



Luna's PHOENIX™ Tunable Laser has the best wavelength precision and resolution available combined with a highly linear wavelength sweep.

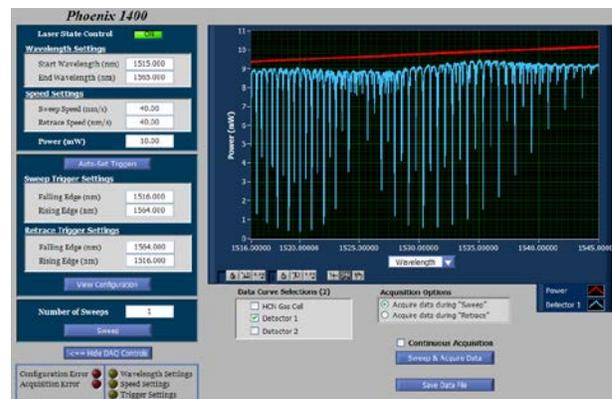
Luna's **PHOENIX™ 1400** Benchtop Tunable Laser incorporates Luna's PHOENIX™ tunable laser and driver in a benchtop package. The laser is a miniaturized, tunable external cavity laser driven by a circuit designed for low noise and highly linear swept performance appropriate for a variety of fiber optic test, measurement and sensing applications. Application software gives the user simple but effective control of the laser. It also provides for monitoring of wavelength, power and two user accessible optical receivers.

### APPLICATIONS

- DWDM component spectrum analysis
- Ideal source for OFDR systems
- Heterodyne measurements
- Bragg grating distributed sensing
- Near IR Spectroscopy

### KEY FEATURES AND PRODUCT HIGHLIGHTS

- Full C-band tunability
- Smooth, linear scans
- Narrow linewidth, low noise
- Wavelength calibration in seconds
- Integrated wavelength and power monitors
- External triggering
- 2 optical detectors and data acquisition channels
- Industry leading wavelength accuracy and resolution



Intuitive graphical user interface

PARAMETER	MIN	TYP	MAX	UNITS
<b>Wavelength</b>				
Mode Hop Free Tuning Range	1515		1565	nm
Wavelength Set Point Resolution		0.01		pm
Absolute Accuracy <sup>1</sup>		±1.5		pm
Wavemeter Accuracy <sup>2</sup>		±0.5		pm
Wavemeter Linearity		±50		fm
Stability		10.5		pm/°C
<b>Tuning</b>				
Tuning Rate <sup>8</sup>	1		1000	nm/s
Deviation from Linearity <sup>3</sup>		±1.5	±2	GHz
<b>Power</b>				
Range	8		10	mW
Accuracy		±5		%
Flatness <sup>4</sup>		±7	±10	%
Ripple <sup>4</sup>		±2		%
<b>Noise</b>				
Spectral line width <sup>5,6</sup>		1.5		MHz
Side mode suppression ratio (nearest mode) <sup>5</sup>	43	50		dB
Relative intensity noise <sup>5</sup>		-152	-145	dB/Hz
Spontaneous Emission Ratio <sup>5,7</sup>		-50	-43	dBc/nm
<b>Inputs</b>				
Auxiliary Detectors (SM FC/APC)				
Min detectable	0.02	0.03	0.05	mW
Max detectable	10	12	15	
Damage threshold		50		
Electrical Trigger (BNC)				V
“Low” voltage	-0.5	0	+0.8	
“High” voltage	+2.0	+3.3	+3.8	
<b>Outputs</b>				
Optical Power	SM FC/APC			
Electrical Sweep and Retrace Triggers (BNC)				V
+1 MΩ load		+2.5		
+50 MΩ load		+1.7		

All measurements assume warm-up time of 1.5 hrs.

1 Determined by internal NIST-traceable gas cell reference.

2 Measured after wavelength auto-calibration.

3 Over full wavelength range at 10 nm/s.

4 At 10 mW tuning at 10 nm/s over full wavelength range.

5 Measured with laser set to 1540 nm with 10 mW output power.

6 Phase noise distribution full width at half maximum at center wavelength integrated over 1 ms. Measurements indicate that the intrinsic laser linewidth (the limit at which the integration time goes to zero) is less than 100 kHz.

7 Measured with optical spectrum analyzer set at 1 nm resolution bandwidth.

8 Configurations available, Standard 1- 100 nm/s or option 1-1000 nm/s (Others with Engineering Approvals)

**CLASS 1 LASER PRODUCT**