

**PHILIPS**

**VARI\*LITE**



**VL6000 Beam Luminaire  
Users Manual**

All other brand or product names which may be mentioned in this manual are trademarks or registered trademarks of their respective companies or organizations.

Philips Entertainment Lighting reserves the right to change details of design, materials and finishes. Information, graphics, drawings, specifications, etc. are subject to change without notice. Some features may be the result of future software updates. Philips VARI\***LITE** automated lighting equipment is made in the USA.

Please check [www.philips.com/entertainmentlighting](http://www.philips.com/entertainmentlighting) for latest version. Philips Entertainment Lighting assumes no responsibility or liability for any errors or inaccuracies that may appear in this manual. All information and graphics are property of Philips Entertainment Lighting, a Philips group company, 10911 Petal Street Dallas, Texas 75238 USA.

Version as of: **27 April 2017**

Part number: **02.9708.0002**

**VL6000 Beam Luminaire User's Manual**

©2014 - 2017 Philips Entertainment Lighting, a Philips Group company. All Rights Reserved.

## **How To Obtain Warranty Service**

A copy of the Philips Entertainment Lighting Limited Warranty was included in the shipping package for this VARI\*LITE product.

To obtain warranty service, please contact customer service at 1-877-VARI-LITE (1-877-827-4548), +1-214-647-7880, or [entertainment.service@philips.com](mailto:entertainment.service@philips.com) and request a Return Material Authorization (RMA) for warranty service. You will need to provide the model and serial number of the item being returned, a description of the problem or failure and the name of the registered user or organization. If available, you should have your sales invoice to establish the date of sale as the beginning of the warranty period.

Once you obtain the RMA, pack the unit in a secure shipping container or in its original packing box. Go to the Philips Entertainment Lighting web site [www.philips.com/entertainmentlighting](http://www.philips.com/entertainmentlighting), click on the Support link, and download the RMA form. Put the completed RMA form in shipping container along with a copy of your invoice (if available). Write the RMA number legibly on or near the shipping address label and return the unit, freight prepaid to:

**Philips Entertainment Lighting**  
**Attention: Warranty Service (RMA# \_\_\_\_\_)**  
**10911 Petal Street**  
**Dallas, Texas 75238 USA**

As stated in the warranty, it is required that the shipment be insured and FOB our service center.

## Compliance Notice

**FCC** This equipment has been tested and found to comply with the limits for a Class A digital device pursuant to Part 15 of FCC Rules. These limits are designed to provide reasonable protection against harmful interference when this equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with Philips Entertainment Lighting system, service, and safety guidelines, may cause harmful interference to radio communications.

As tested under this standard:

**FCC 47CFR 15B cIA\*CEI**

Issued:2009/10/01 Title 47 CFR Part 15 Subpart B Unintentional Radiators Class A

Operation of this equipment in a residential area is likely to cause harmful interference, in which case the user will be required to correct the interference at his/her own expense.

### **CE** **EC Declaration of Conformity**

We, Philips Entertainment Lighting B.V., 10911 Petal Street, Dallas, Texas 75238, declare under our responsibility for the products contained herein are in conformity with the essential requirements of the following European Directives and harmonized standards:

**Low Voltage Director (LVD), 2006/95/EC**

EN 60589-2-17:1984+A1:1987+A2:1990 used in conjunction with 60598-1:2008/A11:2009

**Electromagnetic Compatibility Directive (EMC), 2004//108/EC**

EN 55022:2010, EN55024:2010

## Safety Notice

It is extremely important to read ALL safety information and instructions provided in this manual and any accompanying documentation before installing and operating the products described herein. Heed all cautions and warnings during installation and use of this product.

Safety symbols used throughout this manual are as follows:



**CAUTION** advising of potential damage to product.



**WARNING** advising of potential injury or death to persons.

GENERAL INFORMATION PERTAINING TO PROTECTION AGAINST ELECTRICAL SHOCK, FIRE, EXPOSURE TO EXCESSIVE UV RADIATION, AND INJURY TO PERSONS CAN BE FOUND BELOW.

### **WARNING:**

#### **INSTRUCTIONS FOR CONTINUED PROTECTION AGAINST FIRE**

1. VARI\*LITE luminaires have been designed for use with specific lamp types. The VL6000 Beam Luminaire requires a certain type of lamp (see [“Replacement Items/Accessories”](#) on page 9 for all lamp types). Installing another type or unapproved lamp may be hazardous.
2. Luminaires may be mounted on any type of surface as long as mounting instructions are followed. See instructions detailed in this manual.
3. Note distance requirement from combustible materials or illuminated objects for VARI\*LITE luminaires.

### **WARNING:**

#### **INSTRUCTIONS FOR CONTINUED PROTECTION AGAINST ELECTRICAL SHOCK**

1. VARI\*LITE luminaires are designed for dry locations only. Exposure to rain or moisture may damage luminaire.
2. Disconnect power before servicing any VARI\*LITE equipment.
3. Servicing to be performed by qualified personnel only.

**WARNING:**

**INSTRUCTIONS FOR CONTINUED PROTECTION AGAINST EXCESSIVE EXPOSURE TO UV RADIATION**

1. Many VARI\*LITE luminaires use a lamp that produces UV radiation. DO NOT look directly at lamp.
2. It is hazardous to operate luminaires without lens or shield. Shields, lenses, or ultraviolet screens shall be changed if they have become visibly damaged to such an extent that their effectiveness is impaired. For example, by cracks or deep scratches.

**WARNING:**

**INSTRUCTIONS FOR PROTECTION AGAINST INJURY TO PERSONS**

1. Exterior surfaces of the luminaire will be hot during operation. Use appropriate safety equipment (gloves, eye protection, etc.) when handling and adjusting hot equipment and components.
2. Luminaires will have a hot lamp when operating. Disconnect power and allow lamp to cool before replacing.
3. Arc lamps emit ultraviolet radiation which can cause serious skin burn and eye inflammation. Additionally, arc lamps operate under high pressure at very high temperatures. Should the lamp break, there can exist a danger of personal injury and/or fire from broken lamp particles being discharged.
4. Wear eye protection when relamping.
5. Appropriate safety equipment (gloves, eye protection) should be used when handling damaged lamps.
6. If lamp is touched with bare hands, clean lamp with denatured alcohol and wipe with lint-free cloth before installing or powering up the luminaire.
7. The lamp shall be changed if it has become damaged or thermally deformed.

**WARNING:**

**RF INTERFERENCE**

1. This is a Class A product. In a domestic environment this product may cause radio interference, in which case, the user may be required to take adequate measures.

## Sicherheitshinweise

Es ist äußerst wichtig, ALLE Sicherheitsinformationen und -hinweise in diesem Handbuch und dem beiliegenden Informationsmaterial zu lesen, bevor Sie die hierin beschriebenen Produkte installieren bzw. bedienen. Halten Sie bei der Installation und dem Einsatz dieses Produkts alle Warnhinweise und Vorsichtsmaßnahmen ein.

Folgende Sicherheitssymbole werden in diesem Handbuch verwendet:



**VORSICHT** - weist auf möglichen Produktschaden hin.



**WARNUNG** - weist auf mögliche Körperverletzung und Lebensbedrohung hin.

NACHSTEHEND FINDEN SIE ALLGEMEINE HINWEISE ÜBER SICHERHEITSVORKEHRUNGEN GEGEN ELEKTROSCHOCK, FEUER, ÜBERHÖHTE UV-STRAHLUNG UND KÖRPERVERLETZUNGEN.

### **WARNUNG:**

#### **HINWEISE ZUM FEUERSCHUTZ**

1. VARI\*LITE-Scheinwerfer sind ausschließlich für den Einsatz mit bestimmten Lampentyps. Achten Sie auf den Lampentyp, bevor Sie die jeweiligen Lampen ersetzen. Die Installation eines anderen Lampentyps kann gefährlich sein.
2. Scheinwerfer können auf jeder beliebigen Oberfläche montiert werden, solange Sie die Montageanweisungen befolgen. Detaillierte Hinweise finden Sie in diesem Handbuch.
3. Beachten Sie die Einhaltung des erforderlichen Sicherheitsabstandes der VARI\*LITE-Scheinwerfer von brennbarem Material oder beleuchteten Objekten.

### **WARNUNG:**

#### **HINWEISE ZUM SCHUTZ GEGEN ELEKTROSCHOCK**

1. VARI\*LITE-Scheinwerfer eignen sich ausschließlich für trockene Standorte. Regen oder Feuchtigkeit können die Scheinwerfer beschädigen.
2. Unterbrechen Sie die Stromzufuhr, bevor Sie mit der Arbeit an VARI\*LITE-Geräten beginnen.
3. Die Geräte sollten nur von qualifiziertem Personal gewartet werden.

**WARNUNG:**

**HINWEISE ZUM SCHUTZ GEGEN ÜBERHÖHTE UV-STRAHLUNG**

1. Viele VARI\*LITE-Scheinwerfer verwenden die Lampentyp, der UV-Strahlen abgibt. **SCHAUEN SIE NICHT** direkt in die Lampe.
2. Es ist gefährlich, Leuchten ohne Linsen oder Blenden zu bedienen. Blenden, Linsen oder Ultraviolettscirme müssen ausgetauscht werden, sofern deren Schutzwirkung durch sichtbare Beschädigung (z. B. Sprünge oder Schrammen) eingeschränkt ist.

**WARNUNG:**

**HINWEISE ZUM SCHUTZ GEGEN KÖRPERVERLETZUNGEN**

1. Bei Betrieb sind die Außenflächen der Scheinwerfer heiß. Verwenden Sie bei der Bedienung von aufgeheizter Apparatur die jeweils geeignete Sicherheitsausrüstung (Handschuhe, Augenschutz etc.).
2. Bei Betrieb der Scheinwerfer ist die Lampe heiß. Unterbrechen Sie die Stromzufuhr und lassen Sie die Lampe abkühlen, wenn Sie diese austauschen.
3. Bogenlampen senden ultraviolette Strahlen aus, die Hautverbrennungen und Augenentzündungen verursachen können. Der Betrieb von Bogenlampen erfolgt unter Hochdruck und bei hohen Temperaturen. Sollte die Lampe zerbrechen, besteht die Gefahr von Körperverletzung bzw. von Feuer, das von Lampenteilen ausgelöst werden kann.
4. Tragen Sie beim Austausch der Lampen einen Augenschutz.
5. Die geeignete Sicherheitsausrüstung (Handschuhe, Augenschutz) sollte beim Umgang mit beschädigten Lampen verwendet werden.
6. Wenn die Lampe mit bloßen Händen berührt wird, reinigen Sie sie mit denaturiertem Alkohol und einem flusenfreien Tuch, bevor Sie die Scheinwerfer installieren oder in Betrieb nehmen.
7. Wenn die Lampe beschädigt oder durch Hitzeeinwirkung deformiert ist, muß diese ausgetauscht werden.

**WARNUNG:**

**HF-INTERFERENZ**

1. Es handelt sich um ein Produkt der Klasse A. In einer Wohnumgebung kann das Produkt Hochfrequenzstörungen verursachen. In diesem Fall müssen eventuell geeignete Maßnahmen getroffen werden.



## Notes de sécurité

Avant de procéder à l'installation des produits décrits dans ce guide et de les mettre en marche, il est extrêmement important de lire TOUS les renseignements et TOUTES les directives de sécurité contenues dans ce guide ainsi que toute documentation jointe. Tenir compte de tous les avertissements et suivre toutes les précautions pendant l'installation et l'utilisation de cet appareil.

Les symboles de sécurité utilisés dans ce guide sont les suivants :



**ATTENTION** Ce symbole annonce que l'appareil risque d'être endommagé.



**AVERTISSEMENT** Ce symbole annonce qu'il y a risque d'accident grave ou même fatal.

CETTE SECTION CONTIENT DES INFORMATIONS GÉNÉRALES POUR SE PROTÉGER CONTRE LES DÉCHARGES ÉLECTRIQUES, LES INCENDIES, L'EXPOSITION EXCESSIVE AUX RAYONS UV ET TOUT AUTRE ACCIDENT POUVANT ENTRAÎNER DES BLESSURES.

### AVERTISSEMENT:

#### DIRECTIVES POUR SE PROTÉGER CONTRE LES INCENDIES

1. Les luminaires VARI\*LITE ont été conçus pour être utilisés uniquement avec certaines type de lampes. Vérifier le type de lampe avant de remplacer les lampes. L'installation d'un autre type de lampe peut poser un danger.
2. Les luminaires peuvent être fixés sur tout type de surface tant que les directives de montage sont respectées. Voir les explications détaillées dans ce guide.
3. Vérifier la distance à respecter entre les matériaux combustibles ou les objets illuminés et les luminaires VARI\*LITE.

### AVERTISSEMENT:

#### DIRECTIVES POUR SE PROTÉGER CONTRE LES DÉCHARGES ÉLECTRIQUES

1. Les luminaires VARI\*LITE sont conçus pour une utilisation au sec uniquement. Une exposition à la pluie et à l'humidité risque d'endommager le luminaire.
2. Débrancher l'appareil avant de procéder à la révision de tout matériel VARI\*LITE.
3. Les révisions doivent être effectuées uniquement par des personnes qualifiées.

**AVERTISSEMENT:**

**DIRECTIVES POUR SE PROTÉGER CONTRE UNE EXPOSITION EXCESSIVE AUX RAYONS UV**

1. Plusieurs luminaires VARI\*LITE utilisent une lampe qui produit des rayons UV. NE PAS fixer son regard sur la lampe.
2. L'utilisation des luminaires sans lentille ou blindage pose des risques. Tous blindages, lentilles ou écrans ultraviolet visiblement endommagés au point que leur efficacité en est affectée doivent être remplacés, par exemple s'il y a des fissures ou de profondes rayures.

**AVERTISSEMENT:**

**DIRECTIVES POUR SE PROTÉGER CONTRE LES ACCIDENTS POUVANT ENTRAÎNER DES BLESSURES**

1. Les surfaces externes du luminaire deviennent brûlantes quand l'appareil est en marche. Pour manœuvrer ou ajuster des appareils brûlants et leurs composants, se protéger suffisamment (gants, protection pour les yeux, etc.).
2. La lampe du luminaire est brûlante lorsqu'il est en marche. Débrancher le courant et attendre que la lampe ait refroidi avant de la remplacer.
3. Les lampes à arc émettent des rayons ultraviolets pouvant causer de graves brûlures sur la peau et une inflammation des yeux. De plus, les lampes à arc fonctionnent sous haute tension à de très hautes températures. Si la lampe se casse, les particules de la lampe cassée peuvent causer blessures et/ou incendie en s'éparpillant.
4. Se protéger les yeux pour remplacer la lampe.
5. Utiliser des appareils de protection appropriés (gants, protection des yeux) pour manier des lampes endommagées.
6. Si la lampe a été touchée avec des mains nues, la nettoyer avec de l'alcool dénaturé et l'essuyer avec un chiffon non-pelucheux avant d'installer ou de brancher le luminaire.
7. Si la lampe a été endommagée ou a reçu une déformation thermique, elle doit être remplacée.

**AVERTISSEMENT:**

**INTERFÉRENCE RF**

1. Cet appareil est de Classe A. Dans un environnement domestique, cet appareil peut causer des interférences radio, et si c'est le cas, l'utilisateur peut avoir à prendre des mesures adéquates.

## Aviso sobre Seguridad

Es muy importante leer TODA la información e instrucciones sobre seguridad que se indica en este manual así como en los documentos adjuntos antes de instalar y operar los productos descritos. Se debe prestar atención a todos los avisos y advertencias durante la instalación y uso de este producto.

Los símbolos de seguridad usados en este manual son los siguientes:



**CUIDADO**, indica posibles daños al producto.



**ADVERTENCIA**, indica posibles lesiones o muerte a las personas.

LA INFORMACIÓN GENERAL RELACIONADA A LA PROTECCIÓN CONTRAGOLPES DE CORRIENTE ELÉCTRICA, INCENDIO, EXPOSICIÓN EXCESIVA A RADIACIÓN ULTRA VIOLETA Y LESIONES A LAS PERSONAS SE PUEDE ENCONTRAR SEGUIDAMENTE:

### **ADVERTENCIA:**

#### **INSTRUCCIONES PARA PROTECCIÓN CONTINUA CONTRA INCENDIO**

1. Las luminarias VARI\*LITE han sido diseñadas para ser usadas solamente con algunas lámparas. Tome nota del tipo de lámpara antes de reemplazarla. Instalación de otro tipo de lámpara puede ser peligroso.
2. Las luminarias se pueden instalar en cualquier tipo de superficie siempre que se sigan las instrucciones de instalación. Vea las instrucciones detalladas en este manual.
3. Tome nota de los requerimientos de distancia de materiales combustibles u objetos iluminados para las luminarias VARI\*LITE.

### **ADVERTENCIA:**

#### **INSTRUCCIONES PARA PROTECCIÓN CONTINUA CONTRA CHOQUE ELÉCTRICO**

1. Las luminarias VARI\*LITE están diseñadas solamente para lugares secos. La exposición a la lluvia o humedad pueden dañar la luminaria.
2. Desconecte la energía antes de dar servicio a cualquier equipo de VARI\*LITE.
3. El servicio debe ser realizado solamente por personal calificado.

**ADVERTENCIA:**

**INSTRUCCIONES PARA PROTECCIÓN CONTINUA CONTRA LA EXPOSICIÓN EXCESIVA DE RADIACIÓN ULTRA VIOLETA**

1. Muchas luminarias VARI\*LITE usan un tipo de lámpara que produce radiación UV. NO mire directamente a la lámpara.
2. Es peligroso operar luminarias sin lentes o protectores. Debe cambiar los protectores, lentes o pantallas ultravioletas si se aprecia que han sido dañadas, y que su efectividad pudiera estar deteriorada. Por ejemplo, si tuvieran rajaduras o raspaduras profundas.

**ADVERTENCIA:**

**INSTRUCCIONES PARA PROTECCIÓN CONTRA LESIONES DE PERSONAS**

1. Las superficies exteriores de las luminarias están calientes durante su operación. Use un equipo de seguridad apropiado (guantes, protección para los ojos, etc.) cuando haga ajustes en el equipo y componentes que están calientes.
2. Cuando las luminarias están en operación la lámpara estará muy caliente. Desconecte la energía y deje que la lámpara se enfríe antes de reemplazarla.
3. Las lámparas de arco emiten radiaciones ultravioletas que pueden ocasionar serias quemaduras a la piel e inflamación a los ojos. Además, las lámparas de arco operan a alta presión y muy alta temperatura. Si la lámpara se rompe, puede existir el peligro de lesiones al personal o un incendio ocasionado por las partículas de la lámpara rota que se caen.
4. Use protección para los ojos cuando vuelve a colocar una lámpara nueva.
5. Use un equipo de seguridad apropiado (guantes, protección para los ojos, etc.) cuando trabaje con lámparas dañadas.
6. Si toca la lámpara con las manos, limpie la lámpara con alcohol desnaturalizado y con tela sin pelusas antes de instalar o volver a conectar la luminaria.
7. Cambie la lámpara si está dañada o deformada termicamente.

**ADVERTENCIA:**

**INTERFERENCIA RF**

1. Este es un producto de Clase A. En el ambiente de la casa este producto puede ocasionar radiointerferencia, en cuyo caso, el usuario debe tomar las medidas adecuadas.

## 安全性に関する注意事項

ここに記載されている製品を取り扱う場合は、まず本マニュアルおよび付属のマニュアルの安全性に関する情報と説明をすべてお読みください。また、実際に本製品を取り付けたり使用する際には、すべての注意事項および警告に留意して作業してください。

本マニュアルでは、以下の安全マークを使用しています。



注意：製品に損傷を与える危険性があります。



警告：人身事故につながる危険性があります。

感電、火災、UV放射に対する過度の露出、および人身事故を防ぐための一般的な情報については、以下の説明をお読みください。

警告：

火災の発生を防ぐためのヒント

1. VARI\*LITE® 照明器具は、ランプを使用するように設計されています。ランプを交換する際は、ランプの種類（など）を確認するようにしてください。他の種類のランプを取り付けると危険です。
2. 照明器具は、本マニュアルの指示に従って操作するかぎり、どのようなタイプの表面にでも取り付けることができます。詳細については、本マニュアルを参照してください。
3. ヒューズを交換する場合は、同じヒューズ（同じ種類、同じクラス）を使用してください。
4. VARI\*LITE® 照明器具は、可燃性物質または他の光源から必要な距離だけ離して配置してください。

警告：

感電を防ぐためのヒント

1. VARI\*LITE® 照明器具は、乾燥した環境で使用するよう設計されています。雨で濡れる場所や湿気の多い場所に取り付けると、照明器具が傷むことがあります。
2. VARI\*LITE® 照明器具を修理点検する場合は、必ず先に電源を切ってください。
3. 照明器具の修理点検は、資格を持つ技師のみが行うようにしてください。

**警告：**

**過度の UV 放射にさらされないためのヒント**

1. VARI\*LITE® 照明器具の多くは、UV 放射を生ずる HID タイプのランプを使用しています。ランプを直視することは避けてください。
2. レンズまたはシールドを使わずに照明器具を点灯すると危険です。レンズ、シールド、紫外線画面は、ひび割れや深い引っかき傷などにより、その効力が損なわれるようになったら取り替えるようにします。

**警告：**

**人身事故を防ぐためのヒント**

1. 照明器具が点灯しているときは、その外側が熱くなります。熱くなった器具やコンポーネントを取り扱う際には、適切な防具（手袋や保護用眼鏡）を使用してください。
2. 照明器具が点灯しているときは、そのランプが熱くなります。ランプを交換する場合は、照明器具の電源を切り、ランプの温度が下がるまで待ってください。ランプの裏ぶたをあけると、遮断スイッチが働いて、ランプの電源が切れる場合があります。
3. アーク灯は紫外線を放射します。この紫外線によって、ひどい火傷を負ったり、目の炎症を起こすことがあります。さらに、アーク灯は、高圧高温の状態です。そのため、万一アーク灯が破損すると、飛び散った破片で人身事故や火災が発生する危険性があります。
4. 再点灯するときには、保護用眼鏡を着用してください。
5. 損傷したランプを取り扱う場合は、適切な防具（手袋や保護用眼鏡）を着用してください。
6. 手袋を着用せずに直接手でランプを触った場合は、変性アルコールを使ってランプをきれいにし、糸くずの出ない布で拭いてから照明器具を取り付け、電源を入れるようにします。
7. 傷がついたランプや熱によって変形したランプは取り替えてください。

**警告：**

**RF 干渉**

1. 本製品は Class A に分類されます。本製品は、家庭環境において無線干渉を起こす可能性があります。その場合、使用者は適切な処置を取らなければならないことがあります。

---

**Notes**

# Table of Contents

## Introduction

About This Manual .....	1
Additional Documentation.....	2
Text Conventions .....	2
Customer Service .....	3

## Chapter 1. Description

### Features

Overview .....	6
----------------	---

### Components

Included Items.....	9
Replacement Items/Accessories.....	9
Luminaire Components.....	10
Major Components .....	10

## Chapter 2. Installation

### Power and Data Cabling Requirements

Power .....	14
Current vs. Voltage.....	16
Data Cables .....	17
Recommended Cable Types/Manufacturers.....	18
Termination Connector.....	18

### Installation Procedures

Installing Lamp .....	19
CAUTIONS & WARNINGS .....	19
Align Lamp For Maximum Beam Irradiance .....	21
Hanging the Luminaire .....	23
Floor Mounting the Luminaire.....	28
Connecting Data and Power.....	28

### Powering Up

Power-Up Procedure .....	29
--------------------------	----

### Addressing

Program Starting Address .....	30
Program Starting Address Without Calibrating Luminaire.....	30

### Transporting

Overview .....	31
Transportation and Shipping Case Requirements .....	31

## Chapter 3. Operation

### Color Control & Gobos

Fixed Colors.....	34
-------------------	----



Fixed Color Wheel 1 .....	34
Fixed Color Wheel 2 .....	34
Fixed Color Wheel 3 .....	35
Gobos .....	36
Rotating Gobo Wheel 1 .....	36
<b>DMX Operation</b>	
VL6000 Beam Luminaire Channel Mapping.....	38
16-Bit Channel Mapping .....	38
Fixture Shutdown .....	41
<b>RDM Parameter IDs</b>	
VL6000 Beam Luminaire RDM Parameter IDs .....	42
<b>Updating Software</b>	
PEGASUS Software .....	45
Application .....	45
Computer Requirements.....	45
Installing PEGASUS Software .....	45
Troubleshooting .....	47
Upload Cable LED Status Messages.....	47
Upload Cable Warning (Error) Message.....	47
Installing or Updating Luminaire Firmware .....	48
USB Upload via USB Port.....	48
Using PEGASUS Uploader.....	48
Important Notes & Warnings:.....	48
Transferring Software From Luminaire to Luminaire .....	50

## **Chapter 4. Menu System**

<b>Menu Operation</b>	
LCD Display and Menu System .....	54
Menu Controls.....	54
LCD Display and Menu System Operation.....	55
DMX Address.....	55
Other LCD Display Features.....	56
LCD Menu Battery Operation .....	56
Status Bar.....	56
LCD Menu Proximity Sensor.....	56
Menu Tree .....	57
Menu System Functions.....	59
<b>Self Tests</b>	
Running Parameter Tests .....	63
Diagnostic Tests .....	64
Test Descriptions .....	64
USB Logging .....	64

## **Appendix A. Maintenance**

<b>Equipment Handling</b>	
Locations/Use.....	68

**VARI\*LITE - VL6000 BEAM LUMINAIRE USER'S MANUAL**

Lamps.....	68
Servicing.....	68
Heat.....	68
Lamp Life.....	68
Solid State Electronics .....	69
Electrostatic Discharge (ESD).....	69
Printed Circuit Boards (PCBs) .....	69
<b>Troubleshooting</b>	
Error Messages.....	70
Troubleshooting Guide.....	70
<b>Routine Maintenance</b>	
Lamp Removal and Installation .....	72
Cautions and Warnings.....	72
Fixed Color Wheel Filter Removal and Installation .....	74
Rotating Gobo Removal and Installation.....	74
Cleaning Optical Lenses and Filters .....	77
<b>Appendix B. Technical Specifications</b>	
Mechanical.....	81
Optical.....	82
Operational.....	83

# Introduction

---

## About This Manual

This manual provides necessary information regarding safety, installation, operation and routine maintenance for VARI\*LITE VL6000 Beam Luminaire. Familiarizing yourself with this information will help you to get the most out of your product.



