UL LISTED **Class P**

Features

- Wide input range: 90-305Vac
- Constant power mode operation
- Constant lumen output
- 3-in-1 dimming function (0-10Vdc, PWM Signal, Timer), Dim-to-off
- Surge protection: Line-Line 5KV / Line-Earth 10KV
- Output and dimming signal isolated
- Output over-voltage, over-temperature and short-circuit protections
- IP67 enclosure for indoor and outdoor applications
- UL 8750 listed

Applications

- Roadway lighting, industrial lighting, plant lighting and landscape lighting

Selection Guide

Part Number	Max. Output Power (W)	Output Voltage Range (Vdc)	Full Power Output Voltage Range (Vdc)	Full Power Current Adjustable Range (A)	Default Output Current (A)	Typical Efficiency
LUB320X-041CP	320	20-41	32-41	7.80-10.00	8.90	92%
LUB320X-062CP		38-62	42-62	5.20-7.50	6.70	92%
LUB320X-143CP		72-143	100-143	2.24-3.20	3.20	92%
LUB320X-230CP		115-230	152-230	1.39-2.10	2.10	92%
LUB320X-457CP		228-457	290-457	0.70-1.10	1.05	92%

Note: X in the Part Number can be either M or V, M means 3-in-1 dimming function and offline programmable; V means non-dimmable and output current adjustable via built-in potentiometer.

Input Specifications

Parameter	Notes & Conditions	Min	Typical	Max	Unit
Input Voltage Range	AC input	90	100-277	305	Vac
Input Frequency Range		47	50/60	63	Hz
Input Current	100-277Vac input, full load	-	-	4.2	A
Power Factor	115Vac input, full load	0.97	0.99	-	-
	230Vac input, full load	0.95	0.97	-	
	277Vac input, full load	0.92	0.95	-	
Inrush Current	230Vac input, full load, cold start	-	-	100	A
Leakage Current	277Vac input, 60Hz	-	-	0.75	mA

Standby Power Consumption	M types (dim-to-off)	-	-	1	W
THD	100-240Vac input, 50-100% of full load	-	5	10	%
	277Vac input, 70-100% of full load	-	-	15	

Output Specifications

Parameter	Notes & Conditions	Min	Typical	Max	Unit
Output Current Tolerance	Full load	-5	-	+5	%Iset
Output Current Set Point Range LUB320M-041CP LUB320M-062CP LUB320M-143CP LUB320M-230CP LUB320M-457CP		 1.00 0.75 0.32 0.21 0.11	 - - - - -	 10.00 7.50 3.20 2.10 1.10	A
Output Current Set Point Range LUB320V-041CP LUB320V-062CP LUB320V-143CP LUB320V-230CP LUB320V-457CP		 5.00 3.75 1.60 1.05 0.55	 - - - - -	 10.00 7.50 3.20 2.10 1.10	A
Output Current Set Point Range LUB320X-041CP LUB320X-062CP LUB320X-143CP LUB320X-230CP LUB320X-457CP	Constant power	 7.80 5.20 2.24 1.39 0.70	 - - - - -	 10.00 7.50 3.20 2.10 1.10	A
Total Output Current Ripple	230Vac input, full load & LED load, peak-peak	-	5	10	%
Startup Overshoot Current	100-277Vac input, full load & LED load	-	-	10	%Iset
Output Voltage LUB320X-041CP LUB320X-062CP LUB320X-143CP LUB320X-230CP LUB320X-457CP	No load	 - - - - -	 - - - - -	 60 80 160 260 480	V
Line Regulation	100-277Vac input	-1	-	+1	%
Load Regulation	230Vac input, 60-100% of full load, Ta=25°C±10°C	-3	-	+3	%
Turn-on Delay	120Vac input, full load	-	1	3	s
	230Vac input, full load	-	-	2	
Efficiency LUB320X-041CP Io = 7.80A Io = 10.00A LUB320X-062CP Io = 5.20A Io = 7.50A LUB320X-143CP Io = 2.24A Io = 3.20A LUB320X-230CP Io = 1.39A Io = 2.10A LUB320X-457CP Io = 0.70A Io = 1.10A	120Vac input, full load	 86.9 86.9 87 86 87 87 87 87 86 85	 88.9 88.6 89 88 89 89 89 89 88 87	 - - - - - - - - - -	%
Efficiency LUB320X-041CP Io = 7.80A Io = 10.00A	230Vac input, full load	 90 90	 92 92	 - -	%

LUB320X-062CP					
Io = 5.20A		90	92	-	
Io = 7.50A		90	92	-	
LUB320X-143CP					
Io = 2.24A		91	93	-	
Io = 3.20A		91	93	-	
LUB320X-230CP					
Io = 1.39A		90	92.5	-	
Io = 2.10A		90	92.5	-	
LUB320X-457CP					
Io = 0.70A		90	92	-	
Io = 1.10A		90	92	-	
Efficiency					
LUB320X-041CP					
Io = 7.80A		90.5	92.5	-	
Io = 10.00A		90.5	92.5	-	
LUB320X-062CP					
Io = 5.20A		91	93	-	
Io = 7.50A		91	93	-	
LUB320X-143CP	277Vac input, full load				%
Io = 2.24A		91.5	93.5	-	
Io = 3.20A		91.5	93.5	-	
LUB320X-230CP					
Io = 1.39A		90	92.5	-	
Io = 2.10A		90	92.5	-	
LUB320X-457CP					
Io = 0.70A		91	93	-	
Io = 1.10A		91	93	-	

Note: Unless otherwise specified, data in this datasheet should be tested under the conditions of 230Vac input, rated load and Ta=25°C.

