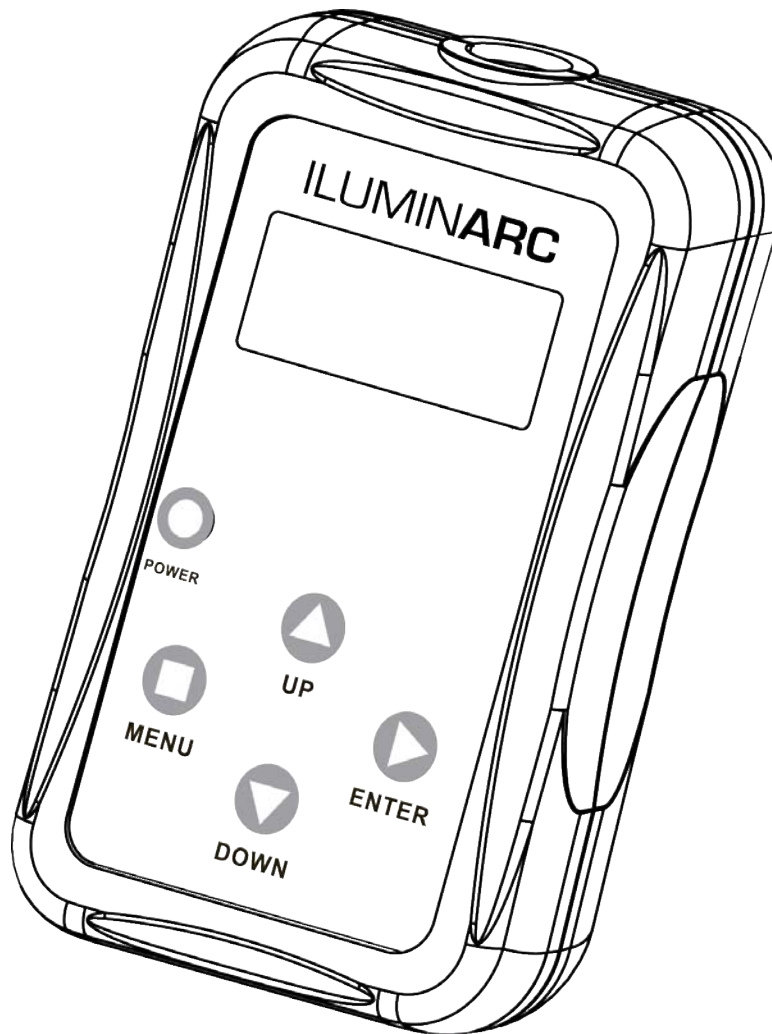


# Illumicode V 2.2

## User Manual



ILUMINARC®

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## **Edition Notes**

ILUMINARC® released this edition of the Ilumicode V 2.2 User Manual Rev. 01c in May 2010. The Ilumicode V 2.2 User Manual Rev. 01c covers the description, safety precautions, installation, programming, operation and maintenance of the Ilumicode V 2.2 controller.

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For better results, print this document in color, on letter size paper (8.5 x 11 inches), double sided. If using A4 paper (210 x 297 mm), configure your printer to scale the content of this document to A4 paper.

### **Intended Audience**

Any person in charge of installing, operating and/or maintaining the Ilumicode V 2.2 should read the Guide that shipped with it and this manual in their entirety before installing, operating or maintaining this product.

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### **Document Revision**

The Ilumicode V 2.2 User Manual Rev. 01c supersedes all previous versions of this manual. Please discard any older versions of this manual you may have, whether in printed or electronic format, and replace them with this version.

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# 1. Introduction



This icon indicates useful, although non-critical information.



This icon indicates important installation or configuration information. Failure to comply with this information may prevent the fixture from functioning correctly.



This icon indicates critical installation, configuration or operation information. Failure to comply with this information may render the fixture partially or completely inoperative, damage third-party equipment, or cause harm to the user



The term "DMX" used throughout this document refers to the USITT DMX512-A transmission protocol.

## What is in the Box

- One Ilumicode V 2.2
- One signal connector (XLR to clips)
- Two AA batteries
- Warranty Card
- User Manual

## Unpacking Instructions

Immediately upon receiving a product from ILUMINARC®, carefully unpack the carton. Check the contents of the box to ensure that all parts are present and that they are in good condition. If any part appears damaged from shipping, or if the carton shows signs of mishandling, see the *Claims* section in the *Technical Information* chapter.

