



111 Highland Drive - Putnam, CT 06260
Phone 860-928-5834 - Fax 860-928-2676

www.spectralproducts.com

High power Tungsten-Halogen Light Source

- ASBN-W-050 / ASBN-W075 -
- ASBN-W100 / ASBN-W150 -

Operation Manual





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Important Safety Notices

1. Never look directly into the light beam, including through the cooling fan while light is on, as this can cause eye damage.
2. Do not remove or modify any installed safety device on this equipment. Doing so will void your warranty and create an unsafe operating environment.
3. Do not use the unit if it is damaged in any way. Contact your dealer for repair or replacement information.

Warranty and Liability

This SP's product is warranted against defects in material and workmanship for a period of one year from the date of shipment. During the warranty period, Spectral Products will, without charge, repair or replace, at its discretion, the defective product or component parts.

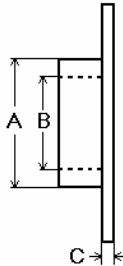
For warranty service or repair, this product must be returned to a service facility designated by Spectral Products (SP). For products returned under warranty, the Buyer shall prepay shipping charges (including shipping charges, duties, and taxes for products returned to SP from another country), and SP will pay for shipping charges to return the product to the Buyer.

This warranty does not apply in the event of misuse or abuse of the product or as a result of unauthorized alterations, modifications or repairs, if the serial number is altered, defaced or removed, the improper or inadequate maintenance by the Buyer, Buyer-supplied software or interfacing, or improper site preparation or maintenance. No other warranty is expressed or implied. SP shall not be liable for any consequential damages, including without limitation, damages resulting from loss of use, as permitted by law.

Specification

The following tables provide information on our high power tungsten-halogen light sources.

Overview

Mount	Tapered flange, adjustable, Post mounting for standalone operation
Housing	Air cooled w/ focusable fused silica singlet collection lens, 1" size w/ focusable Al coating mirror, 1" size Dimension:
Output type	Collimated (C) : Connection Flange (right fig) A: 1.0" (25.4mm), B: 0.875" (22.2mm), C: 0.1" (2.54mm), Accuracy: ± 0.005 "
	
	Fiber coupling (F) : SMA905 or FC

Electric

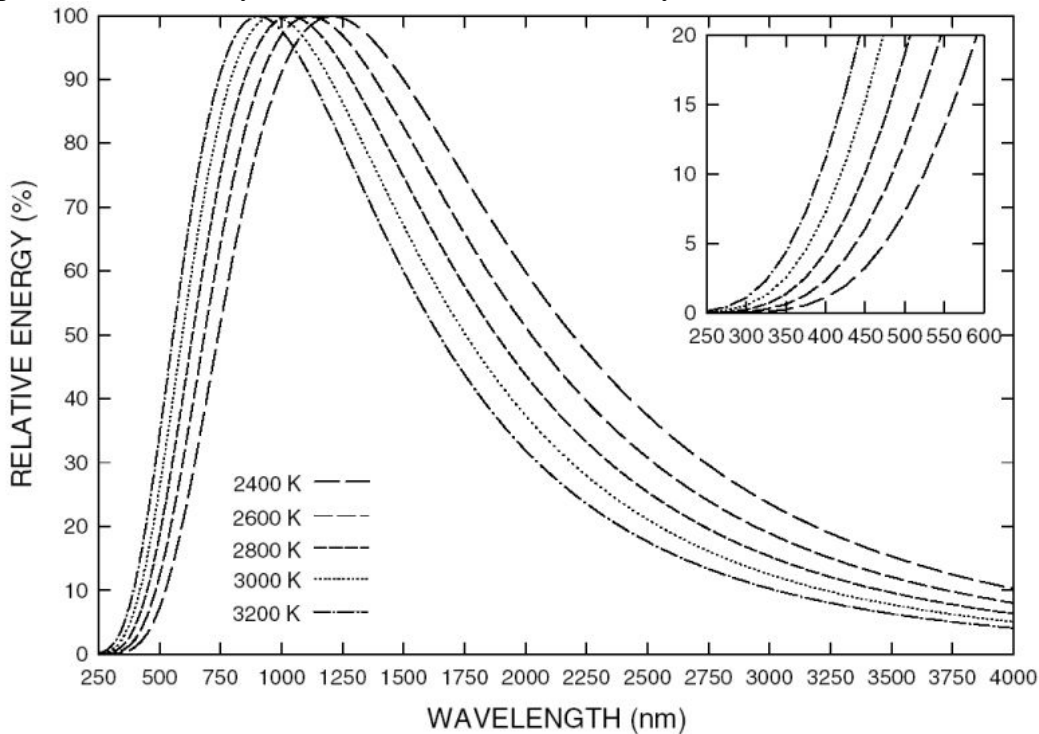
Electric Power Input	Input: 85-264 VAC, 47-63Hz Inrush Current: 30A/100V, 40A/200V Over-voltage protection: Clamp, 115-135% Current limit: 105-150% typically, self-reset fold back Safety: UL/TUV/CE Operation Temperature: 0 to 50 °C
Electric Power Output	VDC: 12V (50-100W), 24V (150W) Max. Current: 12.5A (50-100W), 8.4A (150W) Ripple/Noise: 100mV Peak to Peak, typically. Regulation: +/-0.5% typically

