



# ColorBurst Powercore gen2

Architectural and landscape LED spotlight with intelligent color light



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ColorBurst Powercore gen2 is a high-output, exterior-rated LED lighting fixture designed for accent and site lighting. Standard format Architectural and Landscape fixtures deliver full-color light output of up to 1,293 lumens to support a range of dynamic uplighting, floodlighting, and decorative lighting applications.

- Expands customization with a wide range of new Philips accessory options. In addition to the native 8° lens, six different diffuser lenses can customize the fixture to produce 10°, 20°, 40°, 60°, 80°, and 10° x 40° (asymmetric) beam angles. Four housing color choices (black, gray, white, and bronze)—plus the option to add a louver, full glare shield, and half glare shield—create new aesthetic possibilities for designers and architects.
- Improves color consistency between all LED fixtures in a family with Chromasync technology. During the manufacturing process a calibrated light measurement device creates an algorithm to define a common color gamut for an entire family of LED fixtures. When Chromasync is enabled, color consistency between fixtures is achieved without having to manually adjust color points on each fixture.
- Meets ASTM G85 corrosion resistance and ANSI C136.31-2010 standard with a 3G vibration rating.
- Features an innovative, redesigned optical system that improves the quality of light from each LED, enhancing the color uniformity and color mixing capabilities of each ColorBurst Powercore gen2 luminaire.
- Improves durability with new flat lens that prevents water from pooling into the fixture, keeping the LEDs protected and secure over the course of a luminaire's lifetime.
- Integrates patented Powercore technology that controls power output to fixtures directly from line voltage – rapidly, efficiently, and accurately. The Philips Color Kinetics Data Enabler Pro merges line voltage with control data and delivers them to fixtures over a single standard cable, dramatically simplifying installation and lowering total system cost.
- Universal power input range of 100 – 277 VAC.
- Works seamlessly with the complete Philips Color Kinetics line of controllers, including ColorDial Pro, iPlayer 3, and Light System Manager—as well as third-party controllers.



### Two Versions

ColorBurst Powercore gen2 Architectural fixtures feature an integrated yoke with canopy base for mounting to standard US junction boxes or directly to flat surfaces. ColorBurst Powercore gen2 Landscape fixtures feature a 1/2 in NPT threaded post for mounting to standard junction boxes and third-party mounting accessories.

# Dynamic and Dramatic Spotighting with ColorBurst Powercore gen2

ColorBurst Powercore gen2 is designed with a fully-sealed die-cast aluminum housing for use in exterior and wet locations. Its focused beam lighting and ease of installation make it the perfect choice for both spotlighting and accent lighting.

## Spotlight on the Helix Garage

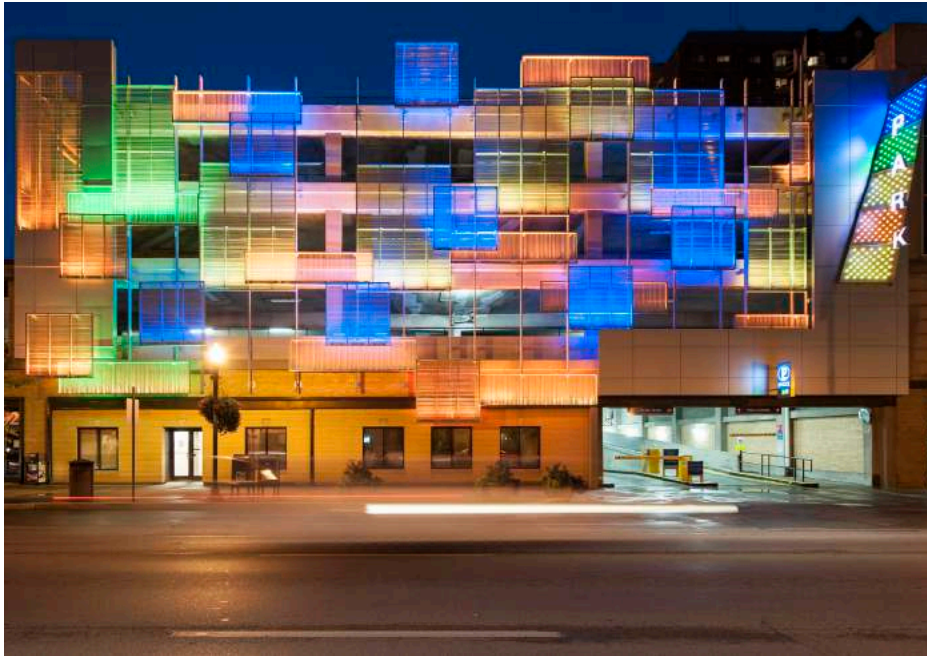
Lexington, Kentucky, USA, is known as the “City in the Park” because it is a big city just a short distance from picturesque horse farms. Downtown Lexington offers the amenities of an urban center, such as historical monuments, sports arenas, museums, and theaters, along with small town charm.

Looking to increase tourism and revitalize the area, the Lexington and Fayette County Parking Authority (LFPCA) decided to renovate a bland concrete garage on a prominent block on Main Street. The Helix Garage first underwent renovations to address the structural and safety issues of the aging edifice. Then to add visual interest and create a large scale public art installation, Philips Color Kinetics LED lighting solutions lit the decorative stainless steel panels. The Helix Garage was the first LED lighting installation commissioned by the city.

The Philips Color Kinetics LED lighting solution met the requirements for the project’s green initiatives and offered the color versatility needed to add movement and variety to the project. Once installed, the fixtures would not be easily accessible so it was important that the fixtures require little to no maintenance.

This multifaceted project used a variety of Philips Color Kinetics products. Eighty ColorBurst Powercore fixtures lie along on the inside ledge of the garage ramp, roughly 4.5 ft (1.37 m) apart. On each of the street-facing metal rectangular frames, ColorGraze MX4 Powercore fixtures fill the rectangles with color. On the signage of the garage, iColor Flex LMX strands (now specified using iColor Flex LMX gen2) line the borders of the “park” letters. More iColor Flex LMX bulbs illuminate the openings in the metal panels surrounding the sign.

The Helix Garage was recently awarded the Landscape and Streetscape Award by the Downtown Lexington Corporation for “outstanding effort in maintaining a visual pleasantness to the downtown area.”



Photography: Kris Qua

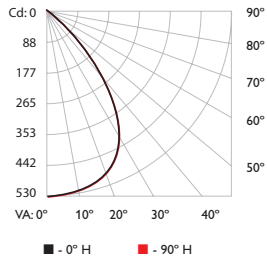




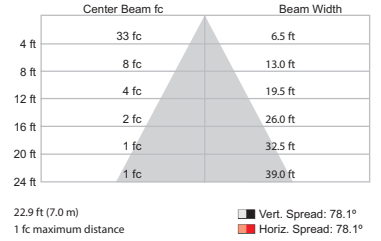
## ColorBurst Powercore gen2 RGB, 80° diffuser lens

Lumens	Efficacy
814	30

### Polar Candela Distribution



### Illuminance at Distance



### Zonal Lumen

Zone	Lumens	% Luminaire
0-30	407.3	50.0%
0-40	613.8	75.4%
0-60	790.7	97.1%
0-90	813.9	99.9%
60-90	23.2	2.8%
70-100	6.8	0.8%
90-120	0.3	0.0%
90-180	0.5	0.1%
0-180	814.3	100.0%

### Coefficients Of Utilization - Zonal Cavity Method

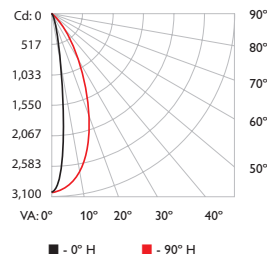
RCC %:	80		70		50		30		10		0	
	70	50	30	0	70	50	30	20	50	30	20	0
RCR:	0	1.19	1.19	1.19	1.19	1.16	1.16	1.16	1.00	1.11	1.11	1.11
	1	1.12	1.09	1.06	1.03	1.10	1.07	1.04	0.92	1.03	1.01	0.99
	2	1.05	1.00	0.95	0.91	1.03	0.98	0.93	0.83	0.94	0.91	0.88
	3	0.99	0.91	0.85	0.80	0.96	0.89	0.84	0.75	0.87	0.82	0.78
	4	0.92	0.83	0.77	0.72	0.90	0.82	0.76	0.68	0.80	0.74	0.70
	5	0.86	0.76	0.70	0.64	0.85	0.75	0.69	0.62	0.74	0.68	0.63
	6	0.81	0.70	0.63	0.58	0.79	0.70	0.63	0.57	0.68	0.62	0.58
	7	0.76	0.65	0.58	0.53	0.75	0.64	0.58	0.52	0.63	0.57	0.53
	8	0.72	0.60	0.53	0.49	0.70	0.60	0.53	0.48	0.59	0.53	0.48
	9	0.67	0.56	0.49	0.45	0.66	0.56	0.49	0.44	0.55	0.49	0.44
	10	0.64	0.52	0.46	0.41	0.63	0.52	0.46	0.41	0.51	0.45	0.41

