

CSE-EQ-99-VIS

Chromatiq Spectral Engine™

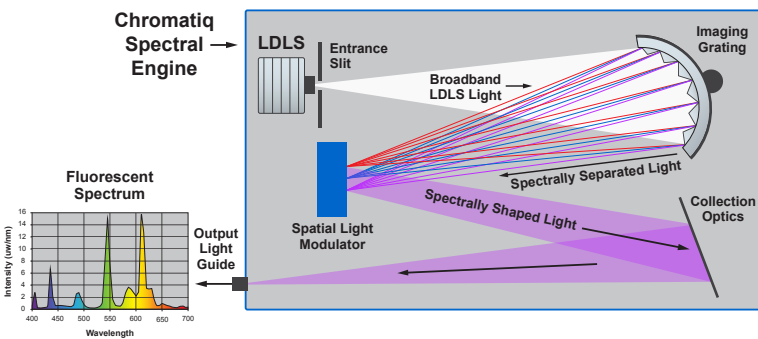


Overview

The Chromatiq Spectral Engine™ (CSE) is a system-level light source providing precision control over the spectral content of emitted light. Users can emulate real-world lighting conditions, combine spectra from multiple sources and shape custom spectra to meet specific test and calibration needs.

The CSE offers unparalleled spectral match accuracy, repeatability, and speed to optimize optical testing and calibration procedures in the production environment. Spectra can be switched in less than ≤ 10 ms to save time and increase process throughput.

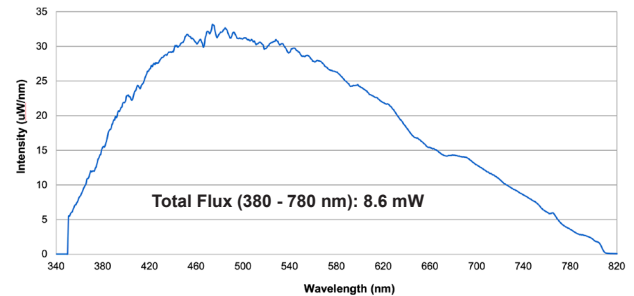
Principle of Operation



Properties

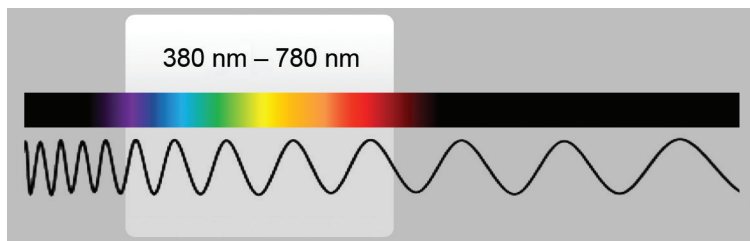
Wavelength Range	380 nm – 780 nm
Spectral Resolution (FWHM)	≤ 5 nm
Switching Time (TTL trigger)	≤ 10 ms
Output Type	Liquid Light Guide (6.5 mm diameter)
Bulb Lifetime	10,000 hours
Laser Class	Class 1 (IEC 60825: 2014)

System Throughput

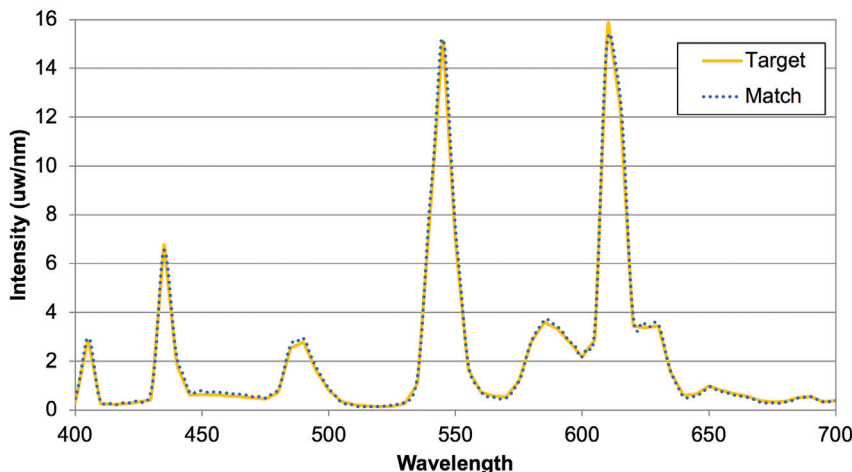


Performance data is typical - not intended for system design use.

Wavelength Range



Example Spectral Match – CIE F12



	Target	Match	Abs. Err.
CCT	3009.150	3059.930	50.780
u	0.2504	0.2488	0.0016
v	.3476	0.3465	0.0011
x	0.4368	0.4326	0.0042
y	0.4043	0.4016	0.0027
Duv	0.0001	0.0004	0.0003
Du'v'	0.0001	0.0005	0.0004
Flux		775 uW	

Performance data is typical - not intended for system design use.

