



LOPH3200W01 32" High Bright LCD Module for Signage Applications



LOPH3200W01 is a 32" sunlight readable LCD module specifically designed for digital signage applications. The module contains a set of Landmark inverters to run the super bright backlight. At the full brightness setting, the screen luminance can reach 1,150 nits, more than twice the brightness of standard 32" LCD TVs.

The LOPH3200W01 has 1366 x 768 native resolution. At 1,150 nits brightness, the image on the screen matches the superb quality of traditional advertising signs that use light boxes behind color transparencies. In addition, the color of the white is balanced closely to those of a traditional backlit sign.

One of the inverters, BI520, provides the 12V required to run the LCD controller and the LCD. In addition, it has a temperature sensor to provide a 12V output for operating or triggering thermal management devices

General Features

Outline dimensions (mm)	760 (W) x 450 (H) x 47 (D)	Color depth	8 bit, 16.7 M colors
Active area dimensions	31.51" (800.4 mm)	Viewing angle	178 deg. Horizontal & Vertical
Resolution	1366 x 768 (WXGA)	Operating mode	Transmissive, normally black
Screen aspect ratio	16 : 9	Surface treatment	Hard coating (3H) anti-glare
Screen Brightness	1,150 nits	Power requirement	24V @ 7A (170W)
LCD Contrast Ratio	750:1	Module weight	6,300 grams

Optical Characteristics (notes 1, 2)

Parameters	Typical Value	Units	Conditions
LCD Screen Luminance	1,150	Cd/m ²	LCD displays the brightest White
Luminance Uniformity	20% or better		Note 3
Backlight Power Consumption	135	Watts	Excluding inverter losses
Screen Luminance Dimming Ratio	20:1		With BI520 / BI522 inverter set
Typical LCD Contrast Ratio	750:1		White vs. Black (measured in the dark along the normal direction)
Typical Viewing Angles			
3:00 direction	> 85	Degrees	Contrast ratio ≥ 10
9:00 direction	> 85	Degrees	Contrast ratio ≥ 10
6:00 direction	> 85	Degrees	Contrast ratio ≥ 10
12:00 direction	> 85	Degrees	Contrast ratio ≥ 10
LCD Screen Chromaticity (x, y)			
White	(0.320, 0.358)		Measured at the normal direction
Red	(0.634, 0.352)		Measured at the normal direction
Green	(0.275, 0.626)		Measured at the normal direction
Blue	(0.142, 0.073)		Measured at the normal direction
Response Speed			
Rise time	8	msec	Gray to Gray, 10% - 90% transition
Fall time	10	msec	Gray to Gray, 90% - 10% transition

Note 1: Please refer to LG LC320W01-SL01 LCD Specification for detailed electrical specifications and general precautions.

Note 2: All data is measured at 25°C ± 2°C ambient temperature.

Note 3: Uniformity = (L max - L min) / (L max + L min) where L max (L min) is the maximum (minimum) luminance measured using a 10 mm diameter meter aperture over the LCD active area, except the last 10 mm area from the edges.

