

LED Packaging Market by Package Type (SMD, COB, CSP), Power Range (Low-&Mid-Power LED Packages, High-Power LED Packages), Wavelength (Visible & Infrared, Deep UV), Packaging Component (Equipment, Material), Application & Region - Global Forecast to 2029

<https://marketpublishers.com/r/LFD063A5C5DEN.html>

Date: February 2024

Pages: 219

Price: US\$ 4,950.00 (Single User License)

ID: LFD063A5C5DEN

Abstracts

The LED packaging market is projected to reach USD 19.4 billion by 2029 from USD 16.0 billion in 2024, at a CAGR of 3.9% from 2024 to 2029. The major factors driving the growth of LED packaging market includes the rising adoption of UV LED-based disinfection systems, increasing demand for smart lighting solutions, and rising adoption of LEDs in automotive lighting solutions which is expected to provide several growth opportunities for market players in the LED packaging market.

Testing Equipment is expected to have the largest market size in the LED packaging market during the forecast period

Testing equipment includes test equipment for electricity, optics, and electrostatic discharge (ESD) tests. LED testing involves evaluating the performance, quality, and safety of LED lighting products that covers luminous efficacy, color characteristics, lifetime and reliability, electrical safety, thermal management, and environmental and energy efficiency. Various companies provide testing equipment for packaged LEDs such as Vitrek (US), MPI (Taiwan), Chroma (US), and VEKTRIX (US). These companies supply a diverse range of equipment to ensure LED lighting products comply with industry standards and specifications. Therefore, testing equipment in the LED packaging market is expected to have the largest market size during the forecast period.

Deep UV segment is expected to register the highest CAGR in the LED packaging market during the forecast period

The popularity of LED packages employed in luminaires is steadily increasing which is driven by the superior energy efficiency of LEDs as compared to conventional light sources. Improvements in the standard of living and the modernization of residential design and construction practices are driving the demand for LED packages in residential applications. The market share for UV LEDs is notably increasing, particularly due to their specialized applications in disinfection, counterfeit detection, sterilization, UV curing, and medical research. However, the market for these UV LEDs is anticipated to experience rapid growth during the forecast period driven by the growing demand for these LEDs in medical facilities.

Asia Pacific is expected to account for the largest market size during the forecast period

Asia Pacific has witnessed substantial growth in manufacturing activities owing to the advantages of low production costs and strong support from local governments. Increased investments further drive the expansion of the LED packaging market in the region. Many electronic manufacturers choose to outsource production, particularly in segments like semiconductor assembly, to cost-effective countries within Asia Pacific.

The break-up of profile of primary participants in the LED packaging market-

By Company Type: Tier 1 – 30%, Tier 2 – 50%, Tier 3 – 20%

By Designation Type: C Level – 25%, Director Level – 35%, Others – 40%

By Region Type: North America – 30%, Europe – 25%, Asia Pacific – 35%, Rest of the World (RoW) – 10%

The major players of LED packaging market are NICHIA CORPORATION (Japan), ams-OSRAM AG. (Austria), Samsung (South Korea), Lumileds Holding B.V. (US), and Seoul Semiconductor Co., Ltd. (South Korea) among others.

Research Coverage

The report segments the LED packaging market and forecasts its size based on

LED Packaging Market by Package Type (SMD, COB, CSP), Power Range (Low-&Mid-Power LED Packages, High-Power LED...

packaging component, package type, power range, wavelength, application, and region. The report also provides a comprehensive review of drivers, restraints, opportunities, and challenges influencing market growth. The report also covers qualitative aspects in addition to the quantitative aspects of the market.

Reasons to buy the report:

The report will help the market leaders/new entrants in this market with information on the closest approximate revenues for the overall LED packaging market and related segments. This report will help stakeholders understand the competitive landscape and gain more insights to strengthen their position in the market and plan suitable go-to-market strategies. The report also helps stakeholders understand the pulse of the market and provides them with information on key market drivers, restraints, opportunities, and challenges.

The report provides insights on the following pointers:

Analysis of key drivers (rising adoption of UV LED-based disinfection systems, increasing demand for smart lighting solutions, and rising adoption of LEDs in automotive lighting solutions and growing prices of packaged LEDs), restraints (market saturation of LED packaging), opportunities (Accelerating adoption of mini and micro-LED technologies and growing developments towards advanced LED packaging technologies), and challenges (lack of common open standards) influencing the growth of the LED packaging market.

Product Development/Innovation: Detailed insights on upcoming technologies, research & development activities, and new product launches in the LED packaging market.

Market Development: Comprehensive information about lucrative markets – the report analyses the LED packaging market across varied regions.

Market Diversification: Exhaustive information about new products, untapped geographies, recent developments, and investments in the LED packaging market

Competitive Assessment: In-depth assessment of market shares, growth strategies and product offerings of leading players like NICHIA CORPORATION (Japan), ams-OSRAM AG. (Austria), Samsung (South Korea), Lumileds Holding

B.V. (US), and Seoul Semiconductor Co., Ltd. (South Korea).

