

6.3mm LES Light Sources,
<300lm to over 1,000lm
3W – 10W

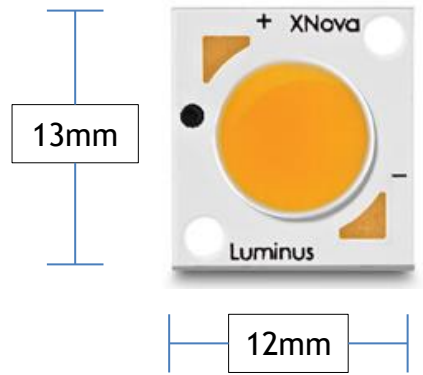


Two most common MR16 connectors

- GU5.3 (left) for low voltage inputs
- GU10 (right) for direct AC inputs.

MR16 AND SMALL FORM FACTOR LED SOLUTIONS


CLM/CXM/CHM-6 (6.3mm LES)



- **Applications**
 - Mini-Spot and Track, Low Voltage
 - MR16 replacements
- **Power Range 3W – 10W**
- **Lumen Range <300lm - >1,000lm**
- **85°C Binning, F2, Single flux bin (typical and min.)**
 - 3 SDCM standard, 2 available (2700K, 3000K, 3500K, 4000K)
 - 5 SDCM standard in cool (5000K and 6500K)
- **CCT/CRI Combinations**
 - Oct./Nov. 70 CRI - 4000K, 5000K, 6500K
- **LM-80 6,000 hrs. testing complete**

	Standard Voltage	18V Option	12V Option	9V Option
CLM-6	27V	✓		✓
CXM-6	36V	✓	✓	✓
CHM-6	36V			✓

	2700K	3000K	3500K	4000K	5000K	6500K
80CRI	✓	✓	✓	✓	✓	✓
90CRI	✓	✓	✓	✓		
95CRI	✓	✓				

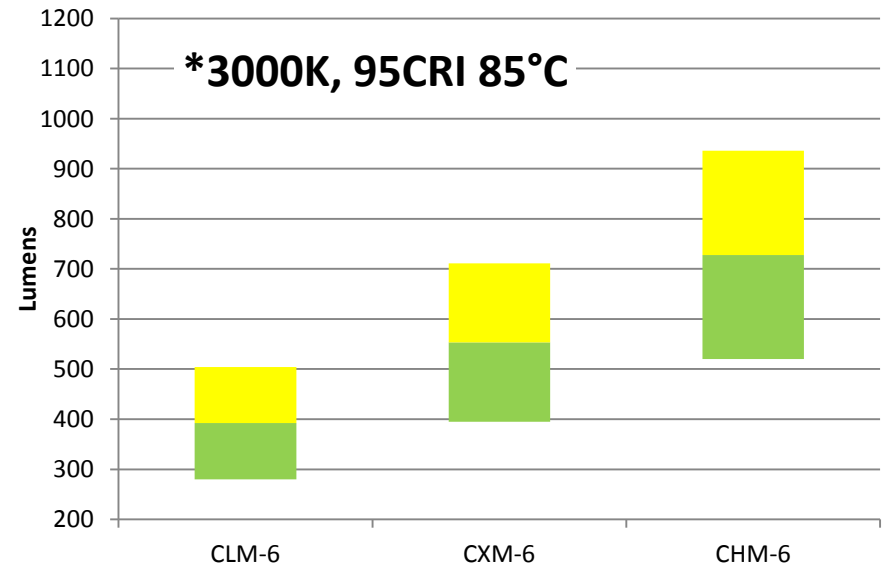
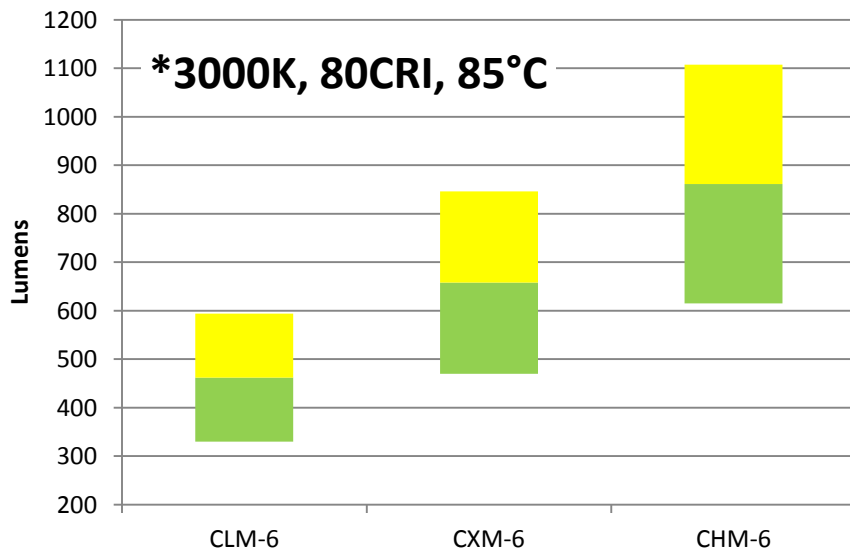
- REACH
 - RoHS
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CLM/CXM/CHM-6 Lumen Performance