Protection Specifications

Parameter	Notes
Over Voltage Protection	The driver will enter protection mode and will resume normal operation when the fault condition is cleared.
Over Temperature Protection	The output current will decrease, and will return to its set point when the over temperature condition is cleared.
Short-circuit Protection	The driver will enter constant current/auto recovery mode. No damage will occur when the output is shorted. The output current will return to its set point when the fault condition is cleared.

Environmental and Other Specifications

Parameter	Notes & Conditions		Min	Typical	Max	Unit
Ambient Temperature	Ta		-40	-	+60	°C
Operating Case Temperature	Tc		-40	-	+90	°C
Storage Temperature			-40	-	+85	°C
Storage Relative Humidity			5	-	100	%RH
Isolation Voltage	Input-Output	leakage current less than 5mA, 60s	-	3,750	-	Vac
	Input-PE		-	1,600	-	
	Output-PE		-	1,600	-	
Insulation Resistance	Input-Output/Input-PE/Output-PE, 500Vdc/60s /70%RH		50	-	-	MΩ
Grounding Resistance	25A/60s		-	-	0.1	Ω
Life Time	230Vac,full load, 60°C case temperature		-	50	-	10^3 hrs
MTBF(MIL-HDBK-217F)	230Vac input, 80% of full load		-	200	-	10^3 hrs
Dimensions (L*W*H)	231.0 x 98.0 x 42.0 mm					
Weight	1700±100g					

Dimming Specifications

Parameter		Notes & Conditions	Min	Typical	Max	Unit
Absolute Maximum Voltage		0-10V on the DIM +	-	10	-	V
Source Current		0-10V on the DIM +	-	0.2	0.4	mA
Dimming Output Range		LUB320M-041CP	1.00	-	10.00	A
		LUB320M-062CP	0.75	-	7.50	
		LUB320M-143CP	0.32	-	3.20	
		LUB320M-230CP	0.21	-	2.10	
		LUB320M-457CP	0.11	-	1.10	
Dimming Range			0	-	10	V
PWM	High Level	Default 0-10V / PWM Dimming	9.7	-	10.3	V
	Low Level		0	-	0.3	V
	Frequency Range		300	-	2,000	Hz
	Duty Cycle		1	-	99	%

EMC Specifications

Parameter	Standards
EMI	EN55015
	EN61000-3-2, 3
EMS	EN61547
	EN61000-4-2, 3, 4, 5, 6, 11

Typical V-I Characteristic Curves

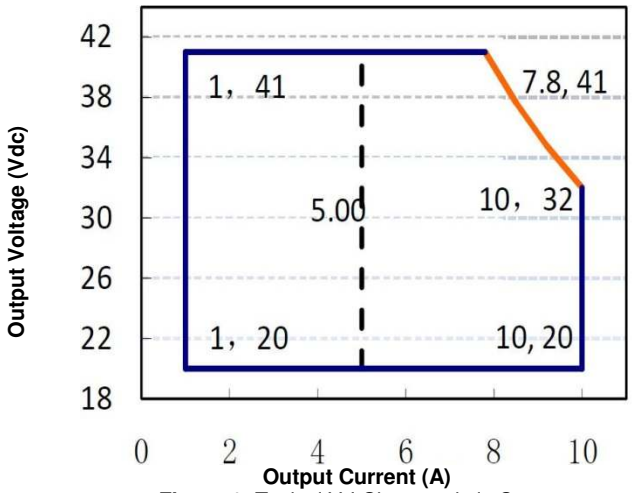


Figure 1: Typical V-I Characteristic Curve (LUB320X-041CP)

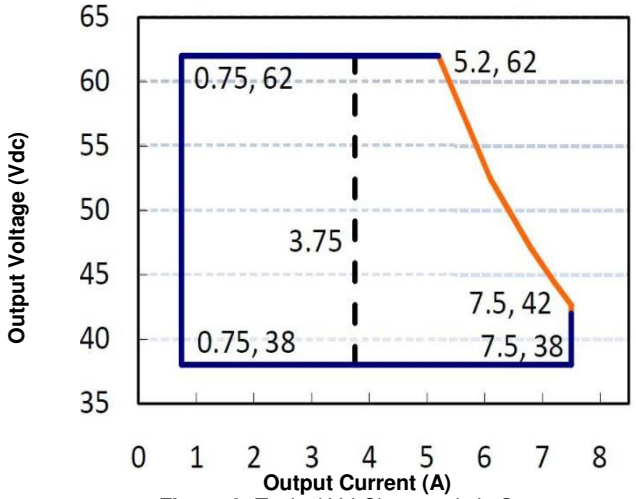


Figure 2: Typical V-I Characteristic Curve (LUB320X-62CP)

