AC ELECTRONICS™
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ENERGY STAR
EPA POLLUTION PREVENTER

PROGRAMMABLE, DIGITAL, WIDE-RANGE ADJUSTABLE CURRENT & DIMMING TYPE TL RATED

Constant Current LED Driver
Model Number
* AC-40CD1.4APMZ   P1
AC-40CD1.4APBKV
AC-40CD1.4APSC

Input Voltage: 120-277V
Input Frequency: 50/60Hz
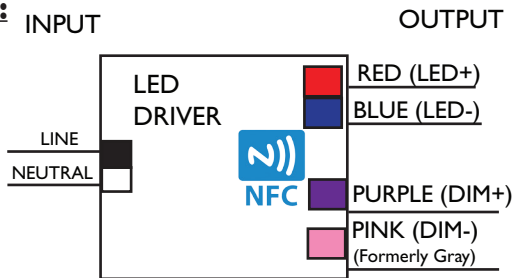Side and Bottom Mount/Leads Options
< 1 Sec. Start time
Dim-to-1% (Default)

ELECTRICAL SPECIFICATIONS:

cULus cRUus E332747

Output Power	Input Power	Input Current	Min PF (full load)	Max THD (full load)	Output Voltage	Output Current	T case Max	Min. Starting Temp**	Efficiency Up To	Dimming Protocol	Dimming Range	IP Rating
10 to 40W	47W	0.4A @ 120V, 0.18A @ 277V	>0.90	<20%	15 to 55V	400 to 1400mA	90°C	0°C	85%	0 to 10V	1 to 100%	64

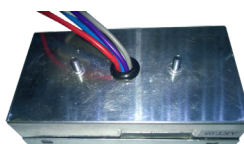** This driver can operate down to -40˚C in a non-dimming condition. Below 0˚C some ficker may be observed.

WIRING:

INPUT   OUTPUT

LED DRIVER

LINE
NEUTRAL

NFC

RED (LED+)
BLUE (LED-)
PURPLE (DIM+)
PINK (DIM-)
(Formerly Gray)

Note: Gray (-) dimming wire has been changed to pink per the 2020 NEC section 410.69 and NEMA.

Lead Lengths					
Black	5.9"	Blue	5.9"	Purple	7.1"
White	5.9"	Red	5.9"	Pink	7.1"

PHYSICAL:

Bottom Mount
Model No:
AC-40CD1.4APBKV

Hot Spot

ONLY - AC-40CD1.4APMZ (1Kv)
Sensor Area is on the bottom with a NFC Sensor Label

Dimensions	Length	Width	Height	Mounting
AC-40CD1.4APMZ	6.22"	1.73"	1.22"	5.86"
AC-40CD1.4APBKV	4.56"	2.48"	1.18"	
AC-40CD1.4APSC	12.8"	1.34"	1.06"	12.5"

Tref Max Value (˚C)	Tc/Tref Value (˚C)	Ta/Value (˚C)
90	58.2	40

PROTECTION	OVER VOLTAGE	Output Current decade mode, recovers automatically after fault condition is removed
	SHORT CIRCUIT	Hiccup mode, recovers automatically after fault condition is removed
	OVER TEMP.	Shut down o/p voltage, re-power on to recover

SAFETY & EMC ENVIRONMENT	Operation TEMP.	0˚C~50˚C
	WORKING HUMIDITY	10%~90%
	STORAGE TEMP., HUMIDITY	-40'C~80'C
	Maximum T-Case TEMP.	90˚C
	EMI/EMS	FCC Part 15 class A, UL8750, CSA C22.2 No. 250.13-14

RoHS COMPLIANT
LEAD-FREE

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AC-40CD1.4APMZ
AC-40CD1.4APBKV
AC-40CD1.4APSC

P1

SAFETY:

- Class 2
- Class A sound rating
- Overload Protection
- Open/Short Circuit Protection
- LED driver has a life expectancy of 50,000 hours at Tcase of ≤75°C
- LED driver has a life expectancy of 100,000 hours at Tcase of ≤65°C

- Warranty: 5 yrs based on max case temp of 75°C; 3 yrs based on max case temp of 90°C*
- Input/Output Isolation
- FCC Title 47 CFR Part 15
- Surge Protection (2 KV)
- Surge Protection (1Kv)*
- Gray (-) dimming wire has been changed to pink per the 2020 NEC section 410.69 and NEMA.

