



Applied Concepts

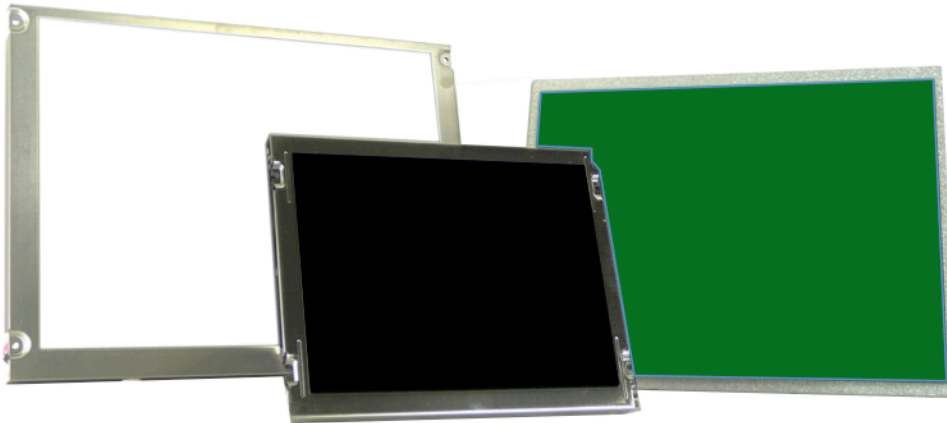
INNOVATION IN POWER CONVERSION TECHNOLOGY

2016 LED Display Roadmap

High-Bright/NVIS LED Displays

I-Drive® LED Driver Series

Custom CCFL Inverters



WHO IS ACI?



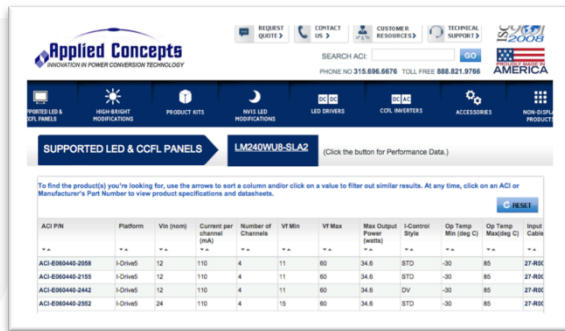
Company Overview

Applied Concepts, Inc. (ACI)

Applied Concepts is an Engineering Design & Manufacturing company specializing in power conversion solutions primarily used in the display backlighting industry.

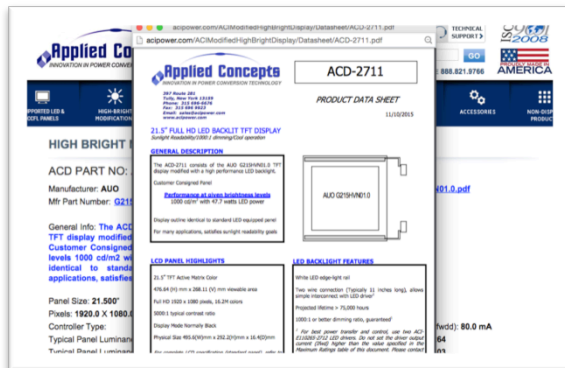
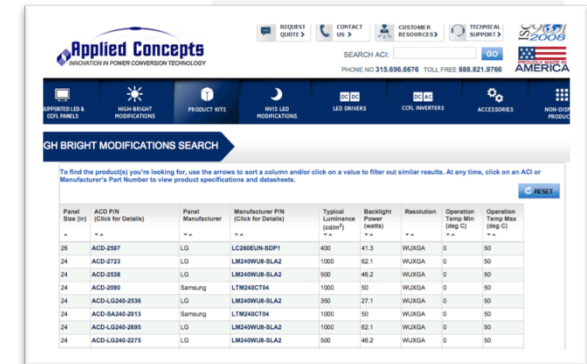
We first began producing CCFL Inverters in 1998 and have since expanded our product offerings to include LED Drivers and LED Modified High-Bright (HB) and Night-Vision Imaging Systems (NVIS) LCD displays ranging in size from 5" to 26".

ACI primarily serves Military (Aviation, Marine, etc.) Industrial, Medical, and Commercial Markets for both display and non-display applications. We have a wide range of standard products available and we often design custom solutions for our customers based on their specific application and performance requirements.



Search our comprehensive database of nearly 1,000 (and growing) LCDs to find the best Driver and Cable Solution to light up your Factory Displays!

Quickly filter by key product specs to find the best LED Driver or Modified HB/NVIS Display for your Application!



Instant access to Datasheets for OEM Displays and all of our ACI Drivers, Kits, and Modified Displays!

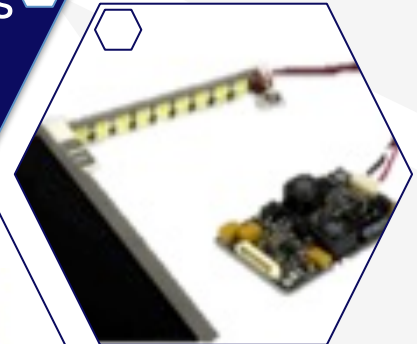
PRODUCTS

Dual-Mode
HB + NVIS
(Class A, B, C)
Displays

I-Drive®
LED Drivers

High-Bright
(HB) Displays
800+ Nits

CCFL
Inverters

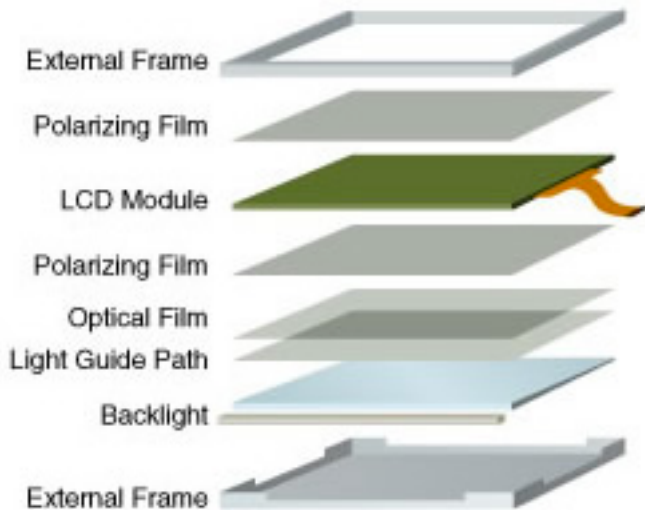


HB DISPLAYS

Standard vs. High-Bright LCDs



LCD Panel Structure



LED Modified High-Bright (HB) Displays:

