

# TOKISTAR Gradient Series



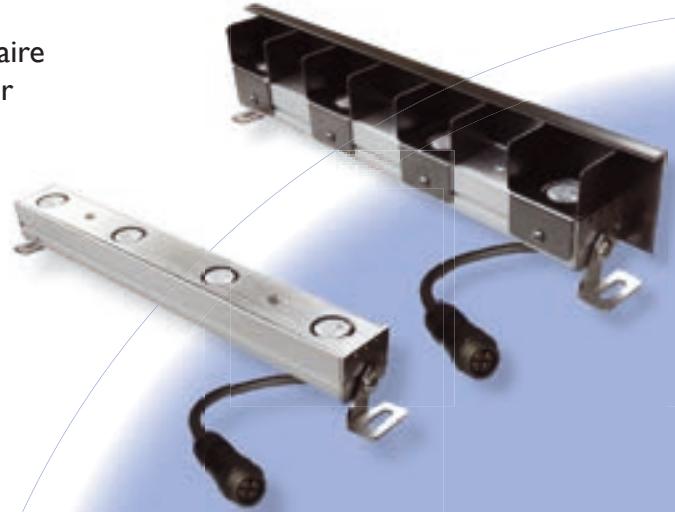
TOKISTAR LIGHTING



# Gradient™ GRX Series

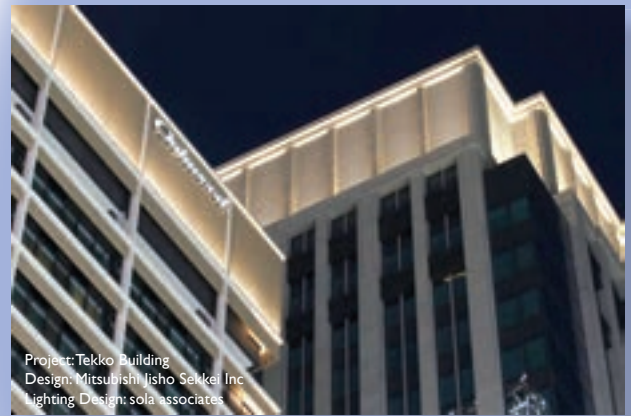
Tokistar's GRX Series is a highly efficient LED luminaire for use in grazing interior and exterior walls. Water proof connectors link fixtures and bring 24VDC power to the system for plug and go simplicity.

GRX may be dimmed from industry standard protocols of DMX or 0-10VDC. A single dimmer pack can control entire zones of up to 55 independent fixtures.



Design: Hazama Ando Corporation  
Lighting Design: Waki

Fixtures positioned at the sides of this wall treatment evenly illuminate features and add depth to the textures.



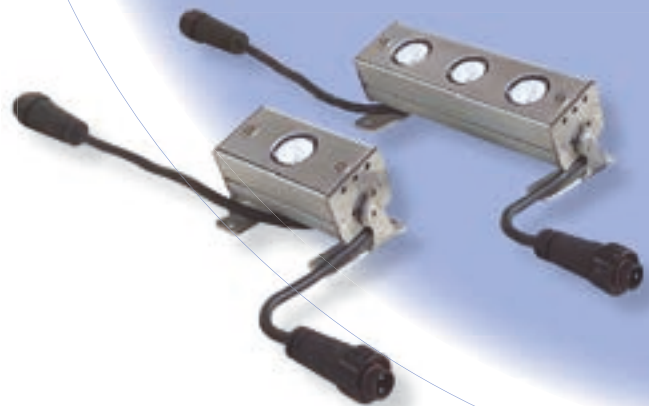
Project: Tekko Building  
Design: Mitsubishi, Iisho Sekkei, Inc  
Lighting Design: sola associates

GRX Series boldly illuminates the top of this building.

## O'Links

O'Links are single and 3-LED fixtures designed to light columns and conform to curves.

The system operates from constant-current power supplies with integral 0-10VDC dimming on board.



### Contents

**GRX Series** | 4-7

**GRHB Series** | 8-11

**O'Links** | 12-13

**I'Links** | 14-15

### Cover:

Gradient Towers Above The Rest  
Project: Concourse Project Singapore  
Lighting Design: Lighting Planners Associates

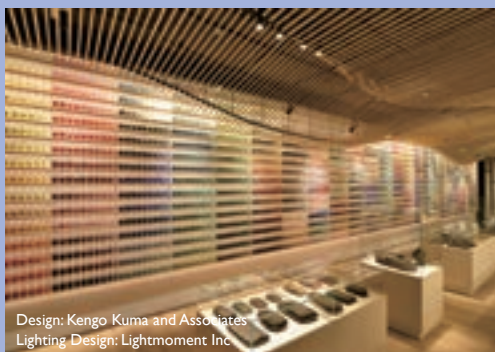
# Gradient™ GRHB Series

Tokistar's Gradient HB is a very low-profile LED luminaire for use in wall grazing interiors. We offer a wide range of color temperatures, beam angles and accessories to meet different design objectives.

Mounting options include fixed or pivoting brackets. Optional louvers and a glare guard keep light sources discreetly hidden from view. LED Drivers have full range dim-to-off capability.



GRHB places special emphasis on the unique geometry of this facade.  
 Design: Shigeru Ban Architects / Lighting Design: Lighting Planners Associates / Photo: Hiroyuki Hirai



Design: Kengo Kuma and Associates  
 Lighting Design: Lightmoment Inc.

GRHB with warm 2700K LEDs evenly distributes light on this wall.

## I'Links

I'Links are single LED modules of GRHB with flexible wires connecting them in series. Each module can be fitted with the same options available with GRHB Series.





# Gradient™ GRX Series

Tokistar's GRX Series high-output LEDs ensure superior performance in both interior and exterior applications. The system is wet-location listed with an IP66 rating.

Male and female connectors provide convenient and reliable wiring. Various lengths of GRX can be combined to tailor fixtures to the unique requirements of each project.

Each fixture is fitted with adjustable brackets to precisely focus light. There are three different fixture styles to accommodate their location and reduce glare.



Project: Tekko Building / Design: Mitsubishi Jisho Sekkei Inc / Lighting Design: sola associates

## Series GRX

The standard style is suitable for applications where the fixture is concealed behind a ledge and LEDs are not seen directly.



