

# Betts Industries, Inc.

1800 Pennsylvania Ave. West  
Warren, PA 16365 U.S.A.

## Engineering Bulletin LD03-01

Subject: DESIGN CONSIDERATIONS FOR L.E.D. LAMPS.

---

The new **Betts BriteNight** and **Light Ranger** series L.E.D. lamps will easily and quickly replace most **Betts** lamps currently in use by our customers. When replacing standard incandescent lamps with L.E.D. lamps the current draw on your system lines will be significantly reduced. The **Light Ranger** series lamps and assemblies will operate over an **8 to 42 Volt D.C.** range with minimal change in current draw, thus allowing more design flexibility in user systems. The **BriteNight** series lamps are designed for **12 or 24 Volt D.C.** systems. When installing the lamps please take into consideration the following issues.

1. When removing the original lamps or replacing with a lens assembly please check for proper sealing of all lamps.
2. Check all wire terminations for wear or degradation before installing the new lamps.
3. The L.E.D. assemblies will draw less current per lamp function, thereby reducing voltage drop and current demands on each line.
4. Check your fusing on each circuit line. With L.E.D. lamps drawing less current you may wish to reduce the size of the fuse currently being used thereby increasing the safety of the line.
5. Use the chart supplied below to help access the new current demand created by switching to L.E.D. lamps.
6. When replacing L.E.D. lens assemblies in Aluminum bodies all non-insulated connections must to be sealed. Heat shrinkable tubing is provided for this purpose.

**Current Draw in Amperes for Betts BriteNight and Light Ranger Series Lamps at 12.8 Volts Direct Current. Other voltages available upon request.**

Lamp Series	Stop Red	Turn Red	Turn Amber	Tail Red	Mkr., Clr., I.D. Red	Mkr., Clr., I.D. Amber	Auxiliary High Red	Auxiliary High Amber
100					0.025	0.030		
200					0.050	0.050		
200v					0.050	0.076		
40 (60 led)	0.490	0.490	0.400	0.070	0.070	0.060		
40 (1 led)	0.268	0.268		0.027				
45 (60 led)	0.490	0.490	0.400	0.070	0.070	0.060		
45 (1 led)	0.268	0.268		0.027				
47 (60 led)	0.490	0.490	0.400	0.070	0.070	0.060		
47 (1 led)	0.268	0.268		0.027				
50					0.025	0.030	0.215	0.215
56					0.025	0.030	0.215	0.215
57					0.025	0.030	0.215	0.215
60					0.025	0.030	0.215	0.215
65					0.040	0.045		
80 (60 led)	0.490	0.490	0.400	0.070	0.070	0.060		
81 (60 led)	0.490	0.490	0.400	0.070	0.070	0.060		
73	0.268	0.268		0.027		0.027		0.268
77	0.268	0.268		0.027		0.027		0.268
78	0.268	0.268		0.027		0.027		0.268