

Introduction

Purpose

- Provide an Overview of Cree's XLamp MT-G EasyWhite

Objective

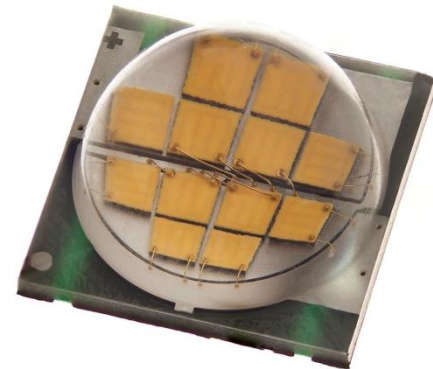
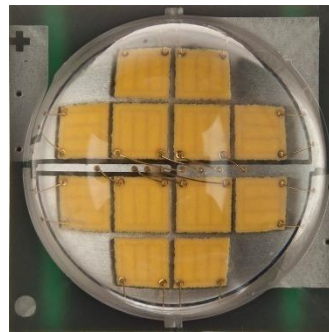
- Give a brief summary of MT-G's performance
- Highlight targeted applications for MT-G
- Explain Cree's MR-16 Reference Design
- Detail the Features & Characteristics of MT-G
- Cover the extensions planned near term for MT-G

Content

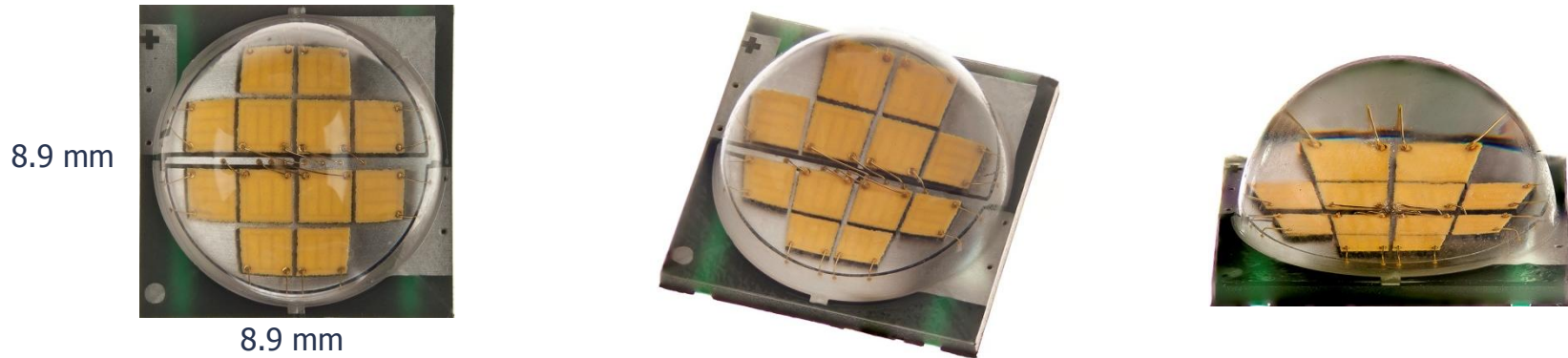
- 13 slides

Content

- 5 Minutes



XLamp MT-G EasyWhite



Enables small form factor 35W-50W halogen replacement

- **Delivers the right amount of light and efficacy**
 - 3000K: Up to 560 lm (92 LPW) at 6W, at 85°C temperature
- **Easily fits into MR-16 form factor with a secondary optic**
 - 8.9 x 8.9 mm footprint; 8 mm diameter optical source
- **New levels of ease of use with EasyWhite & high temperature binning**
 - Designed for one LED per system; incandescent-like color consistency
 - Rated for color, flux & efficacy at temperature
 - Available in 6V and 36V Versions