**WARNING:** It is important to read ALL accompanying safety and installation instructions to avoid damage to the product and potential injury to yourself or others.

---

---

This manual covers the following model:

Model	Part Number	Lamp Type
VL6000 Beam Luminaire	20.9708.0001	1500W Short Arc, Philips MSR Gold FastFit

Notes:

- For complete product description, features, and specifications, refer to [“Technical Specifications” on page 81](#).
- For power requirements, refer to [“Current vs. Voltage” on page 16](#).
- VL6000 Beam Luminaire accepts glass gobos only. Use of metal gobos will void the luminaire’s warranty.

---

## Additional Documentation

---

**Note:** Performing maintenance procedures may void the product warranty. Refer to the Vari-Lite Limited Warranty card included in the product shipping package for more information.

---

For more information on installing DMX512 control systems, the following publication is available for purchase from the United States Institute for Theatre Technology (USITT), "Recommended Practice for DMX512: A Guide for Users and Installers, 2nd edition" (ISBN: 9780955703522). USITT Contact Information:

USITT  
315 South Crouse Avenue, Suite 200  
Syracuse, New York 13210-1844 USA  
Phone: 800-938-7488 or +1-315-463-6463  
Fax: 866-398-7488 or +1-315-463-6525  
Web Site: [www.usitt.org](http://www.usitt.org)

---

## Text Conventions

The following styles and meanings are used throughout this manual:

Style	Meaning
[Button]	Front panel button. Example: Press [ESC].
[Up] / [Down] arrows	Press either [Up] or [Down] arrow button at Menu Display.
LAMP	LCD Menu Display read-out. Example: Press [Up] / [Down] arrows until LAMP appears.

## **Customer Service**

### **Our Goal**

At Philips Entertainment Lighting, we are committed to providing you the highest quality in customer service. Our comprehensive resources are available to help your business succeed and ensure you get the full benefit of being a Philips Entertainment Lighting customer. Whether your needs are telephone troubleshooting assistance, product training or technical service, our full-time staff of experienced professionals are on-hand to provide support.

### **How to Reach Us**

For assistance in your area, call the dealer from which your product was purchased.

*or* Contact an Authorized Service Center

*or* Contact the Philips Entertainment Lighting Customer Service Department, 7am - 6pm CST Monday through Friday, at the following:

phone: 1-877-VARI-LITE (1-877-827-4548) or +1-214-647-7880

e-mail: [entertainment.service@philips.com](mailto:entertainment.service@philips.com)

### **Additional Resources**

For additional resources and documentation, please visit our website at [www.philips.com/entertainmentlighting](http://www.philips.com/entertainmentlighting) and follow the Support link.

## **Notes**

## **CHAPTER 1.**

# **Description**

This chapter contains descriptions of luminaire features and components, along with a list of accessories which are available.

- **Features**
- **Components**

# Features

---

## Overview

VL6000 Beam Luminaire feature highlights:

### Fixed Color Wheels

Three fixed color wheels each with six color filters are capable of producing multi-color effects and variable wheel rotations. Less saturated colors allow for limited color mixing, which can be easily accessed from the console.

### Rotating Gobo Wheel

One gobo wheel to offer seven rotatable, indexable gobo positions and one open position.

### Edge and Pattern Focus

Variable beam focus to soften edges of gobos or iris.

### Frost

Independent frost glass for softness control.

### Intensity Control

Full field dimming designed for smooth timed fades as well as quick dimming effects.

### Strobe

High-performance dual blade strobe system capable of ultra-fast operation.

### Pan and Tilt

Smooth, time-controlled continuous motion by way of three-phase stepper motor systems.

- Range: Pan - 540°, Tilt - 240°.
- Accuracy: 0.3° resolution.

### Weights

Unit weighs (luminaire only, without accessories) 61.5 lbs (28 kg).

### Spacing

Unit hangs on 24.5 inch (662 mm) centers.

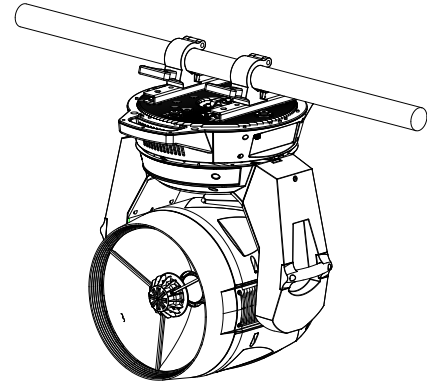
### Operational Temperature

-4° to +122° F (-20° to +50° C)

### IP22 Rating

This fixture is designed to have limited water protection in the instance of light rain. It is NOT designed to run exposed to water for long periods of time. Users should check for water inside the fixture after exposure to water.

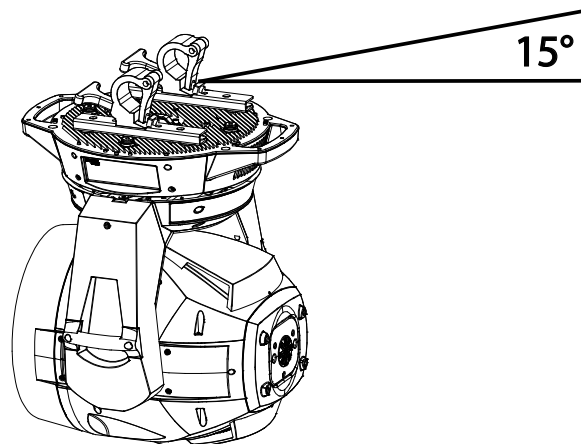
*Note, truss hooks shown are sold separately.  
Truss and pipe by others.*







**Note:** This fixture is ONLY rated IP22 ONLY when hanging or sitting with the enclosure oriented no more than 15° from horizontal. Improper use of the fixture in wet conditions will void the luminaire warranty.



**Figure 1-1: Luminaire hung within 15° from Horizontal**

**IP22 Rating is defined as follows:**

**First digit:** Solid particle protection

The first digit indicates the level of protection that the enclosure provides against access to hazardous parts (e.g., electrical conductors, moving parts) and the ingress of solid foreign objects.

**Table 1-1: IP Rating First Digit**

Level Sized	Effective Against	Description
2	> 12.5 mm	Fingers or similar objects

**Second digit:** Liquid ingress protection

The second digit indicates the level of protection that the enclosure provides against harmful ingress of water.

**Table 1-2: IP Rating Second Digit**

Level & Protection	Effective Against	Description
2 - Dripping Water when tilted at 15°	Vertically dripping water shall have no harmful effect when the enclosure is tilted at an angle of 15° from its normal position. A total of four positions are tested within two axes.	Test duration: 2.5 minutes for every direction of tilt (10 minutes total) Water equivalent to 3 mm rainfall per minute

**Cooling**

Forced-air cooling.

**DMX Channels**

23 Channels (16-Bit Mode).

---

**Note:** For complete information, refer to, [“VL6000 Beam Luminaire Channel Mapping” on page 38.](#)

---

**RDM Control**

Completely compatible with a wide variety of RDM devices. For RDM implementation see, [“VL6000 Beam Luminaire RDM Parameter IDs” on page 42.](#)

**Menu System**

Full color LCD with battery powered control.

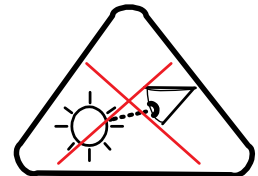
**Mounting Position**

The luminaire can be mounted and operated in any orientation. For spacing requirements, refer to [Figure B-1 on page 81.](#)

**Warning.**

Risk Group 2

Caution: Possibly Hazardous optical radiation emitted from this product.  
Do not stare at the operating light source.



The luminaire should be positioned so that prolonged staring into the luminaire at a distance closer than 294 m is not expected.

**Control**

- DMX: Completely compatible with a wide variety of DMX512 consoles.
- DMX Channels: 23 (16-bit mode)
- RDM Control: Completely compatible with a wide variety of RDM devices.

**Power Requirements:**

Standard AC power distribution from 200 - 240VAC, 50/60 Hz. The unit requires up to 11A depending on the AC supply voltage.

---

**Note:** \*For a breakdown of total luminaire current draw, see [“Current vs. Voltage” on page 16.](#)

---

# Components

## Included Items

The following illustration shows all items included with the luminaire:

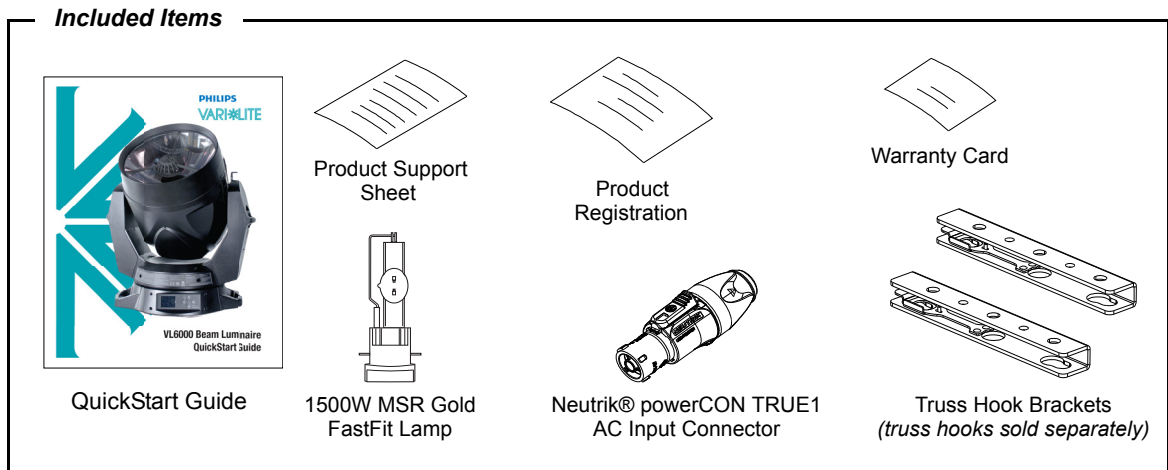


Figure 1-2: VL6000 Beam Luminaire Included Items

## Replacement Items/Accessories

The following optional and/or replacement items can be ordered directly from your Authorized VARI\*LITE Dealer. When ordering, please order by the Vari-Lite part number.

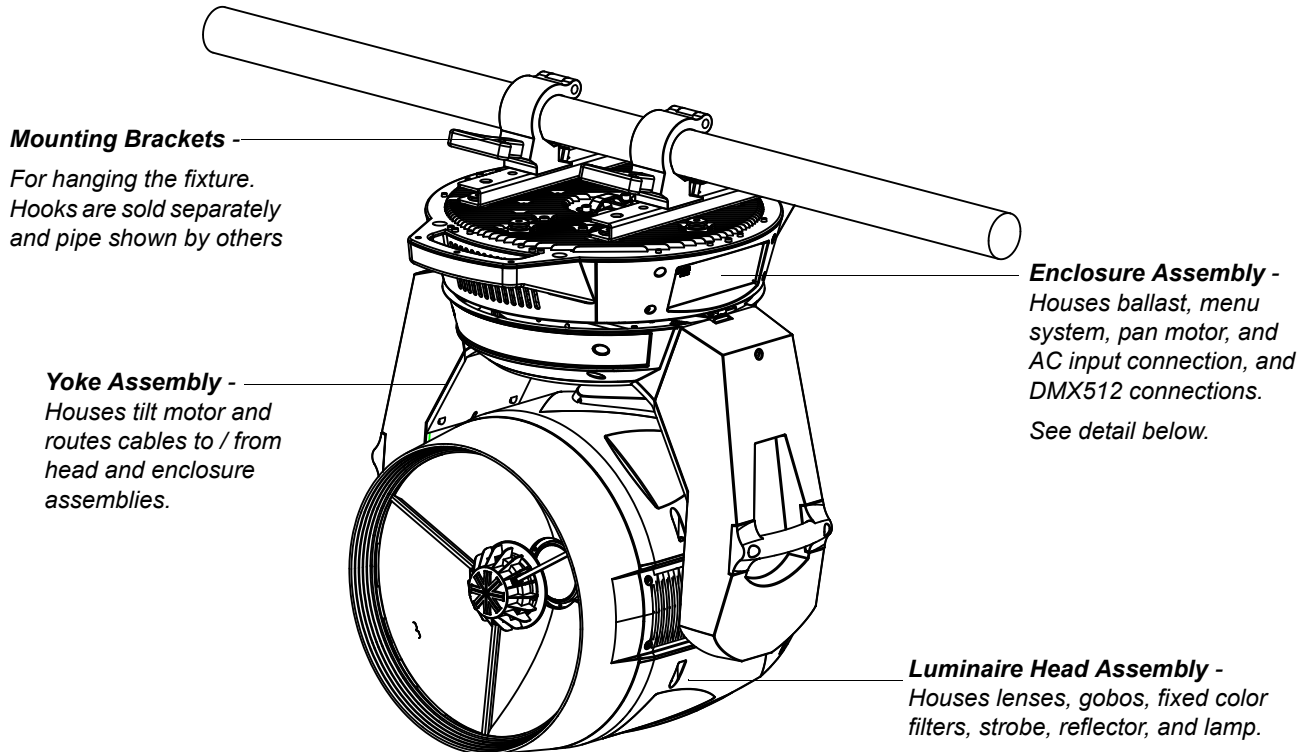
Vari-Lite Part No.	Accessory
PCT1BE	AC Input Cable, Neutrik® powerCON® True1 with Bare End (no connector), 1 Meter
PC1GTL208	AC Input Cable, Neutrik® powerCON® True1 with Twist Lock (Male), 250V, 1 Meter
PCT1GP	AC Input Cable, Neutrik® powerCON® True1 with Stage Pin (Male), 1 Meter
PEGASUS	Luminaire Programming Software
22.9620.0194	Safety Cable Assembly
25.9661.0057	DMX Termination Connector Assembly
55.6840.0001	Truss Hook, Mega-Clamp, Round and Square
55.6841.0001	Truss Hook, Mega-Claw for 2" Round Tube
71.9708.1500	1500W Philips MSR Gold Fast-Fit*

\*For approved lamp types, see the latest version of Philips Entertainment Lighting technical notice TN-248 in the product downloads section on the Philips Entertainment Lighting web site, [www.philips.com/entertainmentlighting](http://www.philips.com/entertainmentlighting).

## Luminaire Components

Below is a brief description of the major components and sub assemblies of the VL6000 Beam Luminaires.

### Major Components



Note, truss hooks shown are sold separately. Truss and pipe by others.

#### Enclosure Assembly Details

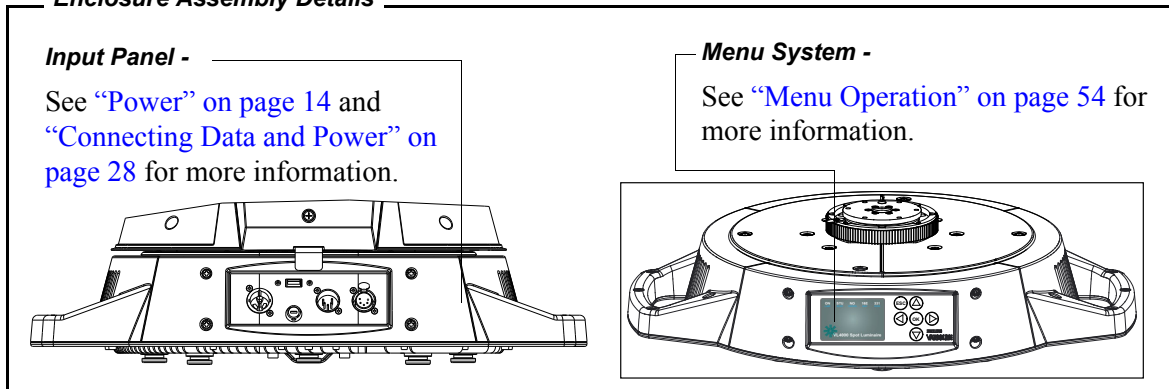


Figure 1-3: Major Components

### Sub Assemblies

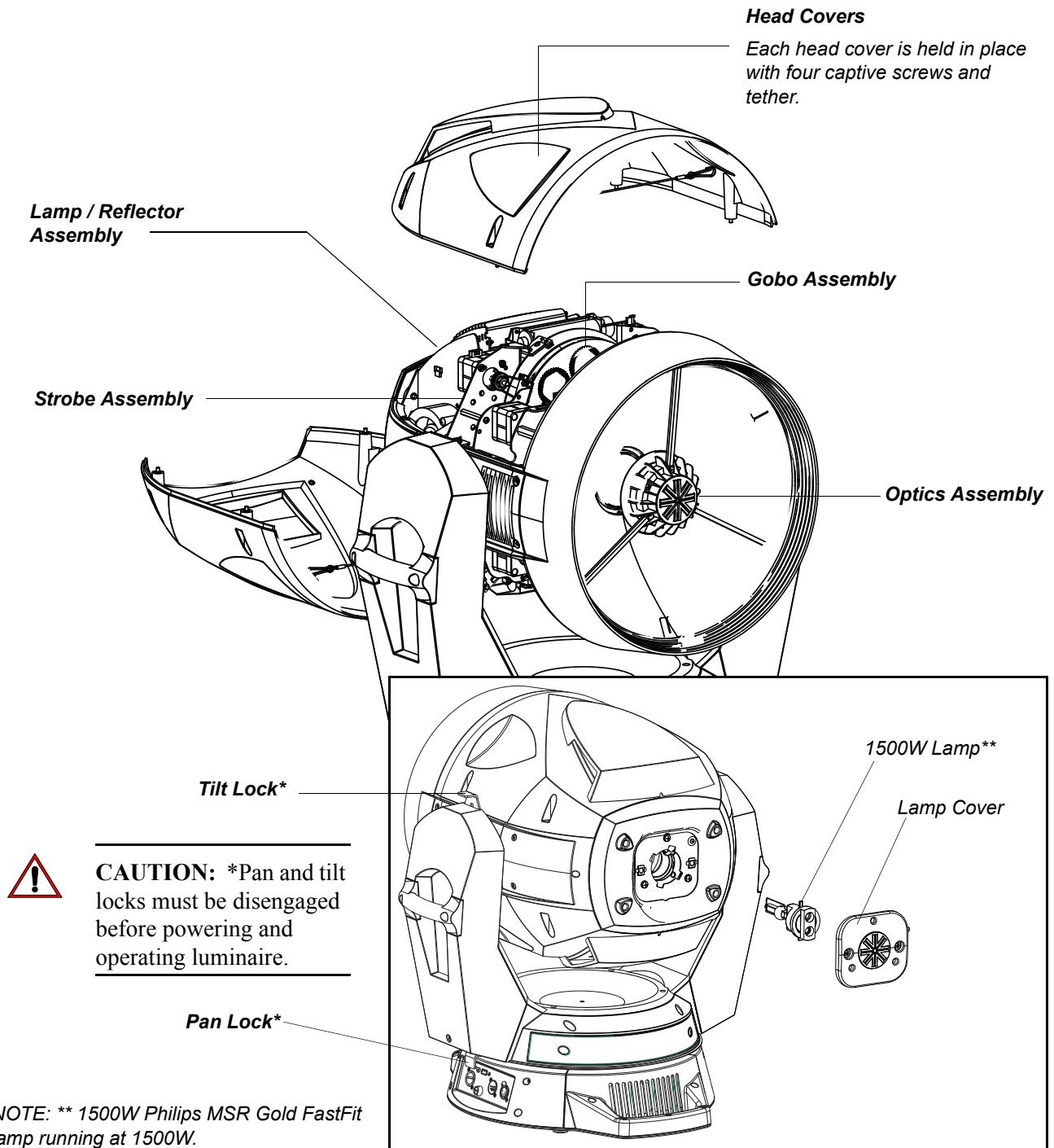


Figure 1-4: Sub Assemblies

---

**Notes**

## **CHAPTER 2.**

# **Installation**

This chapter contains instructions for installation of the luminaire. It includes connecting power and data, along with instructions for powering up the luminaire for the first time and addressing it within your system.

- **Power and Data Cabling Requirements**
- **Installation Procedures**
- **Powering Up**
- **Addressing**
- **Transporting**

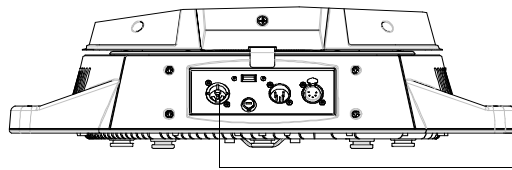
# Power and Data Cabling Requirements

## Power

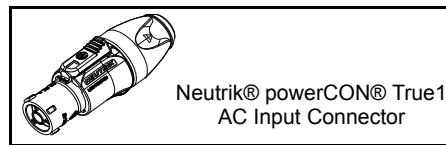
The luminaire requires standard AC power distribution from 200-240 VAC, 50/60 Hz. Current required depends on the AC supply voltage and product model. Refer to “[Current vs. Voltage](#)” on [page 16](#) for all models covered in this manual.



**Note:** The mating Neutrik® powerCON® True1 connector is supplied, however, you will need to purchase or construct a cable appropriate for your application. Available power input cables is found in “[Replacement Items/Accessories](#)” on [page 9](#).



**AC Power Input**  
3-Pole Neutrik® powerCON® True1 for AC Input Power



Neutrik® powerCON® True1  
AC Input Connector

**Figure 2-1: Power Connector**

Depending on the application, the luminaire’s AC input cable may require a different connector. If required, install a new connector meeting your requirements using the following wire color code reference:

Wire*	Connection
Green/Yellow	AC Ground
Blue	AC Neutral
Brown	AC Line

\* International (Harmonized) Standard

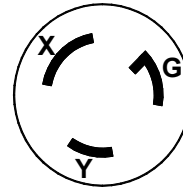




**WARNING:** DO NOT connect to three-phase service in countries with 240 volt power.

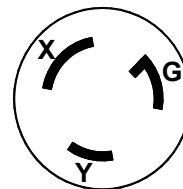
For single-phase power at 208 to 240 volts RMS:

Connection	Pin
AC Neutral	X
AC Line	Y
Ground (Earth)	G



For three-phase power at 208 volts RMS:

Connection	Pin
Phase 1	X
Phase 2	Y
Ground (Earth)	G



**WARNING:** It is not recommended to power any VARI\*LITE luminaire from a dimmer - even in 'NONDIM' mode. Dimmer and non-dim modules are not suitable sources of power because their output modifies the AC wave form. This may work for a short time, but will eventually result in power problems, luminaire mis-operation and/or failure and may void the luminaire's warranty.

## Current vs. Voltage

Table 2-1, VL6000 Beam Luminaire - Current vs. Voltage (1500W Lamp\*) provides the luminaire's current draw at specific voltages. Total Luminaire Current is calculated with the lamp on and all motors sequencing.



**WARNING:** It is the responsibility of the user to adequately protect supply source with a correct size and type circuit breaker and not overload circuits. **AVERTISSEMENT:** Il est de la responsabilité de l'utilisateur de protéger adéquatement la source d'alimentation avec une taille correcte et le disjoncteur de type et surchargez pas les circuits.\*

Table 2-1: VL6000 Beam Luminaire - Current vs. Voltage (1500W Lamp\*)

AC Voltage @ 60Hz	Total Luminaire Current (Motor + Lamp Current)
200V	10.5A
210V	10.1A
220V	9.7A
230V	9.3A
240V	8.9A

**Note:** \*1500W Philips MSR Gold FastFit lamp (rated for 1200-1600W operation) running at 1500W.



**WARNING:** It is not recommended to power any VARI\*LITE luminaire from a dimmer - even in 'NONDIM' mode. Dimmer and non-dim modules are not suitable sources of power because their output modifies the AC wave form. This may work for a short time, but will eventually result in power problems, luminaire mis-operation and/or failure and may void the luminaire's warranty.

