

PRODUCT DATA SHEET

15.6" 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

The ACD-NVIS156-3050 consists of the AUO G156HAN02.1 15.6" FULL HD TFT display, modified with a high performance LED backlight capable of Day and NVIS White Operation.

Performance at given luminance levels

1400 cd/m² with 37.4 watts LED power (Day)
1.71 cd/m² with 2.43 watts LED power (NVIS)

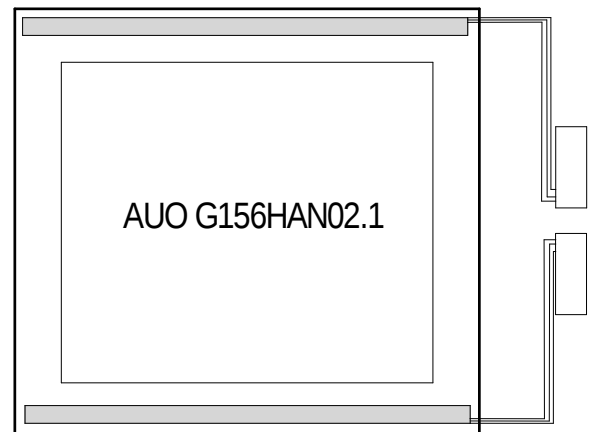
The "NVIS White" enhancement portion of this display solution, is intended to be capable of compliance per MIL-STD-3009 for Electronic and electro-optical displays (multi-color), Type 1, Class A or Class B. Other post enhancements placed in front of the LCD glass, can have an affect on the final Luminance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

LCD PANEL HIGHLIGHTS

15.6" TFT Active Matrix Color
344.16mm(H) x 193.59mm(V) viewable area
363.80mm(W) x 215.90mm(H) x 9.5mm(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 G156HAN02.1

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LED BACKLIGHT FEATURES

Dual Edge Day/NVIS LED rails
Single connector allows simple interconnect with LED driver¹
Projected lifetime > 75,000 hours
Designed to be driven by constant current, selectable dual output LED backlight driver ¹

¹ For best power transfer and control, use ACI-3048/ACI-3049 Dual Mode LED Driver.

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MAXIMUM RATINGS*

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Symbol	Parameter	Value	Unit
Top ¹	Operating temperature of display (center of panel surface)	-20 to +70	Deg-C
Tled	Operating temperature of LED edge light (light rail contact)	-30 to +95	Deg-C
Tstg ¹	Display storage temperature	-20 to +70	Deg-C
IfwdD	LED forward current (Day)	84	mA
IfwdN	LED forward current (NVIS)	18	mA

*Maximum Ratings are those values beyond which damage may occur

¹Per Manufacturer's Specification

PANEL/BACKLIGHT OPTICAL CHARACTERISTICS

Ifwd(Day) = 70mA per bank, 3 banks per rail, 2 rails per display, Ifwd(NVIS) = 15mA per bank, 2 banks per rail, 1 rail per display, LED rails: ACR-3041/ACR-3042, 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)		1260	1400	1540	cd/m ²
Bpn	Panel Luminance (NVIS)			1.71		cd/m ²
u'd	White u' coordinate (DAY)			0.196		-
v'd	White v' coordinate (DAY)			0.476		-
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

