



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



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

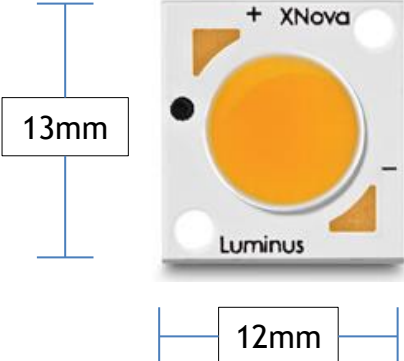


Two most common MR16 connectors

- 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
- 

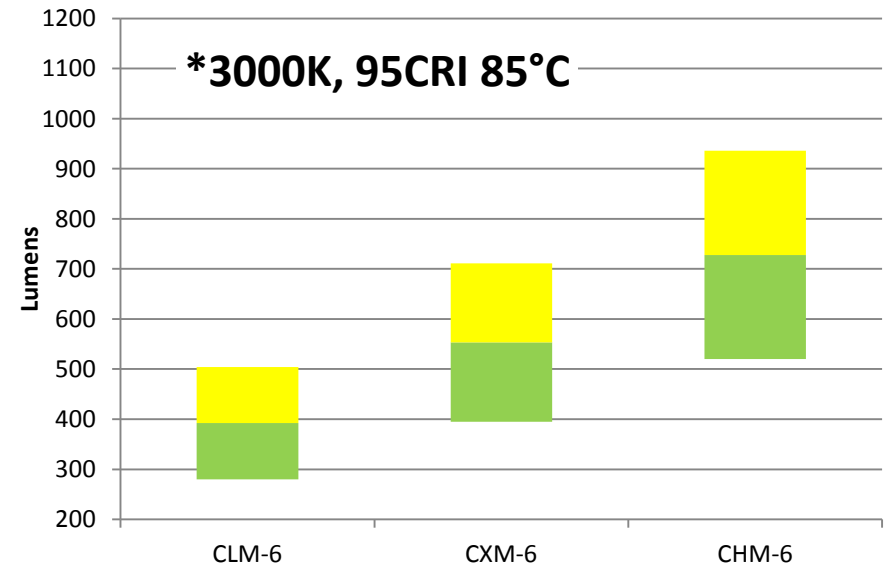
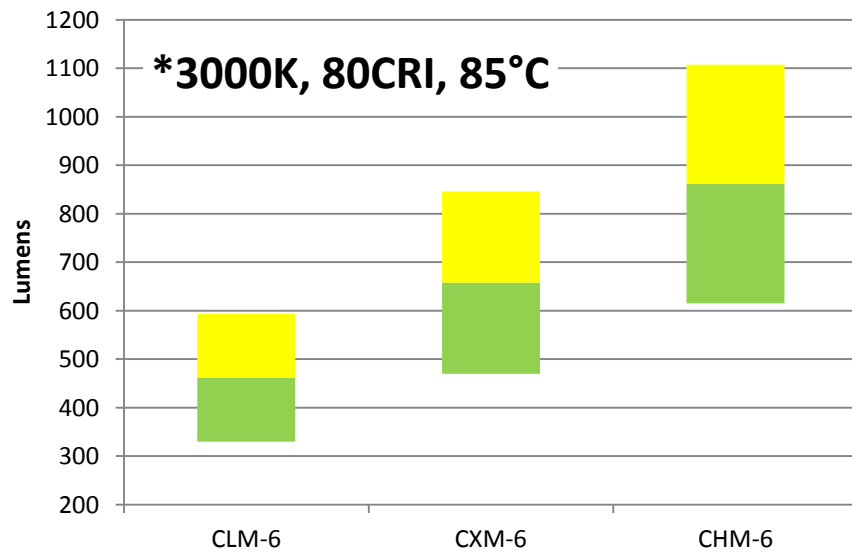