Effective Floor Cavity Reflectance: 20%

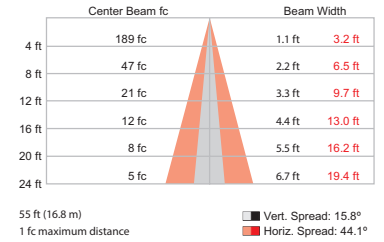
## ColorBurst Powercore gen2 RGB, 10° x 40° asymmetric lens

Lumens	Efficacy
840	31

### Polar Candela Distribution



### Illuminance at Distance



### Zonal Lumen

Zone	Lumens	% Luminaire
0-30	698.2	83.0%
0-40	784.6	93.3%
0-60	832.7	99.0%
0-90	841.2	100.0%
60-90	8.5	1.0%
70-100	2.6	0.3%

### Coefficients Of Utilization - Zonal Cavity Method

RCC %:	80		70		50		30		10		0	
	70	50	30	0	70	50	30	20	50	30	20	0
RCR:	0	1.19	1.19	1.19	1.16	1.16	1.16	1.00	1.11	1.11	1.11	1.06
	1	1.14	1.12	1.10	1.08	1.12	1.10	1.08	0.95	1.06	1.04	1.03
	2	1.09	1.05	1.02	0.99	1.07	1.04	1.00	0.91	1.00	0.98	0.96
	3	1.05	0.99	0.95	0.92	1.03	0.98	0.94	0.86	0.96	0.92	0.90
	4	1.01	0.94	0.90	0.86	0.99	0.93	0.89	0.82	0.91	0.87	0.85
	5	0.97	0.90	0.85	0.81	0.95	0.89	0.84	0.78	0.87	0.83	0.80
	6	0.93	0.86	0.81	0.77	0.92	0.85	0.80	0.75	0.84	0.79	0.76
	7	0.90	0.82	0.77	0.73	0.89	0.81	0.77	0.72	0.80	0.76	0.73
	8	0.87	0.79	0.74	0.70	0.85	0.78	0.73	0.69	0.77	0.73	0.70
	9	0.84	0.76	0.71	0.67	0.83	0.76	0.70	0.66	0.74	0.70	0.67
	10	0.81	0.73	0.68	0.65	0.80	0.72	0.68	0.64	0.72	0.67	0.64

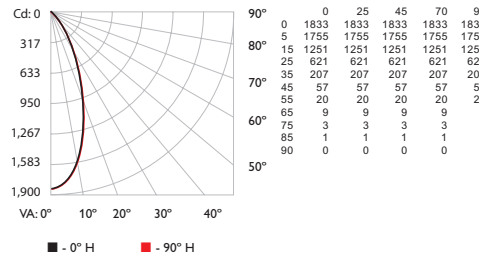
Effective Floor Cavity Reflectance: 20%



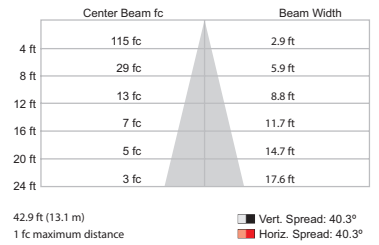
## ColorBurst Powercore gen2 RGBA, 40° diffuser lens

Lumens	Efficacy
1004	31

### Polar Candela Distribution



### Illuminance at Distance



### Zonal Lumen

Zone	Lumens	% Luminaire
0-30	789.2	78.6%
0-40	924.2	92.1%
0-60	990.0	98.7%
0-90	1,003.3	100.0%
60-90	13.3	1.3%
70-100	4.4	0.4%
90-120	0.1	0.0%
90-180	0.1	0.0%
0-180	1,003.4	100.0%

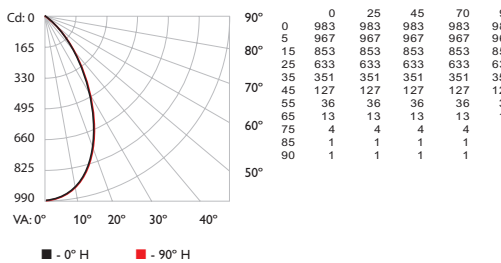
### Coefficients Of Utilization - Zonal Cavity Method

RCC %:	Effective Floor Cavity Reflectance: 20%																		
	80		70		50		30		10		0								
RW %:	70	50	30	0	70	50	30	0	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	1.15	1.12	1.10	1.09	1.12	1.10	1.09	0.96	1.06	1.05	1.04	1.03	1.02	1.01	0.99	0.98	0.98	0.96	0.96
2	1.11	1.07	1.04	1.01	1.09	1.05	1.02	0.93	1.02	1.00	0.98	0.99	0.97	0.96	0.96	0.95	0.94	0.94	0.92
3	1.07	1.02	0.98	0.95	1.05	1.01	0.97	0.89	0.98	0.95	0.93	0.96	0.93	0.91	0.94	0.92	0.90	0.89	0.89
4	1.03	0.98	0.93	0.90	1.02	0.96	0.93	0.86	0.94	0.91	0.89	0.93	0.90	0.88	0.91	0.89	0.87	0.85	0.85
5	1.00	0.94	0.89	0.86	0.98	0.93	0.89	0.83	0.91	0.88	0.85	0.90	0.87	0.84	0.88	0.86	0.84	0.82	0.82
6	0.97	0.90	0.86	0.83	0.96	0.89	0.85	0.80	0.88	0.84	0.82	0.87	0.84	0.81	0.86	0.83	0.81	0.80	0.80
7	0.94	0.87	0.83	0.79	0.93	0.86	0.82	0.78	0.85	0.82	0.79	0.84	0.81	0.79	0.83	0.80	0.78	0.77	0.77
8	0.91	0.84	0.80	0.77	0.90	0.84	0.79	0.76	0.83	0.79	0.76	0.82	0.78	0.76	0.81	0.78	0.76	0.75	0.75
9	0.88	0.81	0.77	0.74	0.88	0.81	0.77	0.73	0.80	0.76	0.74	0.79	0.76	0.74	0.79	0.76	0.73	0.72	0.72
10	0.86	0.79	0.75	0.72	0.85	0.79	0.75	0.71	0.78	0.74	0.72	0.77	0.74	0.72	0.77	0.74	0.71	0.70	0.70

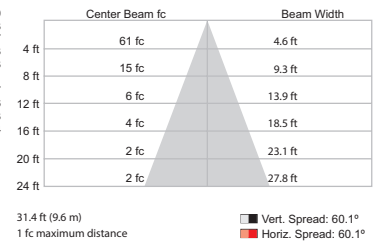
## ColorBurst Powercore gen2 RGBA, 60° diffuser lens

Lumens	Efficacy
991	31

### Polar Candela Distribution



### Illuminance at Distance



### Zonal Lumen

Zone	Lumens	% Luminaire
0-30	616.8	62.2%
0-40	834.7	84.2%
0-60	970.7	98.0%
0-90	990.4	100.0%
60-90	19.7	2.0%
70-100	7.0	0.7%
90-120	0.4	0.0%
90-180	0.4	0.0%
0-180	990.8	100.0%

### Coefficients Of Utilization - Zonal Cavity Method

RC	Effective Floor Cavity Reflectance: 20%														
	80		70		50		30		10		0				
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	0
0	119119119119	116116116116	111111111111	106106106	102102102	100									
1	115112110109	112110109107	106105104	103102101	99	98	98	96	95	93	92	92	91	90	88
2	111107103101	108105102100	102	99	97	95	96	95	93	91	88	85	83	82	80
3	107102	98	95	105100	97	94	98	95	92	95	93	91	93	91	90
4	103	97	93	90	101	96	92	89	94	91	88	92	89	87	90
5	100	93	89	85	98	92	88	85	91	87	84	89	86	84	88
6	96	90	85	82	95	89	85	82	88	84	81	86	83	81	85
7	93	86	82	79	92	86	82	79	85	81	78	84	80	78	83
8	91	84	79	76	90	83	79	76	82	78	76	81	78	75	80
9	88	81	77	74	87	81	76	74	80	76	73	79	76	73	78
10	86	79	74	71	85	78	74	71	77	74	71	77	73	71	76







