ColorGraze Powercore

Linear, color-changing LED surface light for wall washing and grazing

PHILIPS

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ColorGraze™ Powercore is a linear fixture optimized for surface grazing, wall-wash lighting, and efficient signage illumination. Featuring Powercore® technology, ColorGraze Powercore processes power directly from line voltage, dramatically simplifying installation. Superior beam quality offers uniform beam saturation as close as 6 in (152 mm), and a compact, low-profile design combined with flexible mounting options allows for discreet placement within wide-ranging architectural details. Intelligent, controllable fixtures are available in standard full-color configurations. Build-to-order configurations with additional beam angles and custom channels of white or color LEDs are also available to support special applications.

- Tailor light output to specific applications — Available in three lengths, with 10° x 60° or 30° x 60° beam angle options. 1 ft (305 mm) light addressing segments within each fixture accommodate fine control of color-changing effects and pre-programmed light shows.

- High-performance illumination and beam quality — Superior beam quality for striation-free saturation as close as 6 in (152 mm) from fixture placement. Delivering up to 271 lumens of color-changing light projection per foot, ColorGraze Powercore accommodates end-to-end or incremental installation without visible light scalloping between fixtures.

- Integrated Powercore technology — Efficiently and accurately processes power directly from line voltage, eliminating the need for low-voltage, external power supplies. The Philips Data Enabler merges line voltage with control data over a single standard cable, simplifying installation and lowering total system cost.

- Versatile installation options — Constant torque locking hinges offer simple and consistent position control from various angles. The low-profile aluminum housing accommodates placement within most architectural niches.

- Renowned LED quality — Long-life LEDs provide 50,000 hours of use at 70% lumen maintenance. Optibin® technology delivers the truest possible color quality and consistency. Active thermal management ensures consistent lifetime operation in high-temperature environments.

- Digital control compatibility — ColorGraze Powercore works with the complete range of Philips Ethernet and DMX controllers, including Light System Manager, iPlayer® 3, and Video System Manager Pro, as well as with third-party DMX512 controllers.

- Custom configurations for special applications — Standard configurations use three channels of LEDs (Red, Green, and Blue) to produce a full range of 16.7 million additive RGB colors. You can create custom configurations to support special applications by exchanging the LEDs in any channel. Available LEDs include eight color temperatures ranging from a warm 2700 K to a cool 6500 K, Royal Blue, Blue, Green, Amber, and Red. Additional beam angles (9° x 9°, 10° x 30°, and 90° x 60°) are also available. See the ColorGraze Powercore Ordering Information specification sheet for complete details.


Ease of Installation
With flexible mounting options, multiple fixture length and beam angle options, integrated Powercore technology, and a discreet low-profile housing rated for use in outdoor locations, ColorGraze Powercore offers high performance and simple installation.

Create Visually Engaging Surroundings

Atlantic Ocean Residence
Exterior at Sunset
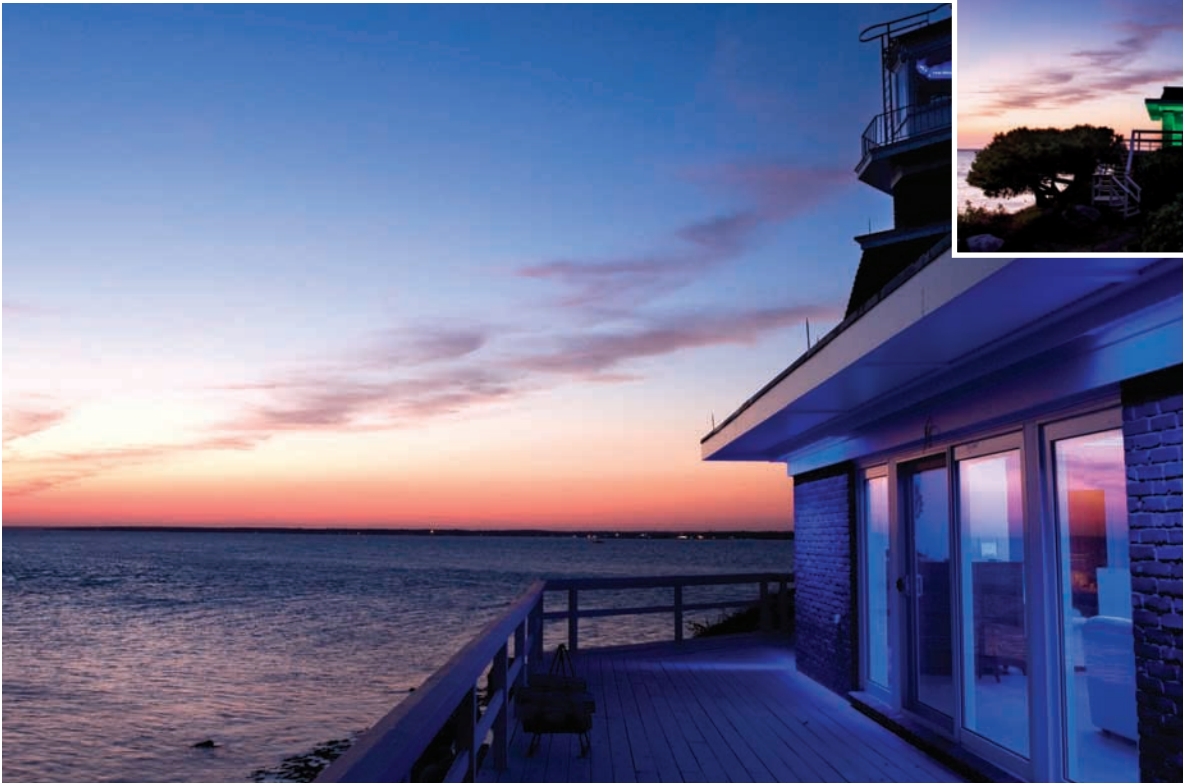
Benefit from a Specifier-Class LED Lighting System
ColorGraze Powercore fixtures let you focus on the visual impact of your lighting design, rather than setup. Tailor light output to specific applications — enhance an area with smooth, wall-washing light, or highlight textures such as brick and stucco via surface grazing. For added affect, use a combination of wall-washing and grazing techniques to develop a visually transitional space, for example drawing interest from the interior of a structure to the exterior.

Design with Intelligent Control
With a digital playback controller such as iPlayer 3 or Light System Manager, you can schedule fixed color displays or color-changing light sequences according to the day of the week, date, a recurring time, or a daily astronomical event, such as sunrise or sunset.