## Text Conventions

Convention	Meaning
1~512	A range of values in the text
50/60	A set of mutually exclusive values in the text
[10]	A DIP switch to be configured
<i>Claims</i>	A new term, or a section or chapter of this document
"Ilumicon UM"	The name of another publication or manual
<SET>	A button on the fixture's control panel
<i>Settings</i>	A fixture function or a menu option
<i>MENU &gt; Settings</i>	A sequence of menu options
<b>1~10</b>	A range of menu values from which to choose in a menu
<b>Yes/No</b>	A set of two mutually exclusive menu options in a menu
<b>ON</b>	A unique value to be entered or selected in a menu



There are no user serviceable parts inside this product. Any reference to servicing it you may find from now on in this User Manual will only apply to properly ILUMINARC® certified technicians. Do not open the housing or attempt any repairs unless you are one of them.



Please refer to all applicable local codes and regulations for the proper installation of this product.



Keep this manual for future consultation. If you sell this product to another user, make sure that they also receive this manual.



In the unlikely event that your Ilumicode V 2.2 may require service, please contact ILUMINARC® Technical Support.

## Safety Notes

Please read all the following safety notes carefully because they include important information on how to safely install, use and maintain the Ilumicode V 2.2 as well as any Iluminarc fixture connected to it.

### **Personal Safety**

- Avoid direct eye exposure to the light source of any fixture when it is on.
- Always disconnect a fixture from its power source before servicing.
- Always connect fixtures to grounded circuits to avoid the risk of electrocution.

### **Mounting and Rigging**

- Some of the ILUMINARC® fixtures that operate with the Ilumicode V 2.2 (Ilumipod 18 IP Optic RGB/VW, Ilumiline 21 IP Optic RGB/VW and Ilumipanel 28 IP Optic RGB/VW) are for outdoor use (IP66). However, do not submerge them.
- The fixtures in the Ilumipod Inground Series are for outdoor use and they can be submerged (IP67). However, do not submerge them deeper than 1 m.
- Make sure there are no flammable materials close to a fixture while operating.
- When hanging any of the IP66 fixtures mentioned above, always secure it to a fastening device using a safety cable (not provided).

### **Power and Wiring**

- Always make sure that you are connecting the fixtures associated to the Ilumicode V 2.2 to the proper voltage, as per the specifications in the corresponding manual or on the fixture's sticker.
- Never connect any ILUMINARC® fixture to a dimmer pack or rheostat.
- Make sure that fixture's power cable is not cracked, crimped or damaged.
- Never disconnect any plugged ILUMINARC® fixture by pulling or tugging on the power cable.

### **Operation**

- The maximum ambient temperature ( $T_a$ ) is 104° F (40° C). Do not operate the Ilumicode V 2.2 or any of its associated fixtures at a higher temperature.
- In case of a serious operating problem, stop using the Ilumicode V2.2 or any of its associated fixtures immediately!

## Expected LED Lifespan

The ILUMINARC® fixtures associated with the Ilumicode V 2.2 use LEDs as the light source. LEDs gradually decline in brightness over time, mostly because of heat. Packaged in clusters, LEDs exhibit higher operating temperatures than in ideal or singular optimum conditions. For this reason, using all color LEDs at their fullest intensity significantly reduces the LEDs' lifespan. Under normal conditions, this lifespan can be of 50,000 to 70,000 hours. If extending this lifespan expectancy is vital, you will have to lower the operational temperature by improving ventilation and reducing the external temperature, as well as limiting the overall projection intensity.

