

# VISO SYSTEMS REF800 Reference Lamp

## User Manual

Revision: 2022-04



*Congratulations on purchasing your new Viso Systems product. Before using this product, please read the Safety Information.*

*This manual contains descriptions and troubleshooting necessary to install and operate your new Viso Systems product. Please review this manual thoroughly to ensure proper installation and operation.*

*For news, Q&A, and support at Viso Systems, visit our website at [www.visosystems.com](http://www.visosystems.com)*

*Other manuals in this series (the latest version can be downloaded from [www.visosystem.com](http://www.visosystem.com)):*

- LabSpion Assembly Manual
  - LabSpion User Manual
  - BaseSpion Assembly Manual
  - BaseSpion User Manual
  - LightSpion User Manual
  - LightSpion Extender User Manual
  - LabFlicker User Manual
  - Light Inspector (software) Manual
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## Introduction

### About this document

These guidelines describe how to use the REF800 as a reference light source and how to do custom calibrations on Viso Systems goniometer products.

### Safety information



**Warning! This product is not for household use.**

Read this manual before installing and operating the REF800, follow the safety warnings listed below, and study all the cautions in the manual.

### Preventing electric shocks

Make sure the power supply is always grounded.

Use a source of AC power that complies with the local building and electrical codes, and that has both overload and ground-fault protection.

If the controller or the power supply are in any way damaged, defective, wet, or show signs of overheating, disconnect the power supply from the AC power and contact Viso Service for assistance.

Do not install or use the device outdoors. Do not spray with or immerse in water or any other liquid.

Do not remove any covers or attempt to repair the controller or the power supply. Refer any service to Viso.

### Disposing of this product



Viso products are supplied in compliance with Directive 2002/96/EC of the European Parliament and of the Council of the European Union on WEEE (Waste Electrical and Electronic Equipment), as amended by Directive 2003/108/EC, where applicable.

Help preserve the environment! Ensure that this product is recycled at the end of its lifetime. Your supplier can give details of local arrangements for the disposal of Viso products.

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## About Calibration and Light Sources

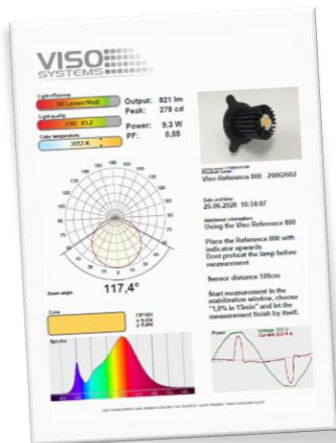
All Viso light measurement systems are delivered pre-calibrated. The calibration is a combined spectral and intensity calibration.

All light measurements systems gradually change in time. This is a result of physical deterioration, temperature variation and contamination. Consequently, regular maintenance is essential for realistic uncertainty estimates.

Viso recommends checking the calibration status and accuracy with REF800 every three months. REF800 is a standard accessory in all new Viso light measurement systems.

## About REF800 - Viso reference lamp

The REF800 light source has its own power supply, and both parts are labelled with identical calibration date and numbers. Never measure without the original power supply. The power supply is intended for mains feed 100-240 VAC, 50/60 Hz. The output (lumen package, intensity, and color properties) is stable regardless of the type of mains. The power factor will depend on mains.



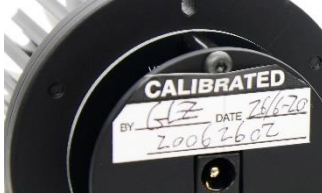
Right after factory calibration of your light measurement system, the reference light source is measured, and a certificate is issued. The certificate is part of the delivery. The certificate can also be downloaded from Viso's website using the calibration number on the labels.

Two physical versions exist – one for mounting on BaseSpion and LabSpion, and one for mounting on LightSpion:



## Checking the calibration status

With the reference lamp you can quickly check your calibration status:



- Check whether the total flux in lumen and peak candela is close to the original values
- Check whether the shape of the spectrum is close to the original shape.
- Check whether the spectrum looks spiky or jagged.

If you are not happy with the result, the system needs to be calibrated. Viso recommends calibration every year, or minimum every 2 years. Viso provides calibration service, or you may do your own calibrations using the Viso CALI-T50 or other traceable calibration light sources.