INSTALLATION:

- Max Remote installation distance is 18 ft
- LED driver cases should be grounded
- LED drivers shall be installed inside electrical enclosures
- 18 AWG 600V/105C tinned stranded copper lead-wires are required for installation

*AC Electronics/AC LED Power Designs warrants to the purchaser that each LED Driver will be free from defects in material or workmanship for a period of 5 years when operated at max case temp of up to 75°C; 3 years from date of manufacture when operated at a max case temp of up to 90°C when properly installed and under normal conditions of use. See aceleds.com for complete warranty policy.
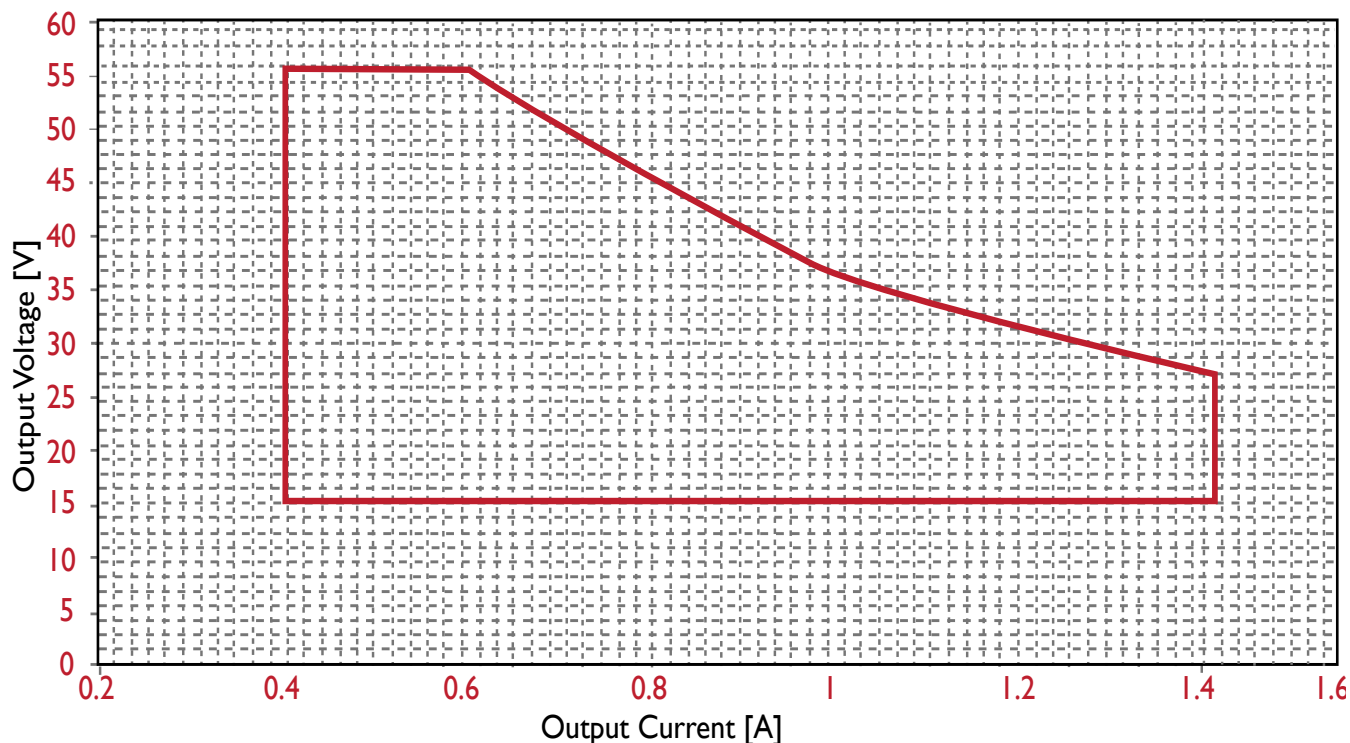
GENERAL INFORMATION