Contents

1 INTRODUCTION

1.1 OBJECTIVES OF THE STUDY

1.2 MARKET DEFINITION

1.3 STUDY SCOPE

1.3.1 MARKETS COVERED

FIGURE 1 LED PACKAGING MARKET: SEGMENTATION

1.3.2 GEOGRAPHIC SCOPE

FIGURE 2 LED PACKAGING MARKET: GEOGRAPHIC SCOPE

1.3.3 INCLUSIONS AND EXCLUSIONS

1.3.3.1 Inclusions and exclusions: Company level

1.3.3.2 Inclusions and exclusions: Package type level

1.3.3.3 Inclusions and exclusions: Packaging component level

1.3.3.4 Inclusions and exclusions: Power range level

1.3.3.5 Inclusions and exclusions: Wavelength level

1.3.3.6 Inclusions and exclusions: Application level

1.3.3.7 Inclusions and exclusions: Region level

1.3.4 YEARS CONSIDERED

1.3.5 CURRENCY CONSIDERED

1.3.6 UNITS CONSIDERED

1.4 LIMITATIONS

1.5 STAKEHOLDERS

1.6 SUMMARY OF CHANGES

1.6.1 RECESSION IMPACT

2 RESEARCH METHODOLOGY

2.1 RESEARCH APPROACH

FIGURE 3 LED PACKAGING MARKET: RESEARCH DESIGN

2.1.1 SECONDARY DATA

2.1.1.1 Major secondary sources

2.1.1.2 Key data from secondary sources

2.1.2 PRIMARY DATA

2.1.2.1 Primary interviews with experts

2.1.2.2 List of key primary interview participants

2.1.2.3 Breakdown of primaries

FIGURE 4 BREAKDOWN OF PRIMARIES, BY COMPANY TYPE, DESIGNATION,

AND REGION

2.1.2.4 Key data from primary sources

TABLE 1 KEY DATA FROM PRIMARY SOURCES

2.1.3 SECONDARY AND PRIMARY RESEARCH

FIGURE 5 SECONDARY AND PRIMARY RESEARCH

2.1.3.1 Key industry insights

FIGURE 6 KEY INDUSTRY INSIGHTS

2.2 MARKET SIZE ESTIMATION

2.2.1 BOTTOM-UP APPROACH

FIGURE 7 BOTTOM-UP APPROACH

2.2.2 TOP-DOWN APPROACH

FIGURE 8 TOP-DOWN APPROACH

2.3 FACTOR ANALYSIS

2.3.1 DEMAND-SIDE ANALYSIS

FIGURE 9 MARKET SIZE ESTIMATION: DEMAND-SIDE ANALYSIS

2.3.2 SUPPLY-SIDE ANALYSIS

FIGURE 10 MARKET SIZE ESTIMATION: SUPPLY-SIDE ANALYSIS

2.3.3 GROWTH FORECAST ASSUMPTIONS

TABLE 2 MARKET GROWTH ASSUMPTIONS

2.4 RECESSION IMPACT ANALYSIS

2.5 MARKET BREAKDOWN AND DATA TRIANGULATION

FIGURE 11 DATA TRIANGULATION

2.6 RESEARCH ASSUMPTIONS

TABLE 3 RESEARCH ASSUMPTIONS: LED PACKAGING MARKET

2.7 RISK ASSESSMENT

TABLE 4 RISK ASSESSMENT: LED PACKAGING MARKET

3 EXECUTIVE SUMMARY

FIGURE 12 LED PACKAGING MARKET GROWTH, 2020–2029

FIGURE 13 LED PACKAGING EQUIPMENT MARKET GROWTH, 2020–2029

FIGURE 14 SMD PACKAGE TYPE SEGMENT TO DOMINATE LED PACKAGING MARKET DURING FORECAST PERIOD

FIGURE 15 HIGH-POWER LED POWER RANGE SEGMENT TO REGISTER HIGHER CAGR DURING FORECAST PERIOD

FIGURE 16 LED PACKAGES IN DEEP UV WAVELENGTH TO REGISTER HIGHER CAGR DURING FORECAST PERIOD

FIGURE 17 GENERAL LIGHTING SEGMENT TO LEAD LED PACKAGING MARKET DURING FORECAST PERIOD

FIGURE 18 TESTING EQUIPMENT SEGMENT TO LEAD LED PACKAGING EQUIPMENT MARKET FROM 2024 TO 2029

FIGURE 19 ASIA PACIFIC TO DOMINATE LED PACKAGING MARKET DURING FORECAST PERIOD

4 PREMIUM INSIGHTS

4.1 ATTRACTIVE GROWTH OPPORTUNITIES FOR PLAYERS IN LED PACKAGING MARKET

FIGURE 20 GROWING DEMAND FOR SMART LIGHTING SOLUTIONS TO DRIVE MARKET GROWTH

4.2 LED PACKAGING MARKET, BY PACKAGE TYPE

FIGURE 21 SMD LED PACKAGE SEGMENT TO DOMINATE LED PACKAGING MARKET DURING FORECAST PERIOD

4.3 LED PACKAGING MARKET, BY WAVELENGTH

FIGURE 22 VISIBLE & INFRARED SEGMENT TO ACCOUNT FOR LARGER SHARE OF LED PACKAGING MARKET DURING FORECAST PERIOD

4.4 LED PACKAGING MARKET, BY POWER RANGE

FIGURE 23 LOW-& MID-POWER LED PACKAGES TO DOMINATE LED PACKAGING MARKET IN 2024 AND 2029

4.5 LED PACKAGING MARKET, BY APPLICATION

FIGURE 24 GENERAL LIGHTING SEGMENT TO LEAD LED PACKAGING MARKET DURING FORECAST PERIOD

4.6 LED PACKAGING MARKET, BY PACKAGING COMPONENT

FIGURE 25 TESTING EQUIPMENT SEGMENT TO BE LARGEST IN LED PACKAGING EQUIPMENT MARKET IN 2024 AND 2029

4.7 LED PACKAGING MARKET IN ASIA PACIFIC, BY PACKAGE TYPE AND COUNTRY, 2023

FIGURE 26 SMD SEGMENT AND CHINA ACCOUNTED FOR LARGEST SHARES OF LED PACKAGING MARKET IN ASIA PACIFIC, IN 2023

5 MARKET OVERVIEW

5.1 INTRODUCTION

5.2 MARKET DYNAMICS

FIGURE 27 MARKET DYNAMICS: LED PACKAGING MARKET

5.2.1 DRIVERS

5.2.1.1 Growing demand for UV LED-based disinfection systems

5.2.1.2 Increasing demand for smart lighting solutions

- 5.2.1.3 Growing adoption of packaged LEDs in automotive lighting solutions
FIGURE 28 GLOBAL SALES OF ELECTRIC VEHICLES, 2019-2021
- 5.2.1.4 Surging prices of packaged LEDs
FIGURE 29 IMPACT ANALYSIS OF DRIVERS ON LED PACKAGING MARKET
- 5.2.2 RESTRAINTS
 - 5.2.2.1 Market saturation
FIGURE 30 IMPACT ANALYSIS OF RESTRAINTS ON LED PACKAGING MARKET
- 5.2.3 OPPORTUNITIES
 - 5.2.3.1 Surging adoption of mini and micro-LED technologies
 - 5.2.3.2 Development of advanced LED packaging technologies
FIGURE 31 IMPACT ANALYSIS OF OPPORTUNITIES IN LED PACKAGING MARKET
- 5.2.4 CHALLENGES
 - 5.2.4.1 Lack of common open standards
FIGURE 32 IMPACT ANALYSIS OF CHALLENGES ON LED PACKAGING MARKET
- 5.3 SUPPLY CHAIN ANALYSIS
FIGURE 33 SUPPLY CHAIN ANALYSIS: LED PACKAGING MARKET
TABLE 5 LED PACKAGING MARKET: SUPPLY CHAIN ANALYSIS
- 5.4 ECOSYSTEM/MARKET MAP
FIGURE 34 LED PACKAGING MARKET: ECOSYSTEM/MARKET MAP
- 5.5 KEY TECHNOLOGY TRENDS
 - 5.5.1 MICRO LED IN PACKAGE (MIP)
 - 5.5.2 CHIP-SCALE PACKAGE (CSP)
 - 5.5.3 CHIP-ON-BOARD (COB)
 - 5.5.4 CHIP-ON-WAFER-ON-SUBSTRATE (COWOS)
 - 5.5.5 PHOSPHOR-CONVERTED WHITE LED
- 5.6 PRICING ANALYSIS
 - 5.6.1 AVERAGE SELLING PRICE OF PRODUCTS, BY KEY PLAYER
FIGURE 35 AVERAGE SELLING PRICE OF PRODUCTS OFFERED BY KEY PLAYERS
TABLE 6 AVERAGE SELLING PRICE OF SMD LEDES, COB LEDES, AND CSP LEDES OFFERED BY KEY PLAYERS
 - 5.6.2 AVERAGE SELLING PRICE TREND
 - 5.6.2.1 Average selling price trend of LED packaging, by package type
FIGURE 36 AVERAGE SELLING PRICE TREND OF LED PACKAGING, BY PACKAGE TYPE
 - 5.6.2.2 Average selling price trend of LED packaging, by region
FIGURE 37 AVERAGE SELLING PRICE TREND FOR SMD LEDES, BY REGION
- 5.7 LIST OF KEY PATENTS AND INNOVATIONS
TABLE 7 PATENTS FILED DURING REVIEW PERIOD

