

PRODUCT DATA SHEET

24" WUXGA DUAL MODE (DAY & NVIS) ENHANCED LED BACKLIT DISPLAY SOLUTION

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

GENERAL DESCRIPTION

The ACD-NVIS240-3005 consists of the LG LM240WUB-SSA1 24" WUXGA TFT display, modified with a high performance LED backlight capable of Day and NVIS White Operation.

Performance at given luminance levels

300 cd/m² with 21.5 watts LED power (Day)
1.71 cd/m² with 0.92 watts LED power (NVIS)

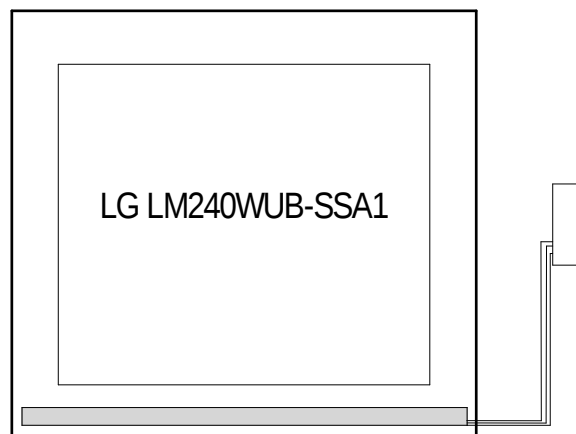
The "NVIS White" enhancement portion of this display solution, is intended to be capable of compliance per MIL-STD-3009 for Electronic and electro-optical displays (multi-color), Type 1, Class A or Class B. Other post enhancements placed in front of the LCD glass, can have an affect on the final Luminance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

LCD PANEL HIGHLIGHTS

24.1" TFT Active Matrix Color
24.1" diagonal viewable area (Aspect ratio 16:10)
528.2mm(W) x 341.2mm(H) x 12.5mm(D) physical size
WUXGA 1920 x 1200 pixels, 16.78M colors
1000:1 typical contrast ratio
Display Mode, Normally Black

For complete LCD specification (standard panel), refer to the datasheet LG LM240WUB-SSA1

5/05/2020



LED BACKLIGHT FEATURES

Single Edge Dual Mode DAY/NVIS Rail
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-3006 Dual Mode LED Driver.

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MAXIMUM RATINGS*

5/05/2020

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 +95	Deg-C
Tstg ¹	Display storage temperature	-20 to +60	Deg-C
IfwdD	LED forward current (Day)	99	mA
IfwdN	LED forward current (NVIS)	9	mA

*Maximum Ratings are those values beyond which damage may occur

¹Per Manufacturer's Specification

PANEL/BACKLIGHT OPTICAL CHARACTERISTICS

Ifwd(Day) = 82.5mA per bank, 4 banks per rail, 1 rail per display, Ifwd(NVIS) = 7.5mA per bank, 2 banks per rail, 1 rail per display, LED rail: ACR-2999, 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)		270	300	330	cd/m ²
Bpn	Panel Luminance (NVIS)			1.71		cd/m ²
u'd	White u' coordinate (DAY)			0.210		-
v'd	White v' coordinate (DAY)			0.490		-
Rd	White radius error (DAY)				0.40	-
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

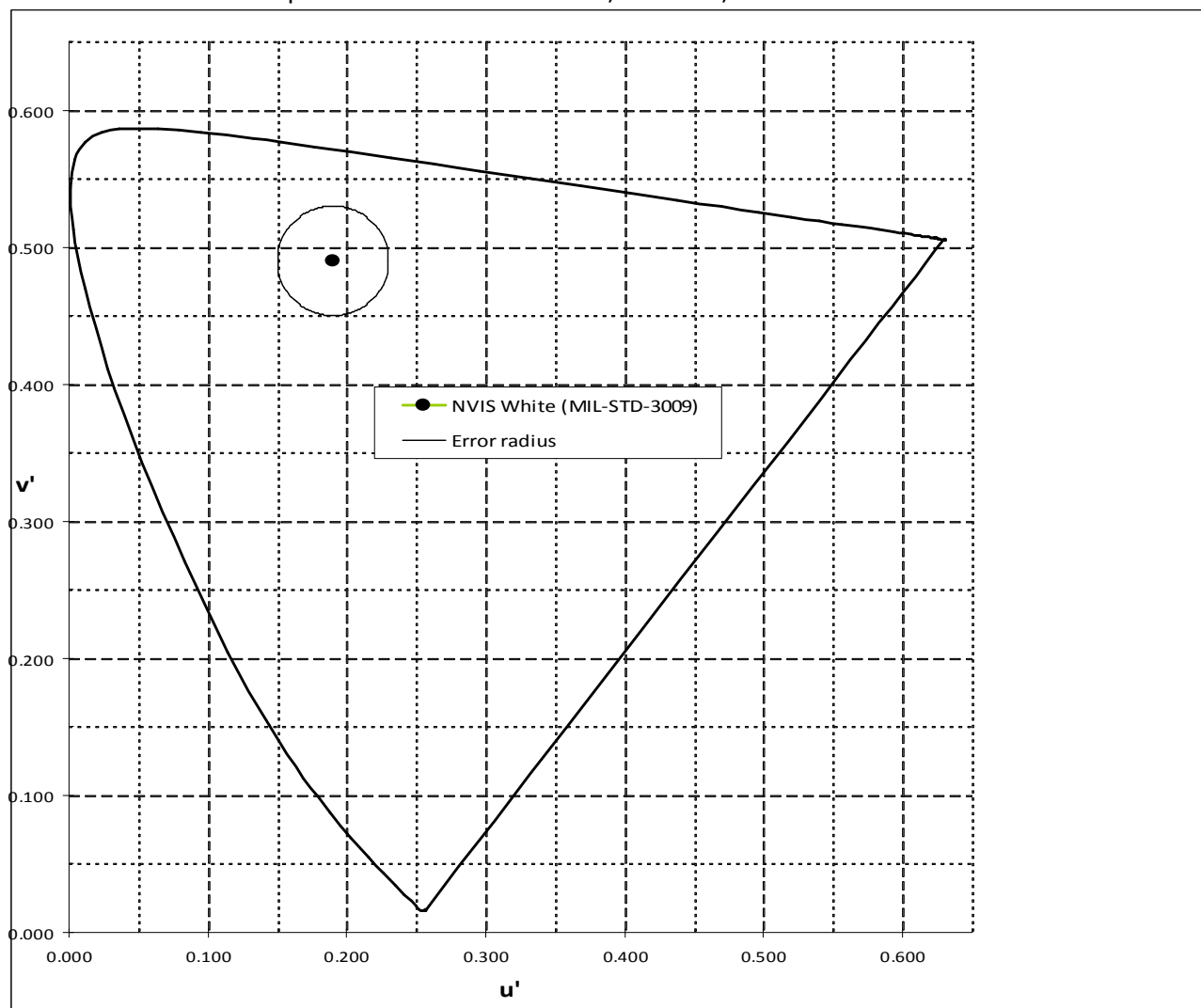
Ifwd(Day) = 82.5mA, Ifwd(NVIS) = 7.5mA, Top = +25Deg-C

