

Experimental Results

Specifications

- Input Power $\approx 18\text{W}$
- Output Power $\approx 16\text{W}$
- Line Voltage = $90\text{VAC} \sim 264\text{VAC}$
- Line Frequency = $60\text{Hz}/50\text{Hz}$
- LED Forward Voltage = 55V to 65V
- LED Current $\approx 275\text{mA}$
- Efficiency $\geq 90\%$
- Power Factor ≥ 0.9
- Topology: Single-stage buck-boost
- Solution size: $166\text{mm(L)} \times 18\text{mm(W)} \times 14\text{mm(H)}$

Test Conditions

- Line Voltage = $110\text{VAC}/60\text{Hz}$ or $220\text{VAC}/50\text{Hz}$ unless otherwise specified
- LED Forward Voltage $\approx 60\text{V}$
- LED Current $\approx 275\text{mA}$
- LED Type = Philips Lumileds Luxeon Rebel
- Ambient Temperature $\approx 25^{\circ}\text{C}$

Electrical Performance

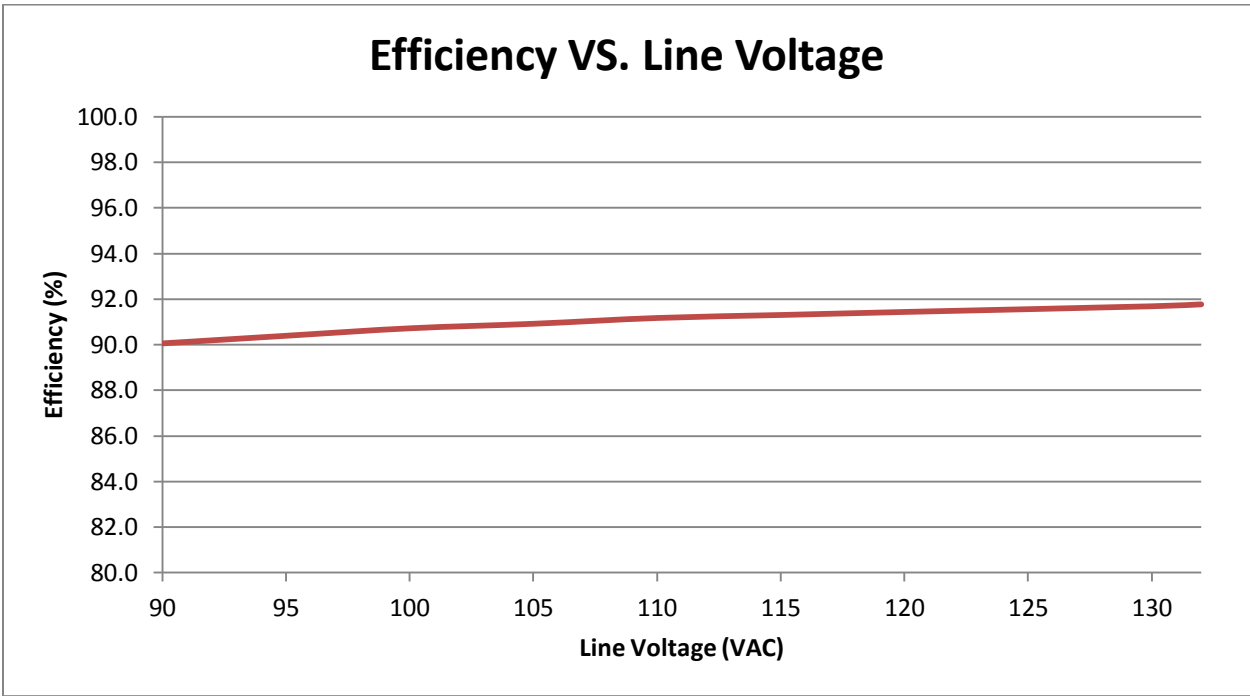


FIGURE 1. Efficiency vs. Line Voltage from 90VAC to 132VAC/60Hz