## 2. Product Description

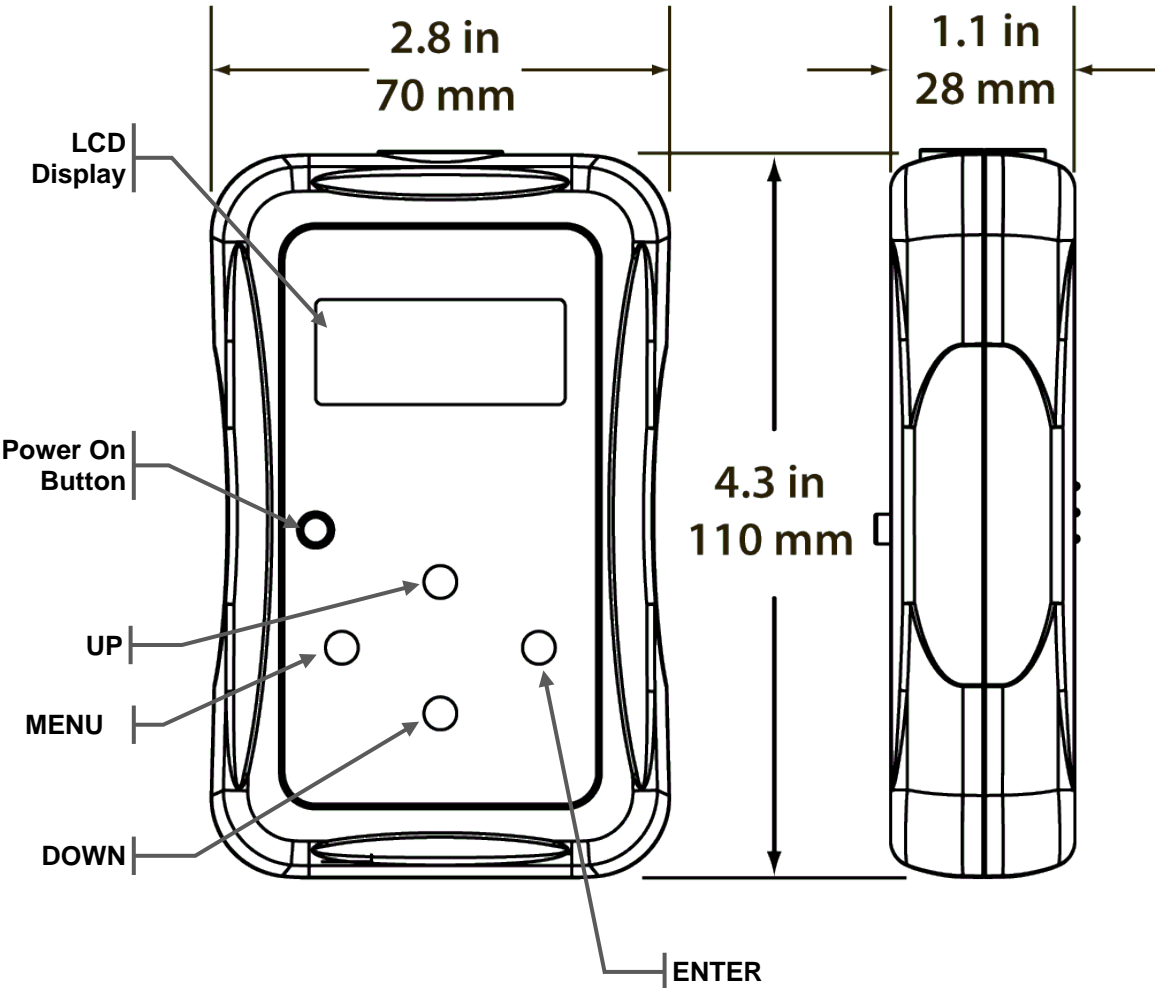
The Ilumicode V 2.2 is the configuration module for the following ILUMINARC® fixtures: Ilumipod 18 IP Optic RGB/VW, Ilumiline 21 IP Optic RGB/VW, Ilumipanel 28 IP Optic RGB/VW and the Ilumipod Inground Series. Because none of the mentioned fixtures has a control panel, the only way of changing their DMX address and personality from their default values is by using the Ilumicode V 2.2. The Ilumicode V 2.2 can also be used to configure and control its associated fixtures in the absence of a DMX controller.

The Ilumicode V 2.2 consists of a single hand-held instrument with a pig tale cable terminated on a 3-pin XLR connector. It comes with a short adapter cable to connect the Ilumicode V 2.2 to the signal wires using color-coded alligator clips.


### Features


- External control panel for ILUMINARC® IP rated fixtures
- Configures fixtures to operate on 1, 2, 3, 4, 5, 6 or 7-channel DMX modes
- Operating modes:
  - 1-channel: SOLID
  - 2-channel: VW
  - 3-channel: VW + D
  - 3-channel: ARC1
  - 4-channel: ARC1 + D
  - 4-channel: ARC2
  - 5-channel: ARC2 + D
  - 5-channel: ARC3
  - 6-channel: ARC3 + D
  - 7-channel: ARC FULL
- Other operating modes:
  - SPECIAL1: Refer to fixture's manual
  - SPECIAL2: Refer to fixture's manual
  - REMOTE: Refer to Ilumicon's manual


**Product Overview**



### 3. Installation

 Always connect ILUMINARC® fixtures to protected AC circuits with an appropriate electrical ground to avoid the risk of electrocution or fire.

 Never connect an ILUMINARC® fixture to a rheostat (variable resistor) or dimmer circuit, even if the rheostat or dimmer channel serves only as a 0 to 100% switch.

 ILUMINARC® recommends not connecting more than 20 fixtures in this mode, while keeping the total distance from the Ilumicode controller to less than 60 m (197 ft). Otherwise, you might need to use an optically isolated signal amplifier.

