

Universal & Universal+ Dimming LED Drivers

Features & Product Data



	Universal	Universal+
12V & 24V models	✓	✓
DC dimming	✓	✓
Forward phase/TRIAC AC dimming	✓	✓
Reverse phase/ELV AC dimming		✓
High power factor		✓
Warranty	3 years	5 years

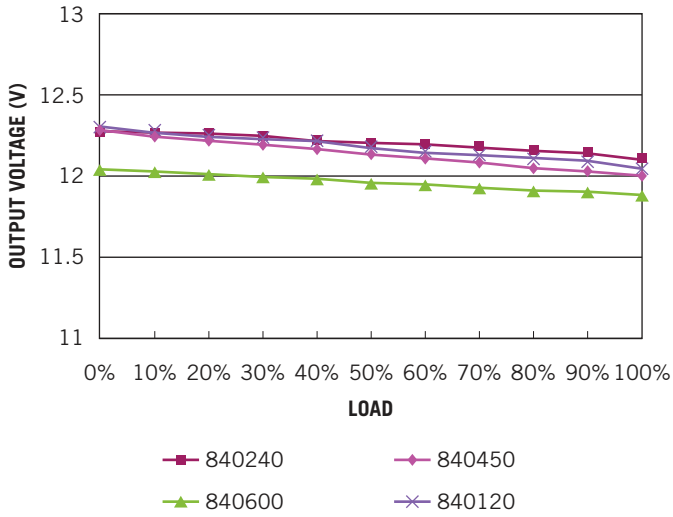
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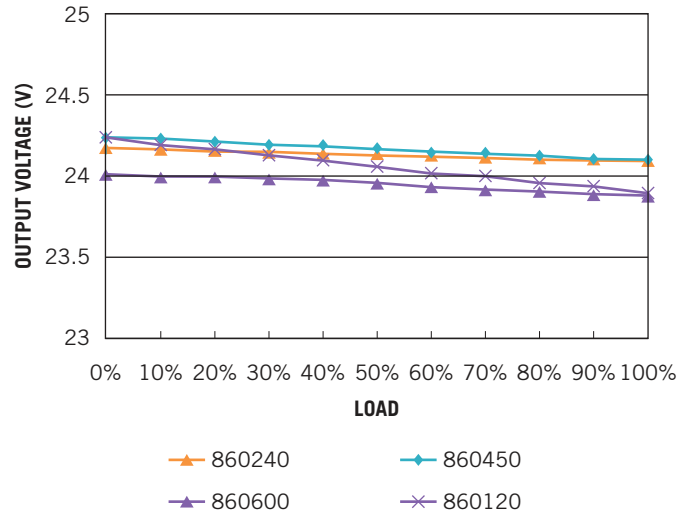
MODEL		840240 UL CLASS 2	860240 UL CLASS 2	840450 UL CLASS 2	860450 UL CLASS 2	840600 UL CLASS 2	860600 UL CLASS 2	841200 UL 1012	861200 UL 1012
DIMMING	Dimming Technology	PWM							
	Load Requirement	1W – 24W		1W – 45W		3W – 60W		20W – 120W	
	Dimming Range (Standard Triac)	5% – 100%				10% – 100%		20% – 100%	
	Dimming Range (Lutron CL)	0% – 100%							
	Rated PWM Dimming Frequency	400Hz				600Hz			
OUTPUT	DC Voltage	12V	24V	12V	24V	12V	24V	12V	24V
	Rated Current	2A	1A	3.75A	1.87A	5A	2.5A	10A	5A
	Rated Power	24W		45W		60W		120W	
	Voltage Tolerance	+/-0.5V							
	Start-up Time (Typ.)	350ms				500ms		600ms	
INPUT	Voltage Range	100 – 120VAC				100 – 130VAC			
	Frequency Range	47 – 63Hz				50 – 60Hz			
	Efficiency (Typ.)	80%	81%		82%	85%		83%	86%
	AC Current (Typ.)	0.52A	0.50A	0.99A	0.97A	1A		2A	
	Inrush Current (Typ.)	6.5A / 120VAC	6.5A / 120VAC	8A / 120VAC	8A / 120VAC	15A / 120VAC		30A / 120VAC	
	Leakage current	<0.7mA / 120VAC				<0.5mA/120VAC			
GUARDS	Over Current	Hiccup mode, auto-recovery upon removal of fault condition							
	Short Circuit	Hiccup mode, auto-recovery upon removal of fault condition							
	Over Temperature	Shut down, auto-recovery							
ENVIRO.	Ta	4°F (-20°C) to 104°F (40°C)							
	Working Humidity	20 – 90% Relative Humidity, non-condensing							
	Storage Temp. & RH	-40°F (-40°C) to 176°F (80°C), 10 – 95% Relative Humidity							
	Vibration	10 – 500Hz, 2G 10min./1 cycle, period for 60min. each along X, Y, Z axes							
SAFETY & EMC	Safety Standards	UL Std. 1310 and 8750, Cert. to CAN/CSA Std. C22.2 No. 223-M91 and C22.2 No. 250.13; Class 2 LED power supply, ETL Listed for dry and damp location use						UL 1012, CSA C22.2 No.107.1; ETL Listed for wet location use	
	Withstand Voltage	I/P – O/P: 1.2KVAC				I/P – O/P: 3.75KVAC			
	Isolation Resistance	I/P – O/P: 100M Ohms / 500VDC / 25°C / 70% RH							
	EMC Emission	Compliance to FCC Part 15B (>=50% loading)							
OTHER	MTBF	318.5K hrs min. (25°C, MIL-HDBK-217F)		292K hrs min. (25°C, MIL-HDBK-217F)		284K hrs min. (25°C, MIL-HDBK-217F)		280K hrs min. (25°C, MIL-HDBK-217F)	
	Cooling	Free Air Convection							
	Life Time*	30,000 hours						20,000 hours	
	Case	Fully isolated polycarbonate plastic case with built in terminal block for direct-wire connections						IP66 aluminum case with flying leads	
	Dimensions	6.10" L x 2.13" W x 0.79" H (155mm L x 54mm W x 20mm H)		7.09" L x 2.4" W x 0.98" H (180mm L x 61mm W x 25mm H)		7.09" L x 2.36" W x 1.38" H (180mm L x 60mm W x 35mm H)		10.12" L x 3.07" W x 1.89" H (257mm L x 78mm W x 48mm H)	