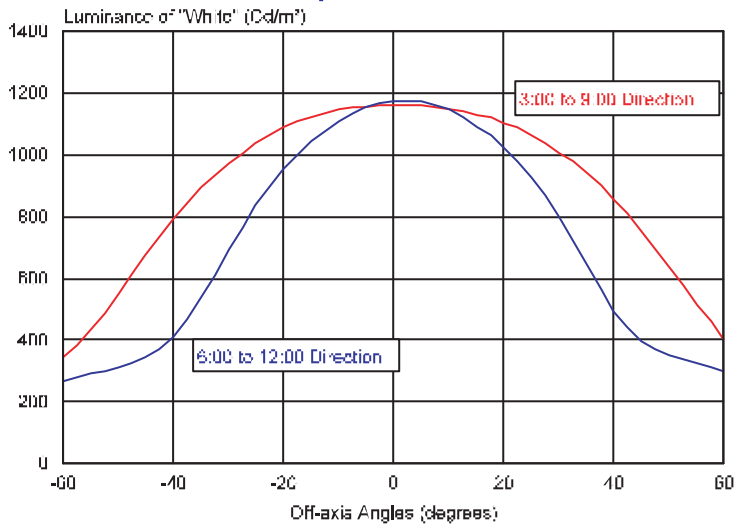
LCD Module Optical Performances

Luminance & Contrast Ratio

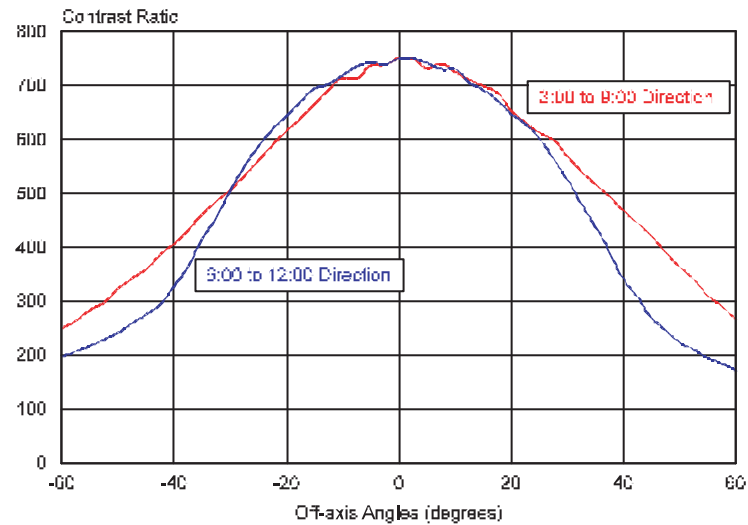
The typical LOPH3200W01 LCD module screen luminance and contrast ratio are shown in the figures on the next page. Since this module is a wide viewing angle, normally "black" display, the screen luminance is measured with the LCD driven to the brightest "White" color. Therefore, the measured screen luminance may depend on the graphics card, the LCD controller and its OSD settings. When the LCD is properly driven, the measured luminance of the brightest "White" should be within 10% from the specified value.

At the optimal viewing directions, the LOPH3200W01 LCD module has a very high contrast ratio (CR), about 750:1. This is the inherent CR, which is the luminance ratio between the "White" and the "Black" states measured in a dark room. Under ambient lighting, particularly in bright outdoor environments, the CR value of the display drops significantly due to the reflection and glare caused by the strong ambient illumination at the front surface of the display.

LOPH3200W01 LCD Screen Luminance Angular Distribution



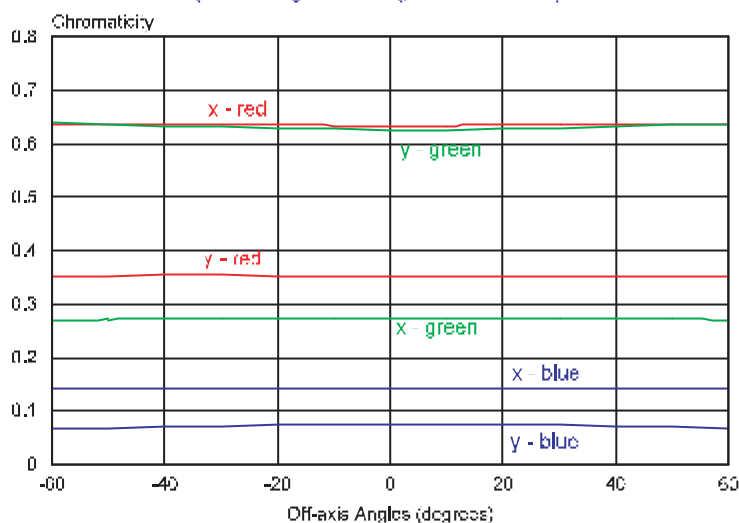
LOPH3200W01 LCD Contrast Ratio Angular Distribution



Chromaticity

LM178-320W01 is an LCD module that has a very wide viewing angle with virtually no color shifts. The figures below present the chromaticity (x, y) data of the R, G, B primary colors displayed on the screen. As the viewing direction moves toward off-axis angles, there is no color shifts all the way to ±60 degrees.

LOPH3200W01 Color Shift along the 3:00 - 9:00 Directions (Positive Angles are along the 3:00 Direction)



LOPH3200W01 Color Shift along the 6:00 - 12:00 Directions (Positive Angles are along the 6:00 Direction)