## Data Cables

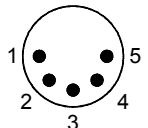
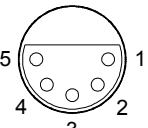
The luminaire is equipped with two, 5-pin XLR connectors for DATA IN and DATA THRU (out) applications. DATA IN requires a 5-pin, female XLR connector and DATA THRU requires a 5-pin, male XLR connector. When purchasing or constructing data cables, it is important that not only the correct cable type be used, but also quality cable to ensure a reliable DMX512 system. Your cabling should meet the following USITT DMX specification requirements:

- Suitable for use with EIA485 (RS485) operation at 250k baud.
- Characteristic impedance 85-150 ohms, nominally 120 ohms.
- Low capacitance.
- Two twisted pairs.
- Foil and braid shielded.
- 24 AWG min. gauge for runs up to 1000 feet (300m).
- 22 AWG min. gauge for runs up to 1640 feet (500m).

**Note:** Microphone type cables and other general purpose, two-core audio or signal cables are not suitable for use with DMX512.

Refer to the USITT Recommended Practice for DMX512 guide for additional information regarding DMX512 systems. How to obtain a copy is detailed in [“Additional Documentation” on page 2.](#)

The XLR 5-pin connectors should be wired as follows:

Pin/Wire Code to XLR Connectors						
Data Thru Cable Pinout   Male Conn.	<b>Pin 1</b>  Foil & Braided Shield	<b>Pin 2</b>  1st conductor of 1st twisted pair  Data (-)	<b>Pin 3</b>  2nd conductor of 1st twisted pair  Data (+)	<b>Pin 4</b>  1st conductor of 2nd twisted pair  Data (-)	<b>Pin 5</b>  2nd conductor of 2nd twisted pair  Data (+)	Data In Cable Pinout   Female Conn.

## Recommended Cable Types/Manufacturers

These are only a few of the suitable cable types. Any quality EIA485, twisted pair, 120 ohm, shielded cable will also work.

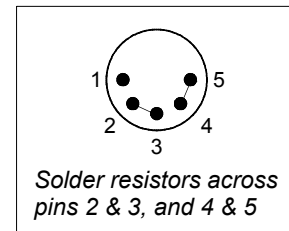
Type	Pairs	ZΩ*	Jacket	AWG	Use	Temp (F)
<b>Belden Cables</b>						
1215A	2	150	PVC	26	IBM Type 6 Office cable	75
1269A	2	100	PTFE	22 (Solid)	High Temp, Plenum cable	200
8102	2	100	PVC	24	UL2919	80
8132	2	120	PVC	28	UL2919	80
8162	2	100	PVC	24	UL2493	60
82729	2	100	PTFE	24	High Temp, Plenum cable	200
88102	2	100	PTFE	24	High Temp, Plenum cable	200
89696	2	100	PTFE	22	High Temp, Plenum cable	200
89729	2	100	PTFE	24	High Temp, Plenum cable	200
89855	2	100	PTFE	22	High Temp, Plenum cable	200
9729	2	100	PVC	24	UL2493	60
9804	2	100	PVC	28	UL2960	60
9829	2	100	PVC	24	UL2919	80
9842	2	120	PVC	24	UL2919	80
<b>Proprex Cables</b>						
PC224P	2	110	Polyurethane	22	Heavy Duty and Portable	105
PC224T	2	110	PVC	22	UL2464	105
PC226T	3	110	PVC	22	UL2464	

\* Characteristic Impedance

## Termination Connector

A XLR termination connector is required at the last luminaire (or "far end of the line") to prevent signal reflections. Signal reflections may cancel out the signal at certain line lengths, resulting in errors. The terminator is also necessary for software downloads and running tests on multiple luminaires. To construct your own connector, you will need the following components:

- 5-pin, male XLR connector.
- Two 1/4W 5% 120 ohm resistors.



**Note:** A male termination connector is available as an accessory from Philips Entertainment Lighting. See ["Replacement Items/Accessories"](#) on page 9.

# Installation Procedures

## Installing Lamp

In the event the lamp was packed separately during shipment, follow the procedure in this section. For lamp removal and replacement, refer to “[Lamp Removal and Installation](#)” on page 72.



**WARNING:** Disconnect fixture before relamping. Déconnectez le projecteur avant que le changement de lampe.



### CAUTIONS & WARNINGS

- Wear cotton gloves or other covering while installing lamp. Touching lamp glass with bare fingers will leave oil and may cause the lamp to explode or reduce lamp life. If touched, use isopropyl alcohol and cotton cloth to thoroughly clean glass portion of lamp.
- Hot Lamp. Luminaire must remain powered on for 5 minutes after dousing lamp. Do not open for 5 minutes after switching off. Lampe chaude. Le luminaire doit rester en marche pendant 5 minutes après avoir éteindre la lampe. Ne pas ouvrir pendant 5 minutes après la coupure.
- Risk of exposure to excessive ultraviolet radiation. Do not operate without complete lamp enclosure in place or when lens is damaged. Risque d'exposition aux rayonnements ultraviolets excessifs. Ne pas faire fonctionner sans le boîtier complet de lampe mis en place ou lorsque l'objectif est endommagé.

#### To install lamp:

- Step 1. Ensure power is completely removed from luminaire.
- Step 2. Remove lamp from shipping box.
- Step 3. Set the luminaire head horizontally.
- Step 4. Engage tilt lock to secure luminaire head in position.
- Step 5. At back of luminaire, using #2 Phillips screwdriver, remove lamp socket cover by loosening the two quarter-turn captive screws. Note: lamp socket cover is connected with a safety tether.

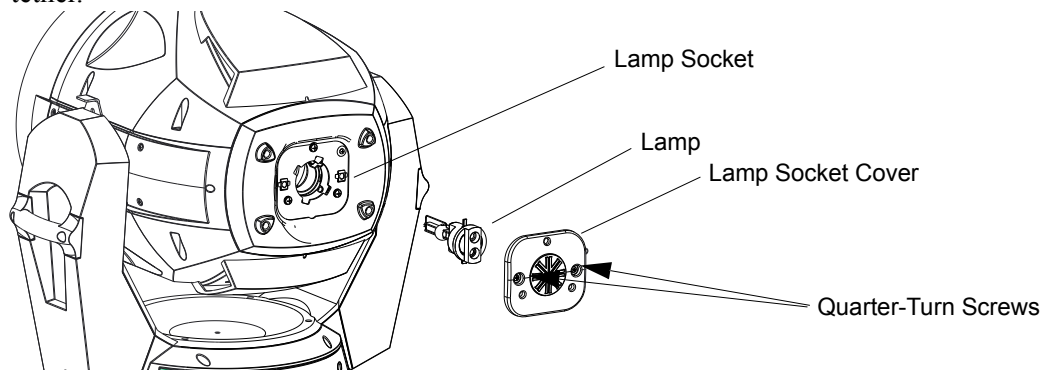
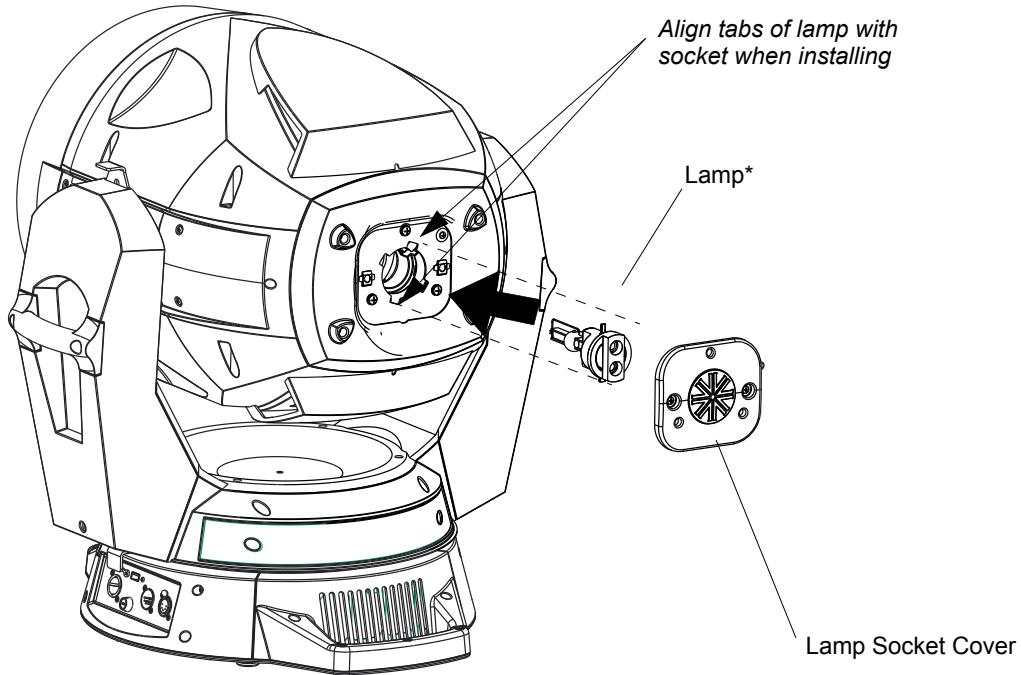


Figure 2-2: Lamp Socket Cover Removal

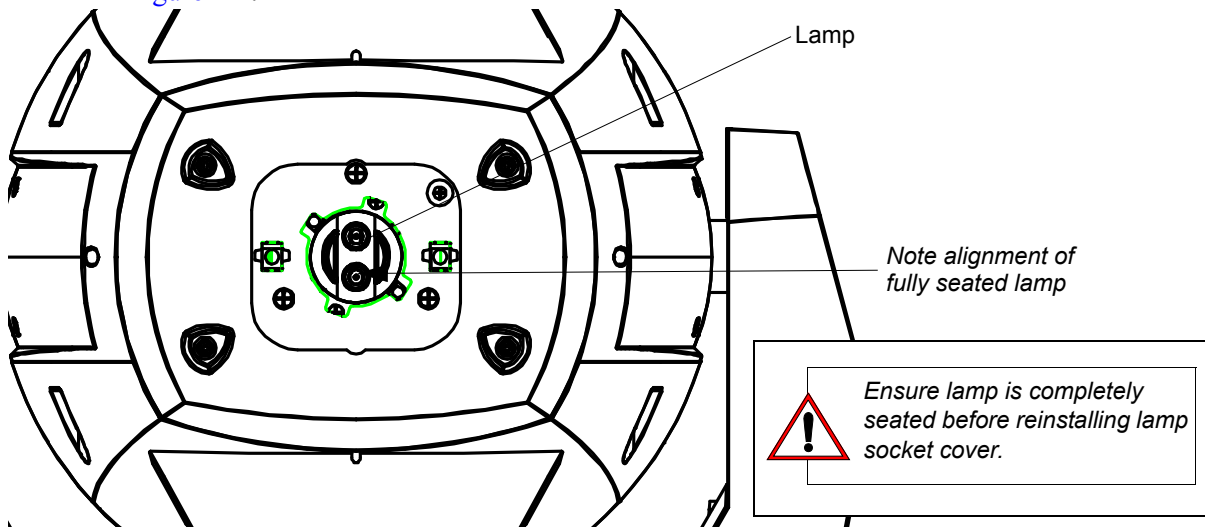
Step 6. As shown in [Figure 2-3](#), align lamp tabs with lamp socket.



**Figure 2-3: Lamp Installation**

Step 7. Install lamp fully into lamp socket, taking care not to touch lamp glass.

Step 8. Turn lamp clockwise to seat lamp into socket. Lamp base should be aligned as illustrated in [Figure 2-4](#).



**Figure 2-4: Installed Lamp**

Step 9. Reinstall lamp socket cover. Make sure safety tether is completely encapsulated within lamp socket cover.

Step 10. Disengage tilt lock to allow luminaire head to move freely.

Step 11. Align lamp as described in "[Align Lamp For Maximum Beam Irradiance](#)" on page 21.

## Align Lamp For Maximum Beam Irradiance

After a new lamp is installed in the luminaire, it will be necessary to align the lamp to optimize the beam.



**WARNING:** Backcap and alignment screws will be HOT during lamp operation. Wear gloves and/or use tools to prevent burns.

### To align lamp:

- Step 1. Set intensity to 100%.
- Step 2. Position beam on a white wall at a distance of 10 to 20 feet.
- Step 3. If frost is in beam, use console or internal luminaire menu controls to remove. Focus to a hard edge. Be sure that beam-size iris is completely opened.
- Step 4. Using three alignment screws (as indicated with Red Arrows in [Figure 2-5](#)) adjust hot spot to center of beam.
- Step 5. Check color uniformity as follows:
  - a. Check color uniformity as follows:
    - a. Position 60% Cyan or 60% Magenta filter in beam.
    - b. Verify that hot spot is centered (if lamp is misaligned, color will be concentrated to one side of beam). If hot spot is not centered, readjust lamp using lamp alignment screws.

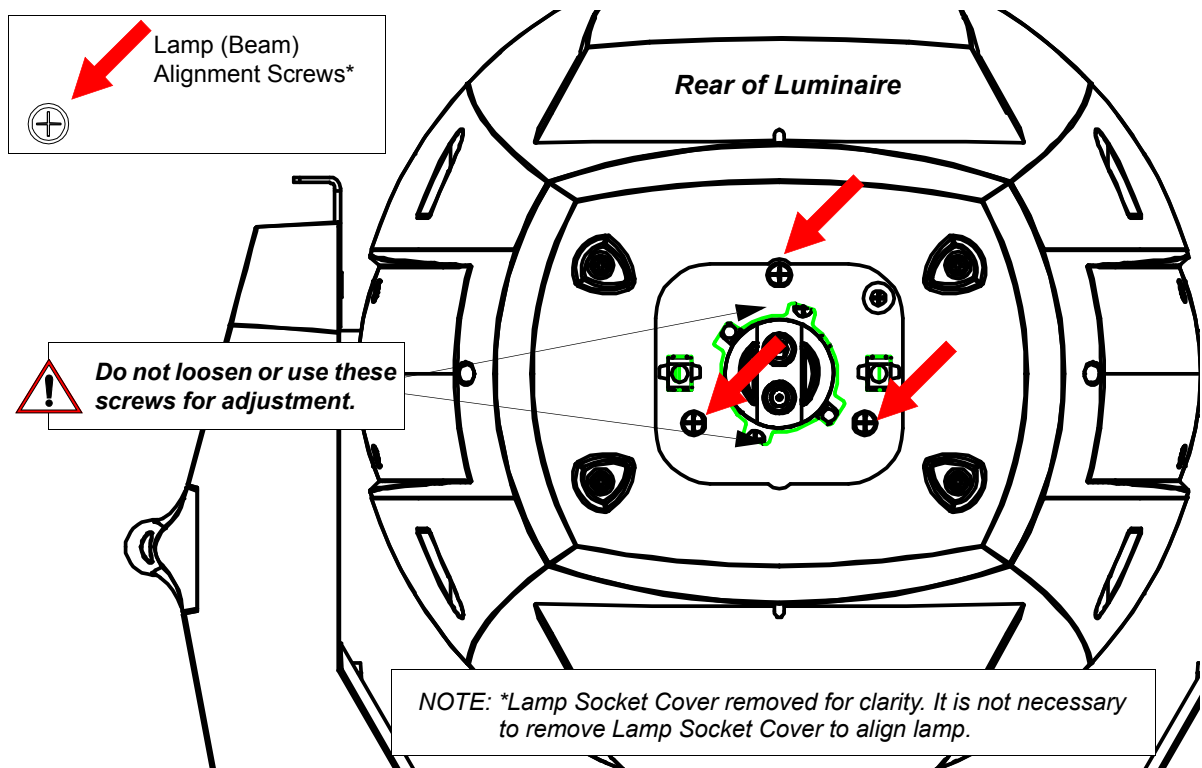
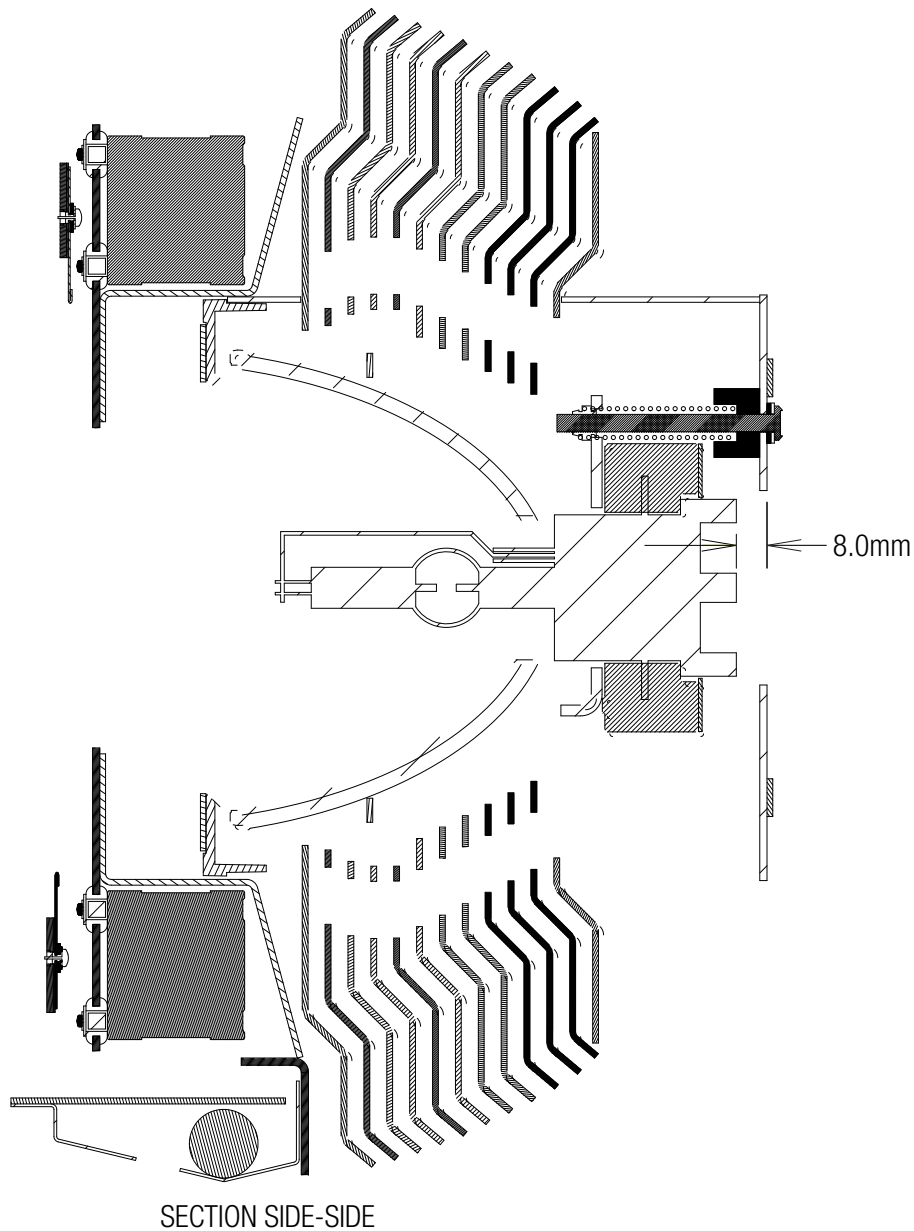


Figure 2-5: Lamp Alignment Screws



**CAUTION:** To prevent overheating, maintain a distance of 8.0mm between lamp and rear aluminum housing as illustrated in [Figure 2-6](#). **ATTENTION:** Pour éviter une surchauffe maintenir une distance de 8.0mm entre le lampe et le couverture arrière comme illustré dans [Figure 2-6](#).



**Figure 2-6: Lamp Adjustment**



## Hanging the Luminaire

The VL6000 Beam Luminaire can be hung horizontally or vertically from any structure designed to work with the type of load created by this moving luminaire. Two mounting truss hooks or other mounting hardware are required. Many compatible truss hooks are available from different manufacturers for your particular needs.

A minimum of two hooks per luminaire is required. If mounting method does not use truss hooks, two attachment points, per luminaire, are required.

### Install mounting hardware and brackets:

- Step 1. Install truss hooks (also refer to “[Truss Hook Hardware \(by others\)](#)” on page 23) for additional information) on two provided truss hook brackets as required as shown in [Figure 2-7](#).

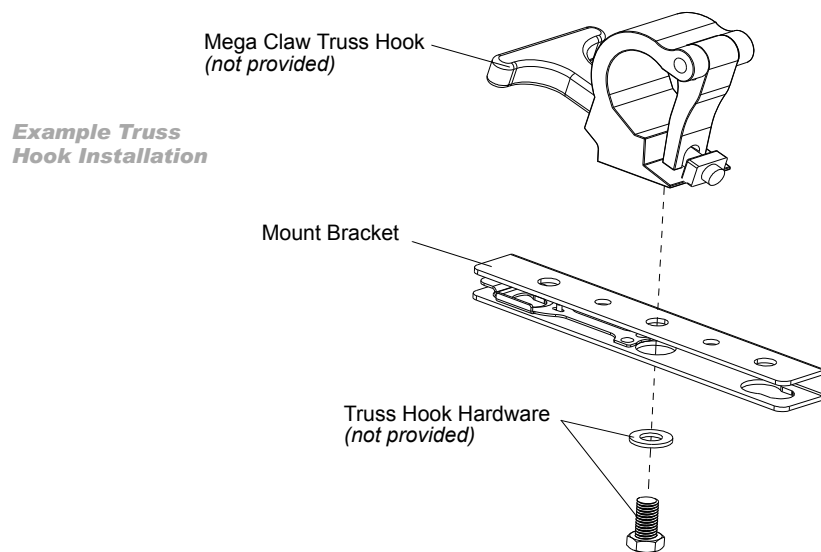


Figure 2-7: Truss Hook Installation

**Note:** Various types of truss hooks can be used. The Mega Claw truss hook (as shown in the example above) as well as many other standard hooks, can be ordered separately.

### Truss Hook Hardware (by others)

When installing hanging hooks on mounting brackets, Philips Entertainment Lighting strongly recommends the use of a Belleville washer (*by others*, [Figure 2-8 shows examples](#)) when installing a truss hook or claw as shown in [Figure 2-7](#).

The Belleville washer’s size should be approximately 0.505-inch (inner diameter) by 1.00-inch (outer



Figure 2-8: Belleville Washer Examples

diameter). Belleville washers are available in various thicknesses and any of the following thicknesses (0.035-inch, 0.043-inch, 0.050-inch, 0.073-inch) are acceptable for the application described herein.

*The washer serves two purposes:*

- To spread out the load. When a washer IS NOT used, the bolt head (*without a washer*) concentrates the load in a smaller area, creating focused stress on the steel bracket, making premature failure possible. A steel washer is recommended to spread this load over a larger surface area.
- To keep the bolt in place. The recommended Belleville washer maintains tension in the bolted assembly and prevents it from vibrating loose.

If a Belleville washer is not available, a regular flat washer measuring in diameter of 1inch (minimum) can be used in conjunction with a suitable split lock washer situated between the bolt head and flat washer.

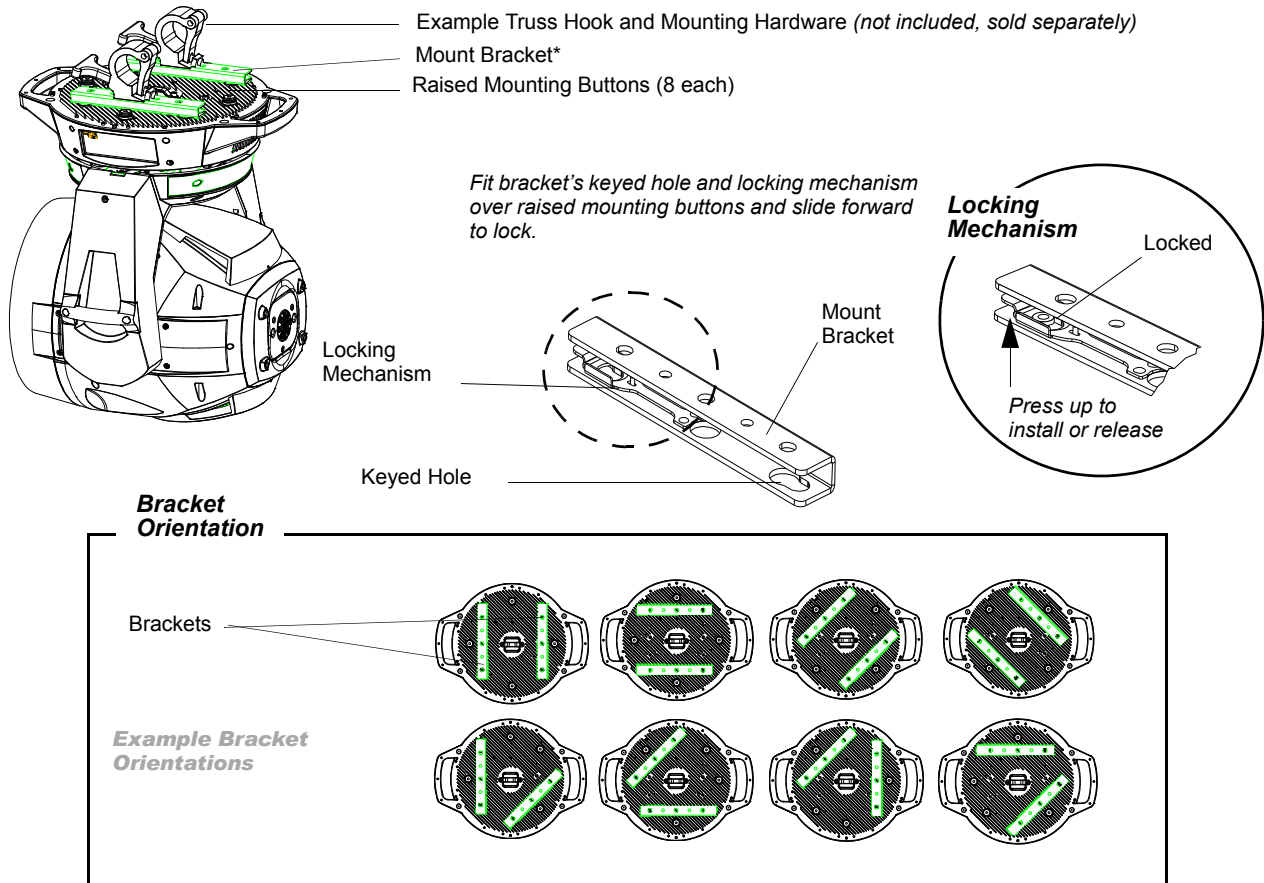
---

---

- Step 2. Determine required configuration of bracket installation. Brackets may be installed in many different orientations as shown in [Figure 2-9](#) on [page 25](#).
- Step 3. While pulling up on locking mechanism release, fit keyed holes onto raised mounting buttons at bottom of enclosure. Slide forward and release locking mechanism to lock in place. Ensure brackets are locked securely.