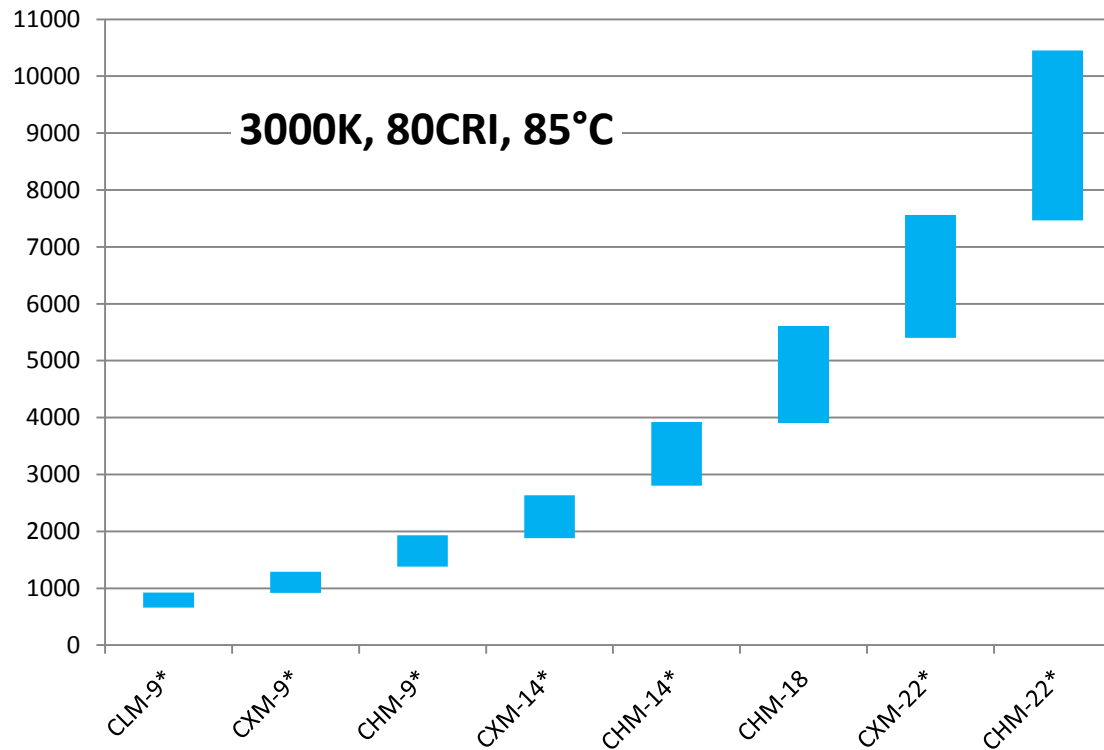
85°C	Typical (3000K, 80CRI)				Higher Drive			
Part	Power (W)	Current	1x (lm)	Efficacy	1.5x (lm)	Efficacy	2x (lm)	Efficacy
CLM-6	3.24	120mA	330	102	462	95	594	92
CXM-6	4.2	120mA	470	112	658	104	846	101
CHM-6	5.6	160mA	615	110	861	103	1107	99



*Lumen range; Green (1x to 1.5x), Yellow (1.5x to 2x)