WARRANTY	5 Years TC≤75°C, 3 Years 75°C≤TC≤90°C
Inrush Current	35A
MTBF	10,000 Hrs Type
Protection	Overload/Over temperature/Short circuit protection

APPROVALS

UL Class2, FCC Class A, RoHs, Type HL

IOUT/VOUT CURVE

CONTROL THE IOUT WITH THE PROGRAMMING WAND. DOWNLOAD SOFTWARE FROM http://www.aceleds.com/products-programmable.php

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Data is based upon tests performed by AC Electronics in a controlled environment and representative performance. Actual performance can vary depending on operating conditions. Specifications are subject to change without notice. All specifications are nominal unless otherwise noted.
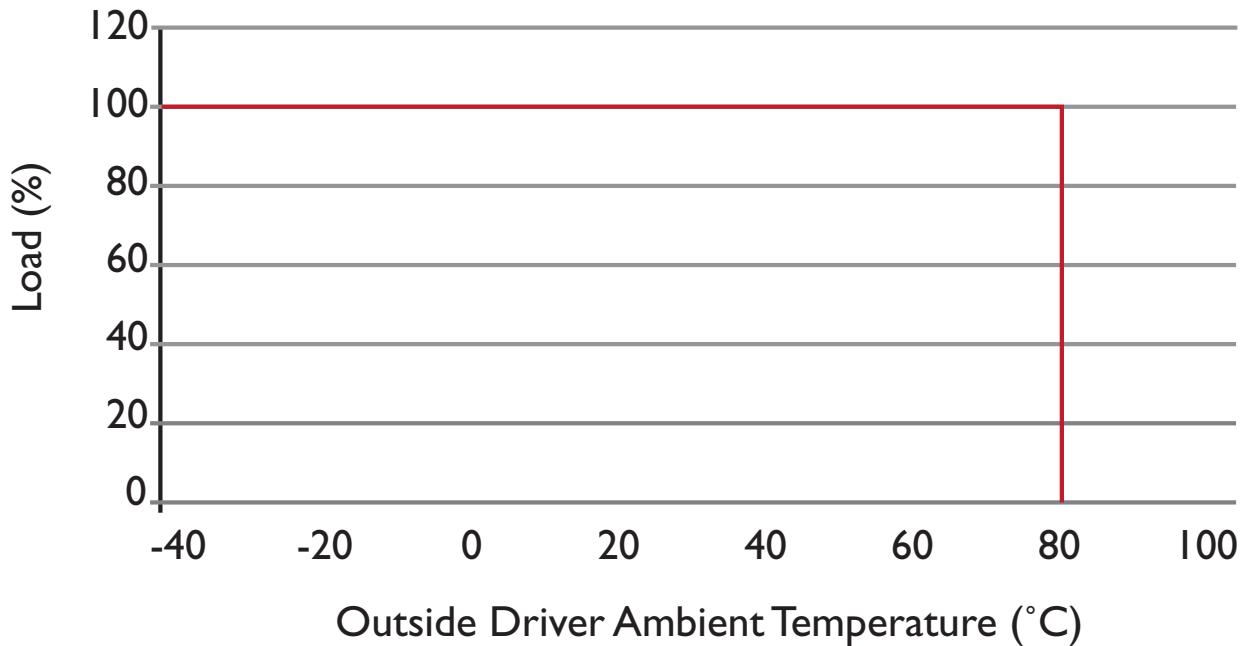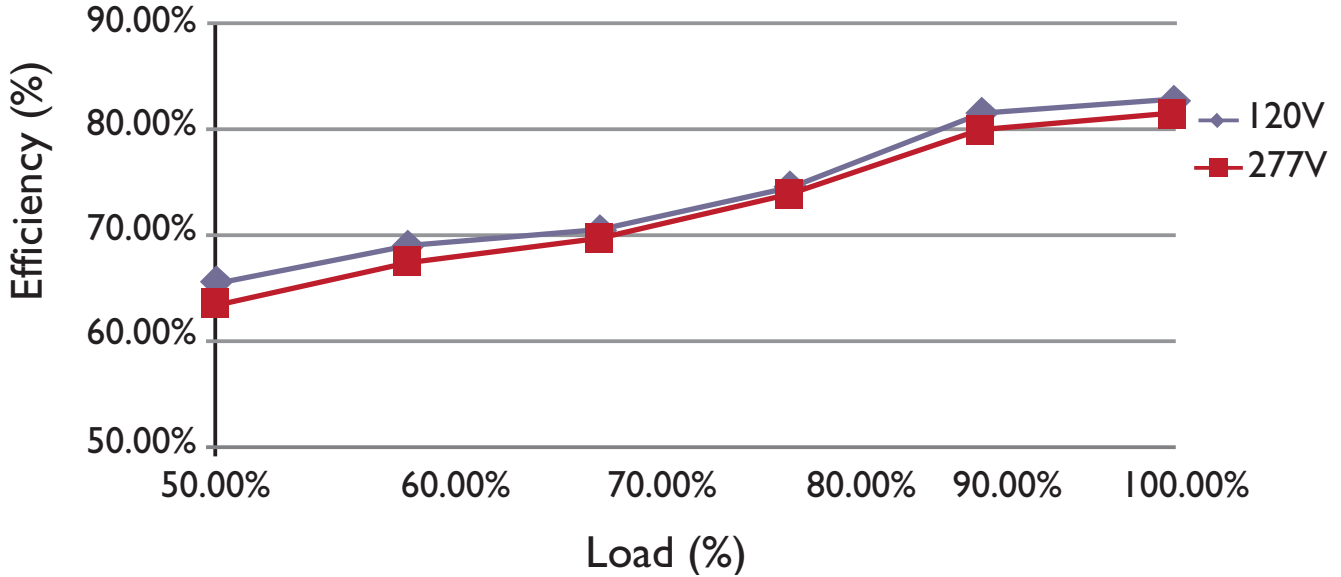
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Performance Characteristics

