

C-SPLASH 2

USER GUIDE



COLOR KINETICS INCORPORATED
10 MILK STREET, SUITE 1100
BOSTON, MA 02108 USA
TEL 888 FULL RGB
TEL 617 423 9999
FAX 617 423 9998
INFO@COLORKINETICS.COM
WWW.COLORKINETICS.COM

CHROMACORE
BY COLOR KINETICS

OPTIBIN
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ITEM# 116-000011-00 (Frosted Lens)
ITEM# 116-000011-01 (Clear Lens)

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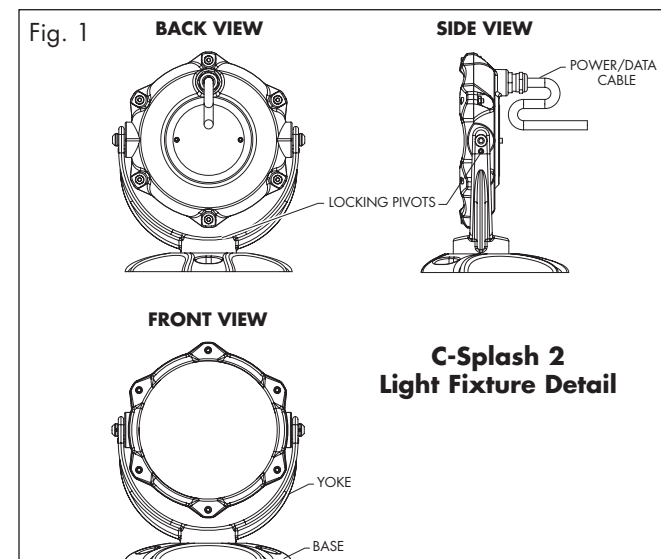
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INTRODUCTION

Congratulations on your purchase! Welcome to a more colorful world brought to you by Color Kinetics' core technologies and products that generate and control millions of colors - with an increasing range of lighting effects and capabilities. This User Guide contains important information about proper installation and safe operation of your new C-Splash 2 light fixture. C-Splash 2 is a completely submersible fixture primarily designed for use in fresh or salt water, up to fifteen feet deep; but can be used in partially submerged or dry locations. (See Figure 1.)



Included in This Box

- C-Splash 2 with 60 foot cable
- User Guide

Additional Items Needed:

- Mounting base hardware: 3 each: 3/8"-16 Silicon Bronze cap screw, 3/8" Silicone Bronze, round, flat washer, plus appropriate anchoring hardware
- 5/16", 3/16", and 1/8" hex key
- 18 AWG (minimum) ground wire
- 24VDC power supply - PDS-150e (Item# 109-000008-01) or PDS-60 24V (Item # 109-000017-00/03)
- Controller - Color Kinetics DMX Controller or DMX compatible
- Color Kinetics Zapi (Item# 103-000005-00, US/103-000005-01, EU) or Serial Addressing Software (SAS)

Scope of This User Guide

The goal of this user guide is to explain the steps necessary to install C-Splash 2 and assure peak performance. Its intended use is for reference only, by persons who are fully qualified. This document should never be considered a substitute for any provisions of a regulation or state and/or local code.

Identification and Warnings of Safety Hazards

In accordance with ANSI Z535.4 the following system of identifying the severity of the hazards associated with the products is used:

"DANGER" Imminently hazardous situation which, if not avoided, will result in death or serious injury.

"WARNING" Potentially hazardous situation that, if not avoided, could result in death or serious injury.

"CAUTION" Potentially hazardous situation that, if not avoided, may result in minor or moderate injury or property damage.

DANGER: Ensure that the main power supply is off before installing or wiring C-Splash 2 and the power/data supply. Failure to adhere to these instructions will result in death or serious injury.

WARNING: Do not install in human-occupied underwater locations, such as pools and spas. Doing so could result in death or serious injury.

