

NCL30388LED1GEVB

TEST DATA

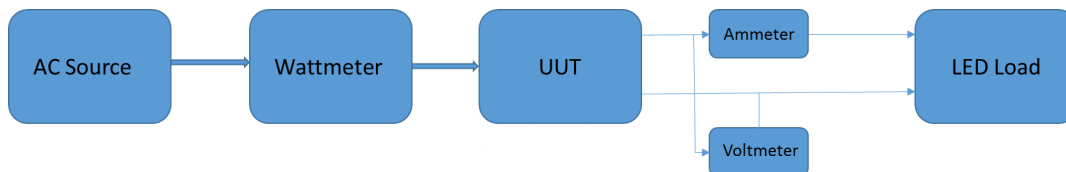
Test Procedure for the NCL30388LED1GEVB Evaluation Board

Equipment Needed

- AC Source – 90 to 265 V ac 50/60 Hz Minimum 100 W capability
- AC Wattmeter – 100 W Minimum, True RMS Input Voltage, Current, and Power Factor 0.2% accuracy or better
- DC Voltmeter – 100 V dc minimum 0.1% accuracy or better
- DC Ammeter – 2 A dc minimum 0.1% accuracy or better
- LED Load – 35 V to 40 V @ 1.5 A
- Resistor Load – 100 Ω , 30 Watt minimum

Test Connections

1. Connect the LED Load to J6 ‘LED+’ and ‘LED-’ terminals through the ammeter shown in Figure 7. **Caution: Observe the correct polarity or the load may be damaged.**
2. Connect the AC power to the input of the AC wattmeter shown in Figure 7. Connect J1 ‘L’ and ‘N’ terminals to the output of the AC wattmeter. Connect J1 Earth to ground for safety.
3. Connect the DC voltmeter as shown in Figure 7.



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

Figure 7. Test Set Up

Constant Current Regulation

Functional Test Procedure

1. Set the LED Load between 36 and 40 Volts.
2. Set the input voltage as indicated. **Caution: Do not touch the ECA once it is energized because there are hazardous voltages present.**
3. Use LED load at bottom of stack in lab. Make sure to use constant voltage here.

Max Load:

Enter ‘P’ or ‘F’ in column depending on test result

	Input Power	Power Factor		Output Current		Output Voltage
		Reading	Pass/Fail (>0.9)	Reading	Pass/Fail (1.35 A to 1.55 A)	
90 V						
120 V						
230 V						
265 V						

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$$\text{Efficiency} = \frac{V_{\text{out}} \times I_{\text{out}}}{P_{\text{in}}} \times 100\% \quad (\text{eq. 2})$$

3. Set input voltage to zero after completing tests
above

Constant Voltage Regulation

Functional Test Procedure

1. Remove LED load and replace with 100 Ω resistor to J6 'LED+' and 'LED-' terminals.
2. Set the input voltage as indicated. **Caution: Do not touch the ECA once it is energized because there are hazardous voltages present.**