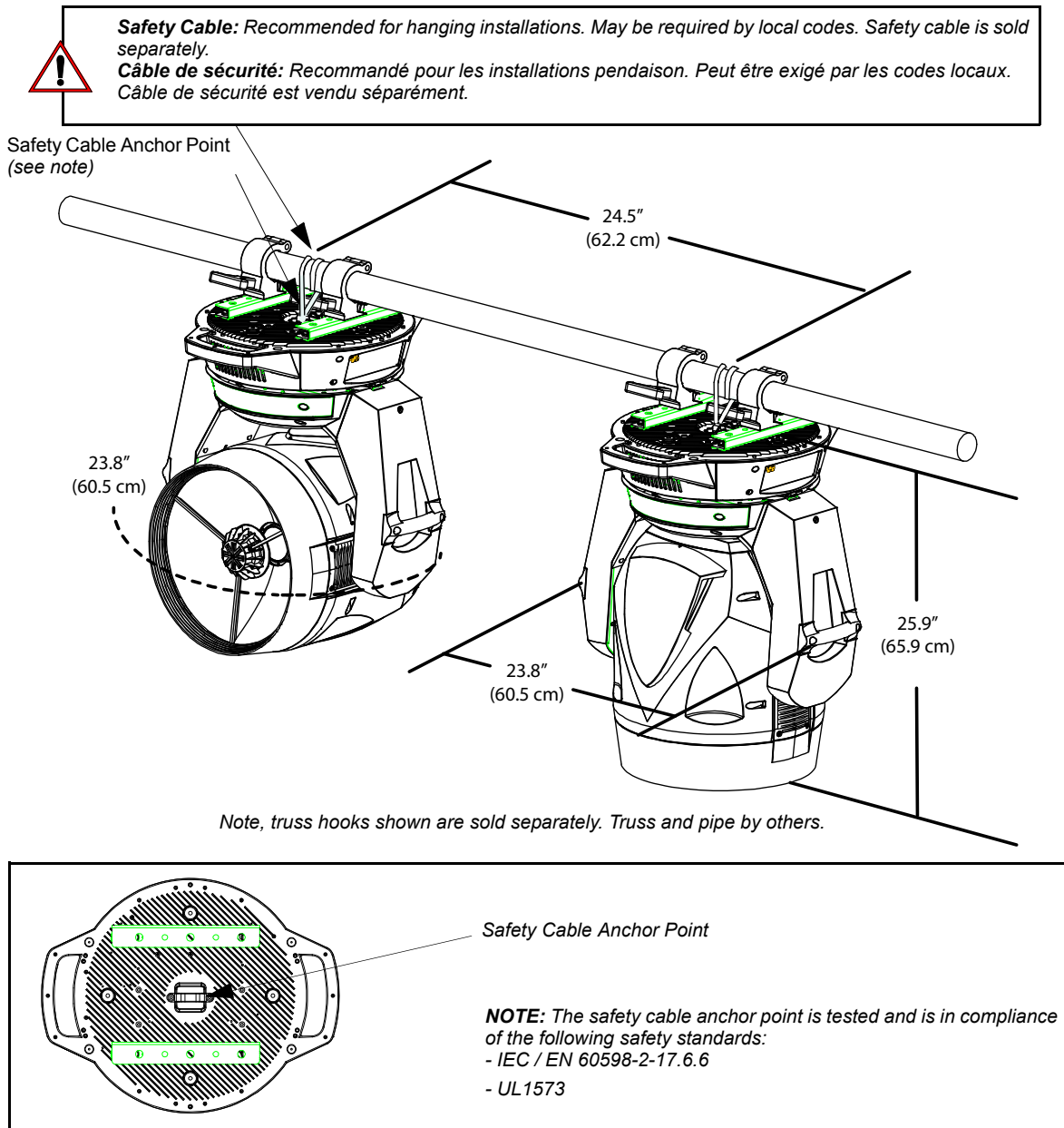
**WARNING:** Ensure that the bracket locking mechanism is fully seated after the bracket is installed on the luminaire. **AVERTISSEMENT:** Assurez-vous que le mécanisme de support de verrouillage est complètement inséré après le support est installé sur l'appareil.



**Figure 2-9: Installing Brackets on Luminaire Enclosure**

**Installing in Truss:**

- Step 1. Using two people, lift luminaire into mounting position.
- Step 2. Secure in place with truss hook. Ensure truss hook hardware that locks hook in place (e.g. wing bolt) is properly tightened and that luminaire is fully supported.
- Step 3. Attach safety cable (as required) as follows (refer to [Figure 2-10](#) on [page 26](#)):
  - a. Loop safety cable at least once around safety cable anchor point rod.
  - b. Loop safety cable at least once around truss/pipe and secure around pipe.

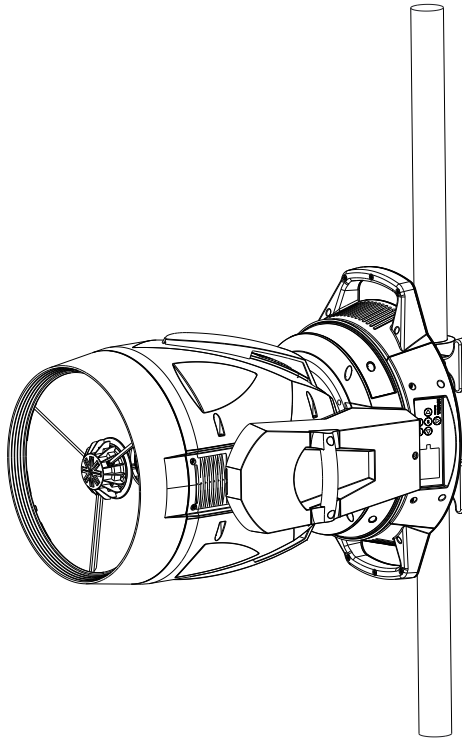


**Figure 2-10: Safety Cable Installation / Luminaire Hanging**

- Step 4. Make sure tilt and pan locks are disengaged so luminaire moves freely.
- Step 5. Connect power and data cables according to procedure given in [“Connecting Data and Power”](#) on page 28.

When hanging the luminaire in a side hang position, orient the enclosure as shown in [Figure 3](#). Natural convection and the designed direction of the inlet and exhaust cooling fans dictate that the inlet should be closest to the floor and the exhaust should be towards the ceiling. This eliminates the possibility of

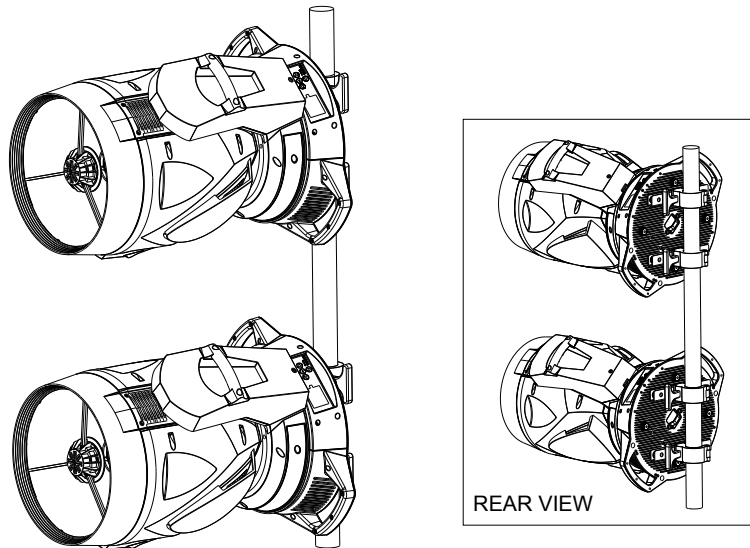
one luminaire blowing exhaust air into the inlet of the luminaire next to it when the luminaires are side-by-side.



**Figure 3: Side Hang Orientation**

If the luminaires are stacked on top of one another in a side hang, a 45° enclosure orientation with the fan inlet closest to the floor is preferred. Refer to [Figure 4](#).

These two orientations in a side hang have the extra benefit of a stiffer pan interface in the luminaire.



**Figure 4: Dual Fixture Side Hang Orientation**

## Floor Mounting the Luminaire

All luminaires included in this manual are designed to sit directly on its base in a floor installation application. When used in this type of application, be sure to leave enough space around the luminaire to allow proper, uninterrupted airflow for cooling and movement.

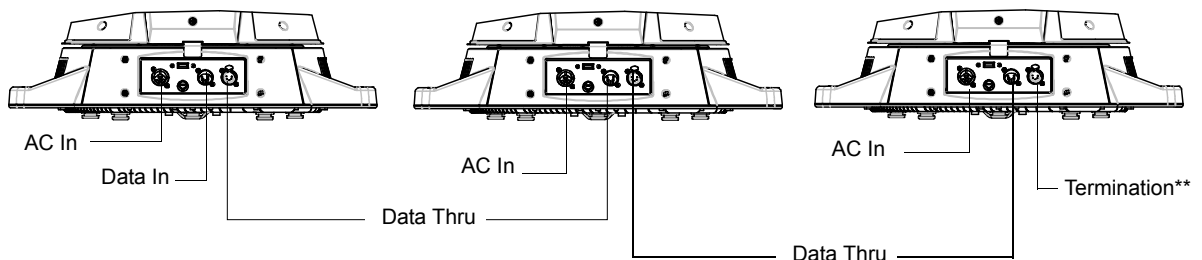
## Connecting Data and Power

A maximum of 32 luminaires may be connected in any one DMX data link.

**Note:** This maximum limit applies to the luminaire "daisy chain" only. Your system or console may require fewer luminaires on a single data link path. Consult your console documentation for more information.

### To connect power and data:

- Step 1. Connect data cable from console to first luminaire in chain at DATA IN connector.
- Step 2. If required, connect additional data cables from DATA THRU connectors to DATA IN connectors of remaining luminaires in link.
- Step 3. At last luminaire in link, install male termination connector at DATA THRU connector. (Luminaires and other devices on the same DMX chain may not function properly without termination.)



VL6000 Beam Luminaire Channel Requirements*		
DMX512 Channels	Description	Menu Display
23 Channels	16-Bit Mode (default)	16

\*\*DMX terminator required for last fixture on DMX line.

**Figure 2-1: Data Link**

- Step 4. Connect AC Input Cable connector to power input source.
- Step 5. Dress AC input and data cables and secure them so that they will not interfere with luminaire head and yoke movement.

# Powering Up

---

## Power-Up Procedure

When the luminaire is powered up for the first time, the default setting is enabled and the lamp will remain off. When AC power is applied, the luminaire will immediately begin a calibration sequence that steps it through full pan and tilt movements. The internal color and beam mechanisms will also move through a full range of motion. After calibration, the luminaire head will either stop at its "home" position (which positions the pan axis at mid-rotation and the head parallel to the yoke with the lens pointing away from the luminaire enclosure) or move to its current DMX-defined position if DMX data is present. All internal mechanisms also move to their "home" or DMX-defined positions.

---



**CAUTION:** Before applying power, be sure the luminaire is hung (or positioned), and the pan and tilt locks are disengaged, so that the head and yoke can move freely without restriction.

---

### To power up:

- Step 1. At each luminaire, apply power connecting the power cable to the unit.
- Step 2. Luminaire will automatically step through calibration and stop at "home" position (only if DMX is not present).

# Addressing

---

## Program Starting Address

The address setting for DMX console controlled systems is entered using the Menu Display (refer to “Menu Operation” on page 54). The luminaire retains the DMX address even if power is removed.

---

**Note:** Refer to your console operating instructions for specific information regarding its addressing requirements.

---

### DMX Address

**To set, edit, and save a DMX address:**

- Step 1. Press [ESC].
- Step 2. Press [Up] / [Down] arrows until **Address** appears. Press [OK].
- Step 3. Use [Left] and [Right] arrow buttons to scroll through all digits.
- Step 4. Once at desired digit, use [Up] and [Down] arrows to change highlighted digit.
- Step 5. Once digit is set, use [Left] and [Right] arrow buttons to set other digits in DMX address.
- Step 6. Once all digits are set in DMX address, press [OK] to set.
- Step 7. DMX will display and is saved.

---

## Program Starting Address Without Calibrating Luminaire

It is possible to bypass the calibration sequence and go directly to the Menu Display programming in order to pre-program an address setting.

**Program starting address without calibrating luminaire:**

- While powering up luminaire, press and hold [ESC].
- When display changes from "Starting" to the DMX address, program address as in [Program Starting Address](#) above.



**Note:** The luminaire will require a reset to restore control.

---

**Program starting address in Battery Mode:**

- To activate menu in Battery Mode when the fixture is not connected to a power source, press [OK] and [ESC] together. The LCD screen will come on. Address the fixture as described above. The LCD screen will shut off after one minute of inactivity.



# Transporting

---

## Overview

When shipping or transporting VARI\*LITE Luminaires, Philips Entertainment Lighting recommends that the luminaire(s) be sufficiently protected against any (including, but not limited to) shock, vibration, drops, jarring, exposure to the environment, etc.

Failure to sufficiently protect any VARI\*LITE luminaire during shipping or transportation will result in damage and void the luminaire's warranty. Philips Entertainment Lighting will not be responsible for any shipping damage or breakage of any product under any circumstances. Philips Entertainment Lighting will not be responsible for any third party case manufacturer's cases.

---



**Note:** As with all automated luminaires, proper handling and suitable protective shipping cases should be used when transporting fixtures to reduce the risk of damage. For more information, please refer to Philips Entertainment Lighting technical notice (TN-235) "Transportation and Shipping Case Requirements" in the "Support" area of the Philips Entertainment Lighting web site.

---

## Transportation and Shipping Case Requirements

Cases to transport VARI\*LITE luminaires should meet the following loading requirements:

- Luminaire head, yoke, and enclosure sub-assemblies shall be equally supported and constrained where no one sub-assembly (head, yoke, or enclosure) fully supports the entire mass of the luminaire.
- The interior of the case shall be of high quality and uniform density foam. The foam shall be of the same type and density throughout as to equally and uniformly support loading at every contact surface.
- The case shall, when laid on any of its six (6) surfaces, maintain the loading requirements outlined above.
- All cases not meeting the aforementioned loading requirements, with wheels, shall have markings on the exterior of the case that the unit is to be transported on it wheels only (e.g. "Case must be transported and remain [at all times] on its wheels").



## **CHAPTER 3.**

# **Operation**

This chapter contains instructions for operating the luminaire using DMX control and for updating the internal software.

- **Color Control & Gobos**
- **DMX Operation**
- **RDM Parameter IDs**
- **Updating Software**

# Color Control & Gobos

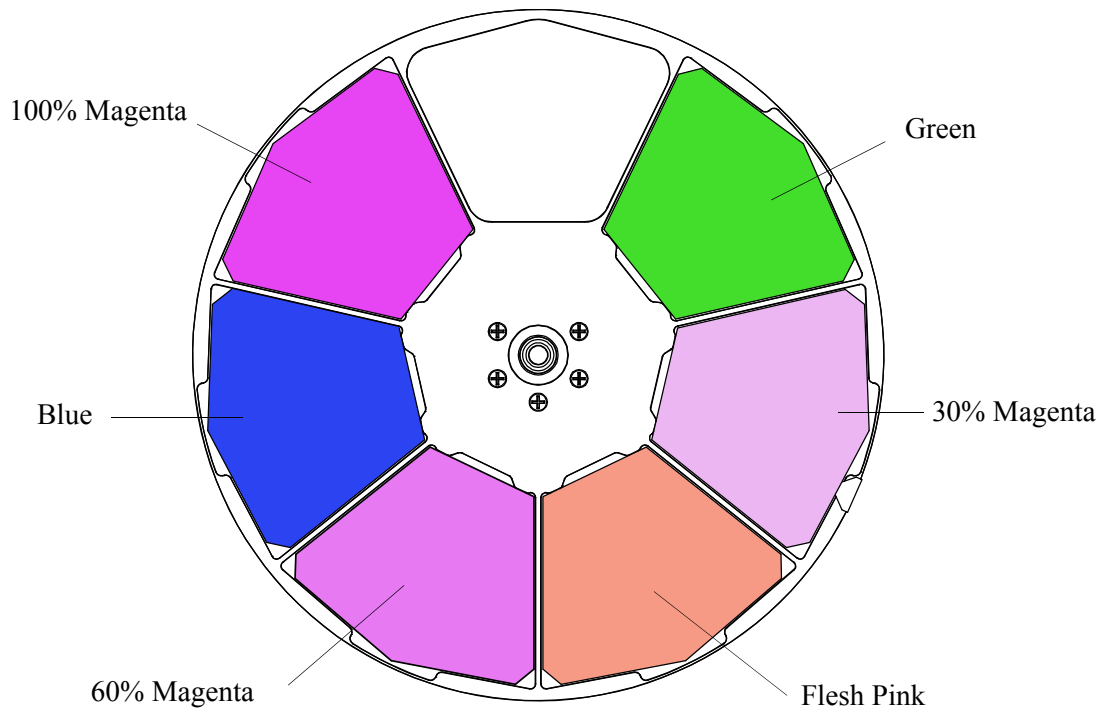
## Fixed Colors

The following is a brief description of each color control and gobo projection capabilities

### Fixed Color Wheel 1

Fixed Color Wheel 1 holds six color filters and has one open space as illustrated in [Figure 3-1](#). Note, the open space will not accommodate a filter.

Wheel 1: 100% Magenta, Blue, 60% Magenta, Flesh Pink, 30% Magenta, Green



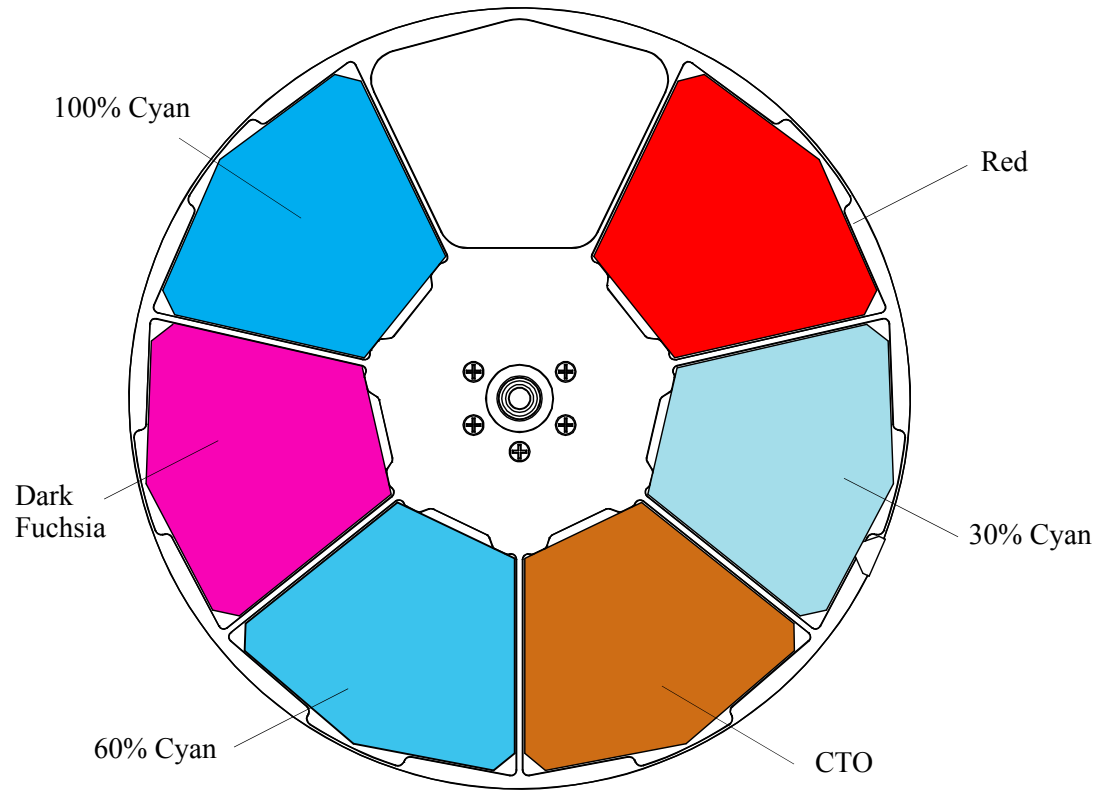
NOTE: Colors show for illustrative purposes only. Actual colors will differ.

Figure 3-1: VL6000 Beam Luminaire Fixed Color Wheel 1

### Fixed Color Wheel 2

Fixed Color Wheel 2 holds six color filters and has one open space as illustrated in [Figure 3-2](#). Note, the open space will not accommodate a filter.

Wheel 2: 100% Cyan, Dark Fuchsia, 60% Cyan, CTO, 30% Cyan, Red



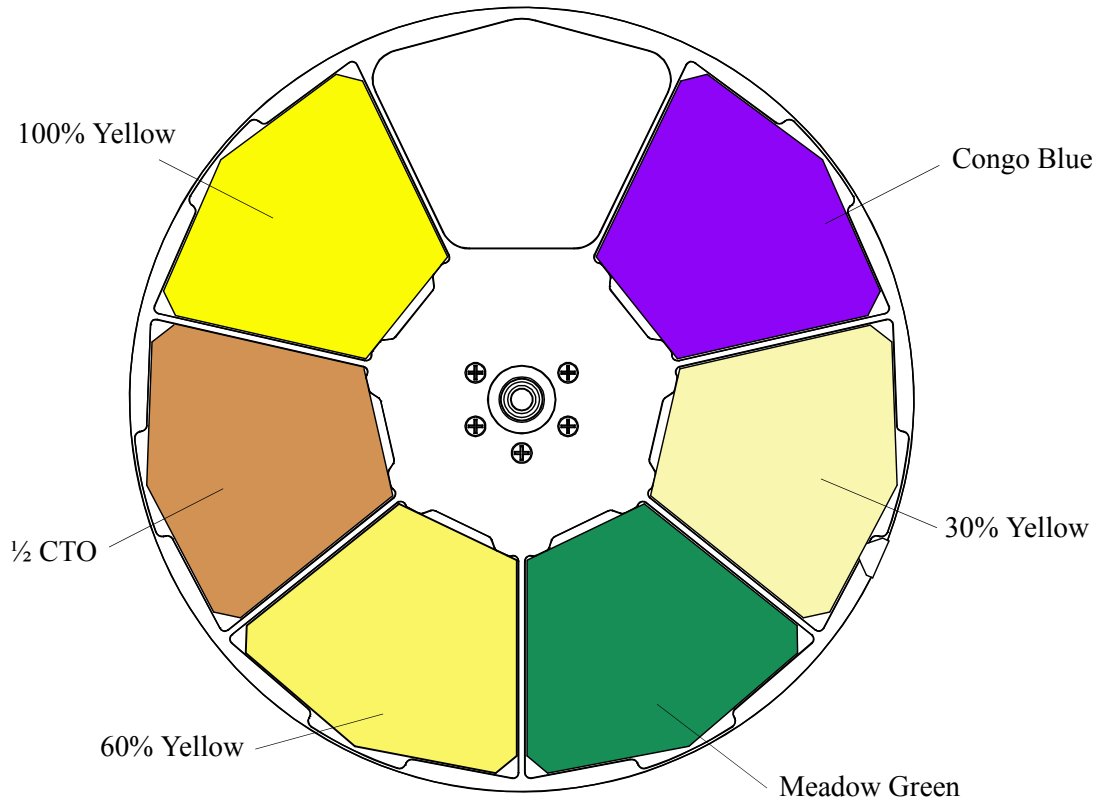
NOTE: Colors show for illustrative purposes only. Actual colors will differ.