Depend on Philips Long-Life LED Quality
Long-life LEDs allow fixture installation in difficult-to-access locations — crane-accessible features on a building exterior, for example — without the maintenance concerns associated with traditional lighting sources.

Versatile Installation Options

ColorGraze Powercore offers vibrant color and color-changing light ideal for applications ranging from surface grazing and wall washing to signage lighting.

To support installations from the simplest to the most complex, ColorGraze Powercore fixtures are compatible with the complete range of Philips DMX and Ethernet controllers. A standard installation might use twenty ColorGraze Powercore fixtures, an iPlayer 3 controller, and DMX-based Data Enablers to illuminate a retail display with color-changing effects. A larger installation might use a Philips Light System Manager controller and Ethernet-based Data Enablers to display light shows via hundreds of ColorGraze Powercore fixtures installed within a mix of interior and exterior architectural niches.

Regardless of the size and complexity of your lighting design, the planning time you spend up front can help streamline the installation and configuration of your fixtures. Keep these points in mind as you plan your installation:

- Create a lighting design plan that identifies and locates all fixtures, Data Enablers, and controllers. Use this Product Guide and the online Configuration Calculator to determine how many fixtures you can install in a continuous series, and the maximum combined length of cables per Data Enabler.

- For high-contrast surface grazing light — for example to highlight unique textures or features — place 10° x 60° fixtures within 4 in (102 mm) of a wall or other surface, with the light beam parallel with the wall or surface.

- For smooth, wall-washing light that reflects a glare-free ambient glow into the surrounding area, use 30° x 60° fixtures and place them at a greater distance from the wall or surface, with the light beam parallel with or at a small angle towards the wall or surface.

- All ColorGraze Powercore fixtures offer a 60° horizontal beam angle. Depending on the application, the beam angle allows fixture spacing with minimal visible light scalloping between the fixtures.

- When addressing fixtures for color-changing light shows, record the different serial numbers (determined by fixture length) on each fixture as they are unpacked. Create a diagram that identifies the light addresses and physical location of each fixture within your installation layout.

DMX installation with iPlayer 3

DMX-based installations typically feature multiple series of ColorGraze Powercore fixtures controlled by iPlayer 3. DMX Data Enablers are connected in series, then connected to either of the two output ports on the iPlayer 3. ColorGraze Powercore fixtures may be installed end-to-end, or spaced apart, according to the lighting design.
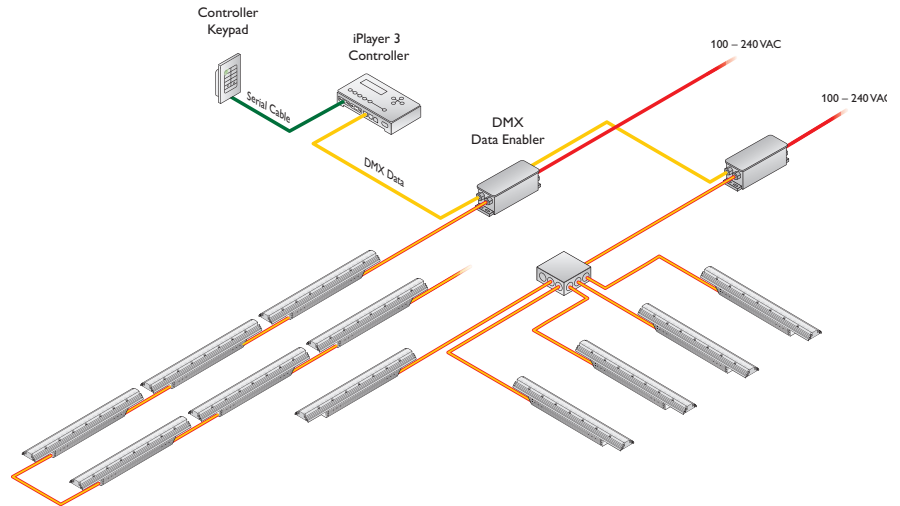
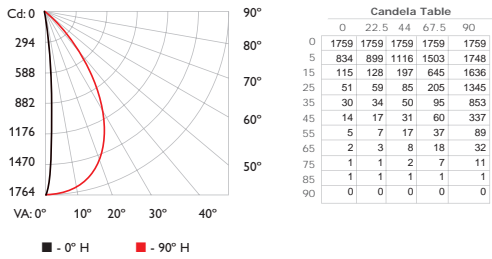

Ethernet installation with Light System Manager

Large-scale, Ethernet-based installations can include dozens or hundreds of series of ColorGraze Powercore fixtures connected to Light System Manager via Ethernet Data Enablers and other Ethernet hardware.
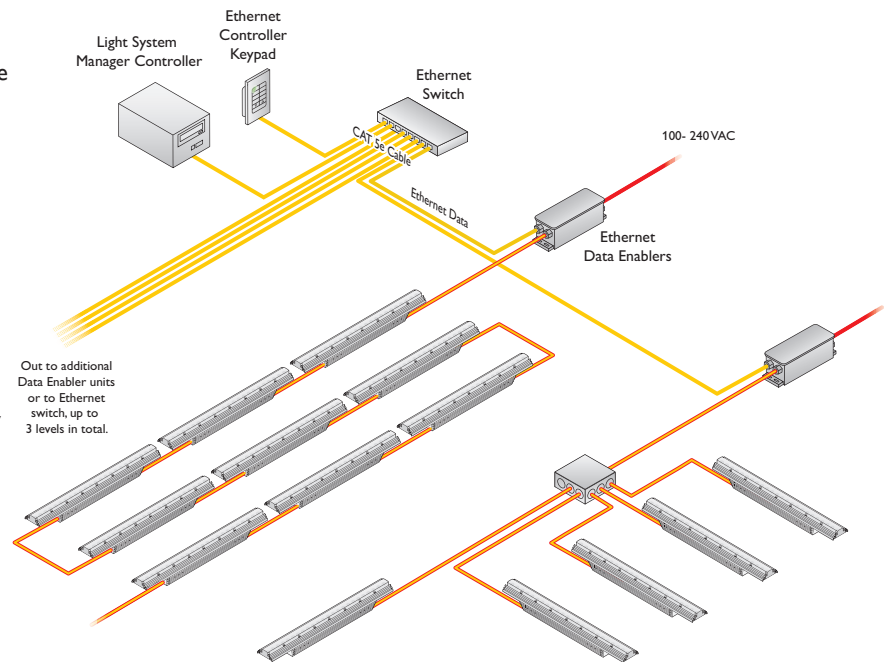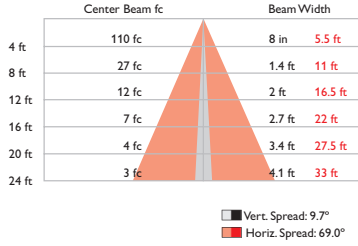
Photometrics

Photometric data is based on test results from an independent NIST traceable testing lab. IES data is available at www.colorkinetics.com/support/ies.