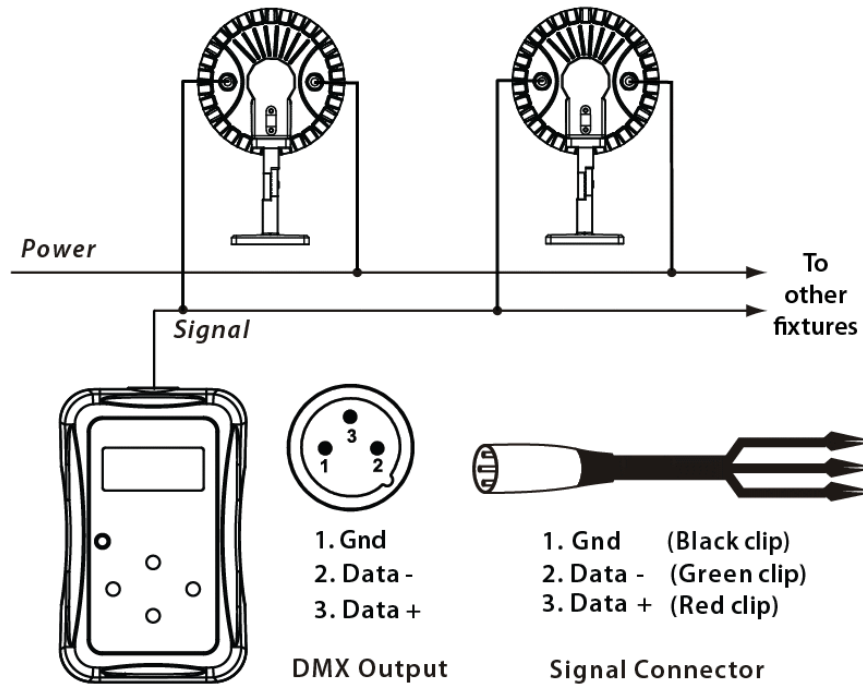
#### Power

The Ilumicode V 2.2 uses two (2) AA batteries (included).

#### DMX Linking

The diagram below shows how to connect the Ilumicode DMX output to any compatible ILUMINARC® fixture.

Note that this connection will control multiple fixtures at the same time, all having the same DMX address. To assign individual DMX addresses to each fixture, you must connect the Ilumicode unit to each fixture, individually. This means that you will also have to disconnect the DMX output of the fixture under configuration if there are other fixtures connected to it.



#### Mounting

The Ilumicode V2.2 is strictly a handheld unit. Therefore, ILUMINARC® does not provide any mounting harness or mounting instructions for it. Refer to the corresponding fixture manual for instructions on how to mount the compatible ILUMINARC® fixtures

## 4. Operation

### Control Panel Description



When turned on, the Ilumicode V 2.2 display shows “VER 2.2”.



The Ilumicode V 2.2 has a timer that turns the unit off after 60 seconds of inactivity.



The LCD display on the Ilumicode V2.2 shows the Ilumicode’s last sent setting, not the current setting on the fixture.



Make sure you have connected the Ilumicode V2.2 to the fixture(s) before starting programming.



To change the DMX address of a single fixture, make sure that there is no other fixture connected to the DMX cable.



Compatible ILUMINARC® fixtures do not light up when they do not receive DMX or Ilumicode signals, unless they are in STATIC mode



Some colors in this list may not apply to your ILUMINARC® fixture. Consult the fixture’s manual for more information.

Button	Function
<MENU>	Exits from the current menu or function
<ENTER>	Enables the currently displayed menu or sets the currently selected value in to the current function
<UP>	Navigates upwards through the menu list and increases the numeric value when in a function
<DOWN>	Navigates downwards through the menu list and decreases the numeric value when in a function

### Fixture Compatibility

The Ilumicode V 2.2 contains all the parameters for all the compatible ILUMINARC® fixtures it can control. Therefore, consult the corresponding fixture’s manual to determine which parameters on the Ilumicode V 2.2 apply to that specific fixture.

### Programming

Carry out all the programming procedures indicated below for each individual fixture. Refer to the *Menu Map* page to learn how the menu options relate to each other.

Use <ENTER> and <MENU> to change levels in the *Menu Map*. This is equivalent to moving the LCD display window to the right and left of the menu map, respectively. Use <UP> and <DOWN> to move vertically within the *Menu Map* options. This is the same as pressing <Page Up> or <Page Down> on a PC keyboard.

#### DMX Address

- 1) Go to **DMX** and press <ENTER>. The display will show the current DMX address in the controller.
- 2) Select the new DMX address (**001~512**).
- 3) Press <ENTER> to send the new DMX address to the fixture. The display will show “SEND...”

#### Personality

- 1) Go to **PERSON** and press <ENTER>. The display will show the current personality in the controller.
- 2) Select the new personality (see *Menu Map*).
- 3) Press <ENTER> to send the new personality to the fixture. The display will show “SEND...”