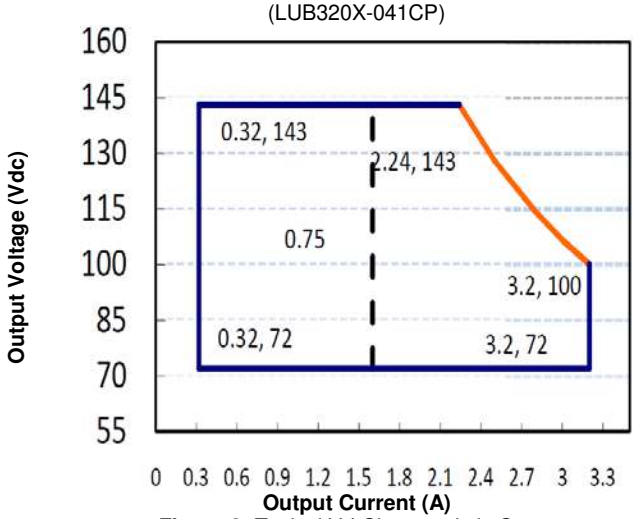


Figure 3: Typical V-I Characteristic Curve (LUB320X-143CP)

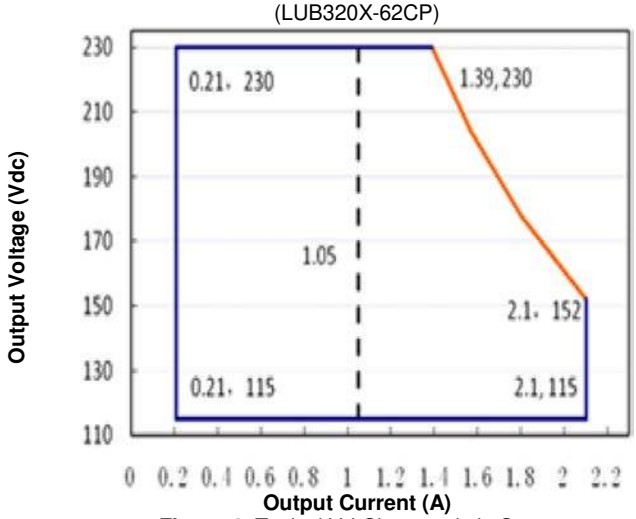


Figure 4: Typical V-I Characteristic Curve (LUB320X-230CP)

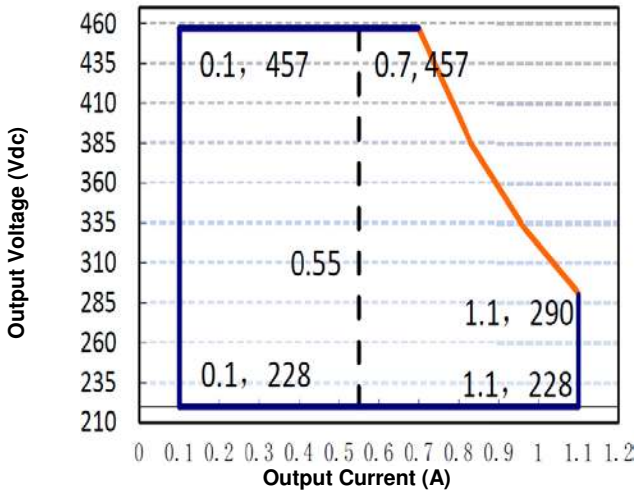


Figure 5: Typical V-I Characteristic Curve (LUB320X-457CP)

Note: X=V is suitable for the right area of dotted line, X=M is suitable for the solid line contained area.

Characteristic Curves

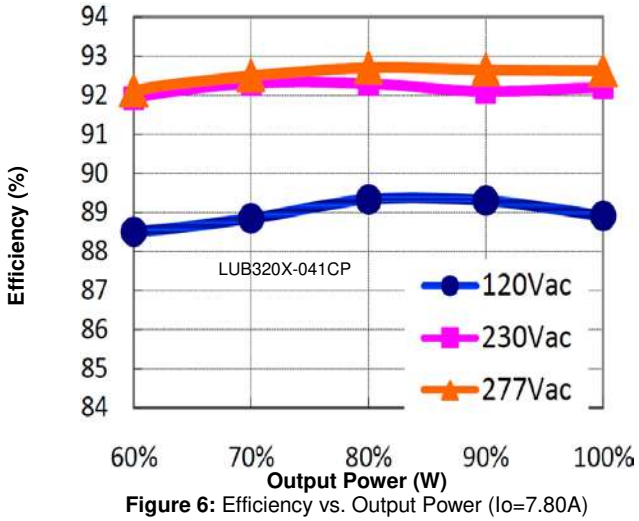


Figure 6: Efficiency vs. Output Power (Io=7.80A)