FIGURE 38 NUMBER OF PATENTS GRANTED FOR LED PACKAGING

FIGURE 39 TOP 10 COMPANIES WITH HIGHEST NUMBER OF PATENTS GRANTED (JANUARY 2012-DECEMBER 2023)

TABLE 8 TOP 20 PATENT OWNERS DURING 2013–2023

TABLE 9 KEY PATENTS RELATED TO LED PACKAGING

5.8 PORTER'S FIVE FORCES ANALYSIS

TABLE 10 LED PACKAGING MARKET: PORTER'S FIVE FORCES ANALYSIS

FIGURE 40 LED PACKAGING MARKET: PORTER'S FIVE FORCES ANALYSIS–2023

FIGURE 41 IMPACT OF PORTER'S FIVE FORCES ON LED PACKAGING MARKET, 2023

5.8.1 THREAT OF NEW ENTRANTS

5.8.2 THREAT OF SUBSTITUTES

5.8.3 BARGAINING POWER OF SUPPLIERS

5.8.4 BARGAINING POWER OF BUYERS

5.8.5 INTENSITY OF COMPETITIVE RIVALRY

5.9 KEY STAKEHOLDERS & BUYING CRITERIA

5.9.1 KEY STAKEHOLDERS IN BUYING PROCESS

FIGURE 42 INFLUENCE OF STAKEHOLDERS ON BUYING PROCESS

TABLE 11 INFLUENCE OF STAKEHOLDERS ON BUYING PROCESS

5.9.2 BUYING CRITERIA

FIGURE 43 KEY BUYING CRITERIA FOR TOP THREE LED PACKAGE TYPES

TABLE 12 KEY BUYING CRITERIA FOR TOP THREE LED PACKAGE TYPES

5.10 CASE STUDIES

5.10.1 LEVERAGING NICHIA'S HUMAN-CENTRIC LIGHTING TECHNOLOGIES TO ENHANCE OVERALL SHOPPING EXPERIENCE FOR RETAIL CUSTOMERS

5.10.2 OSRAM'S OSLOM P1616 SERIES MINIATURE HIGH-POWER INFRARED LED TO OFFER COMPACT DESIGN, HIGH-EFFICIENCY, LOW-ENERGY LIGHTING FOR SHINING 3D'S AORALSCAN 3I INTRAORAL SCANNER

5.10.3 INTEGRATION OF LUMILEDS LUXEON 3535 HV LED IN AUDAX ELECTRONICS' WALL SCONCES, WALL PACKS, BOLLARDS, AND PENDANTS TO DELIVER REASONABLY PRICED LED-BASED FIXTURES

5.10.4 INTEGRATION OF LUXEON 4014 LOW-POWER LEDS IN JASCO PRODUCT FIXTURES REDUCED FIXTURE SIZE AND ENHANCED PERFORMANCE EFFICIENCY

5.11 TRADE ANALYSIS

TABLE 13 IMPORT DATA FOR HS CODE 8541, BY COUNTRY, 2018-2022 (USD MILLION)

FIGURE 44 IMPORT DATA FOR HS CODE 8541, 2018-2022

TABLE 14 EXPORT DATA FOR HS CODE 8541, BY COUNTRY 2018-2022 (USD

MILLION)

FIGURE 45 EXPORT DATA FOR HS CODE 8541, 2018-2022

5.12 REGULATORY LANDSCAPE FOR LED PACKAGING MARKET

5.12.1 GLOBAL

5.12.2 EUROPE

5.12.3 ASIA PACIFIC

5.12.4 NORTH AMERICA

5.12.5 GOVERNMENT REGULATIONS

5.12.5.1 Asia Pacific

5.12.5.2 North America

5.12.5.3 Europe

5.13 TRENDS/DISRUPTIONS IMPACTING CUSTOMERS' BUSINESSES

FIGURE 46 REVENUE SHIFTS FOR LED PACKAGING MARKET

5.14 KEY CONFERENCES & EVENTS, 2024–2025

TABLE 15 LED PACKAGING MARKET: DETAILED LIST OF CONFERENCES & EVENTS

6 LED PACKAGING MARKET, BY PACKAGING COMPONENT

6.1 INTRODUCTION

6.2 EQUIPMENT

TABLE 16 LED PACKAGING EQUIPMENT MARKET, BY TYPE, 2020–2023 (USD MILLION)

FIGURE 47 TESTING EQUIPMENT TO LEAD MARKET DURING FORECAST PERIOD

TABLE 17 LED PACKAGING EQUIPMENT MARKET, BY TYPE, 2024–2029 (USD MILLION)