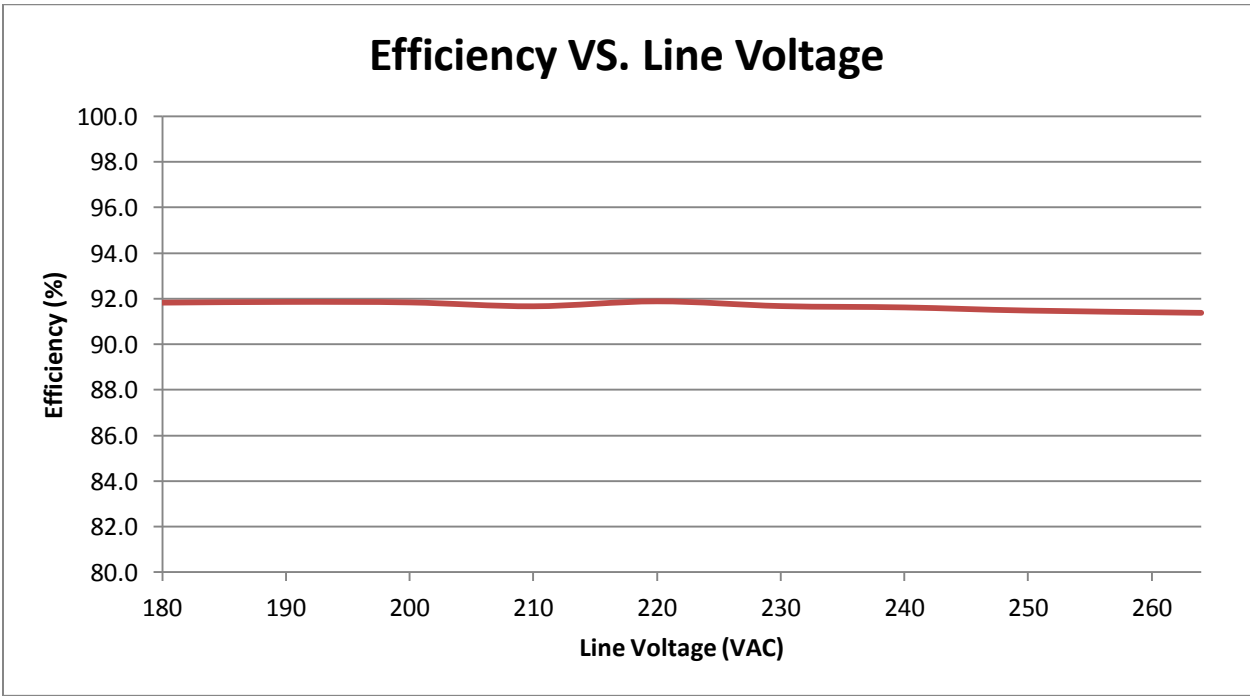


FIGURE 2. Efficiency vs. Line Voltage from 180VAC to 264VAC/50Hz

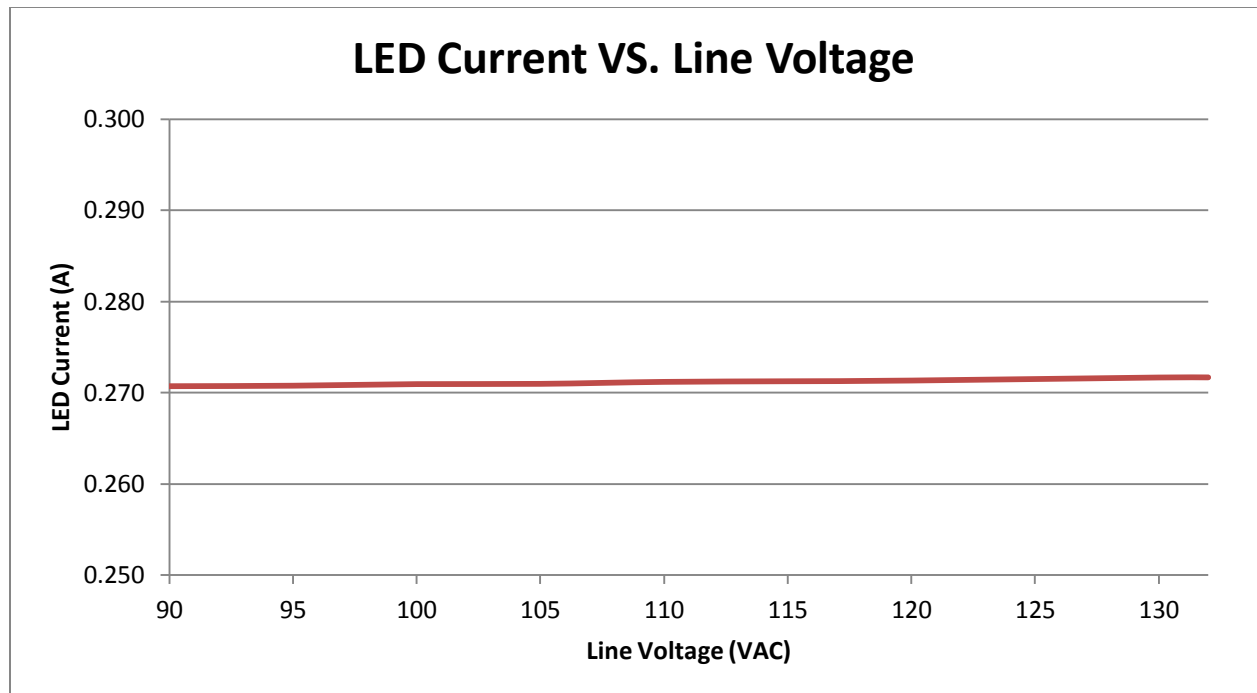


FIGURE 3. LED Current vs. Line Voltage from 90VAC to 132VAC/60Hz

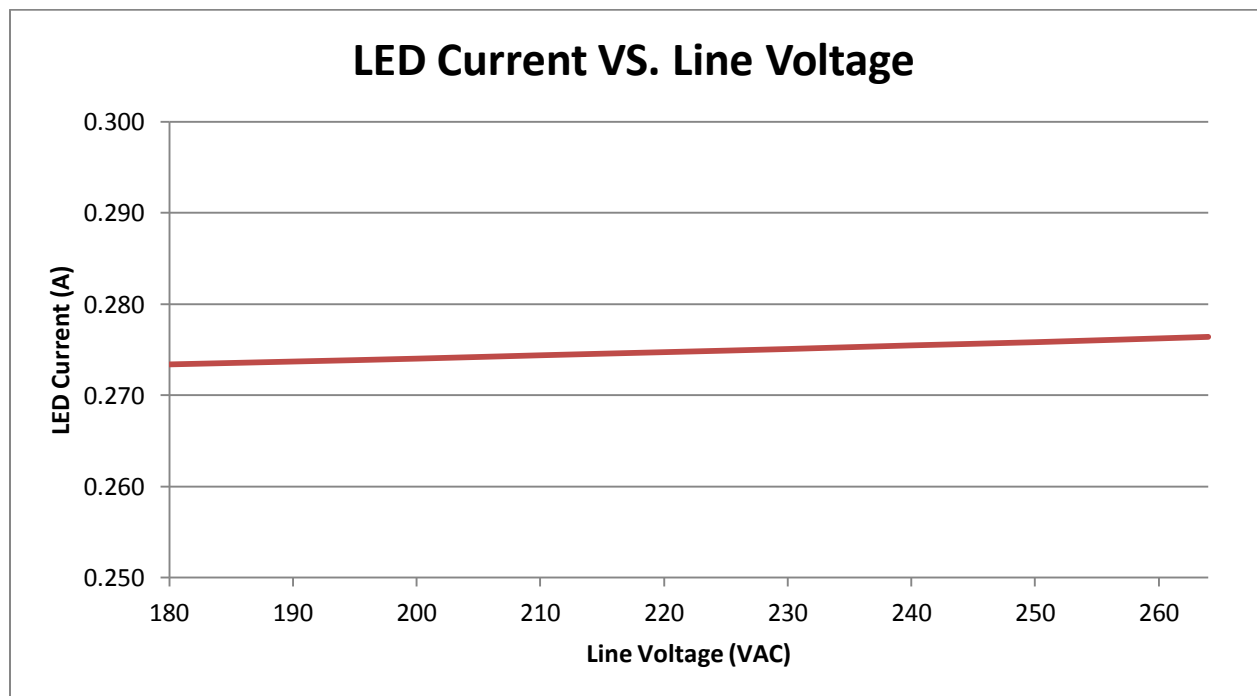