## Series GRX-GG

This style includes a linear glare guard for applications where the fixture is not concealed and viewed directly.

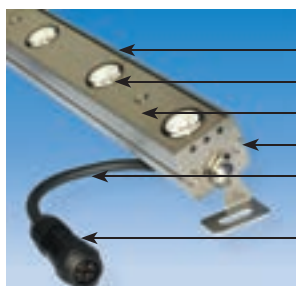


## Series GRX-GGL

A linear glare guard combined with vertical louvers eliminate glare from front and side-viewing perspectives.



# Specifications



- ← **Extrusion** is Anodized Aluminum
- ← **Light Sources** are 3 Watt / 24VDC LEDs
- ← **Cover Plate** is Anodized Aluminum
- ← **Pivoting Bracket and End Cap** are Stainless Steel
- ← **PVC Insulation** surrounds two #18 AWG power lines and two #22 AWG logic lines
- ← **Connector** is Weather-Resistant Nylon with IP67 Rating

Wet-Location Listed  
IP66 Rated

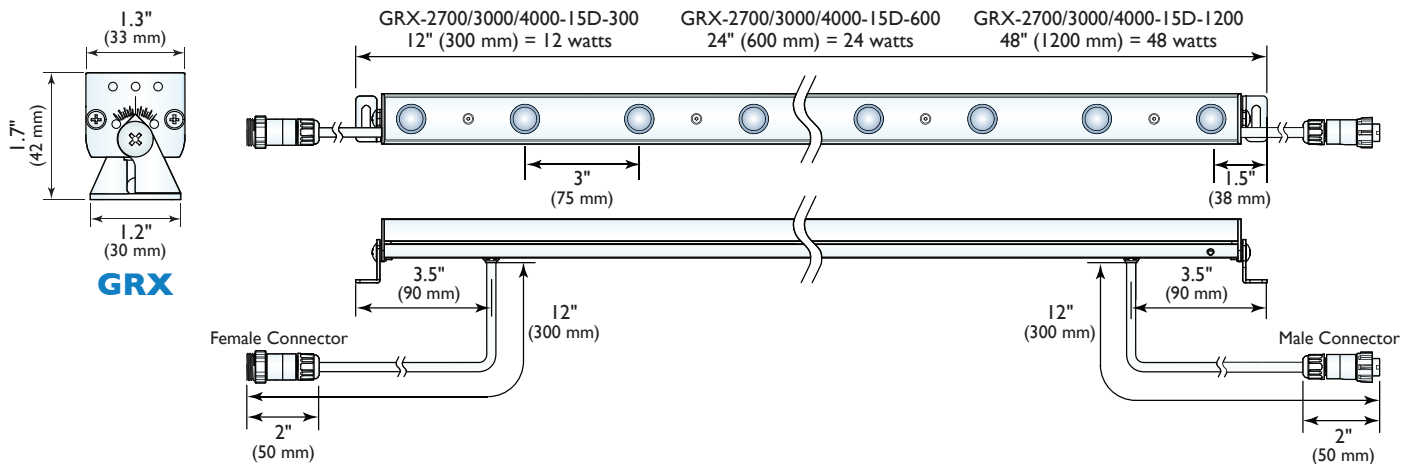


## Specify by Catalog Number

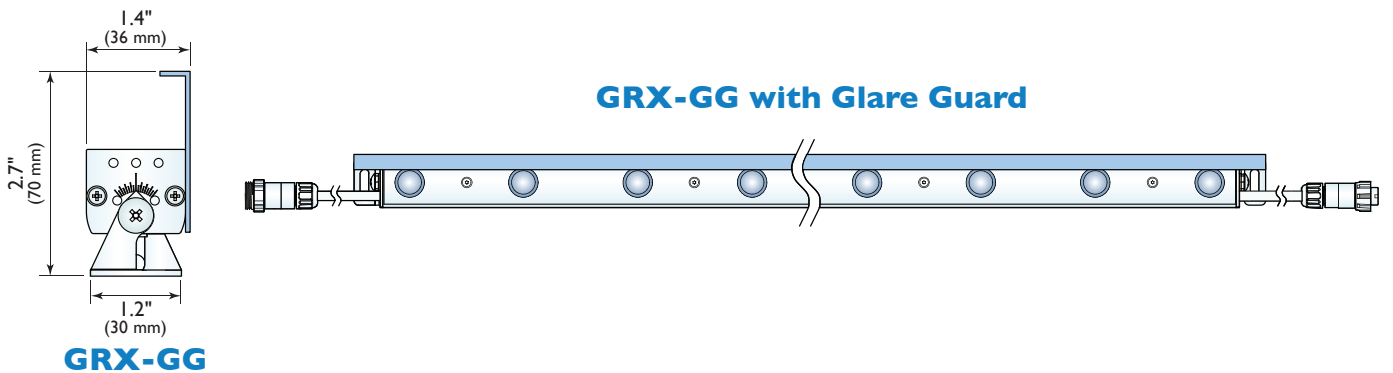
### GRX - 4000 - 15D - 600

Fixture Style		LED Color		Lens Style		Fixture Length	
Code	Style	Code	Color	Code	Style	Code	Length
GRX	Standard	2700	2700K	15D	15°	300	12" (300 mm)
GRX-GG	Glare Guard	3000	3000K			600	24" (600 mm)
GRX-GGL	Glare Guard with Louvers	4000	4000K			1200	48" (1200 mm)

