

# 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 - 4000K. 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 while tuning and dimming. 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 digital protocols including Lutron<sup>®</sup> EcoSystem using the optional Lumenetix Digital Control Adapter. The modules feature on board Bluetooth and DMX512-A-RDM. 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 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, and a tuning range of 1650 - 4000K.

## Key Features

- Tunable range: 1650 - 4000K
- 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 turndown
- Compatible with 0 - 10V wired controls
- Lutron EcoSystem compatibility via the optional Digital Control Adapter
- Embedded Bluetooth radio
- SceneSet enables up to five scenes to be preprogrammed and recalled using a 0 - 10V recommended dimmer
- On-board DMX512-A-RDM, with DMX slots set by RDM or via wireless araya<sup>5</sup> Tunable Color 2.0 iOS app
- 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	Wattage	CTM 109		CTM 112		CTM 119 / 119NR		
			Peak Lumens	Ordering Code	Peak Lumens	Ordering Code	Peak Lumens	Ordering Code (CTM 119)	Ordering Code (CTM 119NR)
Specifications*	1650 - 4000K	20W	875	45.021.002.01	1000	45.021.003.01	1200	45.021.004.01	45.021.005.01
		12.5W	600	45.021.006.01	650	45.021.006.02	800	45.021.006.03	45.021.006.04
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						

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