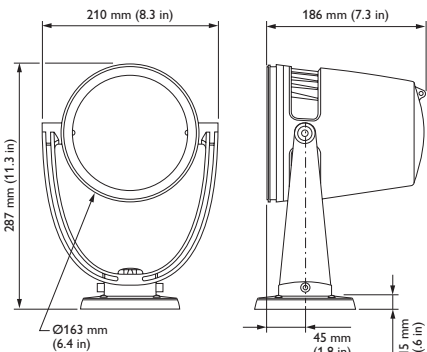
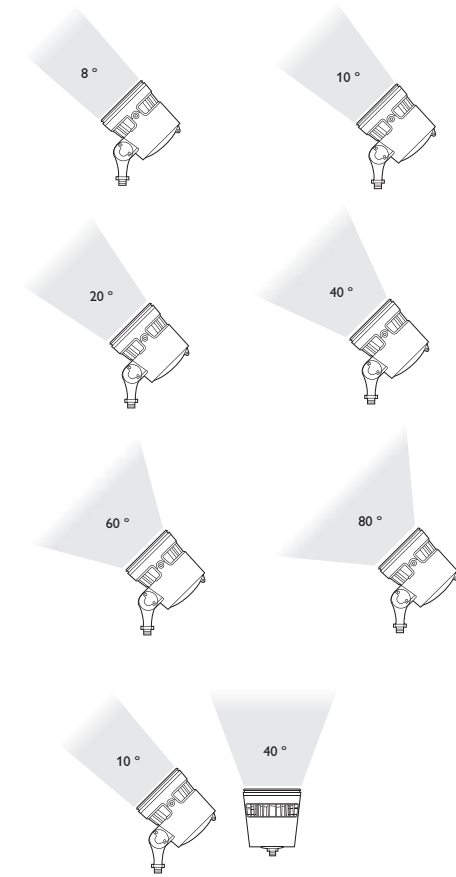




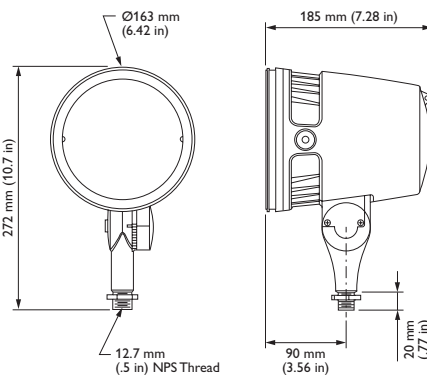
# ColorBurst Powercore gen2 Specifications

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

Item	Specification	Details	
Output	Beam Angle	8° primary optic Optional diffusers: 20°/40°/60°/80°/10° x 40° (asymmetric)	
	LED Channels	RGB                                      RGBA                                      RGBW	
	Lumens*	963                                      1151                                      1293	
	Efficacy	35                                      36                                      40	
	Lumen Maintenance†	48,000+ hours L70 @ 25° C 48,000+ hours L70 @ 50° C	
	Effective Projected Area (EPA)	26053 mm²	
Electrical	Input Voltage	100 – 277 VAC, auto-switching, 50/60 Hz via Data Enabler Pro	
	Power Consumption	33 W maximum at full output, steady state	
	Power Factor	> 0.9 @ 100 - 240 VAC, > 0.85 @ 277 VAC	
Control	Interface	Data Enabler Pro (DMX/Ethernet)	
	Control System	Philips Color Kinetics full range of controllers, including Light System Manager, Video System Manager Pro, iPlayer 3, Antumbra iColor Keypad, and ColorDial Pro, or third-party controllers	
Physical	Dimensions <i>(Height x Width x Depth)</i>	287 x 210 x 186 mm (11.3 x 8.3 x 7.3 in) Architectural 272 x 163 x 185 mm (10.7 x 6.42 x 7.28 in) Landscape	
	Weight	5.5 kg (12.1 lb) Architectural 3.5 kg (7.7 lb) Landscape	
	Housing	Die-cast aluminium, powder-coated finish	
	Lens	Clear tempered glass	
	Fixture Connections	1.8 m (6 ft) combined power data whip Architectural 152 mm (6 in) flying leads Landscape	
	Temperature Ranges	-40° – 50° C (-40° – 122° F) Operating -20° – 50° C (-4° – 122° F) Startup -40° – 80° C (-40° – 176° F) Storage	
	Humidity	0 – 95%, non-condensing	
	Fixture Run Lengths	To calculate fixture run lengths and total power consumption for your specific installation, download the Configuration Calculator from <a href="http://www.philipscolorkinetics.com/support/install_tool/">www.philipscolorkinetics.com/support/install_tool/</a>	
	Certification and Safety	Certification	UL, cUL, FCC Class A, CE, PSE, C-Tick, CQC, SAA
		Environment	Dry/Damp/Wet Location, IP66
Corrosion Resistance		ASTM G85	
Vibration Resistance		ANSI C136.31-2010 3G Architectural ANSI C136.31-2010 1.5G Landscape	
Mechanical Impact		IK08	



**ColorBurst Powercore gen2 Architectural**



**ColorBurst Powercore gen2 Landscape**



\* Lumen measurement complies with IES LM-79-08 testing procedures.



† L50 = 50% lumen maintenance (when light output drops below 50% of initial output). Ambient luminaire temperatures specified. Lumen maintenance calculations are based on lifetime prediction graphs supplied by LED source manufacturers. Calculations for white-light LED fixtures are based on measurements that comply with IES LM-80-08 testing procedures. Refer to [www.philipscolorkinetics.com/support/appnotes/lm-80-08.pdf](http://www.philipscolorkinetics.com/support/appnotes/lm-80-08.pdf) for more information.

CHROMACORE<sup>®</sup> CK TECHNOLOGY | OPTIBIN<sup>®</sup> CK TECHNOLOGY | POWERCORE<sup>®</sup> CK TECHNOLOGY

## Fixtures and Data Enabler Pro

ColorBurst Powercore gen2 fixtures are part of a complete system which includes:

- One or more Data Enabler Pro devices.
- Any Philips controller, including Light System Manager, iPlayer 3, and ColorDial Pro, or a third-party controller.
- 4-conductor copper wire to connect ColorBurst Powercore gen2 fixtures in series or in parallel. Standard 12 AWG 2.05mm (0.08 in) stranded wire is recommended.

Item	Type	LED	Housing Color	Item Number*	Philips 12NC	
	ColorBurst Powercore gen2	Landscape	RGB	Gray	123-000156-20	912400135461
				Black	123-000156-23	912400135463
				White	123-000156-26	912400135465
				Bronze	123-000156-29	912400135467
			RGBA	Gray	423-000005-20	912400135485
				Black	423-000005-23	912400135487
				White	423-000005-26	912400135489
				Bronze	423-000005-09	912400135491
			RGBW	Gray	423-000004-20	912400135477
				Black	423-000004-23	912400135479
				White	423-000004-26	912400135481
				Bronze	423-000004-29	912400135483
	ColorBurst Powercore gen2	Architectural	RGB	Gray	123-000156-21	912400135462
				Black	123-000156-24	912400135464
				White	123-000156-27	912400135466
				Bronze	123-000156-30	912400135468
			RGBA	Gray	423-000005-21	912400135486
				Black	423-000005-24	912400135488
				White	423-000005-27	912400135490
				Bronze	423-000005-30	912400135492
			RGBW	Gray	423-000004-21	912400135478
				Black	423-000004-24	912400135480
				White	423-000004-27	912400135482
				Bronze	423-000004-30	912400135484

Item	Style	Item Number*	Philips 12NC
Data Enabler Pro	3/4 in / 1/2 in NPT (U.S. trade size conduit)	106-000004-00	910503701210
	PG21/PG13 (metric size conduit)	106-000004-01	910503701211

\*Use Item Number when ordering in North America.