WARNING: C-Splash 2 and the power/data supply must be installed by a qualified professional in accordance with NEC and relevant local codes. Failure to comply can result in death, serious injury, or property damage.

WARNING: Do not attempt to install or use C-Splash 2 or the power/data supply until you read and understand the installation instructions and safety labels. Failure to adhere to these instructions could result in serious injury or property damage.

WARNING: Do not use C-Splash 2 if the power cables are damaged. Doing so can result in death, serious injury, or property damage.

CAUTION: C-Splash 2 has no serviceable parts. Do not attempt to open the fixture. Doing so will result in property damage and void the warranty.

CAUTION: Do not use sharp tools near or on the fixture lens. Doing so will result in property damage and void the warranty.

CAUTION: Do not hot swap. Ensure the power supply is off before connecting or disconnecting fixtures. Hot swapping will result in property damage and void the warranty.

CAUTION: Do not remove or loosen sealing bolts. Doing so will destroy the water tight seal, result in property damage, and void the warranty.

CAUTION: Do not remove or loosen cable compression fitting. Doing so will destroy the water tight seal, result in property damage, and void the warranty.



NOTE: The instructions and precautions set forth in this user guide are not necessarily all-inclusive, all conceivable, or relevant to all applications as Color Kinetics cannot anticipate all conceivable or unique situations.

Owner/User Responsibilities

It is the responsibility of the contractor, installer, purchaser, owner, and user to install, maintain, and operate C-Splash 2 in such a manner as to comply with all state and local laws, ordinances, regulations, and the American Standard Institution Safety Code.

PLANNING THE INSTALLATION

The nature of the C-Splash 2 installation requires planning to ensure a timely, successful installation with minimal complications and down time.

Planning Suggestions

When planning the C-Splash 2 installation, Color Kinetics suggests doing the following:

- Consult an Electrical Inspector to approve all wiring plans.
- Refer to local and state codes for installation compliance.
- Create a Mapping Grid. Use this grid to record serial numbers for easy reference and addressing.
- Create a Layout Plan drawing, per Lighting Designer or Architect.
- Employ Color Kinetics' Application Engineering Services.
- Get detailed wiring diagrams and additional support from <http://support.colorkinetics.com>.

Installation Considerations

When creating your installation plan, consider the following:

- Location of the power/data supply in relationship to lights.
 - The maximum accumulated cable length for all C-Splash 2 fixtures connected to a single PDS-150e is 400 feet. The maximum single cable run between PDS-150e and C-Splash 2 is 150 feet.
 - The maximum cable length for a C-Splash 2 fixture connected to a PDS-60 is 150 feet. Therefore, PDS-60 must be located within 150 feet of the furthest supported fixture.
- Location of fixture. C-Splash 2 can be installed fully submerged, partially submerged, or in dry locations; horizontal, vertical, or inverted.
- Record the serial numbers and identify lights as you unpack the fixtures.
- Install and wire power/data supply before installing C-Splash 2 fixtures. Refer to the PDS-150e or PDS-60 24V Installation Guides.

INSTALLING C-SPLASH 2

Steps to a Successful Installation

1. Record serial numbers and identify fixtures as you unpack them.
2. Address the fixtures.
3. Install the power/data supplies.
4. Install C-Splash 2 fixtures.
5. Make electrical connections.

Recording Serial Numbers

1. As you unpack the fixtures, record the serial numbers. Each C-Splash 2 has a unique serial number programmed at the time of manufacture.
2. Write the serial numbers onto a Mapping Grid or use a bar code scanner along with Color Kinetics Serial Addressing Software (SAS) to record each serial number. Color Kinetics SAS and instructions are located at www.colorkinetics.com/support/downloads.
3. Using the Layout Plan, assign the fixture to a layout position in the installation.

4. Using a weatherproof label, identify the fixtures installation position based on the Layout Plan. Place the identifying label in an inconspicuous location noting the order or placement in the installation. This step not only minimizes installation mistakes, but aids in post-installation light show programming.