Component

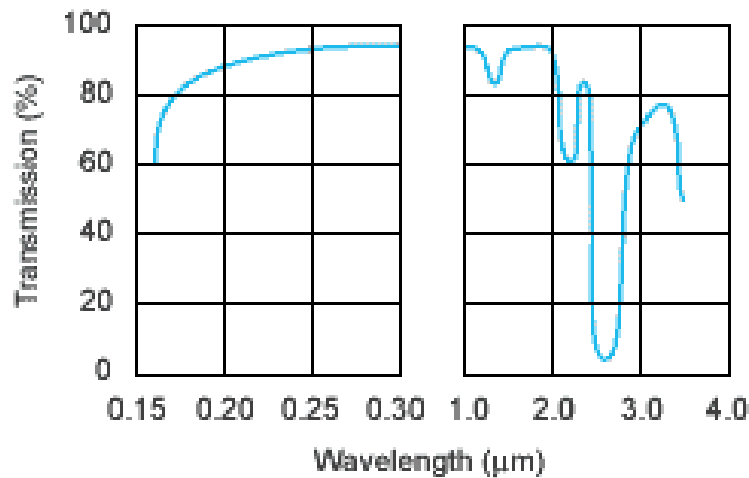
Optics	Lens	Fiber coupling	1" UV grade fused silica (quartz) bi-convex lens, R=23.9mm or 21.4mm, f=25.0mm (nominal), F# in the housing = ~1.97
		Collimated	1" UV grade fused silica (quartz) plano-convex lens, R=18.0mm, f=35.0mm (nominal), F# in the housing = ~1.38 (Effective: ~1.84)
	Mirror	1.0" UV protected Al coating mirror, f=12.5mm	
Lamp	50W	Filament size: 2.5mm x 4.2mm Light Output: 900 lumens (nominal) Voltage: 12.0 V (nominal) Color Temperature: 3000°K Average Life: 2,000 hours (nominal)	
	75W	Filament size: 1.6mm x 5.0mm Light Output: 1400 lumens (nominal) Voltage: 12.0 V (nominal) Color Temperature: 3000°K Average Life: 2,000 hours (nominal)	
	100W-L	Filament size: 2.3mm x 5.2mm Light Output: 2000 lumens (nominal) Voltage: 12.0 V (nominal) Color Temperature: 3000°K Average Life: 2,000 hours (nominal)	
	100W-H	Filament size: 3.0mm x 5.3mm Light Output: 3000 lumens (nominal) Voltage: 12.0 V (nominal) Color Temperature: 3400°K Average Life: 50 hours (nominal)	
	150W-L	Filament size: 3.0mm x 5.8mm Light Output: 5000 lumens (nominal) Voltage: 24.0 V (nominal) Color Temperature: 3200°K Average Life: 200 hours (nominal)	
	150W-H	Filament size: 3.1mm x 6.2mm Light Output: 6000 lumens (nominal) Voltage: 24.0 V (nominal) Color Temperature: 3400°K Average Life: 50 hours (nominal)	

Spectrum

The Tungsten-halogen light source is a well known near black body radiation source. Its spectrum is also very similar with those of black body radiation.