New Portfolio With CHM, CXM, CLM- CMH Replacement Market Lumen Range



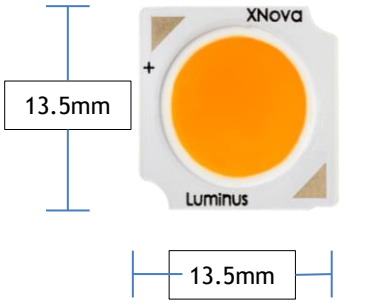
- Portfolio tailored to CMH replacement market
- CHM-18 is a new part in design
- Continuous lumen coverage 1x to 1.5x operating condition
- Parts with * match a standard substrate size

9mm LES Light Sources,
600lm to over 2,000lm
5W – 20W

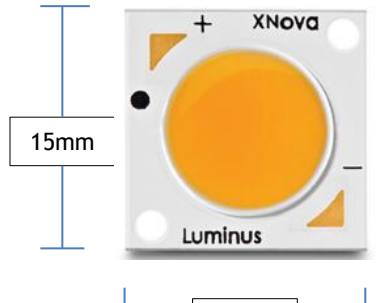


“1000LM” SOLUTION: SPOT LIGHTS AND PAR LAMPS

CLM/CXM/CHM-9 (9mm LES)



CLM/CXM/CHM-9-AC00



CXM-9-AA00

- REACH
 - RoHS
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- **Applications**
 - Retail, Hospitality, Spot and Track
 - 50 -100W Halogen, 20W CMH Replacement
- **Power Range 5W – 20W**
- **Lumen Output 600lm to >2,000lm**
- **CCT/CRI Combinations**
 - Oct./Nov. 70 CRI - 4000K, 5000K, 6500K
- **85°C Binning, 36V, One flux bin (typ. and min.)**
 - 3 SDCM standard, 2 SDCM available (2700K, 3000K, 3500K, 4000K)
 - 5 SDCM standard in cool (5000K and 6500K)
- **LM-80 6,000 hrs. 240mA and 480mA**

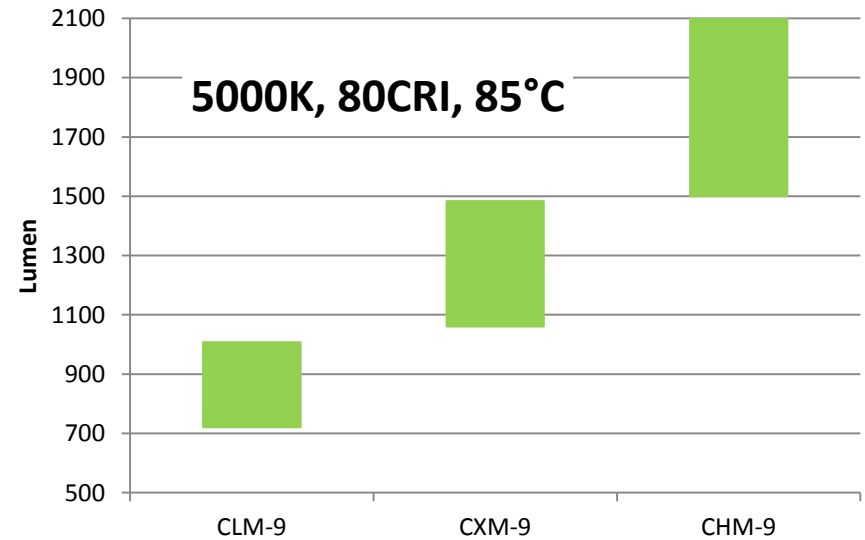
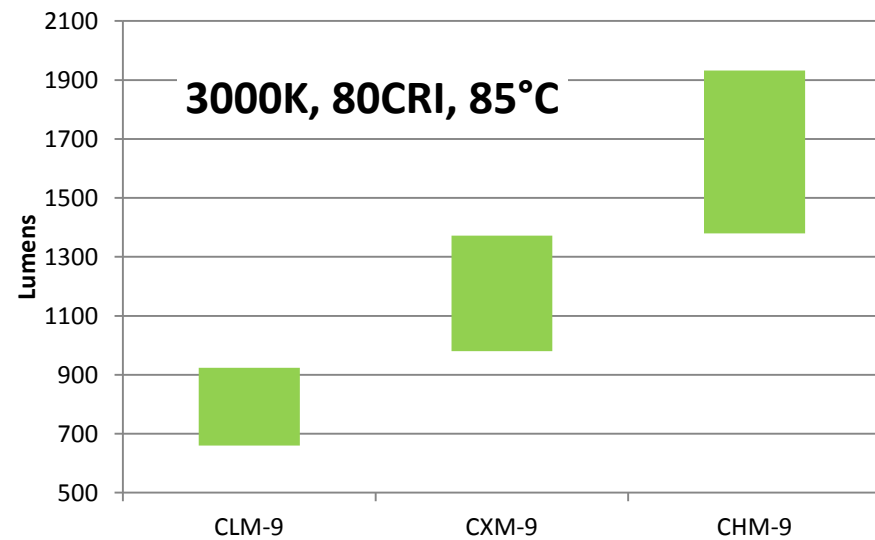
	2700K	3000K	Sensus™	3500K	4000K	5000K	6500K
80CRI	✓	✓	✓	✓	✓	✓	✓
90CRI	✓	✓		✓	✓		
95CRI	✓	✓					