Addressing the Lights

IMPORTANT: Before you begin the installation, consider the scope of your lighting application and installation. Your C-Splash 2 is set to DMX address one (1) at the factory. If your application requires other addresses, set the DMX addresses before installing C-Splash 2 using one of the following addressing tools:

ZAPI: Use Color Kinetics' Zapi to set the DMX address for each fixture or set all fixtures to the same DMX address. Refer to the Zapi User Guide for step-by-step addressing instructions.

SAS (SERIAL ADDRESSING SOFTWARE): Use a PC with iPlayer 2, or a PC with Smart Jack 3 to address the fixtures. Download SAS and instructions from www.colorkinetics.com/support/downloads.

NOTE: For applications using multiple, daisy-chained power supplies, you can address all lights in the chain by attaching Zapi to the first power supply in the series.

NOTE: Multi-power supply setups are ideal for pre- and post-installation. For post-installation addressing, record all serial numbers and layout positions prior to installation.

Setting Individual Addresses

Using the Serial Number mode of Zapi 1.5 or SAS, address each fixture attached to a power supply or a series of connected power supplies individually.

1. With power disconnected, connect up to six C-Splash 2 to the power/data supply.
2. Attach the DMX interface (Zapi, iPlayer 2, or Smart Jack 3) to the DMX IN port on the power/data supply.
3. Connect power to the power/data supply.
4. Use Zapi or SAS to set the light address of each fixture.
5. Disconnect power and then disconnect the addressed C-Splash 2 fixture(s).
6. Repeat steps 1 through 5 for all remaining fixtures.
7. After all fixtures are addressed, disconnect the DMX interface.

Setting the Same Address to Multiple Lights

Using Zapi 1.5, address all fixtures attached to a power supply or multiple, daisy-chained power supplies.

1. With power disconnected, connect up to six C-Splash 2 fixtures to the power/data supply.
2. Attach the Zapi to the DMX IN port on the power/data supply.
3. Connect power to the power/data supply.
4. Use Zapi to set the light addresses. All C-Splash 2 fixtures connected to the power/data supply are addressed simultaneously. **NOTE:** If you are using SAS, you must input each serial number (address) separately.
5. Disconnect the DMX interface.

Installing the Power/Data Supply

Following the Layout Plan, install the power/data supply according to state and local codes. Refer to the PDS-150e or PDS-60 24V Installation Guide for complete instructions.

WARNING: Ensure that power is off before wiring the power/data supply. Failure to do so can result in serious injuries or death.

Things to remember:

- C-Splash 2 requires 24VDC provided by PDS-150e or PDS-60.
- PDS-150e must be located within 150-feet of the C-Splash 2 fixtures and the maximum accumulated cable length for all fixtures is 400 feet. Each PDS-150e supports up to six C-Splash 2 fixtures.

- PDS-60 must be located within 150-feet of the C-Splash 2 fixtures and each PDS-60 supports up to two C-Splash 2 fixtures.
- Consult an Electrical Inspector to approve all wiring plans.

Installing C-Splash 2 Fixtures

This fixture shall be installed by a qualified professional in accordance with NEC and relevant local codes for Class 2 power sources.

Things to remember:

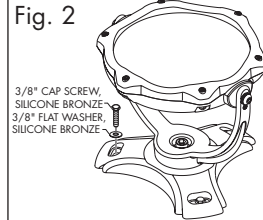
- Install C-Splash 2 fully submerged, partially submerged, or in dry location.
- Install C-Splash 2 in fresh or salt water.

CAUTION: Install C-Splash 2 fixture before wiring it to the power/data supply to minimize risk of electric shock.

- The maximum submersion depth is 15 feet (5 meters).
- Install C-Splash 2 horizontally, vertically, or inverted.

