wattages are in terms of input wattage to the LED driver.**

<sup>1</sup> Setting the low-end trim and load type is necessary to ensure optimal performance and 1% dimming capability.

**Note:** For information about Legacy Product use in existing control application, contact LEDs@lutron.com

<sup>2</sup> Also listed as “LED Lutron A-Series 2-Wire” or “Hi-lume A-Series LTE LED Driver 2-Wire” in previous software releases.

<sup>3</sup> Not compatible in default mode (reverse-phase). Dimmer must be changed to forward-phase.

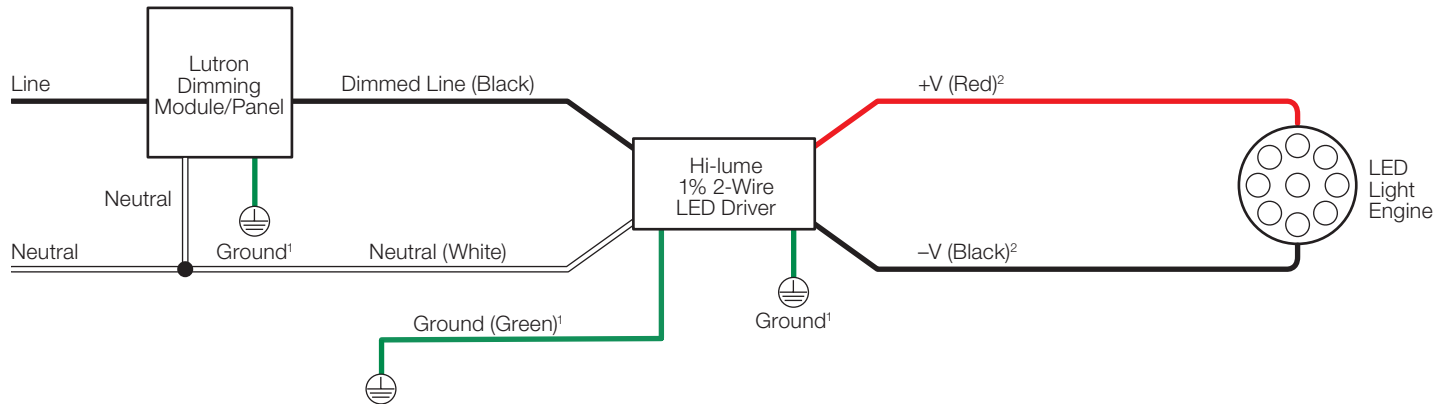
## DFPN Wiring Diagrams

## Lutron Forward Phase 2-wire drivers (DFPN) - Compatible controls:

### Controls Requiring Neutral (continued)

**Note:** Colors shown correspond to terminals on driver.

### Wiring Diagram



<sup>1</sup> Ground wire connection available on K case models only. Fixture and driver case must be grounded in accordance with local and national electrical codes.

<sup>2</sup> For maximum driver-to-LED light engine wire length, see charts in **Driver Leads** section at the end of the document.

### Compatible Controls: Lutron Dimming Modules/Panels

Guaranteed performance specifications with the controls listed in the chart below.

For assistance selecting controls, contact our LED Center of Excellence at 1.877.DIM.LED8 or LEDs@lutron.com