# CLM/CXM/CHM-6 Lumen Performance



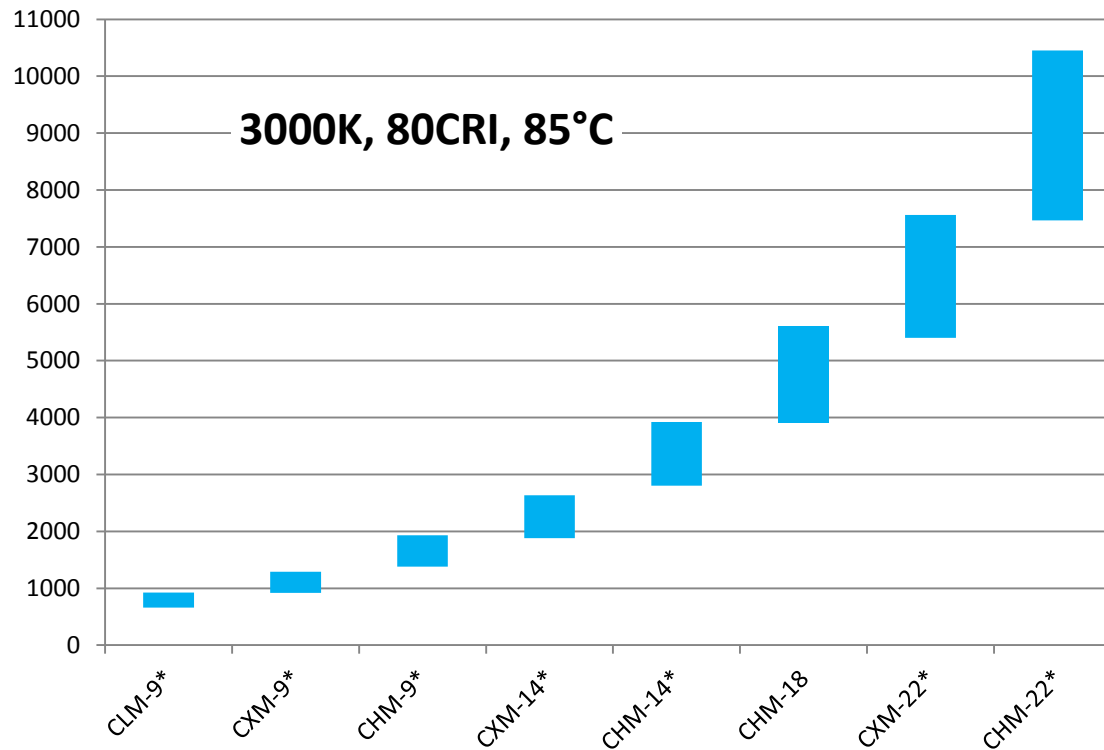
85°C	Typical (3000K, 80CRI)				Higher Drive			
Part	Power (W)	Current	1x (lm)	Efficacy	1.5x (lm)	Efficacy	2x (lm)	Efficacy
CLM-6	3.24	120mA	330	102	462	95	594	92
CXM-6	4.2	120mA	470	112	658	104	846	101
CHM-6	5.6	160mA	615	110	861	103	1107	99



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



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



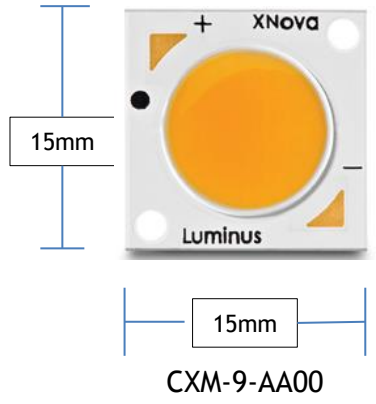
- Portfolio tailored to CMH replacement market
- CHM-18 is a new part in design
- Continuous lumen coverage 1x to 1.5x operating condition
- Parts with \* match a standard substrate size