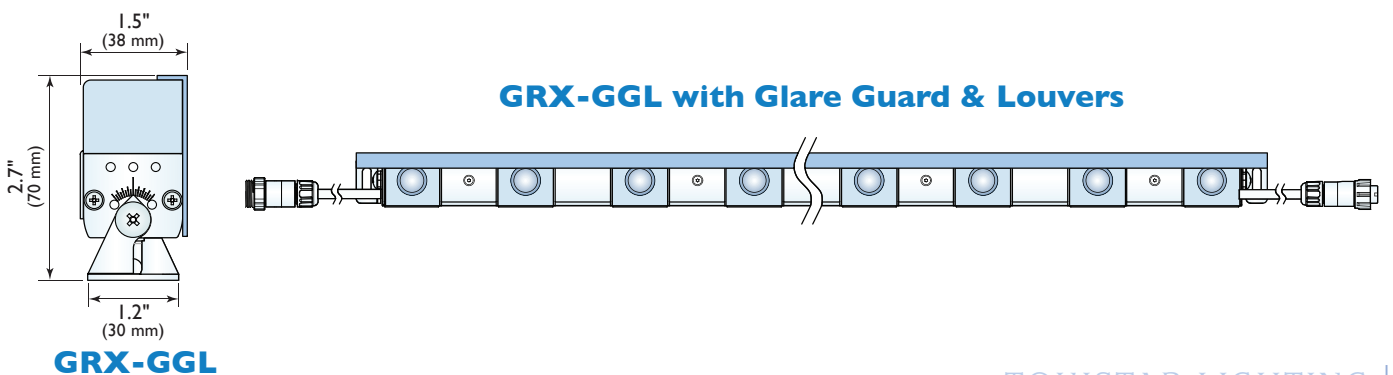
### GRX Standard



### GRX-GG with Glare Guard



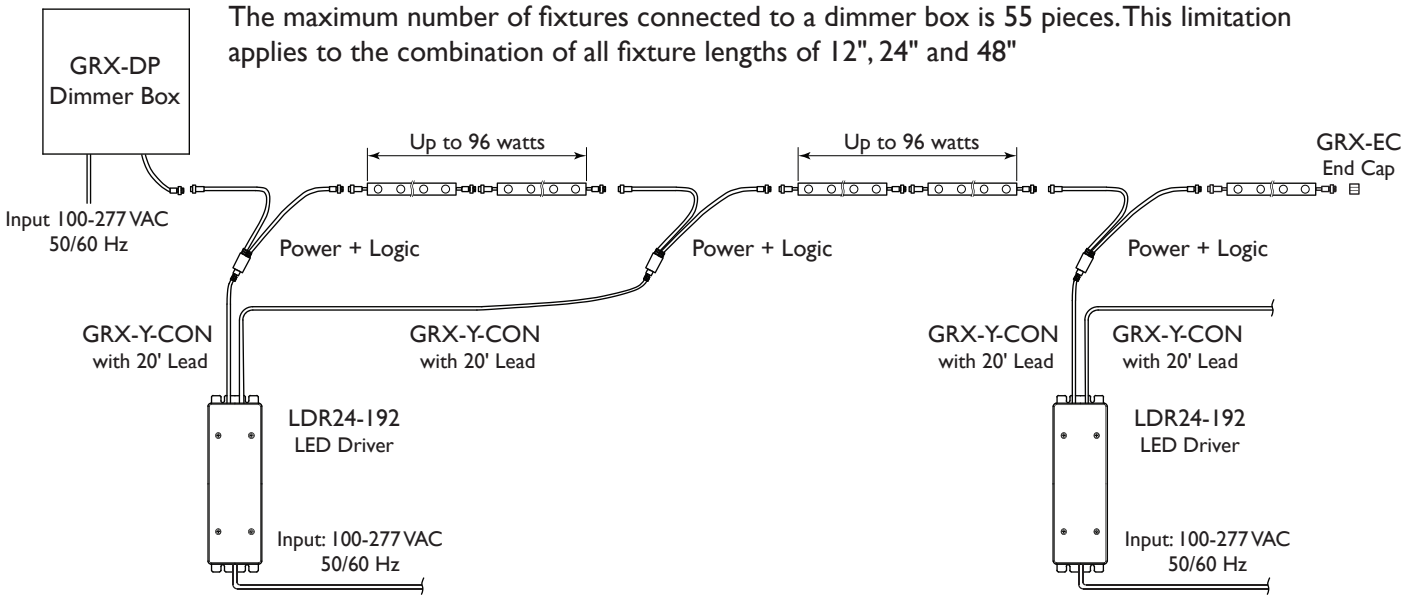
### GRX-GGL with Glare Guard & Louvers





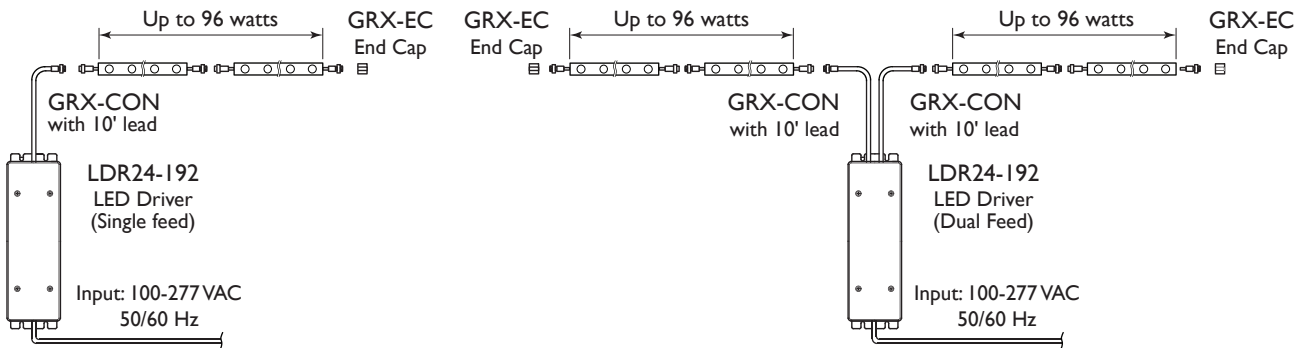
# System Layout

## Dimming Diagrams



## Non-Dimming Diagrams

The maximum load of fixtures from each output of a driver is 96 watts. The maximum run length of a secondary circuit including fixture lengths, feed connector and extension cables is not to exceed 80 Ft. (24 M).



## Connectors

### Part#: GRX-CON

In non-dimming applications each run of GRX receives this feed connector with a 10 Ft. lead.



### Part#: GRX-EXT-1M (3 Ft. length)

### Part#: GRX-EXT-3M (10 Ft. length)

These extension cables may be added to GRX-CON and GRX-Y-CON connectors.



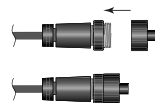
### Part#: GRX-Y-CON

In dimming applications this Y-Connector is attached to opposing ends of fixtures.



### Part#: GRX-EC

End Caps insulate a female connector at the end of a run.





