



Test Procedure for the NCL30030GEVB Evaluation Board

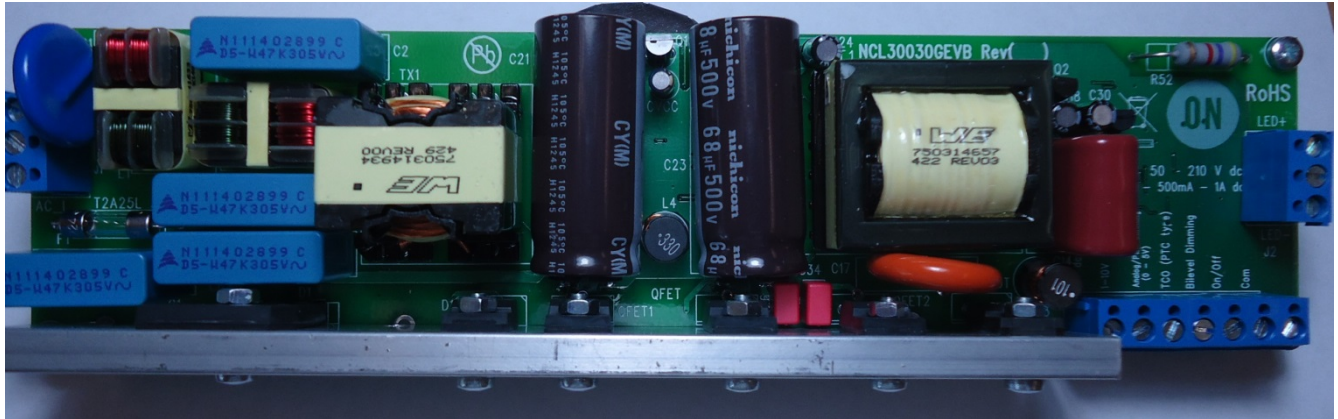


Figure 1 NCL30030GEVB 150 W High Performance LED Driver

Equipment Needed

- AC Source – 90 to 305 V ac 50/60 Hz Minimum 500 W capability
- DC Source – 1 to 10 V output capability
- AC Wattmeter – 300 W Minimum, True RMS Input Voltage, Current, Power Factor, and THD 0.2% accuracy or better
- DC Voltmeter – 300 V dc minimum 0.1% accuracy or better
- DC Ammeter – 1 A dc minimum 0.1% accuracy or better
- LED Load – 50 V – 210 V @ 1 A



Test Connections

1. Connect the LED Load to J2 through the ammeter shown in Figure 2. **Caution: Observe the correct polarity or the load may be damaged.**
2. Connect the AC power card to J1 and connect the other end to the AC wattmeter shown in Figure 12.
3. Connect a Switch between J3-6 and J3-7. This switch will provide on/off control. If not using a switch, short J3-6 to J3-7.
4. Short J3-4 to J3-7. This replaces the external TCO.
5. Connect a 1-10 VDC source to J3-2 and J3-7. The positive will go into J3-2 and the negative into J3-7. This will be used for the dimming function of the board.
6. Connect the DC voltmeter as shown in Figure 2.

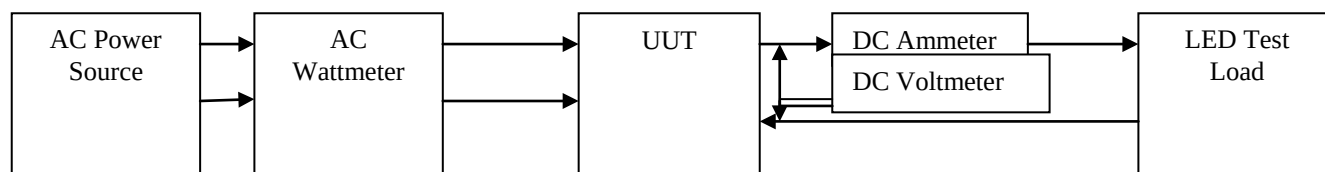


Figure 2. Test Set Up

Note: Unless otherwise specified, all voltage measurements are taken at the terminals of the UUT.