ColorGraze Powercore 2 ft (610 mm), 10° x 60° (narrow) beam angle

Polar Candela Distribution

Cd: 0, 294, 588, 882, 1176, 1470, 1764
VA: 0° 10° 20° 30° 40°
- ■ - 0° H   ■ - 90° H

Candela Table

	0	22.5	44	67.5	90
0	1759	1759	1759	1759	1759
5	834	899	1116	1503	1748
15	115	128	197	645	1636
25	51	59	85	205	1345
35	30	34	50	95	853
45	14	17	31	60	337
55	5	7	17	37	89
65	2	3	8	18	32
75	1	1	2	7	11
85	1	1	1	1	1
90	0	0	0	0	0

Illuminance at Distance

	Center Beam fc	Beam Width	
4 ft	110 fc	8 in	5.5 ft
8 ft	27 fc	1.4 ft	11 ft
12 ft	12 fc	2 ft	16.5 ft
16 ft	7 fc	2.7 ft	22 ft
20 ft	4 fc	3.4 ft	27.5 ft
24 ft	3 fc	4.1 ft	33 ft

■ Vert. Spread: 9.7°
■ Horiz. Spread: 69.0°

LED	Lumens	Watts	Efficacy
RGB	543	35	15.5

Zonal Lumen

Zone	Lumens	% Lamp	% Luminaire
0-30	348.4	64.2%	64.2%
0-40	444.9	81.9%	81.9%
0-60	525.6	96.8%	96.8%
60-90	17.3	3.2%	3.2%
0-90	542.9	100%	100%
90-180	0	0%	0%
0-180	542.9	100%	100%

Total Efficiency: 100%

For lux multiply fc by 10.7

Coefficients Of Utilization - Zonal Cavity Method

Effective Floor Cavity Reflectance: 20%

RCC %:	80				70				50			30			10			0
RW %:	70	50	30	0	70	50	30	0	50	30	20	50	30	20	50	30	20	0
RCR: 0	1.19	1.19	1.19	1.19	1.16	1.16	1.16	1.00	1.11	1.11	1.11	1.06	1.06	1.06	1.02	1.02	1.02	1.00
1	1.13	1.10	1.07	1.05	1.11	1.08	1.06	.93	1.04	1.02	1.00	1.00	.99	.97	.97	.95	.94	.93
2	1.07	1.02	.98	.94	1.05	1.00	.96	.86	.97	.94	.91	.94	.91	.89	.91	.89	.87	.85
3	1.01	.95	.89	.85	.99	.93	.88	.80	.90	.86	.83	.88	.85	.82	.86	.83	.80	.79
4	.96	.88	.82	.78	.94	.87	.82	.74	.85	.80	.76	.83	.79	.76	.81	.77	.75	.73
5	.91	.82	.76	.72	.89	.81	.76	.69	.80	.75	.71	.78	.74	.70	.76	.73	.70	.68
6	.87	.77	.71	.67	.85	.77	.71	.65	.75	.70	.66	.74	.69	.66	.72	.68	.65	.64
7	.82	.73	.67	.62	.81	.72	.66	.61	.71	.66	.62	.70	.65	.62	.69	.64	.61	.60
8	.79	.69	.63	.59	.77	.68	.63	.58	.67	.62	.58	.66	.61	.58	.65	.61	.58	.56
9	.75	.65	.59	.55	.74	.65	.59	.55	.64	.59	.55	.63	.58	.55	.62	.58	.55	.53
10	.72	.62	.56	.52	.71	.62	.56	.52	.61	.56	.52	.60	.55	.52	.59	.55	.52	.51

RCC %: Ceiling reflectance percentage, RW %: Wall reflectance percentage, RCR: Room cavity ratio

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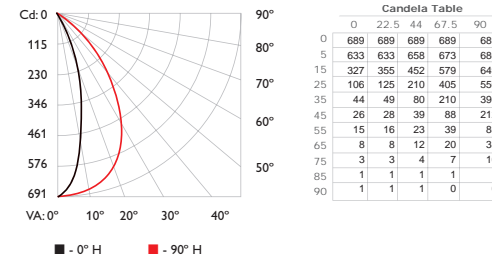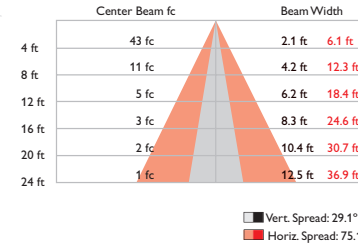
ColorGraze Powercore 2 ft (610 mm), 30° x 60° (medium) beam angle

Polar Candela Distribution

Cd: 0, 115, 230, 346, 461, 576, 691
VA: 0° 10° 20° 30° 40°
- ■ - 0° H   ■ - 90° H

Candela Table

	0	22.5	44	67.5	90
0	689	689	689	689	689
5	633	633	658	673	686
15	327	355	452	579	649
25	106	125	210	405	556
35	44	49	80	210	396
45	26	28	39	88	212
55	15	16	23	39	85
65	8	8	12	20	31
75	3	3	4	7	10
85	1	1	1	1	1
90	1	1	1	0	0

Illuminance at Distance

	Center Beam fc	Beam Width	
4 ft	43 fc	2.1 ft	6.1 ft
8 ft	11 fc	4.2 ft	12.3 ft
12 ft	5 fc	6.2 ft	18.4 ft
16 ft	3 fc	8.3 ft	24.6 ft
20 ft	2 fc	10.4 ft	30.7 ft
24 ft	1 fc	12.5 ft	36.9 ft

■ Vert. Spread: 29.1°
■ Horiz. Spread: 75.1°

LED	Lumens	Watts	Efficacy
RGB	506	35	14.5

Zonal Lumen

Zone	Lumens	% Lamp	% Luminaire
0-30	312.4	61.7%	61.8%
0-40	400.7	79.2%	79.2%
0-60	483.7	95.6%	95.6%
60-90	22.0	4.4%	4.4%
0-90	505.7	99.9%	100%
90-180	0	0%	0%
0-180	505.7	99.9%	100%