6.2.1 BONDING EQUIPMENT

6.2.1.1 High performance, reliability, and cost-effectiveness to drive market

6.2.2 ENCAPSULATION & PACKAGING EQUIPMENT

6.2.2.1 Reliability and damage resistance properties to support usage

6.2.3 TESTING EQUIPMENT

6.2.3.1 Evaluation of performance, quality, and safety of LED lighting products to drive market

6.2.4 OTHER EQUIPMENT

6.3 MATERIALS

6.3.1 LEAD FRAMES

6.3.1.1 Facilitation of electrical and mechanical connections between chip and package to drive market

6.3.2 SUBSTRATES

6.3.2.1 Optimized performance, reliability, and functionality across various applications to drive market

6.3.3 INTERCONNECTS (ADHESIVES)

6.3.3.1 Need to ensure robust bonds between LED chip and substrate to drive market

6.3.4 HOUSING MATERIALS

6.3.4.1 Need to ensure mechanical protection of LED chips and other components to drive market

6.3.5 ENCAPSULANTS

6.3.5.1 Better sealing and protective barrier against moisture, dust, and contaminants to drive market

7 LED PACKAGING MARKET, BY PACKAGING METHOD

7.1 INTRODUCTION

7.2 MESA (HORIZONTAL)

7.3 VERTICAL

7.4 FLIP-CHIP

8 LED PACKAGING MARKET, BY PACKAGE TYPE

8.1 INTRODUCTION

FIGURE 48 LED PACKAGING MARKET FOR CSP LEDS TO GROW AT HIGHEST CAGR DURING FORECAST PERIOD

TABLE 18 LED PACKAGING MARKET, BY PACKAGE TYPE, 2020–2023 (USD MILLION)

TABLE 19 LED PACKAGING MARKET, BY PACKAGE TYPE, 2024–2029 (USD MILLION)

8.2 SMD

8.2.1 INCREASED PACKING DENSITY, LOWER PRODUCTION COST, AND USE OF SMALLER PCBs TO DRIVE MARKET

TABLE 20 SMD: LED PACKAGING MARKET, BY REGION, 2020–2023 (USD MILLION)

TABLE 21 SMD: LED PACKAGING MARKET, BY REGION, 2024–2029 (USD MILLION)

TABLE 22 SMD: LED PACKAGING MARKET, 2020–2023 (MILLION UNITS)

TABLE 23 SMD: LED PACKAGING MARKET, 2024–2029 (MILLION UNITS)

8.3 COB

8.3.1 INCREASING DEMAND FOR IMPROVED LUMEN-PER-WATT RATIOS AND

HEAT-EFFICIENT LED TECHNOLOGIES TO DRIVE MARKET

TABLE 24 COB: LED PACKAGING MARKET, BY REGION, 2020–2023 (USD MILLION)

TABLE 25 COB: LED PACKAGING MARKET, BY REGION, 2024–2029 (USD MILLION)

TABLE 26 COB: LED PACKAGING MARKET, 2020–2023 (MILLION UNITS)

TABLE 27 COB: LED PACKAGING MARKET, 2024–2029 (MILLION UNITS)

8.4 CSP

8.4.1 HIGH OPTICAL DENSITY, EXCELLENT LUMEN MAINTENANCE, COLOR STABILITY, REDUCED CURRENT CONSUMPTION, AND IMPROVED RELIABILITY TO DRIVE MARKET

TABLE 28 CSP: LED PACKAGING MARKET, BY REGION, 2020–2023 (USD MILLION)

TABLE 29 CSP: LED PACKAGING MARKET, BY REGION, 2024–2029 (USD MILLION)

TABLE 30 CSP: LED PACKAGING MARKET, 2020–2023 (MILLION UNITS)

TABLE 31 CSP: LED PACKAGING MARKET, 2024–2029 (MILLION UNITS)

8.5 OTHER PACKAGE TYPES

TABLE 32 OTHER PACKAGE TYPES: LED PACKAGING MARKET, BY REGION, 2020–2023 (USD MILLION)

TABLE 33 OTHER PACKAGE TYPES: LED PACKAGING MARKET, BY REGION, 2024–2029 (USD MILLION)

8.5.1 DUAL INLINE PACKAGE (DIP)

8.5.2 CHIP-ON-FLEX (COF)

9 LED PACKAGING MARKET, BY POWER RANGE

9.1 INTRODUCTION

FIGURE 49 LED PACKAGING MARKET FOR HIGH-POWER LED PACKAGES TO GROW AT HIGHER CAGR DURING FORECAST PERIOD

TABLE 34 LED PACKAGING MARKET, BY POWER RANGE, 2020–2023 (USD MILLION)

TABLE 35 LED PACKAGING MARKET, BY POWER RANGE, 2024–2029 (USD MILLION)

9.2 LOW- & MID-POWER LED PACKAGES

9.2.1 INCREASING ADOPTION IN GENERAL LIGHTING, BACKLIGHTING, AND AUTOMOTIVE LIGHTING TO DRIVE MARKET

TABLE 36 LOW- & MID-POWER LED PACKAGES: LED PACKAGING MARKET, BY REGION, 2020–2023 (USD MILLION)

TABLE 37 LOW- & MID-POWER LED PACKAGES: LED PACKAGING MARKET, BY REGION, 2024–2029 (USD MILLION)

9.3 HIGH-POWER LED PACKAGES

9.3.1 DEMAND FOR INTENSE LUMINESCENCE OR BRIGHT DIRECTIONAL LIGHT ACROSS APPLICATIONS TO DRIVE MARKET

TABLE 38 HIGH-POWER LED PACKAGES: LED PACKAGING MARKET, BY REGION, 2020–2023 (USD MILLION)

TABLE 39 HIGH-POWER LED PACKAGES: LED PACKAGING MARKET, BY REGION, 2024–2029 (USD MILLION)

10 LED PACKAGING MARKET, BY WAVELENGTH

10.1 INTRODUCTION

FIGURE 50 DEEP UV LEDS TO REGISTER HIGHER CAGR DURING FORECAST PERIOD

TABLE 40 LED PACKAGING MARKET, BY WAVELENGTH, 2020–2023 (USD MILLION)

TABLE 41 LED PACKAGING MARKET, BY WAVELENGTH, 2024–2029 (USD MILLION)

10.2 VISIBLE & INFRARED

10.2.1 GROWING DEMAND FOR HUMAN-CENTRIC LIGHTING TO ENSURE MARKET GROWTH

TABLE 42 VISIBLE & INFRARED: LED PACKAGING MARKET, BY REGION, 2020–2023 (USD MILLION)

TABLE 43 VISIBLE & INFRARED: LED PACKAGING MARKET, BY REGION, 2024–2029 (USD MILLION)

10.3 DEEP UV

10.3.1 RISING NEED FOR STERILIZATION AND DISINFECTION TO DRIVE MARKET

TABLE 44 DEEP UV: LED PACKAGING MARKET, BY REGION, 2020–2023 (USD MILLION)

TABLE 45 DEEP UV: LED PACKAGING MARKET, BY REGION, 2024–2029 (USD MILLION)