**Figure 3-2: VL6000 Beam Luminaire Fixed Color Wheel 2**

### Fixed Color Wheel 3

Fixed Color Wheel 3 holds six color filters and has one open space as illustrated in [Figure 3-2](#). Note, the open space will not accommodate a filter.

Wheel 3: 100% Yellow,  $\frac{1}{2}$  CTO, 60% Yellow, Meadow Green, 30% Yellow, Congo Blue



NOTE: Colors show for illustrative purposes only. Actual colors will differ.

Figure 3-3: VL6000 Beam Luminaire Fixed Color Wheel 3

---

## Gobos

Each luminaire contains one rotating gobo wheel. This rotating gobo wheel offers seven rotatable, indexable gobo positions and one open position.



**CAUTION:** VL6000 Beam luminaires accept glass gobos only. Use of metal gobos in these luminaires may damage gobo assembly and will void the luminaire warranty.

**Note:** For all available patterns and their associated numbers, refer to VARI\*IMAGE System page on the Philips Entertainment Lighting web site or contact your local regional sales manager or Authorized VARI\*LITE Dealer.

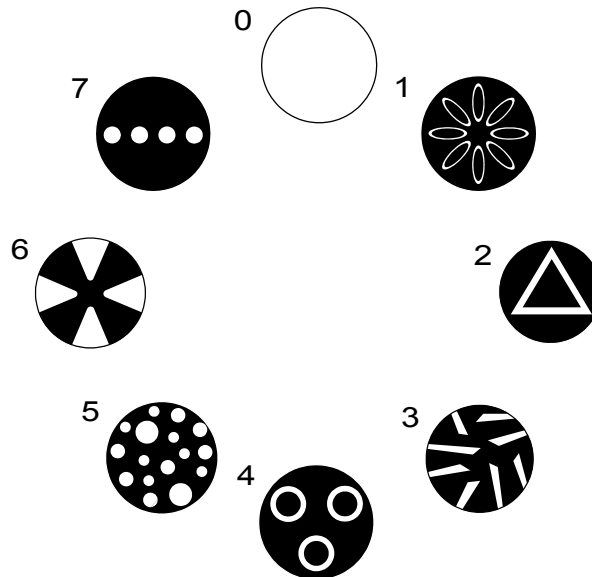
---

## Rotating Gobo Wheel 1

Standard load rotating gobos for Rotating Gobo Wheel 1 are shown in [Figure 3-4](#) and described in [Table 1](#), “Rotating Gobo Wheel 1 - Standard Effects and Positions”.

**Table 1: Rotating Gobo Wheel 1 - Standard Effects and Positions**

Position	Gobo	Gobo Part Number
0 (Open)	None	None
1	Circle of Ovals	41.9708.6011
2	Medium Triangle	41.9708.4009
3	Chopped	41.9708.4428
4	Tri Cone	41.9708.6008
5	Ballz	41.9708.4440
6	Blades	41.9708.4430
7	4-Hole Ray	41.9708.4002



**Figure 3-4: Rotating Gobo Wheel 1 - Standard Gobo Load**

# DMX Operation

## VL6000 Beam Luminaire Channel Mapping

These tables assume a DMX start address of 1. When a different starting address is used, this address becomes channel 1 function and other functions follow in sequence. This section contains the DMX channel map for the VL6000 Beam Luminaire.

- “16-Bit Channel Mapping” (starting below)
- “Fixture Shutdown” on page 41.

### 16-Bit Channel Mapping

Table 2 provides DMX channel mapping of the DMX512 control values when the VL6000 Beam Luminaire is in 16-Bit DMX mode.

**Table 2: VL6000 Beam Luminaire 16-Bit DMX Channel Mapping**

DMX Channel	Parameters	Range (DMX)	Range (%)	Default Value*	Description / Operation
1	Intensity	0 - 255	0 - 100%	0	8-bit control of Fixture Intensity from 0 - 100%
2	Pan High Byte	0 - 65535	0 - 100%	32767	16-bit linear control of pan from 0° to 540°.
3	Pan Low Byte				
4	Tilt High Byte	0 - 65535	0 - 100%	32767	16-bit linear control of tilt from 0° to 240°.
5	Tilt Low Byte				
6	Edge	0 - 255	0 - 100%	0	8-bit linear control of edge functions.
7	Color Wheels Macro / Presets	0 - 255	0 - 100%	0	8-bit linear control of all three Color Wheel Presets / Macros <b>See Channel 8 for options.</b> 0 = Open or Uses Color Wheel 1-3 channels. 1 = TBD 2 = TBD 3 = TBD 4 = TBD 5 = TBD
8	Color Wheels Transition Control	0 - 255	0 - 100%	0	0 = Idle 1 - 255 = Cloak Transition Generator Slow to Fast 1 = Fastest Time 255 = 10 Second
9	Color Wheel 1	0 - 255	0 - 100%	0	8-bit control of Color Wheel 1. <b>See Channel 10 for options.</b> 0-18 = OPEN 19-54 = MAGENTA 100% (Center at DMX 36) 55-91 = DARK BLUE (Center at DMX 73) 92-128 = MAGENTA 60% (Center at DMX 109) 129-165 = FLESH PINK (Center at DMX 146) 166-202 = MAGENTA 30% (Center at DMX 182) 203-239 = GREEN (Center at DMX 218) 240-255 = OPEN
10	Color Wheel 1 Control	0 - 255	0 - 100%	0	Used as a control channel for different movement options of Color Wheel 1 0-5 = Linear Movement using shortest (quickest) path. 6-10 = Linear Movement using normal (longest) path. 11-15 = Wheel Spin Forward (Fast to Slow) 16-20 = Wheel Spin STOP 21-25 = Wheel Spin Reverse (Slow to Fast) 26-56 = Color Shake Quickest Path (Slow to Fast) 57-87 = Color Shake Normal Path (Slow to Fast) 88-255 = Reserved Values.



Table 2: VL6000 Beam Luminaire 16-Bit DMX Channel Mapping

DMX Channel	Parameters	Range (DMX)	Range (%)	Default Value*	Description / Operation
11	Color Wheel 2	0 - 255	0 - 100%	0	8-bit control of Color Wheel 2. <b>See Channel 12 for options.</b>  0-18 = OPEN 19-54 = CYAN 100% (Center at DMX 36) 55-91 = DARK FUSHIA (Center at DMX 73) 92-128 = CYAN 60% (Center at DMX 109) 129-165 = CTO (Center at DMX 146) 166-202 = CYAN 30% (Center at DMX 182) 203-239 = RED (Center at DMX 218) 240-255 = OPEN
12	Color Wheel 2 Control	0 - 255	0 - 100%	0	Used as a control channel for different movement options of Color Wheel 2. 0-5 = Linear Movement using shortest (quickest) path. 6-10 = Linear Movement using normal (longest) path. 11-15 = Wheel Spin Forward (Fast to Slow) 16-20 = Wheel Spin STOP 21-25 = Wheel Spin Reverse (Slow to Fast) 26-56 = Color Shake Quickest Path (Slow to Fast) 57-87 = Color Shake Normal Path (Slow to Fast) 88-255 = Reserved Values
13	Color Wheel 3	0 - 255	0 - 100%	0	8-bit control of Color Wheel 3. <b>See Channel 14 for options.</b>  0-18 = OPEN 18-54 = YELLOW 100% (Center at DMX 36) 55-91 = 1/2 CTO 65% (Center at DMX 73) 92-128 = YELLOW 60% (Center at DMX 109) 129-165 = MEADOW GREEN (Center at DMX 146) 166-202 = YELLOW 30% (Center at DMX 182) 203-239 = CONGO BLUE (Center at DMX 218)
14	Color Wheel 3 Control	0 - 255	0 - 100%	0	Used as a control channel for different movement options of Color Wheel 3. 0-5 = Linear Movement using shortest (quickest) path. 6-10 = Linear Movement using normal (longest) path. 11-15 = Wheel Spin Forward (Fast to Slow) 16-20 = Wheel Spin STOP 21-25 = Wheel Spin Reverse (Slow to Fast) 26-56 = Color Shake Quickest Path (Slow to Fast) 57-87 = Color Shake Normal Path (Slow to Fast) 88-255 = Reserved Values
15	Gobo Wheel 1	0 - 255	0 - 100%	0	8-bit control of Gobo Wheel 1. <b>See Channel 18 for options.</b>  0-5 = Open-No Gobo 6-10 = Gobo 1 (Circle of Ovals) Index 11-15 = Gobo 2 (Medium Triangle) Index 16-20 = Gobo 3 (Chopped) Index 21-25 = Gobo 4 (Tri Cone) Index 26-30 = Gobo 5 (Ballz) Index 31-35 = Gobo 6 (Blades) Index 36-40 = Gobo 7 (4-Hole Ray) Index 41-45 = Open-No Gobo 46-50 = Gobo 1 (Circle of Ovals) Rotate 51-55 = Gobo 2 (Medium Triangle) Rotate 56-60 = Gobo 3 (Chopped) Rotate 61-65 = Gobo 4 (Tri Cone) Rotate 66-70 = Gobo 5 (Ballz) Rotate 71-75 = Gobo 6 (Blades) Rotate 76-80 = Gobo 7 (4-Hole Ray) Rotate 81-85 = Open-No Gobo 86-90 = Gobo 1 (Circle of Ovals) Rotate with Mega Stepping 91-95 = Gobo 2 (Medium Triangle) Rotate with Mega Stepping 96-100 = Gobo 3 (Chopped) Rotate with Mega Stepping 101-105 = Gobo 4 (Tri Cone) Rotate with Mega Stepping 106-110 = Gobo 5 (Ballz) Rotate with Mega Stepping 111-115 = Gobo 6 (Blades) Rotate with Mega Stepping 116-120 = Gobo 7 (4-Hole Ray) Rotate with Mega Stepping 121-255 = Reserved Values

Table 2: VL6000 Beam Luminaire 16-Bit DMX Channel Mapping

DMX Channel	Parameters	Range (DMX)	Range (%)	Default Value*	Description / Operation
16 17	Gobo 1 Rot/Index High Byte Low Byte	0 - 65535	0 - 100%	0	16-bit control of index and rotation of gobo wheel 1.  0-32756 = Rotate Fast to Slow 32757-32780 = Rotation STOP 32781-65535 = Rotate Slow to Fast
18	Gobo Wheel 1 Control	0 - 255	0 - 100%	0	Used as a control channel for different movement options for Gobo Wheel 1 (Channel 15)  0-5 = Gobo Selection using shortest (quickest) path. 6-10 = Gobo Selection using normal (longest) path. 11-20 = Reserved Values 21-50 = Wheel Spin Forward (Fast to Slow) 51-60 = Wheel Spin STOP 61-90 = Wheel Spin Reverse (Slow to Fast) 91-120 = Gobo Shake Quickest Path (Slow to Fast) 121-150 = Gobo Shake Normal Path (Slow to Fast) 151-180 = Gobo Twist Quickest Path (Slow to Fast) 181-210 = Gobo Twist Normal Path (Slow to Fast) 211-255 = Reserved Values
19	Iris	0 - 255	0 - 100%	0	Controls Iris mechanism from open (DMX 0) to Full (DMX 255)
20	Frost	0 - 255	0 - 100%	0	Controls Frost mechanism from open (DMX 0) to Full (DMX 255)
21	Strobe Speed	0 - 255	0 - 100%	0	Controls Strobe rate from slowest (DMX 0) to fastest (DMX 255)
22	Strobe Control	0 - 255	0 - 100%	0	Control Channel for strobing functions 0-5 = Open 6-10 = Closed 11-15 = Normal Strobe 16-20 = Random Strobe 21-25 = Random Sync 26-255 = Reserved Values
23	Luminaire Control	0 - 255	0 - 100%	0	Control Channel used for full fixture settings, lamp controls, and miscellaneous modes. Set discreet value of desired effect, wait >3 seconds, then set value to 0 (Idle).  0-5 = Idle (Default) 6-10 = Full Luminaire ReCal-Also Used to Wake fixture up from shut-down 11-15 = Lamp ON 16-20 = Lamp OFF 21-25 = Fixture Shutdown 26-30 = Display-Menu ON 31-35 = Display-Menu OFF 36-40 = ReCal Position 41-45 = ReCal Color 46-50 = ReCal Gobo 51-55 = ReCal Beam 56-60 = ReCal Dimmer/Strobe 61-65 = Reset Fixture to Defaults 66-70 = Full Luminaire Reboot. This command will douse lamp and reset all processors in fixture, then ReCal all parameters. 71-75 = Fixture Status On/Off. This command will enable the display to show fixture status for 5 min. After this time, displays will return to default configuration. Repeating the command in less than 5 minutes will behave as a toggle. 76-80 = Dimmer Snap Off (default) 81-85 = Dimmer Snap On 86-90 = Pan / Tilt Normal (Default) 91-95 = Pan / Tilt Fast 96-255 = Reserved Values

Notes:

Default Values: \*Denotes recommended console default settings.

## Fixture Shutdown

This command will turn the lamp OFF, disable all motors, and stop the luminaire from functioning until either a Full Luminaire ReCal command or Lamp ON command is sent. When in the shutdown state, the luminaires menu will display **SHUTDOWN**.

---

**Note:** The luminaire's cooling fans will continue to run for 5 minutes after the shutdown command is sent. After 5 minutes the luminaire fans will shutdown. A power cycle will also clear the shutdown state.

---

# RDM Parameter IDs

## VL6000 Beam Luminaire RDM Parameter IDs

The following tables outline and describe all the RDM parameters IDs associated with VL6000 Beam Luminaires.

- [Table 3, "VL6000 Beam Luminaire RDM Product Parameters IDs"](#)
- [Table 4, "VL6000 Beam Luminaire RDM UID"](#)
- [Table 5, "VL6000 Beam Luminaire RDM Parameters IDs"](#)

**Table 3: VL6000 Beam Luminaire RDM Product Parameters IDs**

Model ID	Manufacturer	Model Description	Product Category
0x0030	Philips Entertainment Lighting	VL6000 Beam Luminaire	0x0100

**Table 4: VL6000 Beam Luminaire RDM UID**

UID					
MSB of ESTA 56H	LSB of ESTA 4CH	MSB of Serial	Second Byte of Serial	Third Byte of Serial	LSB of Serial

**Table 5: VL6000 Beam Luminaire RDM Parameters IDs**

Get Allowed	Set Allowed	RDM Parameter IDs	Value	Comment	Implemented
<i>Category - Network Management</i>					
		DISC_UNIQUE_BRANCH	0x0001		
		DISC_MUTE	0x0002		
		DISC_UN_MUTE	0x0003		
		PROXIED_DEVICES	0x0010		
		PROXIED_DEVICES_COUNT	0x0011		
		COMMS_STATUS	0x0015		
<i>Category - Status Collection</i>					
		QUEUED_MESSAGE	0x0020		■
■		STATUS_MESSAGES	0x0030		■
■		STATUS_ID_DESCRIPTION	0x0031		■
	■	CLEAR_STATUS_ID	0x0032		■
		SUB_DEVICE_STATUS_REPORT_THRESHOLD	0x0033		
<i>Category - RDM Information</i>					
		SUPPORTED_PARAMETERS	0x0050	<i>Support required only if supporting Parameters beyond the minimum required set.</i>	

Table 5: VL6000 Beam Luminaire RDM Parameters IDs

Get Allowed	Set Allowed	RDM Parameter IDs	Value	Comment	Implemented
		PARAMETER_DESCRIPTION	0x0051	Support required for Manufacturer-Specific PIDs exposed in SUPPORTED_PARAMETERS message.	
<b>Category - Product Information</b>					
■		DEVICE_INFO	0x0060		■
		PRODUCT_DETAIL_ID_LIST	0x0070		
■		DEVICE_MODEL_DESCRIPTION	0x0080		■
■		MANUFACTURER_LABEL	0x0081		■
■	■	DEVICE_LABEL	0x0082		■
		FACTORY_DEFAULTS	0x0090		
		LANGUAGE_CAPABILITIES	0x00A0		
		LANGUAGE	0x00B0		
■		SOFTWARE_VERSION_LABEL	0x00C0		■
■		BOOT_SOFTWARE_VERSION_ID	0x00C1		■
■		BOOT_SOFTWARE_VERSION_LABEL	0x00C2		
<b>Category - DMX512 Setup</b>					
■	■	DMX_PERSONALITY	0x00E0		■
■		DMX_PERSONALITY_DESCRIPTION	0x00E1		■
■	■	DMX_START_ADDRESS	0x00F0		■
■		SLOT_INFO	0x0120		■
■		SLOT_DESCRIPTION	0x0121		■
■		DEFAULT_SLOT_VALUE	0x0122		■
<b>Category - Sensors 0x02xx</b>					
		SENSOR_DEFINITION	0x0200		
		SENSOR_VALUE	0x0201		
		RECORD_SENSORS	0x0202		
<b>Category - Dimmer Settings 0x03xx - FUTURE USE</b>					
<b>Category - Power / Lamp Settings 0x04xx</b>					
■		DEVICE_HOURS	0x0400		■
■		LAMP_HOURS	0x0401		■
■		LAMP_STRIKES	0x0402		■
■	■	LAMP_STATE	0x0403		■
■	■	LAMP_ON_MODE	0x0404		■
■		DEVICE_POWER_CYCLES	0x0405		■
<b>Category - Display Settings 0x05xx</b>					
■	■	DISPLAY_INVERT	0x0500		■
■	■	DISPLAY_LEVEL	0x0501		■
<b>Category - Configuration 0x06xx</b>					
■	■	PAN_INVERT	0x0600		■
■	■	TILT_INVERT	0x0601		■

Table 5: VL6000 Beam Luminaire RDM Parameters IDs

Get Allowed	Set Allowed	RDM Parameter IDs	Value	Comment	Implemented
■	■	PAN_TILT_SWAP	0x0602		■
		REAL_TIME_CLOCK	0x0603		
<i>Category - Control 0x10xx</i>					
	■	IDENTIFY_DEVICE	0x1000		■
	■	RESET_DEVICE	0x1001		■
		POWER_STATE	0x1010		
		PERFORM_SELFTEST	0x1020		
		SELF_TEST_DESCRIPTION	0x1021		

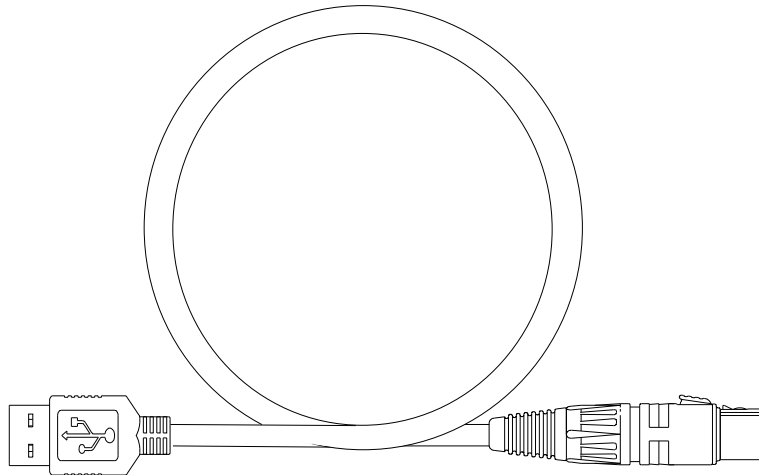
# Updating Software

---

## PEGASUS Software

### Application

With the USB Upload Cable (part number **PEGASUS**, sold separately) and the PEGASUS Software (downloaded from our web site), you can connect any USB 2.0 compatible port on a computer to a chain of up to 32 Philips Entertainment Lighting luminaires in order to update the luminaire software.



**Figure 3-5: USB Upload Cable** (sold separately)

---

**Note:** PEGASUS Software is compatible with previous versions of the VARI\*LITE USB Upload Cable (25.9600.0001).

---

### Computer Requirements

- PC running Windows. Although the programming kit software is not directly compatible with Macintosh computers, it does run with some Windows emulators.
- An available USB 2.0 compatible port on your computer.
- Internet access the Philips Entertainment Lighting web site ( [www.philips.com/entertainmentlighting](http://www.philips.com/entertainmentlighting)) to download the PEGASUS Software.

---

**Note:** Internet access is only required to download the PEGASUS Software and product firmware files. Internet access is not required to use the program.

---

## Installing PEGASUS Software

To install the PEGASUS Software:

- Step 1. As described in “[Computer Requirements](#)”, visit the Philips Entertainment Lighting web site and download PEGASUS Software ZIP File.

- Step 2. Unzip file to a folder on your computer.
- Step 3. Double click on **pegausinstall.msi** icon.
- Step 4. Follow all prompts in program's installation wizard.
- Step 5. Insert USB Upload Cable (*sold separately*) into a USB 2.0 compatible port on your computer.



**WARNING:** Do not use a USB hub, always connect directly to a USB port on your computer.

---

---

- Step 6. When prompted by Windows for upload cable USB driver, use browser window to point to "USB Driver" folder that came with PEGASUS Software and press OK.
- Step 7. After USB cable is ready to use, proceed to next step.

---

**Note:** Refer to [““Upload Cable LED Status Messages””](#) about the three-color LED on the XLR end of the cable.

---



## Troubleshooting

### Upload Cable LED Status Messages

Table 6: USB Upload Connector LED Colors

XLR LED Status	Meaning
Continuous <b>Red</b>	Do not use the cable to download software; contact customer service for assistance.
Continuous <b>Purple</b>	Driver software is not installed.
Continuous <b>Blue</b> with <b>Purple</b> pulse every five seconds.	Cable is ready, but data is not being transmitted.
Flashing <b>Blue</b> (twice per second)	Data is being transmitted.

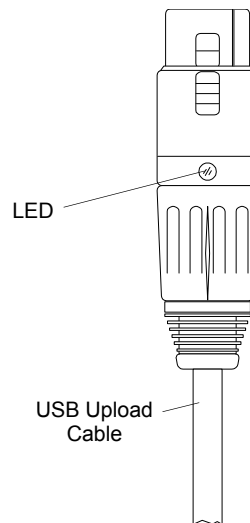


Figure 3-6: USB Upload Cable

### Upload Cable Warning (Error) Message

If you see a warning message (as shown in [Figure 3-7](#)) on your computer screen and the USB Upload Cable is properly connected to USB 2.0 compatible port on your computer, it may not be detected by your computer.

- Disconnect USB Upload Cable from computer and reconnect.
- Reinstall USB Upload Cable Driver as described in, “[Installing PEGASUS Software](#)”.

If either of the these do not resolve the error message, you may have a defective Upload Cable. Contact customer service at 1.214.647.7880 or [entertainment.service@philips.com](mailto:entertainment.service@philips.com) for assistance.

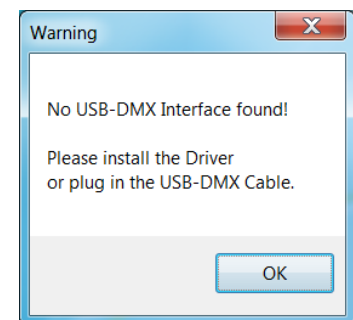


Figure 3-7: Upload Cable Error Message

---

## Installing or Updating Luminaire Firmware

Luminaire firmware, for the VL6000 Beam Luminaire can be loaded via PEGASUS or via the USB port. This section describes both methods.

### USB Upload via USB Port

To upload luminaire software to a luminaire using a USB Flash drive.

- Step 1. On a computer connected to the Internet, download the luminaire software from the Philips Entertainment Lighting web site. *Save the downloaded .bin file to the root directory on a USB flash drive (not supplied, by others). Do not store the .bin file in any folder on the USB flash drive.*
- Step 2. Insert USB flash drive into luminaire's USB port.
- Step 3. Press [ESC].
- Step 4. Press [UP] / [DOWN] arrows until **Fixture** appears. Press [OK].
- Step 5. Press [UP] / [DOWN] arrows until **USB** appears. Press [OK].
- Step 6. Press [UP] / [DOWN] arrows until **USB Upload** appears. Press [OK].
- Step 7. The display will show download progress.

---

**Note:** To determine software version at luminaire, see “[Verify software version at luminaire:](#)” on page 50.

---

### Using PEGASUS Uploader

When luminaires are data linked together, you can program up to 32 luminaires at the same time; refer to “[Connecting Data and Power](#)” on page 28. To program more than 32 luminaires (or devices), program them in batches of 32 or less.