#### Whites Settings (full color fixtures)

- 1) Go to **CALIB** and press <ENTER>. The display will show the current color.
- 2) Select a white color (**WHITE 1~11**) to adjust the macros color, or **RGBTOW** for the white color when **SETTING > COLOR** is set to **RGBTOW**. Press <ENTER>.
- 3) Select a color (**RED, GREEN, BLUE, WARM, COOL, WHITE** or **AMBER**), as per the fixture(s) being programmed. Press <ENTER>.
- 4) Configure the color value (**0~255**).
- 5) Press <ENTER> to send the new color setting to the fixture. The display will show “SEND...”

- 6) Repeat steps 3 to 5 for the other colors to obtain the desired white color.
- 7) Repeat steps 2 to 6 for the other macros.

### **Color Setting (full color fixtures)**

- 1) Go to **SETTINGS** > **COLOR** and press <ENTER>. The display will show the current setting.
- 2) Select the color method (**OFF**, **RGB TO W**, **UC**).
- 4) Press <ENTER> to send the new color method to the fixture. The display will show “SEND...”

#### **Explanation:**

##### **OFF**

When the RGB(W)(A) faders are all set to “255”, the output is maximum for each color, although the result is an unbalanced “white”.

##### **RGB TO W**

When the RGB(W)(A) faders are all set to “255”, the output is the selected White color (see *Whites Setting*).

##### **UC**

When the RGB(W)(A) faders are all set to “255”, the output matches the color output of previous versions of this same fixture.

### **Static Colors**

- 1) Go to **STATIC** and press <ENTER>. The display will show the current color.
- 2) Select a color or effect (**RED**, **GREEN**, **BLUE**, **WARM**, **COOL**, **WHITE**, **AMBER** or **STRB**) and press <ENTER>.
- 3) Select a color value (**000~255**) or a strobe frequency (**0~20**).
- 4) Press <ENTER> to send the new color or effect setting to the fixture. The display will show “SEND...”
- 5) Repeat steps 2 to 4 for the other colors to obtain the desired color.

### **Dimmer**

- 1) Go to **DIMMER** and press <ENTER>. The display will show the current setting.
- 2) Select a dimmer curve (**OFF** or **DIM1~4**).
- 3) Press <ENTER> to send the new dimmer setting to the fixture. The display will show “SEND...”

#### **Explanation:**

**OFF** = Linear RGB(W)(A) and Master Dimmer.

**DIM1~4** = Non-linear RGB(W)(A) and Master Dimmer, where DIM1 is the fastest curve and DIM4 is the slowest.

### **Reset**

- 1) Go to **SETTING** > **RESET** and press <ENTER>. The display will show **NO**.
- 2) Select **YES**.
- 3) Press <ENTER> to send the reset command to the fixture. The display will show “SEND...”

#### **Explanation:**

The fixture will assume its default values as per the corresponding manual.



Some colors or the strobe effect in this list may not apply to your ILUMINARC® fixture. Consult the fixture's manual for more information.

## Ilumicode V 2.2 Menu Map

Main Level	2 <sup>nd</sup> Level	3 <sup>rd</sup> Level	Instructions
<i>DMX</i>	<b>001-512</b>	N/A	Sets the DMX starting address
<i>PERSON</i>	<b>VW (4)</b>	N/A	2-ch: WW (1), CW (2)
	<b>VW + D (4)</b>		3-ch: D (3), WW, CW
	<b>ARC 1 (5)</b>		3-ch: RGB
	<b>ARC 1 (4)</b>		3-ch: WW, CW, CW
	<b>ARC 1 + D (5)</b>		4-ch: D, RGB
	<b>ARC 1 + D (4)</b>		4-ch: D, WW, CW, CW
	<b>ARC FULL (5)</b>		7-ch: D, RGB, M (6), S (7), C (8)
	<b>ARC2 (9)</b>		4-ch: RGBW
	<b>ARC2 + D (9)</b>		5-ch: D, RGBW
	<b>ARC3 (10)</b>		5-ch: RGBWA
	<b>ARC3 + D (10)</b>		6-ch: D, RGBWA
	<b>REMOTE</b>		Enables the ILUMICON unit
	<b>SOLID</b>		1-channel: D
	<b>SPECIAL1</b>		Refer to fixture's user manual
<b>SPECIAL2</b>			
<i>CALIB</i>	<b>WHITE (1-11)</b>	<b>RED (0-255)</b> <b>GREEN (0-255)</b> <b>BLUE (0-255)</b> <b>COOL (0-255)</b> <b>WARM (0-255)</b> <b>AMBER (0-255)</b>	Sets white balance (color macros)
	<b>RGBTOW</b>		Sets white balance ( <b>RGBTOW</b> on)
<i>DIMMER</i>	<b>OFF</b>	N/A	Dimmer works in linear mode
	<b>DIM 1</b>		Dimmer works in non-linear mode, from fast (DIM1) to slow (DIM4).
	<b>DIM 2</b>		
	<b>DIM 3</b>		
	<b>DIM 4</b>		
<i>STATIC</i>	<b>RED</b>	(0-255)	Combines individual colors
	<b>GREEN</b>		
	<b>BLUE</b>		
	<b>COOL</b>		
	<b>WARM</b>		
	<b>AMBE</b>		
<b>STRB</b>	(0-20)	Sets strobe frequency	
<i>SETTING</i> (5) (9) (10)	<b>COLOR</b>	<b>OFF</b>	Output is maximum when faders are at 255, but white is unbalanced
		<b>RGBTOW</b>	Output is set by <i>CALIB</i> > <i>RGBTOW</i> settings
		<b>UC</b>	Output matches that of previous versions
	<b>RESET</b>	<b>NO/YES</b>	Defaults fixture to factory settings