◆ Enter 'P' or 'F' in column depending on test result

Input Voltage	Output Voltage	
	Reading	Pass/Fail (<43 V dc)
120 V		
230 V		

3. Turn off all power sources at end of test.

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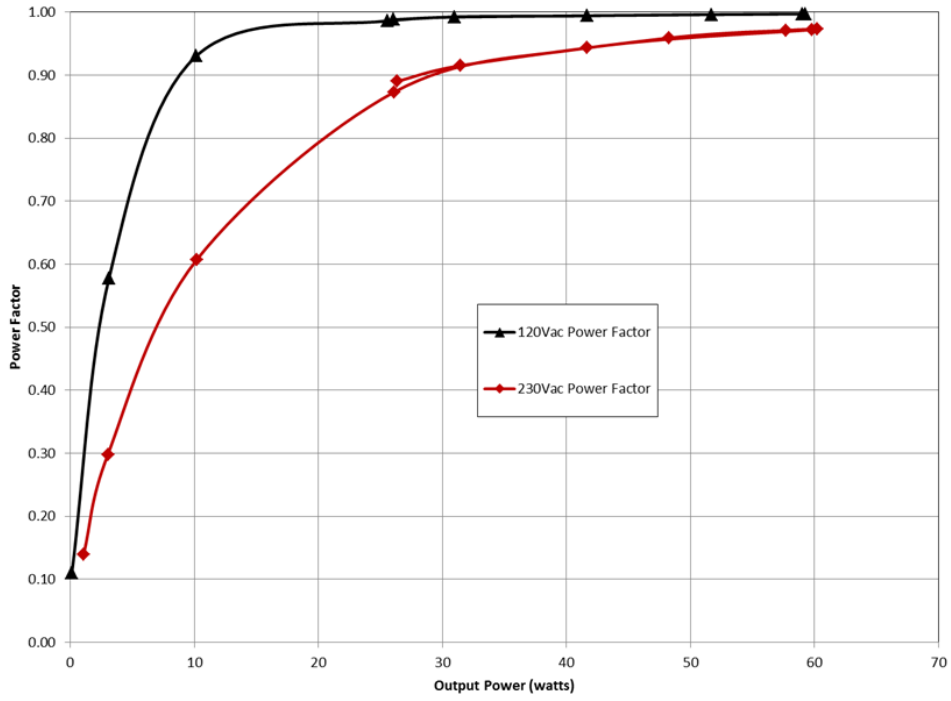