Small Form Factor Lighting Applications



**Small MR/PAR
Halogen**



**Small Track
Head/Pendant**



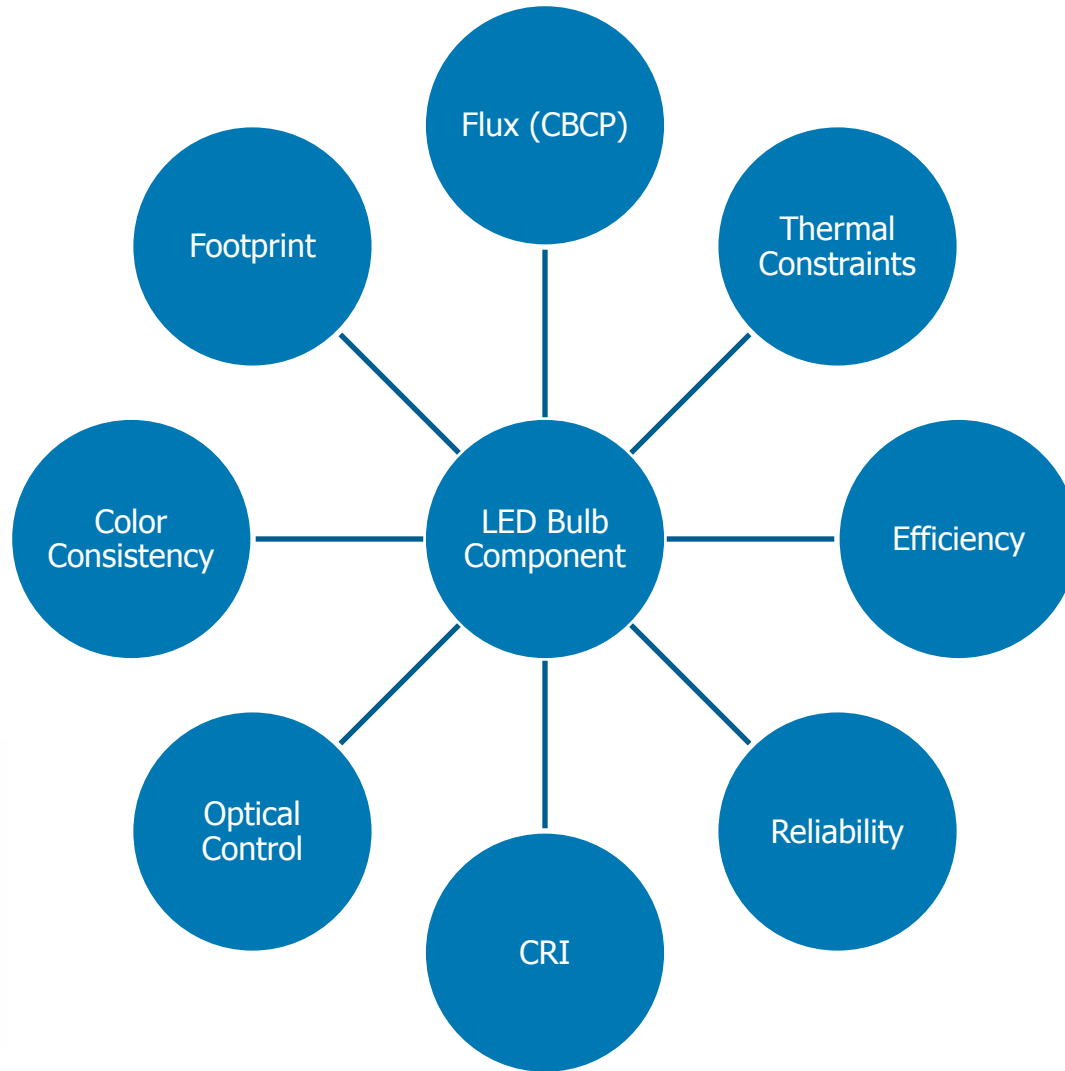
**Small Aperture
Downlight**



**Small Bulbs
(E-17)**

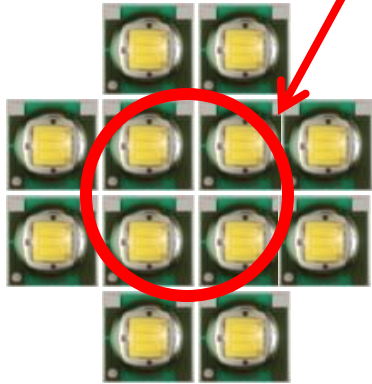
- High Lumen Density (flux & CBCP)
- Small Form Factor
- Color Consistency
- Optical Control (most)
- Single Point-Source of Light
- Efficient Solution (CFL not an option)

Technical Challenges of Small Form Factor Bulbs

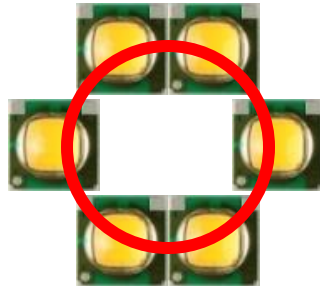


How Many LEDs Fit Into An MR-16?

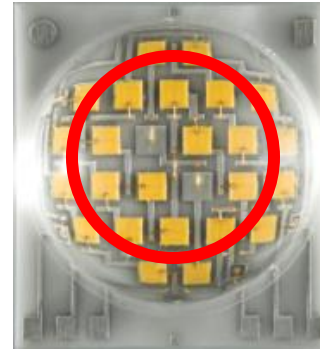
Space constraint of MR-16 & optic



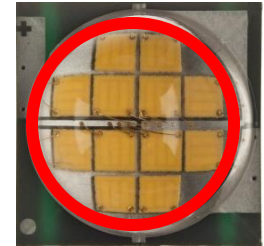
12 XLamp XP-E



6 XLamp XP-G