Product	Part Number	Drivers per Control	Low-End Setting/Load-Type Setting <sup>1</sup>
myRoom DIN power module*	MQSE-4A1-D	1–6 (per output); 1 A maximum driver input current	Hi-lume 1% 2-Wire LTE LED <sup>2</sup>
HomeWorks QS DIN power module*	LQSE-4A1-D	1–6 (per output); 1 A maximum driver input current	Hi-lume 1% 2-Wire LTE LED <sup>2</sup>
HomeWorks QS Phase Adaptive DIN power module <sup>3</sup>	LQSE-4A-120-D <sup>3</sup>	1–6 (per output); 2 A maximum driver input current	Hi-lume 1% 2-Wire LTE LED <sup>2</sup>
HomeWorks QS wallbox power module*	HQRJ-WPM-6D-120	1–10 (per output); 26 total per module	Hi-lume 1% 2-Wire LTE LED <sup>2</sup>
HomeWorks wallbox power module*	HWI-WPM-6D-120	1–10 (per output); 26 total per module	Set load type to “GRX-FDBI” or “GRX-TVI”
GRAFIK Eye QS control unit*	QSGR-, QSGRJ-	1–10 (per output); 26 total per unit	Set load type to “Fluorescent Module”
GRAFIK Eye 3000 control unit*	GRX-3100-, GRX-3500-	1–10 (per output); 26 total per module	Set load type to “GRX-FDBI” or “GRX-TVI”
RPM-4U module (LCP, HomeWorks QS, GRAFIK Systems, Quantum)*	HW-RPM-4U-120, LP-RPM-4U-120	1–26 (per output); 26 total per module	Hi-lume 1% 2-Wire LTE LED <sup>2</sup> Set load type to “2-1”
RPM-4A module (LCP, HomeWorks QS, GRAFIK Systems, Quantum)*	HW-RPM-4A-120, LP-RPM-4A-120	1–13 (per output); 26 total per module	Hi-lume 1% 2-Wire LTE LED <sup>2</sup> Set load type to “2-1”
GP dimming panels*	Various	1–26	Set load type to “2-1”

<sup>1</sup> Setting the low-end trim and load type is necessary to ensure optimal performance and 1% dimming capability.

<sup>2</sup> Also listed as “LED Lutron A-Series 2-Wire” or “Hi-lume A-Series LTE LED Driver 2-Wire” in previous software releases. <sup>3</sup> Not compatible in default mode (reverse-phase). Additional configuration is necessary in forward-phase.

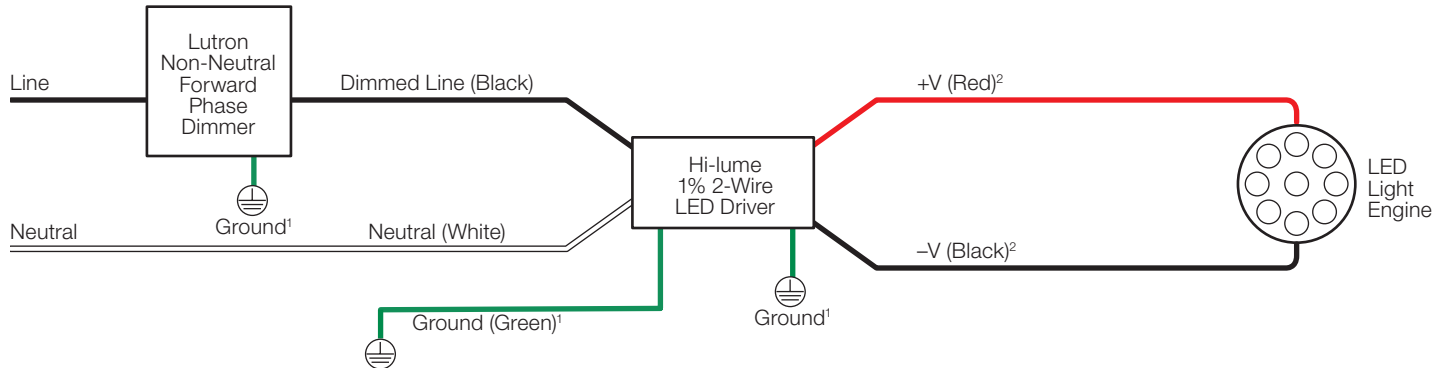
### DFPN Wiring Diagrams

## Lutron Forward Phase 2-wire drivers (DFPN) - Compatible controls:

### Controls Not Requiring Neutral

**Note:** Colors shown correspond to terminals on driver.

#### Wiring Diagram



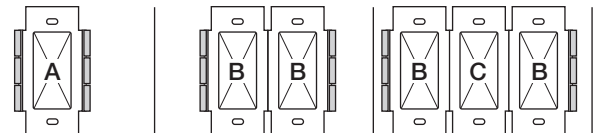
<sup>1</sup> Ground wire connection available on K case models only. Fixture and driver case must be grounded in accordance with local and national electrical codes.