11 MATERIALS USED IN LED PACKAGING

11.1 INTRODUCTION

11.2 PLASTICS

11.3 NANOCERAMICS

11.4 CERAMICS

11.4.1 LEDS WITH A SINTERED CERAMIC PACKAGE

11.4.2 LEDS WITH CERAMIC SUBSTRATE COMBINED WITH SILICONE

11.4.3 LEDS WITH CERAMIC SUBSTRATE AND GLASS

11.5 SILICONE MATERIALS

11.6 EPOXY MOLDING COMPOUNDS

11.7 METAL ALLOYS

11.8 POLYMERS

11.9 GLASS COMPOSITES

11.10 OTHER MATERIALS

11.10.1 BONDING WIRES

11.10.2 SILICON CARBIDE SUBSTRATES

11.10.3 SAPPHIRE SUBSTRATES

11.10.4 GRAPHENE

12 LED PACKAGING MARKET, BY APPLICATION

12.1 INTRODUCTION

FIGURE 51 GENERAL LIGHTING SEGMENT TO DOMINATE LED PACKAGING MARKET DURING FORECAST PERIOD

TABLE 46 LED PACKAGING MARKET, BY APPLICATION, 2020–2023 (USD MILLION)

TABLE 47 LED PACKAGING MARKET, BY APPLICATION, 2024–2029 (USD MILLION)

12.2 GENERAL LIGHTING

12.2.1 RISING USE OF ENERGY-EFFICIENT LEDS AND NEED FOR REDUCED CARBON FOOTPRINT TO DRIVE MARKET

FIGURE 52 OUTDOOR & COMMERCIAL LIGHTING SEGMENT TO REGISTER HIGHER CAGR IN GENERAL LIGHTING APPLICATIONS DURING FORECAST PERIOD

TABLE 48 GENERAL LIGHTING: LED PACKAGING MARKET, BY TYPE, 2020–2023 (USD MILLION)

TABLE 49 GENERAL LIGHTING: LED PACKAGING MARKET, BY TYPE, 2024–2029 (USD MILLION)

TABLE 50 GENERAL LIGHTING: LED PACKAGING MARKET, BY REGION, 2020–2023 (USD MILLION)

TABLE 51 GENERAL LIGHTING: LED PACKAGING MARKET, BY REGION, 2024–2029 (USD MILLION)

TABLE 52 RESIDENTIAL: LED PACKAGING MARKET, BY REGION, 2020–2023 (USD MILLION)

MILLION)

TABLE 53 RESIDENTIAL: LED PACKAGING MARKET, BY REGION, 2024–2029 (USD MILLION)

TABLE 54 OUTDOOR & COMMERCIAL LIGHTING: LED PACKAGING MARKET, BY REGION, 2020–2023 (USD MILLION)

TABLE 55 OUTDOOR & COMMERCIAL LIGHTING: LED PACKAGING MARKET, BY REGION, 2024–2029 (USD MILLION)

12.3 AUTOMOTIVE LIGHTING

12.3.1 HIGHER PERFORMANCE, IMPROVED SAFETY, AND APPEALING DESIGNS IN AUTOMOTIVE LIGHTING TO INCREASE USAGE

FIGURE 53 EXTERIOR LIGHTING SEGMENT TO AUTOMOTIVE LIGHTING APPLICATION DURING FORECAST PERIOD

TABLE 56 AUTOMOTIVE LIGHTING: LED PACKAGING MARKET, BY TYPE, 2020–2023 (USD MILLION)

TABLE 57 AUTOMOTIVE LIGHTING: LED PACKAGING MARKET, BY TYPE, 2024–2029 (USD MILLION)

TABLE 58 AUTOMOTIVE LIGHTING: LED PACKAGING MARKET, BY REGION, 2020–2023 (USD MILLION)

TABLE 59 AUTOMOTIVE LIGHTING: PACKAGED LED MARKET, BY REGION, 2024–2029 (USD MILLION)

TABLE 60 INTERIOR LIGHTING: LED PACKAGING MARKET, BY REGION, 2020–2023 (USD MILLION)

TABLE 61 INTERIOR LIGHTING: LED PACKAGING MARKET, BY REGION, 2024–2029 (USD MILLION)

TABLE 62 EXTERIOR LIGHTING: LED PACKAGING MARKET, BY REGION, 2020–2023 (USD MILLION)

TABLE 63 EXTERIOR LIGHTING: LED PACKAGING MARKET, BY REGION, 2024–2029 (USD MILLION)

12.4 BACKLIGHTING

12.4.1 RISING DEMAND FOR EMERGING DISPLAY TECHNOLOGIES SUCH AS MICRO-LED AND QUANTUM DOT DISPLAYS TO DRIVE MARKET

TABLE 64 BACKLIGHTING: LED PACKAGING MARKET, BY REGION, 2020–2023 (USD MILLION)

TABLE 65 BACKLIGHTING: LED PACKAGING MARKET, BY REGION, 2024–2029 (USD MILLION)

12.5 FLASH LIGHTING

12.5.1 GROWING ADOPTION OF LED-BASED FLASHLIGHTS IN SMARTPHONES TO DRIVE MARKET

TABLE 66 FLASH LIGHTING: LED PACKAGING MARKET, BY REGION, 2020–2023

(USD MILLION)

TABLE 67 FLASH LIGHTING: LED PACKAGING MARKET, BY REGION, 2024–2029

(USD MILLION)

12.6 INDUSTRIAL LIGHTING

12.6.1 RISING EMPHASIS ON SMART LIGHTING FOR COST REDUCTION TO DRIVE MARKET

TABLE 68 INDUSTRIAL LIGHTING: LED PACKAGING MARKET, BY REGION, 2020–2023 (USD MILLION)

TABLE 69 INDUSTRIAL LIGHTING: LED PACKAGING MARKET, BY REGION, 2024–2029 (USD MILLION)

12.7 OTHER APPLICATIONS

TABLE 70 OTHER APPLICATIONS: LED PACKAGING MARKET, BY REGION, 2020–2023 (USD MILLION)

TABLE 71 OTHER APPLICATIONS: LED PACKAGING MARKET, BY REGION, 2024–2029 (USD MILLION)

13 LED PACKAGING MARKET, BY REGION

13.1 INTRODUCTION

FIGURE 54 CHINA TO REGISTER HIGHEST CAGR IN LED PACKAGING MARKET FROM 2024 TO 2029

TABLE 72 LED PACKAGING MARKET, BY REGION, 2020–2023 (USD BILLION)

TABLE 73 LED PACKAGING MARKET, BY REGION, 2024–2029 (USD BILLION)

