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Global Quantum Dot Diffuser for LCD Displays Market 2026 by Manufacturers, Regions, Type and Application, Forecast to 2032

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Abstracts

According to our (Global Info Research) latest study, the global Quantum Dot Diffuser for LCD Displays market size was valued at US$ 360 million in 2025 and is forecast to a readjusted size of US$ 516 million by 2032 with a CAGR of 5.1% during review period.

Quantum Dot Diffuser for LCD Displays is a functional optical plate used in LCD backlight modules, typically integrating quantum dot materials with diffusion resin, substrates, or multilayer optical structures. Under blue LED backlight excitation, it converts part of the blue light into high-purity red and green light while also diffusing and homogenizing the light output. Compared with conventional diffuser plates, it helps improve color gamut, brightness performance, and color reproduction, and is mainly used in high-color-gamut LCD TVs, monitors, laptops, automotive displays, and professional display devices. In 2025, global Quantum Dot Diffuser for LCD Displays production reached approximately 5385 k Units, with an average global market price of around 65 USD/Unit,.The production capacity for Quantum Dot Diffuser for LCD Displays in 2025 was approximately 6000 k Units. The typical gross profit margin for Quantum Dot Diffuser for LCD Displays between 20% and 40%.

The market for Quantum Dot Diffusers for LCD Displays is driven by rising demand for wide-color-gamut LCD panels, upgrades in Mini LED backlighting, increasing competition in TV and monitor image quality, and growing adoption in automotive and professional displays. As panel makers and display brands continue to improve color gamut coverage, brightness, and visual uniformity, quantum dot diffusers are becoming an important color-enhancement component in LCD backlight modules, expanding from premium TVs into gaming monitors, laptops, automotive center displays, and commercial displays. However, the market also faces challenges such as quantum dot

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material cost, encapsulation stability, blue-light conversion efficiency, environmental regulations, and competition from OLED, QD-OLED, and direct-view Mini LED technologies. Overall, future development is expected to focus on higher stability, low-cadmium or cadmium-free quantum dots, thinner structures, and deeper integration with Mini LED backlight systems.

This report is a detailed and comprehensive analysis for global Quantum Dot Diffuser for LCD Displays market. Both quantitative and qualitative analyses are presented by manufacturers, by region & country, by Type and by Application. As the market is constantly changing, this report explores the competition, supply and demand trends, as well as key factors that contribute to its changing demands across many markets. Company profiles and product examples of selected competitors, along with market share estimates of some of the selected leaders for the year 2025, are provided.

Key Features:

Global Quantum Dot Diffuser for LCD Displays market size and forecasts, in consumption value ($ Million), sales quantity (K Units), and average selling prices (US$/Unit), 2021-2032

Global Quantum Dot Diffuser for LCD Displays market size and forecasts by region and country, in consumption value ($ Million), sales quantity (K Units), and average selling prices (US$/Unit), 2021-2032

Global Quantum Dot Diffuser for LCD Displays market size and forecasts, by Type and by Application, in consumption value ($ Million), sales quantity (K Units), and average selling prices (US$/Unit), 2021-2032

Global Quantum Dot Diffuser for LCD Displays market shares of main players, shipments in revenue ($ Million), sales quantity (K Units), and ASP (US$/Unit), 2021-2026

The Primary Objectives in This Report Are:

To determine the size of the total market opportunity of global and key countries

To assess the growth potential for Quantum Dot Diffuser for LCD Displays

To forecast future growth in each product and end-use market

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To assess competitive factors affecting the marketplace

This report profiles key players in the global Quantum Dot Diffuser for LCD Displays market based on the following parameters - company overview, sales quantity, revenue, price, gross margin, product portfolio, geographical presence, and key developments. Key companies covered as a part of this study include Nanosys, Najing Technology, Ningbo Exciton Technology, Zhejiang Xinzhi New Materials, Nantong Changed New Material, Guangna Jiayuan Technology, etc.

This report also provides key insights about market drivers, restraints, opportunities, new product launches or approvals.

Market Segmentation

Quantum Dot Diffuser for LCD Displays market is split by Type and by Application. For the period 2021-2032, the growth among segments provides accurate calculations and forecasts for consumption value by Type, and by Application in terms of volume and value. This analysis can help you expand your business by targeting qualified niche markets.

Market segment by Type

Cadmium-based

Cadmium-free

Market segment by Substrate Material

PC-based

PMMA-based

MS-based

Market segment by Backlight Type

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For LCD Backlight

For Mini LED Backlight

Market segment by Application

Television

Monitor

In-vehicle Display

Other

Major players covered

Nanosys

Najing Technology

Ningbo Exciton Technology

Zhejiang Xinzhi New Materials

Nantong Changed New Material

Guangna Jiayuan Technology

Market segment by region, regional analysis covers

North America (United States, Canada, and Mexico)

Europe (Germany, France, United Kingdom, Russia, Italy, and Rest of Europe)

Asia-Pacific (China, Japan, Korea, India, Southeast Asia, and Australia)

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South America (Brazil, Argentina, Colombia, and Rest of South America)

Middle East & Africa (Saudi Arabia, UAE, Egypt, South Africa, and Rest of Middle East & Africa)

The content of the study subjects, includes a total of 15 chapters:

Chapter 1, to describe Quantum Dot Diffuser for LCD Displays product scope, market overview, market estimation caveats and base year.

Chapter 2, to profile the top manufacturers of Quantum Dot Diffuser for LCD Displays, with price, sales quantity, revenue, and global market share of Quantum Dot Diffuser for LCD Displays from 2021 to 2026.

Chapter 3, the Quantum Dot Diffuser for LCD Displays competitive situation, sales quantity, revenue, and global market share of top manufacturers are analyzed emphatically by landscape contrast.

Chapter 4, the Quantum Dot Diffuser for LCD Displays breakdown data are shown at the regional level, to show the sales quantity, consumption value, and growth by regions, from 2021 to 2032.

Chapter 5 and 6, to segment the sales by Type and by Application, with sales market share and growth rate by Type, by Application, from 2021 to 2032.

Chapter 7, 8, 9, 10 and 11, to break the sales data at the country level, with sales quantity, consumption value, and market share for key countries in the world, from 2021 to 2026.and Quantum Dot Diffuser for LCD Displays market forecast, by regions, by Type, and by Application, with sales and revenue, from 2027 to 2032.

Chapter 12, market dynamics, drivers, restraints, trends, and Porters Five Forces analysis.

Chapter 13, the key raw materials and key suppliers, and industry chain of Quantum Dot Diffuser for LCD Displays.

Chapter 14 and 15, to describe Quantum Dot Diffuser for LCD Displays sales

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channel, distributors, customers, research findings and conclusion.

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