CLM/CXM/CHM-9 Lumen Performance



85°C	Typical (3000K, 80CRI)				Higher Drive		
Part	Power (W)	Current	1x (lm)	Efficacy	Power	1.5x (lm)	Efficacy
CLM-9	5.6	160mA	660	118	8	924	110
CXM-9	8.4	240mA	980	117	13	1372	109
CHM-9	12.6	360mA	1380	110	19	1932	102



*Lumen range; Green (1x to 1.5x)

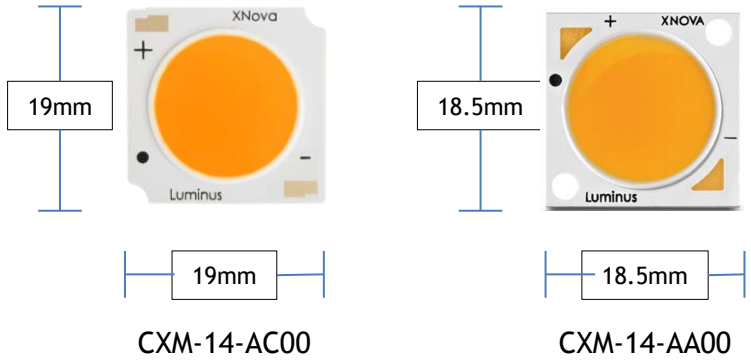


13.5mm LES Light Sources,
17W – 38W
2,000lm – 4,000lm



“2000 - 4000LM” SOLUTIONS: SPOT LIGHTS AND PAR LAMPS

CXM/CHM*-14 (13.5mm LES)



- REACH
- RoHS



- **Applications**
 - Spot and Track
 - 35W – 50W CMH replacements
- **Power Range 17W – 38W**
- **Lumen Range 2,000lm – 4,000lm**
- **Lumen range CCT/CRI Combinations**
 - Aug./Sep. 70 CRI - 4000K, 5000K, 6500K
- **85°C Binning, F2, Single flux bin (typical and min.)**
 - 3 SDCM standard, 2 available (2700K, 3000K, 3500K, 4000K)
 - 5 SDCM standard in cool (5000K and 6500K)
- **LM-80 Status**
 - 6,000 hrs. Complete 1.5x Dec. '14 -2x testing Jan. '15

	2700K	3000K	Sensus™	3500K	4000K	5000K	6500K
80CRI	✓	✓	✓	✓	✓	✓	✓
90CRI	✓	✓		✓	✓		
95CRI	✓	✓			✓		