<sup>2</sup> For maximum driver-to-LED light engine wire length, see charts in **Driver Leads** section at the end of the document.

### Compatible Controls: Lutron Non-Neutral Dimmers

Guaranteed performance specifications with the controls listed in the chart below.

For assistance selecting controls, contact our LED Center of Excellence at 1.877.DIM.LED8 or LEDs@lutron.com



Product	Part Number	Low-End Setting/Load-Type Setting <sup>1</sup>	Drivers per Control		
			A: Not Ganged	B: End of Gang	C: Middle of Gang
Ariadni C•L 250 W dimmer*	AYCL-253P-	Set low-end trim dial to 1 o'clock. Adjust slightly if needed. See dimmer installation instructions on how to adjust low-end trim.	1-8, 350 W max	1-8, 350 W max	1-8, 350 W max
Ariadni C•L 150 W dimmer	TGCL-153P-, AYCL-153P-	Set low-end trim dial to 1 o'clock. Adjust slightly if needed. See dimmer installation instructions on how to adjust low-end trim.	1-6, 250 W max	1-6, 250 W max	1-6, 250 W max
Diva C•L 250 W dimmer*	DVCL-253P- DVSCCL-253P-	Set low-end trim dial to 10 o'clock. Adjust slightly if needed. See dimmer installation instructions on how to adjust low-end trim.	1-8, 350 W max	1-8, 350 W max	1-8, 350 W max
Diva C•L 150 W dimmer	DVCL-153P- DVSCCL-153P-	Set low-end trim dial to 10 o'clock. Adjust slightly if needed. See dimmer installation instructions on how to adjust low-end trim.	1-6, 250 W max	1-6, 250 W max	1-6, 250 W max
Nova T★ C•L 250 W dimmer*	NTCL-250-	Set low-end trim dial to 10 o'clock. Adjust slightly if needed. See dimmer installation instructions on how to adjust low-end trim.	1-10, 400 W max	1-10, 400 W max	1-10, 400 W max
Lumea C•L 150 W dimmer	LECL-153P-	Set low-end trim dial to 10 o'clock. Adjust slightly if needed. See dimmer installation instructions on how to adjust low-end trim.	1-6, 250 W max	1-6, 250 W max	1-6, 250 W max
Skylark C•L 150 W dimmer	SCL-153P-	Set low-end trim dial to 10 o'clock. Adjust slightly if needed. See dimmer installation instructions on how to adjust low-end trim.	1-6, 250 W max	1-6, 250 W max	1-6, 250 W max
Contour C•L 150 W dimmer	CTCL-153P-	Set low-end trim dial to 10 o'clock. Adjust slightly if needed. See dimmer installation instructions on how to adjust low-end trim.	1-6, 250 W max	1-6, 250 W max	1-6, 250 W max

**Note:** All wattages are in terms of input wattage to the LED driver.

<sup>1</sup> Setting the low-end trim and load type is necessary to ensure optimal performance and 1% dimming capability.

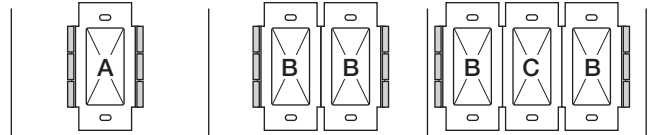
**Note:** For information about Legacy Product use in existing control application, contact LEDs@lutron.com