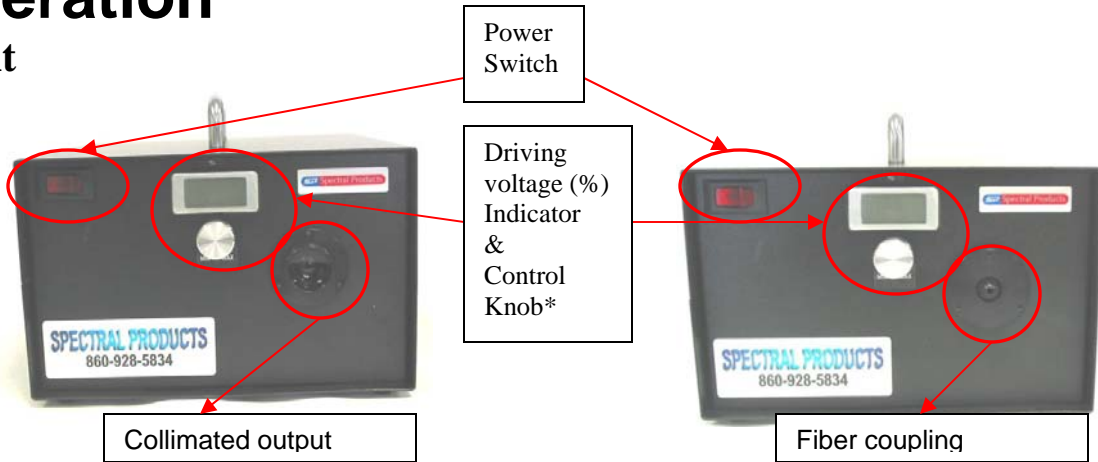


The envelope of tungsten-halogen lamps is made of quartz. Quartz transmittance, therefore needs to be considered.



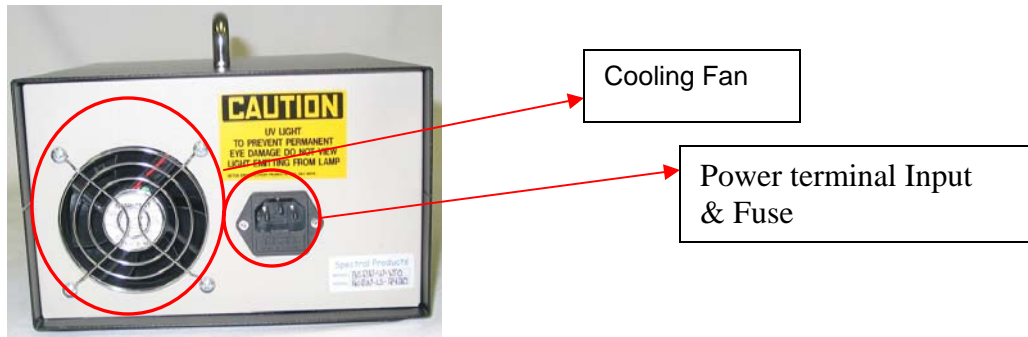
Operation

Front



* Only valid when power adjustable option (ASBN-W-PV) is selected.