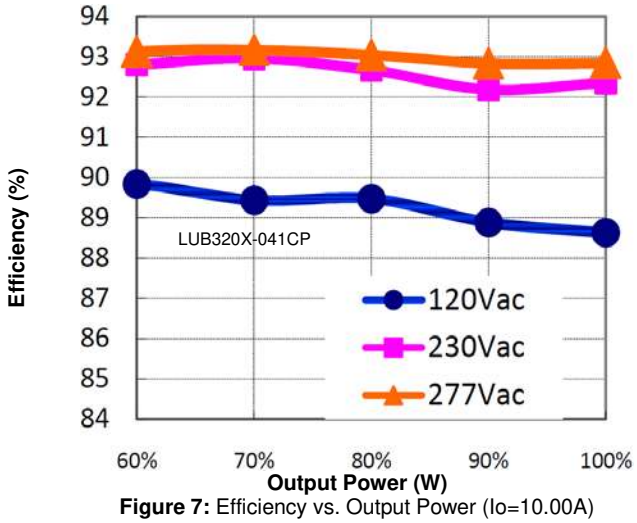


Figure 7: Efficiency vs. Output Power (Io=10.00A)

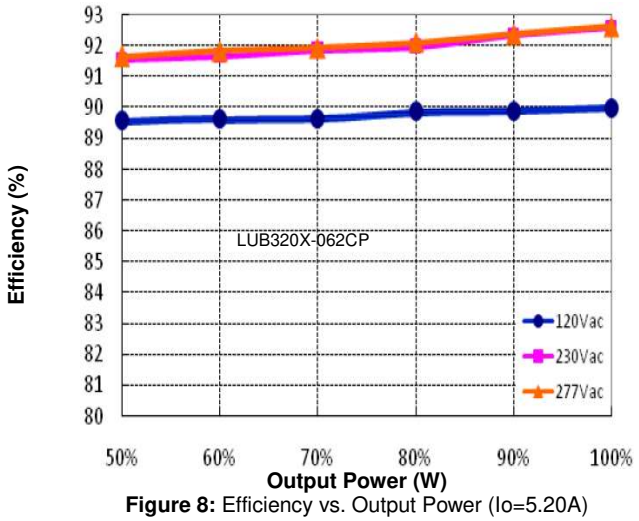


Figure 8: Efficiency vs. Output Power (Io=5.20A)

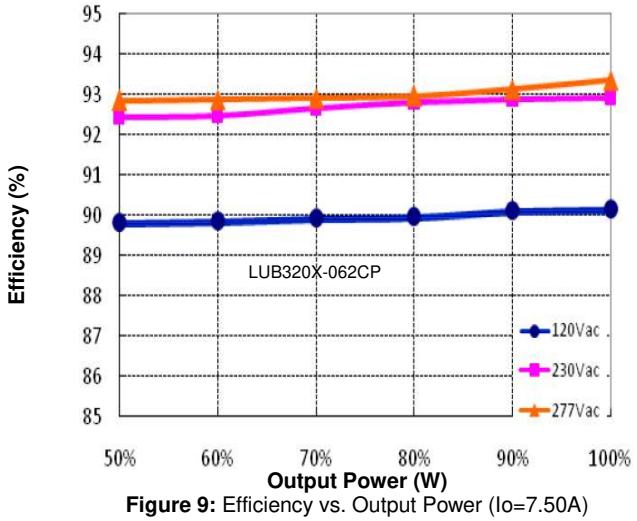


Figure 9: Efficiency vs. Output Power (Io=7.50A)

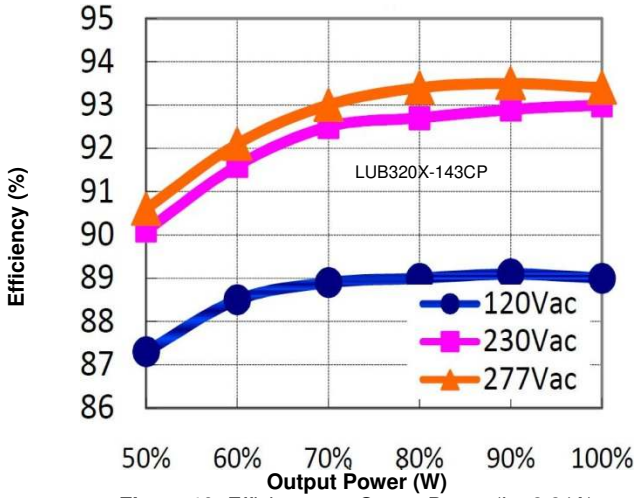


Figure 10: Efficiency vs. Output Power (Io=2.24A)