### References

- (1): Warm White
- (2): Cool White
- (3): Dimmer
- (4): Applies to White fixtures
- (5): Applies to RGB fixtures

- (6): Color Macros
- (7): Strobe
- (8): Dimmer Curve
- (9): Applies to RGBW fixtures
- (10): Applies to RGBWA fixtures

## DMX Values for White LED Fixtures

### VW

Channel	Function	Value	Percent/Setting
1	Warm White	000 ó 255	0~100%
2	Cool White /Amber	000 ó 255	0~100%

### VW + D

Channel	Function	Value	Percent/Setting
1	Dimmer	000 ó 255	0~100%
2	Warm White	000 ó 255	0~100%
3	Cool White / Amber	000 ó 255	0~100%

### ARC1

Channel	Function	Value	Percent/Setting
1	Cool White / Amber	000 ó 255	0~100%
2	Warm White	000 ó 255	0~100%
3	Warm White	000 ó 255	0~100%

### ARC1 + D

Channel	Function	Value	Percent/Setting
1	Dimmer	000 ó 255	0~100%
2	Cool White / Amber	000 ó 255	0~100%
3	Warm White	000 ó 255	0~100%
4	Warm White	000 ó 255	0~100%

### SOLID

Channel	Function	Value	Percent/Setting
1	Dimmer	000 ó 255	0~100%

**IMPORTANT:** Confirm the above DMX assignments with the fixture's manual.

## DMX Values for Full Color LED Fixtures

### ARC1

Channel	Function	Value	Percent/Setting
1	Red	000 ó 255	0~100%
2	Green	000 ó 255	0~100%
3	Blue	000 ó 255	0~100%

### ARC1 + D

Channel	Function	Value	Percent/Setting
1	Dimmer	000 ó 255	0~100%
2	Red	000 ó 255	0~100%
3	Green	000 ó 255	0~100%
4	Blue	000 ó 255	0~100%

### ARC2

Channel	Function	Value	Percent/Setting
1	Red	000 ó 255	0~100%
2	Green	000 ó 255	0~100%
3	Blue	000 ó 255	0~100%
4	White	000 ó 255	0~100%

### ARC2 + D

Channel	Function	Value	Percent/Setting
1	Dimmer	000 ó 255	0~100%
2	Red	000 ó 255	0~100%
3	Green	000 ó 255	0~100%
4	Blue	000 ó 255	0~100%
5	White	000 ó 255	0~100%

### ARC3

Channel	Function	Value	Percent/Setting
1	Red	000 ó 255	0~100%
2	Green	000 ó 255	0~100%
3	Blue	000 ó 255	0~100%
4	White	000 ó 255	0~100%
5	Amber	000 ó 255	0~100%

### ARC3+ D

Channel	Function	Value	Percent/Setting
1	Dimmer	000 ó 255	0~100%
2	Red	000 ó 255	0~100%
3	Green	000 ó 255	0~100%
4	Blue	000 ó 255	0~100%
5	White	000 ó 255	0~100%
6	Amber	000 ó 255	0~100%