Functional Test Procedure

1. **Note: If using an on-off switch, it should be in the open state until instructed otherwise.**
2. Set the LED Load for 60V output.
3. Set the input power to 120 V 60 Hz. **Caution: Do not touch the ECA once it is energized because there are hazardous voltages present.**
4. Close the On/off switch if present.
5. Set the 1-10 VDC source to between 1 and 10 VDC and turn it on.
6. Repeat procedure for additional loads and input voltages for below tables.



Line and Load Regulation

120 V / Max Load

Set the potentiometer fully CW (i.e. maximum output)

	Output Current 720mA $\pm$ 20mA	Output Power	Power Factor	THD < 20%
60V				
120V				
210V				

120 V / Min Load

Set the potentiometer fully CCW (i.e. minimum output)

	Output Current 80mA Max	Output Power	Power Factor
60V			
120V			
210V			

277V / Max Load

Set the potentiometer fully CW (i.e. maximum output)

	Output Current 720mA $\pm$ 20mA	Output Power	Power Factor	THD < 20%
60V				N/A
120V				
210V				

277 V / Min Load

Set the potentiometer fully CCW (i.e. minimum output)

	Output Current 80mA Max	Output Power	Power Factor
60V			
120V			
210V			

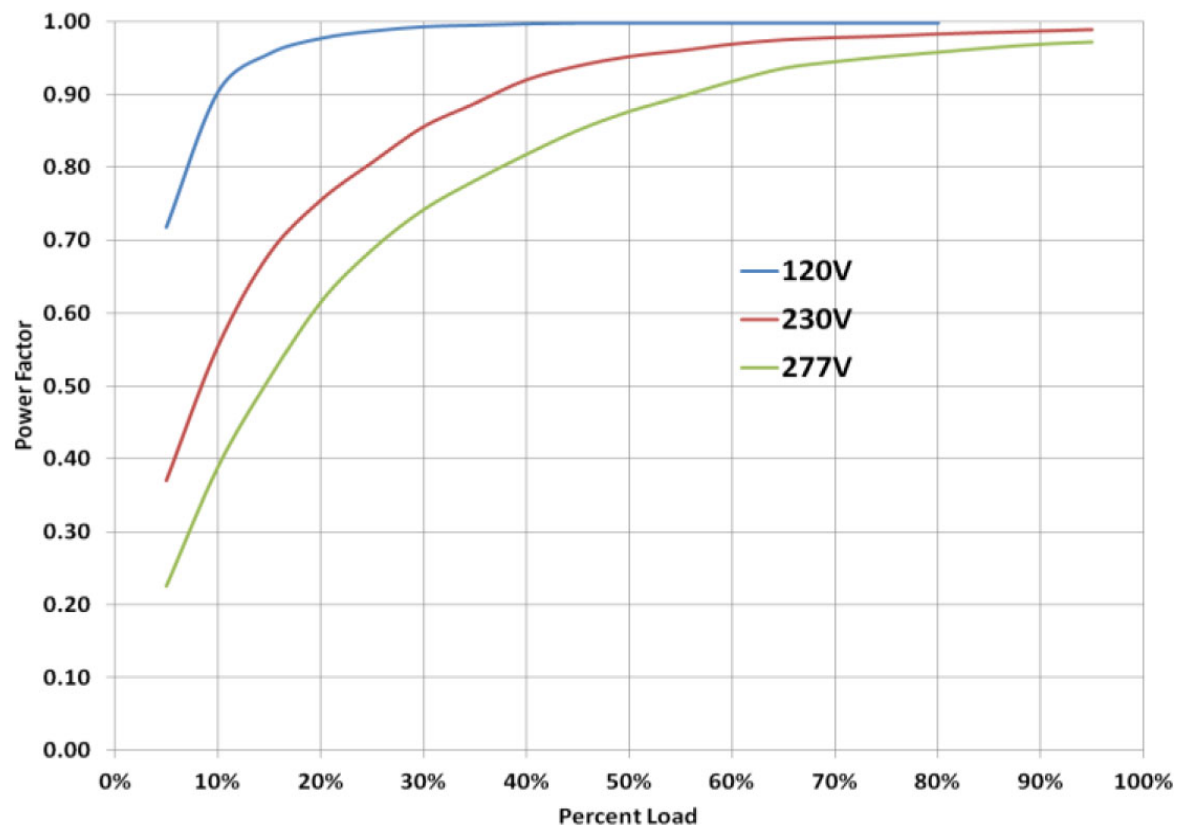


Figure 3. PF across range of input and % load (dimming)