

# Light Replicator and Penta System Specifications



For customers who wish to experiment with visible light and custom spectral power distributions, Telelumen provides a flexible, easy to use programmable light replicator system for this purpose. There are two product types - a 16 "Light Replicator" and 5 channel "Penta" multispectral LED luminaire. Each product is easily and quickly set up.

The 16 channel Light Replicator luminaire provides accurate, easily revised spectral power distributions to be used as a stimulus for any type of visible light environment experimentation or lighting design. Changes to any spectral light distribution can be made with the click of a button. This system is unequalled in the industry in its capability and flexibility. It is ideal for R&D and product development in light perception, human response, and optimizing commercial luminaire design.

The 5 channel Penta luminaire enjoys similar programmability and flexibility of its more sophisticated cousin. It is an economical luminaire optimized to be used in multi-unit installations in advanced commercial spaces.

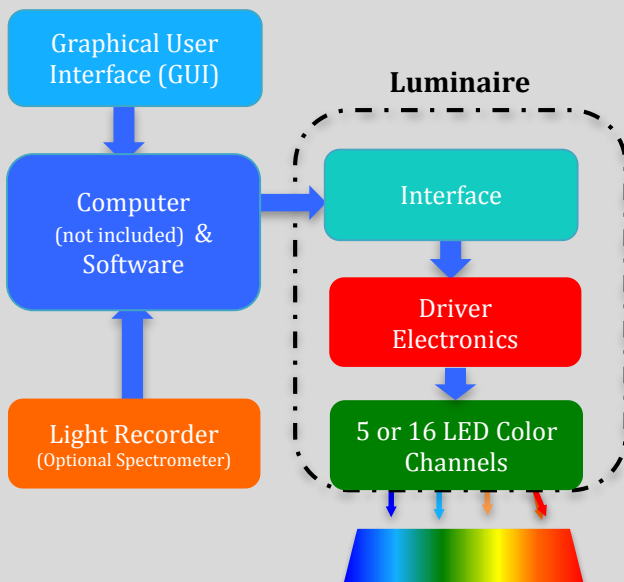
With either luminaire, natural or custom SPDs can be modified and played over time. The light playing capability allows for the first time recreating light found in nature or to create operator optimized time-varying SPDs.

