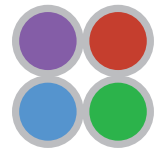
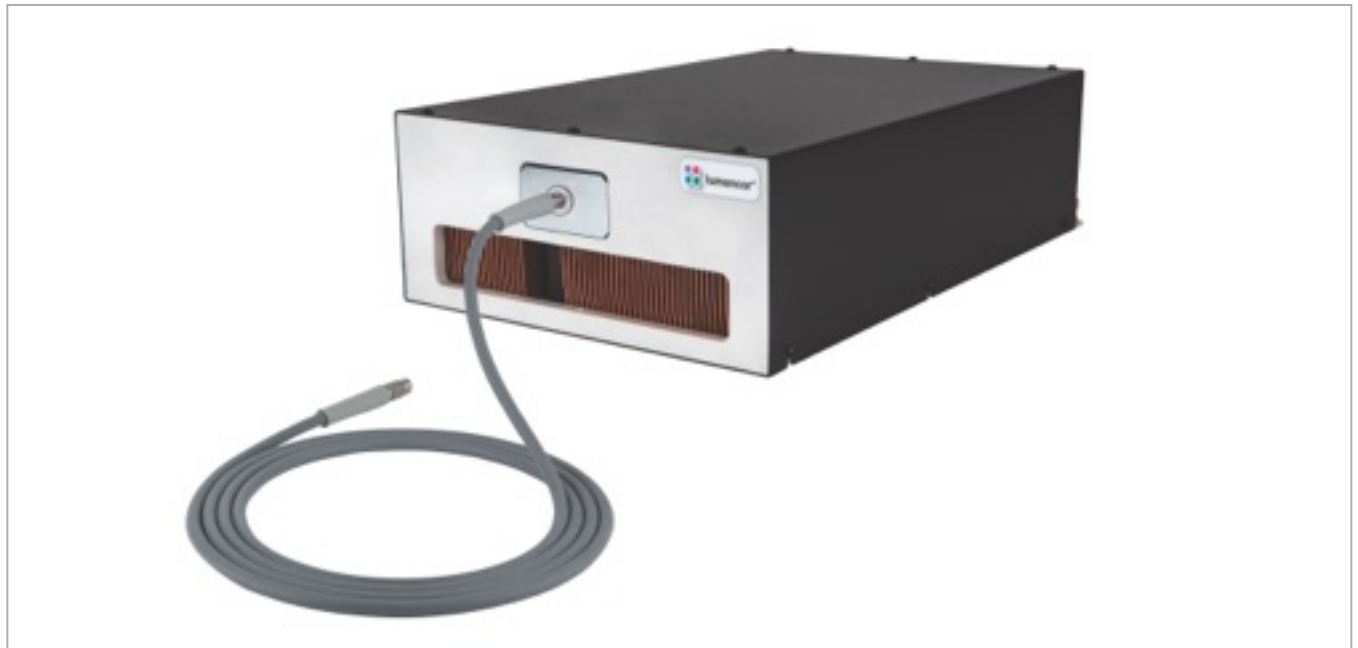


# ASTRA Endoscope light engine®

State-of-the-art light source for intraoperative imaging and other bright-light applications



lumencor®



## Visible light for endoscopy + near-infrared for fluorescence excitation Intense. Stable. Reliable. Powerful and bright outputs for even narrow bore light delivery

Lumencor's light engines are uniquely well suited for minimally invasive imaging. Powerful white light with any color temperature (red/green/cyan/blue, RGCB) can be generated alongside narrowband excitation for targeting fluorescence. Light engines provide spectral, temporal and spatial control of light for surgical and non-surgical procedures. Products are powerful enough to yield high contrast, real-time imaging as well as to maximize fluorescence signals. Stable, robust lighting enables long term monitoring and quantitation.

Solid state light engines generate powerful, multi-color, stable, durable light. The output is tuned to match any color temperature of interest. This is particularly important for minimally invasive surgery where RGCB components can be balanced for maximum signal/noise and contrast. Simultaneously, fluorophore excitation may be superimposed on the general field producing superior image quality as well as optical selectivity.

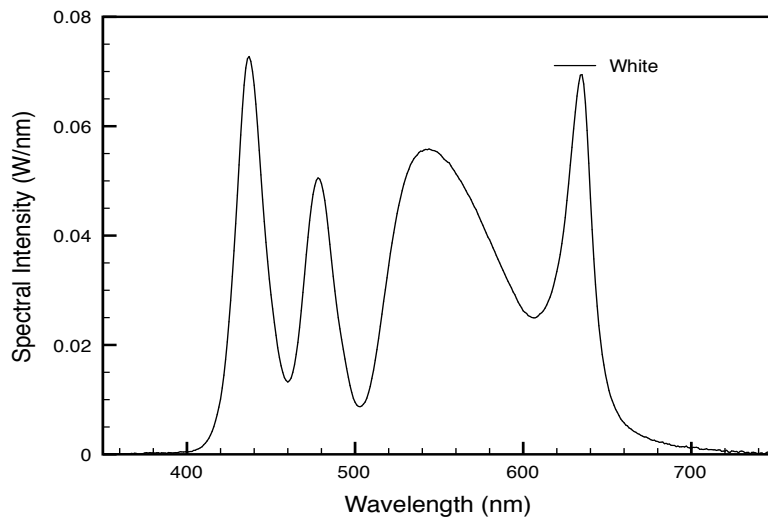
### Features include:

- Powerful white light for HD visible illumination and imaging
- Controllable color spectrum for high contrast imaging matched to color cameras
- Narrowband light for ICG excitation, endogenous fluorescence, other imaging agents
- Simultaneous illumination of white light and fluorescence images
- Spectral & power stability
- Illumination uniformity
- Microsecond switching with no filters or shutters
- Minimal heat generation
- Computer control
- Long life > 10,000 hours with no replaceable parts
- Compact size for off-the-shelf and custom OEM configurations

For more information on ASTRA light engine please contact us at Lumencor, Inc. at [info@lumencor.com](mailto:info@lumencor.com).



## ASTRA Endoscope light engine® Optical Selectivity



| Output     | Commonly Requested Wavelengths, nm | Power W |
|------------|------------------------------------|---------|
| blue       | 400 - 460                          | 2.0     |
| cyan       | 460 - 500                          | 1.0     |
| green      | 500 - 610                          | 4.0     |
| red        | 610 - 850                          | 1.5     |
| NIR lasers | 808 - 810                          | 8.0     |

| Features               | Details  |
|------------------------|--|
| Modulation Rate        | ≤ 5 kHz  |
| Shutter Speed          | ≤ 6 μs rise time, ≤ 20 μs fall time                |
| Spectral Stability     | < 0.5%   |
| Power Stability        | < 1% drift, usage dependent                        |
| Warm-up Time           | 1 - 10 min   |
| Lifetime               | 10,000 hrs   |
| Operating Conditions   | 0 - 50 C, 0 - 80% humidity                         |
| Power Supply Input     | 100-240 VAC, 50/60 Hz, 9 A                         |
| Dimensions (W x L x H) | 21 cm x 30 cm x 9 cm                               |
| Warranty               | 18 months parts and labor                          |
| Weight                 | 7.4 kg   |
| Package Contents       | ASTRA light engine                                 |
| Wavelength             | Wavelength range tailorable from VIS to NIR        |
| Optical Power          | 9 W visible (RGCB), 8 W nIR                        |
| Optical Interface      | Optical fibers, fiber bundles, custom              |
| Dosimeter              | Optional real time, instantaneous power monitoring |



### GET IN TOUCH

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