# Accessories

Item	Housing Color	Item Number*	Philips 12NC	
Trim Ring	Gray	120-000189-20	912400135449	
	Black	120-000189-21	912400135450	
	White	120-000189-22	912400135451	
	Bronze	120-000189-23	912400135452	
Half Glare Shield	Gray	120-000189-24	912400135453	
	Black	120-000189-25	912400135454	
	White	120-000189-26	912400135455	
	Bronze	120-000189-27	912400135456	
Full Glare Shield	Gray	120-000189-28	912400135457	
	Black	120-000189-29	912400135458	
	White	120-000189-30	912400135459	
	Bronze	120-000189-31	912400135460	
Louver	Black	120-000189-17	912400133447	
10° Spread Lens		120-000189-18	912400135371	
20° Spread Lens		120-000189-12	912400133442	
40° Spread Lens		120-000189-13	912400133443	
60° Spread Lens		120-000189-14	912400133444	
80° Spread Lens		120-000189-15	912400133445	
10° x 40° Asymmetric Spread Lens		120-000189-16	912400133446	

✳ You can attach either one Louver or one Spread Lens at a time.

✳ Diffuser and Louver must be ordered with a trim ring or a glare shield.

Use Item Number when ordering in North America.

# Installation

ColorBurst Powercore gen2 offers saturated, color-changing LED spotlighting, site, and accent lighting with Powercore technology. Powercore, which integrates LED power and data management within the fixture, eases 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 ColorBurst Powercore gen2 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.

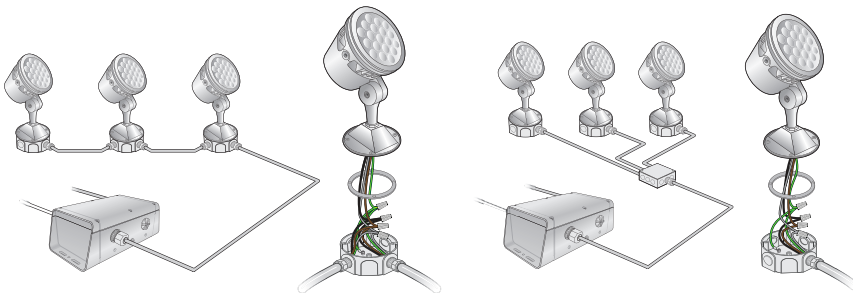
## Installing in Damp or Wet Locations

When installing in damp or wet locations, it is good practice to seal all fixtures and junction boxes with electronics-grade RTV silicone sealant to ensure that moisture cannot enter or accumulate in any wiring compartments, cables, or other electrical parts. You must use suitable outdoor-rated junction boxes when installing in wet or damp locations. Additionally, you must use gaskets, clamps, and other parts required for installation to comply with all applicable local and national codes

# Plan the Installation

1. Refer to the lighting design plan, architectural diagram, or other diagram that shows the physical layout of the installation to identify the locations of all switches, controllers, Data Enabler Pro devices, fixtures, and cables.

ColorBurst Powercore gen2 fixtures can be installed in series or in parallel (wired to a common junction box).



- ColorBurst Powercore gen2 Architectural fixtures feature a canopy base for mounting to standard US junction boxes. Fixtures can be mounted directly to a surface or substrate by removing the nylon cable clamp and disengaging the 1.8 m (6 ft) integrated power/data cable from the canopy base.
- ColorBurst Powercore gen2 Landscape fixtures feature a 1/2 in NPT threaded post for mounting to standard junction boxes and third-party mounting accessories such as stanchion mounts, posts, and stakes.

The maximum number of fixtures each Data Enabler Pro can support depends on specific configuration details such as length of leader and jumper cables, wire gauge, fixture spacing, circuit size, line voltage, and method of connection (in series or in parallel). As an example, the tables to the left list the maximum number of ColorBurst Powercore gen2 Landscape fixtures each Data Enabler Pro can support at various voltages, assuming a 20 A circuit, a 6.1 m (20 ft) leader cable from Data Enabler Pro to the first junction box, and 610 mm (2 ft) jumper cables between fixtures. 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.

✳ Refer to the ColorBurst Powercore gen2 Installation Instructions for specific warning and caution statements.

✳ To streamline the configuration of complex installations, record the serial number (DMX) or IP address (Ethernet) and location of each Data Enabler Pro.

## Maximum fixture run lengths

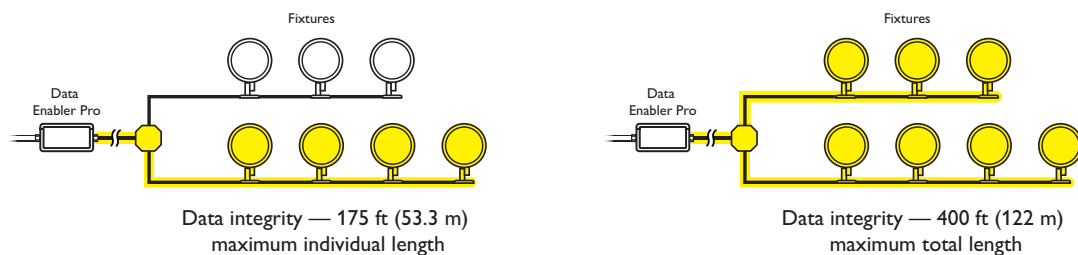
ColorBurst Powercore gen2	
3 channel	4 channel
32 @ 100 VAC	29 @ 100 VAC
37 @ 120 VAC	34 @ 120 VAC
57 @ 220 VAC	53 @ 220 VAC
59 @ 230 VAC	54 @ 230 VAC
63 @ 227 VAC	59 @ 277 VAC

Assuming a 20 A circuit, 20 ft (6.1 m) leader cable from Data Enabler Pro to the first junction box, and 2 ft (610 mm) jumper cables between fixtures

✳ For more information, and for help calculating the number of fixtures your specific installation can support, download the Configuration Calculator from [www.philipscolorkinetics.com/support/install\\_tool](http://www.philipscolorkinetics.com/support/install_tool), or consult Application Engineering Services at [support@colorkinetics.com](mailto:support@colorkinetics.com).



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



## Start the Installation

✳ For complete instructions on how to wire the Data Enabler Pro, refer to the Data Enabler Pro Product Guide.

1. Install all Data Enabler Pro devices, including any interfaces with controllers. Data Enabler Pro devices and external controllers send power and control signals to the fixtures over a single fixture cable. Additional cabling is required to connect fixtures together in parallel or in series.
2. Verify that all additional supporting equipment (switches, controllers) is in place.
3. Ensure that all additional parts and tools are available, including:

### ColorBurst Powercore gen2 Architectural Installations

- The provided stainless steel screws for outdoor installations
- The provided junction box gasket for outdoor installations
- Unless surface-mounting, one 102 mm (4 in) round US electrical junction box per fixture, rated for your application, with 89 mm (3.5 in) center-to-center screw holes for attaching the fixture's base. (Refer to the manufacturer's literature for additional items required for mounting or sealing.)
- A 6 mm hex wrench for fixture tilting and locking
- A 1/8 in hex wrench for fixture swiveling and locking

### ColorBurst Powercore gen2 Landscape Installations

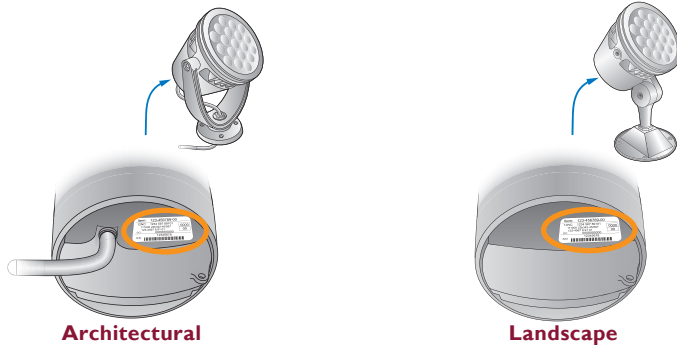
- The provided locking nut
- One electrical junction box or mounting accessory per fixture, rated for your application. (Refer to the junction box or accessory manufacturer's literature for specific information on mounting or sealing.)
- A 6 mm hex wrench for fixture tilting and locking
- A 33 mm wrench for locking fixtures in place

### All Installations

- A sufficient length 4-conductor wire. We recommend 12 AWG 4 mm<sup>2</sup> (0.1 in) stranded copper wire.
- Conduit as required
- Electronics-grade room temperature vulcanizing (RTV) silicone sealant as required
- A 5/32 in hex wrench for installing accessories.