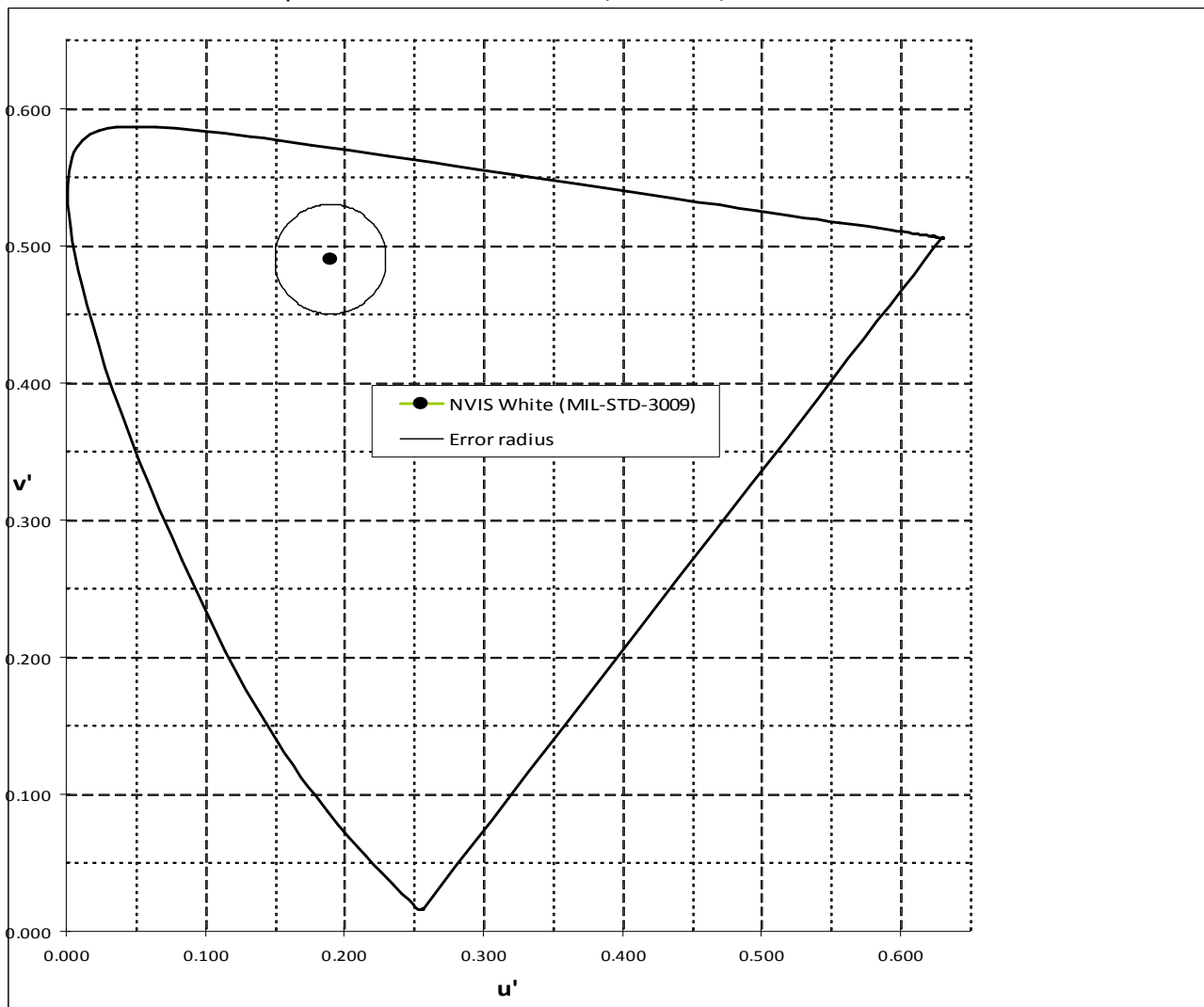
Ifwd(Day) = 70mA, Ifwd(NVIS) = 15mA, Top = +25Deg-C

Symbol	Parameter	Test Conditions	Min	Typ	Max	Unit
Vfwd	LED rail forward voltage drop (Day mode)		80	89	98	Vdc
Vfwd	LED rail forward voltage drop (NVIS)		73	81	89	Vdc

CIE 1976 UCS CHROMATICITY DIAGRAM

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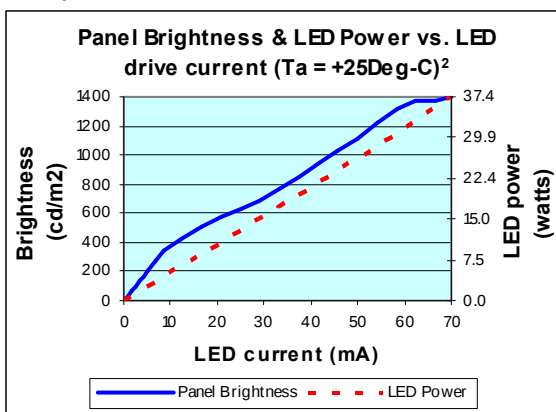
NVIS WHITE coordinates per MIL-STD-3009: $u'=0.190$, $v'=0.490$, $r=0.04$