Total Efficiency: 99.9%

For lux multiply fc by 10.7

Coefficients Of Utilization - Zonal Cavity Method

Effective Floor Cavity Reflectance: 20%

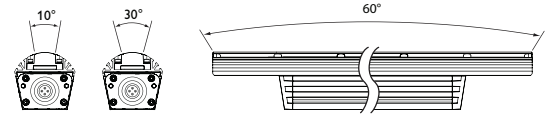| RCC %:	80				70				50			30			10			0
RW %:	70	50	30	0	70	50	30	0	50	30	20	50	30	20	50	30	20	0
RCR: 0	1.19	1.19	1.19	1.19	1.16	1.16	1.16	1.00	1.11	1.11	1.11	1.06	1.06	1.06	1.02	1.02	1.02	1.00
1	1.13	1.09	1.07	1.04	1.10	1.07	1.05	.92	1.03	1.01	.99	.99	.98	.96	.96	.95	.94	.92
2	1.06	1.01	.96	.92	1.04	.99	.95	.85	.96	.92	.89	.93	.90	.87	.90	.87	.85	.84
3	1.00	.93	.87	.83	.98	.91	.86	.78	.89	.84	.81	.86	.83	.80	.84	.81	.78	.77
4	.94	.86	.80	.75	.93	.85	.79	.72	.83	.78	.74	.81	.76	.73	.79	.75	.72	.70
5	.89	.80	.74	.69	.87	.79	.73	.66	.77	.72	.68	.75	.71	.67	.74	.70	.67	.65
6	.84	.75	.68	.64	.83	.74	.68	.62	.72	.67	.63	.71	.66	.62	.69	.65	.62	.60
7	.80	.70	.63	.59	.79	.69	.63	.58	.68	.62	.58	.67	.62	.58	.66	.61	.58	.56
8	.76	.66	.59	.55	.75	.65	.59	.54	.64	.59	.55	.63	.58	.54	.62	.57	.54	.53
9	.72	.62	.56	.52	.71	.62	.56	.51	.61	.55	.51	.60	.55	.51	.59	.54	.51	.49
10	.69	.59	.53	.48	.68	.58	.52	.48	.57	.52	.48	.57	.52	.48	.56	.51	.48	.47

RCC %: Ceiling reflectance percentage, RW %: Wall reflectance percentage, RCR: Room cavity ratio

Specifications

Due to continuous improvements and innovations, specifications may change without notice.

Item	Specification	2 ft (610 mm)	3 ft (914 mm)	4 ft (1219 mm)
Output	Beam Angle	10° x 60° / 30° x 60°		
	Lumens†	543 (10° x 60°) 506 (30° x 60°)	815 (10° x 60°) 759 (30° x 60°)	1086 (10° x 60°) 1012 (30° x 60°)
	Color Range	16.7 million additive RGB colors; continuously variable intensity		
	Mixing Distance	6 in (152 mm) to uniform beam saturation		
	Lumen Maintenance‡	80,000 hours L_{70} @ 25° C (typical application) 50,000 hours L_{70} @ 50° C (typical application)		
Electrical	Input Voltage	100 – 240 VAC, auto-switching, 50 / 60 Hz		
	Power Consumption	35 W maximum at full output, steady state	52.5 W maximum at full output, steady state	70 W maximum at full output, steady state
Control	Interface	Data Enabler (DMX or Ethernet)		
	Control System	Philips full range of controllers, including Light System Manager and iPlayer 3, or third-party DMX controllers		
Physical	Dimensions *(Height x Width x Depth)*	2.7 x 24 x 2.8 in (69 x 610 x 71 mm)	2.7 x 36 x 2.8 in (69 x 914 x 71 mm)	2.7 x 48 x 2.8 in (69 x 1219 x 71 mm)
	Weight	4.9 lb (2.2 kg)	8.1 lb (3.6 kg)	10.8 lb (4.9 kg)
	Housing	Extruded anodized aluminum		
	Lens	Clear polycarbonate		
	Fixture Connectors	Integral male / female waterproof connectors		
	Mounting	Multi-positional, constant torque, locking hinges		
	Temperature	-40° – 122° F (-40° – 50° C) Operating -4° – 122° F (-20° – 50° C) Startup		
	Humidity	0 – 95%, non-condensing		
	Maximum Fixture Run Lengths*	40 @ 110 VAC 43 @ 120 VAC 55 @ 220 VAC 55 @ 240 VAC	*Configuration: 2 ft (610 mm) fixtures installed end-to-end, 20 A circuit, standard 50 ft (15.2 m) Leader Cable*	
Certification and Safety	Certification	UL / cUL, FCC Class A, CE, PSE		
	LED Class	Class 2 LED product		
	Environment	Dry / Damp / Wet Location, IP66		

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† Lumen measurement complies with IES LM-79-08 testing procedures

‡ L_{70} = 70% maintenance of lumen output. (When light output drops below 70% of initial output.)

* These figures, provided as a guideline, are accurate for this configuration only.
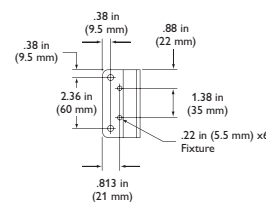 Changing the configuration can affect the fixture run lengths.
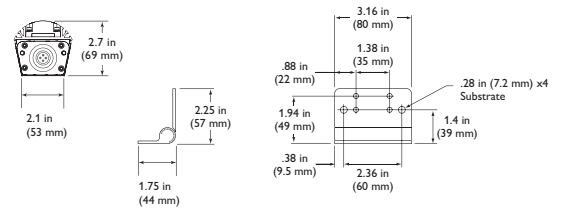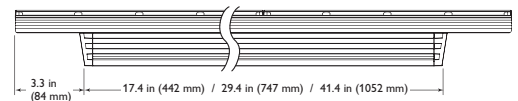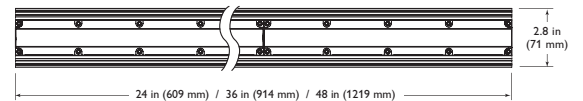
Lumen Maintenance

The table below details the specific lumen maintenance values per application. Channel column refers to RGB channels. Temperature value represents the fixture's ambient operating temperature.