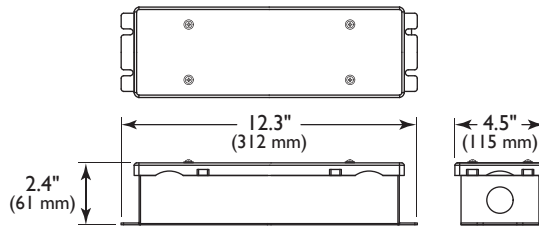
# Power Supply/Dimming

## 24 VDC LED Driver

**Part#: LDR24-192**

GRX Series is ETL Wet-Location Listed when operated from our 24VDC LED Driver. The input is universal ranging from 100 to 277VAC 50/60 Hz and has two independent 96 watt outputs.

The unit has wiring compartments for splicing on input and output leads, and can be connected directly to conduit. The enclosure is suitable for wet locations and rated IP65.



### LDR24-192

Input Range: 100~277VAC  
Frequency Range: 50/60 Hz  
Output: 24VDC (Adjustable +5% / -30%)  
Max. Output Current: 8.0A (2 @ 4.0A)  
Max. Output Power: 192W (2 @ 96W)  
Protection: Overload, Overcurrent, Short Circuit  
Operating Temperature: -25°C to +60°C

### Mechanical Specifications

Dimensions: 4.5" x 12.3" x 2.4"  
Weight: 2.55Kg / 6 lbs  
Enclosure Rating: Nema 3/IP65  
Mounting: Flange Mount  
Connection: Knockout for 1/2" Conduit

### Safety Standards

UL 1012/1585, UL8750, Class 2 Wet locations,  
UL 48, cUL, CE, E342485

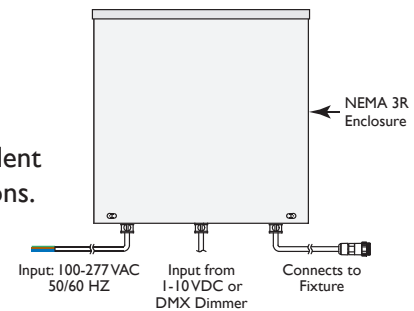
### LED Capacity

3 Watt LEDs: 64 Total / 32 per output

## GRX Dimmer Box

**Part#: GRX-DP**

GRX Series can be dimmed with industry-standard DMX or I-10VDC protocols. A Dimmer Box can control entire zones of up to 55 independent fixtures. GRX Dimmer Boxes are ETL Listed and suitable for wet locations. Dimensions: 12.25" x 12" x 4.5"

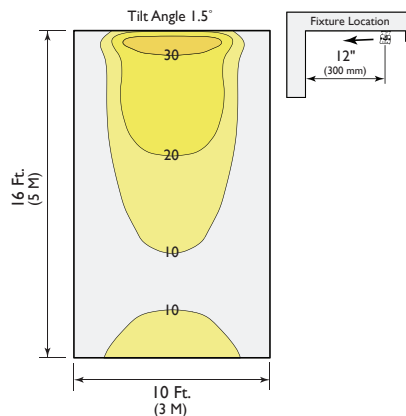
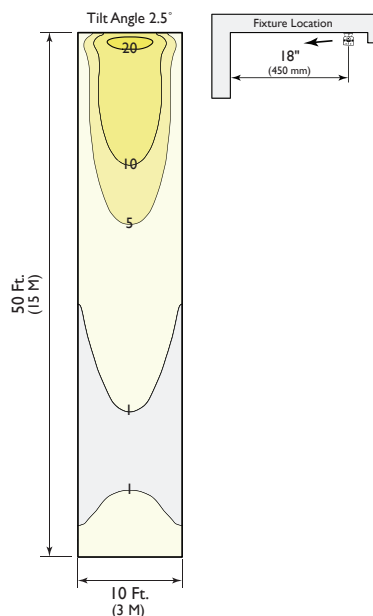


# Photometrics

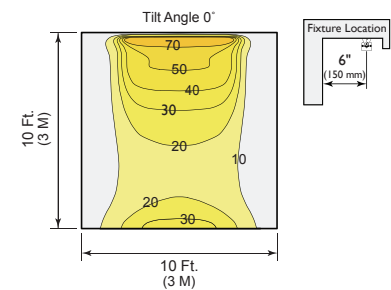
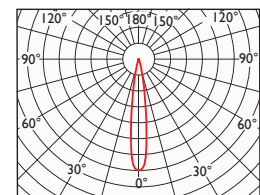
## Foot Candle Summaries

### Test Criteria:

**Lamp:** 3 Watt / 160 Lm/3000K  
**Optics:** 15 Degree Lens  
**LED Spacing:** 3" O.C. (75 mm)  
**Length:** 72" (1.8 M)  
**Reflectance Values:** Ceiling: 80% / Wall 50% / Floor 20%  
**Conversion Factors:**  
**Lamp:** Multiply by .94 for 3 Watt/150 Lm/2700K  
**Lamp:** Multiply by 1.12 for 3 Watt/180 Lm/4000K  
**Lux Value:** Multiply Footcandle Value by 10.764 to Determine Lux Value



## Light Distribution





# Gradient™ GRHB Series

Tokistar's Gradient GRHB is a compact LED luminaire for use in wall grazing interiors. The system incorporates high-output LEDs installed within an extruded aluminum housing. Fixtures operate from our dimmable constant-current LED Drivers.

Gradient HB has a variety of options designed toward meeting specific lighting objectives.

- Fixture lengths range from 2 to 18 LEDs with socket spacings of 2.4"/60mm, 3"/75mm and 4"/100mm.
- The optics package includes 2.1 watt LEDs with an 8°, 15° or 40° x 15° spread lens.
- Color temperatures include 2700, 3000 and 4000K.
- Mounting options include fixed or pivoting brackets.
- Optional louvers and a glare guard keep light discreetly hidden from view.



Design: Mori Building Co., Ltd.  
Lighting Design: Uchiyama Creative Lighting Design Inc  
Photo: Toshio Kaneko

Fixtures positioned within windows warmly illuminate this entire block of storefronts.



## Honeycomb Louver

This louver adds very little to the fixture's overall profile and eliminates glare from many angles. It can be used with fixed or adjustable brackets.



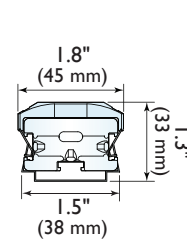
## Vertical Louver

Vertical louvers block light from front and side viewing angles. They can be used with fixed or adjustable brackets.