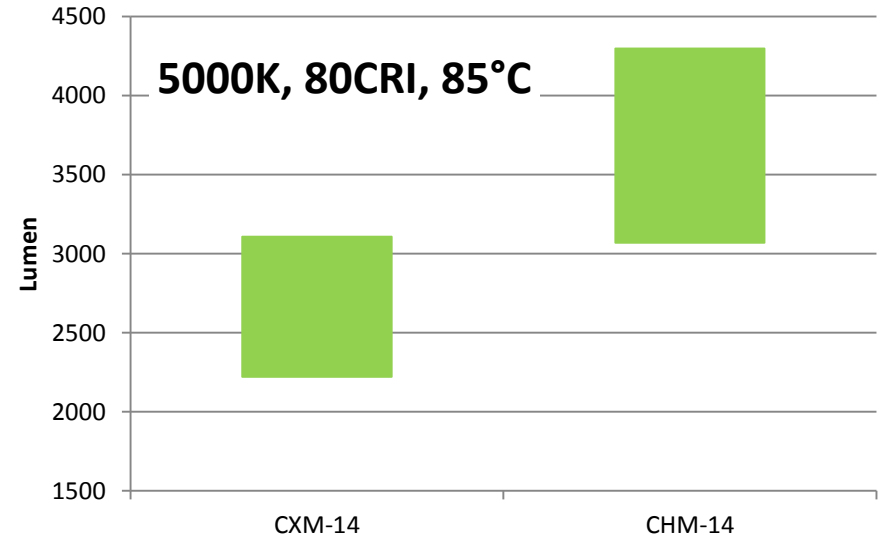
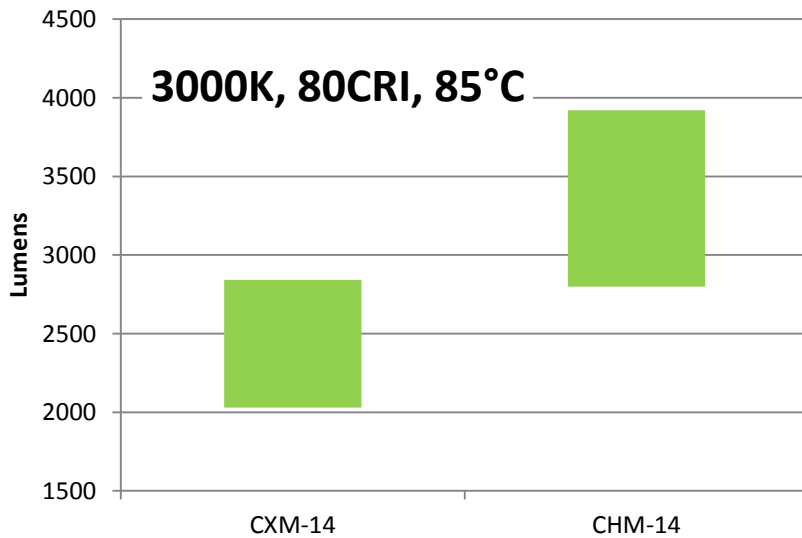
*Available October, 2014



CXM/CHM-14 Lumen Performance



85°C	Typical (3000K, 80CRI)				Higher Drive		
Part	Power (W)	Current	1x (lm)	Efficacy	Power	1.5x (lm)	Efficacy
CXM-14	16.8	480mA	2030	121	25	2842	113
CHM-14	25.2	720mA	2800	111	38	3920	104



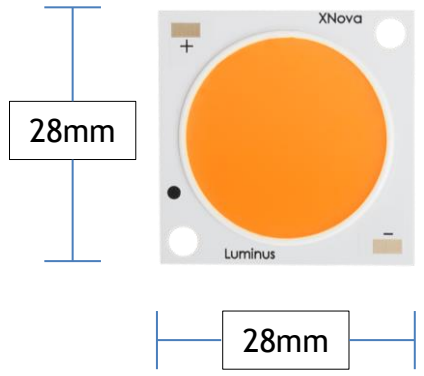
*Lumen range; Green (1x to 1.5x)



22mm LES Light Sources,
40W – 100W
5,000lm – 10,000lm

“5,000 – 10,000LM” SOLUTIONS: PAR LAMPS, LOW/HIGH BAY

CXM/CHM*-22 (22mm LES)