*Note: Life time tested under adverse operating conditions with ambient air temperature at 104°F and under full wattage load, failure rate <10%.

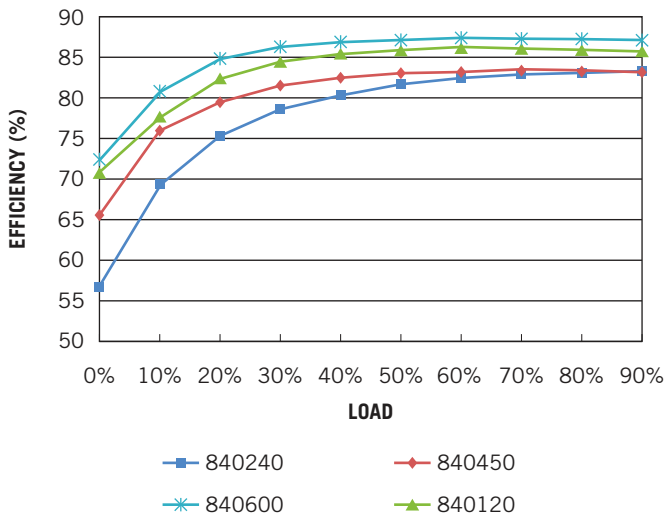
OUTPUT VOLTAGE VS LOAD (1)