Mounting C-Splash 2

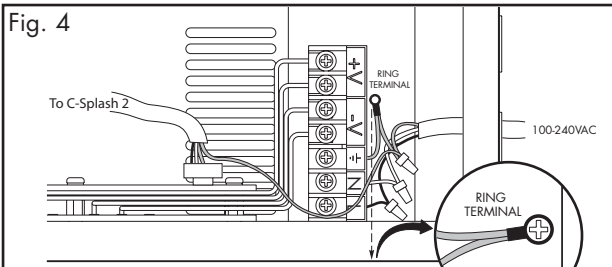
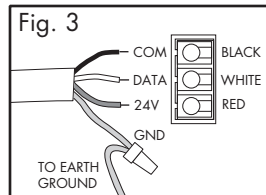
1. Using the provided C-Splash 2 template or the C-Splash 2 base, mark the installation locations.
2. Attach fixture to mounting surface, with three 3/8"-16 silicon bronze cap screws and washers, using the method best suited for the mounting surface. (See Fig. 2.)



Making Electrical Connections

After installing the power/data supply and C-Splash 2 fixtures, you are ready to make the electrical connections.

1. Pull the cable from the fixtures to the power/data supply.
2. Pull the cable through knock-outs in the side of the power/data supply.
3. Wire the red, white, and black wires of each fixture to a provided connector, then snap connectors into the connector terminals located in the power/data supply. Ensure that the wire colors correspond to the 3-pin terminal block notations. (See Fig 3.)
4. **For PDS-150e:** Using wire nuts, connect the green ground wire from each C-Splash 2 to the earth ground on PDS-150e. Secure the ring terminal to the chassis. (See Fig. 4.)



For PDS-60 24V: Using wire nuts, connect the green ground wire from each C-Splash 2 to the earth ground on PDS-60.

Fig. 5 (See Fig. 5.)

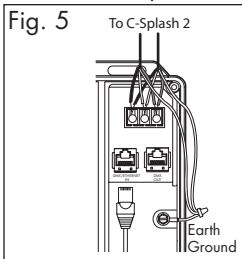
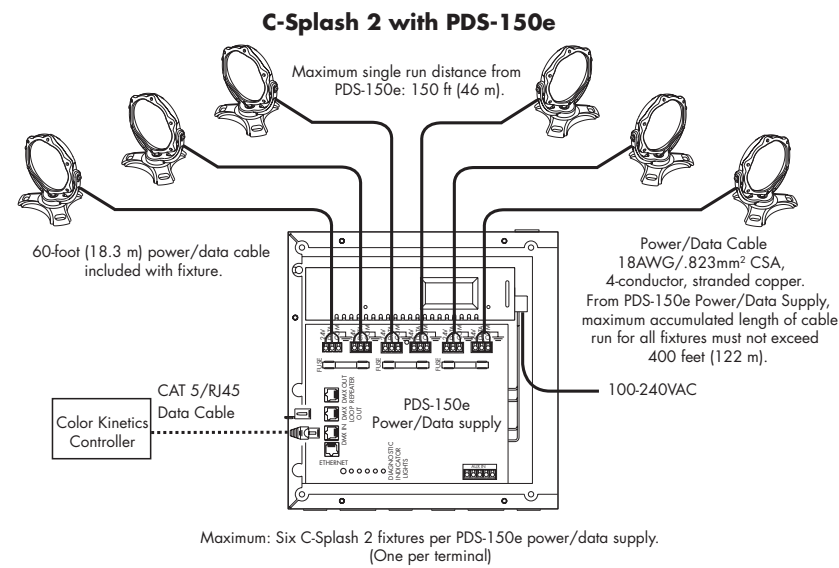


Figure 6 shows C-Splash 2 fixtures connected to PDS-150e and PDS-60. (See Figure 4 for details on proper grounding for PDS-150e.)