1 Channel	L_{50}	L_{70}
@ 25° C	100,000+ hours	100,000+ hours
@ 50° C	100,000 hours	80,000 hours
2 Channel	L_{50}	L_{70}
@ 25° C	100,000+ hours	90,000 hours
@ 50° C	90.000 hours	60,000 hours
3 Channel	L_{50}	L_{70}
@ 25° C	100,000 hours	80,000 hours
@ 50° C	90,000 hours	50,000 hours

* L_{50} = 50% maintenance of lumen output. (When light output drops below 50% of initial output.)
* L_{70} = 70% maintenance of lumen output. (When light output drops below 70% of initial output.)

To calculate the number of fixtures your specific installation can support, download the Configuration Calculator from www.colorkinetics.com/support/install_tool/
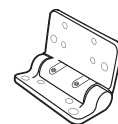
Fixtures and Accessories

ColorGraze Powercore fixtures are part of a complete system which includes:

- One or more Data Enablers

- Any Philips controller, including Light System Manager and iPlayer 3, or a third-party DMX controller

- Leader cables to connect the first fixture in each series to a Data Enabler.

- Optional jumper cables to add space between fixtures in a series, if necessary.

- 4-conductor copper wire to connect each Data Enabler to a common junction box, if installing fixtures in parallel. Standard 12 AWG (2.05 mm) stranded wire is recommended.

Build-to-Order Configurations

In addition to the standard configurations listed here, build-to-order configurations are also available with non-standard options. See the ColorGraze Powercore Ordering Information sheet at www.colorkinetics.com/ls/rgb/graze/ for complete details.

Component	Available Non-Standard Options
Color Temperature	2700K, 3000 K, 3500 K, 4000 K, 5000 K, 5500 K, 6000 K, 6500 K
Color	Royal Blue, Blue, Green, Amber, Red
Beam Angle	9° x 9°, 10° x 30°, 90° x 60°

ColorGraze Powercore fixtures

Depending on the installation's design, you may need jumper cables to add space between fixtures

.4 in
10 mm

3.1 in
79 mm
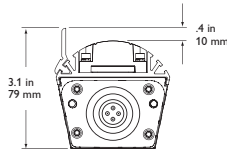
Power / data supplies

You can use any Philips controller or third-party DMX controller

Item	Type		Item Number	Philips 12NC
ColorGraze Powercore *(Includes: (2) mounting hinges, (4) M5/15 mm stainless steel hex bolts for hinge installation, and fixture Installation Instructions)*	10° x 60° beam angle	2 ft (610 mm)	123-000030-00	910503700308
		3 ft (914 mm)	123-000030-01	910503700309
		4 ft (1219 mm)	123-000030-02	910503700310
	30° x 60° beam angle	2 ft (610 mm)	123-000030-03	910503700311
		3 ft (914 mm)	123-000030-04	910503700312
		4 ft (1219 mm)	123-000030-05	910503700313
Leader Cable with Terminator	UL / cUL	50 ft (15.2 m)	108-000042-00	910503700322
	CE / PSE	50 ft (15.2 m)	108-000042-01	910503700323
Jumper Cable	UL / cUL	End-to-End	108-000039-00	910503700314
		1 ft (305 mm)	108-000039-01	910503700315
		5 ft (1.5 m)	108-000039-02	910503700316
	CE / PSE	End-to-End	108-000040-00	910503700317
		1 ft (305 mm)	108-000040-01	910503700318
		5 ft (1.5 m)	108-000040-02	910503700319
Glare Shield		1 ft (305 mm)	120-000081-00	910503700745
		2 ft (610 mm)	120-000081-01	910503700746
		3 ft (914 mm)	120-000081-02	910503700747
		4 ft (1.2 m)	120-000081-03	910503700748
Data Enabler	DMX		106-000003-04	910403326801
	Ethernet		106-000003-05	910503700064
Video System Manager Pro	Ethernet, DVI Interface		103-000022-00	910503700325
	Ethernet, Composite Interface		103-000022-01	910503700455
Light System Manager	Ethernet		103-000015-00	910503700221
iPlayer 3	DMX, North America Power Cord		103-000019-00	910403327101
	DMX, Europe Power Cord		103-000019-01	910503700392
ColorDial	DMX		103-000014-00	910403326901
Synchronizer	DMX		103-000001-00	—
Multi Synchronizer	DMX		103-000002-00	—

Use Item Number when ordering in North America

Installation

ColorGraze Powercore offers vibrant grazing and wall-washing light. Powercore technology, which integrates LED power and data management within the fixture, simplifies installation by eliminating the need for external power supplies.

Owner / User Responsibilities

It is the responsibility of the contractor, installer, purchaser, owner, and user to install, maintain, and operate ColorGraze Powercore fixtures in such a manner as to comply with all applicable codes, state and local laws, ordinances, and regulations. Consult with the appropriate electrical inspector to ensure compliance.

Installing in Wet or Damp Locations

When installing in wet or damp locations, seal all Data Enablers and junction boxes with electronics-grade RTV silicone sealant so that water or moisture cannot enter or accumulate in wiring compartments, cables, or other electrical parts. Use suitable outdoor-rated junction boxes when installing in wet or damp locations. Additionally, use gaskets, clamps, and other parts required for installation to comply with all applicable local and national codes.

Refer to the ColorGraze Powercore Installation Instructions for specific warning and caution statements.

Create a Lighting Design Plan and Layout Grid

1. Determine the location of each Data Enabler in relation to the light fixtures, and of the light fixtures in relation to each other.

   The maximum number of fixtures each Data Enabler can support depends on specific configuration details such as fixture length, fixture spacing (jumper cables), circuit size, line voltage, and Leader Cable length. As an example, the table to the right lists the maximum number of fixtures in a single run at various voltages, assuming 2 ft (610 mm) fixtures installed end-to-end on a 20 A circuit, using a standard 50 ft (15.2 m) Leader Cable. Keep in mind that these figures, provided as a guideline, are accurate for the specified configuration only. Changing the configuration can affect the fixture run lengths.

   In addition to maximum fixture run lengths determined by the electrical configuration, each Data Enabler imposes maximum run lengths based on data integrity. To ensure data integrity, maximum individual run lengths should not exceed 175 ft (53.3 m), and the total cable length per Data Enabler should not exceed 400 ft (122 m).