Models

The recommended service interval is 10,000 hours.

Part Number	Description	Wavelength Range
CSE-EQ-99-VIS	Chromatiq Spectral Engine, Visible	380 nm – 780 nm

Accessories

Part Number	Description
CSE-LLG-65-1M	Liquid Light Guide, 6.5 mm diameter, 1 m length
CSE-LLG-65-3M	Liquid Light Guide, 6.5 mm diameter, 3 m length
CSE-HM-GR-13	Glass Rod Homogenizer

User Interface

The CSE Host Application includes automated spectrum matching algorithms and a flexible user interface that enables system configuration, spectrum matching, creation of custom spectra, and definition of trigger sequences. The CSE Host Application runs on a standard PC with the Microsoft Windows operating system.

The CSE Host Application includes an automated System Characterization process that adjusts the output of the CSE based on feedback from a calibrated spectrometer. Characterization is typically performed during system installation and periodically thereafter (typically every month or every several months). An individual spectrometer can support a fleet of any number of CSE systems. One of the following spectrometer models is required for characterization.

Spectrometer Name	Model Number
Ocean Insight QE Pro	XQEPRO-EQT (VIS, VIS-NIR, Energetiq-specific configuration) QEPRO-ABS (VIS only, internal shutter option required)
Instrument Systems CAS140	CAS140CT-156 (UV, VIS, NIR, discontinued model) CAS140D-156 (UV, VIS, NIR, current model)

Facility Requirements

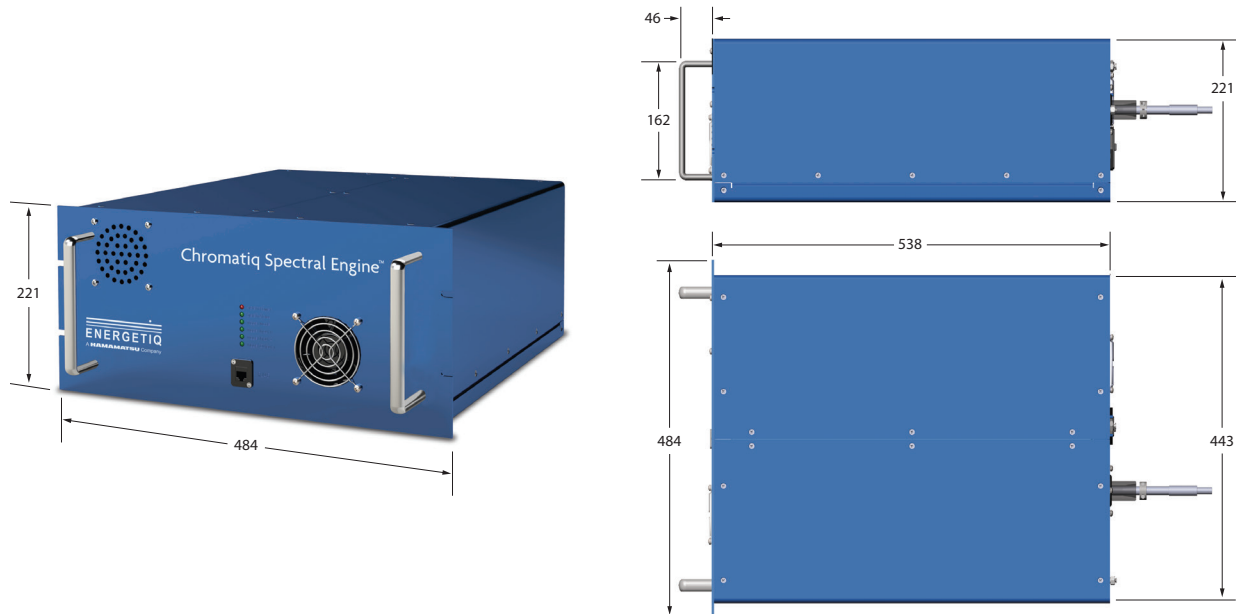
Electrical	100-240 VAC, single phase, 50/60 Hz 390 W max.
Nitrogen Purge	Recommended. Grade 4.8 or higher, filtered to 5 µm; 0.14 MPa pressure
Ambient Temperature	15-35°C

Physical Specifications

Lamphead Dimensions (H x W x D)	221 x 484 x 538 mm
System Weight	7.6 kg

Chromatiq Spectral Engine Dimensions (Unit: mm)

Drawings are for reference only and are not to scale.
STEP-File available.



www.energetiq.com/patents