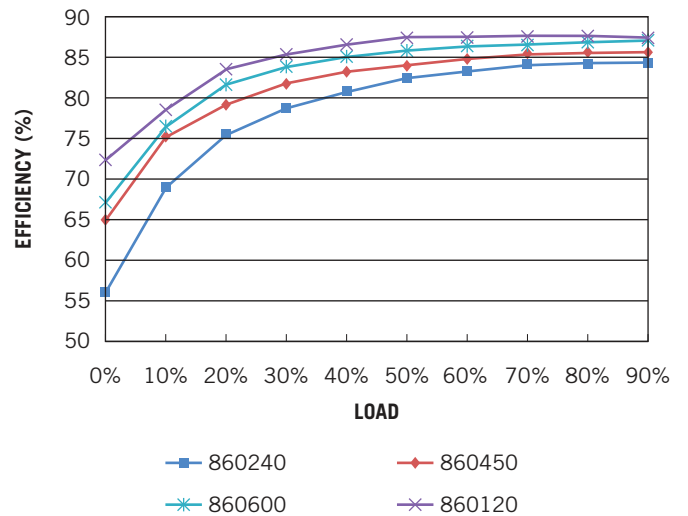
OUTPUT VOLTAGE VS LOAD (2)



EFFICIENCY VS LOAD (1)



EFFICIENCY VS LOAD (2)



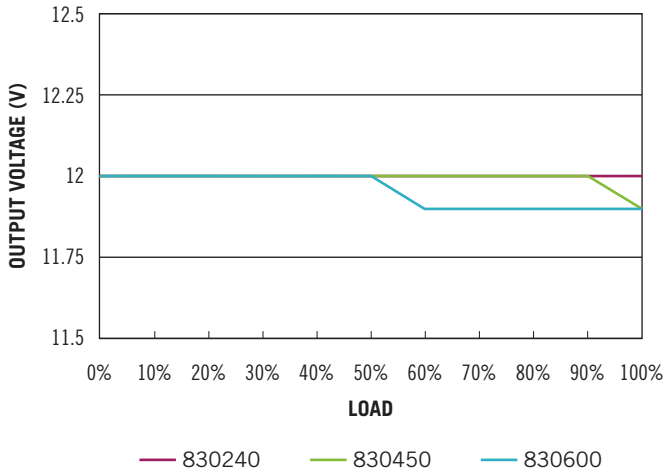
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MODEL		830240 UL CLASS 2	870240 UL CLASS 2	830450 UL CLASS 2	870450 UL CLASS 2	830600 UL CLASS 2	870600 UL CLASS 2
DIMMING	Dimming Technology	PWM					
	Load Requirement	1W – 24W		1W – 45W		1W – 60W	
	Dimming Range (Standard Triac)	5% – 100%					
	Dimming Range (Lutron CL)	0% – 100%					
	Dimming Range (ELV)	5% – 100%					
	Rated PWM Dimming Frequency	400Hz					
OUTPUT	DC Voltage	12V	24V	12V	24V	12V	24V
	Rated Current	2A	1A	3.75A	1.87A	5A	2.5A
	Rated Power	24W		45W		60W	
	Voltage Tolerance	+/-0.5V					
	Start-up Time (Typ.)	1S					
INPUT	Voltage Range	100 – 120VAC					
	Frequency Range	50/60Hz					
	AC Current (Typ.)	0.52A	0.50A	0.99A	0.97A	1.1A	1.1A
	Efficiency (Typ.)	79%	79%	80%	80%	83%	83%
	Power Factor (Typ.)	0.98 @ 120VAC and full load					
	Inrush Current (Typ.)	7A / 120VAC		14A / 120VAC		16A / 120VAC	
	Leakage current	<0.5mA/120VAC					
GUARDS	Over Current	Shut down, auto-recovery upon removal of fault condition					
	Short Circuit	Shut down, auto-recovery upon removal of fault condition					
	Over Temperature	Shut down, auto-recovery after cooling down					
ENVIRO.	Ta	4°F (-20°C) to 104°F (40°C)					
	Working Humidity	20 – 90% Relative Humidity, non-condensing					
	Storage Temp. & RH	-40°F (-40°C) to 176°F (80°C), 10 – 95% Relative Humidity					
	Vibration	10 – 500Hz, 2G 10min./1 cycle, period for 60min. each along X, Y, Z axes					
SAFETY & EMC	Safety Standards	UL Std. 8750, CAN/CSA Std. C22.2 No. 250.13; Class 2 power supply, ETL Listed for dry and damp location use					
	Withstand Voltage	I/P – O/P: 1.2KVAC					
	Isolation Resistance	I/P – O/P: 100M Ohms / 500VDC / 25°C / 70% RH					
	EMC Emission	Compliance to FCC Part 15B (>=50% loading)					
OTHER	MTBF	324K hrs min. (25°C, MIL-HDBK-217F)					
	Cooling	Free Air Convection					
	Life Time*	50,000 hours					
	Case	Fully isolated polycarbonate plastic case with built in terminal block for direct-wire connections					
	Dimensions	6.10" L x 2.13" W x 0.79" H (155mm L x 54mm W x 20mm H)		7.09" L x 2.4" W x 0.98" H (180mm L x 61mm W x 25mm H)		7.09" L x 2.4" W x 0.98" H (180mm L x 61mm W x 25mm H)	