- Sunlight Readable Displays up to 2200 Nits
 - LCD Sizes ranging from 5.0" – 26.0"
 - All major OEMs: AUO, Innolux, LG, Mitsubishi, Tianma-NLT, Samsung, Sharp, and others
- Ruggedized for extreme environments
 - Military, Aviation, Marine, etc.
- Efficient Power & Thermal Management
 - Extended MTBF (70,000+ hours)
 - Wide Temperature & Humidity ranges
- Compatible with I-Drive LED Drivers
 - Ultra-wide customizable dimming
 - Customized for optimum performance
- ACI-Supplied OR Customer Consigned display
 - LED Kits available for customer installation

HB/NVIS LCDs

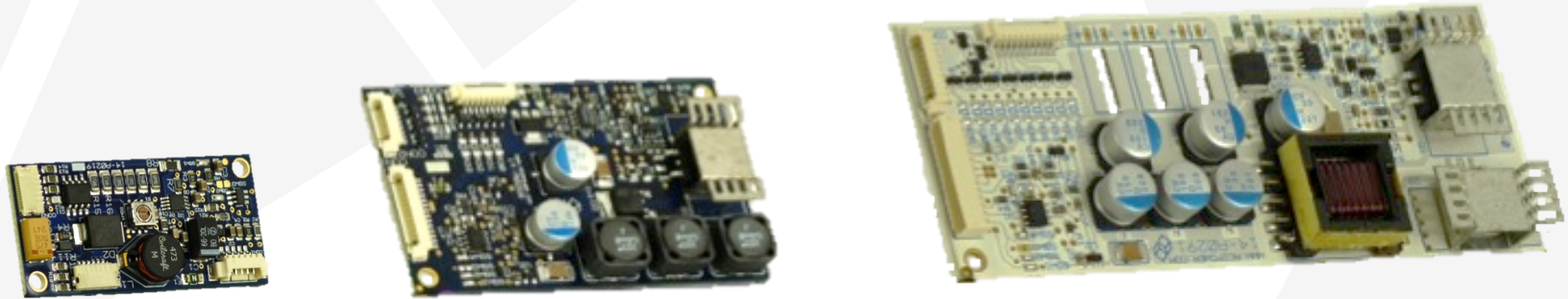
Thanks to our proprietary I-Drive® LED Driver technology, ACI also produces a complete line of dual-mode High-Bright and NVIS (Night-Vision Imaging System) Displays:

- **Satisfy MIL STD 3009 Class A, B, C Specs**
 - White or Green NVIS Available
 - Interweaved High-Bright/NVIS LED Rail design, *No filters or IR leakage*
 - Low EMI Circuit/Driver topology



- **Seamless Dual-Mode Driver Technology**
 - Single Driver for Day & Night Modes
 - Multiple LED Rails and Light Guides introduced in larger (19"+) designs
- **Sunlight-readable High-Bright Mode**
 - Most designs still offer 1000+ Nits
 - Ruggedized for Harsh Environments
 - Ultra-wide, custom dimming curves

I-Drive LED Drivers



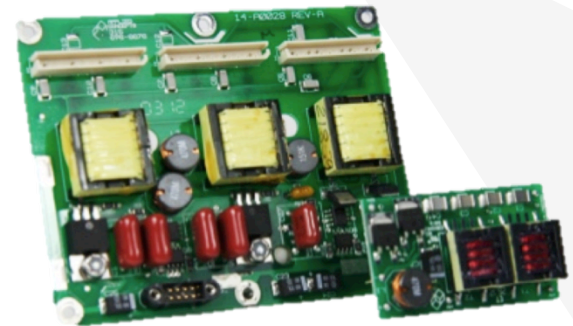
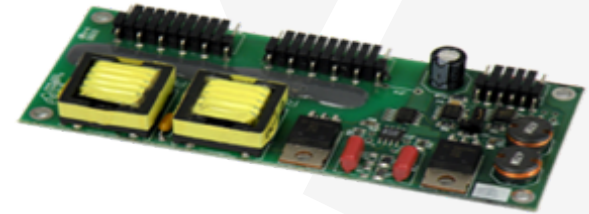
Our drivers power everything we do here at ACI, from supporting factory panels to lighting our HB and NVIS Modifications. Our I-Drive series of LED Drivers rank among the best in the industry for performance and reliability and come in a variety of form factors.

- Each driver has an onboard Micro-Controller offering customizable features:
 - Ultra-wide range dimming (5,000:1), adjusted ranges also available
 - Programmable dimming curves - linear, logarithmic, inverted
 - Adaptable to a variety of input signals and interfaces - not sure just ask!
- Ruggedized for harsh environments: high altitude, wide temperature, high humidity, etc.
- Our team of experienced engineers deliver unlimited customizability and support:
 - Quick-turn redesigns and software updates
 - Troubleshooting and product integration support

CCFL Inverters

Long before we developed our suite of LED products, ACI built its reputation designing custom CCFL Inverters (AC → DC) for Display and Non-Display Applications.

- Oftentimes when displays fail the inverter just needs to be replaced, a much more cost-effective approach than designing in a new solution.
 - We continue to offer repair/replacement inverters for nearly every CCFL display currently in use.
 - MOQs may apply, 1 year warranty
- Our team of Engineers is also available for new, custom CCFL Inverter design and manufacturing support.
 - Contact us (sales@acipower.com) and tell us about your specific application needs.
- Contact us for all of your low power, high voltage power supply needs:
 - We've designed products for non-display, commercial, sanitation (UV), and industrial and hand-held/mobile applications.



