

# 1 DESCRIPTION AND ORDERING INFORMATION



CTM 109



CTM 112



CTM 119



CTM 119NR

## Description

araya<sup>5</sup> Color Tuning Modules mix five colors of LEDs to deliver tunable and dimmable white light at 90+ CRI\* and color consistency of <2 MacAdam ellipse across a tuning range of 1650 - 8000K. Light can be dimmed from 100 - 1% while maintaining constant CCT. Gradients of saturated colors from 1 - 100% can be added to color points within the tuning range. araya<sup>5</sup> modules integrate the driver electronics for precise control of current and PWM inputs and LED light output. On board closed loop thermal feedback compensates each color channel for thermally induced variations in optical output due to tuning, dimming or ambient temperatures. On board closed loop optical feedback measures the lumen depreciation of each channel and re-balances the color model to ensure color consistency over the 50,000 hour life of the module. An in-line manufacturing process captures the spectral characteristics of each LED under multiple conditions, generating a unique color model for each color tuning module. araya<sup>5</sup> Color Tuning Modules are compatible with traditional 0 - 10V wired controls, and feature on-board Bluetooth Low Energy, Bluetooth Mesh\*\* and DMX512-A-RDM. Lutron<sup>®</sup> EcoSystem compatibility is achieved using the optional Lumenetix Digital Control Adapter. For simple deployment, SceneSet<sup>®</sup> allows up to five scenes to be pre-programmed into the module during production and recalled at the venue using a 0 - 10V recommended dimmer. Commissioning of the module, re-programming of SceneSet, and configuration of DMX channels is done via RDM or the wireless araya<sup>5</sup> Tunable Color 2.0 iOS app that connects to the embedded radio. The CTM One series features light emitting surfaces (LES) of 9, 12 and 22 mm.

## Key Features

- Tunable range: 1650 - 8000K
- 90+ CRI\*
- Dimmable from 100% - 1% at constant CCT
- Color gamut control: gradients of saturated colors from 1 - 100% can be added to color points
- Integrated driver electronics
- On board thermal and optical feedback for color consistency of <2 MacAdam ellipse over 50,000 hour life
- In-line spectral capture creates unique color model for each module, resulting in consistent CRI and CCT across all modules
- On board thermal shutdown
- Compatible with 0 - 10V wired controls
- On board Bluetooth Low Energy and Bluetooth Mesh\*\*
- On-board DMX512-A-RDM, with DMX slots set by RDM or via wireless araya<sup>5</sup> Tunable Color 2.0 iOS app
- Lutron EcoSystem compatibility via the optional Digital Control Adapter
- SceneSet enables up to five scenes to be preprogrammed and recalled using a 0 - 10V recommended dimmer
- Three light emitting surfaces (LES): 9, 12 and 22 mm
- Zhaga compliant footprint and front heat sink mounting
- Provisions for reflector mounting



araya<sup>5</sup> Tunable Color 2.0 iOS App

## Photometrics and Ordering Codes

Tunable Range: 1650 - 8000K	Nominal Wattage	CTM 109		CTM 112		CTM 119 / 119NR		
		Typical Peak Lumens	Ordering Code	Typical Peak Lumens	Ordering Code	Typical Peak Lumens	Ordering Code (CTM 119)	Ordering Code (CTM 119NR)
Specifications***	35W	N/A	N/A	N/A	N/A	2000	80.002.082.01	N/A
	25W	1100	80.002.045.01	1250	80.002.048.01	1500	80.002.051.01	80.002.054.01
	18W	850	80.002.046.01	1000	80.002.049.01	1200	80.002.052.01	80.002.055.01
	12.5W	700	80.002.047.01	830	80.002.050.01	1000	80.002.053.01	80.002.056.01
CRI (Ra) Across Tuning Range	>90*							
Dimming	100% to 1% in increments of 1% at constant CCT							
Nominal Color Consistency	<2 MacAdam ellipse (±0.002 Duv from ANSI C78.377-2008 curve)							
Color Consistency Over Life	Calibration maintains original color points over life							
Lumen Maintenance	L70 (70% of initial lumens) at 50,000 hours							

\*From 2000 - 6000K.

\*\*Fall 2017.

\*\*\*Lumen and wattage range is within +/- 10% of the nominal value. Peak efficacy is not necessarily at typical peak lumens.