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



## **“1000LM” SOLUTION: SPOT LIGHTS AND PAR LAMPS**

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



- REACH
  - RoHS
- 

- **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**

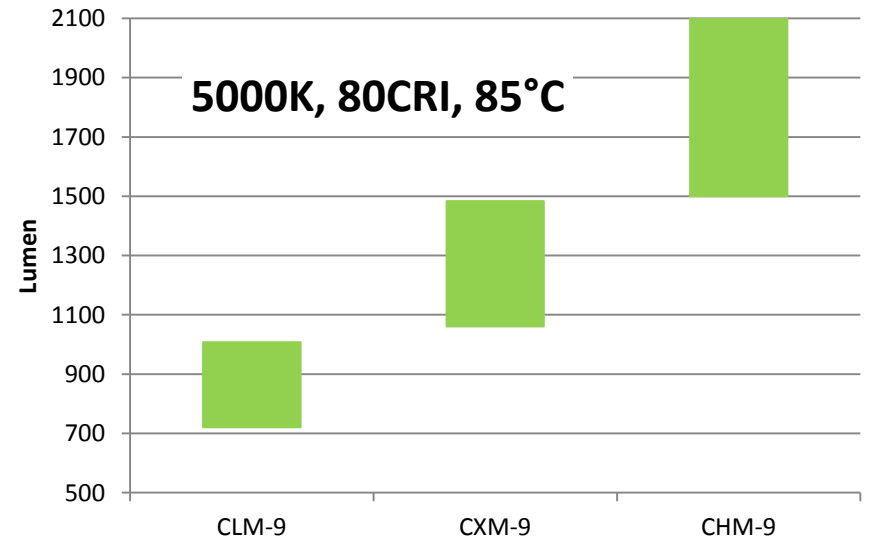
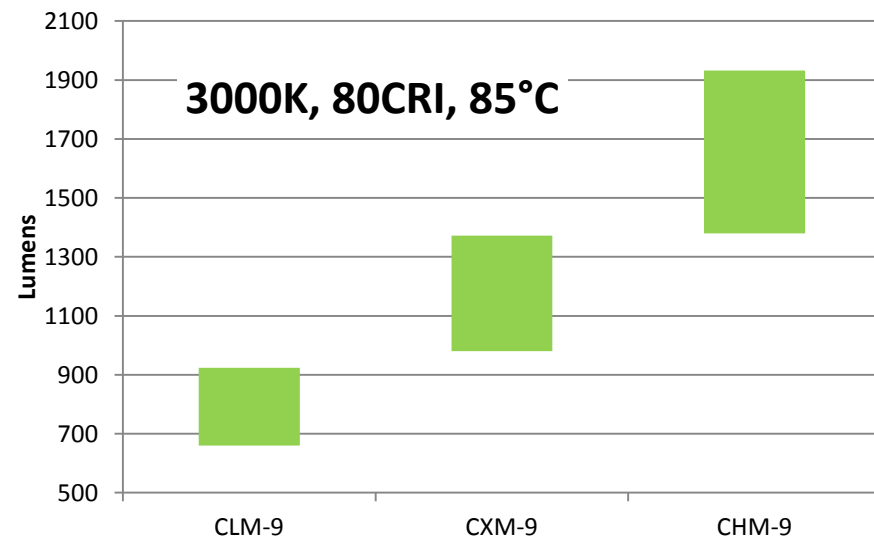
	2700K	3000K	Sensus™	3500K	4000K	5000K	6500K
80CRI	✓	✓	✓	✓	✓	✓	✓
90CRI	✓	✓		✓	✓		
95CRI	✓	✓					