High-Bright Displays

5.7" - 12.1"

Size	Resolution	OEM	P/N	Max Lum. (Nits)	Power (W)	Viewing Angle (L/R, T/B)	Contrast Ratio	Available Now	Coming in 2016
5.7"	QVGA - 320 x 240	TIANMA	TM057KDH02	2200	5.6	70°/60°, 70°/70°	500 : 1	☑	-
6.5"	VGA - 640 x 480	NLT	NL6448BC20-35	1250	3.1	80°/80°, 80°/80°	800 : 1	☑	-
7.0"	WVGA - 800 x 480	INNOLUX	G070Y2-L01	1000	3.2	70°/70°, 60°/60°	600 : 1	☑	-
	FHD - 1920 x 1080	KOE	TX18D200VM0EAA	2000+	TBD	85°/85°, 85°/85°	800 : 1	-	☑
8.0"	WVGA - 800 x 480	NLT	NL8048AC21-01F	2000+	TBD	80°/80°, 80°/80°	800 : 1	-	☑
8.4"	SVGA - 800 x 600	NLT	NL8060BC21-06	1200	3.22	80°/80°, 80°/60°	600 : 1	☑	-
		AUO	G084SN05 V9	900	4.4	80°/80°, 80°/60°	600 : 1	☑	-
	XGA - 1024 x 768	NLT	NL10276BC16-06	1500	TBD	88°/88°, 88°/88°	600 : 1	☑	-
9.0"	WVGA - 800 x 480	NLT	NL8048BC24-09D	850	4.4	88°/88°, 88°/88°	600 : 1	☑	-
				1800+	13.3	88°/88°, 88°/88°	600 : 1	-	☑
10.4"	VGA - 640 x 480	SHARP	LQ104V1DG81	1000	11.7	80°/80°, 65°/80°	800 : 1	☑	-
	SVGA - 800 x 600	LG	LB104S04-TL01	1000	7.8	70°/70°, 55°/60°	500 : 1	☑	-
	XGA - 1024 x 768	INNOLUX	G104X1-L04	1000	11.7	88°/88°, 88°/88°	1200 : 1	☑	-
		NLT	NL10276BC20-18	1250	8	80°/80°, 80°/80°	900 : 1	☑	-
12.1"	SVGA - 800 x 600	NLT	NL8060BC21-11	1500	11.9	80°/80°, 80°/80°	900 : 1	☑	-
			NL8060BC31-41	1425	9.5	80°/80°, 80°/60°	600 : 1	☑	-
			NL8060BC31-47	1500	9.5	80°/80°, 80°/80°	900 : 1	☑	-
	XGA - 1024 x 768	AUO	G121XN01 V0	1000	7.6	80°/80°, 80°/80°	700 : 1	☑	-
			G121XTN01.0	1200	TBD	80°/80°, 80°/80°	700 : 1	-	☑
			G121X1-L03	1000	9.8	80°/80°, 80°/80°	700 : 1	☑	-
	WXGA - 1280 X 800	INNOLUX	G121I1-L01	1200	19.6	88°/88°, 88°/88°	1000 : 1	☑	-

High-Bright Displays

15" - 26"