Figure 8. Power Factor over Load

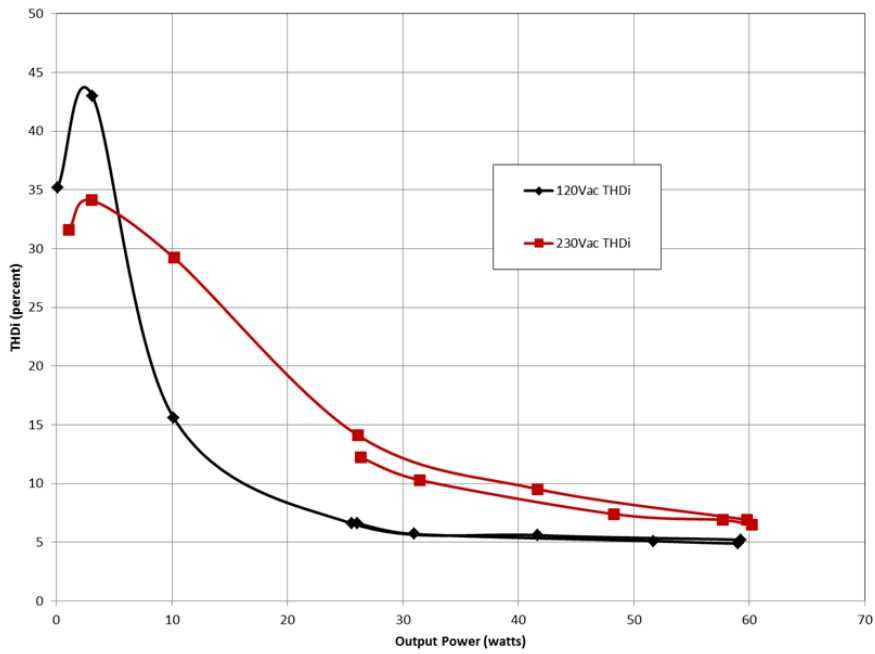


Figure 9. THD over Load

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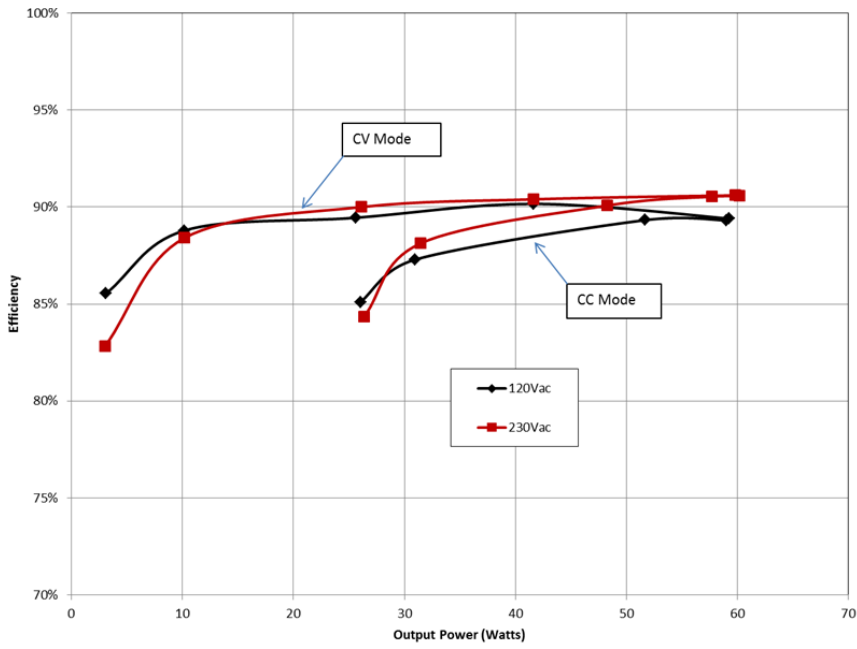


Figure 11. Efficiency

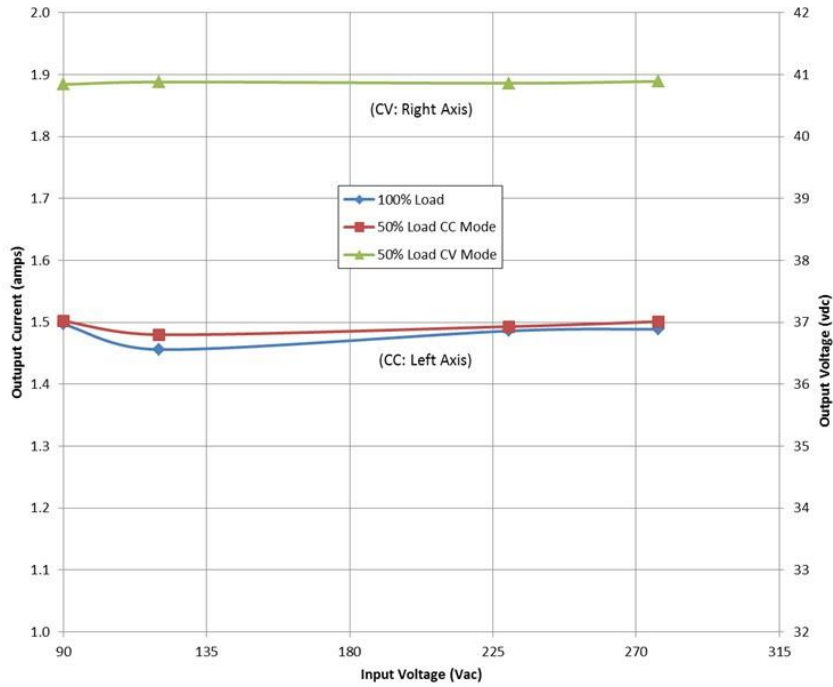


Figure 10. Regulation over Line

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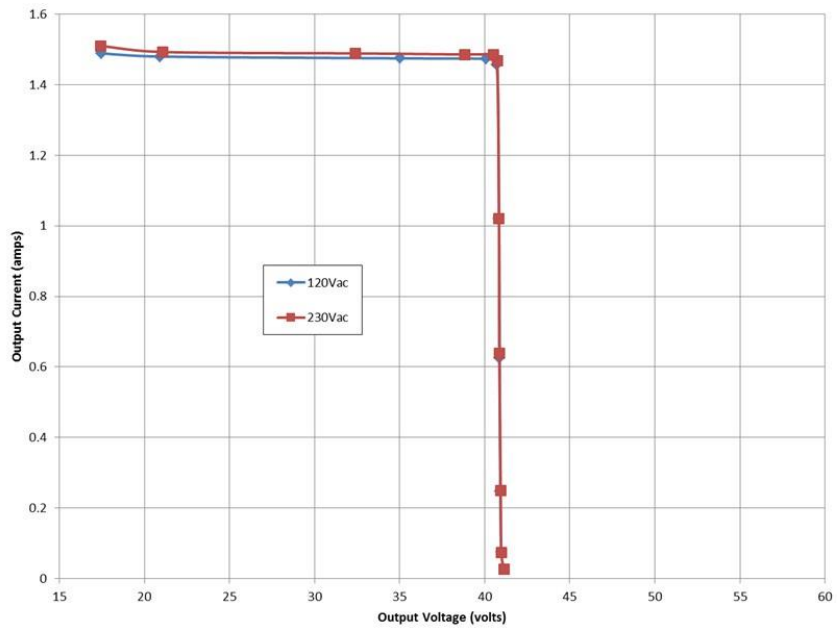