# 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)



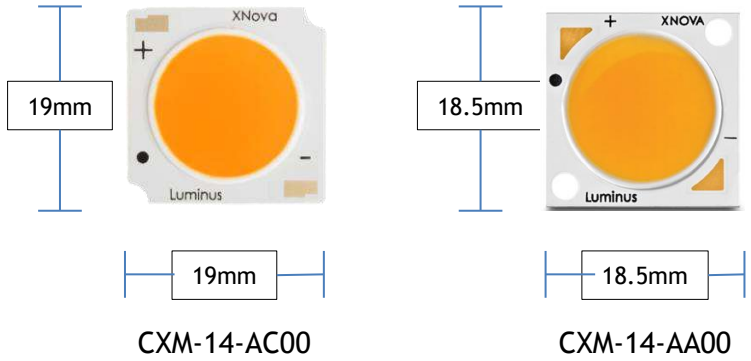


13.5mm LES Light Sources,  
17W – 38W  
2,000lm – 4,000lm



## “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	✓	✓			✓		

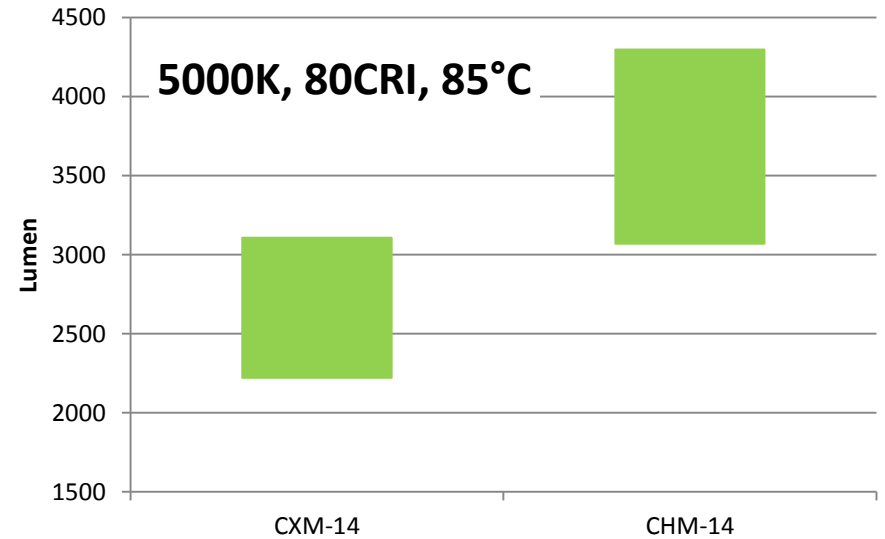
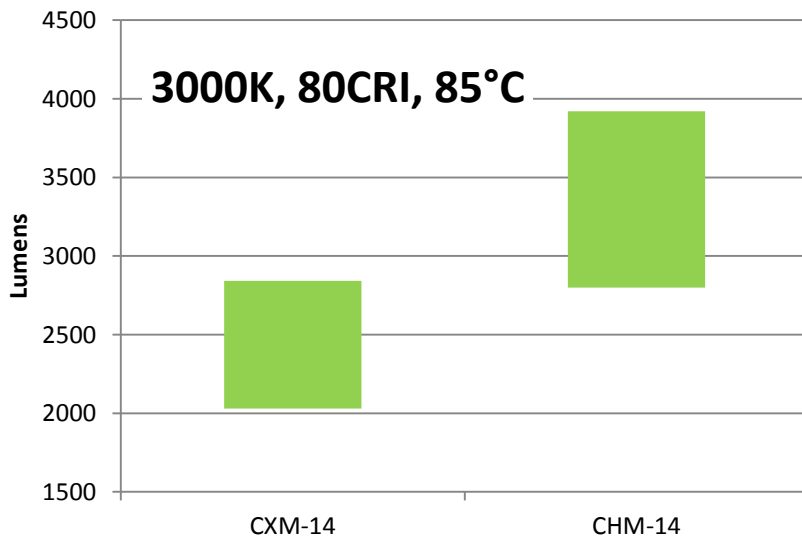
\*Available October, 2014