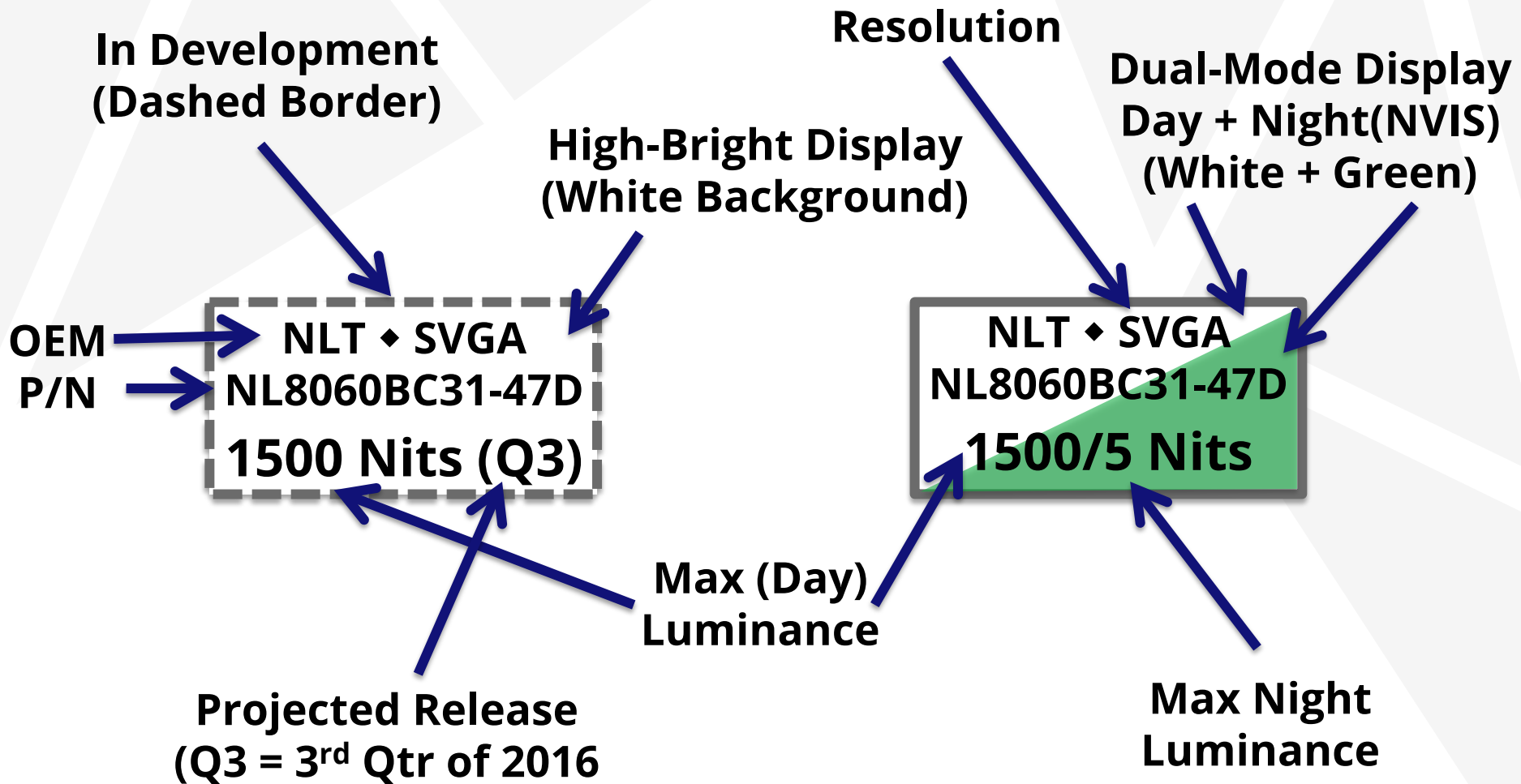
Size	Resolution	OEM	P/N	Max Lum. (Nits)	Power (W)	Viewing Angle (L/ R, T/B)	Contrast Ratio	Available Now	Coming in 2016
15"	XGA - 1024 x 768	INNOLUX	G150XGE-L04	1000	16.2	80°/80°, 70°/70°	700 : 1	☑	-
		AUO	G150XG01-V4	1300	26.6	80°/80°, 60°/80°	700 : 1	☑	-
			G150XG01-V3	1500	18.8	80°/80°, 60°/80°	700 : 1	☑	-
		NLT	NL10276BC30-39	950	26.6	88°/88°, 88°/88°	900 : 1	☑	-
			NLB150XG01L-01	1200	26	80°/80°, 80°/60°	600 : 1	☑	-
			NL10276BC30-34	1250	21.4	80°/80°, 80°/80°	600 : 1	☑	-
			NL10276AC30-45	1500	TBD	80°/80°, 80°/60°	600 : 1	-	☑
15.4"	WXGA - 1280 x 800	INNOLUX	G154I1-LE1	1100	28.9	80°/80°, 70°/70°	700 : 1	☑	-
15.6"	FHD - 1920 x 1080	AUO	G156XW01 V1	700	21.7	85°/80°, 85°/85°	500 : 1	☑	-
		SHARP	LQ156M1LG21	1000	21.3	80°/80°, 65°/80°	800 : 1	☑	-
17.0"	SXGA - 1280 x 1024	AUO	G170EG01 V0	1050	23.8	85°/85°, 80°/80°	1000 : 1	☑	-
	G170EG01 V1		1000	28.3	85°/80°, 85°/85°	1000 : 1	☑	-	
	WUXGA - 1920 x 1200		G170J1-LE1	TBD	TBD	88°/88°, 88°/88°	2000 : 1	-	☑
17.3"	FHD - 1920 x 1080	AUO	G173HW01 V0	1000	27.4	80°/80°, 60°/80°	600 : 1	☑	-
18.5"	FHD - 1920 x 1080	AUO	G185HAN01.0	1000	27.4	80°/80°, 60°/80°	600 : 1	-	☑
19"	SXGA - 1280 x 1024	AUO	G190EG01 V1	1000	36	85°/80°, 85°/80°	1000 : 1	☑	-
			G190ETN01.2	1000	TBD	85°/85°, 80°/80°	1000 : 1	-	☑
20.1"	UXGA - 1600 x 1200	SHARP	LQ201U1LW32	800+	TBD	85°/85°, 85°/85°	1000 : 1	-	☑
21.5"	FHD - 1920 x 1080	AUO	G215HVN01.0	1000	47.7	89°/89°, 89°/89°	5000 : 1	☑	-
22"	WSXGA - 1680 x 1050	AUO	G220SW01 V0	1000	48.1	89°/89°, 89°/89°	1000 : 1	☑	-
23.8"	FHD - 1920 x 1080	AUO	G238HAN01.0	1000+	TBD	89°/89°, 89°/89°	1000 : 1	-	☑
24"	FHD - 1920 x 1080	AUO	G240HW01 V0	800+	TBD	89°/89°, 89°/89°	3000 : 1	-	☑
	WUXGA - 1920 x 1080	LG	LM240WU8-SLA2	500	46.2	89°/89°, 89°/89°	1000 : 1	☑	-
			LM240WU8-SLA2	1000	46.2	89°/89°, 89°/89°	1000 : 1	☑	-
26"	FHD - 1920 x 1080	LG	LC260EUN-SDA1	400	41.3	89°/89°, 89°/89°	1000 : 1	☑	-