Life Time v.s. Case Temperature Curve
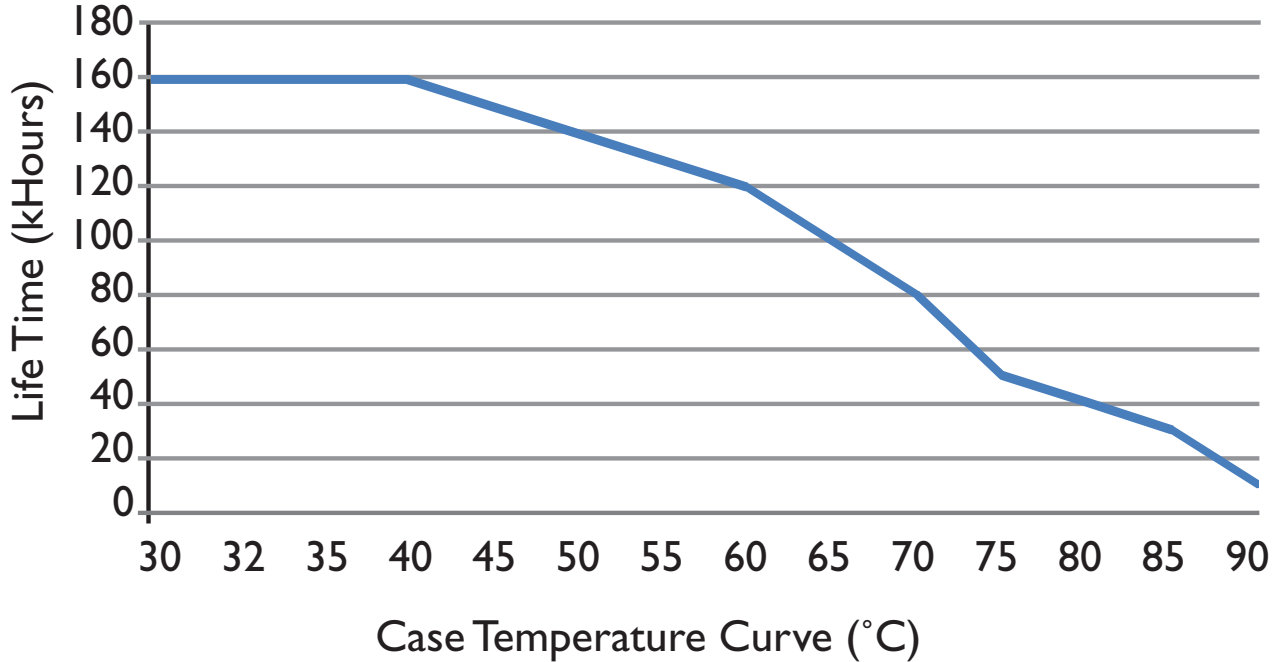
Derating Curve   120Vac & 277Vac

