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# How to Design your Fiber Optic Project

## WARRANTY

Each Fiberstars product has its own warranty, terms and conditions. Please refer to the specific warranty included with the product for more details.

## INSTALLATION HINTS: HOW TO DESIGN YOUR FIBER OPTIC PROJECT

**1. Choose an Illuminator.** - See pages 6-8.

**2. Choose a Fiber Kit For the Pool.**

The fiber sizes we recommend to light a pool are: B225, B300 or multiple runs of B75, B100, B150. See the examples on pages 3-4. For help with light placement, FAX a copy of your pool plan to us, using the pool plan fax on page 5. Our fax number is (888) 704-2292. Fiberstars' Representatives can also help you with proper placement of your light kits. Either way, we will help you select the proper size fiber optics for your pool.

**3. Choose a Fiber Kit For Spa Lighting.**

Spa light kits are available in 50, 75, and 100 strands and in several lengths. Choose your kit based on brightness level desired and fiber run distance.

**4. Water Features.** - See pages 24-46 for all Color Light Stream™ and fiber optic water features.

**Please read and follow the install manuals included with the fiber optic illuminator before you begin.**

### **Illuminator Placement for Pool Lighting**

In most cases, it is recommended to place the Illuminator at the end of the pool on the short wall at the deep end. The Illuminator should be placed a minimum of 5 ft. and a maximum of 15 ft. from the main pool lens location. This will allow for maximum brightness and lowest cost. For multiple light systems, please consult with the Fiberstars Customer Support Department or your local Fiberstars Sales Representative.

### **Fiber optic Water Feature Lighting**

If using multiple units, it is very important that all fiber lengths are the same. Example: If you have 1 unit at 20' and another at 40', both should have 40' of fiber. This will balance the light output to both units. Always use the shortest run possible for maximum brightness.

### **Illuminator Fiber Capacity**

You can operate numerous lights from the Fiberstars system, but you must stay under \*450 fibers for the 6004 and 6004-AS Illuminators, and \*400 for the 2004 and 2004-AS Illuminators. Listed below are the numbers of fiber in each light. You can mix and match these lights into one illuminator system as long as you **do not exceed the maximum amount of fibers.**

**\*NOTE: When using our new Constant Color System (CCS), you may use up to 600 fibers with the 6000 series Illuminators and 450 fibers with the 2000 series Illuminators. See page 10 for details.**

**Darker pool surfaces have substantially less light reflection than white surfaces, requiring more fiber lights. Please fax your plan to us for light placement, a list of materials and specify type of surface being used. See page 3 for the fiber sizing chart.**

<u>Type of Light</u>	<u>Part#</u>	<u>#Fibers</u>	<u>Color of tubing</u>	<u>Type of Light</u>	<u>Part#</u>	<u>#Fibers</u>	<u>Color of tubing</u>
T.F.S.-Total Fiber System	B375	375	Black	Accessory/Spa Light	B25	25	Black
Ultra Duty Fiber Glo	B300	300	Black	Accessory Accent Light	B12	12	Black
Heavy Duty Fiber Glo	B225	225	Black	30 Strand Perimeter	FSSB/FSCA	60*	Frosted, flat back
Fiber Glo	B150	150	Black	42 Strand Cabled Flat	FSSB-CABL-42	84*	Frosted, flat back
Accessory Pool/Spa Light	B100	100	Black	42 Strand Cabled Round	CABL-42	84*	Round
Accessory Pool/Spa Light	B75	75	Black	Fiberstix™ Fiber	FSPT-3	3	Black
Accessory Pool/Spa Light	B50	50	Black				

*\*Perimeter fiber has either 30 or 42 strands of fiber, but both ends connect at the optical port so it counts as 60 or 84 fibers, respectively.*

# Fiber Sizing Chart



## FIBER SIZING CHART

\* Fiber Sizing chart assumes fiber length to pool light is less than 15'