FIGURE 4. LED Current vs. Line Voltage from 180VAC to 264VAC/50Hz

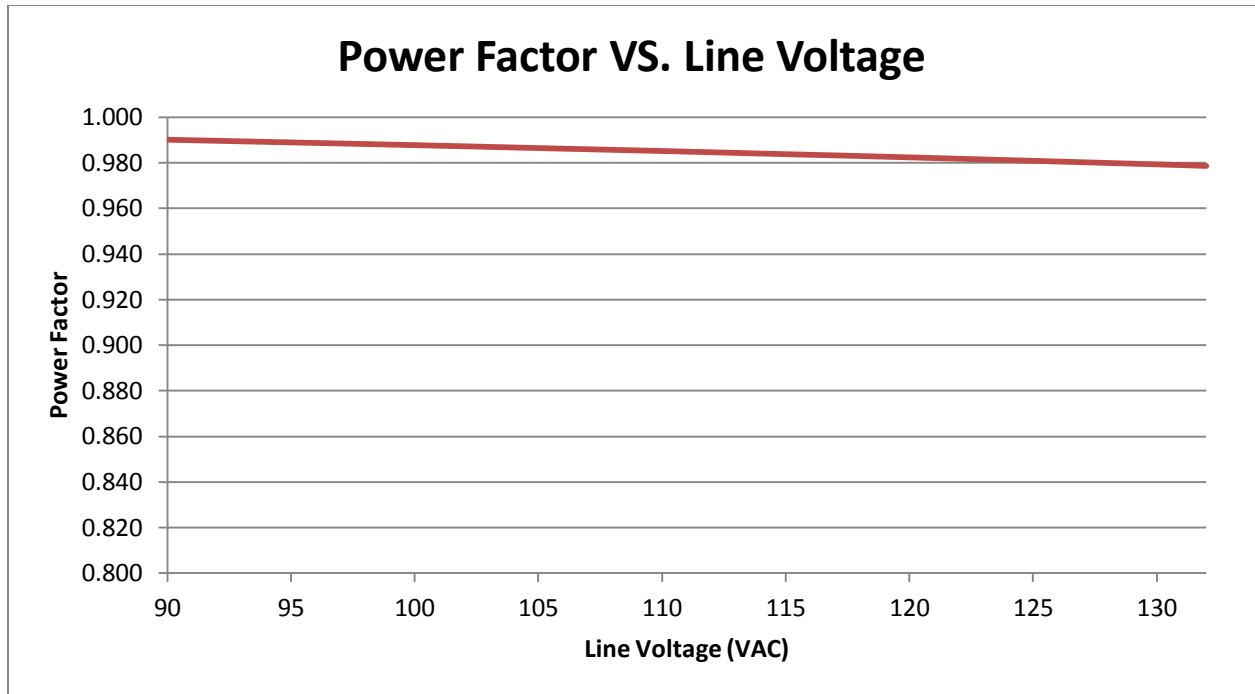


FIGURE 5. Power Factor vs. Line Voltage from 90VAC to 132VAC/60Hz

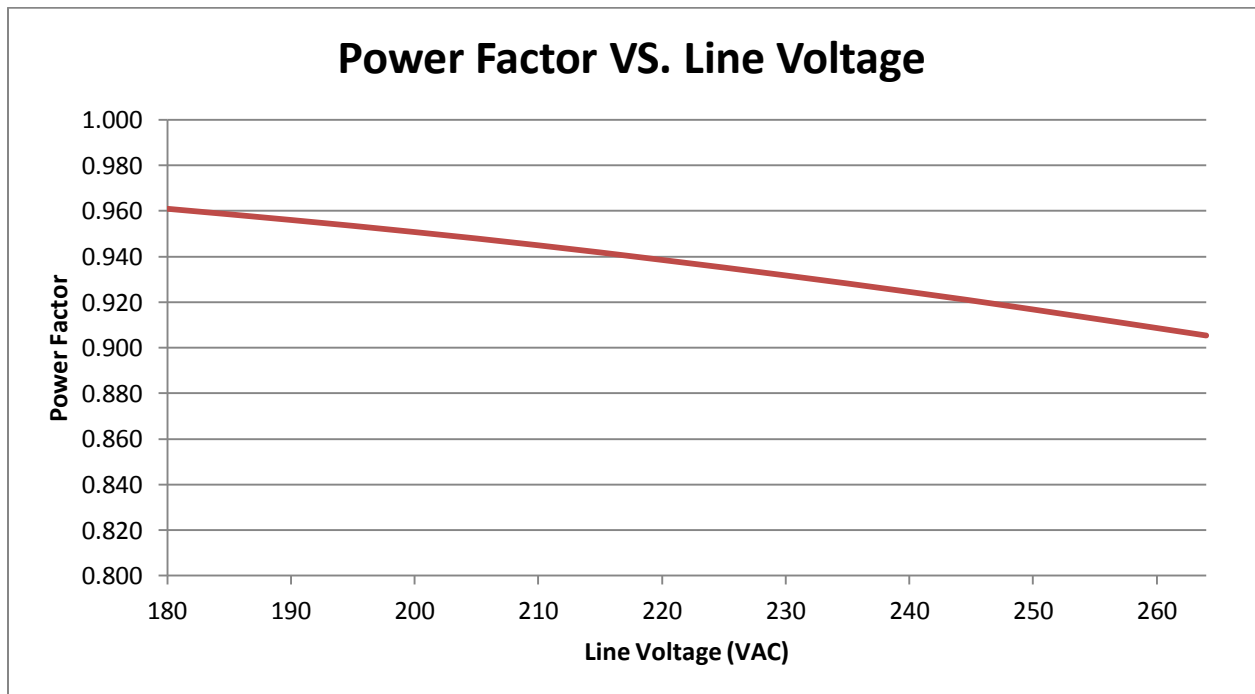


FIGURE 6. Power Factor vs. Line Voltage from 180VAC to 264VAC/50Hz

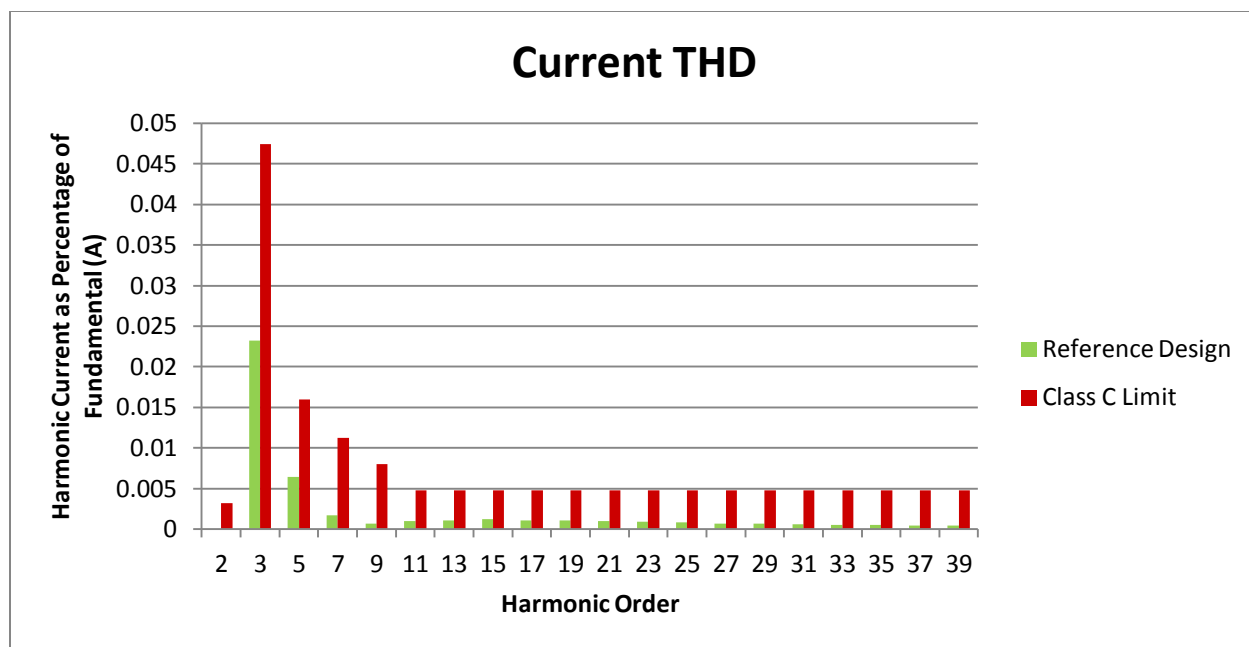