1 XLamp MP-L



1 XLamp MT-G

- Lots of options to hit the light output of 35W/50W MR-16 equivalent with efficacy required by the heat sink
- No currently available option delivers the light in the tight space required by the MR-16 form factor

Cree XLamp MT-G MR-16 Reference Design



27° TIR
(Narrow Frosted)



38° Reflector
(Minnie)

Thermally-stabilized system results @ 3000K CCT

Optic	Power	Flux	Efficacy	CBCP
27° TIR	7.2 W	497 lm	69 LPW	1755 cd
	10.1 W	611 lm	60 LPW	2250 cd
38° Reflector	7.2 W	515 lm	72 LPW	794 cd
	10.1 W	636 lm	63 LPW	973 cd



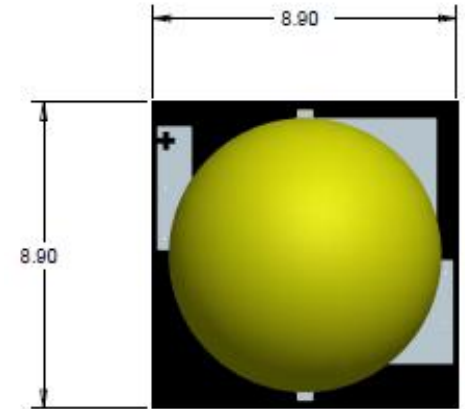
50W Halogen MR16



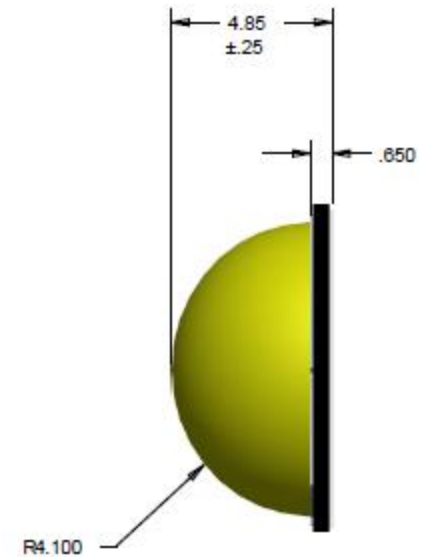
10W LED MR16
Based on
Cree XLamp[®] MT-G