Dual-Mode Displays

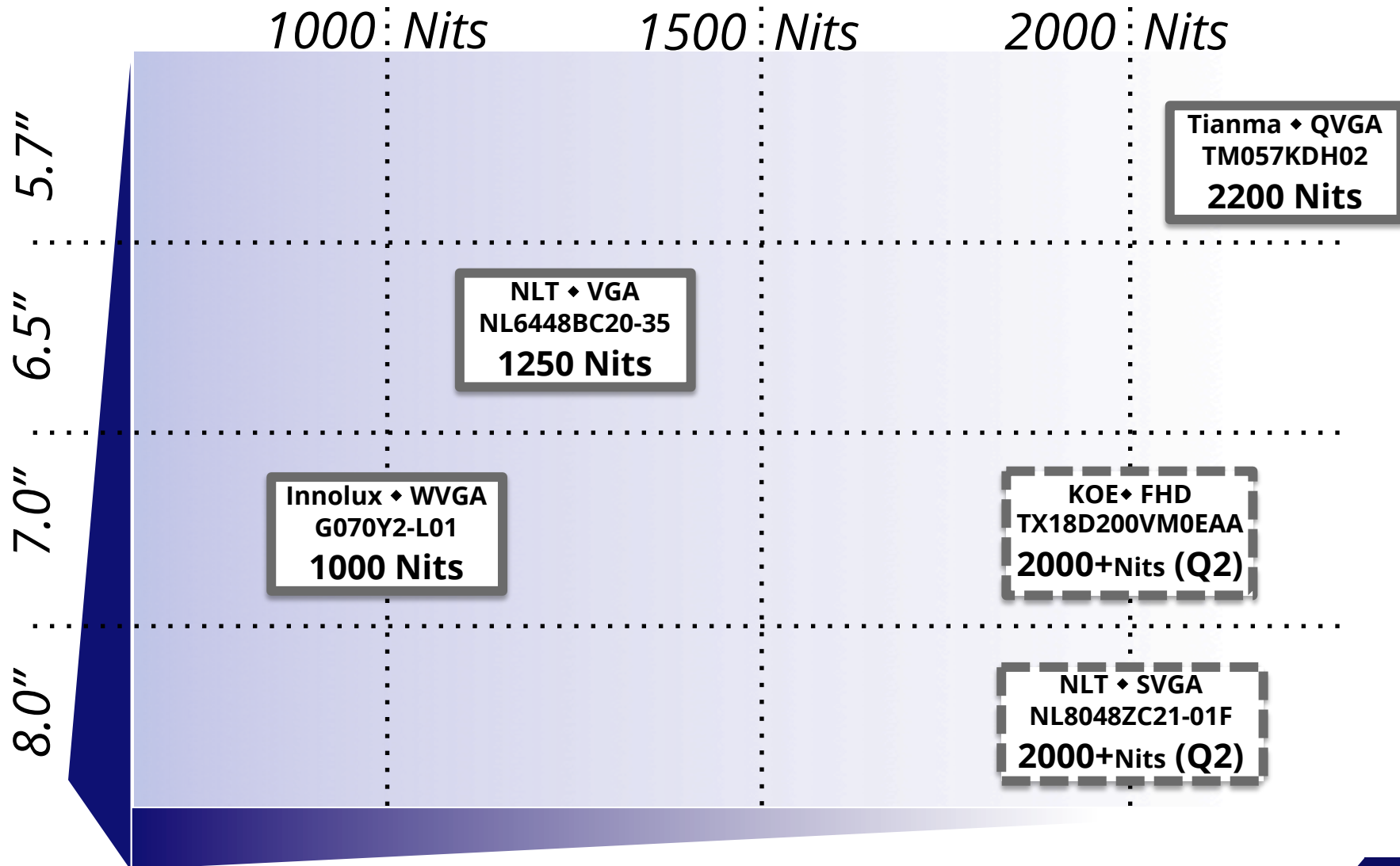
HB + NVIS

Size	Resolution	OEM	P/N	Day Mode (HB)	Night Mode (NVIS)	Viewing Angle (L/R, T/B)	Contrast Ratio	Available Now	Coming in 2016
8.4"	XGA - 1024 x 768	NLT	NL10276BC16-06	1000 Nits / 8.8W	4.7 Nits / 1.2W	88°/88°, 88°/88°	600 : 1	☑	-
		MITSUBISHI	AA084XB11	1200 Nits / TBD	5.0 Nits / TBD	80°/80°, 60°/80°	600 : 1	-	☑
10.1"	WUXGA - 1920 X 1200	KOE	TX26D202VM0BAA	400 Nits / TBD	3.7 Nits / TBD	85°/85°, 85°/85°	800 : 1	-	☑
10.4"	XGA - 1024 x 768	INNOLUX	G104X1-L04	650 Nits / 12.6W	1.75 Nits / 1.8W	88°/88°, 88°/88°	1200 : 1	☑	-
		NLT	NL10276BC20-18	1500 Nits / 15.2W	5 Nits / 2.1W	80°/80°, 80°/80°	900 : 1	☑	-
10.6"	WXGA - 1280 x 800	MITSUBISHI	AA106TA11	1000 Nits / 14.1W	3.7 Nits / 3.1W	85°/85°, 85°/85°	1000 : 1	☑	-
12.1"	XGA - 1024 x 768	NLT	NL10276BC24-21	1200 Nits / 8.3W	5 Nits / 2.1W	80°/80°, 80°/80°	900 : 1	☑	-
15"	XGA - 1024 x 768	NLT	NL10276BC30-33D	1400 Nits / 15.75W	10 Nits / 5.5W	80°/80°, 80°/60°	500 : 1	☑	-
			NL10276BC30-34D	1450 Nits / 20.3W	4.1 Nits / 3.4W	80°/80°, 80°/80°	600 : 1	☑	-
			NL10276BC30-39	TBD	TBD	88°/88°, 88°/88°	900 : 1	-	☑
15.4"	WXGA - 1280 x 800	INNOLUX	G154I1-LE1	1100 Nits / 25.4W	3.8 Nits / 4.6W	80°/80°, 70°/70°	700 : 1	☑	-
17"	SXGA - 1280 x 1024	AUO	G170EG01 V1	500 Nits / 24.1W	3.5 Nits / 4.1W	85°/85°, 80°/80°	1000 : 1	☑	-
			G170EG01 V0	1000 Nits / 42W	9 Nits / 4.8W	85°/80°, 85°/85°	1000 : 1	☑	-
		MITSUBISHI	AA170ED01	1200 Nits / 36.7W	13.0 Nits / 5.8W	80°/80°, 60°/80°	800 : 1	☑	-
	WUXGA - 1920 x 1200	AUO	G170J1-LE1	800 Nits / TBD	3.8 Nits / TBD	88°/88°, 88°/88°	2000 : 1	-	☑
17.3"	FHD - 1920 x 1080	AUO	G173HW01 V0	1000 Nits / TBD	TBD	80°/80°, 60°/80°	600 : 1	-	☑
19"	SXGA - 1280 x 1024	AUO	G190EG01 V1	TBD	TBD	85°/80°, 85°/80°	1000 : 1	-	☑
		NLT	NL128102BC29-10	800 Nits / 50.4W	10.0 Nits / 8.5W	88°/88°, 88°/88°	800 : 1	☑	-
21.5"	FHD - 1920 x 1080	AUO	G215HVN01.0	1000 Nits / 48.8	13.0 Nits / 14.2W	89°/89°, 89°/89°	5000 : 1	☑	☑
24"	FHD - 1920 x 1080	AUO	G240HW01 V0	TBD	TBD	89°/89°, 89°/89°	3000 : 1	-	☑
	WUXGA - 1920 x 1200	LG	LM240WU8-SLA2	800+ Nits / TBD	TBD	89°/89°, 89°/89°	1000 : 1	-	☑

Roadmap Key



5.7 – 8" Displays



8.4 – 10.4" Displays

1000 Nits

2000 Nits

8.4"

9.0"

10.4"

Innolux ♦ WVGA
G070Y2-L01
900 Nits

NLT ♦ XGA
NL10276BC16-06
1000 ♦ 4.7 Nits

NLT ♦ SVGA
NL8060BC21-06
1200 Nits

AUO ♦ SVGA
G084SN05 V9
900 Nits

Mitsu ♦ SVGA
AA084BX11
1200 ♦ 5 Nits

NLT ♦ VGA
NL8048BC20-09D
850 Nits

NLT ♦ VGA
NL8048BC20-09D
2000+Nits (Q4)