Figure 12. Output Regulation

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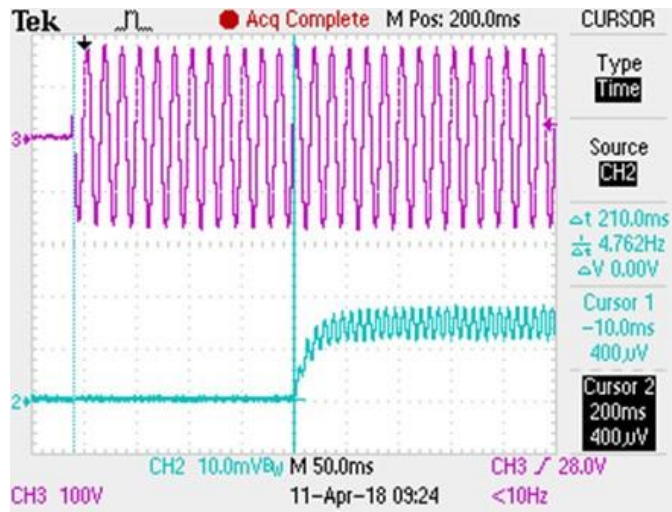


Figure 13. Start Up with AC Applied 120 V

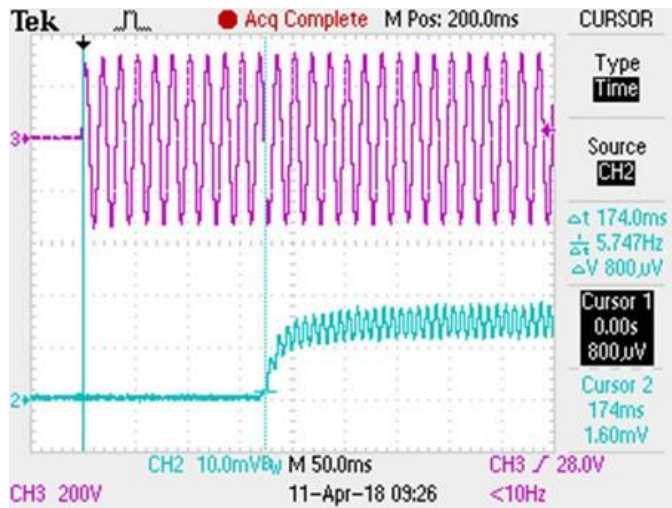


Figure 14. Start Up with AC Applied 230 V

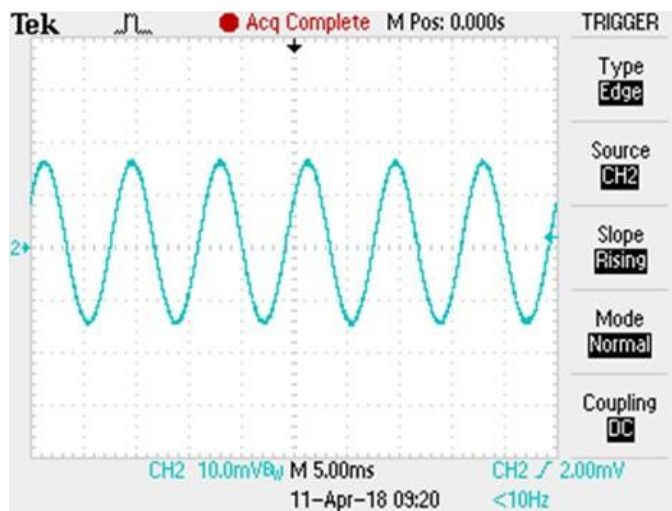


Figure 15. Output Ripple 42% P-P

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