#### Important Notes & Warnings:

- *DMX Data must be disconnected before uploading software to luminaires. Do not merge firmware files with DMX signals.*
- *You can upload multiple firmware files to a variety of luminaires that are data linked together. Each model of Philips Entertainment luminaire recognizes its own software and only downloads the appropriate file.*
- *Do not use a USB hub, always connect directly to a USB port on your computer.*

To install or update luminaire firmware using PEGASUS upload cable:



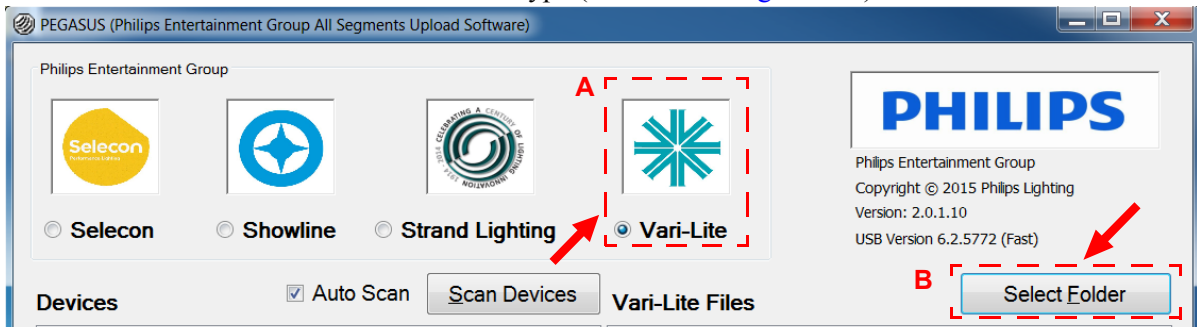
---

**Note:** DMX Data must be disconnected before uploading software to luminaires. Do not merge firmware files with DMX signals.

---

- Step 1. Visit Philips Entertainment Lighting web site ([www.philips.com/entertainmentlighting](http://www.philips.com/entertainmentlighting)) and download product firmware you wish to update.

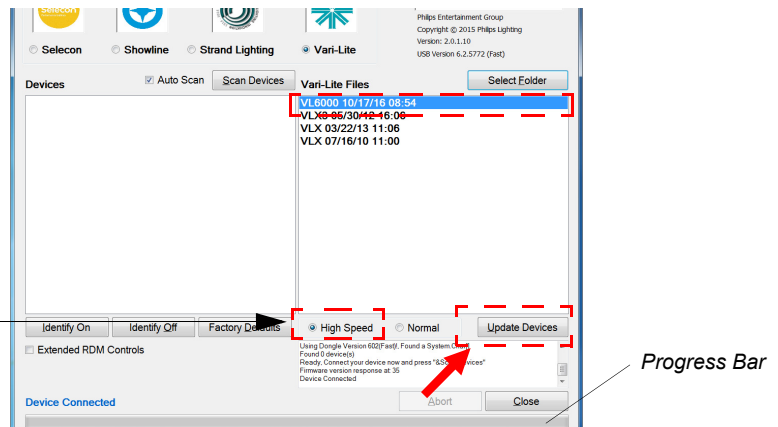
- Step 2. Unzip firmware file you downloaded to a folder on your computer.
- Step 3. Insert USB Upload Cable (*sold separately*) into a USB 2.0 compatible port on your computer (*do not use a USB hub*).
- Step 4. Double click on PEGASUS Software shortcut on your desktop.
- Step 5. When application opens:
  - a. Select Vari-Lite for luminaire type (as shown in Figure 3-8.).



**Figure 3-8: PEGASUS Software Selection Screen**

- b. As indicated in Figure 3-8, click on Select Folder button to open browser window.
- Step 6. In browser window, navigate to folder where Vari-Lite firmware was extracted.
  - a. Click on any file in folder.
  - b. Click Open button on bottom of screen.
- Step 7. Click on bin file for luminaire to be updated (for example, VL6000\_101716.bin) as highlighted in Figure 3-9.

**NOTE: Select High Speed option when uploading to 16 or less luminaires.**



**Figure 3-9: bin File Selection**

- Step 8. As indicated in Figure 3-9, click on Update Devices to start upload.
  - a. During upload, PEGASUS and luminaire screens will display a progress bar showing upload status.
  - b. Once progress bar shows completed on computer screen, wait approximately one minute before moving to next step. *Note, The progress bar on luminaire LCD display may continue for a short time after computer progress bar shows completed.*

- c. Once the firmware upload is complete, the VARI\*LITE luminaire(s) will automatically recalibrate.

Step 9. Close PEGASUS Software using **Close** button at bottom of program screen.

---

**Note:** You can confirm the software version in the luminaire menu.

---

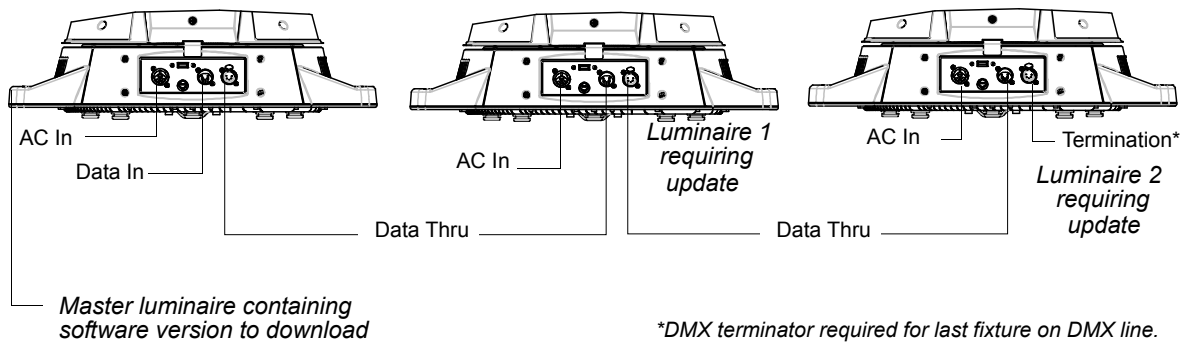
## Transferring Software From Luminaire to Luminaire

It is possible to transfer specific software versions between luminaires. As in the case of installing new software versions, multiple luminaires can be programmed at the same time if they are data linked together (refer to [“Connecting Data and Power”](#) on page 28), however a maximum of 32 luminaires can be updated at once.

### Hardware Requirements

Data cables used in this process must have two twisted pairs and a shield. It is also recommended that cables meet all other USITT DMX specification requirements. Refer to [“Data Cables”](#) on page 17.

A DMX termination connector is used in this process. Refer to [page 18](#) for more information regarding the construction of this connector.



**Figure 3-10: Software Transfer Setup**

### Transfer Procedure

This procedure is used to transfer software versions between luminaires.

- Step 1. At last luminaire, install DMX termination connector into DATA THRU XLR connector.
- Step 2. At master luminaire (first in chain) Menu Display, press [ESC].
- Step 3. Press [Up] / [Down] arrows until **Fixture** appears. Press [OK].
- Step 4. Press [Up] / [Down] arrows until **Crossload Software** appears. Press [OK].
- Step 5. **OK?** will be displayed. Press [OK] to accept.
- Step 6. The status bar will show download progress.

### Verify software version at luminaire:

- Step 1. At Menu Display, press [ESC].

Step 2. Press [Up] / [Down] arrows until **Fixture** appears. Press [OK].

Step 3. Press [Up] / [Down] arrows until **Version** appears. Press [OK].

The first half of the version will be displayed as a date (MM/DD/YY). For example, 03/18/17 (March 18, 2017).

Press [Enter] to display second half of version. This will be displayed as a time (HH:MM). (For example, 16.36 = 4:36 pm).



## **CHAPTER 4.**

# **Menu System**

This chapter contains instructions for operating the luminaire using the Menu Display feature.

- **Menu Operation**
- **Self Tests**
- **USB Logging**

# Menu Operation

## LCD Display and Menu System

The VL6000 Beam Luminaire's LCD Display and Menu System provides local control for accessing the following fixture's settings:

- Address – to set the DMX address
- Configure – various parameter settings, set luminaire ID
- DMX – change the map, view incoming DMX, invert pan/tilt
- Fixture – fixture status, recalibrate, reboot, software version, view fixtures hours, service, etc.
- Manual – manual control of parameters
- Test – test functions of parameters

The menu system is controlled at the Menu Display available at the enclosure input panel. If there are multiple luminaires in a system, any settings or changes would need to be made at each LCD Menu as desired.

## Menu Controls

The menu system is controlled by an OK (Enter), ESC (Escape), and four Arrow ( $\triangleleft$  $\triangle$  $\triangleright$  $\triangleleft$ ) buttons. These buttons function are shown in [Figure 4-1](#).

### LCD Menu Proximity Sensor

Automatically enables the menu display (turn on the backlight) as you reach for the front panel.

**LCD Display**  
Displays all Data and Luminaire Settings



**ESC (Escape)**  
Used to Access Main Menu Parameters, Exit, or Return to Previous Menu Item



**Arrow Keys (Up/Down/Left/Right)**  
Menu Navigation / Data Selection



**OK (Enter) Button**  
To Select or Change a Setting or Data Value

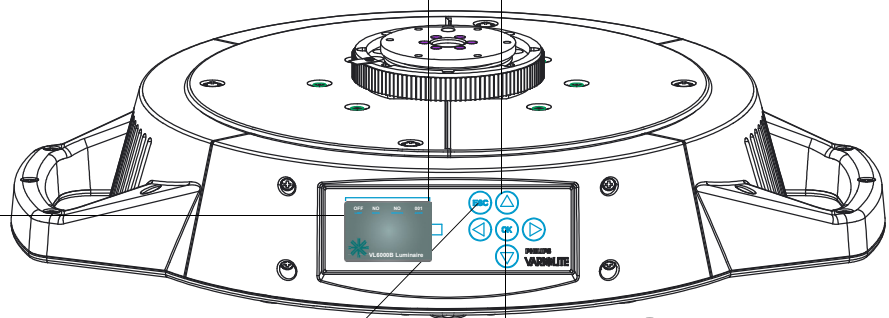


Figure 4-1: Menu Control



## LCD Display and Menu System Operation

The LCD Display Menu system consists of several categories. Use the Menu Buttons to access and make changes to the menu items. When the desired menu item is reached, press the desired Menu Button to display the menu options and to navigate and configure the menu options as required.

### To navigate and access menu settings/selections:

- Step 1. Make sure unit is powered and turned on.
- Step 2. Press [ESC] to access menu categories.
- Step 3. Use four Arrow (◀△▽▶) buttons to navigate through the various options and settings.
- Step 4. Once menu item is reached, press [OK] to access the menu item parameters.
- Step 5. Make changes to parameters as desired.
- Step 6. Press OK [Enter] button to accept changes.

## DMX Address

### To set, edit, and save a DMX address:

- Step 1. Press [ESC].
- Step 2. Press [Up] / [Down] arrows until **Address** appears. Press [OK].
- Step 3. Use [Left] and [Right] arrow buttons to scroll through all digits.
- Step 4. Once at desired digit, use [Up] and [Down] arrows to change highlighted digit.
- Step 5. Once digit is set, use [Left] and [Right] arrow buttons to set other digits in DMX address.
- Step 6. Once all digits are set in DMX address, press [OK] to set.
- Step 7. DMX address will display and is saved.

## Other LCD Display Features

### LCD Menu Battery Operation

The LCD menu system utilizes a battery powered system for operation when the luminaire is not connected to power. The primary purpose of this mode is to allow basic setup and configuration of the luminaire.

#### To enable the battery operation of the menu system:

- Step 1. Press and hold [ESC] and [OK] for two seconds.
- Step 2. Once enabled, the menu will function as normal.

**Note:** Any commands that require full power (calibrate, lamp strike, etc.) will be ignored while the menu system is in battery operation mode.

- Step 3. To exit battery mode, press and hold [ESC] and [OK] for two seconds. *Note, luminaire will automatically exit this mode after one minute of inactivity.*

### Status Bar

The Status Bar (as illustrated in [Figure 4-2](#)) is present at all times and displays luminaire operational information of the luminaire. The Status Bar contains the following information:

- LAMP – indicates current lamp state - ON or OFF.
- SHDN – indicates shutdown time in hours NO indicates NO shutdown time.
- ERRORS – Displays a number indicating the total amount of current errors. When errors are present, messages will appear in Red text. When no errors are present, NO will display.
- ADDR – Displays the current DMX address for the fixture. NOTE, when the fixture does not detect a DMX input signal, the DMX address text will display in Red text.

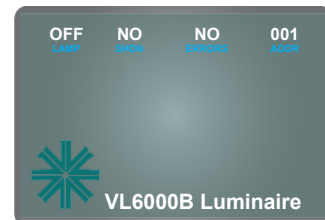


Figure 4-2: LCD Display Status Bar

### LCD Menu Proximity Sensor

The LCD menu system uses a proximity sensor to automatically enable the menu display (turn on the backlight) as you reach for the front panel. If the display is off, it will turn on when your hand is within a few inches of the display. *Note, when the luminaire is not connected to power and the LCD menu is operating on battery, this proximity sensor is disabled.*

# Menu Tree

Figure 4-3 and Figure 4-4 on page 58 are graphical representations of the menu system.

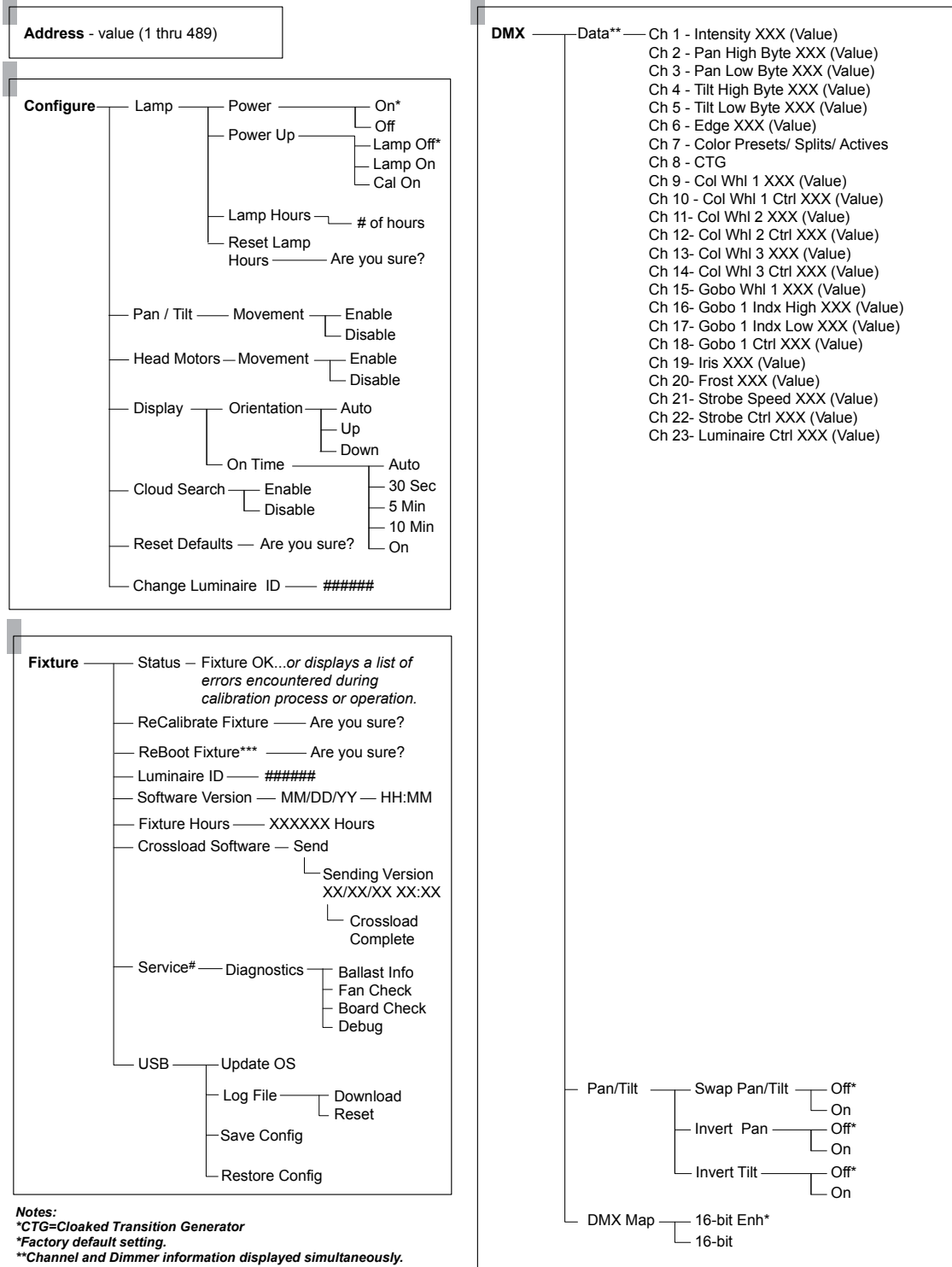


Figure 4-3: Menu Tree Part 1

Continued from previous page:

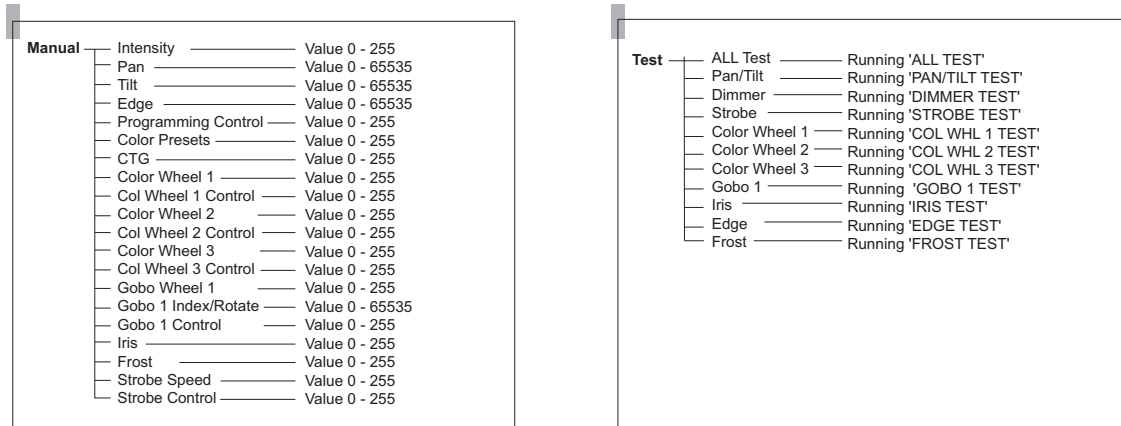


Figure 4-4: Menu Tree Part 2

## Menu System Functions

Table 4-1: Menu System Chart

1st Level	2nd Level	3rd Level	4th Level	5thLevel
<b>Address</b> <i>DMX Address</i>	<b>XXX</b> <i>DMX Address value 1 to 512</i>			
<b>Configure</b> <i>System Configuration</i>	<b>Lamp</b> <i>Lamp Options</i>	<b>Power</b>	ON (default)	
			OFF	
		<b>Power Up</b> <i>Lamp Power-up State</i>	Lamp OFF (default) <i>Lamp Off</i>	
			Lamp ON <i>Lamp On</i>	
			Cal ON	
		<b>Lamp Hours</b> <i>Lamp Hours Used</i>	XXXX <i>Cumulative # of Operation Hours</i>	
	<b>Lamp Strikes</b> <i>Number of Lamp Strikes Performed</i>	XXXX <i>Cumulative # of Lamp Strikes</i>		
	<b>Reset Lamp Hours</b> <i>Resets Lamp Hour Counter</i>	<b>Are you sure?</b> <i>Resets Lamp Hour Counter to 0000</i>	<i>Confirmation that reset has been executed</i>	
	<b>Pan/Tilt</b> <i>Pan and Tilt Options</i>	<b>Movement</b> <i>Position Recovery</i>	Enable	
			Disable	
		<b>Speed</b> <i>Pan / Tilt movement speed</i>	Auto	
			Normal	
	<b>Head Motors</b>	<b>Movement</b>	Enable	
			Disable	
	<b>Display</b> <i>Display / Menu Illumination</i>	<b>Orientation</b>	Auto <i>Flips to enclosure position</i>	
			Up	
			Down	
		<b>On Time</b>	30 Seconds <i>OFF in 30 seconds</i>	
			5 Minutes <i>OFF in 5 minutes</i>	
			10 Minutes <i>OFF in 10 minutes</i>	
ON <i>ON indefinitely</i>				
<b>Reset Defaults</b> <i>Reset luminaire to default settings?</i>		<b>Are you sure?</b>	<i>Confirmation that reset has been executed</i>	
<b>Change Luminaire ID</b>	##### <i>Sets Luminaire ID Number</i>			

Table 4-1: Menu System Chart (Continued)

1st Level	2nd Level	3rd Level	4th Level	5thLevel
<b>DMX</b> <i>DMX Data and Pan/Tilt Mode</i>	<b>DATA</b> <i>Note: Channel and Dimmer information displayed simultaneously</i>	Ch 1 - Intensity XXX (Value) Ch 2 - Pan High Byte XXX (Value) Ch 3 - Pan Low Byte XXX (Value) Ch 4 - Tilt High Byte XXX (Value) Ch 5 - Tilt Low Byte XXX (Value) Ch 6 - Edge Byte XXX (Value) Ch 7 - Color Presets/Splits/Actives Byte XXX (Value) Ch 8 - CTG Ch 9 - Color Wheel 1 Byte XXX (Value) Ch 10 - Color Wheel 1 Ctrl XXX (Value) Ch 11 - Color Wheel 2 XXX (Value) Ch 12 - Color Wheel 2 Ctrl (Value) Ch 13 - Color Wheel 3 XXX (Value) Ch 14 - Color Wheel 3 Ctrl (Value) Ch 15 - Gobo Whl 1 XXX (Value) Ch 16 - Gobo 1 Indx High XXX (Value) Ch 17 - Gobo 1 Indx Low XXX (Value) Ch 18 - Gobo 1 Ctrl XXX (Value) Ch 19 - Iris XXX (Value) Ch 20 - Frost XXX (Value) Ch 21 - Strobe Speed XXX (Value) Ch 22 - Strobe Control XXX (Value) Ch 23 - Luminaire Ctrl XXX (Value)		
	<b>Pan/Tilt</b> <i>Pan/Tilt Options</i>	<b>Swap Pan / Tilt</b> <i>Swap Pan &amp; Tilt operation</i>	OFF (default) ON	
		<b>Invert Pan</b> <i>Inverts Pan operation</i>	OFF (default) ON	
		<b>Invert Tilt</b> <i>Inverts Tilt operation</i>	OFF (default) ON	
	<b>DMX Mode</b> <i>Sets DMX Mapping Mode</i>	<b>16-bit Enh</b> <i>16-Bit Enhanced DMX Mode (default)</i>		
<b>16-bit</b> <i>16-bit DMX Mode</i>				

Table 4-1: Menu System Chart (Continued)

1st Level	2nd Level	3rd Level	4th Level	5thLevel	
<b>Fixture</b> Displays fixture information, condition or downloads new software	<b>Status</b> Status/Error Display	<b>Fixture OK</b> . . . Or displays a list of errors encountered during calibration process or operation.			
	<b>ReCalibrate Fixture</b> Recalibrate (re-homes) all mechanical parameters of the fixture	Are you sure?	Confirmation that recalibration has been executed		
	<b>ReBoot Fixture</b> Reboots entire fixture including processor	Are you sure?			
	<b>Luminaire ID</b> Displays luminaire's ID number	#####			
	<b>Software Version</b> Current software installed in fixture	XX/XX/XX Software Version Date	XX:XX Software Version Time		
	<b>Fixture Hours</b> Fixture Hours On (powered)	XXXXXX Hours			
	<b>Crossload Software</b> Download (send) fixture's software to other connected fixtures.	Send	Sending Version XX/XX/XX XX:XX Sending Software Version Date / Time	Crossload Complete	
	<b>Service</b> For use by authorized service technicians only.		<b>Diagnostics</b>	<b>Fan Check</b>	
				<b>Board Check</b>	
				<b>Sensor Check</b>	
				<b>Debug</b>	
	<b>USB</b>		Update OS	List of Files OR No Card Inserted	
Log File			Download  Reset		
<b>Manual</b> Manual Commands  Note: Manual is Disabled if DMX512 signal is present.	<b>Intensity</b> <b>Pan</b> <b>Tilt</b> <b>Edge</b> <b>Color Presets</b> <b>CTG</b> <b>Col Whl 1</b> <b>Col Whl 1 Ctrl</b> <b>Col Whl 2</b> <b>Col Whl 2 Ctrl</b> <b>Col Whl 3</b> <b>Col Whl 3 Ctrl</b> <b>Gobo Whl 1</b> <b>Gobo 1 Index</b> <b>Gobo 1 Ctrl</b> <b>Iris</b> <b>Frost</b> <b>Strobe Speed</b> <b>Strobe Control</b> <b>Luminaire Control</b>	Value 0 - 255 Value 0 - 65535 Value 0 - 65535 Value 0 - 255			

For Service Settings and USB menu descriptions, refer to the following:

- “USB Logging” on page 64 (for Log File)
- “Installing or Updating Luminaire Firmware” on page 48 (for Update OS)

**Table 4-1: Menu System Chart (Continued)**

1st Level	2nd Level	3rd Level	4th Level	5thLevel
<p><b>Test*</b> System Test</p> <p><i>Note: Test is Disabled if DMX512 signal is present.</i></p>	<p><b>ALL Test</b> <b>Pan/Tilt</b> <b>Dimmer</b> <b>Strobe</b> <b>Color Wheel 1</b> <b>Color Wheel 2</b> <b>Color Wheel 3</b> <b>Gobo 1</b> <b>Iris</b> <b>Frost</b></p>	<p><i>Running 'ALL TEST'</i> <i>Running 'PAN/TILT TEST'</i> <i>Running 'DIMMER TEST'</i> <i>Running 'STROBE TEST'</i> <i>Running 'COL WHL 1 TEST'</i> <i>Running 'COL WHL 2 TEST'</i> <i>Running 'COL WHL 3 TEST'</i> <i>Running 'GOBO 1 TEST'</i> <i>Running 'IRIS TEST'</i> <i>Running 'FROST TEST'</i></p>	<p><i>Press [Menu] to stop tests</i></p>	



# Self Tests

## Running Parameter Tests

The luminaire is capable of running self tests by using the TEST menu functions. For complete details and values for each test refer to “Diagnostic Tests” on page 64.