### Pools

Plaster Color	Pool Length					
	Up to 28'	Up to 32'	Up to 34'	Up to 36'	Up to 40'	Up to 45'
White	225	300	300	2 x 300*	2 x 300*	2 x 300*
Light/Medium Color	225	300	300	2 x 300*	2 x 300*	2 x 300*
Dark Color	300	2 x 300*	2 x 300*	2 x 300*	2 x 300*	3 x 300*
Black (White light box only!)	300	2 x 300*	2 x 300*			
*Requires 2 AutoSynch (AS) Illuminators						
Pebble Finish Color	Fiber Strand Size					
Light/Medium Color	300	300	2 x 300*	2 x 300*	2 x 300*	2 x 300*
Dark Color	300	2 x 300*	2 x 300*	2 x 300*	2 x 300*	2 x 300*
Black (Not Recommended!)						
*Requires 2 AutoSynch (AS) Illuminators						
Vinyl Liner Color	Fiber Strand Size					
Light/Med. Blue and Patterns	225	300	300	2 x 300*	2 x 300*	2 x 300*
Dark Blue and Patterns	300	2 x 300*	2 x 300*	2 x 300*	2 x 300*	
Black (Not Recommended!)						
*Requires 2 AutoSynch (AS) Illuminators						
Fiberglass/Acrylic Color	Fiber Strand Size					
White/Light Blue	225	300	300	300	2 x 300*	2 x 300*
Medium Colors	300	300	300	2 x 300*	2 x 300*	2 x 300*
*Requires 2 AutoSynch (AS) Illuminators						

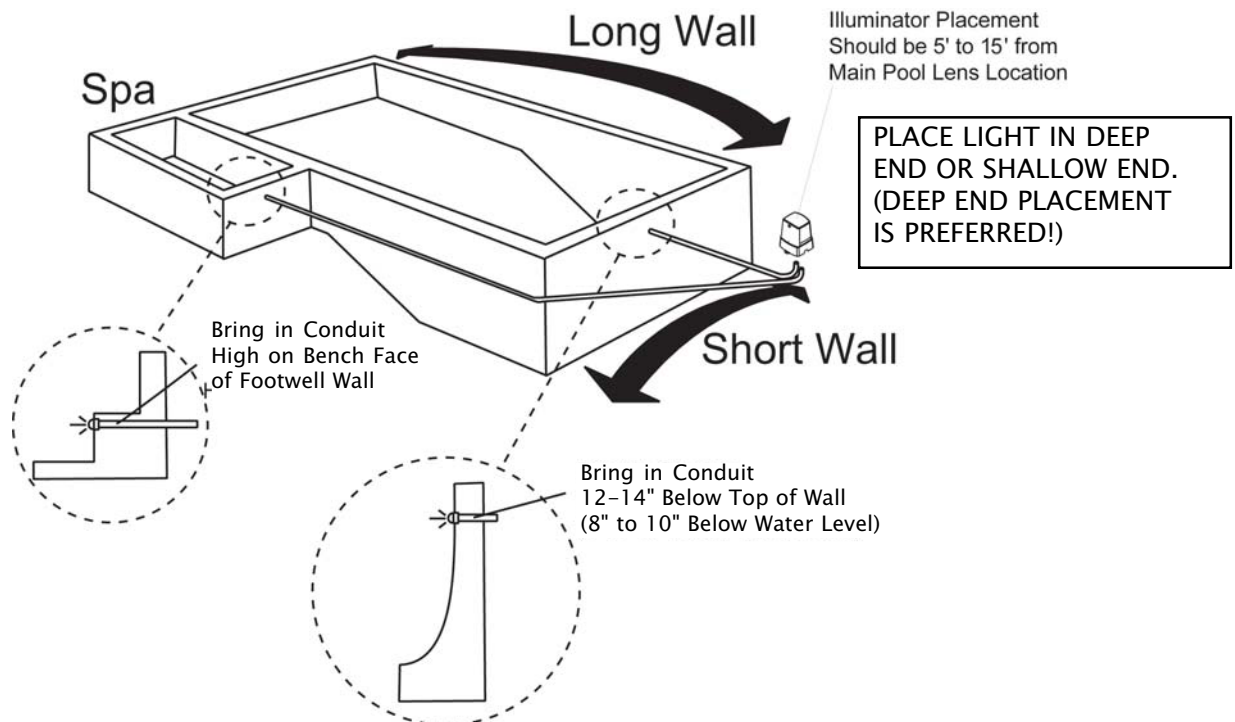
**Spas - If the fiber length exceeds 30', increase fiber count up to the next size**

Spa Color	Fiber Strand Size
White and Light Colors	50 / 75
Medium to Dark Colors	75 / 100
Black	100 / 150

\*This chart is to be used as a guide ONLY. The individual brightness requirements of the pool owner should be considered.