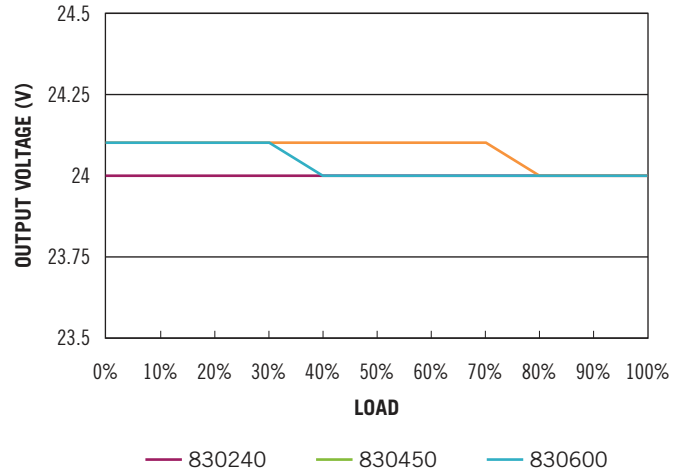
Note: All parameters NOT specially mentioned are measured at 120VAC input, rated load and 77°F (25°C) of ambient temperature.

* Life time with failure rate of <10%.

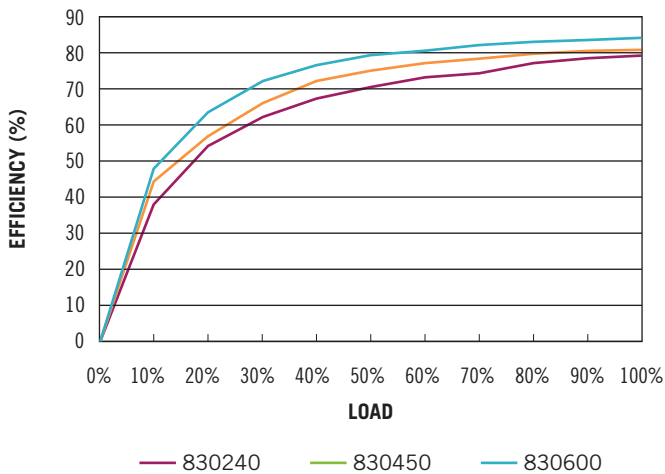
OUTPUT VOLTAGE VS LOAD (1)



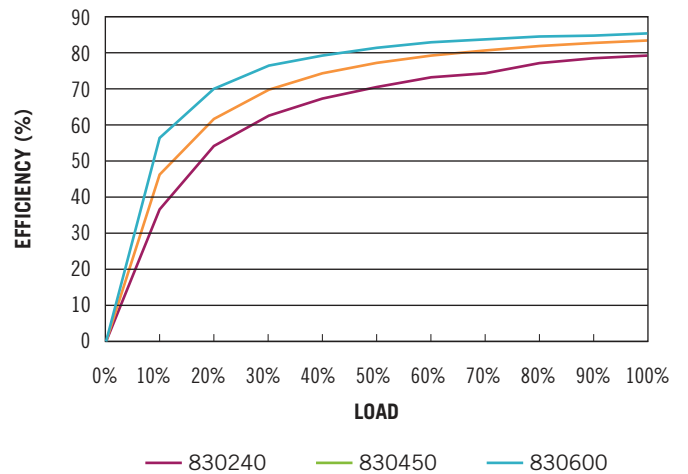
OUTPUT VOLTAGE VS LOAD (2)



EFFICIENCY VS LOAD (1)



EFFICIENCY VS LOAD (2)



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