When running tests on multiple luminaires, a DMX termination connector is required at the last luminaire in the link. (Refer to page 18 for more information regarding the construction of this connector.)

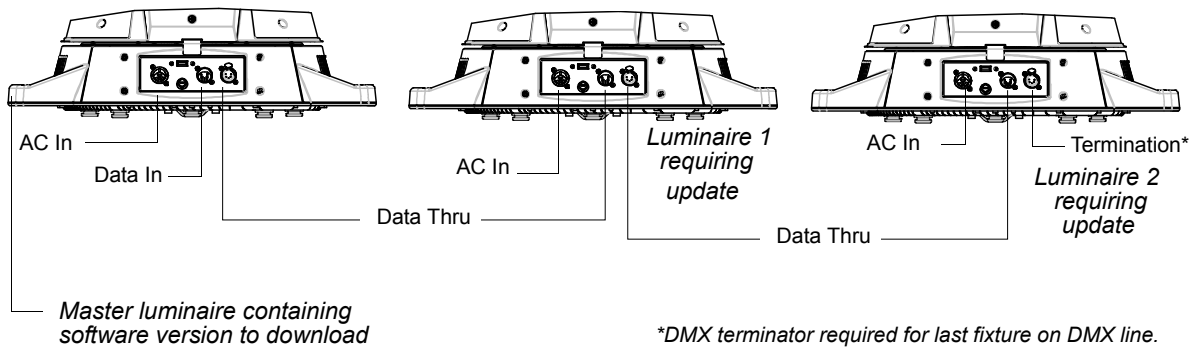


Figure 4-5: Test Setup

### To run tests:

- Step 1. Press [ESC].
- Step 2. Press [Up] / [Down] arrows until **Test** appears. Press [OK].
- Step 3. Use [Up] / [Down] arrows to select a parameter to test. Refer to “Menu System Functions” on page 59 for a complete list of test parameters which can be chosen.
- Step 4. Press [OK] to run test.
- Step 5. Press [ESC] to stop test at any time.

**Note:** Connected luminaires may not respond on the first action (may delay) of the master luminaire.

### Movement Disable

The **Movement** option allows pan and tilt to be disabled so that the luminaire can be placed in any position for testing without movement occurring. In order to regain full control of the luminaire, **Movement** will need to be enabled after testing.

**Note:** When using the **Movement** option, pan and tilt will be disabled for all the luminaires that are linked.

**To set movement option:**

- Step 1. Press [ESC].
- Step 2. Press [Up] / [Down] arrows until **Config** appears. Press [OK].
- Step 3. Press [Up] / [Down] arrows until **Pan/Tilt** appears. Press [OK].
- Step 4. **Movement** will be displayed. Press [OK].
- Step 5. Use [Up] / [Down] arrows to select **Enable** or **Disable**. Press OK] to select.

---

## Diagnostic Tests

The following diagnostic tests are available in the test menu. Press [Menu] at anytime to stop test.

### Test Descriptions

<u>Test Name</u>	<u>Display</u>
ALL Test .....	Running 'ALL TEST'
Pan/Tilt .....	Running 'PAN/TILT TEST'
Dimmer.....	Running 'DIMMER TEST'
Strobe.....	Running 'STROBE TEST'
Color Wheel 1 .....	Running 'COL WHL 1 TEST'
Color Wheel 2 .....	Running 'COL WHL 2 TEST'
Color Wheel 3 .....	Running 'COL WHL 3 TEST'
Gobo 1 .....	Running 'GOBO 1 TEST'
Iris .....	Running 'IRIS TEST'
Edge.....	Running 'EDGE TEST'
Frost.....	Running 'FROST TEST'

---

## USB Logging

The VL6000 Beam Luminaire stores error messages in a log file within the luminaire. This information along with specific luminaire settings can be saved as a .csv (*comma-separated values*) file to a USB flash drive connected to the USB port.

**To save the current log file to a USB Flash Drive:**

- Step 1. Insert a USB flash drive (*not supplied, by others*) into luminaire's USB port.
- Step 2. Press [ESC].
- Step 3. Press [UP] / [DOWN] arrows until **Fixture** appears. Press [OK].
- Step 4. Press [UP] / [DOWN] arrows until **USB** appears. Press [OK].
- Step 5. Press [UP] / [DOWN] arrows until **USB Log** appears. Press [OK].
- Step 6. Press [UP] / [DOWN] arrows until **DOWNLOAD** appears. Press [OK].
- Step 7. Once the download is complete, the display will read "**Reset Current Lum error log file?**" Press [OK] to reset or [ESC] to exit.

Step 8. Press [OK] to clear the current log file in the luminaire or [ESC] to keep it.

The .csv log file on the USB Flash Drive can be read via any computer system. The file name will be as follows: 4KSxxxxx.csv (the xxxxx will be the unique luminaire ID of the fixture). Each log file contains labels and values as shown in Table 5 on page 66.

**Table 5: .csv Log File Information**

Parameter	Example Information	Meaning
Model	VL6000 Beam Luminaire	The fixture model
Fixture Hours	142	The total of number of hours the fixture has been operating
DMX Address	1	Current DMX address of the fixture as set by the user
RDM UID	56:4c:2f:0:7:2a	Refer to "RDM Parameter IDs" on page 42 for information
Luminaire ID	1834	Current luminaire identification number
Software Version	1/6/2015	Current software version loaded in the fixture
DMX Map	16-bit	Current DMX mode setting (16 bit )
Swap Pan/Tilt	No	Current pan and tilt setting
Invert Pan	No	Current pan operation setting
Invert Tilt	No	Current tilt operation setting
Lamp Power Up	Lamp Off	Current Lamp Power Up option setting (Lamp Off, Lamp ON, or Cal On)
Lamp Level	Standard	Current operating mode of the fixture (Standard)
Lamp Strikes	518	Total number of lamp strikes initiated by the fixture
Lamp Hours	140	Total number of lamp hours since the last lamp hour reset
Fixture Hour	Error Type(s)	Lists any errors and their associated fixtures hour (in example shown, a pan error occurred at fixture hour 138)
138	Pan no sensor	

## APPENDIX A.

# Maintenance

This appendix provides instructions for performing routine maintenance which may be necessary during the life of the luminaire.

- **Equipment Handling**
- **Troubleshooting**
- **Routine Maintenance**



---

---

**WARNING:** All maintenance procedures are to be performed with power completely removed from the luminaire. Also, allow at least of five minutes cooling time before opening covers. Never remove covers or lamp cover assembly while lamp is in operation.

---

---

## Equipment Handling

Below are some basic tips and information on handling luminaires and their associated components.

---

### Locations/Use



VARI\*LITE luminaires are designed for dry locations only. Exposure to rain or moisture (including, but not limited to, fog machines, misters, etc.) may damage luminaire.

---

### Lamps

#### Servicing

- When handling a lamp, hold it by the ceramic base while wearing cotton gloves or finger cots. Do not touch the glass envelope (bulb). If you touch the glass with bare fingers, immediately wipe off any fingerprints with isopropyl alcohol.
- Use care when removing and replacing covers of luminaire and cleaning reflectors. Any jarring can undo the optical alignment of the lamp.
- Hot Lamp. Luminaire must remain powered on for 5 minutes after dousing lamp. Do not open for 5 minutes after switching off. Lampe chaude. Le luminaire doit rester en marche pendant 5 minutes après avoir éteindre la lampe. Ne pas ouvrir pendant 5 minutes après la coupure.
- Risk of exposure to excessive ultraviolet radiation. Do not operate without complete lamp enclosure in place or when lens is damaged. Risque d'exposition aux rayonnements ultraviolets excessifs. Ne pas faire fonctionner sans le boîtier complet de lampe mis en place ou lorsque l'objectif est endommagé.

#### Heat

When lamps are lit, the interior of the luminaires becomes very hot. To aid in the airflow circulation within the luminaires, after dousing the lamps, wait 5 minutes before removing power to the luminaires. This will provide enough time for the equipment fan to cool off the unit. Users should wait until the unit is cool to the touch before servicing or handling.

---

**Note:** Also, refer to [“Fixture Shutdown” on page 41](#) for additional information.

---

#### Lamp Life

- When operating arc lamps, allow luminaires to operate for at least 3 minutes. It takes about 3 minutes for the fill components (mercury and halogen-metal compounds) in the lamp tubes to vaporize completely. If the lamps are switched off earlier than 3 minutes, the fill components are partially vaporized. The inadequately vaporized fill components and the electrode material (tungsten) are deposited in the areas of the lamp tubes that have remained cool. As a result, the lamp tubes blacken prematurely and reduce the service life of the lamps.

- If the luminaire will be dimmed out for more than two hours, the lamp should be doused.

---

## Solid State Electronics



### Electrostatic Discharge (ESD)

Electrostatic discharge (ESD) presents a significant danger to solid state electronic components (semiconductor devices and PC board assemblies). Static electricity can build on a variety of common objects (including people) simply by handling or moving. ESD rarely results in immediate failure of a component, but shows up later as an intermittent problem or severely reduces the life of the component. All VARI\*LITE equipment uses solid state electronics and appropriate precautions to protect them should be observed when servicing.

### Printed Circuit Boards (PCBs)

All PC boards should be shipped in electrostatic shielding bags. When handling PC boards or components, devices such as conductive mats and conductive wrist straps should be used whenever possible. If these precautionary devices are not available, handling of PC boards and components should be avoided.



**CAUTION:** Black foam (used to package solid state electronics) should never be used for packing batteries or put in contact with PC boards which contain batteries.

---

# Troubleshooting

## Error Messages

If a problem occurs during luminaire calibration, at the end of the calibration sequence the Menu Display will cycle through any applicable error message(s), one at a time until the end of the list is reached. To review the error messages again, it will be necessary to access them using the Status function. Also, the VL6000 Beam Luminaire stores error messages in a log file within the luminaire. The log file can be downloaded from the fixture's USB port as described in "USB Logging" on page 64.

**To access error messages:**

- Step 1. Press [ESC].
- Step 2. Press [Up] / [Down] arrows until Fixture appears. Press [OK].
- Step 3. Press [Up]/ [Down] arrows to access Status. Press [OK]. (Display will now scroll through any error messages or display OK if no errors).

**Table A-1: Error Messages**

Display	Meaning
OK	No Errors Found - All Sensors Responded Properly
Pan Sensor	Pan Sensor (Encoder) Error
Tilt Sensor	Tilt Sensor (Encoder) Error
Tilt Encoder	Tilt Encoder Error
Dimmer Sensor	Dimmer Sensor Error
Color Whl1 Sensor	Color Wheel 1 Sensor Error
Color Whl2 Sensor	Color Wheel 2 Sensor Error
Color Whl3 Sensor	Color Wheel 3 Sensor Error
Gobo Whl1 Sensor	Rotating Gobo Wheel 1 Sensor Error
Gobo 1 Index Sensor	Rotating Gobo Wheel 1 Indexing Sensor Error

## Troubleshooting Guide

If a problem is suspected, first try recalibrating the luminaire to prompt an error message. The chart below provides possible causes and remedies for various error messages and/or symptoms.



**CAUTION:** Some troubleshooting is included for reference only. Performing remedies may void product warranty. Refer to the Vari-Lite Limited Warranty card included with the product.

**Table A-2: Troubleshooting Guide**

Message	Symptom	Description	Possible Cause/Remedy
Lamp Power Douse	Lamp does not strike upon start-up	Lamp Off option is configured	- Reconfigure lamp startup option in Lamp config menu.



<b>Message</b>	<b>Symptom</b>	<b>Description</b>	<b>Possible Cause/Remedy</b>
n/a	Lamp douses frequently	Lamp Douse	Fan failure... - check head and enclosure fans for proper operation. Ballast overheating... - operating within the specified ambient temperature? - check enclosure vents for debris / dirt. - check fan settings in menu. - check enclosure fans for proper operation. NOTE: Upon initial power up, ballast fans will run for a few seconds and then operate as needed. Enclosure vents must be clear of debris and dirt to allow proper airflow.
n/a	Lamp will not strike	Lamp Strike Failure	Lamp cutout switch disengaged... - check lamp cutout switches at lamp box and fan ducts. Bad lamp... - replace lamp. Low input voltage... - check input power (must be 200 to 240 VAC). Fan failure... - check head and enclosure fans for proper operation.
n/a	Luminaire behaves oddly	DMX Map Not Matched	Console library not set correctly... - check console library matches DMX map of luminaire.
n/a	Luminaire does not power up	No power	Circuit not energized... - verify circuit breaker (at source) is turned on. Not plugged in... - ensure A/C cable is connected to power source.
n/a	Self tests will not run or software download does not work from luminaire.	DMX Data Input	Detecting DMX data... - disconnect DMX input cable.
n/a	No response to DMX data	DMX Failure	DMX connector disconnected... - check DMX DATA IN connection.
n/a	Erratic control of luminaire	DMX Termination	No DMX termination or termination not correct... - check for DMX terminator. - Luminaire DMX address does not match console patch.

# Routine Maintenance

---

## Lamp Removal and Installation

---



**WARNING:** Disconnect fixture before relamping. Déconnectez le projecteur avant que le changement de lampe.

---

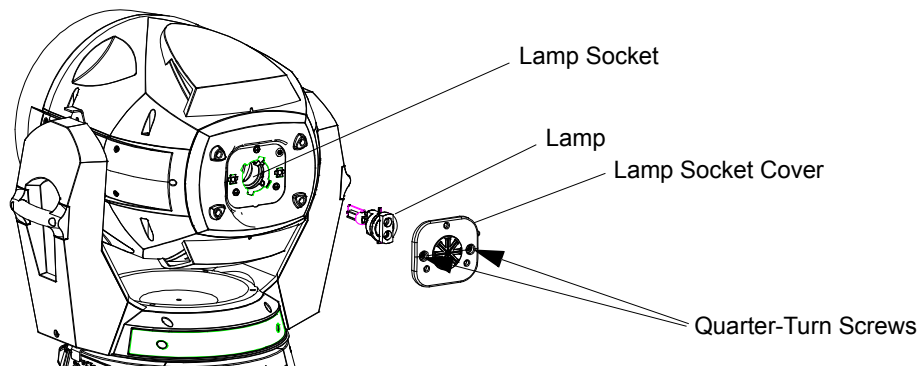


### Cautions and Warnings

- Wear cotton gloves or other covering while installing lamp. Touching lamp glass with bare fingers will leave oil and may cause the lamp to explode or reduce lamp life. If touched, use isopropyl alcohol and cotton cloth to thoroughly clean glass portion of lamp.
- Hot Lamp. Luminaire must remain powered on for 5 minutes after dousing lamp. Do not open for 5 minutes after switching off. Lampe chaude. Le luminaire doit rester en marche pendant 5 minutes après avoir éteindre la lampe. Ne pas ouvrir pendant 5 minutes après la coupure.
- Risk of exposure to excessive ultraviolet radiation. Do not operate without complete lamp enclosure in place or when lens is damaged. Risque d'exposition aux rayonnements ultraviolets excessifs. Ne pas faire fonctionner sans le boîtier complet de lampe mis en place ou lorsque l'objectif est endommagé.

#### To replace lamp:

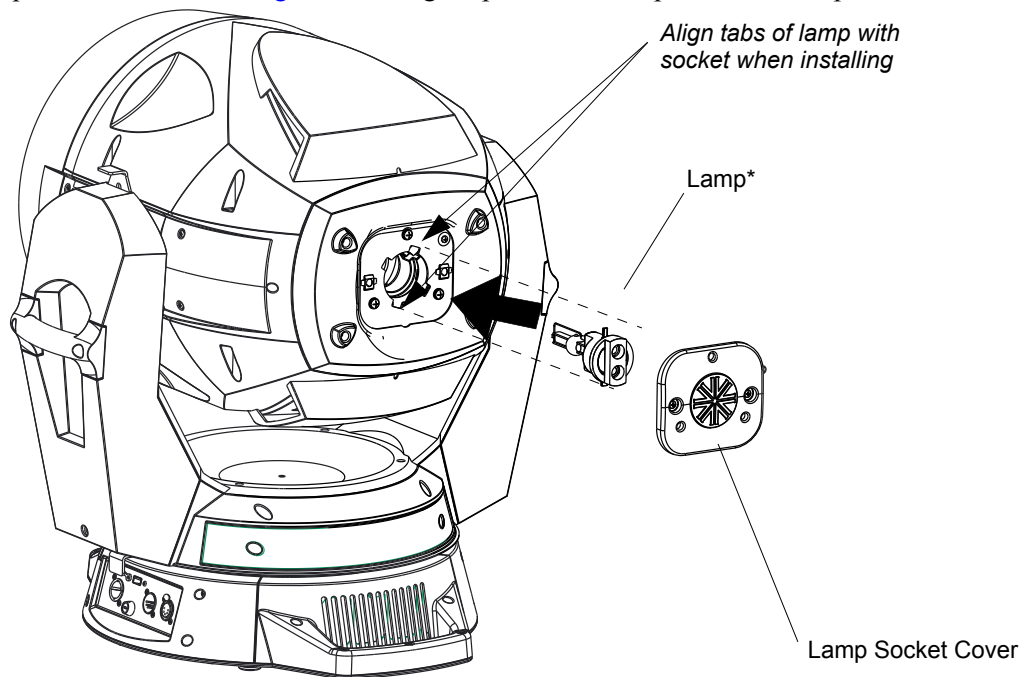
- Step 1. Ensure power is completely removed from luminaire.
- Step 2. Set the luminaire head horizontally.
- Step 3. Engage tilt lock to secure luminaire head in position.
- Step 4. At back of luminaire, using #2 Phillips screwdriver, remove lamp socket cover by loosening the two quarter-turn captive screws. Note: lamp socket cover is connected with a safety tether.



**Figure A-1: Lamp Socket Cover Removal**

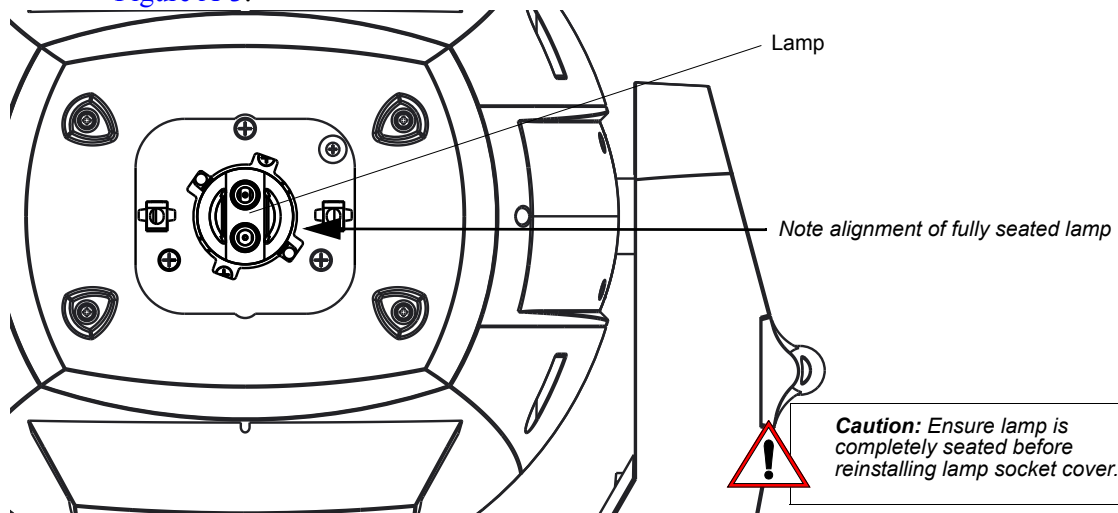
- Step 5. To remove lamp, grasp lamp base by hand, twist lamp counter-clockwise until lamp's tabs align with slots in lamp socket (see [Figure A-2](#) on [page 73](#) for more information), and remove lamp by pulling it straight out of socket.

- Step 6. Remove replacement lamp from shipping box.
- Step 7. As shown in [Figure A-2](#), align replacement lamp tabs with lamp socket.



**Figure A-2: Lamp Installation**

- Step 8. Install lamp fully into lamp socket, taking care not to touch lamp glass.
- Step 9. Turn lamp clockwise to seat lamp into socket. Lamp base should be aligned as illustrated in [Figure A-3](#).



**Figure A-3: Installed Lamp**

- Step 10. Reinstall lamp socket cover. Make sure safety tether is completely encapsulated within lamp socket cover.
- Step 11. Disengage tilt lock to allow luminaire head to move freely.
- Step 12. Align lamp as described in [“Align Lamp For Maximum Beam Irradiance”](#) on page 21.

---

## Fixed Color Wheel Filter Removal and Installation

Fixed color wheel filters in the VL6000 are glued into the color wheel. Filters cannot be removed and installed while bulkhead is in the fixture.

---

## Rotating Gobo Removal and Installation



**CAUTION:** VL6000 Beam Luminaires accept glass gobos only. Use of metal gobos in these luminaires may damage gobo assembly and will void the luminaire warranty.



**WARNING:** Remove power from luminaire and allow luminaire to cool completely before performing this procedure.

---

### To remove and replace rotating gobos:

- Step 1. Remove power from luminaire.
- Step 2. Remove head cover assembly as indicated in by loosening four captive screws and lifting cover away from luminaire head.

---

**Note:** Note: head cover is attached by a safety tether.

---

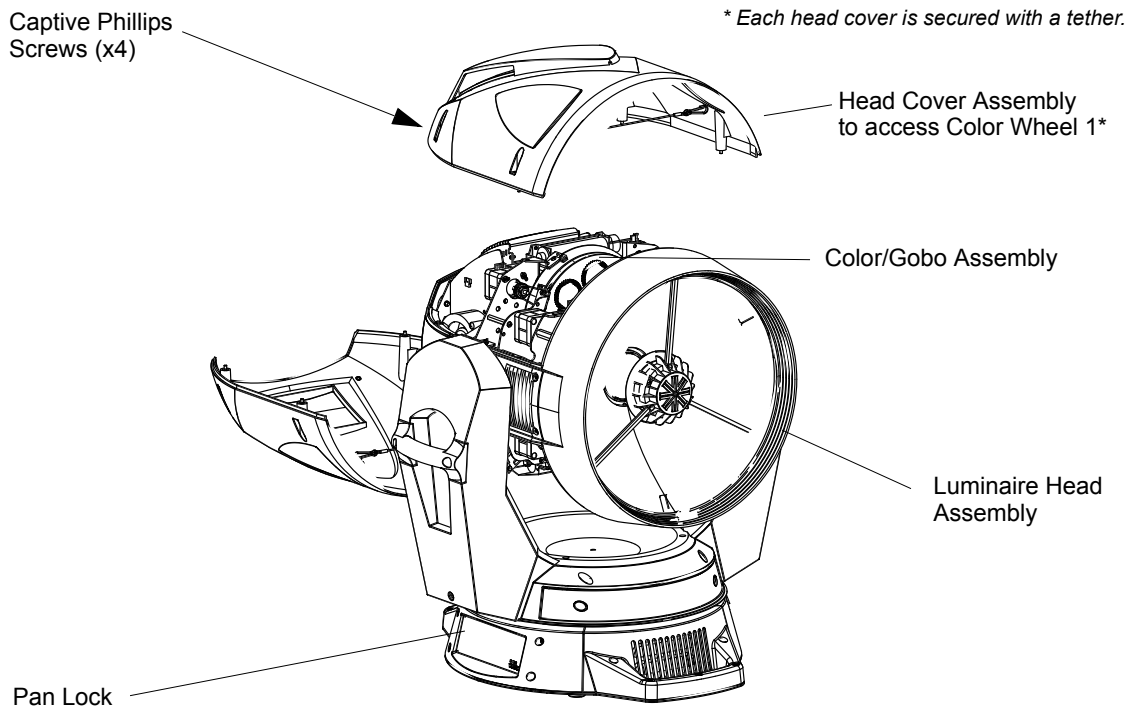
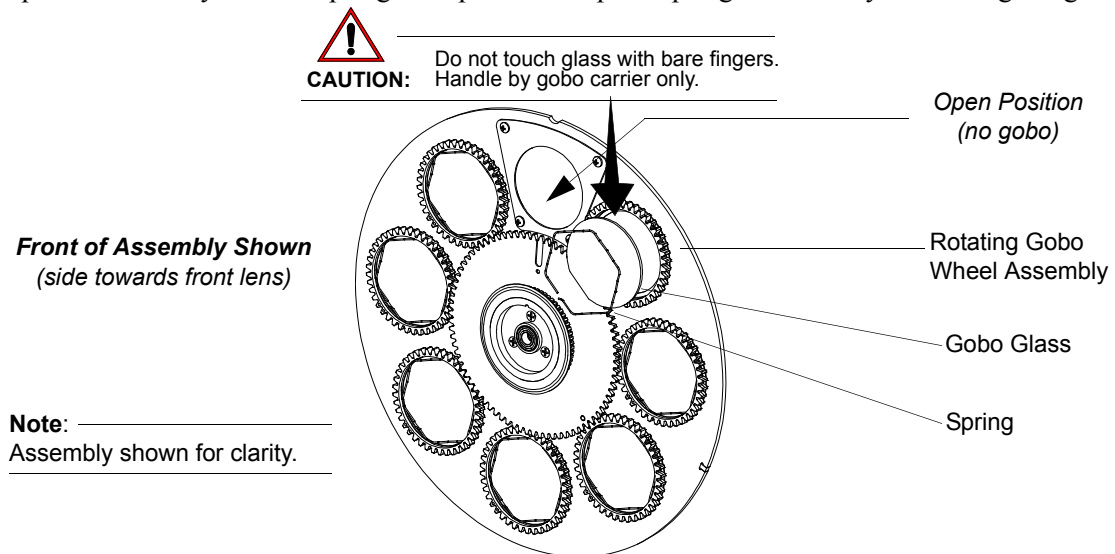


Figure A-4: Replacing Rotating Gobos

Step 3. At rotating gobo wheel, slowly rotate wheel by hand until gobo to be removed is visible on assembly.

