# **GROTE LED BULB REPLACEMENTS**



#### DATA SHEET



# Grote's LED replacement bulbs are perfect for replacing your standard incandescent dome lights, step lights, trunk lights, license plate lights, and more.

- Replace your standard incandescent light bulbs with Grote's long-lasting LED bulbs and you may never have to replace them again.
- Replacement LED bulbs are available for most popular 12V lighting applications.

PART NUMBER	DESCRIPTION	VOLTAGE	WATTAGE
94751-4	T10, PAIR PACK, WHITE	9–16V	2.4 W
94753-4	T10, PAIR PACK, AMBER	9–16V	2.2 W
94752-4	T10, PAIR PACK, RED	9–16V	2.4 W
94931-4	T15, PAIR PACK, WHITE	9–16V	5.8 W
94791-4	1156, PAIR PACK, WHITE	9–16V	7.3 W
94811-4	1157, PAIR PACK, WHITE	9–16V	1.1–7.5 W
94813-4	1157, PAIR PACK, AMBER	9–16V	1.4–7.5 W
94812-4	1157, PAIR PACK, RED	9–16V	1.1–7.8 W
94851-4	3157, PAIR PACK, WHITE	9–16V	1.4–7.5 W
94853-4	3157, PAIR PACK, AMBER	9–16V	1.5–7.8 W
94852-4	3157, PAIR PACK, RED	9–16V	1.4–7.5 W
94911-4	T10, PAIR PACK, WHITE	9–16V	0.75 W
94913-4	T10, PAIR PACK, AMBER	9–16V	0.75 W
94912-4	T10, PAIR PACK, RED	9–16V	0.71 W
94771–5	K SER, PAIR PACK, WHITE	9–16V	2.0 W
94900-5 *	LOAD RESISTOR	9–16V	50 W

\* Warning: The Load Resistor can get very hot while operating and should be mounted to a clean metal frame surface. Do not touch resistor while powered or immediately after operation.

#### FOR MORE INFORMATION VISIT **GROTE.COM**

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Grote Part Number	Industy Standard Bulb Number	Color	Wattage	Bulb Cross Reference	Applications
94751-4	194	White	2.2–2.4W	194, W5W, W3W, 147, 152, 158, 159, 161, 168, 184, 192, 259, 280, 285, 447, 464, 501, 555, 558, 585, 655, 656, 657, 1250, 1251, 1252, 2450,	Side marker, dome light, step light, trunk light glove box, side repeater, license plate light
94752-4		Red			
94753-4	194NA		2652, 2821, 2921, 2825		
94911-4	194	White	0.75W*	*(Low Wattage 194 Type Replacement)	
94912-4		Red 0.75W*			
94913-4		Amber	0.71W*		
94791-4	1156	White	7.3W	1156, 1073, 1093, 1129, 1141, 1159, 1295, 1459, 1619, 1651, 1680, 7506, 7527, 1195, 3296, 3497, Ba15s	Front/rear turn signal, tail light, brake light, reverse light
94811-4	1157	White	LOW: 1.1W	1157, 1016, 1034, 1075, 1130, 1154, 1158, 1493,	Front/rear turn signal, tail light, brake light
94812-4		Red	HIGH: 7.8W	2057, 2357, 2397, 7528, P21, Bay15d	
94813-4		Amber			
94851-4	3157	3157 White LOW: 1.1W 3157, 3047, 3057, 3155, 3357, 3454, 3457, 375	3157, 3047, 3057, 3155, 3357, 3454, 3457, 3757,	Front/rear turn signal, tail light, brake light	
94852-4		Red	HIGH: 7.8W	4057, 4114, 4157	
94853-4	3157NA	Amber			
94771-5	211	White	2W	211, 211-2	Step light, dome light, map light, license plate light
94931-4	T15	White	5.8W	T15, 921	Back-up, Trunk Light
94900-5	N/A	N/A	50W	N/A	Prevent "bulb out" error messages for certair applications

### INTERCHANGES

## CANBUS LOAD EQUALIZER

- · CANbus is a vehicle communication standard designed to allow microcontrollers and devices to communicate with each other within a vehicle, without a host computer.
- · A vehicle's bulb detection system uses current draw to determine if a bulb is functioning. The vehicle's on-board computer reads that the current used was below the normal threshold and triggers a "bulb out" warning. Halogen bulbs draw up to 1A of current. Equivalent LED draws only 0.30A.
- Current draw threshold levels vary between manufacturers, models, and even model years.



#### **"BULB OUT" WARNING SOLUTION**

- Various vehicles were tested to determine the current draw threshold. It was determined that the "average" threshold is 0.65A of current draw at 13.8V.
- In the event that a vehicle's current draw threshold is higher than that of the LED bulb, a Load Equalizer will need to be used.
- Grote provides a Load Equalizer that creates a 2.5A draw on the circuit, which is higher than the current draw of any halogen mini bulb. The addition of the Load Equalizer will completely eliminate the "bulb out" warning.

"BULB OUT" SOLUTION	• 94791-4	• 94851-4
TECHNOLOGY IS	• 94811-4	• 94852-4
AVAILABLE ON THE FOLLOWING BULBS:	<ul><li>94812-4</li><li>94813-4</li></ul>	• 94853-4

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