Fixture run lengths

40 @ 110 VAC
43 @ 120 VAC
55 @ 220 VAC
55 @ 240 VAC

assuming 2 ft (610 mm) fixtures installed end-to-end on a 20 A circuit, using a standard 50 ft (15.2 m) Leader Cable

For help calculating the number of fixtures your specific installation can support, download the Configuration Calculator from www.colorkinetics.com/support/install_tool/, or consult Application Engineering Services at support@colorkinetics.com.

Data Integrity — maximum individual length 175 ft (53.3 m)

Data Integrity — total length 400 ft (122 m)
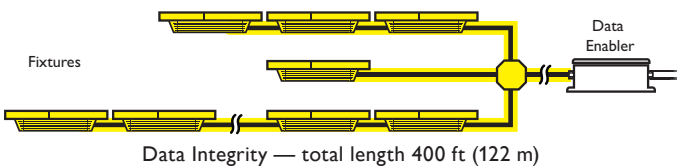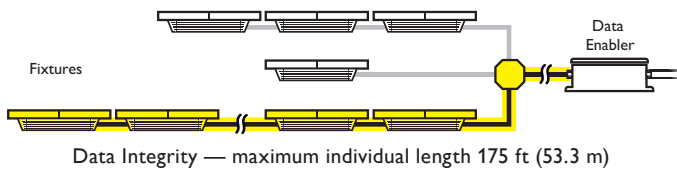
2. On an architectural diagram or other diagram that shows the physical layout of the installation, identify the locations of all switches, controllers, cables, and fixtures.

3. Prepare to address the fixtures. ColorGraze Powercore fixtures are addressable in 1 ft (305 mm) segments. This feature allows playback controllers to send unique light output data to each segment of each fixture within your installation.

   To enable incremental control, ColorGraze Powercore fixtures come pre-programmed with multiple serial numbers, one for each segment of LED nodes. Each fixture will

have two, three, or four serial numbers, depending on its housing length.

As you unpack the fixtures, record the serial numbers. Using an architectural diagram or other diagram that shows the physical layout of the installation and the placement of each fixture, create a light addressing scheme corresponding to the serial numbers — one light address per serial number. Record the light addresses assigned to each fixture.
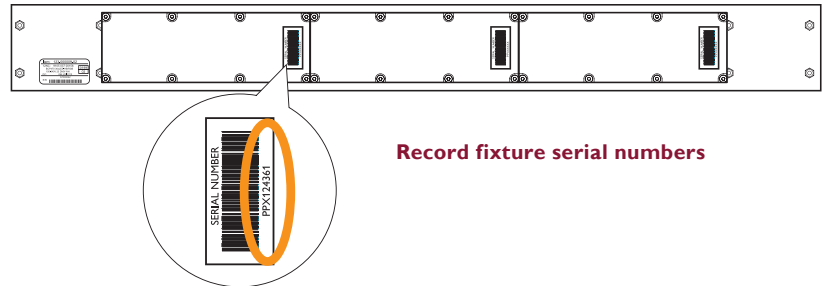
Record fixture serial numbers

4. To streamline installation and aid in light address programming, you can affix a weatherproof label identifying the order or placement in the installation to an inconspicuous location on each fixture's housing.

Assemble Additional Parts and Tools

1. Mount all Data Enablers, including any interfaces with controllers. Data Enablers and external controllers send power and control signals to the fixtures over a single fixture cable.

2. Verify that all additional supporting equipment (controllers, switches) is in place.

3. Ensure that all additional parts and tools are available, including:

   • The included mounting hinges and hardware

   • 2 mm, 2.5 mm, and 4 mm hex key wrenches

   • 1/4 in (5 mm) socket cap fasteners, anchors, or screws for surface mounting

   • Conduit, as needed

   • A sufficient length of 4-conductor copper wire. Standard 12 AWG (2.05 mm) stranded wire is recommended.

   • Junction boxes, as needed

   • Electronics-grade room temperature vulcanizing (RTV) silicone sealant, as needed

Install the Fixtures

Each series of ColorGraze Powercore fixtures can be installed in a single linear series, or split into parallel series using a common junction box. If splitting a series, ensure that all junction boxes are suitable for the environment and sealed if necessary, and that all wiring between junction boxes complies with local codes.

Make sure the power is OFF before mounting and connecting fixtures.

1. Using the included 4 mm hex hardware, attach two hinges to each fixture. There are three possible methods for attaching hinges to the fixtures, each method offering differing degrees of swing radius and space-efficiency. Select the method most suitable for your application.

Included in the box

ColorGraze Powercore fixture
(2) Mounting hinges
(4) M5, 15 mm stainless steel hex bolts for hinge installation
Installation Instructions

115°
3.937 in (100 mm) Swing radius
1.16 in (29 mm)

68°
3.62 in (92 mm) Swing radius
1.16 in (29 mm)

110°
3.35 in (85 mm) Swing radius
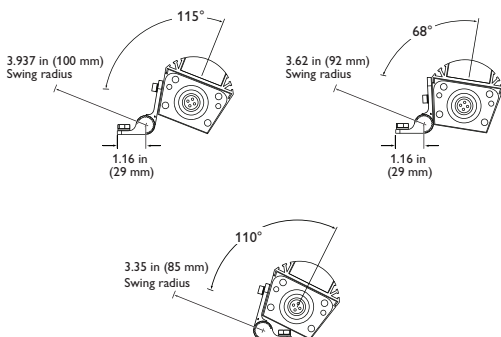
Note that ColorGraze Powercore fixtures are directional; there is a male connector plug on one end of the fixture and a female connector plug on the other end. When installing a linear series of fixtures, ensure that all fixtures are oriented in the same direction. Note that the leader cable will connect to the male connector plug on the first fixture in the each series.
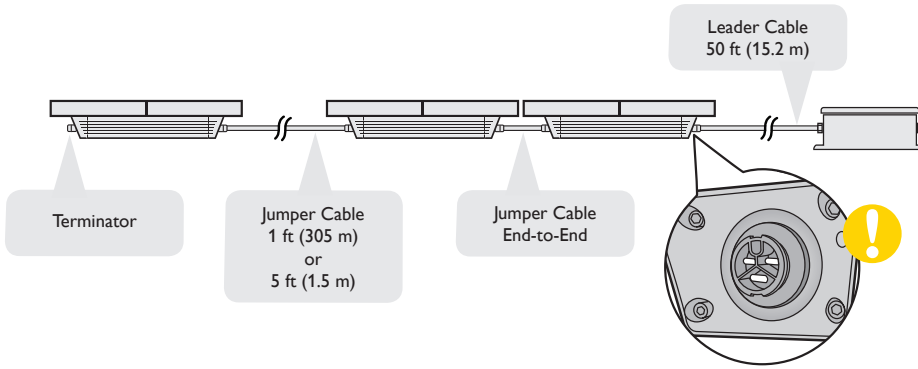
Also note that for fine horizontal adjustment, you can adjust the position of the hinge mounting block located on each side of a fixture. Loosen the set screw with a 2.5 mm hex key wrench, slide the mounting block to the desired position, then tighten the set screw.