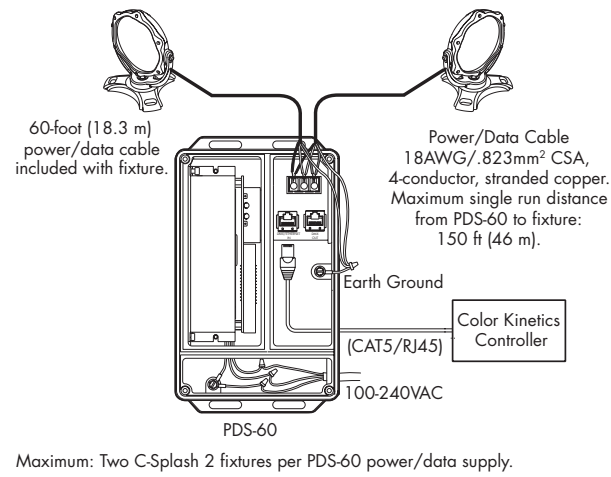
Fig. 6



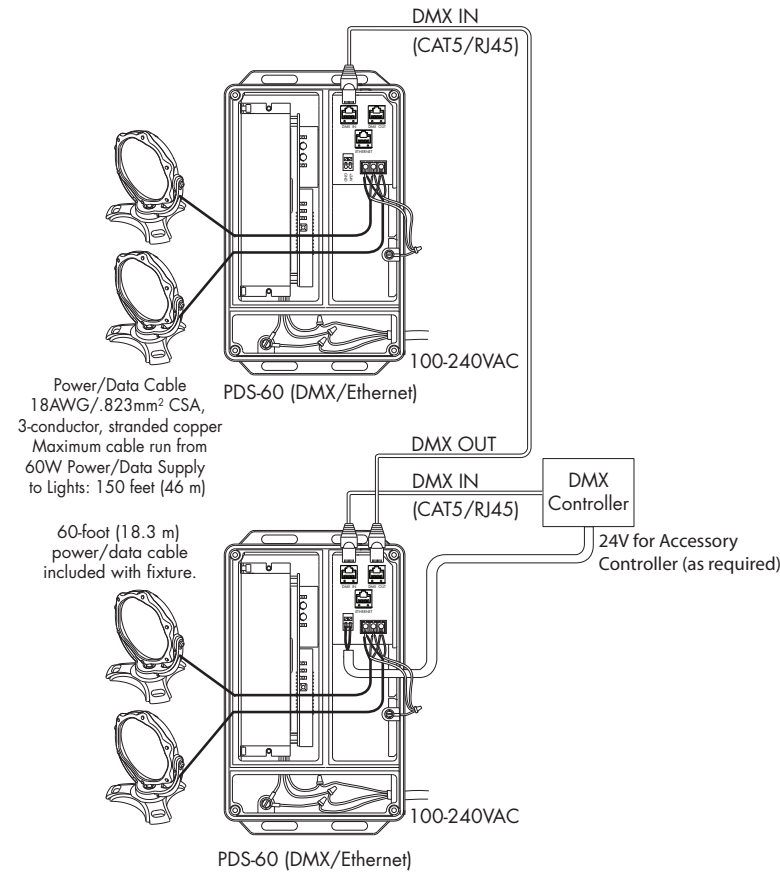
Connecting Power

Follow the instructions in PDS-150e or PDS-60 Installation Guide to connect power from a 100 to 240 VAC power source.