# CXM/CHM-14 Lumen Performance



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



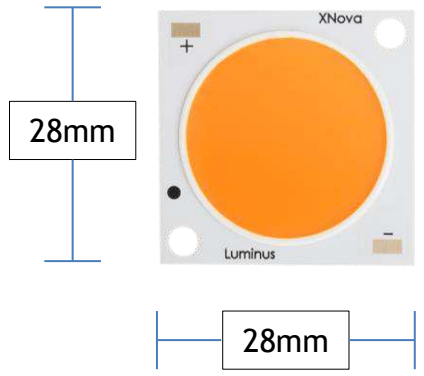
\*Lumen range; Green (1x to 1.5x)



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
- 

- **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

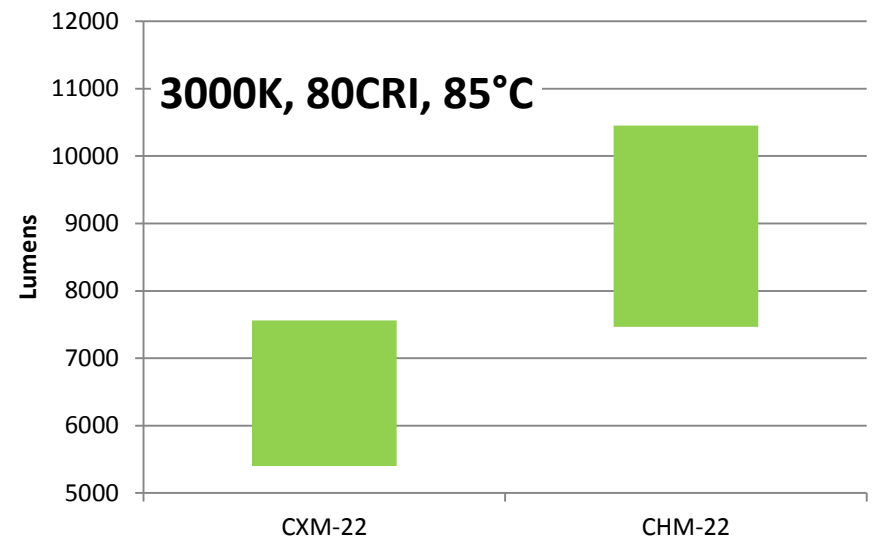
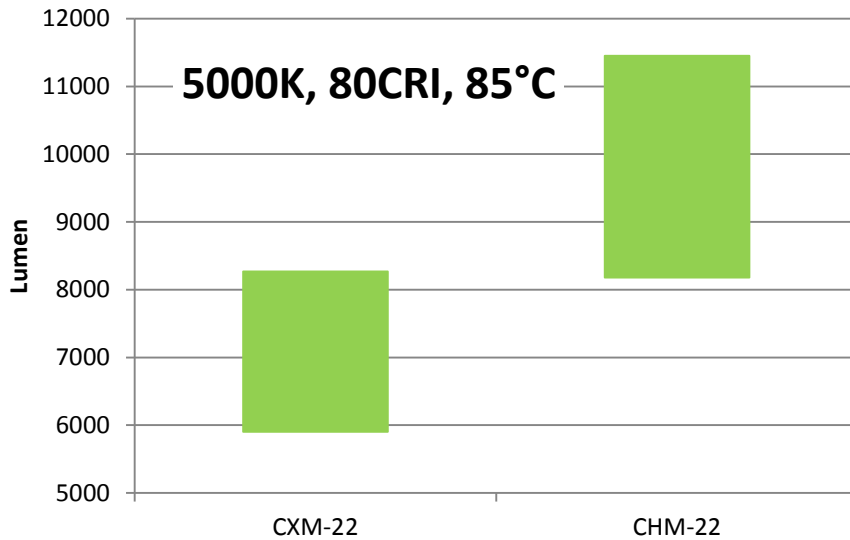




# CXM/CHM-22 Lumen Performance



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)