### DFPN Wiring Diagrams

## Lutron Forward Phase 2-wire drivers (DFPN) - Compatible controls:

### Controls Not Requiring Neutral (continued)

#### Compatible Controls: Lutron Non-Neutral Dimmers



Product	Part Number	Low-End Setting/Load-Type Setting <sup>1</sup>	Drivers per Control		
			A: Not Ganged	B: End of Gang	C: Middle of Gang
Maestro C•L 150 W dimmer	MACL-153M-	Trim low-end per APM App Note (Lutron P/N 048370)	1–6, 250 W max	1–6, 250 W max	1–6, 250 W max
Maestro C•L 150 W sensor	MSCL-OP153M-, MSCL-VP153M-	Trim low-end per APM App Note (Lutron P/N 048370)	1–6, 250 W max	1–6, 250 W max	1–6, 250 W max
Vive Maestro C•L 150 W dimmer	MRF2S-6CL-	Trim low-end per APM App Note (Lutron P/N 048370)	1–6, 250 W max	1–6, 250 W max	1–6, 250 W max
GRAFIK T C•L 150 W dimmer	GTJ-150-	Set low-end trim per dimmer installation instructions	1–6, 250 W max	1–6, 250 W max	1–6, 250 W max
Maestro Wireless C•L 150 W dimmer	MRF2-6CL-	Trim low-end per APM App Note (Lutron P/N 048370)	1–6, 250 W max	1–6, 250 W max	1–6, 250 W max
RadioRA 2 C•L 150 W dimmer	RRD-6CL-	Set low-end trim per dimmer installation instructions	1–6, 250 W max	1–6, 250 W max	1–6, 250 W max
HomeWorks QS Designer C•L 150 W dimmer	HQRD-6CL-	Hi-lume 1% 2-Wire LTE LED	1–6, 250 W max	1–6, 250 W max	1–6, 250 W max
Caséta Wireless C•L Dimmer	PD-6WCL-	Trim low-end per instructions at <a href="http://www.casetawireless.com/lowend">www.casetawireless.com/lowend</a>	1–6, 250 W max	1–6, 250 W max	1–6, 250 W max
RadioRA 2 Architectural RF GRAFIK T dimmer <sup>2</sup>	RRT-G25LW-	Trim low-end per APM App Note (Lutron P/N 048534)	1–10, 400 W max	1–10, 400 W max	1–10, 400 W max
HomeWorks QS Architectural GRAFIK T dimmer <sup>2</sup>	HQRT-G25LW-	Hi-lume 1% 2-Wire LTE LED	1–10, 400 W max	1–10, 400 W max	1–10, 400 W max
GRAFIK T C•L 250 W dimmer <sup>*,2</sup>	GT-250M-, GTJ-250M-	Set low-end trim per dimmer installation instructions	1–10, 400 W max	1–10, 400 W max	1–10, 400 W max

**Note: All wattages are in terms of input wattage to the LED driver.**

<sup>1</sup> Setting the low-end trim and load type is necessary to ensure optimal performance and 1% dimming capability.

**Note:** For information about Legacy Product use in existing control application, contact LEDs@lutron.com

<sup>2</sup> Minimum number of drivers for GRAFIK T will vary based on the number of companion dimmers (model number GT-AD) connected. Refer to the GRAFIK T Spec Submittal, Lutron P/N 369826, at [www.lutron.com](http://www.lutron.com) This only applies when neutral is not connected.

### Maximum driver-to-LED light engine wire length for **Constant Current Drivers:**

Wire Gauge*	Maximum Lead Length		
	200 mA to 700 mA	710 mA to 1.50 A	1.51 A to 2.10 A
18 AWG (0.75 mm <sup>2</sup> )	30 ft (9 m)	15 ft (4.5 m)	10 ft (3 m)
16 AWG (1.5 mm <sup>2</sup> )	35 ft (10.5 m)	25 ft (7.5 m)	15 ft (4.5 m)
14 AWG (2.5 mm <sup>2</sup> )	50 ft (15 m)	40 ft (12 m)	25 ft (7.5 m)
12 AWG (4.0 mm <sup>2</sup> )	100 ft (30 m)	60 ft (18 m)	40 ft (12 m)

### Maximum driver-to-LED light engine wire length for **Constant Voltage 24V Drivers:**

Wire Gauge*	Maximum Lead Length
	24VDC
18 AWG (0.75 mm <sup>2</sup> )	15 ft (4.5 m)
16 AWG (1.5 mm <sup>2</sup> )	25 ft (7.5 m)
14 AWG (2.5 mm <sup>2</sup> )	40 ft (12 m)
12 AWG (4.0 mm <sup>2</sup> )	60 ft (18 m)

### DFPN Wiring Diagrams