Back

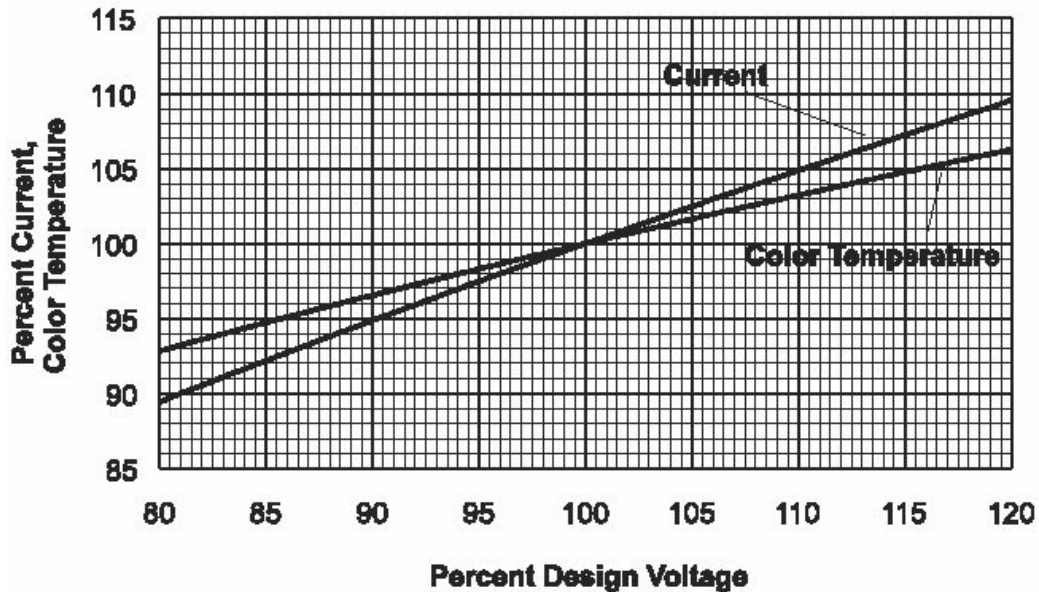


Component	Description
Power terminal input	Connect power cable to provide voltage to our high power tungsten-halogen light source.
Power switch	Turn on to supply power to the tungsten-halogen lamp. The RED light illuminates when this switch is in the On position.
Fuse	Contains the fuse to protect the unit against overload: Fuse type: 5A/250V
Cooling fan	Cools the interior of the light source housing. Note: Do not look into the light beam through this fan.
Driving voltage indicator	For ASBN-W-PV option user: Show the current percentage of the designed driving voltage. The designed driving voltage of 50-100W lamps is 12V and that of 150W is 24V. It varies from 0% to 100%.
Control Knob	For ASBN-W-PV option user: Controls the relative tungsten-halogen driving voltage from ~0% (min) to ~100% (max).

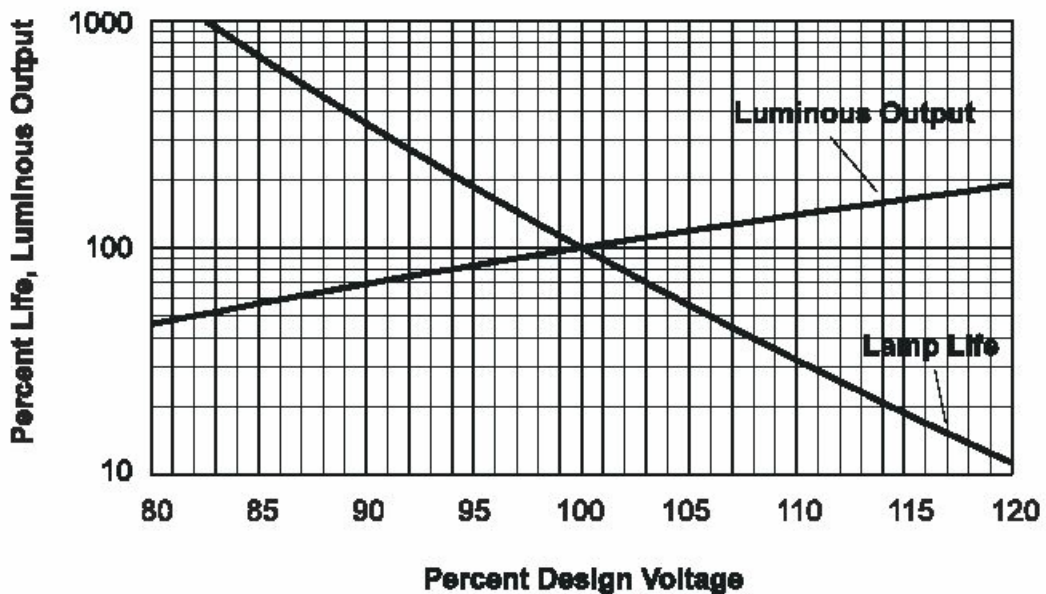
Relationship Curves for ASNM-W-PV

The following curves show the relationship between the driving voltage setting and the color temperature/current/luminous power/life time on/of the lamp.