FIGURE 7. Current Harmonic Performance vs. EN/IEC61000-3-2 Class C Limits at 110VAC/60Hz

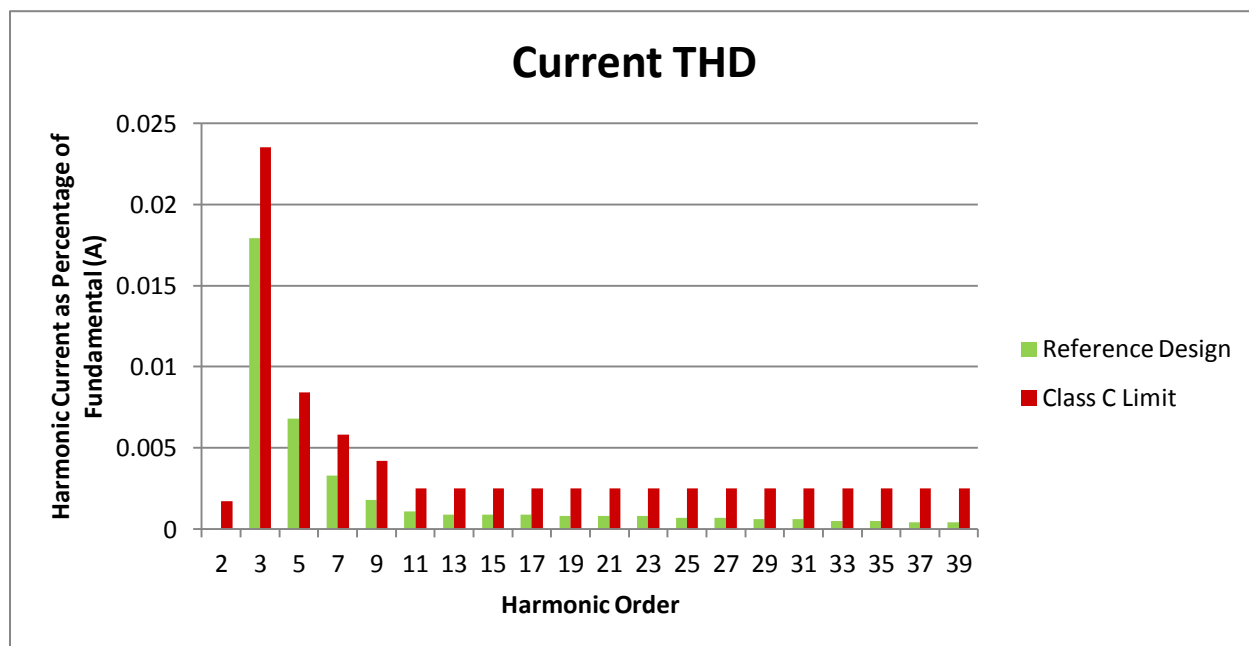


FIGURE 8. Current Harmonic Performance vs. EN/IEC61000-3-2 Class C Limits at 220VAC/50Hz

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