**IMPORTANT:** Confirm the above DMX assignments with the fixture's manual.

**ARC FULL**

Channel	Function	Value	Percent/Setting
1	RGB Dimmer	000 ó 255	0~100%
2	Red	000 ó 255	0~100%
3	Green	000 ó 255	0~100%
4	Blue	000 ó 255	0~100%
5	Color Macros	000 ó 010	No function
		011 ó 035	Red 100% / Green Up / Blue 0%
		036 ó 060	Red Down / Green 100% / Blue 0%
		061 ó 085	Red 0% / Green 100% / Blue Up
		086 ó 110	Red 0% / Green Down / Blue 100%
		111 ó 135	Red Up / Green 0% / Blue 100%
		136 ó 160	Red 100% / Green 0% / Blue Down
		161 ó 185	Red 100% / Green Up / Blue Up
		186 ó 210	Red Down / Green Down / Blue 100%
		211 ó 215	White 1: 3,200 K
		216 ó 220	White 2: 3,400 K
		221 ó 225	White 3: 4,200 K
		226 ó 230	White 4: 4,900 K
		231 ó 235	White 5: 5,600 K
236 ó 240	White 6: 5,900 K		
241 ó 245	White 7: 6,500 K		
246 ó 250	White 8: 7,200 K		
251 ó 255	White 9:8,000 K		
6	Strobe	000 ó 005	No function
		006 ó 255	Slow~Fast

**SOLID**

Channel	Function	Value	Percent/Setting
1	Dimmer	000 ó 255	0~100%

**IMPORTANT:** Confirm the above DMX assignments with the fixture’s manual.

## 5. Technical Information

### ILUMINARC® Fixture Maintenance

To maintain optimum performance and minimize wear of any ILUMINARC®, the user should clean them frequently. Usage and environment are contributing factors in determining the cleaning frequency, especially for IP66 and IP67 rated fixtures. As a rule, the user should clean the fixture's glass surface at least twice a month. Dust build up reduces light output performance. Damp, smoky or particularly dirty surrounding can cause greater accumulation of dirt on the unit's glass surface.

To clean a fixture, follow the below recommendations:

- Turn the fixture(s) off
- Whenever possible, unplug the fixture from power.
- Wait until the fixture is cold.
- Use dry compressed air or a lens blower brush to remove dust particles collected on the glass surface.
- Clean the external glass surface with a mild solution of glass cleaner or isopropyl alcohol, and use a soft, lint free cotton cloth or a lens cleaning tissue to remove grease and grime.
- Clean all plastic surfaces, including LED lenses, with mild soapy water and use a soft, lint free cotton cloth. You could also use a lens cleaning tissue.
- Apply the cleaning solution directly to the cloth or tissue and drag any grease and grime to the outside of the glass surface.
- Gently polish the external glass surfaces until they are free of haze and lint.



Always dry the external glass surfaces carefully after cleaning them.



If you still experience technical problems after trying the solutions in the Troubleshooting Table, contact ILUMINARC® Technical Support.

### Product Repairs

ILUMINARC® strongly advises you against attempting any repairs to this product unless you are an authorized ILUMINARC® technician.

ILUMINARC® presents the information contained in the Troubleshooting Table as a guide only. In most cases, opening the product's housing will invalidate its warranty, unless there is a written indication on the contrary.

## Ilumicode V 2.2 Troubleshooting Guide

Symptom	Cause(s)	Action(s)
Fixture is powered but it does not light up	No Ilumicode connected	Connect Ilumicode to fixture. Fixture should light up during programming, but it will shut off after the timer kicks in.
	No DMX controller connected	Connect DMX controller and set faders to increase light output
	Static mode not configured	Configure the Static mode to leave the fixture running stand-alone. Fixture should stay on after configuring Static mode.
Ilumicode does not power up	No / Reversed batteries	Install two AA dry cells in the correct position
	Low battery charge	Change both AA dry cells
	Defective Ilumicode	Replace Ilumicode
Fixture does not change mode after configuration	Bad signal connection to fixture	See <i>DMX Signal Problems</i> below
	If using clips, wrong connection	Connect clips as per manual
	Defective fixture	Replace fixture
	Defective Ilumicode	Replace Ilumicode
Circuit breaker/fuse keeps tripping/blowing	Excessive circuit load	Check total load placed on the electrical circuit
	Short circuit along the power wires	Check for a short in the electrical wiring
Fixture does not power up	No power	Check for power on power outlet
	Loose or damaged power cord	Check power cord
	Faulty internal power supply	Replace internal power supply
Fixture does not respond to DMX	Wrong DMX addressing	Check Control Panel and unit addressing
	Damaged DMX cables	Check DMX cables
	Wrong polarity on the controller	Check polarity switch settings on the controller
	Loose DMX cables	Check cable connections
	Faulty DMX interface	Replace the DMX board
DMX signal problems	Non DMX cables	Use only DMX compatible cables
	Bouncing signals	Install terminator as suggested
	Long cable / low level signal	Install an optically coupled DMX splitter right after the fixture with the strong signal
	Too many fixtures	Install an optically coupled DMX splitter after unit #32 or before
	Interference from AC wires	Keep DMX cables separated from power cables or fluorescent/black lights
	Humidity in the cables or connection boxes	Make sure that the buried conduit and connection boxes are dry. If not using conduit, make sure that you are using cable approved for exterior or underground installation.