13.2 NORTH AMERICA

FIGURE 55 NORTH AMERICA: LED PACKAGING MARKET SNAPSHOT

TABLE 74 NORTH AMERICA: LED PACKAGING MARKET, BY COUNTRY, 2020–2023 (USD MILLION)

TABLE 75 NORTH AMERICA: LED PACKAGING MARKET, BY COUNTRY, 2024–2029 (USD MILLION)

TABLE 76 NORTH AMERICA: LED PACKAGING MARKET, BY APPLICATION, 2020–2023 (USD MILLION)

TABLE 77 NORTH AMERICA: LED PACKAGING MARKET, BY APPLICATION, 2024–2029 (USD MILLION)

TABLE 78 NORTH AMERICA: LED PACKAGING MARKET, BY POWER RANGE, 2020–2023 (USD MILLION)

TABLE 79 NORTH AMERICA: LED PACKAGING MARKET, BY POWER RANGE, 2024–2029 (USD MILLION)

TABLE 80 NORTH AMERICA: LED PACKAGING MARKET, BY WAVELENGTH, 2020–2023 (USD MILLION)

TABLE 81 NORTH AMERICA: LED PACKAGING MARKET, BY WAVELENGTH, 2024–2029 (USD MILLION)

TABLE 82 NORTH AMERICA: LED PACKAGING MARKET, BY PACKAGE TYPE, 2020–2023 (USD MILLION)

TABLE 83 NORTH AMERICA: LED PACKAGING MARKET, BY PACKAGE TYPE, 2024–2029 (USD MILLION)

TABLE 84 NORTH AMERICA: LED PACKAGING MARKET FOR AUTOMOTIVE LIGHTING, BY TYPE, 2020–2023 (USD MILLION)

TABLE 85 NORTH AMERICA: LED PACKAGING MARKET FOR AUTOMOTIVE LIGHTING, BY TYPE, 2024–2029 (USD MILLION)

TABLE 86 NORTH AMERICA: LED PACKAGING MARKET FOR GENERAL LIGHTING, BY TYPE, 2020–2023 (USD MILLION)

TABLE 87 NORTH AMERICA: LED PACKAGING MARKET FOR GENERAL LIGHTING, BY TYPE, 2024–2029 (USD MILLION)

13.2.1 NORTH AMERICA: RECESSION IMPACT

13.2.2 US

13.2.2.1 Increasing adoption of LEDs for energy-efficient building systems to drive market

13.2.3 CANADA

13.2.3.1 Rising government initiatives to promote use of EVs and drive market

13.2.4 MEXICO

13.2.4.1 Increasing demand for efficient lighting systems and growing adoption of LEDs for automotive lighting to drive market

13.3 EUROPE

FIGURE 56 EUROPE: LED PACKAGING MARKET SNAPSHOT

TABLE 88 EUROPE: LED PACKAGING MARKET, BY COUNTRY, 2020–2023 (USD MILLION)

TABLE 89 EUROPE: LED PACKAGING MARKET, BY COUNTRY, 2024–2029 (USD MILLION)

TABLE 90 EUROPE: LED PACKAGING MARKET, BY APPLICATION, 2020–2023 (USD MILLION)

TABLE 91 EUROPE: LED PACKAGING MARKET, BY APPLICATION, 2024–2029 (USD MILLION)

TABLE 92 EUROPE: LED PACKAGING MARKET, BY POWER RANGE, 2020–2023 (USD MILLION)

TABLE 93 EUROPE: LED PACKAGING MARKET, BY POWER RANGE, 2024–2029 (USD MILLION)

TABLE 94 EUROPE: LED PACKAGING MARKET, BY WAVELENGTH, 2020–2023 (USD MILLION)

TABLE 95 EUROPE: LED PACKAGING MARKET, BY WAVELENGTH, 2024–2029
(USD MILLION)

TABLE 96 EUROPE: LED PACKAGING MARKET, BY PACKAGE TYPE, 2020–2023
(USD MILLION)

TABLE 97 EUROPE: LED PACKAGING MARKET, BY PACKAGE TYPE, 2024–2029
(USD MILLION)

TABLE 98 EUROPE: LED PACKAGING MARKET FOR AUTOMOTIVE LIGHTING, BY
TYPE, 2020–2023 (USD MILLION)

TABLE 99 EUROPE: LED PACKAGING MARKET FOR AUTOMOTIVE LIGHTING, BY
TYPE, 2024–2029 (USD MILLION)

TABLE 100 EUROPE: LED PACKAGING MARKET FOR GENERAL LIGHTING, BY
TYPE, 2020–2023 (USD MILLION)

TABLE 101 EUROPE: LED PACKAGING MARKET FOR GENERAL LIGHTING, BY
TYPE, 2024–2029 (USD MILLION)

13.3.1 EUROPE: RECESSION IMPACT

13.3.2 GERMANY

13.3.2.1 Favorable trade scenarios and rising demand for energy-efficient lighting
solutions to drive market

13.3.3 FRANCE

13.3.3.1 Efforts to reduce carbon footprint to drive market

13.3.4 UK

13.3.4.1 Rising government initiatives toward energy-efficient lighting solutions to
drive market

13.3.5 REST OF EUROPE

13.4 ASIA PACIFIC

FIGURE 57 ASIA PACIFIC: LED PACKAGING MARKET SNAPSHOT

TABLE 102 ASIA PACIFIC: LED PACKAGING MARKET, BY COUNTRY, 2020–2023
(USD MILLION)

TABLE 103 ASIA PACIFIC: LED PACKAGING MARKET, BY COUNTRY, 2024–2029
(USD MILLION)

TABLE 104 ASIA PACIFIC: LED PACKAGING MARKET, BY APPLICATION,
2020–2023 (USD MILLION)

TABLE 105 ASIA PACIFIC: LED PACKAGING MARKET, BY APPLICATION,
2024–2029 (USD MILLION)

TABLE 106 ASIA PACIFIC: LED PACKAGING MARKET, BY POWER RANGE,
2020–2023 (USD MILLION)

TABLE 107 ASIA PACIFIC: LED PACKAGING MARKET, BY POWER RANGE,
2024–2029 (USD MILLION)

TABLE 108 ASIA PACIFIC: LED PACKAGING MARKET, BY WAVELENGTH,

2020–2023 (USD MILLION)

TABLE 109 ASIA PACIFIC: LED PACKAGING MARKET, BY WAVELENGTH,
2024–2029 (USD MILLION)