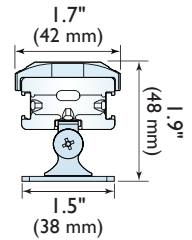


## Glare Guards

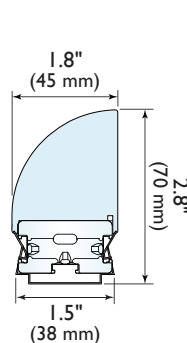
Glare guards slide and lock onto the fixture, preventing glare from many angles. They are for use with adjustable brackets only.



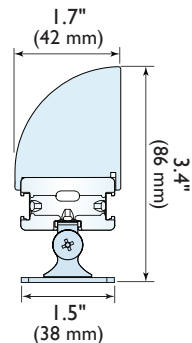
Fixed Bracket with Honeycomb Louver



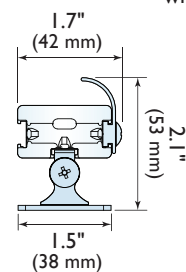
Adjustable Bracket with Honeycomb Louver



Fixed Bracket with Louver



Adjustable Bracket with Louver



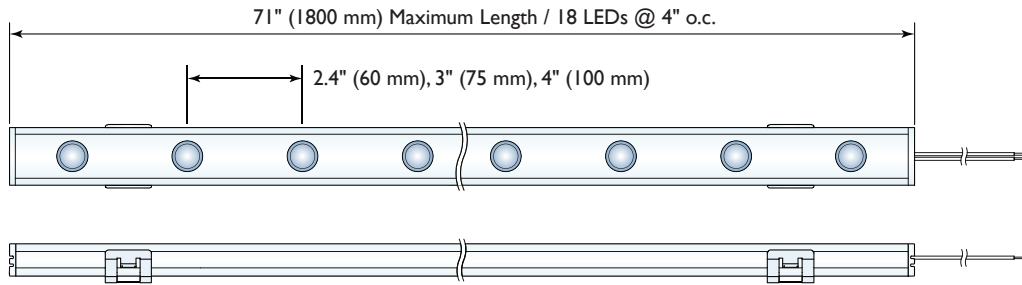
Adjustable Bracket with Glare Guard



## Specify by Catalog Number

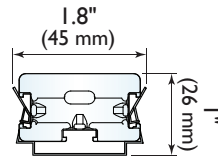
**GRHB - 100 - 2700 - 15D - FB - VL**

LED Spacing		LED Color		Lens Style		Mounting Bracket		Options	
Code	Inch	Code	Color	Code	Style	Code	Style	Code	Style
60	2.4"	2700	2700K	8D	8°	FB	Fixed	VL	Vertical Louver
75	3"	3000	3000K	15D	15°	AB	Adjustable	HL	Honeycomb Louver
100	4"	4000	4000K	SP	Spread Lens			GG	Glare Guard

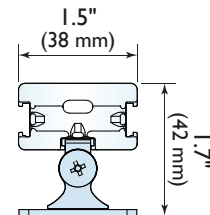
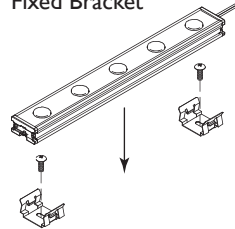


### Mounting Brackets

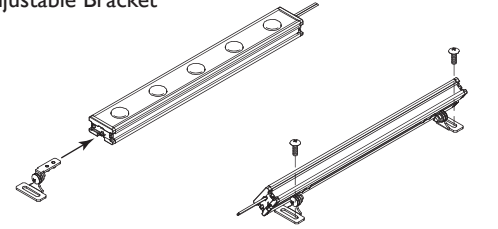
Mounting options include fixed or adjustable brackets. Two brackets are required per fixture.



Fixed Bracket

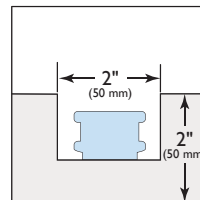


Adjustable Bracket



### Space Requirements

For proper air flow, the dimensions indicated are required to prevent heat build up.



## Specifications



**Extrusion** is Black Anodized Aluminum

**Light Sources** are 2.1 Watt LEDs operating at 700mA

**Cover Plate** is Black Anodized Aluminum

**End Caps** are Polycarbonate

**Lead Wires** are #18 AWG x 2





# GRHB Photometrics

## Foot Candle Summaries

### Test Criteria:

**Lamp:** 2.1 Watt / 160 Lm/3000K

**LED Spacing:** 2.4" O.C. (60 mm)

**Length:** 120" (3 M)

**Reflectance Values:** Ceiling: 80% / Wall 50% / Floor 20%

### Conversion Factors:

**Lamp:** Multiply by .94 for 2.1 Watt/150 Lm/2700K

**Lamp:** Multiply by 1.12 for 2.1 Watt/180 Lm/4000K

LED Spacing: 3" O.C. (75 mm) multiply by 0.8

LED Spacing: 4" O.C. (100 mm) multiply by 0.7

**Lux Value:** Multiply Footcandle Value by 10.764 to Determine Lux Value

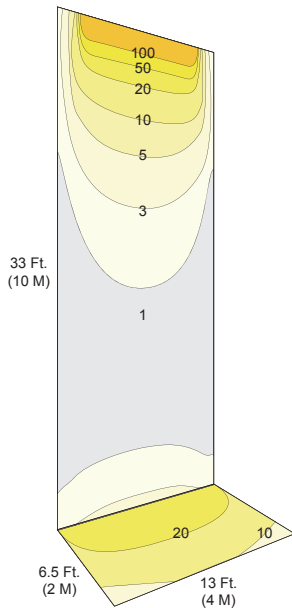
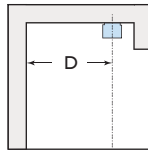


To minimize light scallops, we suggest the following:

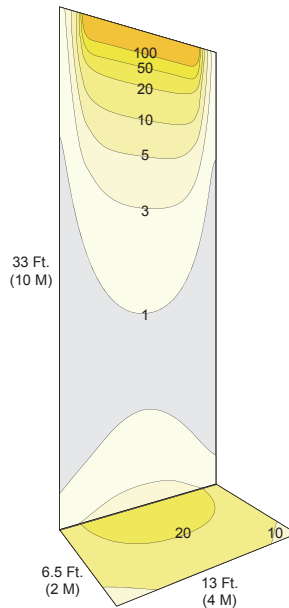
2.4" LED spacing: Distance from wall 2.4"

