

HPLS-30-04 - December 22, 2016

Item # HPLS-30-04 was discontinued on December 22, 2016. For informational purposes, this is a copy of the website content at that time and is valid only for the stated product.

SOLID STATE LIGHT SOURCE

- ▶ Wavelength Range of 350 - 700 nm
- ▶ 10,000 Hours Typical Lifetime*
- ▶ Adjustable Intensity Output

View of Back Panel

HPLS-30-04
High Power Light Source



[Hide Overview](#)

OVERVIEW

Features

- Ultra-Low Flicker
- Useful Lifetime More than Five Times Conventional Xenon Lamps (10,000 hrs at >50% Intensity)
- Less than 2% the Mercury Content of Typical HID Lamps
- Free-Space, Focused Beam Output
- Intensity Control Range: 30% - 100%
- USB 2.0 Connection and GUI Interface Included

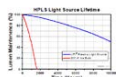
Thorlabs' High-Power Light Sources are solid-state plasma light sources (LIFI®) that combine the best features of solid-state electronics and full spectrum plasma emitters. The HPLS series uses a dielectric resonant cavity to efficiently couple power from a solid-state power amplifier into a high-intensity discharge vessel unlike other electrodeless sources. The results are a long life (>10,000 hours*, or five times longer than a conventional arc lamp) and a complete color spectrum, making this source ideal for applications

Item #	HPLS-30-02	HPLS-30-03	HPLS-30-04
Wavelength Range	350 to 700 nm		
Time to Brightness (Turn on to 90%)	10 s Typical (30 s Max)		
Typical Luminous Flux	2260 lm	1950 lm	2800 lm
Correlated Color Temp (Typical)	6400 K	7650 K	6500 K
UVA Output (315 - 400 nm)	0.6 W (Max, UV Screened)	1.0 W (Typical)	0.6 W (Max)
VIS Output (400 - 750 nm)^a	10.2 W		
NIR Output (750 - 1400 nm)^a	2.5 W		
IR Output (1400 - 3000 nm)^a	0.6 W		
Numerical Aperture (NA)	0.5	0.5	0.66
Intensity Control Range	30% - 100%		

- Measured into 5 mm diameter circular aperture with NA = 0.5

For complete list of specifications, please see the *Specs* tab.

such as endoscopy, microscopy, and other medical lighting and inspection applications. This unit also offers many additional features including a USB 2.0 control interface and a dimming control range of 30 - 100% of the output intensity.



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At the heart of LIFI® is the bulb sub-assembly where a sealed bulb is embedded in a dielectric material. This design is more reliable than conventional light sources that insert degradable electrodes into the bulb. The dielectric material serves two purposes: first as a waveguide for the RF energy transmitted by the RF Power Amplifier Circuit (PA) and second as an electric field concentrator that focuses energy in the bulb. The energy from the electric field rapidly heats the material in the bulb to a plasma state that emits light of high intensity over a full spectrum (see the table above). This long-lived, cost-effective bulb is not replaceable by the user; please contact Tech Support for a replacement quote.

Models listed on this page do not accept a fiber connector. For applications where fiber-coupled light is preferred, Thorlabs offers LIFI-based plasma lamps with an integrated liquid light guide, designed for use with Thorlabs' Liquid Light Guide fibers.

*Note: The lifetime of >10,000 hours is rated as the time when intensity reaches 50% of the original output.

[Hide Specs](#)

S P E C S

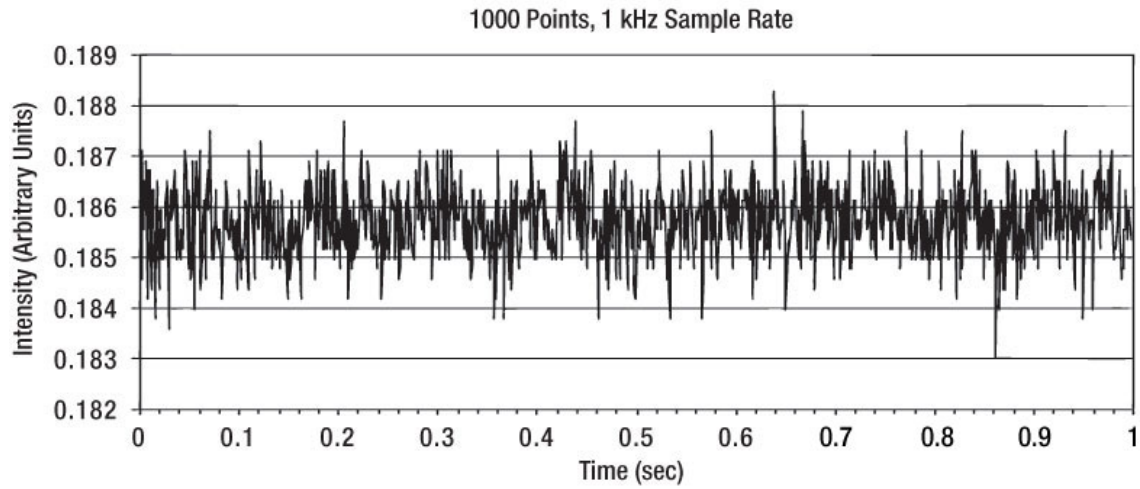
Item #	HPLS-30-02	HPLS-30-03	HPLS-30-04
Wavelength Range	350 to 700 nm		
Focal Point from Tip of Cone	7.4 mm	7.4 mm	8.36 mm
Color Rendering Index (CRI)	94		
Time to Brightness (Turn on to 90%)	10 sec Typ (30 sec Max)		
Minimum Luminous Flux	1920 lm	1830 lm	2400 lm
Typical Luminous Flux	2260 lm	1950 lm	2800 lm
Numerical Aperture (NA)	0.5	0.5	0.66
Rated Average Lifetime	10,000 Hours at 50% Intensity		
Dimming Range	30% to 100%		
Correlated Color Temperature	6100 K (Min) 6400 K (Typ) 6700 K (Max)	7650 K (Typ)	6500 K (Typ)
UVA Output (315 - 400 nm) ^a	0.6 W (Max) (UV Screened)	0.85 W (Min) 1.0 W (Typ) 1.2 W (Max)	0.6 W (Max)
VIS Output (400 - 750 nm) ^a	10.2 W		
NIR Output (750 - 1400 nm) ^a	2.5 W		
IR Output (1400 - 3000 nm) ^a	0.6 W		
1931 CIE Color Coordinate (X)	0.304 CIE _x (Min) 0.314 CIE _x (Typ) 0.324 CIE _x (Max)	0.281 CIE _x (Min) 0.301 CIE _x (Typ) 0.321 CIE _x (Max)	0.306 CIE _x (Min) 0.312 CIE _x (Typ) 0.318 CIE _x (Max)
1931 CIE Color Coordinate (Y)	0.329 CIE _y (Min) 0.339 CIE _y (Typ) 0.349 CIE _y (Max)	0.305 CIE _y (Min) 0.325 CIE _y (Typ) 0.345 CIE _y (Max)	0.326 CIE _y (Min) 0.333 CIE _y (Typ) 0.340 CIE _y (Max)
Electrical			
AC Line Voltage	85 VAC to 264 VAC		
DC Input Voltage	28 VDC (Rated at 8.5 A)		
Nominal Power Use	230 W		