2. Using 1/4 in (5 mm) socket cap screws, bolts, or anchors, mount the fixture hinge assemblies directly to a wall or other suitable mounting surface.

3. Rotate the fixture hinge assemblies into the desired positions. For consistent position control, use the indicators on the side of each hinge knuckle for reference. Use a 2 mm hex key wrench to loosen the set screws, as needed.

4. To accommodate installation from various angles, each hinge has four set screws designed to lock the hinge position. All four, or only two, of the set screws may be used, depending on the mounting method and swing radius you select for the hinge. For example, if the hinge leaves are to be fully closed, the interior set screws may not be accessible.
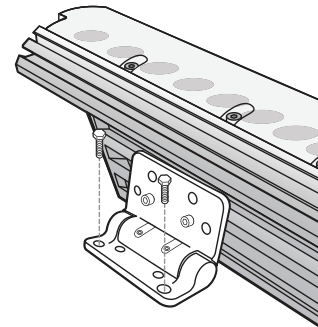
   Do not lock the hinges positions at this time; the hinges have a built-in constant torque feature which allows temporary positioning. For optimal light output performance, aim and lock the hinges following installation.

5. Connect the leader cables from the Data Enablers to the fixtures.

   If installing fixtures in a single linear series, connect the provided ColorGraze Powercore leader cable from the Data Enabler to the first fixture in the series. Twist the connector ends to lock the leader cable into place.

   If installing fixtures in parallel, pull copper wire from the Data Enabler to the common junction box. We recommend the use of 12 AWG (2.05 mm), stranded 4-conductor copper wire.

   Connect the provided ColorGraze Powercore leader cables from the common junction box to the first fixture in each series.

   Within the junction box, use wire nuts to connect line, neutral, ground, and data wires. Tuck wire connections into the junction box, then enclose. If installing in a wet or damp location, seal all junction boxes with electronics-grade RTV silicone sealant. Use gaskets, clamps, and other parts and fittings required to comply with local outdoor wiring codes.

6. Connect all jumper cables between fixtures. Twist the connector ends to lock.

7. Attach the terminator to the last fixture in each series. Terminators are provided with the ColorGraze Powercore leader cables.
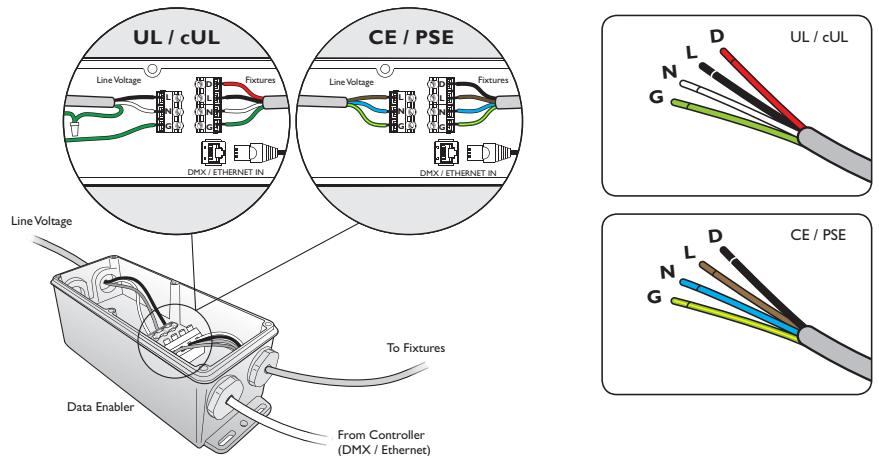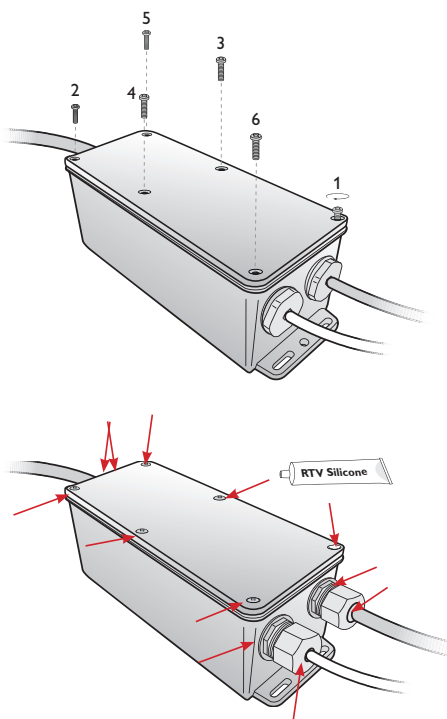