3" LED spacing: Distance from wall 3"

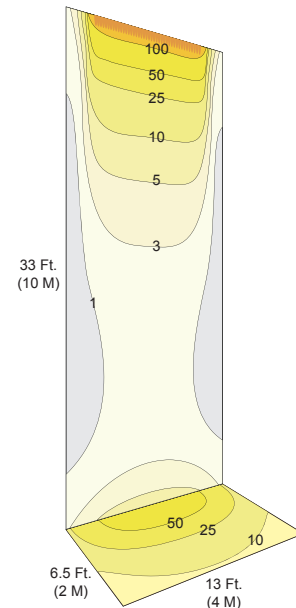
4" LED spacing: Distance from wall 4"



GRHB-60-3000-SP

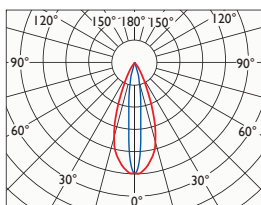


GRHB-60-3000-15D

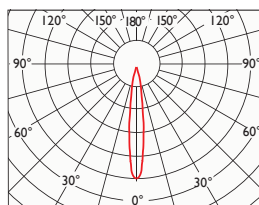


GRHB-60-3000-8D

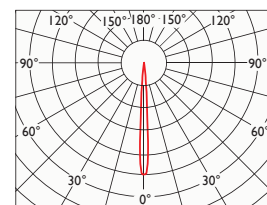
## Light Distribution



40° x 15° Spread Lens



15° Lens



8° Lens

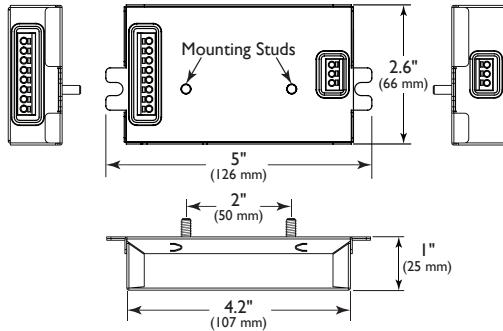


# GRHB/O'Links/I'Links LED Driver

## LDRCC-40 Dimmable LED Driver

Our constant current LED Driver operates on the PWM method and accepts input from 0-10VDC dimming controls. The driver has full range dim-to-off capability.

The input is universal ranging from 100 to 277 VAC 50/60 Hz. The driver may accept wiring from the ends, or be mounted to an enclosure and accept wiring from below.



### LDRCC-40 Specifications

Input Range: 100~277 VAC  
 Frequency Range: 50/60 Hz  
 Output: 3-57 VDC  
 Current: 700ma  
 Max. Output Power: 40W  
 Protection: Overload, Overcurrent, Short Circuit  
 Over Temperature, Mis-Wiring protection (auto shutdown)  
 Operating Temperature: -40°C to +50°C

### Mechanical Specifications

Dimensions: 5" x 2.6" x 1"  
 Weight: .38 lbs / 170g  
 Enclosure Rating: IP21  
 Mounting: Flange Mount/Stud Mount  
 Input/Output Connectors: Wago 253/16-20AWG

### Safety Standards

Listed to UL8750, UL Class 2, Class P  
 EMI Compliance: FCC 47CFR Part 15 Class B

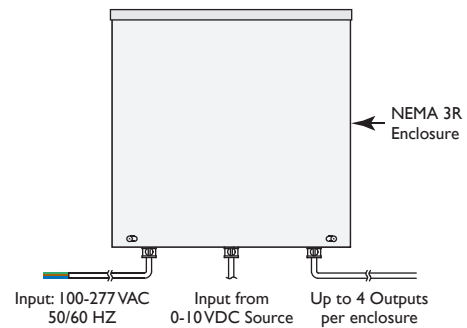
### LED Capacity

2 to 18 GRHB 2.1 Watt LEDs  
 1 to 18 O'Links / I'Links 2.1 Watt LEDs

## Dimming Control

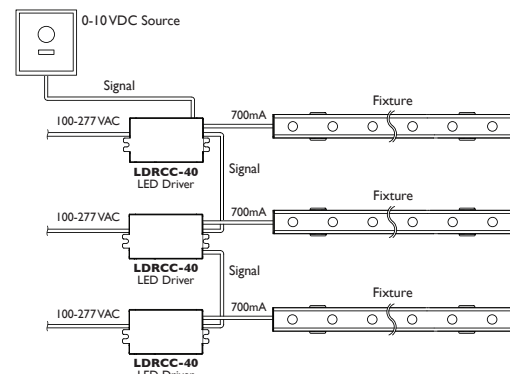
Up to 30 LDRCC-40 LED Drivers can be connected in series from a single 0-10VDC source. The maximum distance from the 0-10VDC source to the last LED driver is 250 feet/75 meters based upon the use of #18 AWG shielded cable.

For applications operating from DMX, Dali or other protocols, check with the dimmer manufacturer to provide a suitable interface to generate a 0-10VDC signal.



Up to 30 LDRCC-40 LED Drivers can be connected in series from a single 0-10VDC source. The maximum distance from the 0-10VDC source to the last LED driver is 250 feet/75 meters based upon the use of #18 AWG shielded cable.

For applications operating from DMX, Dali or other protocols, check with the dimmer manufacturer to provide a suitable interface to generate a 0-10VDC signal.





# O'Links for Outdoor

**G** RX O'Links are compact fixtures designed for use in confined spaces and curved areas. High-output LEDs ensure superior performance in both interior and exterior applications.

O'Links are available in single or 3-LED module versions. Light sources are 2.1 watt LEDs and each fixture is fitted with adjustable brackets to precisely focus light. Male and female connectors provide convenient and reliable wiring.

The system is wet-location listed with an IP66 rating. Optional louvers and glare guards prevent glare from many different viewing perspectives.

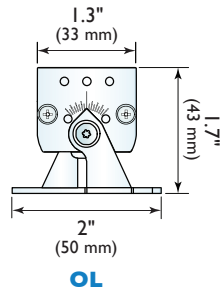


Design: HASEKO Corporation  
Lighting Design: Reiko Chikada Lighting Design Inc.