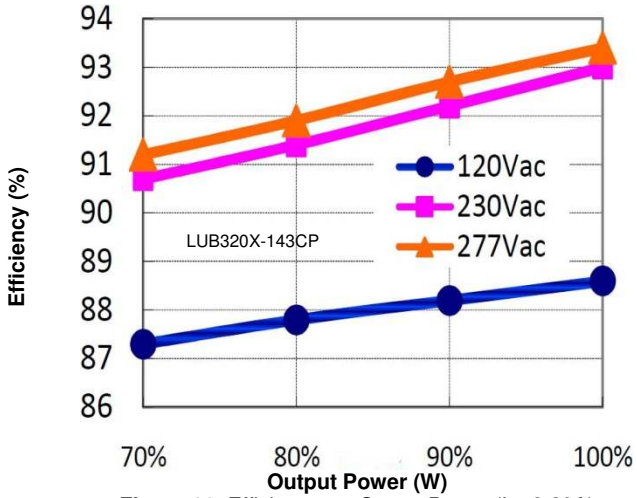


Figure 11: Efficiency vs. Output Power (Io=3.20A)

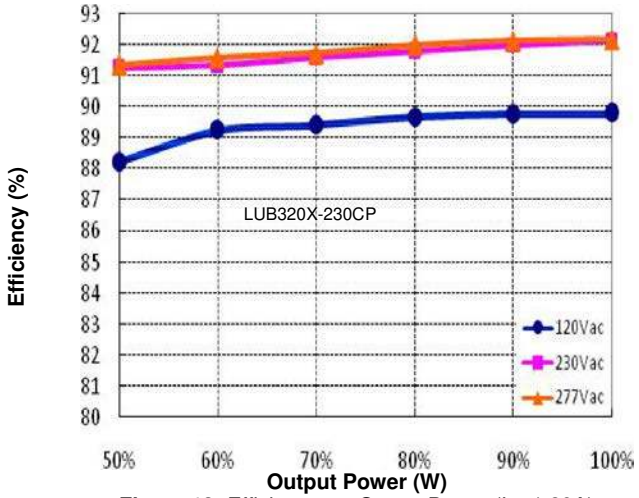


Figure 12: Efficiency vs. Output Power (Io=1.39A)

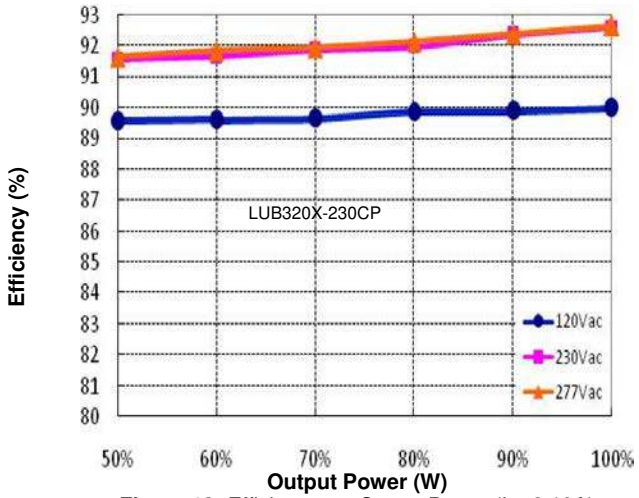


Figure 13: Efficiency vs. Output Power (Io=2.10A)

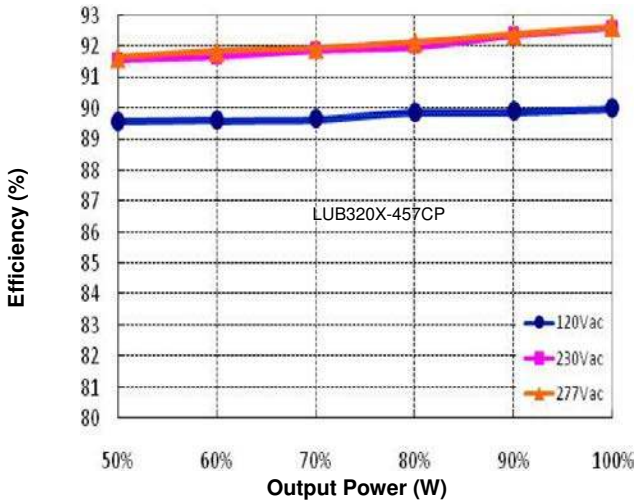


Figure 14: Efficiency vs. Output Power (Io=0.70A)

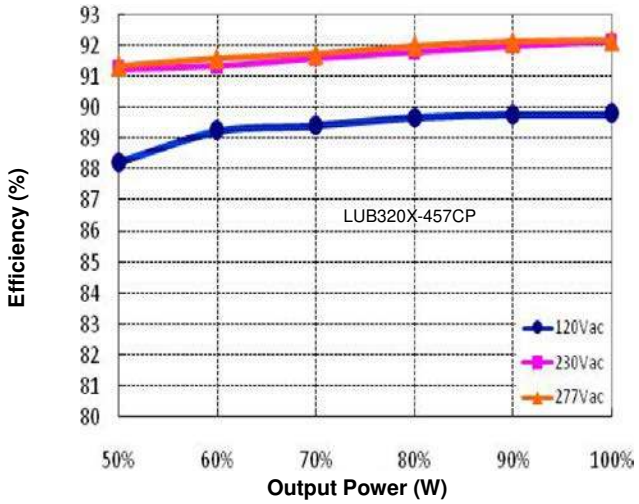


Figure 15: Efficiency vs. Output Power (Io=1.10A)