## PREFERRED LENS AND CONDUIT PLACEMENT FOR SINGLE POOL/SPA LOCATION

EXAMPLE:





# Building A Backyard Environment

## BUILDING A BACKYARD ENVIRONMENT

### 16 x 32 White Plaster Pool

**Lighting:**

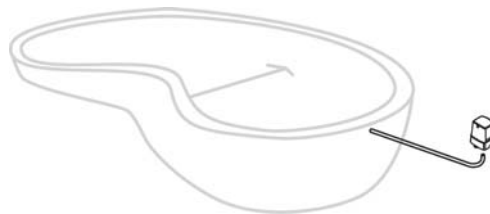
Fiber Optic Pool Light Only

**Material:**

- 1 Illuminator
- 1 Pool Fiber Kit
- 1 Lens Housing

**Benefit:**

Safe, Colorful Underwater Lighting



### W/ Raised Bond Beam

**Lighting:**

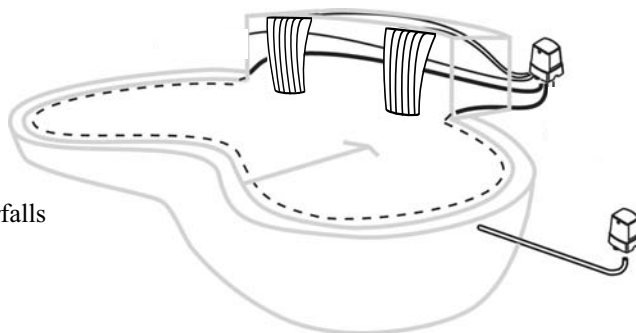
- Fiber Optic Pool Light
- + Perimeter Lighting
- + Fiberstars Lighted Rain Waterfalls

**Material:**

- 2 Illuminators
- 1 Pool Fiber Kit
- 1 Lens Housing
- 1 Perimeter Fiber Kit
- 2 Lighted Rain Waterfalls

**Benefit:**

- Safe, Colorful Underwater Lighting
- plus** Perimeter Fiber to Frame the Picture-Perfect Pool
- plus** Beautiful Lighted Rain Waterfalls
- plus** Contrasting Color Effects



### 20 x 40 Pebble-Finish Gunite Pool with Spa

**Lighting:**

- Fiber Optic Pool Lights
- Spa Light

**Material:**

- 2 6004-AS (Auto Synch) Illuminators
- 2 Pool Fiber Kits
- 1 Spa Fiber Kit
- 3 Lens Housings

**Benefit**

- Safe, Colorful Underwater Lighting
- Auto Synch Illuminators Change Colors at the Same Rate



Synchronized illuminators are only necessary when lighting one body of water with two or more illuminators. Use a separate illuminator for spa and TIP feature lighting for a great color contrast effect!

### 18 X 34 Vinyl Liner with L

**Lighting:**

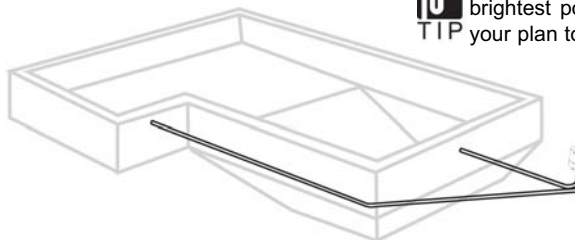
Fiber Optic Pool Lights

**Material:**

- 1 Illuminator
- 1 Pool Fiber Kit
- 1 Supplemental Fiber Kit
- 2 Lens Housings

**Benefit:**

Safe, Colorful Underwater Lighting



Fiberstars offers a FAX-back service for all pool builders to make sure you have the brightest pool at the lowest cost. Just fax TIP your plan to (888) 704-2292. See Page 5.

### 20 x 40 Fiber Optic Water Feature Lighting ONLY

**Lighting:**

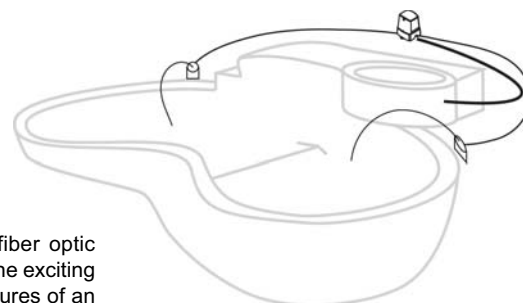
- Fiber Optic Spa Light
- plus** Fiberstars Lighted Laminars

**Material:**

- 1 Illuminator
- 1 Spa Fiber Kit
- 1 Lens Housing
- 2 Fiberstars Lighted Laminars

**Benefit:**

- Safe, Colorful Water Feature Lighting
- plus** Beautifully Lighted Laminar Jets



This is a beautiful look with no fiber optic pool light. It is a great way to add the exciting color of fiber optics to just the features of an otherwise dark surfaced pool.