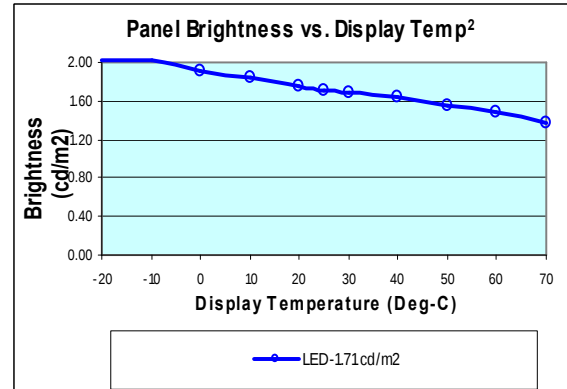
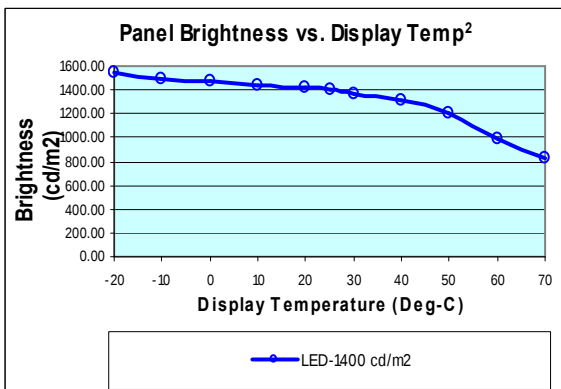
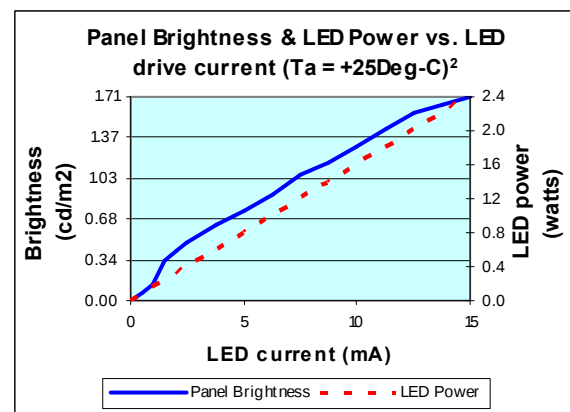
TYPICAL LCD/LED BACKLIGHT PERFORMANCE GRAPHS

