

PRODUCT DATA SHEET

21.3" UXGA DUAL MODE (DAY & NVIS) ENHANCED LED BACKLIT DISPLAY SOLUTION

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

GENERAL DESCRIPTION

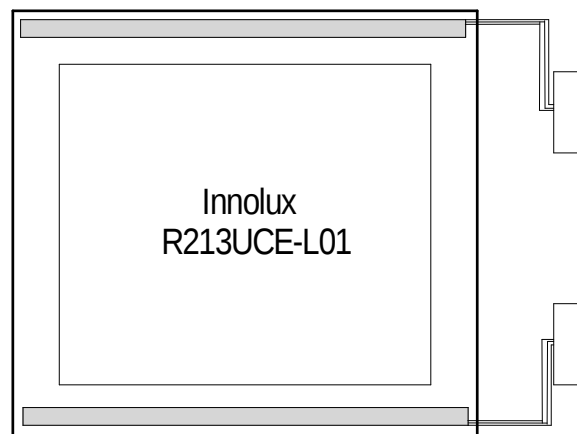
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The ACD-NVIS213-3134 consists of the Innolux R213UCE-L01 21.3" UXGA TFT display, modified with a high performance LED backlight capable of Day and NVIS White Operation.

Performance at given luminance levels

950 cd/m² with 49.8 watts LED power (Day)
1.71 cd/m² with 2.4 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.



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-3140).

LCD PANEL HIGHLIGHTS

21.3" TFT Active Matrix Color

432mm(H) x 324mm(V) viewable area

457mm(W) x 350mm(V) x 21.1mm(D) physical size

UXGA 1600 x 1200 pixels, 16.7M colors

1200:1 typical contrast ratio

Display Mode, Normally Black

For complete LCD specification (standard panel), refer to the datasheet Innolux R213UCE-L01

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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)	90	mA
IfwdN	LED forward current (NVIS)	7.5	mA

*Maximum Ratings are those values beyond which damage may occur

¹Per Manufacturer's Specification

PANEL/BACKLIGHT OPTICAL CHARACTERISTICS

Ifwd(Day) = 75mA per bank, 4 banks per rail, 2 rails per display, Ifwd(NVIS) = 6.25mA per bank, 2 banks per rail, 2 rails per display, LED rails: ACR-3137, 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)		760	950		cd/m ²
Bpn	Panel Luminance (NVIS)		1.37	1.71		cd/m ²
u'd	White u' coordinate (DAY)			0.198		-
v'd	White v' coordinate (DAY)			0.482		-
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

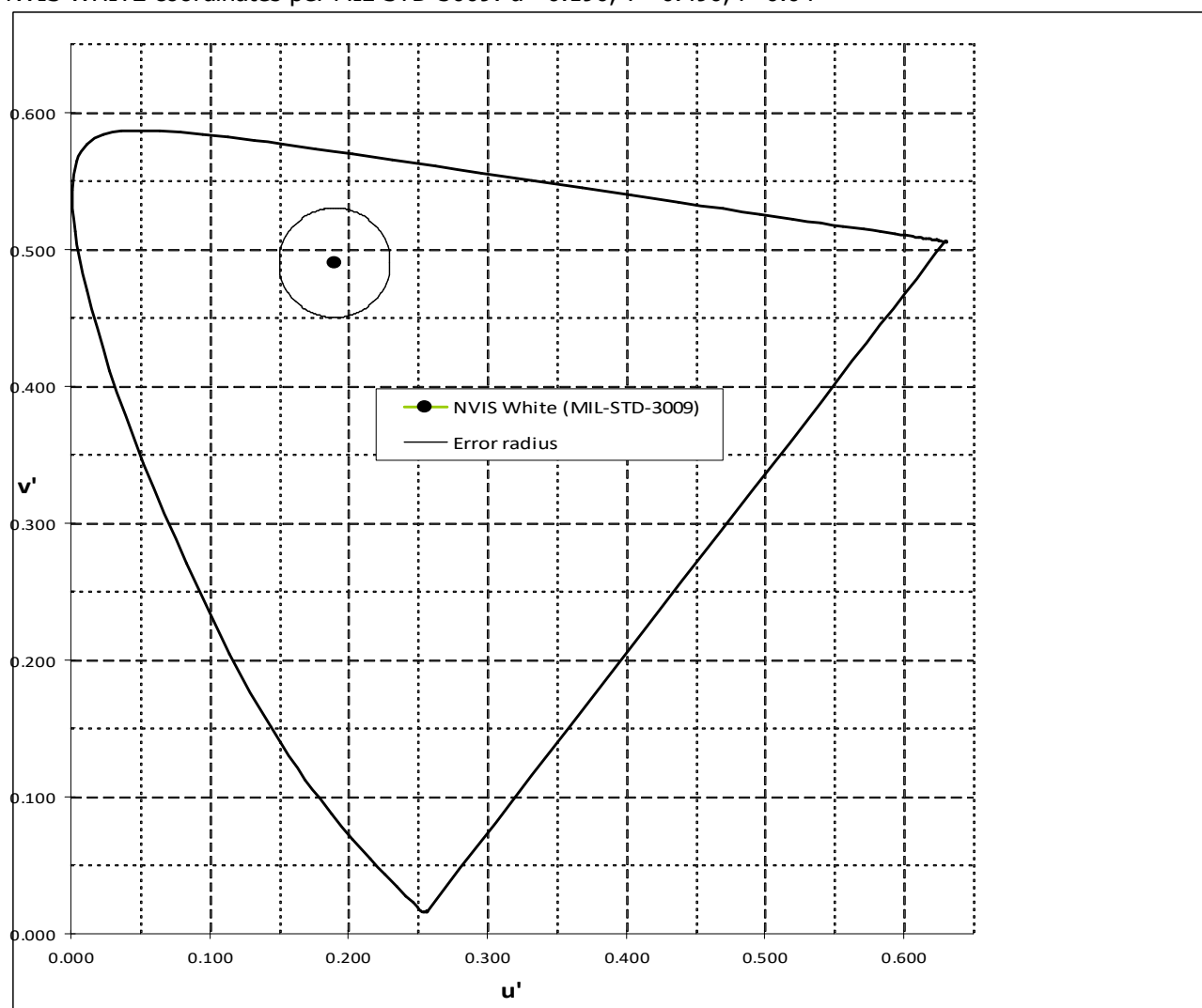
Ifwd(Day) = 75mA, Ifwd(NVIS) = 6.25mA, Top = +25Deg-C