## Unpack and Position Fixtures

1. Carefully inspect the box containing ColorBurst Powercore gen2 and the contents for any damage that may have occurred in transit.
2. Each ColorBurst Powercore gen2 fixture comes pre-programmed with a unique serial number. As you unpack the fixtures, record the serial numbers in a layout grid (typically a spreadsheet or list) for easy reference and light addressing.



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

## Connecting and Mounting ColorBurst Powercore gen2 Architectural Fixtures

ColorBurst Powercore gen2 Architectural fixtures can be mounted to standard US junction boxes, or they can be mounted to a flat surface or substrate.

Make sure the power is OFF before mounting and connecting ColorBurst Powercore gen2 fixtures.

### Connecting ColorBurst Powercore gen2 Architectural Fixtures to Junction Boxes

1. Mount junction boxes in accordance with the lighting design plan. Each fixture is designed for mounting in a 102 mm (4 in) round US electrical junction box, rated for your application, with 89 mm (3.5 in) center-to-center screw holes for attaching the fixture's base.

Architectural fixtures are supplied with a grounding wire attached to the fixture's base (canopy). The canopy ground wire can be attached to a grounding point in the junction box, or connected with the ground in the fixture cable.

Wiring between junction boxes must comply with local codes.

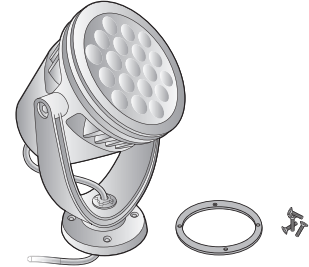
2. If installing fixtures in a series, pull copper wire between the junction boxes.

If installing fixtures in parallel, pull copper wire from a Data Enabler Pro to a common junction box, and from the common junction box to each fixture's junction box.

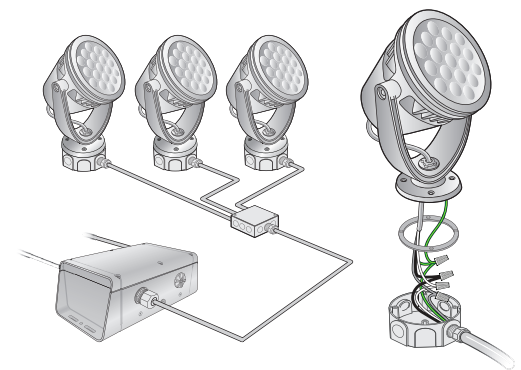
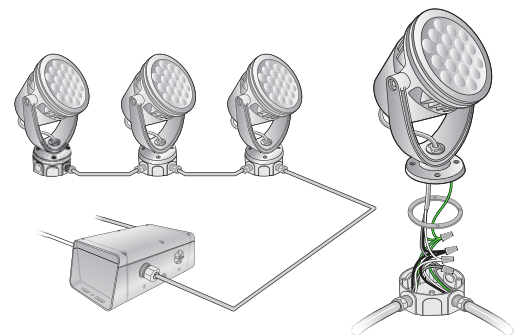
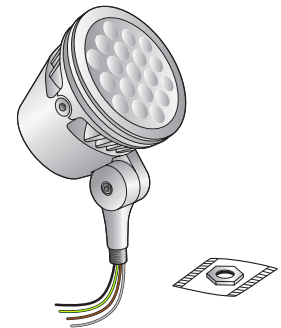
We recommend the use of 12 AWG 4 mm<sup>2</sup> (0.1 in), stranded 4-conductor copper wire. With the recommended wiring, the maximum cable run from a Data Enabler Pro device to any individual ColorBurst Powercore gen2 fixture is 53 m (174 ft). When installing in parallel, the total cable length cannot exceed 122 m (400 ft).

### Included in the box

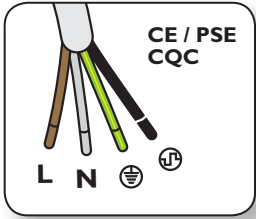
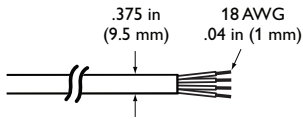
<b>ColorBurst Powercore gen2 Architectural</b>
ColorBurst Powercore gen2 Architectural fixture
(4) 10-24 stainless steel screws for outdoor installation
Junction box gasket
Installation Instructions



<b>ColorBurst Powercore gen2 Landscape</b>
ColorBurst Powercore gen2 Landscape fixture
Locking nut
Installation Instructions

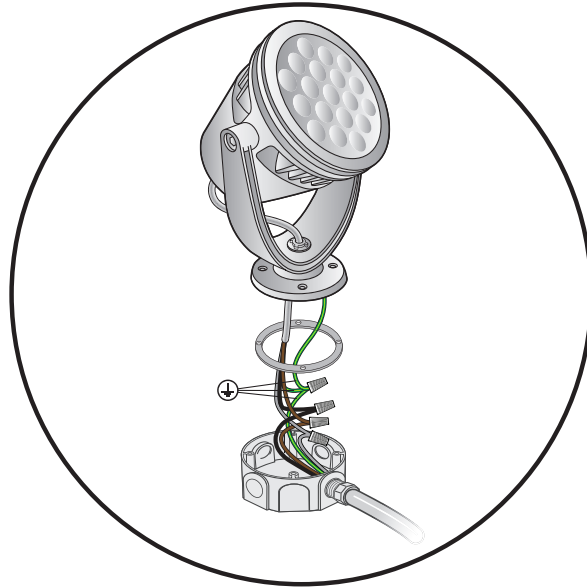


**Leader Cable connector dimensions**

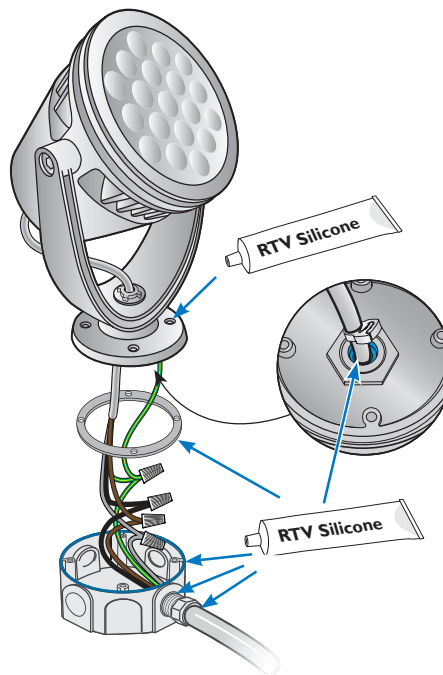


✳ When there is a solo green or yellow wire attached to the canopy, it is a canopy ground wire that must not be removed. Connect this wire to a suitable grounding point in the junction box or elsewhere nearby.

3. Trim the cable from the fixture to fit in the junction box, leaving enough cable to make wiring connections.
  4. Use wire nuts to connect line, neutral, ground, and data. If installing in a damp or wet location, use the included junction box gasket.
- Attach the canopy ground wire to a grounding point in the junction box, or combine it with the fixture cable ground with a wire nut.
5. Tuck wire connections into the junction box.



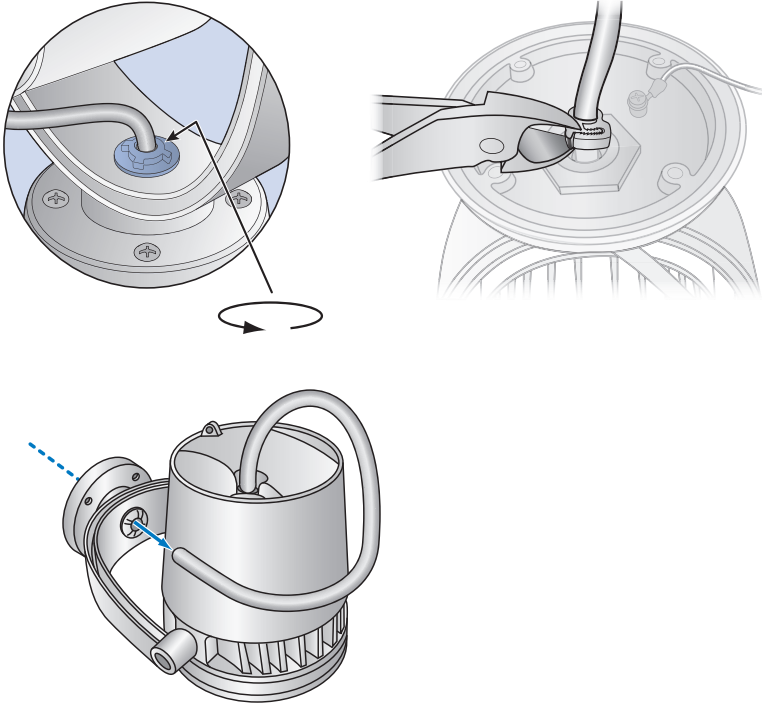
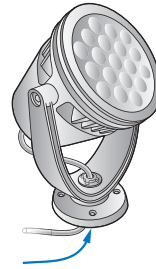
6. Screw the fixture's canopy base into the junction box using the four included 10-24 stainless steel screws. If installing in a damp or wet location, seal all junction boxes with electronics-grade RTV silicone sealant. Use gaskets, clamps, and other parts and fittings required to comply with local outdoor wiring codes.



