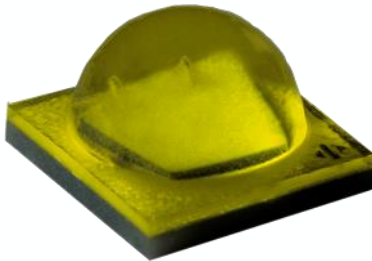




# XM-L3 Torch Reference Design



# XM-L3 Torch Reference Design

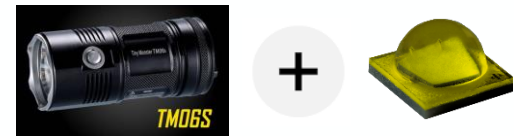
## Purpose

- Use an existing Off-the-shelf Torch (Nitecore TM06S) utilizing a Cree XM-L2 emitter
- Retrofit the same Torch utilizing the new Cree XM-L3 emitter
- Compare the results

## Highlights

- 48,000cd ! 46% gain in candela compared to the XM-L2 stock torch
- 5800lm output driving at a maximum current of 5A
- Drop-in replacement for XM-L2 design = immediate performance increase

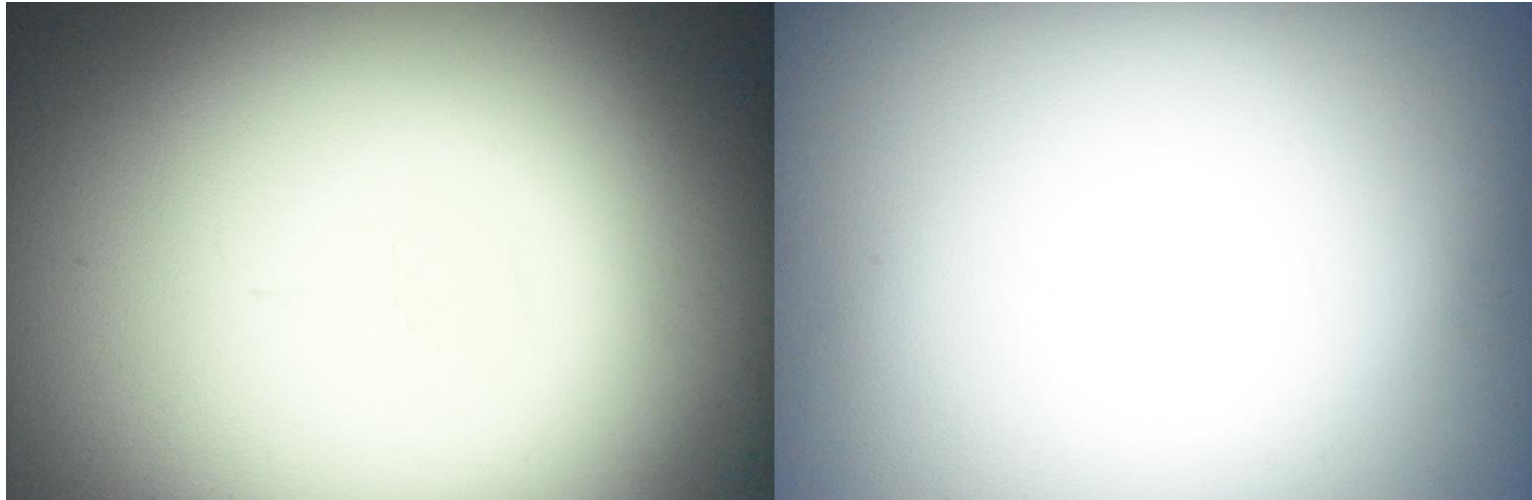
# Nitecore TM06S Torch Comparison - XM-L2 / Retrofitted XM-L3



Torch	Nitecore TM06S Stock Unit		
LED (4)	Cree XM-L2 U3		
Test Current (mA)	700	2800	3000
Power (W)	8	39	42
Luminous Flux (lm)	1166	3863	4109
Candlepower (cd)	-----	-----	33,000
Luminous Efficacy (lm/W)	141	99	97
CCT (K)	6356	6676	6697
CRI	68	68	68

Torch	Nitecore TM06S Retrofitted		
LED (4)	Cree XM-L3 Early Sample		
Test Current (mA)	700	2800	5000
Power (W)	8	37	72
Luminous Flux (lm)	1163	3781	5833
Candlepower (cd)	-----	-----	48,000
Luminous Efficacy (lm/W)	142	103	81
CCT (K)	7437	8251	8699
CRI	68	68	67

## Beam Comparison – First Glance

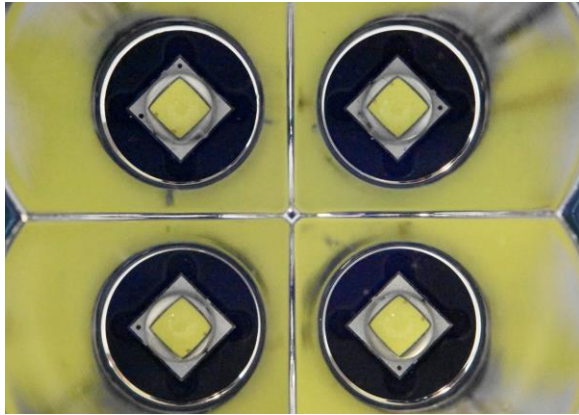


**Cree XM-L2**

**Cree XM-L3**

- \* Images taken at a distance of 5 feet, drive current set at 3A (XM-L2) and 5A (XM-L3)
- \* We recognize that the CCTs above differ, XM-L2 CCT=6697K , XM-L3 CCT =8300K

# Photos



**Cree XM-L2**



**Cree XM-L3 Drop-In Retrofit**