Symbol	Parameter	Test Conditions	Min	Typ	Max	Unit
Vfwd	LED rail forward voltage drop (Day mode)		75	83	91	Vdc
Vfwd	LED rail forward voltage drop (NVIS)		86	95	104	Vdc

CIE 1976 UCS CHROMATICITY DIAGRAM

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

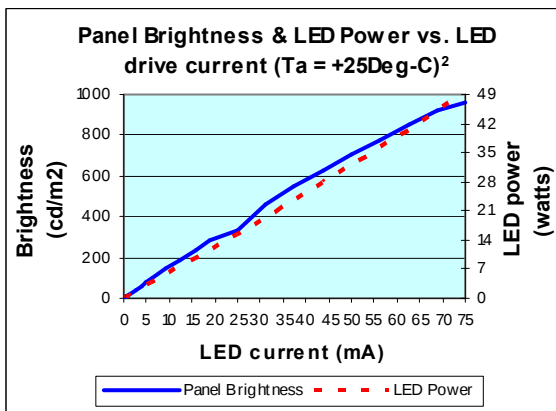


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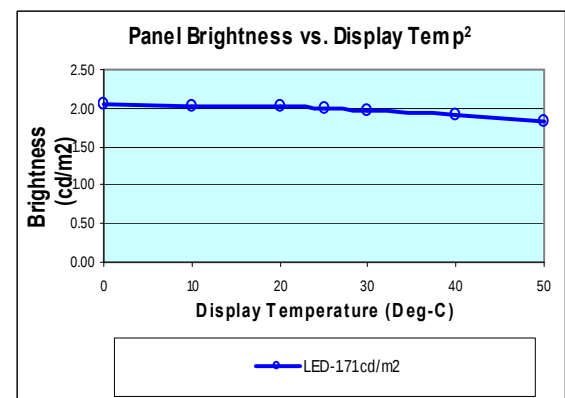
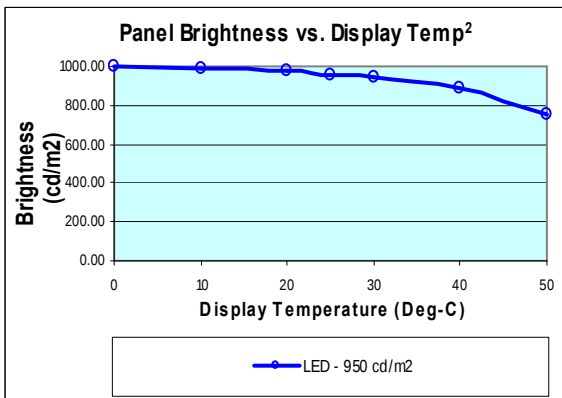
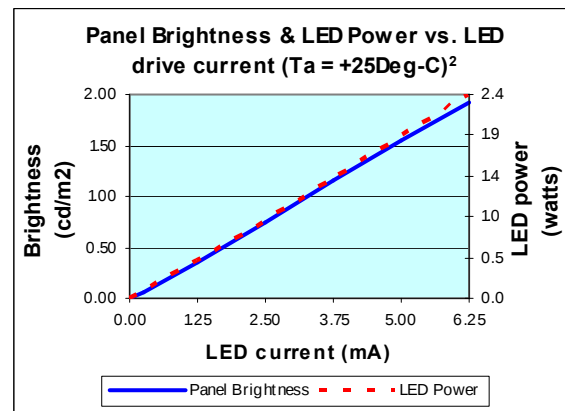
TYPICAL LCD/LED BACKLIGHT PERFORMANCE GRAPHS