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Day



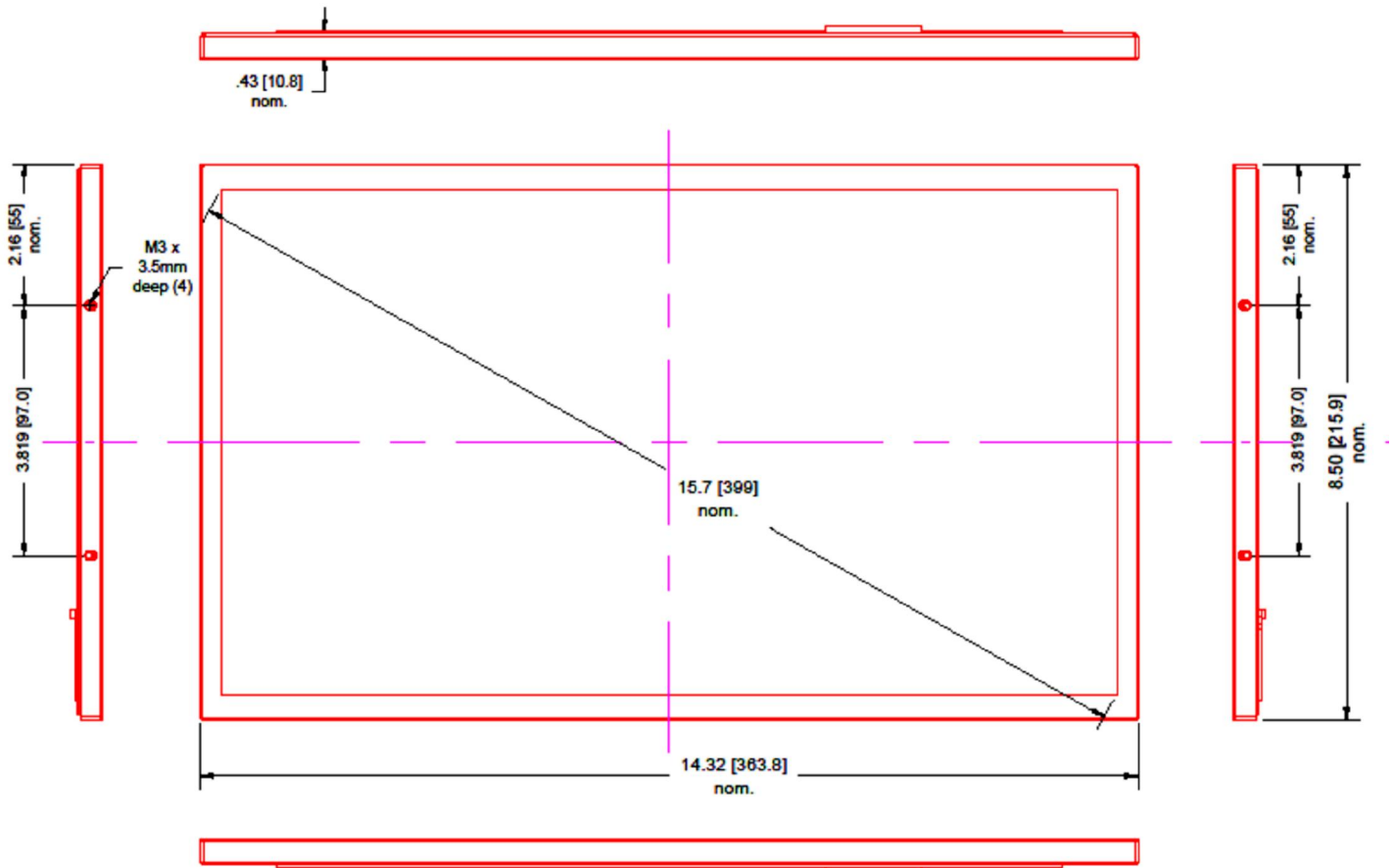
NVIS



² Moving air (36.0 CFM)

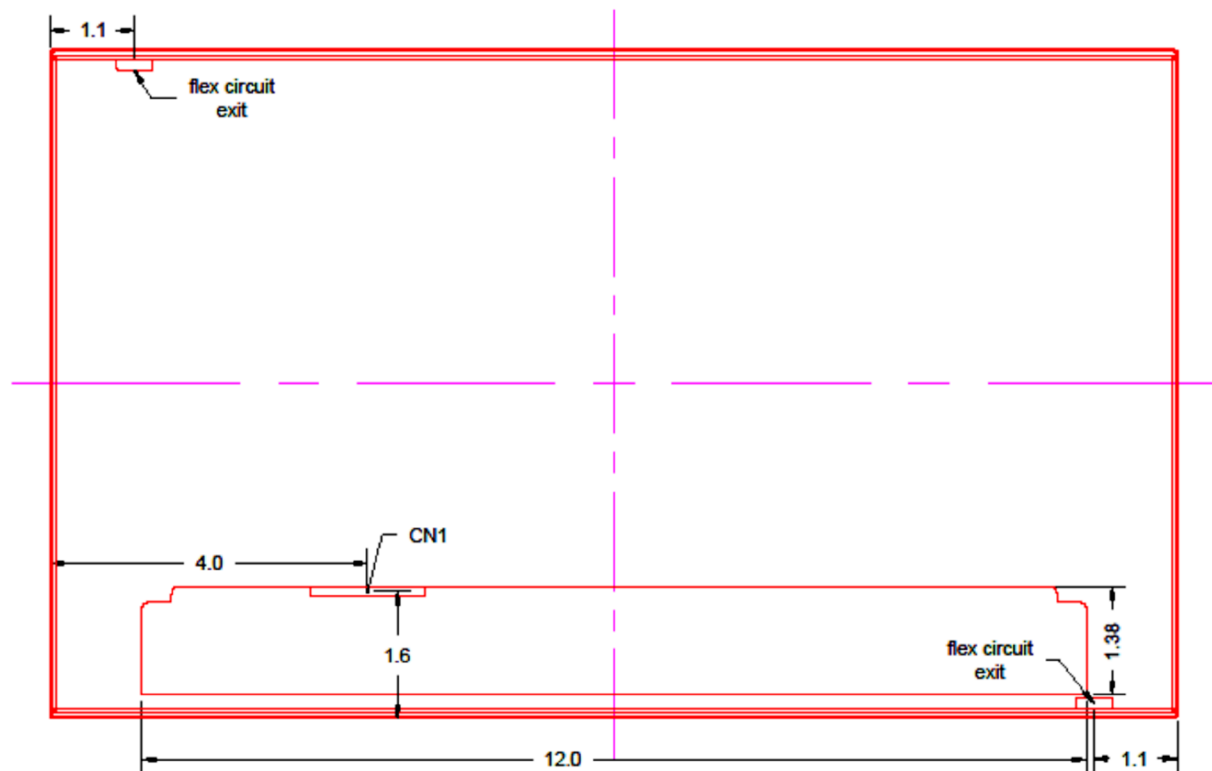
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MECHANICAL CHARACTERISTICS FRONT



