

23.8" FULL HD DUAL MODE (DAY & NVIS) ENHANCED LED BACKLIT DISPLAY SOLUTION

Sunlight Readability/MIL-STD-3009 NVIS White Operation/Very Wide Range Dimming

GENERAL DESCRIPTION

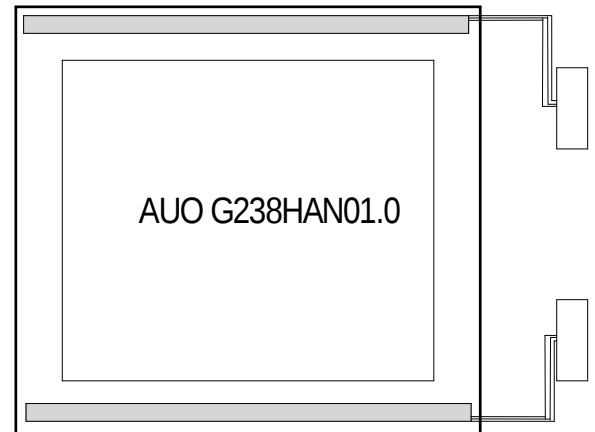
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The ACD-2787 consists of the AUO G238HAN01.0 23.8" Full HD TFT display, modified with a high performance LED backlight capable of Day and NVIS White Operation.

Performance at given luminance levels

750 cd/m² with 70.5 watts LED power (Day)
5.5 cd/m² with 15.1watts LED power (NVIS)

The "NVIS White" enhancement portion of this display solution, is intended to be capable of compliance per MIL-STD-3009 for Electronic and electro-optical displays (multi-color), Type 1, Class A or Class B. Other post enhancements placed in front of the LCD glass, can have an affect on the final Luminance & Chromaticity results.



LCD PANEL HIGHLIGHTS

23.8" TFT Active Matrix Color
527.04mm(H) x 296.46mm(V) viewable area
533.20mm(W) x 312.00mm(H) x 10.50mm(D) physical size
Full HD 1920 x 1080 pixels, 16.7M colors
1000:1 typical contrast ratio
Display Mode, Normally Black

For complete LCD specification (standard panel), refer to the datasheet AUO G238HAN01.0

LED BACKLIGHT FEATURES

Day and NVIS LED edge-light rails
Three wire connection (Typically 11 inches long) allows simple interconnect with LED driver¹
Projected lifetime > 75,000 hours
Designed to be driven by constant current, selectable dual output LED backlight driver¹

¹ For best power transfer and control, use 2 ACI-ID5 Dual Mode LED Drivers (ACI-2769).

PRODUCT DATA SHEET

MAXIMUM RATINGS*

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Symbol	Parameter	Value	Unit
Top ¹	Operating temperature of display (center of panel surface)	0 to +50	Deg-C
Tled	Operating temperature of LED edge light (light rail contact)	-30 to +85	Deg-C
Tstg ¹	Display storage temperature	-20 to +60	Deg-C
IfwdD	LED forward current (Day)	100	mA
IfwdN	LED forward current (NVIS)	36	mA

*Maximum Ratings are those values beyond which damage may occur

¹Per Manufacturer's Specification

PANEL/BACKLIGHT OPTICAL CHARACTERISTICS

Ifwd(Day) = 83.3mA per bank, 6 banks per rail, 2 rails per display, Ifwd(NVIS) = 30mA per bank, 4 banks per rail, 2 rails per display, LED rails: ACR-2768, Ta = +25 Deg-C moving air (36 CFM), LCD displaying full-white image, minimum 2 hour soak.