# Pool Plan Fax



## POOL PLAN FAX



To: Pool Design Department  
 Fax: 888-704-2292

Date:  
 Pages:

**In order to process your pool plan please provide the following information:**

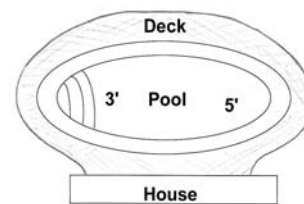
*Company Name:	
Your Name:	
Address:	
Fax/Phone number:	
E-Mail Address:	
Cell Phone Number:	

**MUST HAVE A PLAN/DRAWING**

Is this drawing to scale? \_\_\_\_\_  
 If so, what scale? \_\_\_\_\_  
 What is the Max Length (pool)? \_\_\_\_\_ Max Width (Pool)? \_\_\_\_\_ Spa Size? \_\_\_\_\_  
 (Please have measurements in feet or meters)  
 What are the depths? \_\_\_\_\_  
 What color and type of surface is the pool? \_\_\_\_\_

Show house location on Plan/Drawing  
 Please have the Decking layout on Plan/Drawing

**Example**



What features on the pool/spa do you want to light? \_\_\_\_\_  
 Light up the pool water? \_\_\_\_\_  
 Light up the spa water? \_\_\_\_\_  
 Perimeter band? \_\_\_\_\_  
 Waterfalls? \_\_\_\_\_  
 Water Features? \_\_\_\_\_  
 Type of water feature - LED or Fiber optic? \_\_\_\_\_

**Desired lighting level:**

- Mood**       **Standard**       **"Make it Shine"** (discussion by phone required)

**FYI:** A Star Floor application is not a design application. It is your preference on how many Star Floor kits you would like to use. It is recommended that you do not create patterns. If one fiber were to break upon installation, it would be highly noticeable where as in a random layout it would not.

Upon receipt of this information, we ask for 24 to 48 hour lead-time.

Thank you.  
 Design Department  
**Fax back to 888-704-2292**



# 6004 Series Illuminator



**6004 ILLUMINATOR**

## 6004 / 6004-AS SERIES ILLUMINATORS (METAL HALIDE)

**4 position color wheel: white - blue - green - magenta**

### Specifications:

#### Construction

Enclosure: High-Impact Outdoor Grade Polycarbonate

Ventilation: 110 ft<sup>3</sup> /min.

Acoustic Rating: 50dB (A)

Weight: 20 lbs.

Maximum Fiber Capacity: 450 strand capacity

\*Add our optional Constant Color System to increase to 600 strands (see pages 9-10)

#### Electrical

Voltage Requirement: 120 VAC, 60 Hz

Power Consumption: 200 Watts max

Start Current Load: 4.4 amps

Run Current Load: 1.8 amps

#### Lamp

Type: Metal-Halide H.I.D., Proprietary Design

Life: 6000 Hours Average

Cool Down/Restrike Period: 2-3 minutes

Replacement Lamp Assembly No.: Y20-6000

Color Temperature: 4300° K

#### Options

\*Wireless Pool Controls (WPC).

**6004 / 6004-AS can be used with WPC1, WPC2 and WPC3 (See pgs 12-20)**

For multiple 6004-AS, use WPC controls, not RM6000

\***Internal wireless Remote Control, see RM6000. For single non-AS Illuminators only.**

\***Pool Temperature Monitor (PTM)**

Wireless Pool Temp read out inside the home! (See page 20)



Part #	Description	List \$
6004	Metal-Halide Illuminator, 4-Position Color Wheel, 450 Port Capacity	\$713.55
6004-AS	Metal-Halide Illuminator, 4-Pos Color Wheel, 450 Port Capacity AUTO SYNCH	\$856.75
<b>*All 6004-AS units do not require communication cables and can be synchronized with all Jazz Light™ AS Units*</b>		
RM-6000	Internal Wireless Remote Control System for 6004 Illuminator	\$193.77

# 2004 Series Illuminator



**2004 ILLUMINATOR**

## 2004 / 2004-AS SERIES ILLUMINATORS (QUARTZ HALOGEN)

**4 position color wheel: white - blue - green - magenta**

### Specifications:

#### Construction

Enclosure: High-Impact Outdoor Grade Polycarbonate

Ventilation: 110 ft<sup>3</sup>/min.

Acoustic Rating: 50dB (A)

Weight: 15 lbs.