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Day



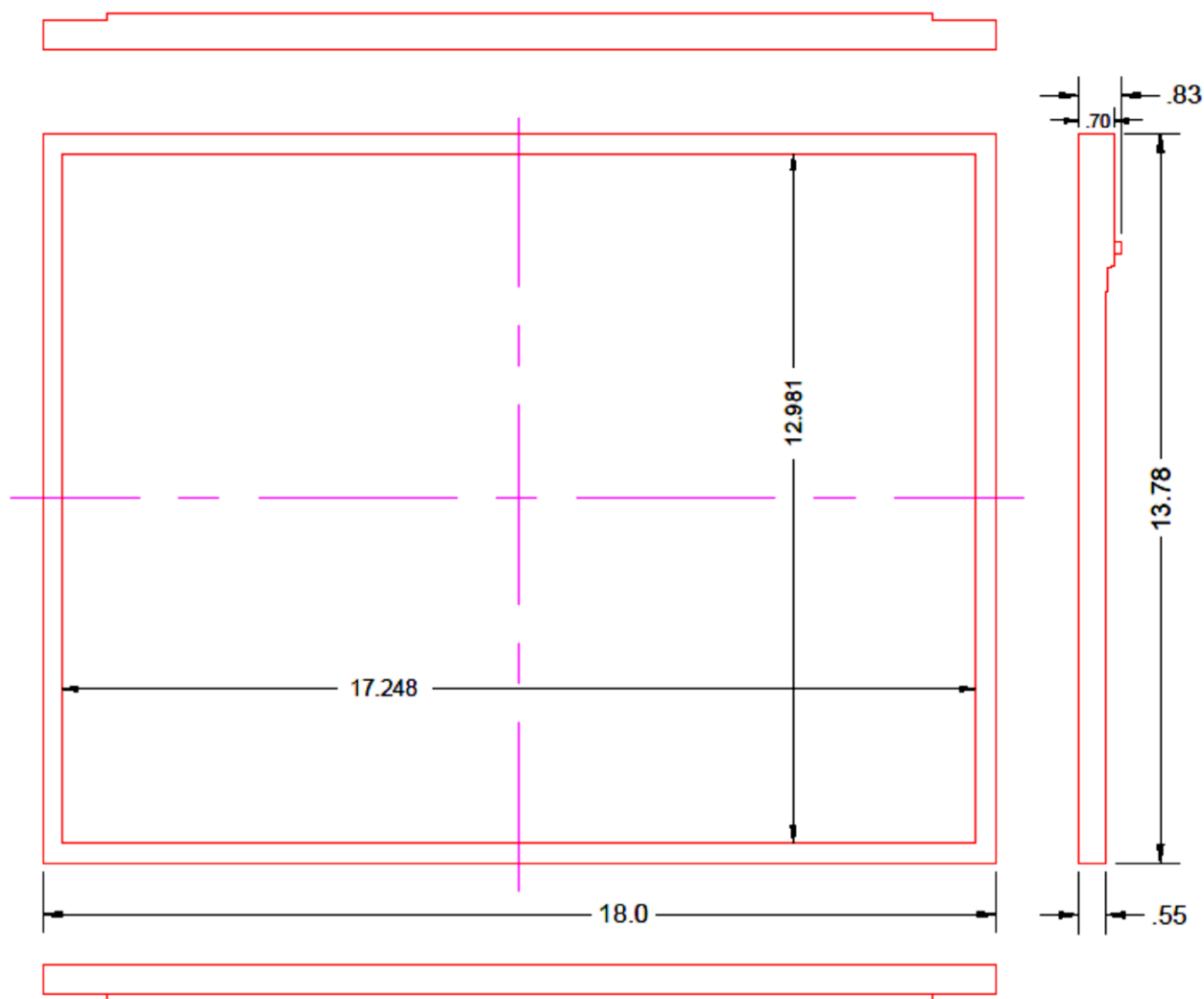
NVIS



² Moving air (36.0 CFM)

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MECHANICAL CHARACTERISTICS (FRONT)



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MECHANICAL CHARACTERISTICS (BACK)