Step 4. Carefully remove spring. Use pliers to help lift spring if necessary. Remove gobo glass.



**Figure A-5: Rotating Gobo Wheel - Gobo Installation**

Step 5. To install new gobo:

- a. Align flat of glass to flat in carrier.
- b. Replace spring. Ends of spring should be on carrier flat. Confirm that all corners of spring are secured in groove.

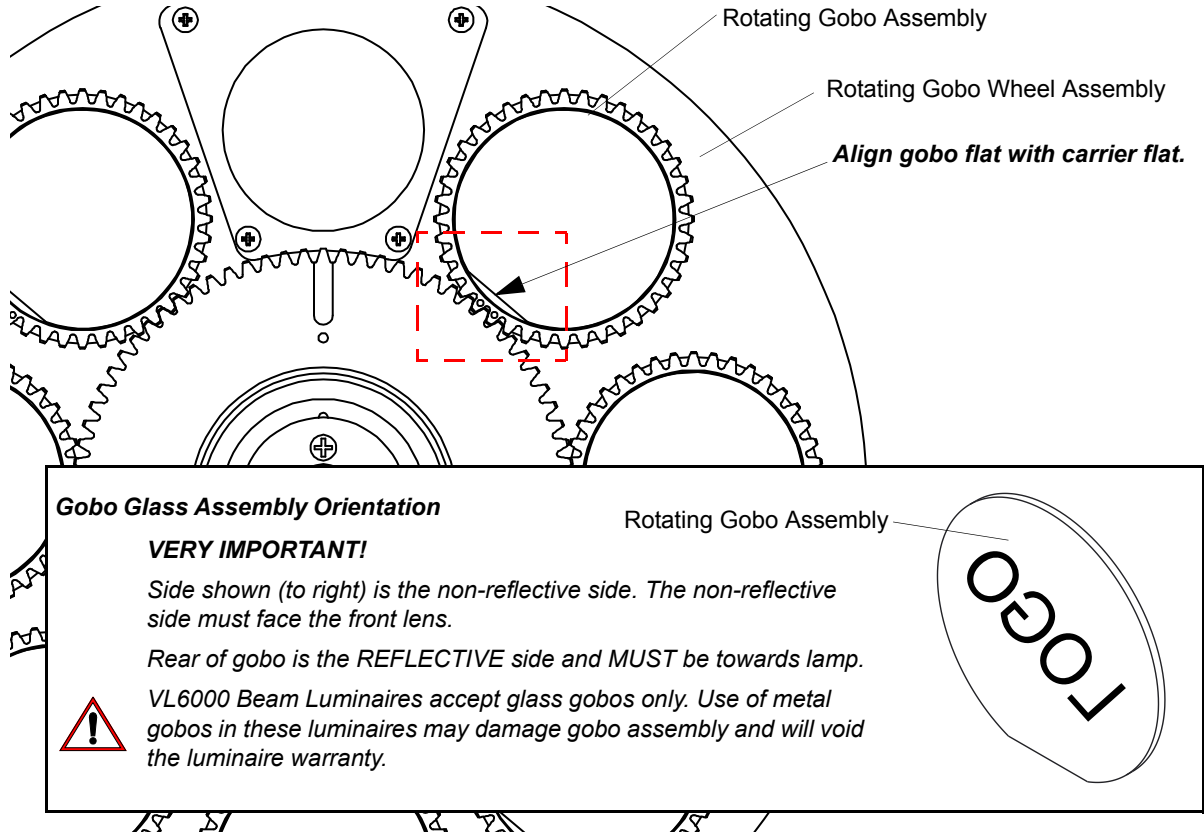


Figure A-6: Align Gobo Flat to Carrier Flat



**CAUTION:** Wear protective gloves or other protective covering while handling gobos to avoid leaving fingerprints. If dirty, clean with isopropyl alcohol and a soft, lint-free cloth.

**Note:** For the standard load of rotating gobos, refer to [“Rotating Gobo Wheel 1” on page 36](#) or [“Rotating Gobo Wheel 1 - Standard Gobo Load” on page 37](#)

Step 6. After gobo is installed, reinstall head cover(s).

---

## Cleaning Optical Lenses and Filters

---

---



**WARNING:** Remove power from luminaire before performing maintenance.

---

---



**WARNING:** Acetone is a harsh cleaning agent and solvent. Acetone is very flammable. Please handle acetone according to manufacturer's safety instructions and precautions.

---

---



**CAUTION:** Never use glass cleaners containing ammonia as they will damage the optical coatings.

---

The front lens, optics/color filters, and reflector may require cleaning after extended use.

- **FRONT LENS:** Use a isopropyl alcohol with a soft, lint-free cloth to clean the front lens.
  - **OPTICS/COLOR FILTERS/ GOBOS:** Use Acetone or Isopropyl Alcohol along with a soft, lint-free cloth to clean the optics/color filters.
  - **REFLECTORS:** Use Acetone or Isopropyl Alcohol along with a soft, lint-free cloth to clean the reflectors.
- 



**CAUTION:** Do not continuously rub color filters or reflectors - it may damage or remove the optical coating.

---



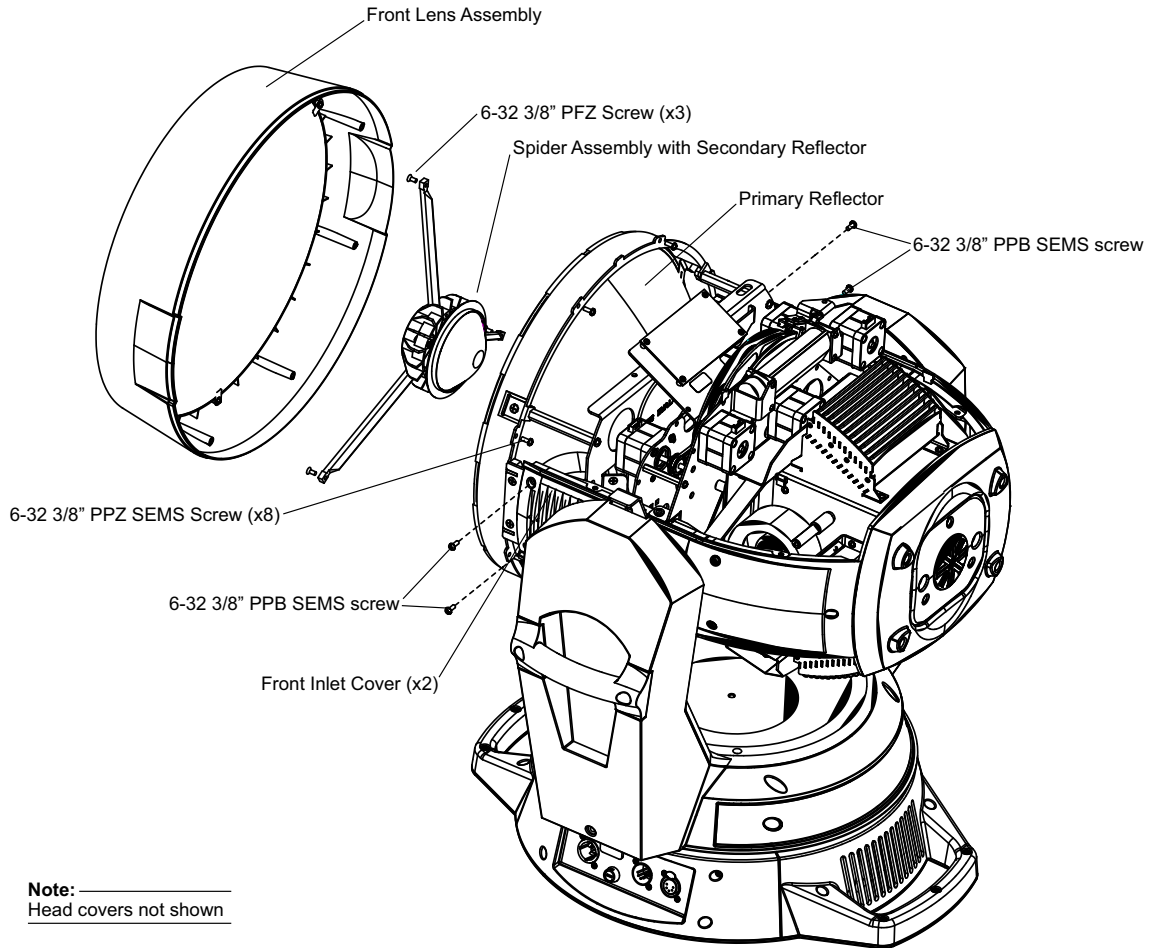
**CAUTION:** Take special care when cleaning the front lens and reflectors. Failure to do so can damage the IP22 rated seals and affect the alignment of the optics.

---

**To access the front of the lens group, the primary reflector, and secondary reflector for cleaning, follow these steps in order. Refer to [Figure A-7](#).**

- Step 1. Disconnect luminaire from power source and place luminaire on sturdy flat surface.
- Step 2. Remove both head covers by loosening four captive screws per cover with #2 Phillips screwdriver.
- Step 3. Remove both front inlet covers and associated air filters by removing 2 x 6-32 3/8" PPB SEMS screws per cover. This step must be completed before removing the front lens assembly.
- Step 4. Clean air filters with mild soap and warm water. Ensure filters are dry before reinstalling.
- Step 5. Remove front lens assembly by removing the 8 x 6-32 3/8" PPZ SEMS screws from inside.
- Step 6. Remove the spider assembly by removing the 3 x 6-32 3/8 PFZ screws.

The front of the lens group, the primary reflector, and the secondary reflector can now be accessed for cleaning.

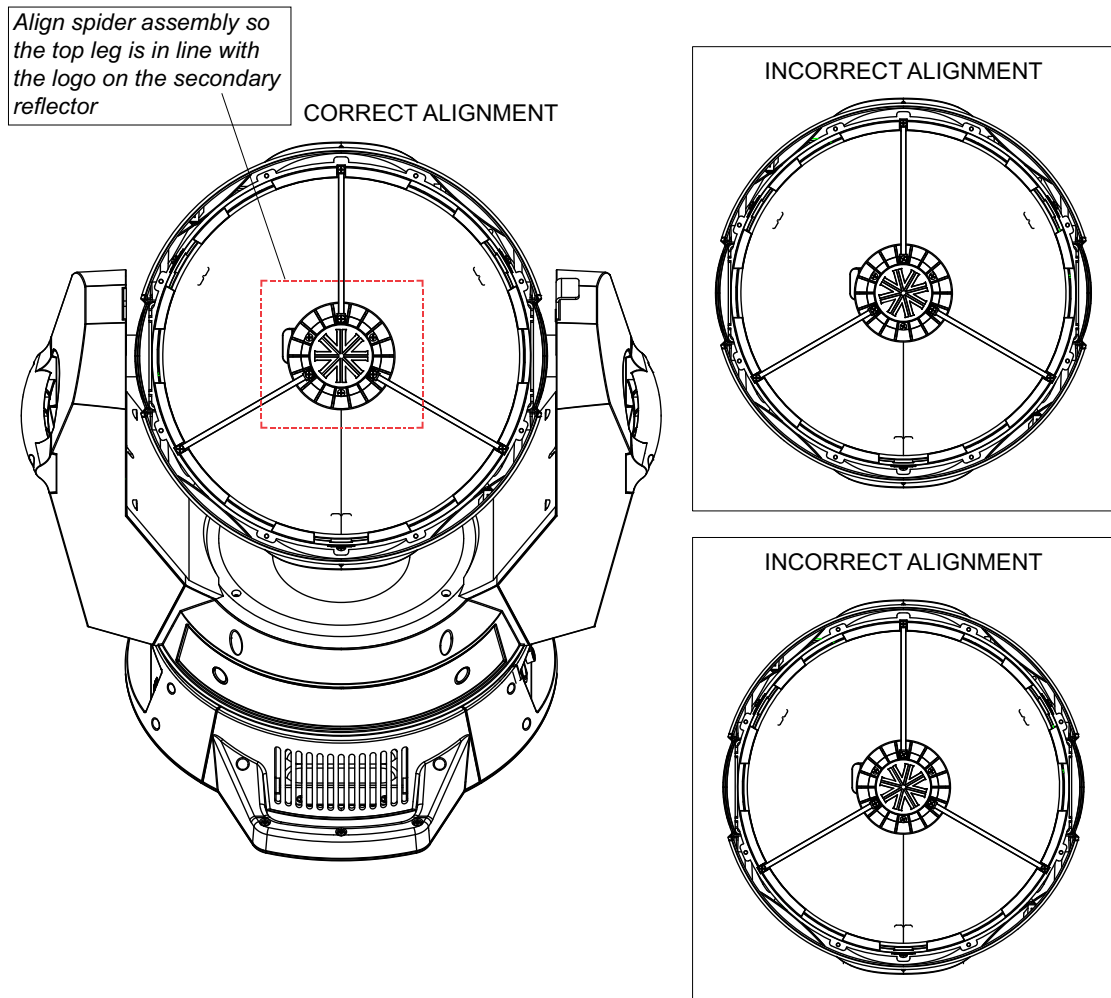


**Figure A-7: Remove Parts for Cleaning**

**Once cleaning is complete, replace parts and screws in order as follows:**

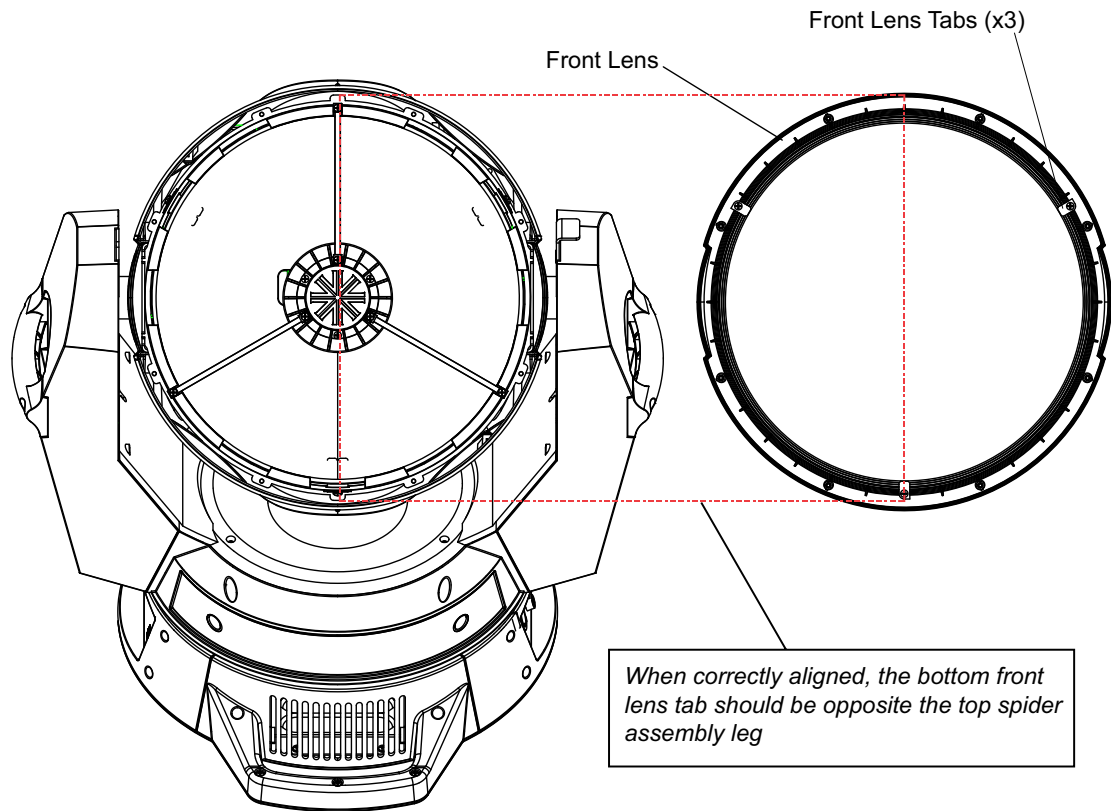
- Step 1. Install the spider assembly and secondary reflector. One of the spider legs aligns with the V in the logo at the center of the secondary reflector. The leg must install in the slot centered between the yokes. See [Figure A-8](#) for correct alignment.





**Figure A-8: Spider Alignment**

- Step 2. Install the front lens. There are three tabs inside the front lens. [Figure A-9](#) shows the correct alignment of the front lens. Ensure that the tabs do not rest on top of the spider assembly legs.



**Figure A-9: Front Lens Installation**

- Step 3. Install the two inlet covers. Ensure the filter is installed inside the cover. Make sure the gasket on the front lens is tucked inside this cover and not rolled. If gasket comes loose from cover, it should be replaced.
- Step 4. Install head covers and test luminaire.

## **APPENDIX B.**

# **Technical Specifications**

---

**Note:** Philips Entertainment Lighting reserves the right to change details of design, materials and finishes. Specifications are subject to change without notice. Some features may be the result of future software updates. Philips Entertainment Lighting automated lighting equipment is made in the USA.

---

## **Mechanical**

### **Fixed Color Wheels**

Three fixed color wheels each with six color filters are capable of producing a multi-color effect and variable wheel rotations. Less saturated colors allow for limited color mixing, which can be easily accessed from the console.

### **Rotating Gobo Wheel**

One gobo wheel to offer seven rotatable, indexable gobo positions and one open position.

### **Edge and Pattern Focus**

Variable beam focus to soften edges of gobos or iris.

### **Frost**

Independent frost glass for softness control.

### **Intensity Control**

Full field dimming designed for smooth timed fades as well as quick dimming effects.

### **Strobe**

High-performance dual blade strobe system capable of ultra-fast operation.

### **Pan and Tilt**

Smooth, time-controlled continuous motion by way of three-phase stepper motor systems.

- Range: Pan - 540°, Tilt - 240°.
- Accuracy: 0.3° resolution.

### **Weights**

Unit weighs (luminaire only, without accessories) 61.5 lbs (28 kg).

### Spacing

Unit hangs on 24.5 inch (622 mm) centers.

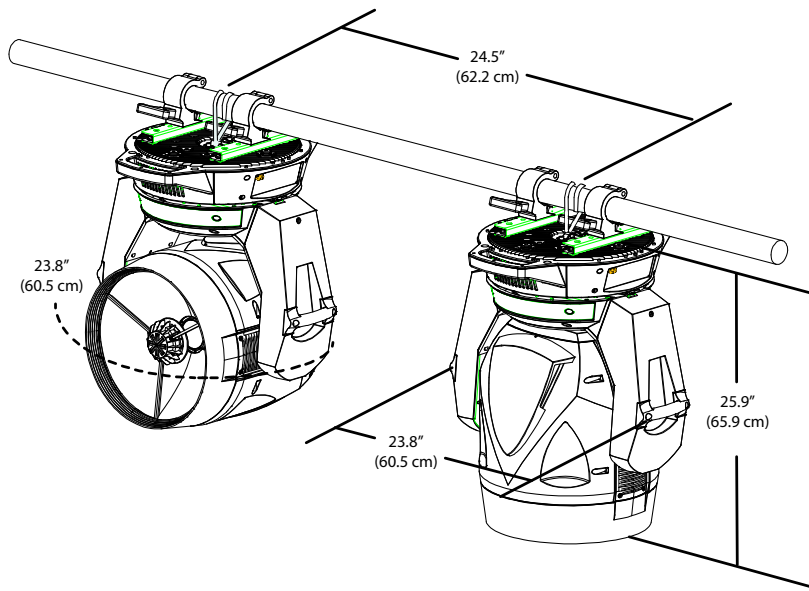


Figure B-1: Luminaire Hanging & Spacing Requirements

---

## Optical

---



**Note:** VL6000 Beam Luminaires accept glass gobos only. Use of metal gobos in these luminaires may damage gobo assembly and will void the luminaire warranty.

---

### Edge and Pattern Focus

Variable beam focus to soften edges of gobos.

### Source

1500W Philips MSR Gold FastFit lamp running at 1500W.

### Reflector

Precision faceted, elliptical glass reflector system with dichroic cold mirror coating.

### Color Temperature

6000K

### Fixture Output

56,000 lumens

### Intensity Control

Full field dimming designed for smooth timed fades as well as quick dimming effects. It also features a high-performance dual blade strobe system capable of ultra-fast operation.

## Operational

### Power Requirements

Standard AC power distribution from 200 - 240VAC, 50/60 Hz. The unit requires up to 11A depending on the AC supply voltage.\*

**Note:** \*For a breakdown of total luminaire current draw at different voltages, see “[Current vs. Voltage](#)” on page 16.

### Operational Temperature

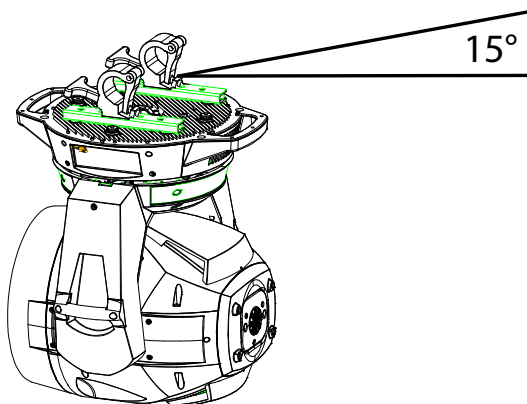
-33°F to 122°F (-20°C to 50°C)

### IP22 Rating

This fixture is designed to have limited water protection in the instance of light rain. It is NOT designed to run exposed to water for long periods of time. Users should check for water inside the fixture after exposure to water.



**Note:** This fixture is ONLY rated IP22 ONLY when hanging or sitting with the enclosure oriented no more than 15° from horizontal. Improper use of the fixture in wet conditions will void the luminaire warranty.



**Figure B-2: Luminaire hung within 15° from Horizontal**

### IP22 Rating is defined as follows:

**First digit:** Solid particle protection

The first digit indicates the level of protection that the enclosure provides against access to hazardous parts (e.g., electrical conductors, moving parts) and the ingress of solid foreign objects.

**Table B-1: IP Rating First Digit**

Level Sized	Effective Against	Description
2	> 12.5 mm	Fingers or similar objects

**Second digit:** Liquid ingress protection

The second digit indicates the level of protection that the enclosure provides against harmful ingress of water.

**Table B-2: IP Rating Second Digit**

Level & Protection	Effective Against	Description
2 - Dripping Water when tilted at 15°	Vertically dripping water shall have no harmful effect when the enclosure is tilted at an angle of 15° from its normal position. A total of four positions are tested within two axes.	Test duration: 2.5 minutes for every direction of tilt (10 minutes total) Water equivalent to 3 mm rainfall per minute

**Cooling**

Forced-air cooling.

**Control**

Control by DMX512 protocol. Compatible with a wide variety of DMX512 consoles.

**DMX Channels**

23 Channels (16-Bit Mode).

**Note:** For complete information, refer to, [“VL6000 Beam Luminaire Channel Mapping” on page 38.](#)

**RDM Control**

Completely compatible with a wide variety of RDM devices. For RDM implementation see, [“VL6000 Beam Luminaire RDM Parameter IDs” on page 42.](#)

**Menu System**

Full color LCD with battery powered control.

**Mounting Position**

The luminaire can be mounted and operated in any orientation. For spacing requirements, refer to [Figure B-1 on page 82.](#)

**CAUTION:**

Possibly Hazardous optical radiation emitted from this product.  
Do not stare at the operating light source.

The luminaire should be positioned so that prolonged staring into the luminaire at a distance closer than 294 m is not expected.



**Risk Group 2**

**PHILIPS**

**VARI\*LITE**

Philips Entertainment Lighting  
10911 Petal Street  
Dallas, Texas 75238  
1.877.VARILITE  
1.214.647.7880  
[www.philips.com/entertainmentlighting](http://www.philips.com/entertainmentlighting)

©2017 Philips Entertainment Lighting  
All rights reserved.  
Printed in the USA.