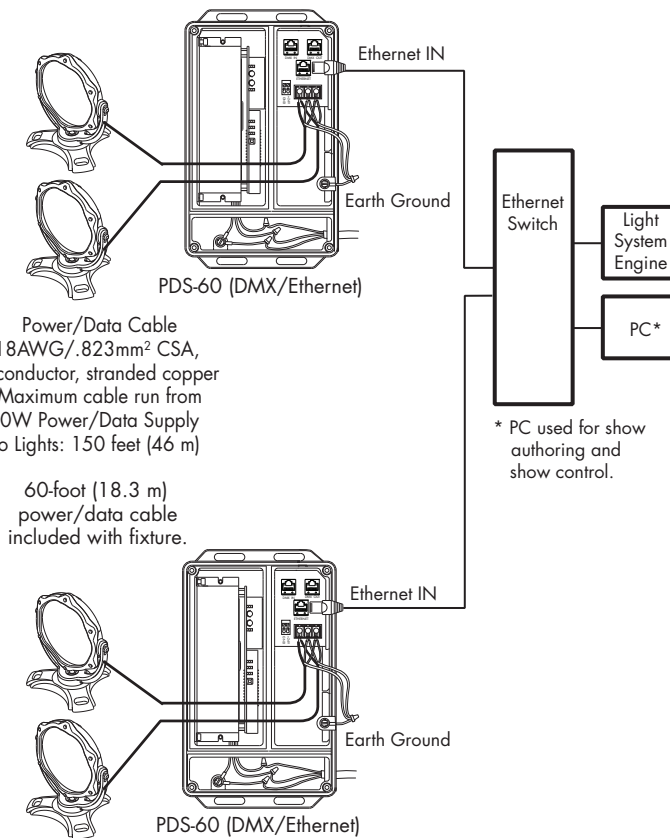
C-Splash 2 with PDS-60 (Preprogrammed)



C-Splash 2 with PDS-60 24V (DMX Control)



C-Splash 2 with PDS-60 24V (Ethernet Control)



WARNING: Ensure that power supply is off before wiring or connecting fixtures to PDS-150e. Failure to do so can result in serious injuries or death.

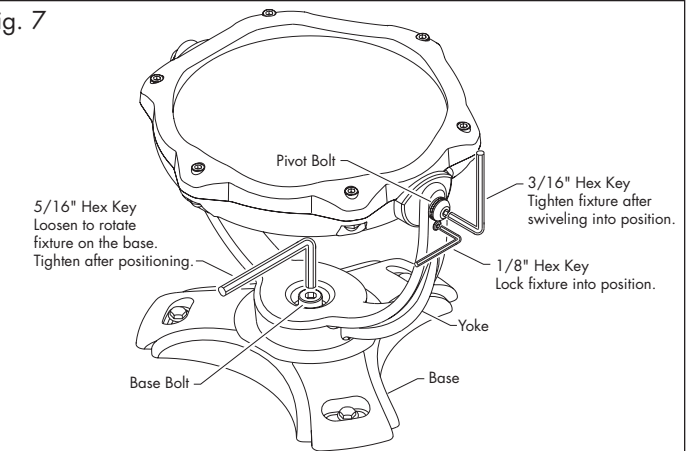
CAUTION: Connect the C-Splash 2 ground wire to the power/data supply chassis. Failure to connect the ground wire can result in property damage and void the warranty.

AIMING THE FIXTURE

Aiming C-Splash 2 is simple with the aim-and-lock feature.

1. After installing and energizing the light, horizontally pivot the fixture in the yoke to the desired position.
2. Using a 3/16" hex key tighten the pivot bolts to hold the fixture in position. (See Fig. 7.)
3. Using a 1/8" hex key tighten the locking set screws to lock the fixture in place. (See Fig. 7.)

Fig. 7



ROTATING THE FIXTURE

1. If, after installation, it becomes necessary to rotate the fixture, use a 5/16" hex key to loosen the base bolt. (See Figure 7.)
2. Vertically rotate the yoke then tighten the base bolt.

NOTE: The fixture allows 360° vertical and horizontal rotation.

CAUTION: Do not over tighten set screws.

CAUTION: Do not allow cable to become pinched in housing.

IMPORTANT INFORMATION

Strobe Warning

There is some anecdotal evidence that strobe lighting may induce epileptic symptoms in certain susceptible individuals, although no associated product warnings have been issued by United States government according to the Food and Drug Administration.