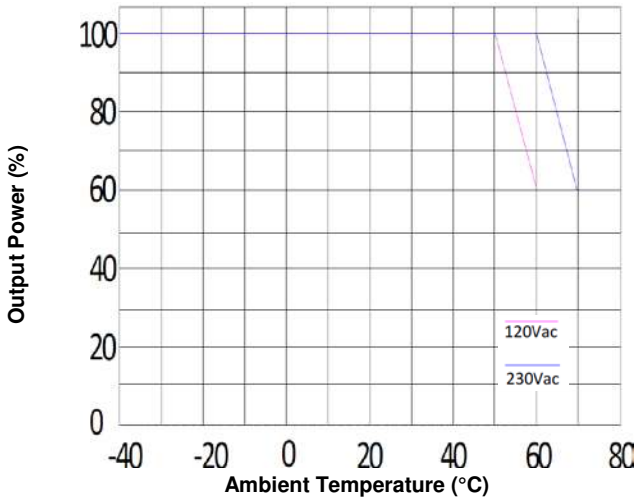


Figure 16: Output Power vs. Ambient Temperature

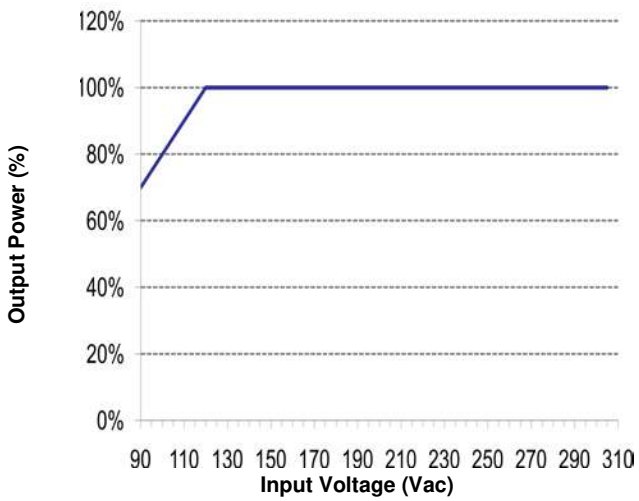


Figure 17: Output Power vs. Input Voltage

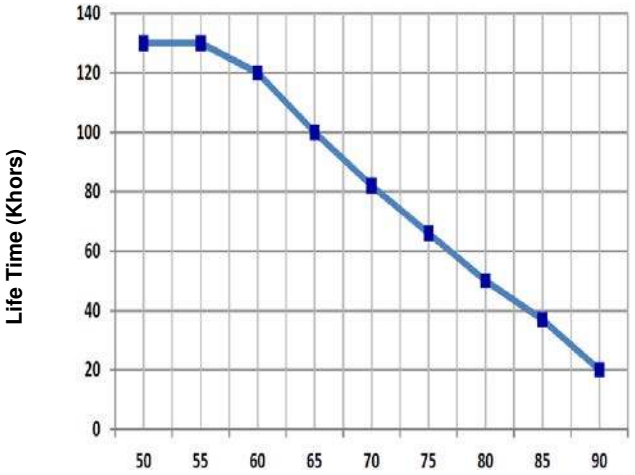


Figure 18: Life Time vs. Case Temperature