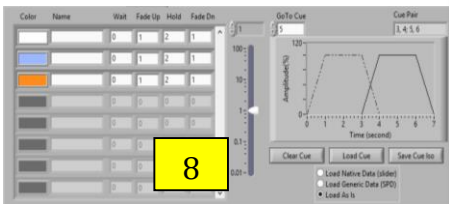
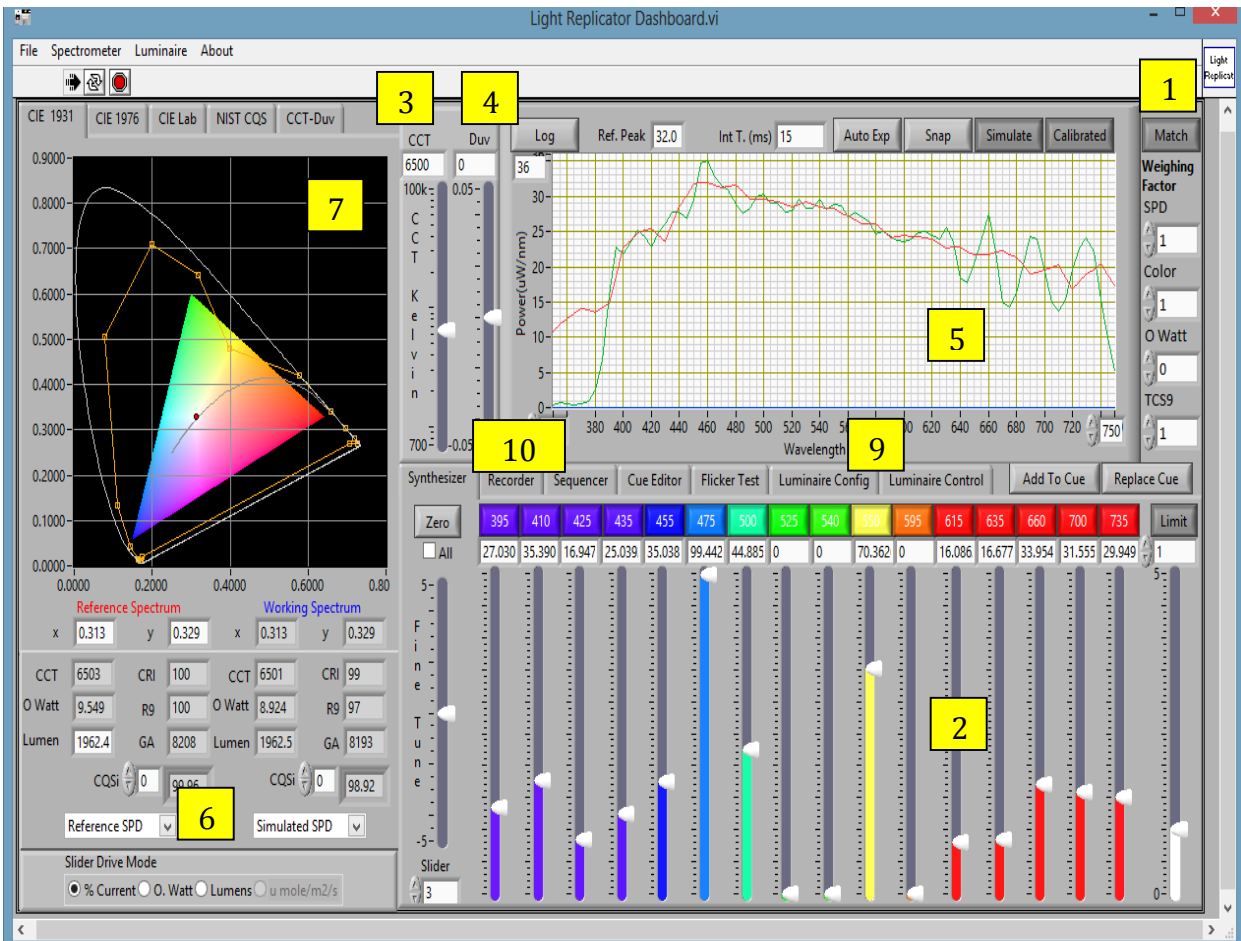
## Typical Applications:

- Human Light Perception Research
- Optimization of luminaire designs
- Healthcare Lighting
- Advanced Retail, Commercial
- Human Photobiology Research
- Sleep and Productivity Research
- Plant and Animal Photobiology

The Telelumen system consists of an optional Spectrometer, a Luminaire (Penta or Light Replicator) and the Developer Suite software. The Spectrometer is used for controlling the luminaires, creating SPDs, recording, and storing data. It also contains LumenScripts, which allows light to be played over time like a song on iTunes.

With each of the LED color channels independently controlled, either luminaire can easily and quickly match a spectrum or make the calculations to create light with the desired CCT, CRI or x,y chromaticity coordinates. The system provides unparalleled light spectrum customization that can be varied over time very easily through the GUI.





### Color Control

1. Match Reference Spectrum
2. Individual Color Channel Sliders
3. CCT Slider
4. Duv - Off Black Body Slider

### Color Display

5. Graphic Reference and Working Spectrum Display
6. Numeric Reference and Working Spectrum Display
7. CIE 1931, CIE 1976, CIE Lab, CCT - Duv, NIST CQS

### Create and Play

8. Light Player - Cue editor for time varying scripts
9. Luminaire Control and Configuration
10. Natural Light Source Recorder

### System Requirements:

- Windows 7 OS PC with 64 bit Core CPU
- 4GB of computer RAM and 300MB of disk space
- CD/DVD drive
- Network with DHCP server

### Optional Purchases Available

- Recorder (Spectrometer)
- LumenScripts
- Custom LED wavelengths for luminaire
- Channel matching between luminaires.

### Light Replicator Luminaire Specifications:

- LED Channels - 16
- Diameter - 9.25" (233mm) Height - 12" (305mm)
- Electrical - 100-240 VAC 50/60Hz 2.5A Max.

### Penta Luminaire Specifications:

- LED Channels - 5
- Width - 24" (600mm) Length - 24" (600mm)
- Electrical - 100-277 VAC 50/60Hz 1.5A Max.