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MECHANICAL CHARACTERISTICS BACK

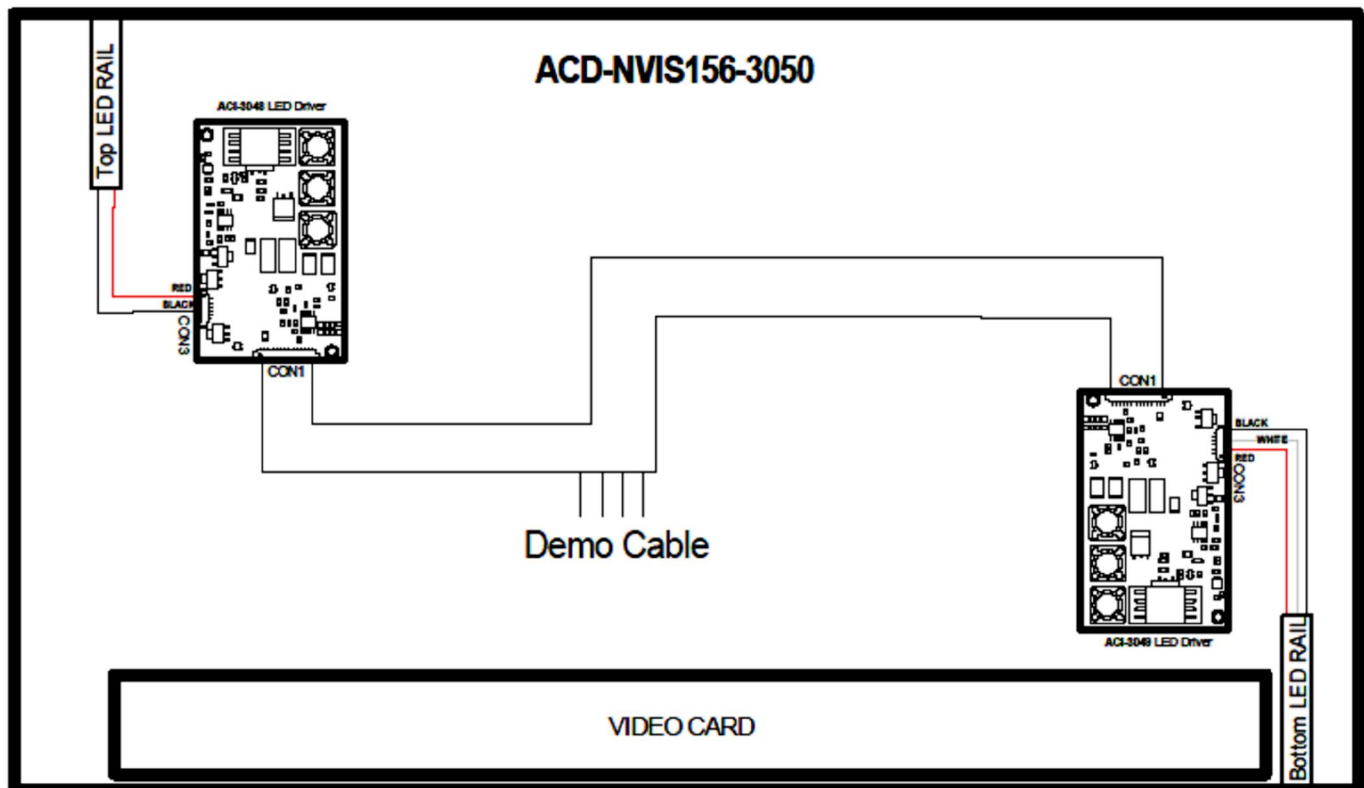


ACD-NVIS156-3050

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DRIVER CONNECTION DIAGRAM



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DEMO CABLE CONNECTION DIAGRAM