### Check-up Procedure

- Move the sensor to the distance specified in the lamp certificate
- Place the Reference 800 with the indicator (the oblong hole in the base) upwards
- Do not preheat the light source before measurement
- Centre the light source in the gonio.
- Set the measuring distance to the exact distance specified on the lamp certificate
- Start measurement normal measurement. In the stabilization window, choose "1,0% in 15 min." and let the measurement finish by itself.
- Compare vales of lumen (max. +/-4% deviance) and intensity (max. +/-2,5% deviance) with values in the lamp certificate.
- Check the spectral intensity distribution graph for shape.
- If mismatch is found, sensor calibration in due.

## Dimensions

Shipping Packages	Shipping Dimensions	Shipping Volume	Weight
1. REF800	16 x 13 x 23 cm	0.005 m <sup>3</sup>	0.7 kg

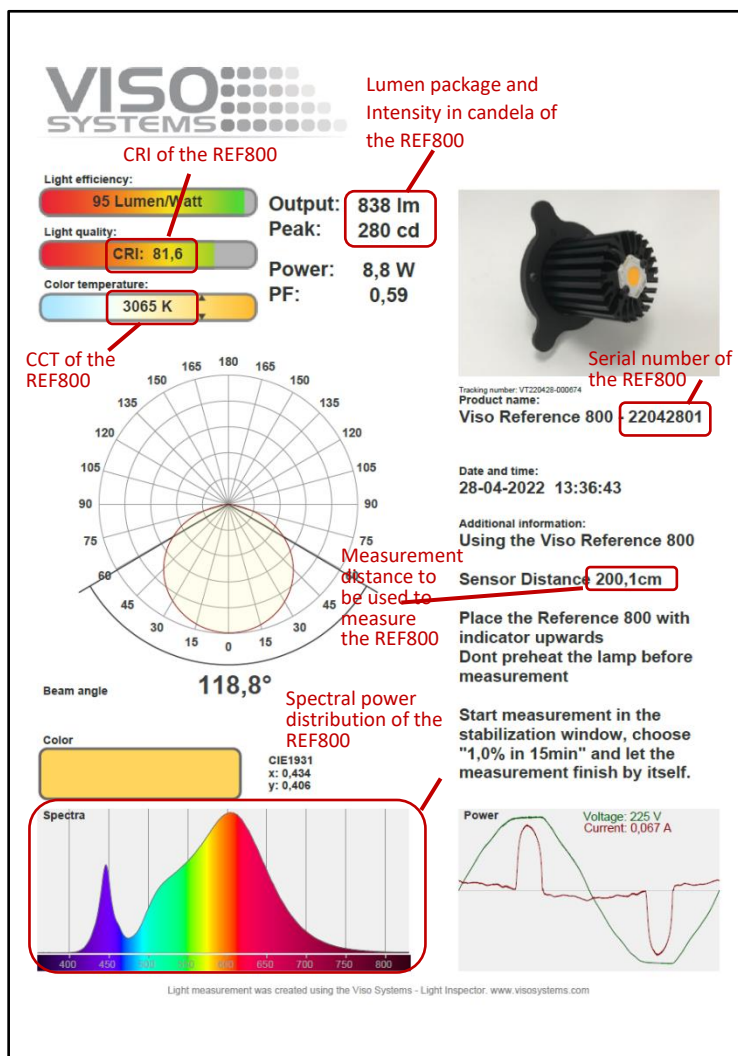
Total shipping weight: 0.7 kg  
The shipment is done in a total of 1 package.

### REF800 Package Contents

- REF800 light source incl heat sink
- Mains Power Supply (LED Driver) w/ cables and plug
- Test Certificate

## The Test Certificate

The REF800 comes with a test certificate as shown below.



## Source lifetime

The source lifetime is about 200 hours. Remember to turn off the light source as soon as possible to preserve the lamp.

Please make sure to include REF800 in all Viso factory calibrations – the REF800 will be re-characterized to constitute a matched pair with the newly calibrated sensor. After this, the REF800 will have a prolonged life of another 200 h.

## Specifications

### Physical dimensions

Shipping dimensions (L x W x H) ..... 16 x 13 x 23 cm

Shipping Weight..... 0,7 kg

LED ..... Bridgelux BXRC-30E1000-D-73

LED driver..... 100-240 VAC – 50/60 Hz

### Warranty

Warranty period ..... 2 years

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**Light measurement made easy**

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