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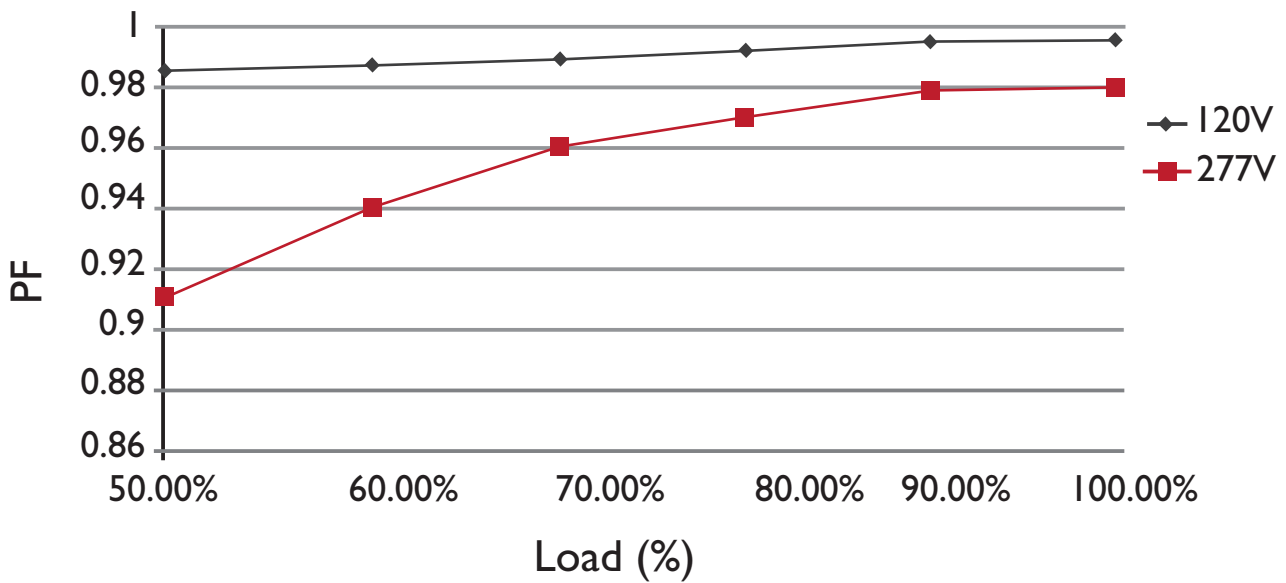
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Performance Characteristics