Symbol	Parameter	Test Conditions	Min	Typ	Max	Unit
Vfwd	LED rail forward voltage drop (Day mode)		58	65	72	Vdc
Vfwd	LED rail forward voltage drop (NVIS)		55	61	67	Vdc

CIE 1976 UCS CHROMATICITY DIAGRAM

5/05/2020

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

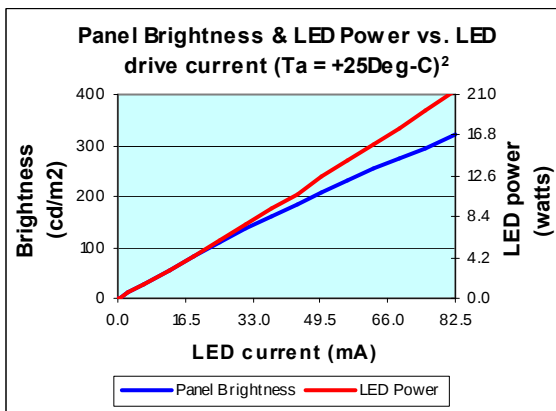


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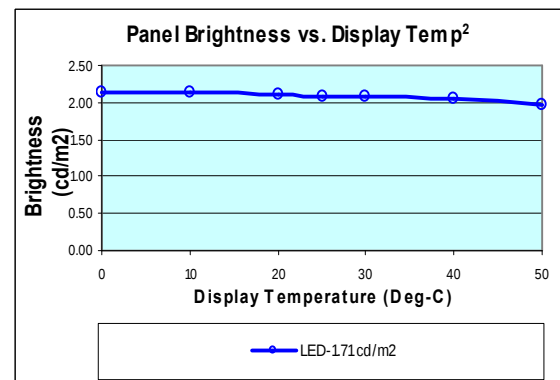
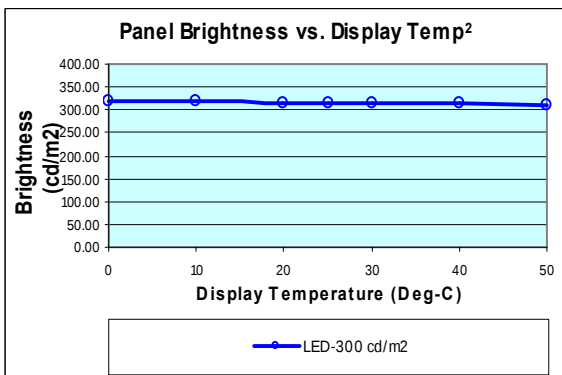
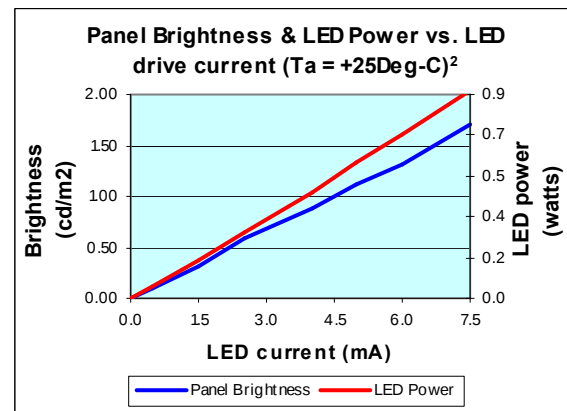
TYPICAL LCD/LED BACKLIGHT PERFORMANCE GRAPHS

5/05/2020

Day



NVIS



² Moving air (36.0 CFM)