Maximum Fiber Capacity: 400 strand capacity

\*Add our optional Constant Color System to increase to 450 strands (See pages 9-10)

**2004-AS Auto Synch units have a 3 wire single switch operation.**

#### Electrical

Voltage Requirement: 120 VAC, 60 Hz

Power Consumption: 250 Watts Max

Current Load: 2.0 amps

#### Lamp

Type: Quartz-Halogen, Proprietary Design

Life: 400-700 Hours Average

Replacement Lamp Number: HI-111

Color Temperature: 2800° K

#### Options

**\*Wireless Pool Controls (WPC).**

**2004 and 2004-AS can be used with WPC1, WPC2 and WPC3**

**WPC-04 can only be used with 2004-AS or any other one button lighting fixture.**

**(See pages 12-20)**

For multiple 2004-AS, use WPC controls, not RM1

**\*Internal wireless remote see RM1**

(For use on single units only. NOT for synchronized units.)

**\*Pool Temperature Monitor (PTM)**

Wireless Pool Temp read out inside the home! (See page 20)



Part #	Description	List \$
2004	Quartz-Halogen Illuminator, 4-Position Color Wheel, 400 Port Capacity	\$474.90
2004-AS	Quartz-Halogen Illuminator, 4-Pos Color Wheel, 400 Port Capacity AUTO SYNCH -Has 3 wire installation, 1 control switch. *All 2004-AS units do not require communication cables*	\$618.09
RM1	Remote Control - Wireless for 2004. NOT for synchronized units.	\$193.77



# TFS / 409 Series Illuminator



## TOTAL FIBER SYSTEM (T.F.S.)

Now you can create the brilliant color magic of fiber optics for your pool with a single purchase! Our Total Fiber System (T.F.S.) features the 6004 multi-color Illuminator. You also receive 12' or 18' of our 375 Strand fiber - the industry's largest mainpool bundle. All of this AND MORE come in one box to make your fiber purchasing much easier!

### Includes

6004 Series Illuminator - Metal Halide 4-Position Color Wheel

**Specifications of 6004 Illuminator: See Page 6.**

Standard Port Tip Assembly

12' or 18' of 375 Strand Fiber

Gunite, Vinyl and Fiberglass Wall Fitting (All included)

Installation Base

Fiber Optic Port Assembly

Installation Manual

Owner's Manual

**\*Wireless Remote Sold Separately**

**\*Constant Color port tips (CCS) can be purchased separately. (See pgs 9-10)**



**Compatible with Fiberstars' WPC controls. (See pages 12-20)**

Part #	Description	List \$
TFS-12	Complete One Box System featuring 4-Pos. Color Wheel, standard port tips and 12' of 375 strand fiber	\$1,075.35
TFS-18	Complete One Box System featuring 4-Pos. Color Wheel, standard port tips and 18' of 375 strand fiber (See above for complete package details.)	\$1,183.34

### Options

RM-6000	Wireless Remote Control System for 6004 Illuminator	\$193.77
WPC	Wireless Pool Controls - See pages 12-20	



## 409 SERIES ILLUMINATOR (SPECIAL ORDER ONLY!)

This commercial-grade, 150-Watt metal halide illuminator is designed for added brightness. Great for use on Fiberstars Lighted Laminars in high ambient light areas. (Allow 2 - 3 weeks for delivery.)

### Lamp

Type: Metal-Halide H.I.D., Proprietary Design

Life: 6000 Hours Average

Replacement Lamp Number: HID 440

### Includes

Complete Fiber Optic Illuminator

Fiber Optic Port Assembly

Installation and Owner's Manual

### Miscellaneous

Fiber Capacity: 400 strands

UL listed for wet locations

For Master / Slave units, it is required to run 22 AWG communication cable between the units

### Options

**\*Wireless Pool Controls (WPC)**  
(See pages 12-20)

**\*Pool Temperature Monitor (PTM)**

Wireless Pool Temp read out inside the home! (See page 20)



Part #	Description	List \$
409-W	409 Series, Commercial-Grade Illuminator - Metal Halide White Light Only	\$1,336.30
409-C-4	409 Series, Commercial-Grade Illuminator - Metal-Halide 4-Position Color Wheel	\$1,411.82
409-C4M	409 Series, Commercial-Grade Illuminator - Metal-Halide 4-Position Color Wheel, Master Unit	\$1,728.27
409-C4S	409 Series, Commercial-Grade Illuminator - Metal-Halide 4-Position Color Wheel, Slave Unit	\$1,679.59
409-C8	409 Series, Commercial-Grade Illuminator - Metal-Halide 8-Position Color Wheel	\$1,460.34
409-C8M	409 Series, Commercial-Grade Illuminator - Metal-Halide 8-Position Color Wheel, Master Unit	\$1,922.98
409-C8S	409 Series, Commercial-Grade Illuminator - Metal-Halide 8-Position Color Wheel, Slave Unit	\$1,873.64
HID-440	Replacement metal-halide Lamp	\$359.04