• Measured into 5 mm diameter circular aperture with NA=0.5

[Hide Graphs](#)

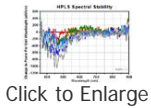
GRAPHS

Short-Term Intensity Stability Plot



Spectral Stability

These curves were obtained by subtracting a starting reference spectrum from the light source spectra measured at various times after startup. To view a stability curve for a specific time, click on the corresponding line in the legend below.



Line ^a	Elapsed Time
	0.25 hr
	0.5 hr
	0.75 hr
	1 hr
	2 hrs
	3 hrs
	4 hrs
	5 hrs
	24 hrs

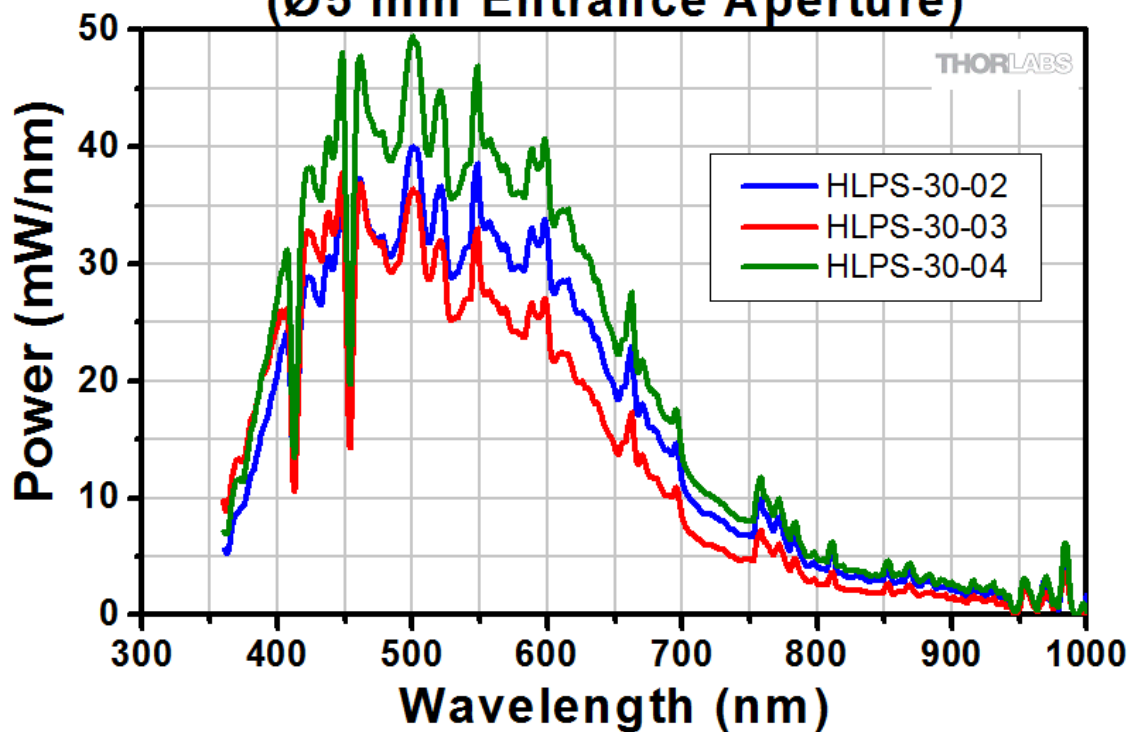
- Click on a line to see the individual stability curve.

Spectral Power Distribution

[Download HPLS Spectral Data](#)

Data was measured into a Ø5 mm circular aperture with NA = 0.5.

HPLS-30-x Spectral Power Distribution (Ø5 mm Entrance Aperture)



[Hide Part Numbers](#)

Part Number	Description	Price	Availability
HPLS-30-02	Light Source, Focused, NA 0.50, Lumens 2260	\$1,960.00	Lead Time
HPLS-30-03	Light Source, Focused, NA 0.50, Lumens 1950	\$1,960.00	Lead Time
HPLS-30-04	Light Source, Focused, NA 0.66, Lumens 2800	\$1,960.00	Lead Time