- REACH
 - RoHS
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- **Applications**
 - Spot, low bay, high bay
 - 70W – 250W CMH replacements
- **Power Range 40W – 100W**
- **Lumen Range 5,000lm – 10,000lm**
- **Lumen range CCT/CRI Combinations**
 - Aug./Sep. 70 CRI - 4000K, 5000K, 6500K
- **85°C Binning, F2, Single flux bin (typical and min.)**
 - 3 SDCM standard, 2 available (2700K, 3000K, 3500K, 4000K)
 - 5 SDCM standard in cool (5000K and 6500K)
- **LM-80 Status**
 - 6,000 hrs. Complete 1.5x Dec. '14 -2x testing Jan. '15

	2700K	3000K	Sensus™	3500K	4000K	5000K	6500K
80CRI	✓	✓	✓	✓	✓	✓	✓
90CRI	✓	✓		✓	✓		
95CRI	✓	✓			✓		

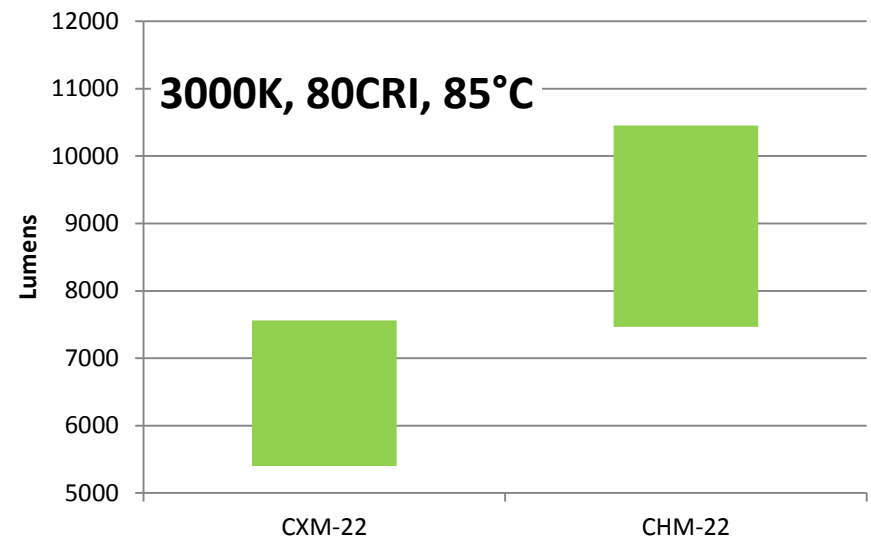
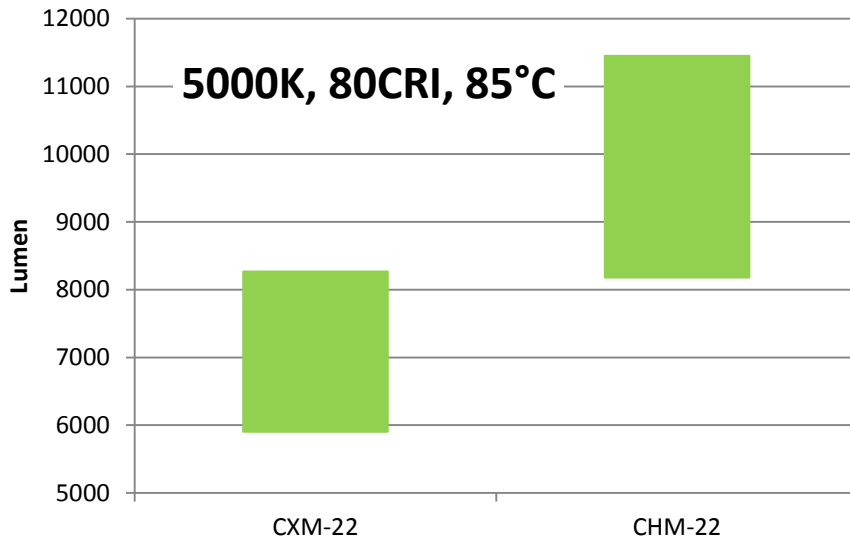
*Available October, 2014



CXM/CHM-22 Lumen Performance



85°C	Typical (5000K, 80CRI)				Higher Drive		
Part	Power (W)	Current	1x (lm)	Efficacy	Power	1.5x (lm)	Efficacy
CXM-22	42	1,200mA	5905	141	63	8267	131
CHM-22	63	1,800mA	8180	130	95	11452	121



*Lumen range; Green (1x to 1.5x)