XLamp MT-G Characteristics & Features

	6V Version	36V Version
	MT-G	MT-G
Max Current	4000 mA	4000 mA
Viewing Angle	125°	125°
Typ. Vf @ 1100 mA & 85°C	5.6V	33.5V



- Electrically neutral thermal path
- Reflow solderable JEDEC J-STD-020C compatible
- RoHS- & REACH-compliant



EasyWhite	Neutral White	Warm White
CCT (K)	4000K, 3500K	3000K, 2700K
CRI (typ)	80	82

XLamp MT-G EasyWhite

Standard Order Codes

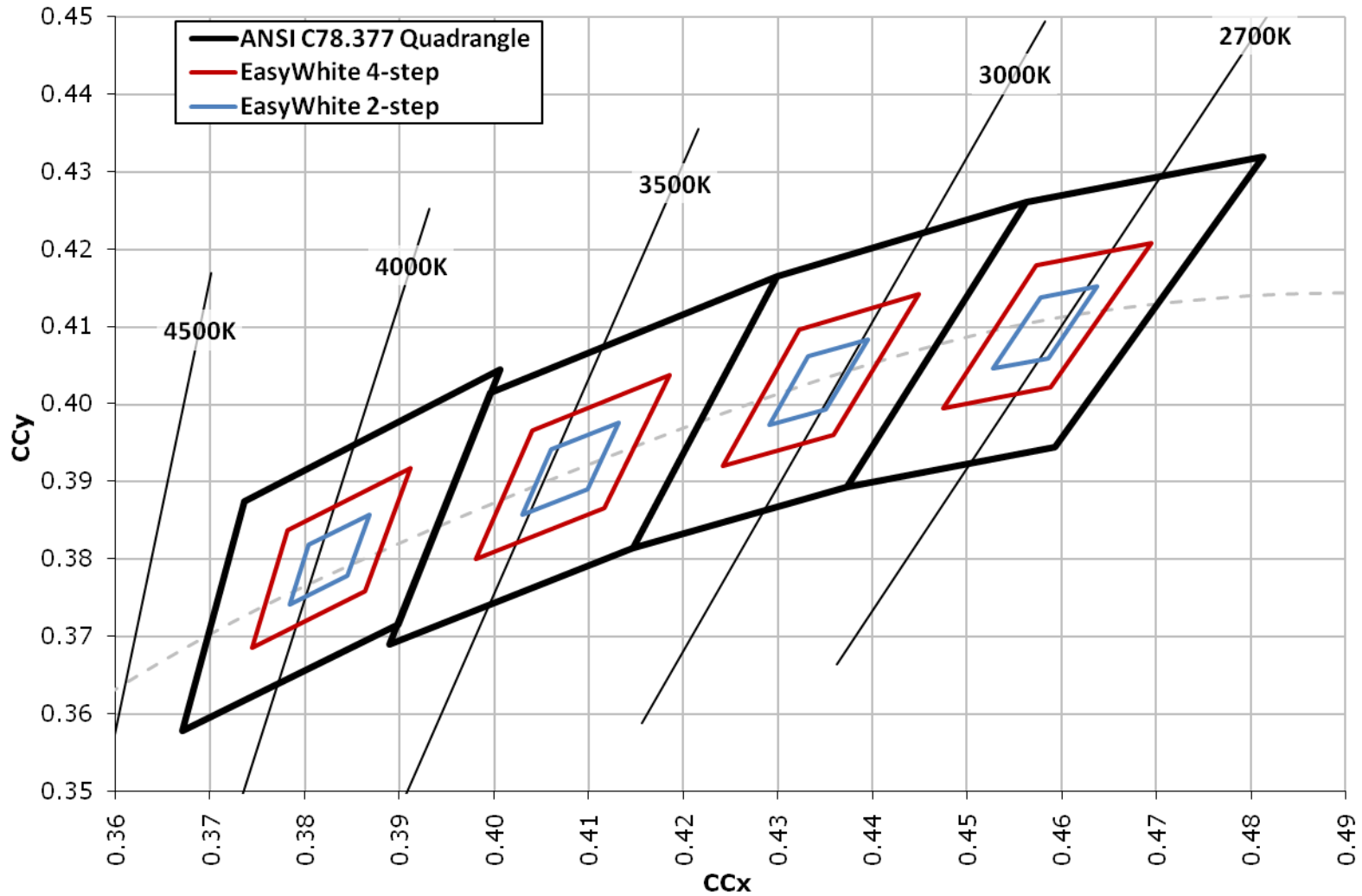


Min. Flux Bin	4-Step				2-Step			
	4000K	3500K	3000K	2700K	4000K	3500K	3000K	2700K
	40F	35F	30F	27F	40H	35H	30H	27H
H	560				560			
G	520	520	520		520	520	520	
F	480	480	480	480	480	480	480	480
E		440	440	440		440	440	440
D				400				400

Minimum luminous flux @ 1100 mA & Tj=85°C (lm)
 The flux and chromaticity are measured with all LEDs lit simultaneously.

	6 Volt Version	36 Volt Version
4-Step	MTGEZW-00-0000-0 B 00F035 F	MTGEZW-00-0000-0 N 00F035 F
2-Step	MTGEZW-00-0000-0 B 00F035 H	MTGEZW-00-0000-0 N 00F035 H

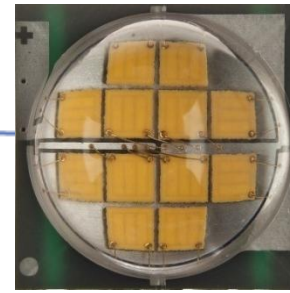
XLamp MT-G EasyWhite Bins



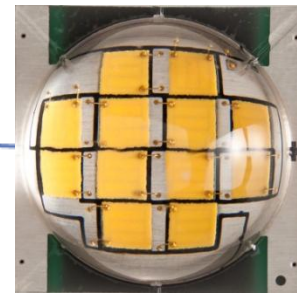
XLamp MT-G Extensions

High Voltage Version

- **Optimized for line-voltage applications**
 - PAR/BR, GU-10, Track heads
- **Form factor & footprint identical to 6V version**
 - Optical source is slightly different