Innolux ♦ XGA
G104X1-L04
650 ♦ 1.75 Nits

Sharp ♦ VGA
LQ104V1DG81
1000 Nits

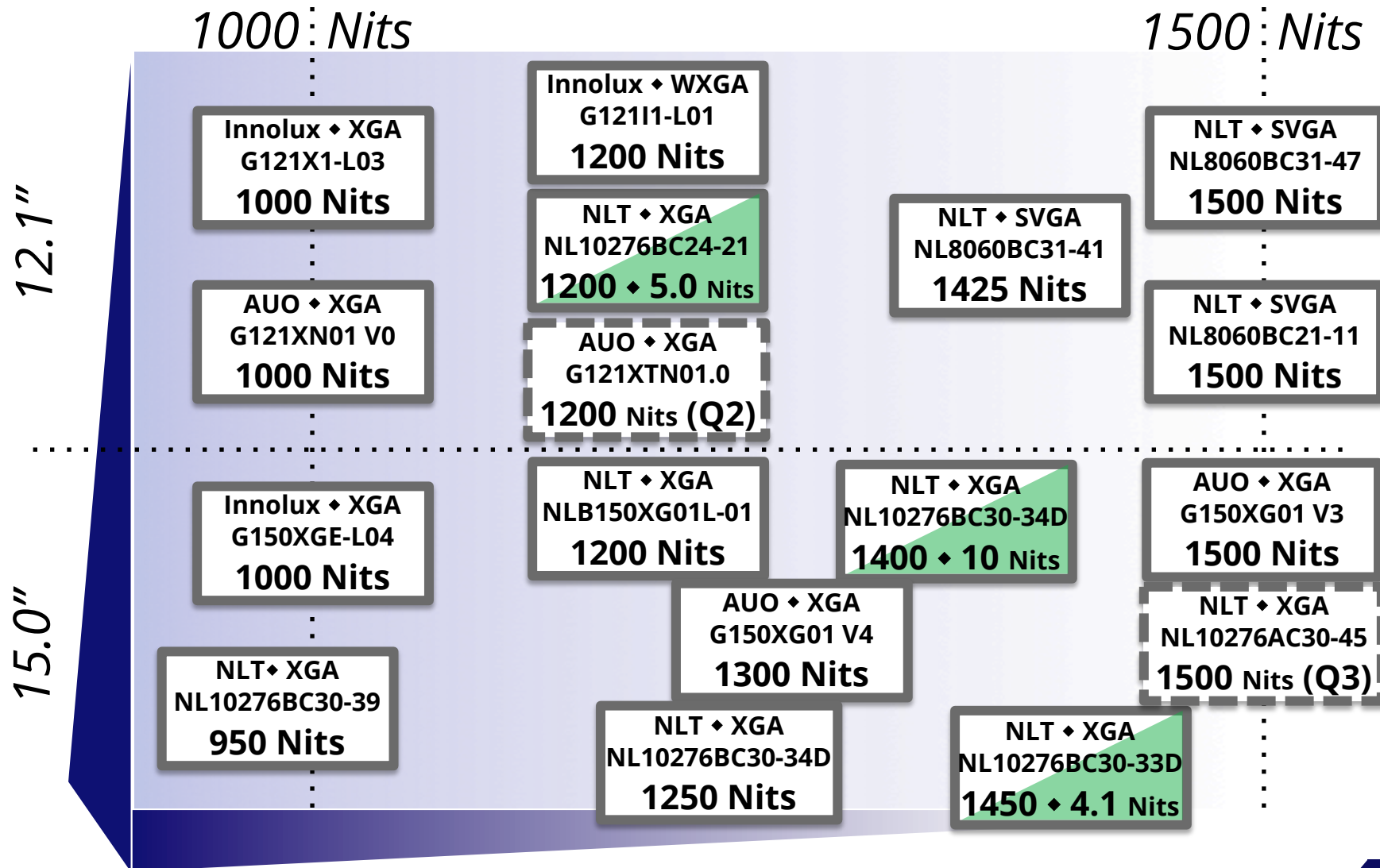
NLT ♦ XGA
NL10276BC20-18
1500 ♦ 5.0 Nits