TABLE 110 ASIA PACIFIC: LED PACKAGING MARKET, BY PACKAGE TYPE,
2020–2023 (USD MILLION)

TABLE 111 ASIA PACIFIC: LED PACKAGING MARKET, BY PACKAGE TYPE,
2024–2029 (USD MILLION)

TABLE 112 ASIA PACIFIC: LED PACKAGING MARKET FOR AUTOMOTIVE
LIGHTING, BY TYPE, 2020–2023 (USD MILLION)

TABLE 113 ASIA PACIFIC: LED PACKAGING MARKET FOR AUTOMOTIVE
LIGHTING, BY TYPE, 2024–2029 (USD MILLION)

TABLE 114 ASIA PACIFIC: LED PACKAGING MARKET FOR GENERAL LIGHTING,
BY TYPE, 2020–2023 (USD MILLION)

TABLE 115 ASIA PACIFIC: LED PACKAGING MARKET FOR GENERAL LIGHTING,
BY TYPE, 2024–2029 (USD MILLION)

13.4.1 ASIA PACIFIC: RECESSION IMPACT

13.4.2 CHINA

13.4.2.1 Presence of major display panel manufacturers to drive market

13.4.3 JAPAN

13.4.3.1 Demand from major automotive manufacturers to drive market

13.4.4 TAIWAN

13.4.4.1 Ongoing technological advancements toward energy-efficient technologies
to drive market

13.4.5 SOUTH KOREA

13.4.5.1 Presence of established semiconductor device manufacturers to drive
market

13.4.6 REST OF ASIA PACIFIC

13.5 REST OF THE WORLD

TABLE 116 REST OF THE WORLD: LED PACKAGING MARKET, BY REGION,
2020–2023 (USD MILLION)

TABLE 117 REST OF THE WORLD: LED PACKAGING MARKET, BY REGION,
2024–2029 (USD MILLION)

TABLE 118 MIDDLE EAST & AFRICA: LED PACKAGING MARKET, BY REGION,
2020–2023 (USD MILLION)

TABLE 119 MIDDLE EAST & AFRICA: LED PACKAGING MARKET, BY REGION,
2024–2029 (USD MILLION)

TABLE 120 REST OF THE WORLD: LED PACKAGING MARKET, BY APPLICATION,
2020–2023 (USD MILLION)

TABLE 121 REST OF THE WORLD: LED PACKAGING MARKET, BY APPLICATION,

2024–2029 (USD MILLION)

TABLE 122 REST OF THE WORLD: LED PACKAGING MARKET, BY POWER RANGE, 2020–2023 (USD MILLION)

TABLE 123 REST OF THE WORLD: LED PACKAGING MARKET, BY POWER RANGE, 2024–2029 (USD MILLION)

TABLE 124 REST OF THE WORLD: LED PACKAGING MARKET, BY WAVELENGTH, 2020–2023 (USD MILLION)

TABLE 125 REST OF THE WORLD: LED PACKAGING MARKET, BY WAVELENGTH, 2024–2029 (USD MILLION)

TABLE 126 REST OF THE WORLD: LED PACKAGING MARKET, BY PACKAGE TYPE, 2020–2023 (USD MILLION)

TABLE 127 REST OF THE WORLD: LED PACKAGING MARKET, BY PACKAGE TYPE, 2024–2029 (USD MILLION)

TABLE 128 REST OF THE WORLD: LED PACKAGING MARKET FOR AUTOMOTIVE LIGHTING, BY TYPE, 2020–2023 (USD MILLION)

TABLE 129 REST OF THE WORLD: LED PACKAGING MARKET FOR AUTOMOTIVE LIGHTING, BY TYPE, 2024–2029 (USD MILLION)

TABLE 130 REST OF THE WORLD: LED PACKAGING MARKET FOR GENERAL LIGHTING, BY TYPE, 2020–2023 (USD MILLION)

TABLE 131 REST OF THE WORLD: LED PACKAGING MARKET FOR GENERAL LIGHTING, BY TYPE, 2024–2029 (USD MILLION)

13.5.1 REST OF THE WORLD: RECESSION IMPACT

13.5.2 MIDDLE EAST & AFRICA

13.5.2.1 Growing investments in R&D for smart lighting solutions to drive market

13.5.2.2 GCC countries

13.5.2.2.1 Growing measures supporting use of low-power and cost-effective lighting solutions to drive market

13.5.2.3 Rest of Middle East & Africa

13.5.3 SOUTH AMERICA

13.5.3.1 Supportive government initiatives to favor adoption of low-power LEDs

14 COMPETITIVE LANDSCAPE

14.1 INTRODUCTION

14.2 MARKET EVALUATION FRAMEWORK

TABLE 132 OVERVIEW OF STRATEGIES DEPLOYED BY KEY LED PACKAGING PLAYERS

FIGURE 58 COMPANIES ADOPTED ACQUISITIONS AS KEY GROWTH STRATEGY FROM 2019–2023

- 14.2.1 ORGANIC/INORGANIC GROWTH STRATEGIES
- 14.2.2 PRODUCT PORTFOLIO
- 14.2.3 GEOGRAPHIC PRESENCE
- 14.2.4 MANUFACTURING FOOTPRINT
- 14.3 MARKET SHARE ANALYSIS, 2023
- TABLE 133 MARKET SHARE ANALYSIS OF KEY COMPANIES, 2023
- 14.4 HISTORICAL REVENUE ANALYSIS OF MAJOR MARKET PLAYERS
 - 14.4.1 HISTORICAL REVENUE ANALYSIS, 2018–2022
- FIGURE 59 HISTORICAL REVENUE ANALYSIS OF MAJOR COMPANIES, 2018–2022 (USD BILLION)
- 14.5 COMPANY EVALUATION MATRIX: KEY PLAYERS
 - 14.5.1 STARS
 - 14.5.2 EMERGING LEADERS
 - 14.5.3 PERVASIVE PLAYERS
 - 14.5.4 PARTICIPANTS
- FIGURE 60 LED PACKAGING MARKET (GLOBAL): COMPANY EVALUATION MATRIX (KEY PLAYERS), 2023
 - 14.5.5 COMPANY FOOTPRINT
- TABLE 134 COMPANY PRODUCT FOOTPRINT
- TABLE 135 COMPANY PACKAGE TYPE FOOTPRINT
- TABLE 136 COMPANY APPLICATION FOOTPRINT
- TABLE 137 COMPANY REGION FOOTPRINT
- 14.6 COMPANY EVALUATION MATRIX: STARTUPS/SMES
 - 14.6.1 PROGRESSIVE COMPANIES
 - 14.6.2 RESPONSIVE COMPANIES
 - 14.6.3 DYNAMIC COMPANIES
 - 14.6.4 STARTING BLOCKS
- FIGURE 61 LED PACKAGING MARKET (GLOBAL): COMPANY EVALUATION MATRIX (STARTUPS/SMES), 2023
 - 14.6.5 COMPETITIVE BENCHMARKING
- TABLE 138 LED PACKAGING MARKET: DETAILED LIST OF KEY STARTUPS/SMES
- TABLE 139 COMPETITIVE BENCHMARKING FOR STARTUPS/SMES: PACKAGE TYPE
- TABLE 140 COMPETITIVE BENCHMARKING FOR STARTUPS/SMES: APPLICATION
- TABLE 141 COMPETITIVE BENCHMARKING OF STARTUP/SMES: REGION
- 14.7 COMPETITIVE SCENARIO
 - 14.7.1 PRODUCT LAUNCHES
- TABLE 142 LED PACKAGING MARKET: PRODUCT LAUNCHES, 2021–2023
 - 14.7.2 DEALS