Efficiency v.s. Load

Power Factor v.s. Load

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Performance Characteristics

Output Current v.s. Dimming

Output Current (A) vs Dimming (0-10V)

Output Current v.s. Resistance
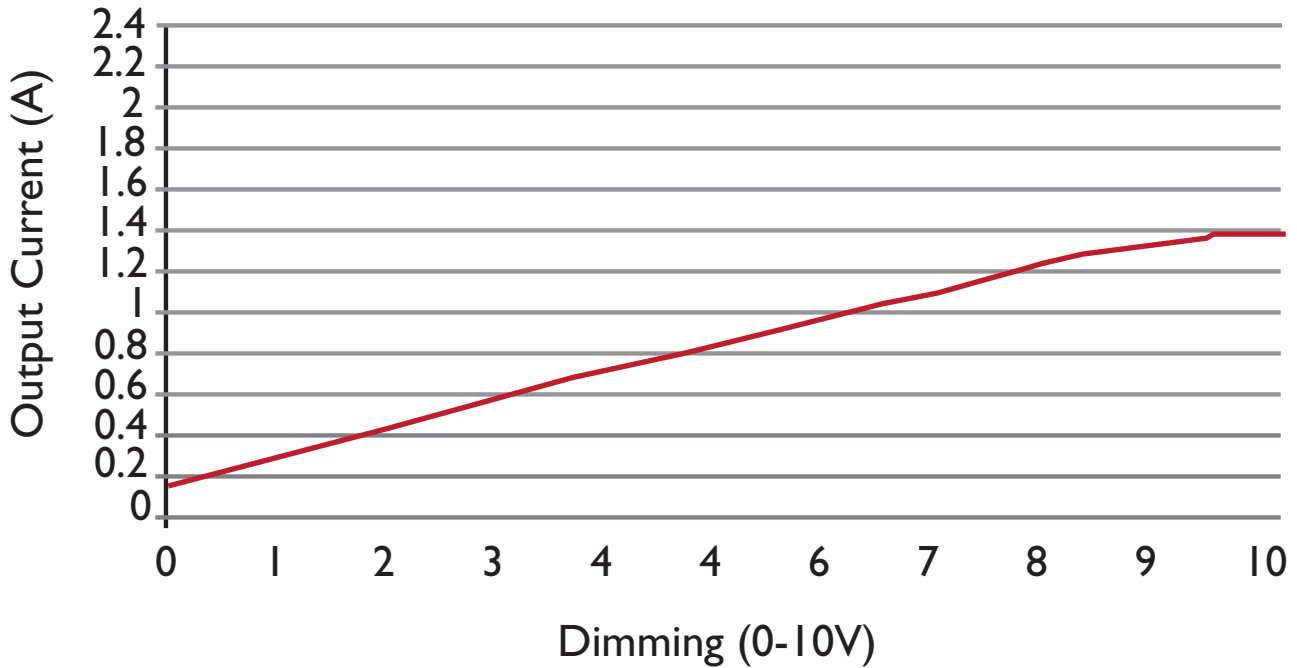
Output Current (A) vs Resistance (KΩ)