LG ♦ SVGA
LB104S04-TL01
1000 Nits

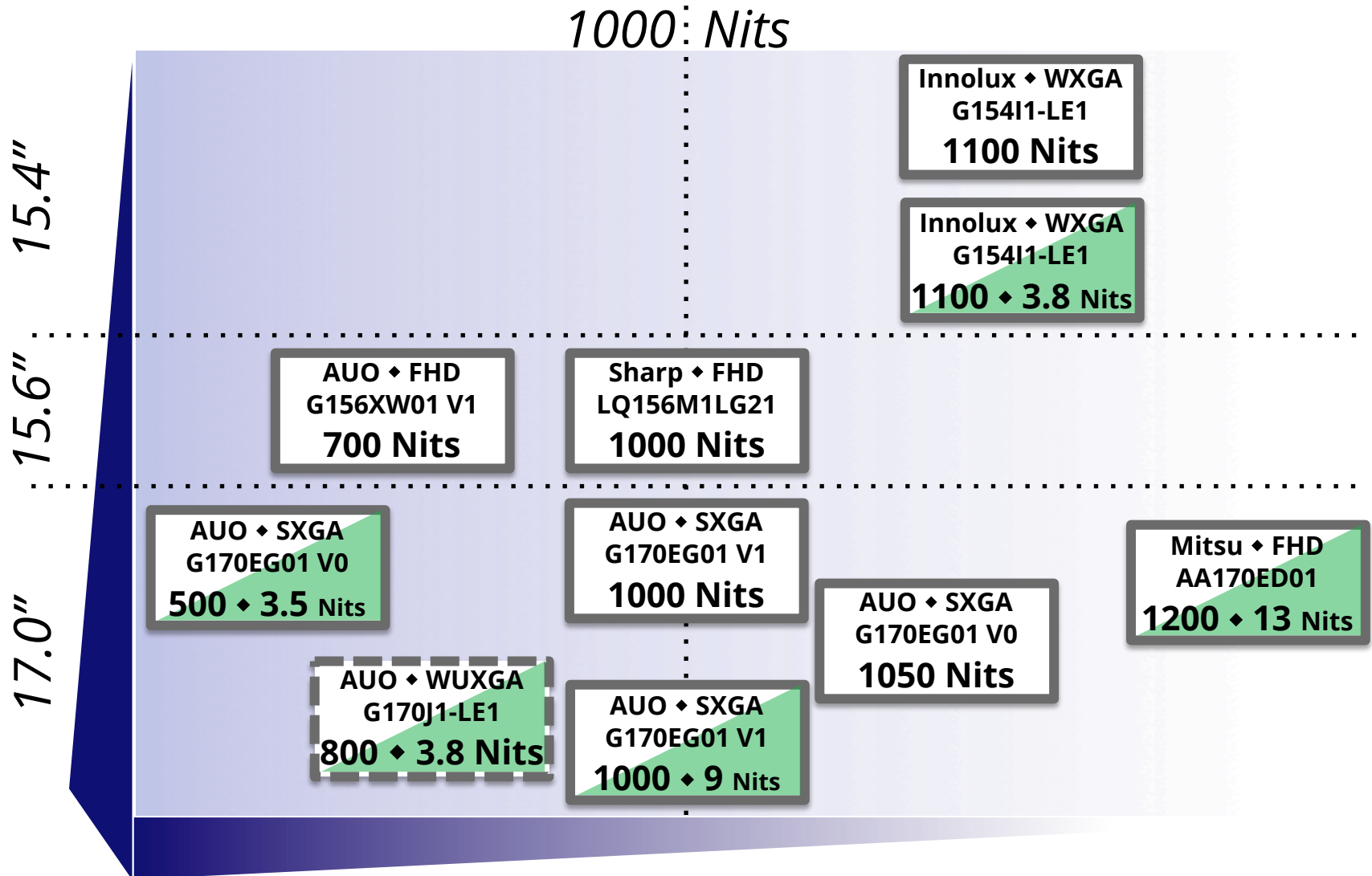
NLT ♦ XGA
NL10276BC20-18
1250 Nits

Innolux ♦ XGA
G104X1-L04
1000 Nits

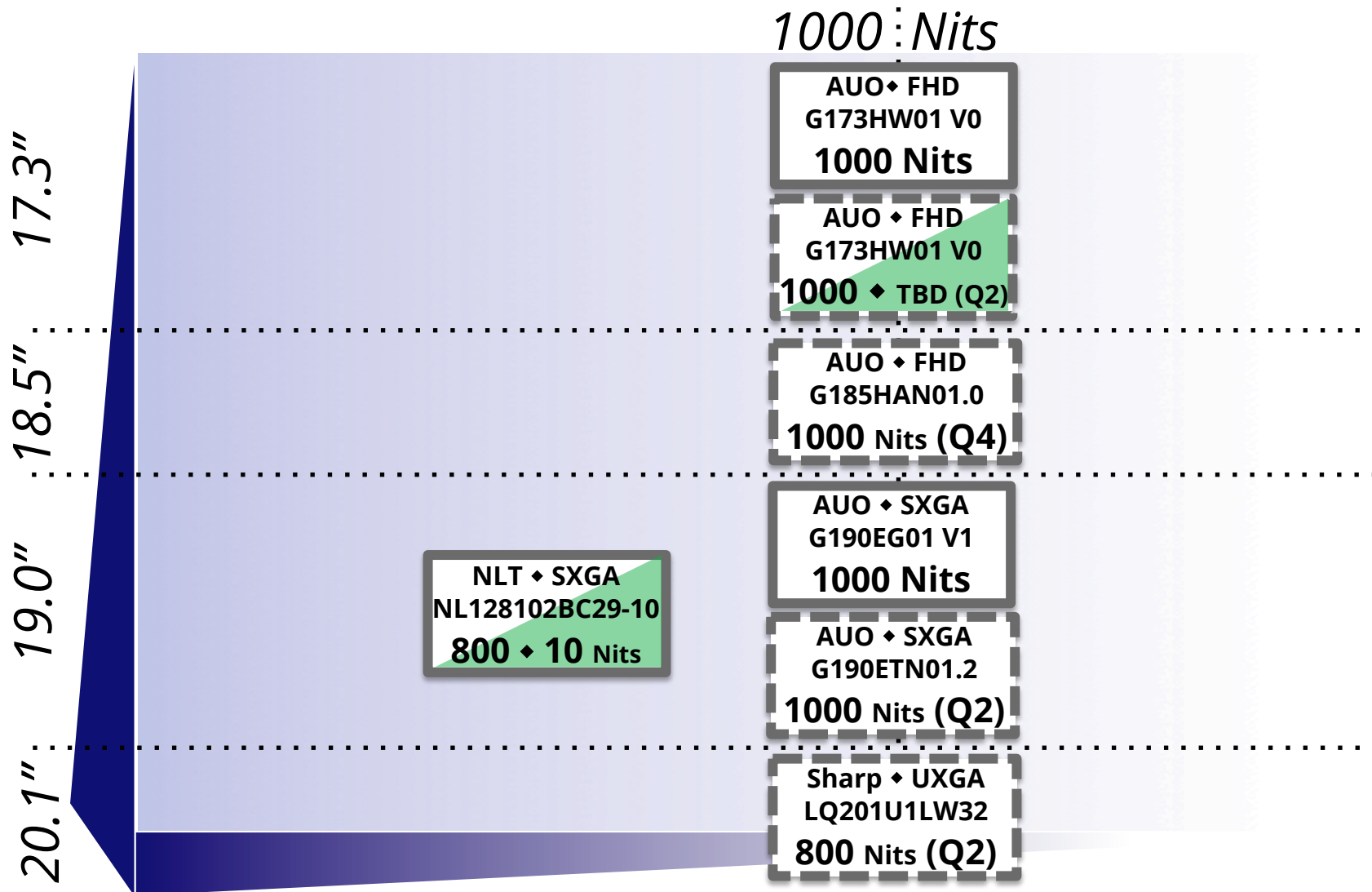
12.1 - 15" Displays



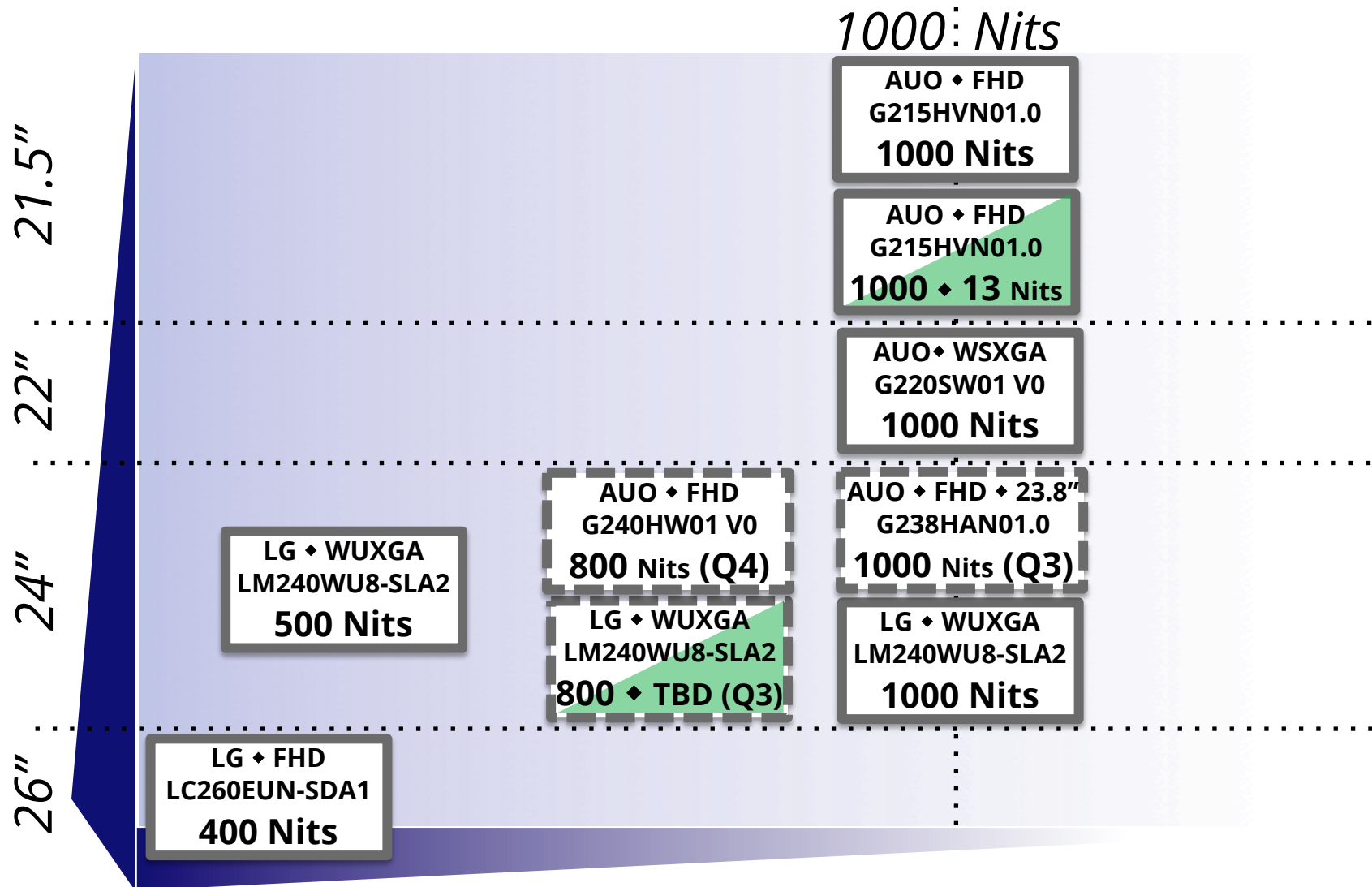
15.4 – 17" Displays



17.3 - 20.1" Displays



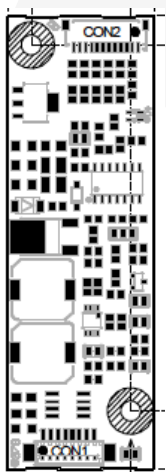
21.5 - 26" Displays



CONTACT US

NEW! NLT Drop-in from Applied Concepts

The **ACI-N035300-2675** is designed to mirror the same form, fit, and function as the stock NLT driver for over 50 stock NLT displays! See the chart below for details:



(Image not to scale)

Size	Resolution	TIANMA NLT Display P/Ns	Stock Driver P/N
6.5"	VGA	NL6448BC20-30, -30C, 30D, 30F	104PW03F
		NL6448BC20-35, -35D	65PW01F
		NL6448BC20-35C -35F	104PW03F
7.0"	WVGA	NL8048BC19-11D	104PW01F
	XGA	NL10276BC16-06, -06D	104PW03F
8.4"	VGA	NL6448BC26-26, -26C, 26D, 26F	104PW03F
		NL6448BC26-27, -27C, 27D, 27F	104PW03F