Symbol	Parameter	Test Conditions	Min	Typ	Max	Unit
Bpd	Panel Luminance (Day)			750		cd/m ²
Bpn	Panel Luminance (NVIS)			5.5		cd/m ²
u'd	White u' coordinate (DAY)			0.169		-
v'd	White v' coordinate (DAY)			0.460		-
Rd	White radius error (DAY)				0.040	-
u'n	White u' coordinate (NVIS)			0.190		-
v'n	White v' coordinate (NVIS)			0.490		-
Rn	White radius error (NVIS)				0.040	-

LED EDGE-LIGHT ELECTRICAL CHARACTERISTICS

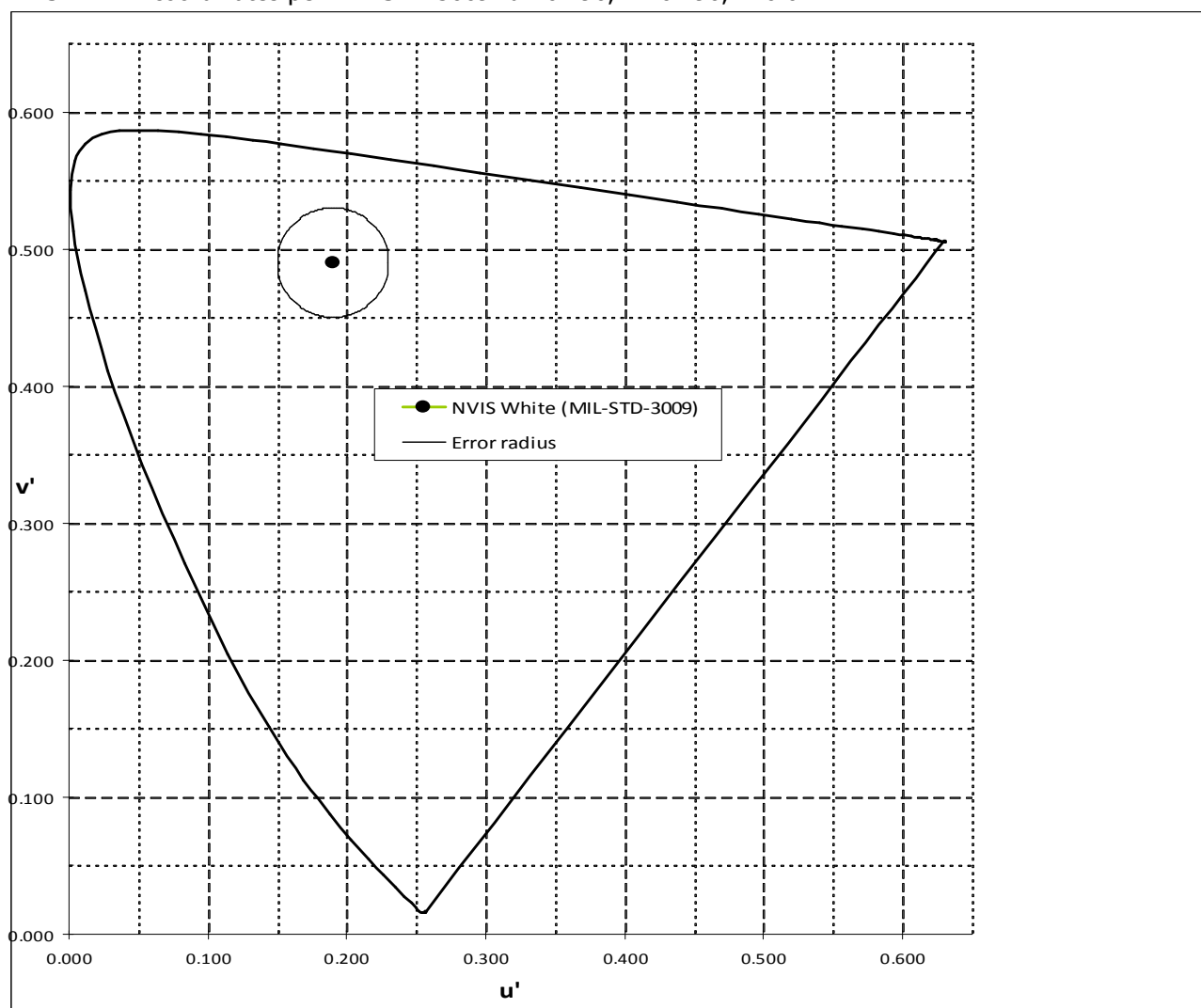
Ifwd(Day) = 83.3mA, Ifwd(NVIS) = 30mA, Top = +25Deg-C