Color Temperature/Current vs. Driving Voltage:



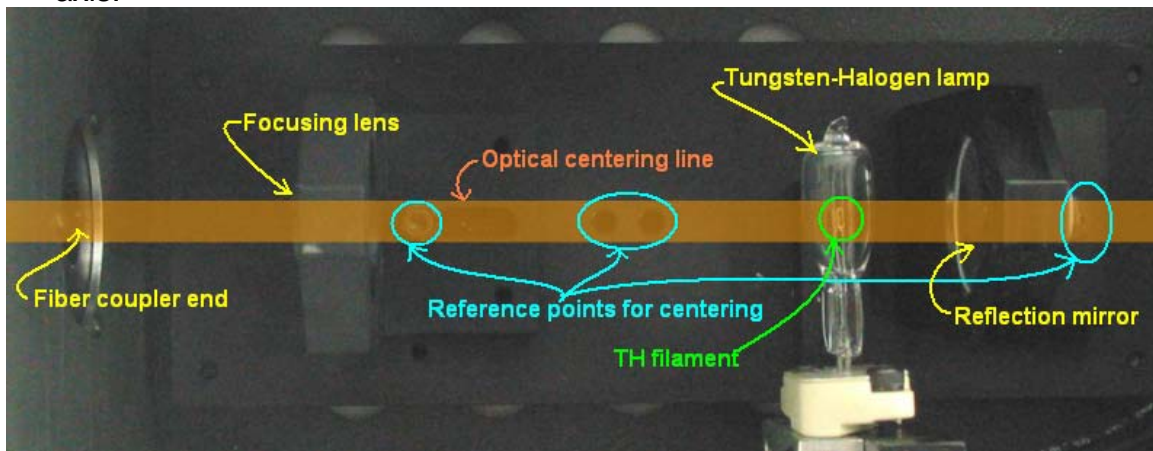
Life time/Luminous power vs. Driving Voltage:



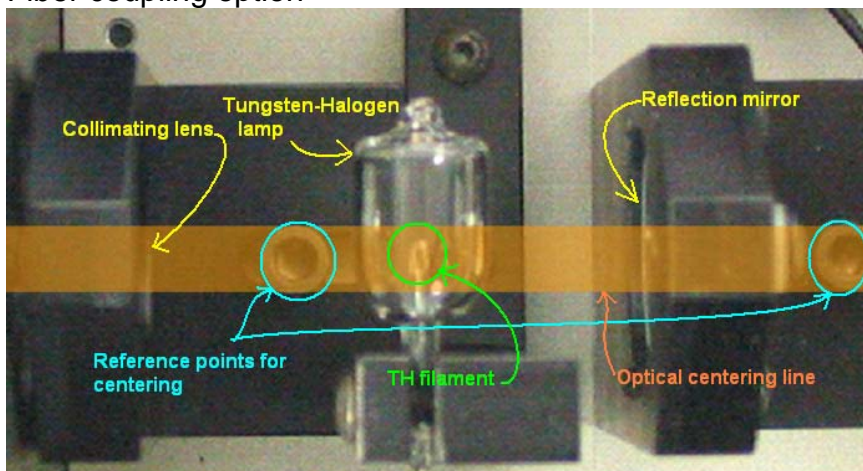
Bulb Replacement

Replacing the Tungsten-Halogen lamp bulb

1. Turn off all power.
2. Wait until the lamp cools down.
3. Remove housing.
4. Remove heat shield.
5. Replace the lamp.
6. Align the Tungsten-halogen filament position to be in the center line of the optical axis.



Fiber coupling option



Collimating output option

NOTE: All the optical components were properly aligned by SP. Do not touch any mounting screws. Adjust the bulb itself when aligning the filament position.



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Technical Support

Toll Free: (877) 928-5834, ext 210

Tel: (860) 928-5834, ext 210

Fax: (860) 928-2676

Website: <http://www.spectralproducts.com>

Email: sdupre@spectralproducts.com / support@spectralproducts.com