## LED Disclaimer

### ***LED Life***

ILUMINARC® rates LED lifetime based on lumen depreciation of 70% of the original output, with data provided by the manufacturer of the LED. Data from the manufacturer of the LED are not independently verified or measured by ILUMINARC®. When the fixture is operating in optimal environmental conditions, the LED lifetime is rated to be 50,000 to 70,000 hours by the LED manufacturer.

### ***LED Binning***

LED manufacturers sort LEDs into “bins”, based on variances in color, output intensity and the frequency at which the semiconductor operates. ILUMINARC® strives to hold its LED manufacturers to the highest standards of binning to optimize consistency in output from fixture to fixture. However, the availability of a single bin cannot be guaranteed. With that in mind, ILUMINARC® has developed a rigorous control system to seek the best achievable consistency in color and output.

### ***Color Rendering Index (CRI)***

CRI is an industry standard method to compare properties of different types of light sources. There are known limitations and inconsistencies related to CRI. Results may vary depending on the environmental factors involved. For this reason, the US Department of Energy (DOE) states that CRI should be considered as one point of reference among others in evaluating white LED products and systems.

The following is an excerpt of recommendations from the DOE:

- 1) Identify the visual tasks to be performed under the light source. If color fidelity under different light sources is critically important (for example in a space where color or fabric comparisons are made under both daylight and electric lighting), CRI values may be a useful metric for rating LED products.
- 2) CRI may be compared only for light sources of equal CCT. This applies to all light sources, not only to LEDs. Also, differences in CRI values of less than five points are not significant, e.g., light sources with 80 and 84 CRI are essentially the same.
- 3) If color appearance is more important than color fidelity, do not exclude white light LEDs solely on the basis of relatively low CRI values. Some LED products with CRIs as low as 25 still produce visually pleasing white light.
- 4) Evaluate LED systems in person and, if possible, on-site when color fidelity or color appearance are important issues.

**Source: DOE publication: PNNL-SA-56891, January 2008**

## Returns Procedure

The user must send the merchandise prepaid, in the original box, and with its original packing and accessories. ILUMINARC® will not issue call tags.

Call ILUMINARC® and request a Return Merchandise Authorization Number (RMA #) before shipping the fixture. Be prepared to provide the model number, serial number and a brief description of the cause for the return.



DO NOT write the RMA # directly on the box. Instead, write it on a properly affixed label.

The user must clearly label the package with a Return Merchandise Authorization Number (RMA #). ILUMINARC® will refuse any product returned without an RMA #.

Once you receive the RMA #, please include the following information on a piece of paper inside the box:

- Your name
- Your address
- Your phone number
- The RMA #
- A brief description of the problem

Be sure to pack the fixture properly. Any shipping damage resulting from inadequate packaging will be the customer's responsibility. As a suggestion, proper UPS packing or double-boxing is always a safe method to use.



ILUMINARC® reserves the right to use its own discretion to repair or replace returned product(s).

## Claims

The carrier is responsible for any damage incurred during shipping. Therefore, if the received merchandise appears to have damages caused during shipping, the customer must submit the damage report and any related claims with the carrier, not ILUMINARC®. The customer must submit the report upon reception of the damaged merchandise. Failure to do so in a timely manner may invalidate the customer's claim with the carrier.

For other issues such as missing components or parts, damage not related to shipping, or concealed damage, the customer must make claims to ILUMINARC® within seven (7) days of receiving the merchandise.



Always keep the original box and all packaging material as you will need those to ship the unit back to ILUMINARC®

## Contact Us

### World Wide

#### *General Information*

ILUMINARC®  
3000 North 29th Court  
Hollywood, FL 33020  
Voice: (954) 929-1115  
Fax: (954) 929-5560  
Toll free: (800) 762-1084

#### *Technical Support*

Voice: (954) 929-1115 (Press 4)  
Fax: (954) 929-5560 (Attention: Service)

#### *World Wide Web*

[www.iluminarc.com](http://www.iluminarc.com)

NOTES

## Technical Specifications

### WEIGHT & DIMENSIONS

Length..... 4.3 in (110 mm)  
Width ..... 2.8 in (70 mm)  
Height ..... 1 in (28)  
Weight ..... 0.45 lbs (0.2 kg)

### ELECTRICAL SPECIFICATIONS

Power source..... 2 X AA batteries (included)

### ORDERING DETAILS

Ilumicode ..... 44444001

### WARRANTY INFORMATION

Warranty ..... 2-year limited warranty



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**ILUMINARC®**

3000 N 29th Ct,  
Hollywood, FL 33020 U.S.A.

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FAX: (954) 929-5560

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**ILUMINARC®**