Symbol	Parameter	Test Conditions	Min	Typ	Max	Unit
Vfwd	LED rail forward voltage drop (Day mode)		63.5	70.5	77.5	Vdc
Vfwd	LED rail forward voltage drop (NVIS)		57	63	69	Vdc

CIE 1976 UCS CHROMATICITY DIAGRAM

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NVIS WHITE coordinates per MIL-STD-3009: $u'=0.190$, $v'=0.490$, $r=0.04$

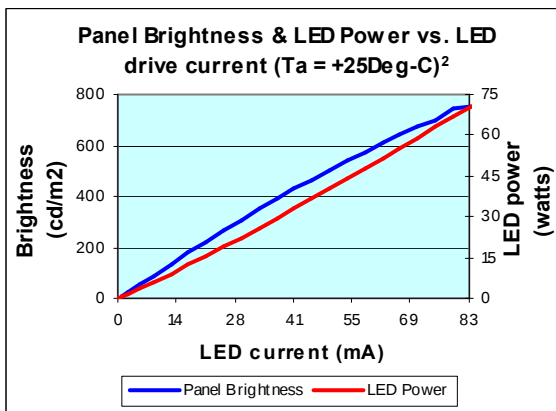


PRODUCT DATA SHEET

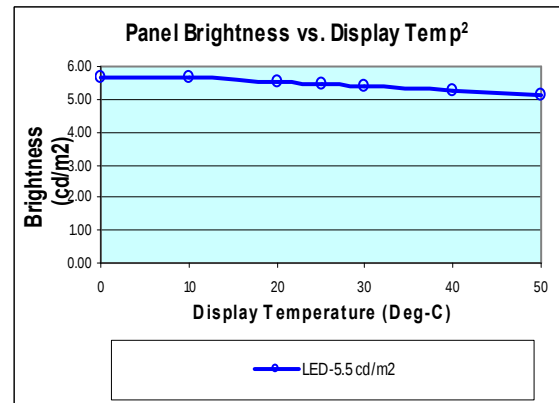
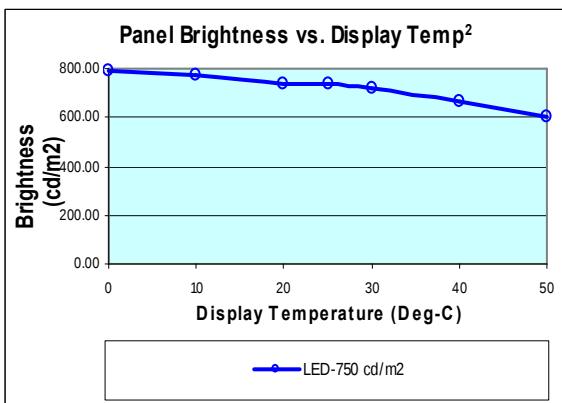
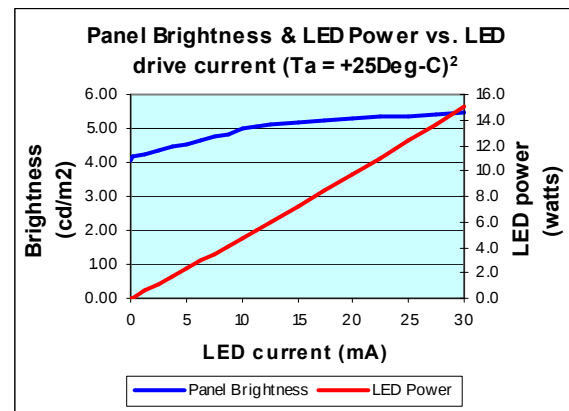
TYPICAL LCD/LED BACKLIGHT PERFORMANCE GRAPHS