O'Links are positioned precisely between each vertical louver.

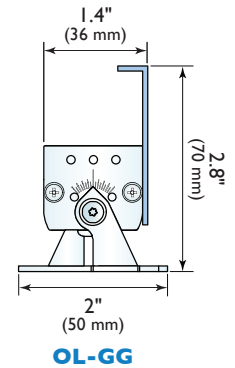
## Series OL

The standard style is suitable for applications where the fixture is concealed behind a ledge and LEDs are not seen directly.



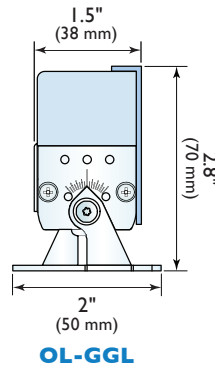
## Series OL-GG

This style includes a linear glare guard for applications where the fixture is not concealed, and viewed directly.

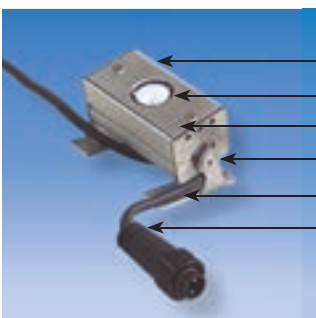


## Series OL-GGL

A linear glare guard combined with vertical louvers eliminate glare from front and side-viewing perspectives.



# Specifications



- **Extrusion** is Anodized Aluminum
- **Light Sources** are 2.1 Watt LEDs operating at 700mA
- **Cover Plate** is Anodized Aluminum
- **Pivoting Bracket and End Cap** are Stainless Steel
- **PVC Insulation** surrounds two #18 AWG wires
- **Connector** is Weather-Resistant Nylon with IP67 Rating

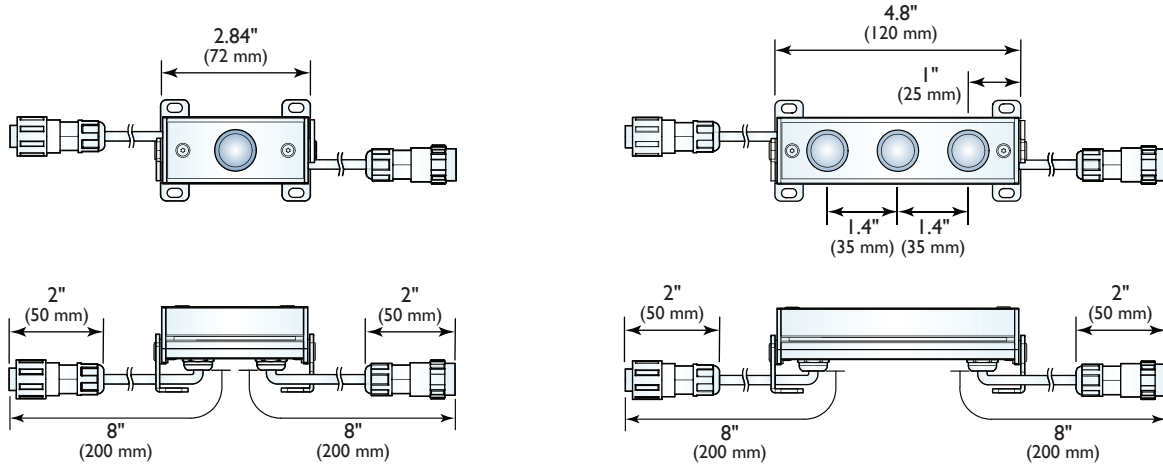
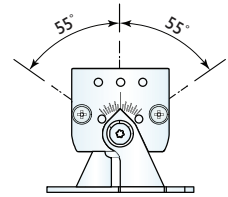
Wet-Location Listed  
IP66 Rated



## Specify by Catalog Number

**OL - 4000 - 15D - 3**

Fixture Style		LED Color		Lens Style		Module	
Code	Style	Code	Color	Code	Style	Code	Type
OL	Standard	2700	2700K	15D	15°	1	1 LED
OL-GG	Glare Guard	3000	3000K			3	3 LEDs
OL-GGL	Glare Guard with Louvers	4000	4000K				



## Connectors

### Part#: OL-CON-2M

Each run of O'Links receives this feed connector with a 6.5 Ft. lead.



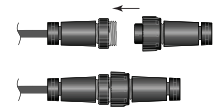
### Part#: OL-EXT-1M (3 Ft. length)

These cables extend the distance between fixtures and OL-CON connectors to reach remote LED Driver locations.



### Part#: OL-EC

End Caps insulate a female connector at the end of a run.

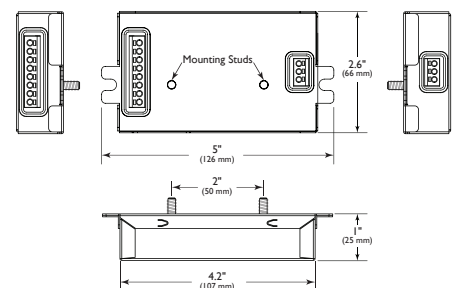


## Power Supply & Dimming

### Part#: LDRCC-40 LED Driver

An LDRCC-40 Dimmable LED Driver can operate up to 18 individual LED Modules connected in series. This unit has integral 0-10VDC dimming capability on board.

The driver may accept wiring from the ends, or be mounted to an enclosure and accept wiring from below. Reference page 11 for further details.





# I'Links for Indoor

Tokistar's I'Links are a series of individual modules linked together and designed to conform to any shape. The system's flexibility and high-output LEDs make it ideal for illuminating architectural details of all shapes and sizes. Fixtures operate from constant current drivers with 0-10 VDC on board dimming.

I'Links is uniquely designed to meet specific lighting tasks.

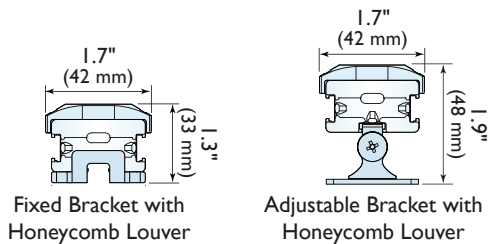
- A fixture may consist of 1 to 18 LEDs
- The optics package includes 2.1 watt LEDs with an 8°, 15° or 40° x 15° spread lens.
- Color temperatures include 2700, 3000 and 4000K.
- Mounting options include fixed or pivoting brackets.
- Optional louvers and a glare guard keep light discreetly hidden from view.