Leader Cable Connector Dimensions
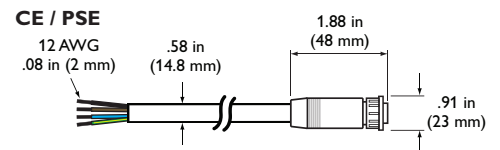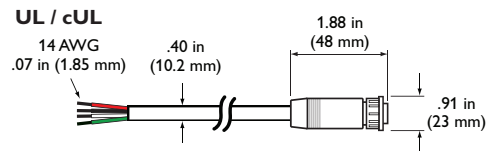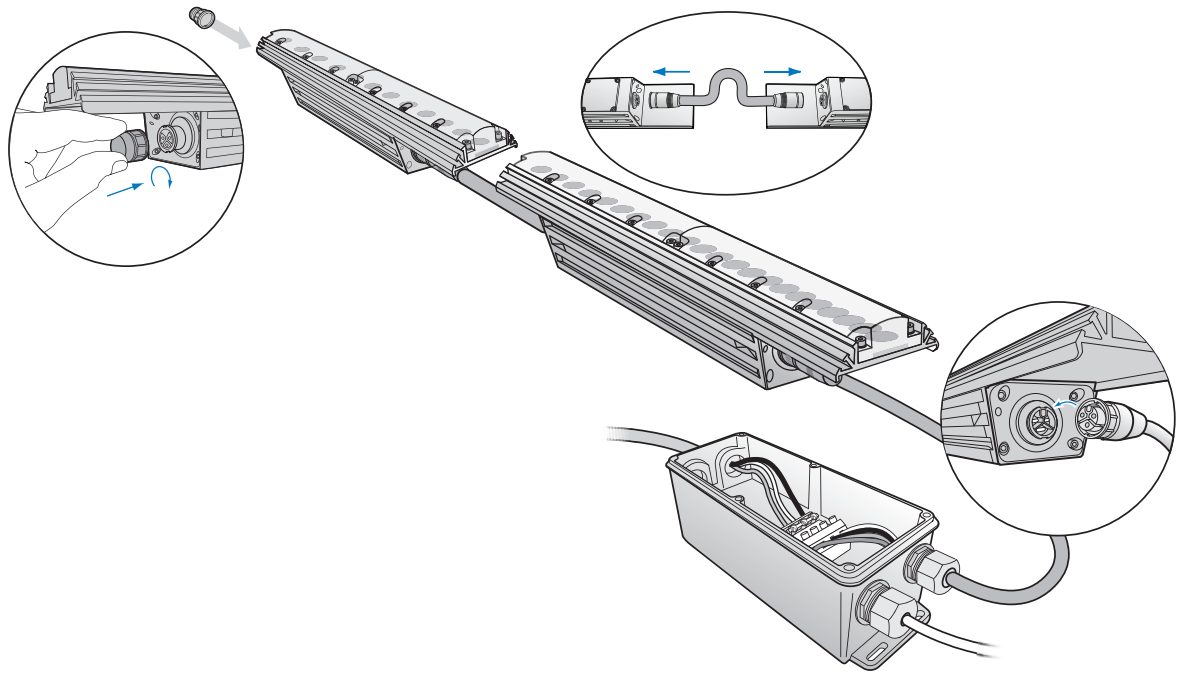
8. Within each Data Enabler, connect all wiring, then seal the housing cover. If installing in a wet or damp location, seal the Data Enablers with electronics-grade RTV silicone sealant.

Address the Fixtures

Make sure the power is ON before addressing and configuring fixtures.

Controllers communicate with ColorGraze Powercore fixtures by means of *light addresses*. To allow a fine level of control, ColorGraze Powercore fixtures are addressable in 1 ft (305 mm) segments. Therefore, ColorGraze Powercore fixtures have two, three, or four light addresses, depending on fixture length.

Each ColorGraze Powercore segment is factory-addressed to light address 1. For light show designs displaying the same color simultaneously on all segments of all fixtures, all light addresses must be set to the same number. Changing the factory-default light addresses is not necessary unless fixture segments were previously readdressed for use in other installations, in which case you must reset them.

For light show designs that show different colors on different fixtures or fixture segments, you must readdress fixture segments with unique light addresses.

You can assign unique light addresses to fixture segments, or set all segments to the same light address, using QuickPlay Pro. ColorGraze Powercore segments are identified within QuickPlay Pro by serial number, so you will need the layout grid that you created when you recorded the serial numbers during installation planning.

- In Ethernet installations, you can address fixture segments using QuickPlay Pro with a computer connected to your light system's network. QuickPlay Pro can automatically discover all segments, controllers, and Data Enablers for quick configuration.

- In DMX installations, you can address and configure fixture segments using QuickPlay Pro with iPlayer 3 or SmartJack Pro. You can manually enter serial numbers, or you can import a spreadsheet listing each segment's serial number and starting DMX address.

For complete details on addressing and configuring fixtures, controllers, and Data Enablers with QuickPlay Pro, refer to the QuickPlay Pro User Guide.

You can download QuickPlay Pro from www.colorkinetics.com/support/downloads, under Installation Tools.

Aim and Lock the Fixtures

Following installation, display a solid color test pattern on the fixtures you wish to aim, then rotate the fixtures to achieve the optimal angle for light output. For consistent position control, use the indicators on the side of each hinge knuckle as reference.

For fine horizontal adjustment, as needed, you can change the position of the hinge mounting block located on the side of each fixture. Loosen the set screw with a 2.5 mm hex key wrench, slide the mounting block to the desired position, then tighten the set screw.

Once satisfied with fixture angles and positioning, use a 2 mm hex key wrench to tighten the hinge position set screws and lock each hinge.

Do not look directly into a fixture when aiming and locking.

The hinge position set screws have factory applied thread lock. Confirm the fixture angle and positioning before locking each hinge.
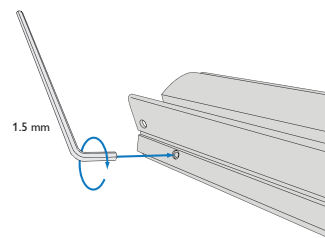
Attach Glare Shields (Optional)

Glare Shields, in 1 ft (305 mm), 2 ft (610 mm), 3 ft (914 mm), and 4 ft (1.2 m) lengths, can be inserted in the grooves in the ColorGraze Powercore housing. Glare Shields block unwanted spill light, and can shield the fixture's LEDs from being directly visible in certain mounting situations.

1. Insert the Glare Shield's triangular tab in the outer groove on the side of the ColorGraze Powercore housing.

1.5 mm
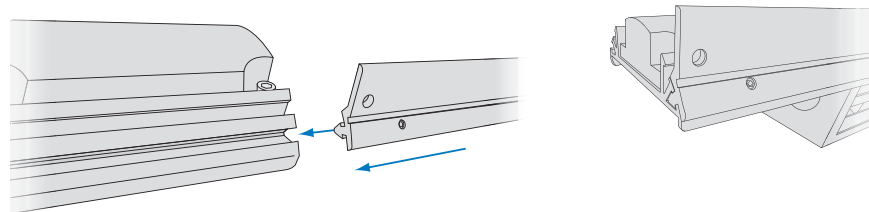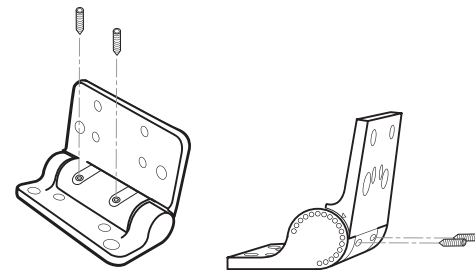
2. Using a hex wrench, tighten the locking screws to hold the Glare Shield in place.

3. (Optional) Attach a tether to the knockout in the Glare Shield, and affix the tether to a secure anchor point.