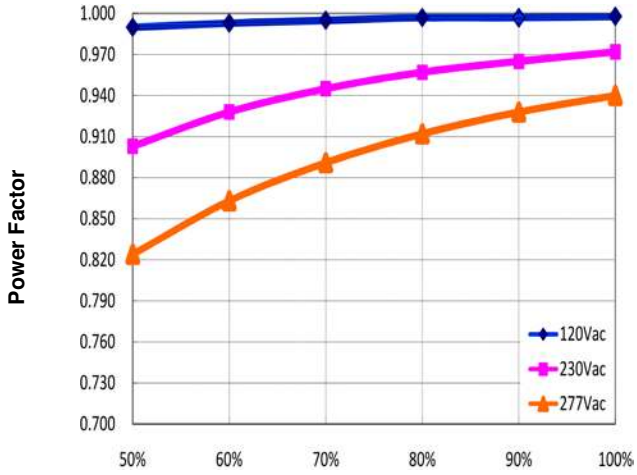


Figure 19: Power Factor vs. Output Power

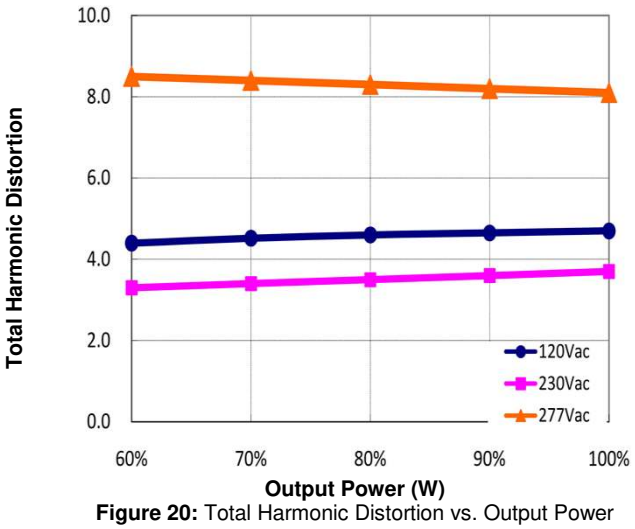


Figure 20: Total Harmonic Distortion vs. Output Power

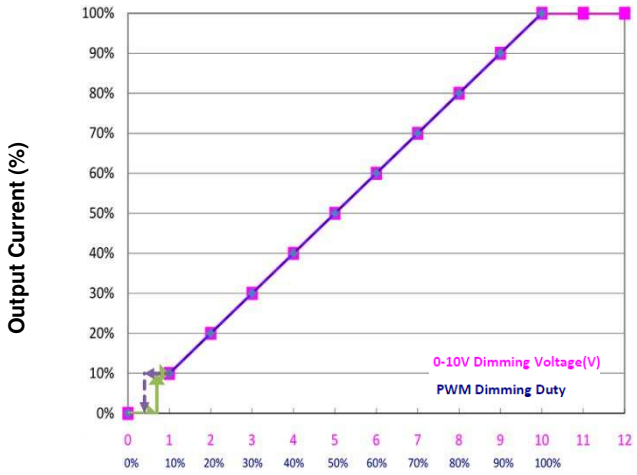
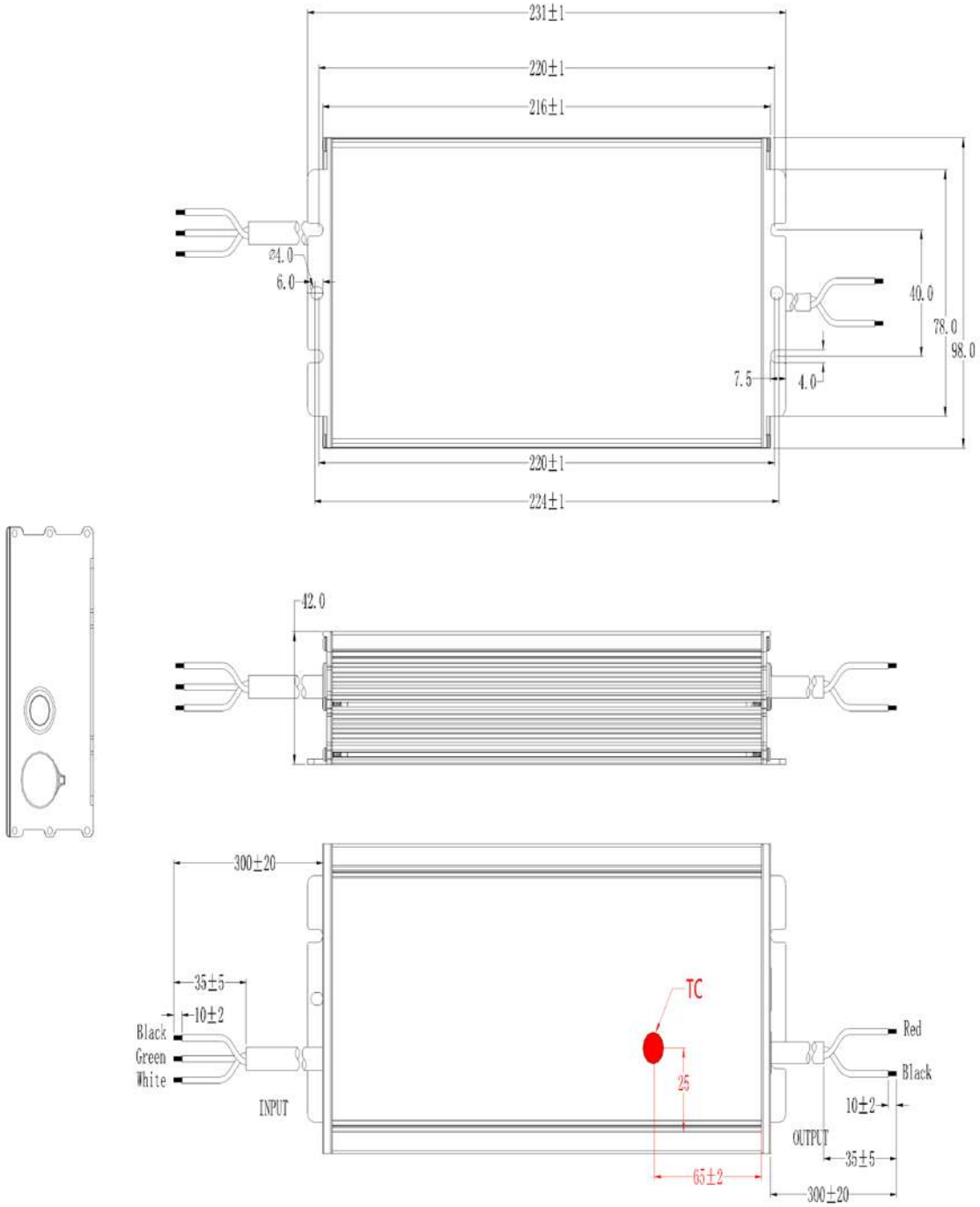