I'Links are positioned precisely between each vertical louver.

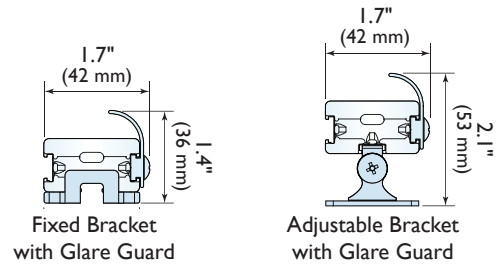
## Honeycomb Louver

This louver eliminates glare from many angles. It can be used with fixed or adjustable brackets.



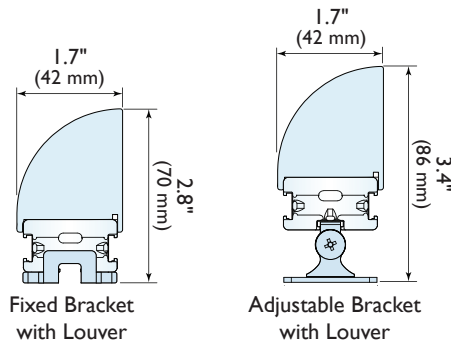
## Glare Guards

Glare guards slide and lock onto the fixture, preventing glare from many angles.

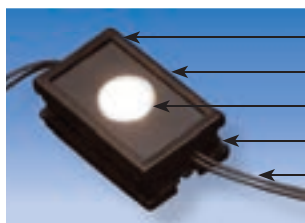


## Vertical Louver

Vertical louvers block light from front and side viewing angles. They can be used with fixed or adjustable brackets.



# Specifications



- **Extrusion** is Aluminum
- **Cover** is Polycarbonate
- **Light Sources** are 2.1 Watt LEDs operating at 700mA
- **End Plate** is Polycarbonate
- **Lead Wires** are #18 AWG x 2

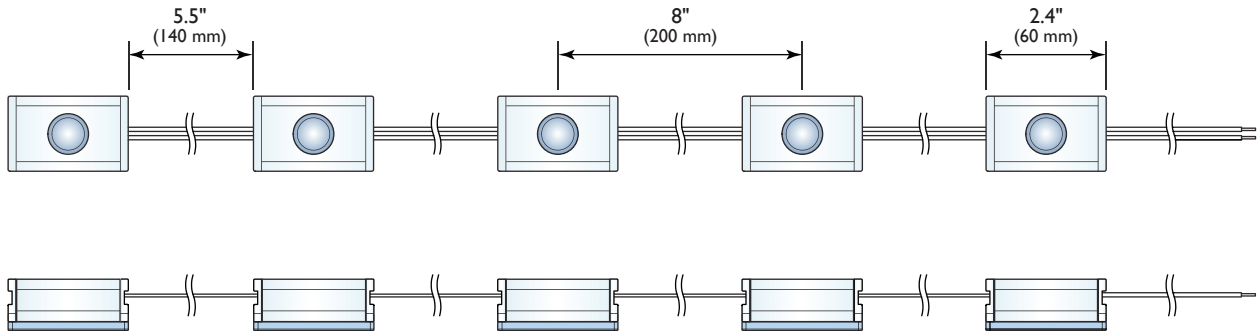




## Specify by Catalog Number

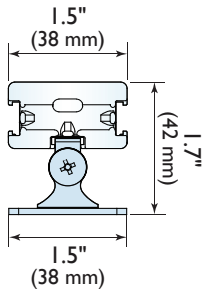
**IL - 2700 - 15D - AB - HL**

LED Color		Lens Style		Mounting Bracket		Options	
Code	Color	Code	Style	Code	Style	Code	Style
2700	2700K	8D	8°	FB	Fixed	VL	Vertical Louver
3000	3000K	15D	15°	AB	Adjustable	HL	Honeycomb Louver
4000	4000K	SP	Spread Lens			GG	Glare Guard

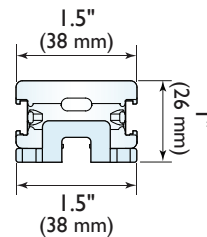
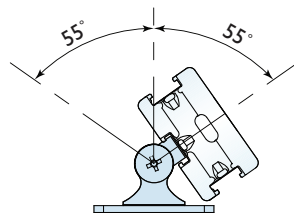


## Mounting Brackets

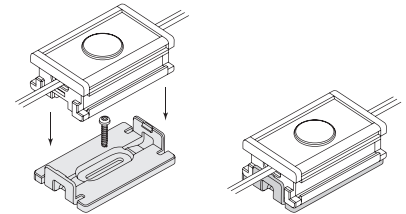
Mounting options include fixed or adjustable brackets. One bracket is required per module.



**Adjustable Bracket**



**Fixed Bracket**

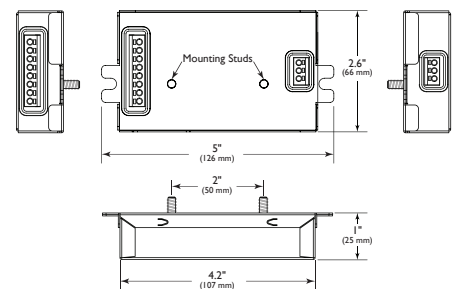


## Power Supply & Dimming

### Part#: LDRCC-40 LED Driver

An LDRCC-40 Dimmable LED Driver can operate up to 18 individual LED Modules connected in series. This unit has integral 0-10VDC dimming capability on board.

The driver may accept wiring from the ends, or be mounted to an enclosure and accept wiring from below. Reference page 11 for further details.



Gradient Series

Restaurants

Hotels

Shopping Malls

**Resorts**

**Casinos**

Cabinetry

Showcase

Amusement Parks

Theatres

*Residential*

Signs and Displays

*Millwork*

Museums

*City Walks*

Exhibits

**Hospitality**

**Point of Purchase**

Retail Stores

*Cruise Lines*

*Entertainment*

**Nightclubs**

**Stage/Theatrical**



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