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Day



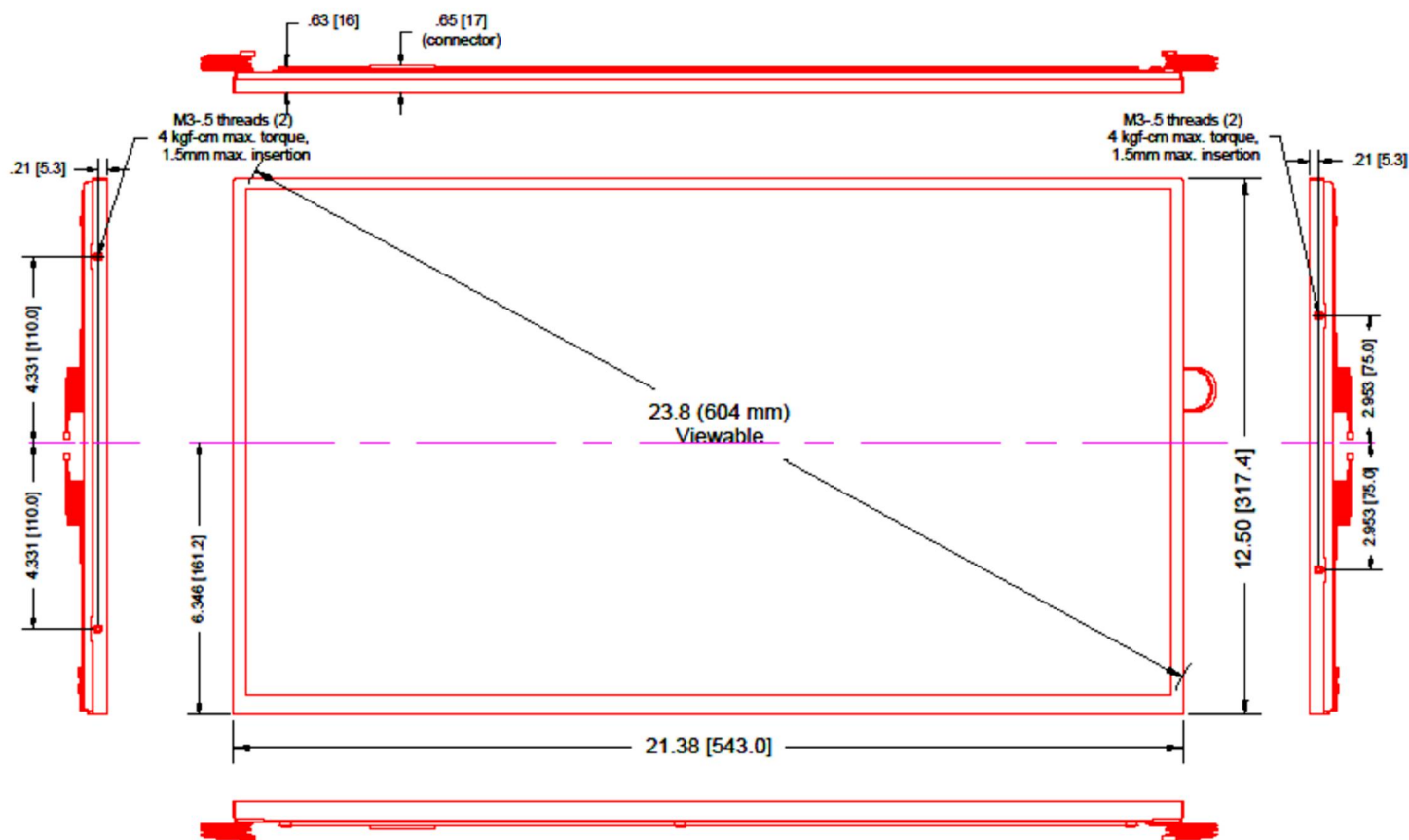
NVIS (TBD)



² Moving air (36.0 CFM)

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MECHANICAL CHARACTERISTICS (FRONT)



ACD-2787

PRODUCT DATA SHEET

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MECHANICAL CHARACTERISTICS (BACK)