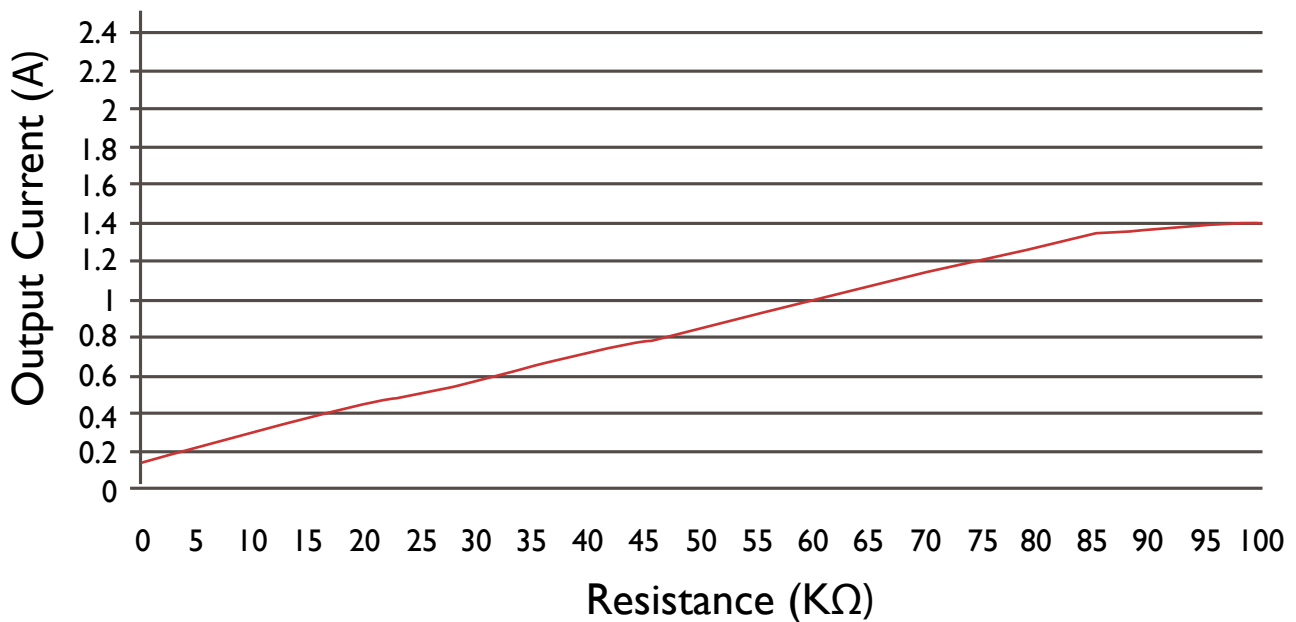**3401 Avenue D, Arlington, TX 76011 • 800-375-6355 • www.aceleds.com**

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Programmable Driver Options (App Note)

All programmable drivers accept a 16-bit hexadecimal code to program the output current (Iout) of the driver. The Iout programming codes are documented in the computer based-programming software (ST-TOOLS.exe) or from the driver's IOUTCODE.pdf file. The Locations below 0, 1, 2, 3 contain the basic code for a specific output current value (example 84 03 00 01 = 1050 mA for AC-50CD1.4APNZ).

Location | 0 | 1 | 2 | 3 |

Value | 00 | 00 | 00 | 00 |

For drivers containing Revision C of their firmware (contact factory for date code of implementation), it is also possible to adjust the minimum dimming level and the dimming speed. This adjustment is made by modifying location 2 of the programming code while keeping the other locations set for the desired output current. Specifically, the location 2 values are defined as:

• 00 => Dim to 1%, Speed ≤ 1.0 sec
• 01 => Dim-To-OFF, Speed ≤ 1.0 sec
• 02 => Dim to 10%, Speed ≤ 1.0 sec
• 03 => Dim to 1%, Speed ≥ 2.5 sec
• 04 => Dim-To-Off, Speed ≥ 2.5 sec
• 05 => Dim to 10%, Speed ≥ 2.5 sec

As an example, if the programming code value of 84 03 00 01 is programmed, the output current will be 1050 mA, and the driver will dim to 1% and the dimming speed will be ≤ 1.0 sec. If the programming code of 84 03 04 01 is programmed, the output current will be 1050 mA, and the driver will dim to off and the dimming speed will be ≥ 2.5 sec.