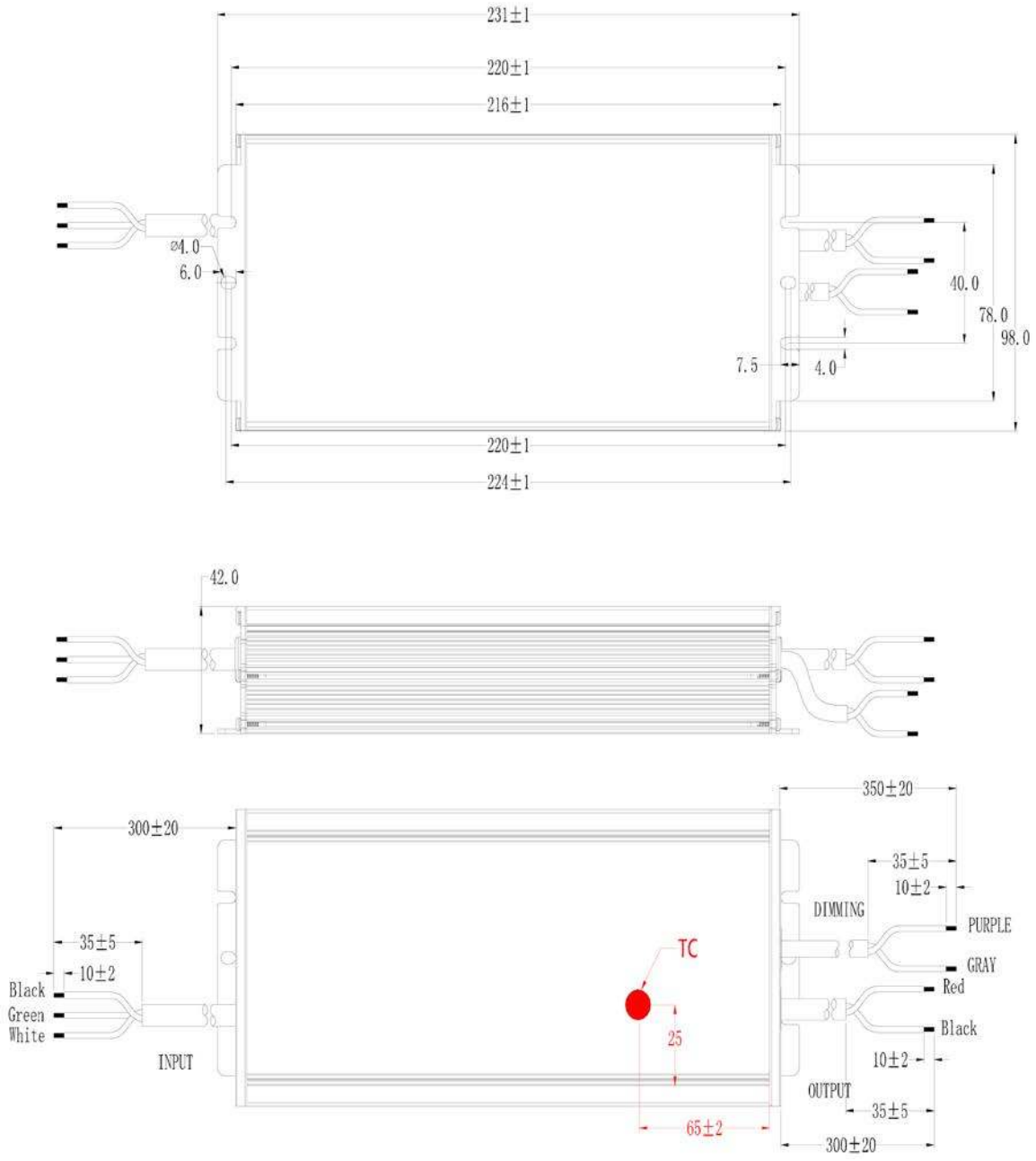
Figure 21: 0-10V/PWM Dimming Curve

Mechanical Drawing

LUB320V types (Unit: mm)



LUB320M types (Unit: mm)



Wire	Specification
Input	SJOW 18AWG*3C, 7.8mm external diameter
Output	SJOW 16AWG*2C, 7.3mm external diameter (for LUB320X-041CP)
	SJOW 18AWG*2C, 7.3mm external diameter (for other modules)
Dimming (M types)	UL2733 22AWG*2C, 5.45mm external diameter