- **~30-34V @ 85° C**
 - Flux performance same as 6V version at same power



MT-G 6V



MT-G HV

High CRI Version (6V and HV version)

- **85, 90 CRI minimum in 2700K and 3000K**
- **80 CRI minimum in 3500K and 4000K**
- **Expect ~20% flux reduction in high CRI versions**
- **High CRI will be added to datasheet and available by end of Q1**

XLamp MT-G – Summary

- **MT-G EasyWhite enables small form factor lighting applications, such as PARs, MRs, small downlights and small trackheads, that were previously not possible using a single LED component**
- **Cree's MR-16 reference design is available at mtg.cree.com and gives example designs that meet the demanding requirements of the 50 watt equivalent MR16 spec.**
- **MT-G is available in color temperatures from 2700 K to 4000K and 2-Step and 4-Step EasyWhite bins, along with two voltage options 6 Volts and a High Voltage version**
- **Finally, High CRI versions of MT-G are planned and scheduled to be ready in the next few months.**



PORTABLE



RESIDENTIAL



OFFICE



RETAIL



ARCHITECTURAL



OUTDOOR

LED lighting: Energy efficient & planet friendly.

Cree. Leading the LED lighting revolution.

Join Cree's LED lighting revolution. We invite you to see how our high-performance, high-efficiency LEDs are lighting up the world.