If strobe lights are used, some international regulatory agencies¹ recommend keeping flicker rates at or below four flashes per second (as less of the flicker-sensitive population will then be at risk of an attack). This flicker rate applies only to the overall output of any group of lights in direct view. However, when more than one strobe light is used, the flashes should be synchronized. End users should also consider issuing a warning, alerting audience or viewers to the presence of strobe lighting.

¹ Guide to Health, Safety and Welfare at Pop Concerts and Similar Events, HMSO Publications (UK)

Temperature Monitoring

For protection from extreme temperatures, C-Splash 2 has been designed with a temperature monitoring feature. If operating temperatures rise to an unsafe level, a compensation circuit is triggered and the C-Splash 2 operation is interrupted causing the lights to turn dull red. After 30 minutes the lights will auto-cycle and return to full intensity.

To prevent additional power shut-downs, determine the cause of the overheating and correct the problem.

If any problems occur during usage, unplug the product immediately and call or email:
Color Kinetics Technical Support Group:
1-888-FULL RGB or 617-423-9999 or
www.colorkinetics.com/support

C-SPLASH 2 SPECIFICATIONS

COLOR RANGE	16.7 million (24bit) additive RGB colors; continuously variable intensity output range
SOURCE	High intensity power LEDs
BEAM ANGLE	10° clear lens, 22° ground lens
HOUSING	Cast brass
CONNECTORS	Unified power and data cable
LISTINGS	UL/cUL, CE
PROTECTION RATING	IP68
DATA INTERFACE	Chromacore technology
CONTROL	Color Kinetics full line of controllers or other DMX512 (RS485) compatible when using Color Kinetics power/data supply
VOLTAGE REQUIREMENT	24VDC (25W)
POWER CONSUMPTION	Maximum: 25 Watts at full intensity (full RGB)
POWER SUPPLY	PDS-150e - Maximum of 6 fixtures per supply PDS-60 24V - Maximum of 2 fixtures per supply
TEMPERATURE RANGE	-40°F to 122°F (-40°C to 50°C) operating temperature -4°F to 122°F (-20°C to 50°C) starting temperature
SUBMERSION DEPTH	Up to 15 feet (5 meters) maximum

LED SOURCE LIFE

In traditional lamp sources, lifetime is defined as the point at which 50% of the lamps fail. This is also termed Mean Time Between Failure [MTBF]. LEDs are semiconductor devices and have a much longer MTBF than conventional sources. However, MTBF is not the only consideration in determining useful life. Color Kinetics uses the concept of useful light output for rating source lifetimes. Like traditional sources, LED output degrades over time (lumen depreciation) and this is the metric for SSL lifetime.

LED lumen depreciation is affected by numerous environmental conditions such as ambient temperature, humidity, and ventilation. Lumen depreciation is also affected by means of control, thermal management, current levels, and a host of other electrical design considerations. Color Kinetics systems are expertly engineered to optimize LED life when used under normal operating conditions. Lumen depreciation information is based on LED manufacturers’ source life data as well as other third party testing. Low temperatures and controlled effects have a beneficial effect on lumen depreciation. Overall system lifetime could vary substantially based on usage and the environment in which the system is installed.

Temperature and effects will affect lifetime. Color Kinetics rates product lifetime using lumen depreciation to 50% of original light output. When the fixture is running at room temperature using a color wash effect, the range of lifetime is in the range of 80,000-100,000 hours. This is LED manufacturers’ test data. High output is defined as any LED device that is 1/2 watt or above. For more detailed information on source life, please see www.colorkinetics.com/lifetime.

WARRANTY

This product is sold pursuant to CK’s Standard Terms and Conditions (the “T&Cs”) which may be found at <http://colorkinetics.com/howtobuy/buy/terms> and which contain important provisions, including, among others, Limited Warranty, exclusions and limitations on CK’s liability for damages, and restrictions on the remedies that are available to you.