	SVGA	NL8060BC21-11, -11C, 11D, 11F	104PW03F
9.0"	WVGA	NL8048BC24-09, -09D	104PW03F
		NL8048BC24-12, -12D	104PW03F
		NL6448BC33-70, -70D	104PW03F
10.4"	VGA	NL6448BC33-70C, -70F	104PW01F
		NL6448BC33-71, -71D	104PW03F
		NL6448BC33-71C, -71F	104PW01F
	SVGA	NL8060BC26-35, -35D	104PW03F
		NL8060BC26-35C, -35F	104PW01F
		NL10276BC20-18C, -18F	104PW03F
12.1"	SVGA	NL8060BC31-46	121PW02F
		NL8060BC31-47, -47D	121PW02F
		NL8060BC31-50F	104PW03F
	XGA	NL8060BC31-51C	104PW03F
		NL10276BC24-21, -21BD, 21L	104PW03F
		NL12880BC20-05, -05BA, BA, BD, ND	104PW03F
15.0"	XGA	NL10276BC30-34D, -34R	150PW02F
		NL10276BC30-39	150PW02F

- **48 hour lead time** for orders of **up to 100 pcs**, compared to 12+ weeks for the stock NLT driver
- **Customized functionality, dimming, dual-modes**, and other features available upon request
- Visit our website, www.acipower.com to learn more!

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