## Surface-Mounting ColorBurst Powercore gen2 Architectural Fixtures

1. Prepare ColorBurst Powercore gen2 Architectural fixtures for surface-mounting:

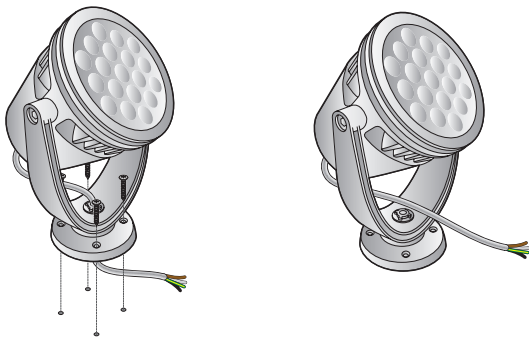
- Loosen the cable compression ring on the fixture yoke.
- Remove the nylon cable clamp from the fixture's leader cable where it exits the underside of the canopy base.
- Disengage the leader cable from the fixture's canopy base.



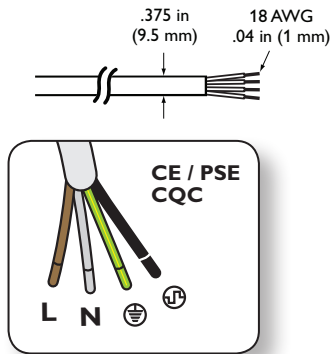
2. Mount junction boxes in accordance with the lighting design plan.

3. Position each ColorBurst Powercore gen2 Architectural fixture in its designated mounting location. Make sure the mounting surface is flat, suitable for the mounting hardware, and clear of debris and other obstructions.

4. Use four suitable mounting screws to secure each ColorBurst Powercore gen2 Architectural fixture to the mounting location.



### Leader Cable connector dimensions

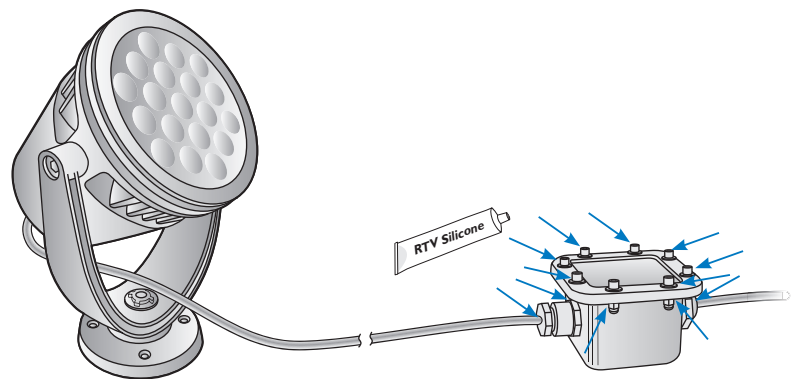


5. If installing fixtures in a series, pull copper wire between the junction boxes.

If installing fixtures in parallel, pull copper wire from a Data Enabler Pro to a common junction box.

We recommend the use of 12 AWG 4 mm<sup>2</sup> (0.1 in), stranded 4-conductor copper wire. With the recommended wiring, the maximum cable run from a Data Enabler Pro device to any individual ColorBurst Powercore gen2 fixture is 53 m (175 ft). When installing in parallel, the total cable length cannot exceed 122 m (400 ft).

6. Use wire nuts to connect line, neutral, ground, and data. If installing in a damp or wet location, use the included junction box gasket.
7. Tuck wire connections into the junction box.
8. Secure all junction box covers. If installing in a damp or wet 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..



## Connecting and Mounting ColorBurst Powercore Landscape Fixtures

ColorBurst Powercore gen2 Landscape fixtures feature a 1/2 in NPT threaded post for installing to standard junction boxes, stanchion mounts, posts, stakes, and other landscape mounting accessories.

Make sure the power is OFF before mounting and connecting ColorBurst Powercore gen2 fixtures.

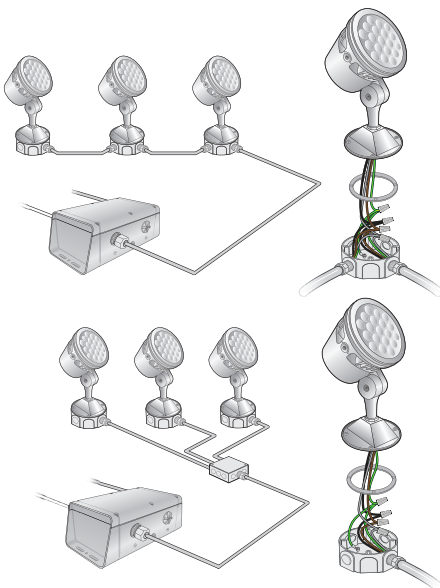
1. Mount junction boxes and any landscape mounting accessories in accordance with the lighting design plan.
2. If installing fixtures in a series, pull copper wire between the junction boxes, and from the junction boxes to the fixtures as needed.

If installing fixtures in parallel, pull copper wire from a Data Enabler Pro to a common junction box, and from the common junction box to the fixtures.

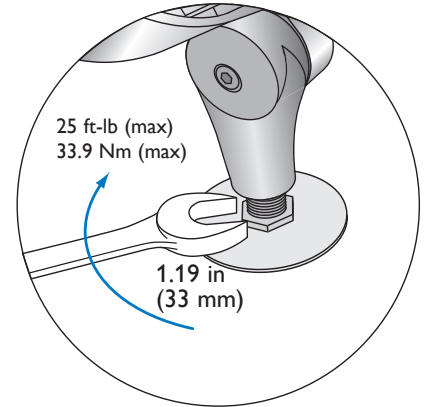
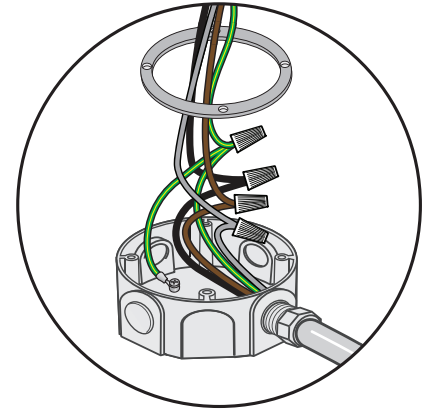
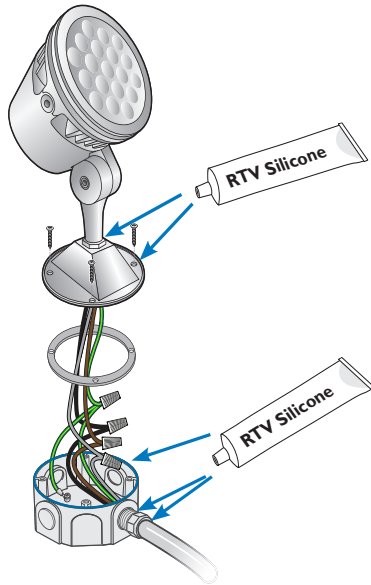
We recommend the use of 12 AWG 4 mm<sup>2</sup> (0.1 in), stranded 4-conductor copper wire. With the recommended wiring, the maximum cable run from a Data Enabler Pro device to any individual ColorBurst Powercore gen2 fixture is 53 m (175 ft). When installing in parallel, the total cable length cannot exceed 122 m (400 ft).

3. Thread the locking nut onto the ColorBurst Powercore gen2 Landscape threaded post.
4. Use wire nuts to connect line, neutral, ground, and data.

### Install fixtures in series or in parallel

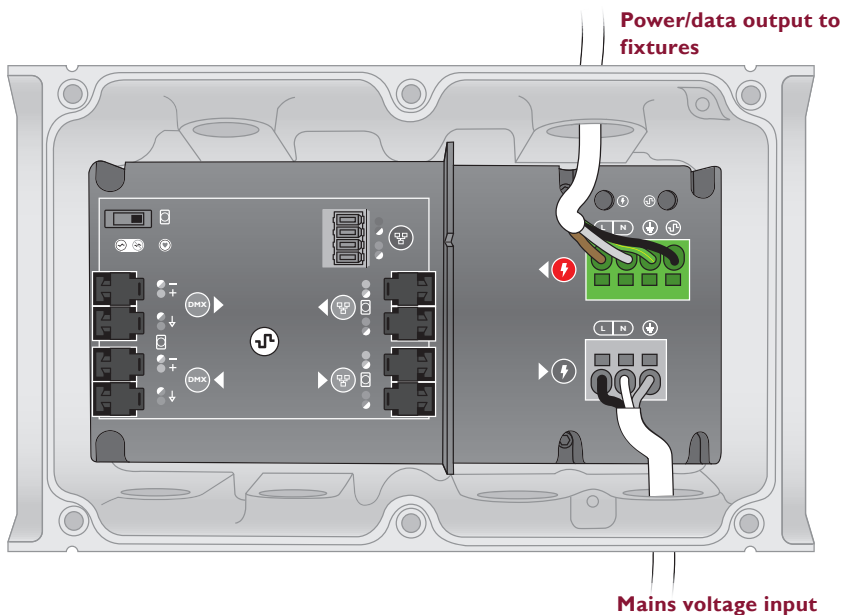


5. Tuck wire connections into the junction box or mounting accessory.
6. Using a 33 mm wrench, torque the locking nut to 25 ft-lb (33.9 Nm). Do not overtighten.
7. If installing in a damp or wet location, seal all junction boxes and mounting accessories with electronics-grade RTV silicone sealant. Use gaskets, clamps, and other parts and fittings required to comply with local outdoor wiring codes.

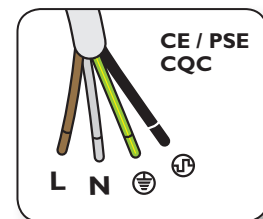


## Connect Fixture Cable to Power

Once you've made all fixture and junction box connections, connect the lead cable to the 4-wire PC terminal connector block inside the Data Enabler Pro Housing.



☛ Refer to the Data Enabler Pro Product Guide for comprehensive installation and configuration instructions. You can view or download the guide from [www.philipscolorkinetics.com/lis/pds/dataenablerpro](http://www.philipscolorkinetics.com/lis/pds/dataenablerpro)



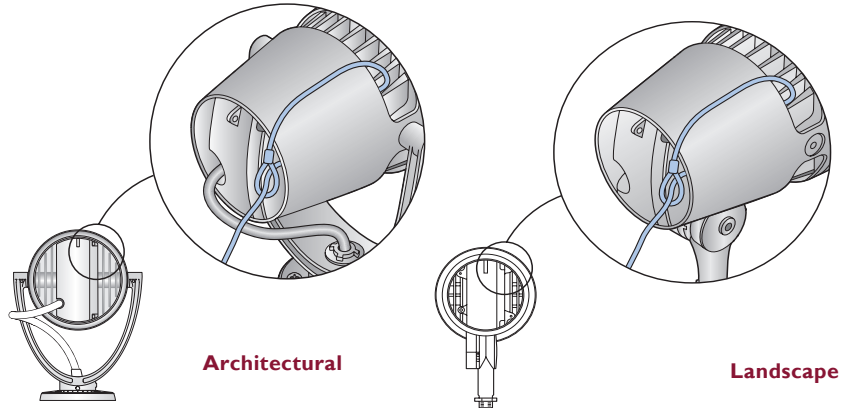
## Attach Safety Cable (Optional)

When installing ColorBurst Powercore gen2 fixtures to a wall or overhead, use a safety cable to tether it to a secure anchor point. When dictated by local or state code or advised by a structural engineer, attach a safety cable to the ColorBurst Powercore gen2 fixture housing and tether it to a secure anchor point.

### Safety cable minimum requirements


Material	304 or 316 Stainless Steel
Size	5/32 in (4 mm) nominal diameter Minimum break load must be greater than 2,400 lb (1089 kg)

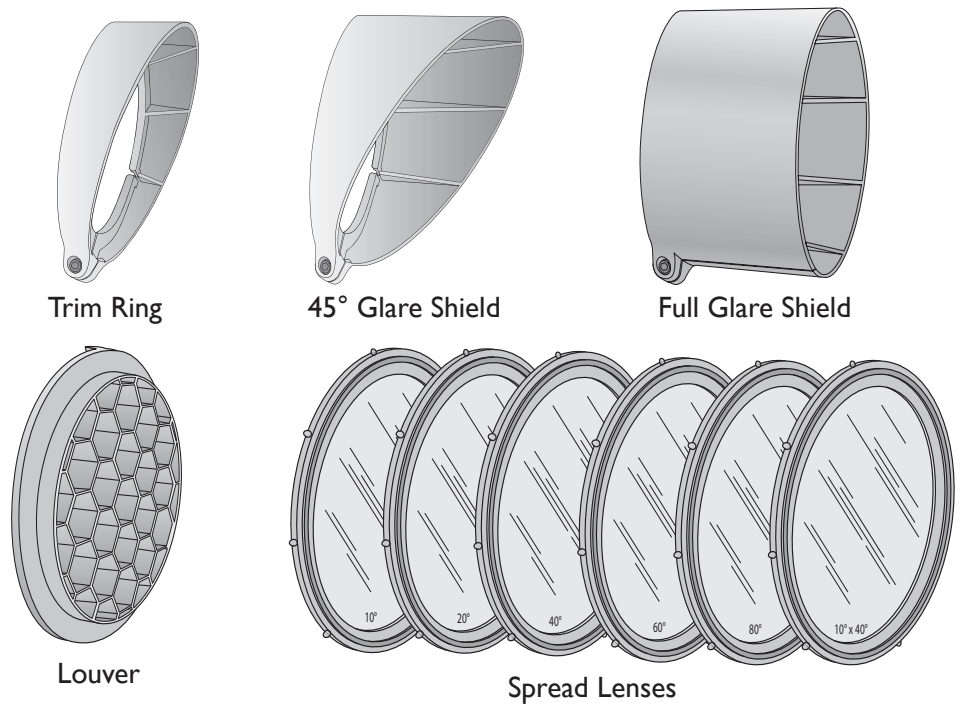
1. Thread a safety cable through the fixture housing as shown.
2. Attach the safety cable to the mounting surface using a method that follows the code or engineer's requirements.



## Attach Accessories (Optional)

Accessories can be installed to change the beam angle or add extra protection to the fixture in outdoor environments.

 For complete instructions on how to install the accessories, refer to the *Accessory Installation Instructions*.



# Address and Configure the Fixtures

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

ColorBurst Powercore gen2 fixtures operate in 8-bit mode by default. You can configure ColorBurst Powercore gen2 to operate in 16-bit mode, which increases fixture resolution for smoother dimming.

In 8-bit mode, fixtures use one DMX address per LED channel (red, green, and blue). In 16-bit mode, fixtures use two DMX addresses per LED channel. The first DMX address corresponds to the “coarse” data for that channel, and the second corresponds to the “fine” data. By using double the number of DMX addresses, 16-bit mode increases fixture resolution from 256 dimming steps to 65,536 (256 x 256) dimming steps.


DMX Channel Assignments (3 channel mode)						
8-Bit Mode	1		2		3	
	Red		Green		Blue	
16-Bit Mode	1	2	3	4	5	6
	Red Coarse	Red Fine	Green Coarse	Green Fine	Blue Coarse	Blue Fine


DMX Channel Assignments (4 channel mode)								
8-Bit Mode	1		2		3		4	
	Red		Green		Blue		White or Amber	
16-Bit Mode	1	2	3	4	5	6	7	8
	Red Coarse	Red Fine	Green Coarse	Green Fine	Blue Coarse	Blue Fine	White/Amber Coarse	White/Amber Fine

ColorBurst Powercore gen2 fixtures come factory-addressed with a starting DMX address of 1. For lighting designs where fixtures work in unison, all fixtures can be assigned the same starting DMX address. Changes to the default starting DMX address is not necessary, but if lights were previously readdressed for use in other installations, you must reset them. For light show designs that show different colors on different fixtures, you must assign unique DMX addresses to your fixtures and sort them in a useful order.

- In Ethernet installations, you can address and configure your fixtures using QuickPlay Pro with a computer connected to your lighting installation’s network. QuickPlay Pro can automatically discover all of your fixtures, controllers, and Data Enabler Pro devices for quick configuration.
- In DMX installations, you can address and configure your fixtures using QuickPlay Pro with iPlayer 3 or SmartJack Pro. You can manually enter fixture serial numbers, or you can import a spreadsheet listing each fixture’s serial number and starting DMX address.

For complete details on addressing and configuring ColorBurst Powercore gen2 fixtures with QuickPlay Pro, refer to the *Addressing and Configuration Guide*, which you can view or download at [www.philipscolorkinetics.com/support/addressing](http://www.philipscolorkinetics.com/support/addressing).

 You can address fixtures and switch between 8-bit mode and 16-bit mode using QuickPlay Pro. You can download QuickPlay Pro from [www.philipscolorkinetics.com/support/addressing/](http://www.philipscolorkinetics.com/support/addressing/)

 You will need the layout grid that you created when you recorded the serial numbers of the light fixtures in your installation.



### Setting Fixture Dimming Curves

Dimming curves describe how slowly or quickly a fixture dims at different levels of input. For finer control, ColorBurst Powercore gen2 offers three different dimming curves for use in different situations and applications:

- **Normal**  
The non-linear (gamma) dimming curve used in most Philips Color Kinetics LED lighting fixtures. ColorBurst Powercore gen2 fixtures use the normal dimming curve by default.
- **Linear**  
A dimming curve with a linear relationship between power input and DMX output.
- **Tungsten**  
A non-linear dimming curve that emulates the dimming curve of incandescent lamps on a DMX dimmer. This curve offers the most control at low intensities.

### Setting LED Transition Speed

Normally, LEDs react to DMX or other control data instantaneously. In some cases, you may want to slow down the reaction speed to achieve smoother transitions when the intensity of different LED channels changes. ColorBurst Powercore gen2 offers five levels of decreasing LED transition speed, from Fast (instant snap changes) to Delay-4 (slowest transition speed).

### Chromasync: Maximizing Fixture-to-Fixture Consistency

Optibin, our advanced binning algorithm, sets an industry-leading standard for the color consistency and uniformity of LED sources used in manufacturing. Chromasync technology enhances the performance of Optibin by maximizing fixture-to-fixture color consistency within an installation. By using active measurements of each fixture's color range taken during manufacturing, Chromasync achieves a common gamut for all ColorBurst Powercore gen2 fixtures, regardless of LED sources used or date of manufacture.

Chromasync is especially valuable in lighting designs that feature combinations of two or more saturated colors (RGB white, yellow, cyan, and so on). In the case of RGB white, for example, Chromasync can reduce color variations across ColorBurst Powercore gen2 fixtures from 10 or more MacAdam ellipse steps to as little as four MacAdam ellipse steps.

While Chromasync does not calibrate colors with an external reference or standard, it accelerates commissioning of systems by eliminating the need for tedious fine-tuning of individual fixtures. You can find more information about Chromasync from <http://www.colorkinetics.com/ls/guides-brochures/PCK-Technology-Overview-Chromasync.pdf>

Chromasync technology supports three basic data operation modes for use with ColorBurst Powercore gen2: 4-to-4, 3-to-4, and 3-to-3.

- **4-to-4 Configuration**  
The 4-to-4 configuration works with newer controllers that deliver four channels of control data to four-channel LED fixtures. This is the default configuration for RGBW and RGBA LED fixtures.
- **3-to-4 Configuration**  
The 3-to-4 configuration works with controllers that employ three output data channels. ColorBurst Powercore gen2 maps three channels of control data to all four LED channels.
- **3-to-3 Configuration**  
The 3-to-3 configuration allows legacy RGB light shows to be carried over to four-channel light fixtures; however, the fourth channel (White or Amber) is ignored. Therefore, this configuration does not utilize the full color palette available on the ColorBurst Powercore gen2.

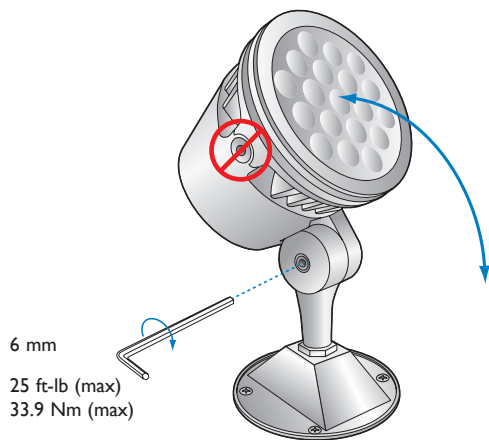
# Aim and Lock Fixtures


Make sure power is ON before aiming fixtures.

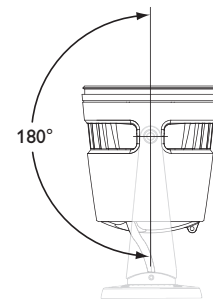
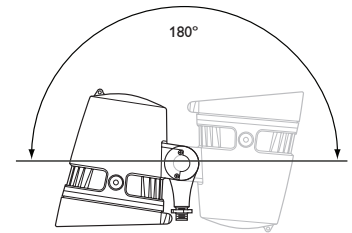
ColorBurst Powercore gen2 fixtures can tilt through a full 180°. ColorBurst Powercore gen2 Architectural fixtures can also rotate through a full 360° for precise aiming. Locking nuts use standard hex wrenches to secure fixtures firmly in position.

## Aiming and Locking ColorBurst Powercore gen2 Landscape Fixtures

1. Using a 6 mm hex wrench, loosen the locking nut on the side of the fixture base.
2. Aim the fixture by tilting the beam as desired.
3. When the fixture is aimed as desired, re-tighten the locking nut to secure the fixture in place. Torque to 25 ft-lbs (33.9 Nm). Do not over-tighten.



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

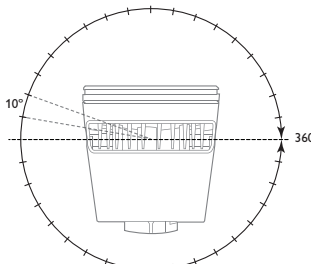
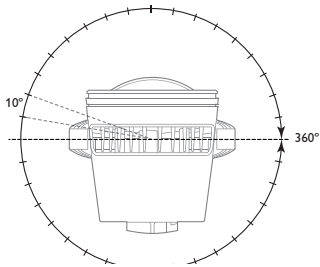
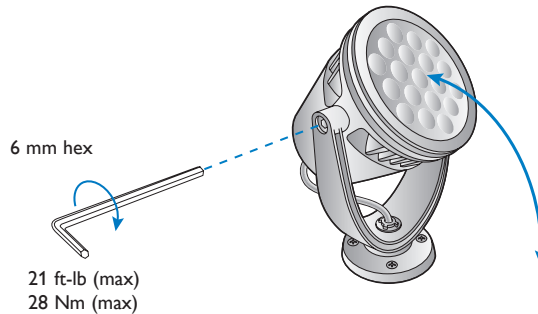


## Aiming and Locking ColorBurst Powercore gen2 Architectural Fixtures

### 1. To tilt the beam:

- Loosen the locking nuts on either side of the fixture yoke using a 6 mm hex wrench.
- Tilt the beam as desired.
- Re-tighten the locking nuts to secure the fixture in place. Torque to 21 ft-lbs (28 Nm). Do not over-tighten.

### 2. To rotate the fixture:



6 mm hex

21 ft-lb (max)  
28 Nm (max)

- Loosen the locking nuts on either side of the fixture yoke's base using a 3 mm hex wrench.
- Rotate the fixture as desired. Note that the fixture can be rotated in 10° increments.
- Re-tighten the locking nuts to secure the fixture in place.