TABLE 143 DEALS, 2021–2023

15 COMPANY PROFILES

15.1 INTRODUCTION

15.2 KEY PLAYERS

(Business Overview, Products/Solutions/Services Offered, Recent Developments, MnM view (Key strengths/Right to win, Strategic choices made, Weakness/competitive threats)*

15.2.1 NICHIA CORPORATION

TABLE 144 NICHIA CORPORATION: COMPANY OVERVIEW

TABLE 145 NICHIA CORPORATION: PRODUCT LAUNCHES

TABLE 146 NICHIA CORPORATION: DEALS

15.2.2 AMS-OSRAM AG.

TABLE 147 AMS-OSRAM AG.: COMPANY OVERVIEW

FIGURE 62 AMS-OSRAM AG.: COMPANY SNAPSHOT

TABLE 148 AMS-OSRAM AG.: PRODUCT LAUNCHES

TABLE 149 AMS-OSRAM AG.: DEALS

15.2.3 SAMSUNG

TABLE 150 SAMSUNG: COMPANY OVERVIEW

FIGURE 63 SAMSUNG: COMPANY SNAPSHOT

TABLE 151 SAMSUNG: PRODUCT LAUNCHES

15.2.4 LUMILEDS HOLDING B.V.

TABLE 152 LUMILEDS HOLDING B.V.: COMPANY OVERVIEW

TABLE 153 LUMILEDS HOLDING B.V.: PRODUCT LAUNCHES

15.2.5 SEOUL SEMICONDUCTOR CO., LTD.

TABLE 154 SEOUL SEMICONDUCTOR CO., LTD.: COMPANY OVERVIEW

FIGURE 64 SEOUL SEMICONDUCTOR CO., LTD.: COMPANY SNAPSHOT

TABLE 155 SEOUL SEMICONDUCTOR CO., LTD.: PRODUCT LAUNCHES

15.2.6 MLS CO, LTD.

TABLE 156 MLS CO, LTD.: COMPANY OVERVIEW

15.2.7 EVERLIGHT ELECTRONICS CO., LTD.

TABLE 157 EVERLIGHT ELECTRONICS CO., LTD.: COMPANY OVERVIEW

FIGURE 65 EVERLIGHT ELECTRONICS CO., LTD.: COMPANY SNAPSHOT

TABLE 158 EVERLIGHT ELECTRONICS CO., LTD.: PRODUCT LAUNCHES

15.2.8 SMART GLOBAL HOLDINGS, INC.

TABLE 159 SMART GLOBAL HOLDINGS, INC.: COMPANY OVERVIEW

FIGURE 66 SMART GLOBAL HOLDINGS, INC.: COMPANY SNAPSHOT

TABLE 160 SMART GLOBAL HOLDINGS, INC.: PRODUCT LAUNCHES

TABLE 161 SMART GLOBAL HOLDINGS, INC.: DEALS

15.2.9 FOSHAN NATIONSTAR OPTOELECTRONICS CO. LTD.

TABLE 162 FOSHAN NATIONSTAR OPTOELECTRONICS CO. LTD.: COMPANY OVERVIEW

TABLE 163 FOSHAN NATIONSTAR OPTOELECTRONICS CO. LTD.: PRODUCT LAUNCHES

15.2.10 LITE-ON TECHNOLOGY, INC.

TABLE 164 LITE-ON TECHNOLOGY, INC.: COMPANY OVERVIEW

FIGURE 67 LITE-ON TECHNOLOGY, INC.: COMPANY SNAPSHOT

TABLE 165 LITE-ON TECHNOLOGY, INC.: PRODUCT LAUNCHES

TABLE 166 LITE-ON TECHNOLOGY, INC.: DEALS

15.3 OTHER PLAYERS

15.3.1 STANLEY ELECTRIC CO., LTD.

15.3.2 HONGLI ZHIHUI GROUP CO., LTD.

15.3.3 LEXTAR ELECTRONICS CORPORATION

15.3.4 PROLIGHT OPTO TECHNOLOGY CORP.

15.3.5 EDISON OPTO CORP.

15.3.6 SCHOTT

15.3.7 CITIZEN ELECTRONICS CO., LTD.

15.3.8 TSLC

15.3.9 VIOLUMAS

15.3.10 LUMINUS, INC.

15.3.11 HARVATEK CORPORATION

15.3.12 LUCKYLIGHT ELECTRONICS CO., LTD

15.3.13 BRIDGELUX, INC

15.3.14 US KOREA HOTLINK

15.3.15 LUMEX INC.

Details on Business Overview, Products/Solutions/Services Offered, Recent Developments, MnM view (Key strengths/Right to win, Strategic choices made, Weakness/competitive threats) might not be captured in case of unlisted companies.

16 APPENDIX

16.1 INSIGHTS FROM INDUSTRY EXPERTS

16.2 DISCUSSION GUIDE

16.3 KNOWLEDGESTORE: MARKETSandMARKETS' SUBSCRIPTION PORTAL

16.4 CUSTOMIZATION OPTIONS

16.5 RELATED REPORTS

16.6 AUTHOR DETAILS

I would like to order

Product name: LED Packaging Market by Package Type (SMD, COB, CSP), Power Range (Low-&Mid-Power LED Packages, High-Power LED Packages), Wavelength (Visible & Infrared, Deep UV), Packaging Component (Equipment, Material), Application & Region - Global Forecast to 2029

Product link: <https://marketpublishers.com/r/LFD063A5C5DEN.html>

Price: US\$ 4,950.00 (Single User License / Electronic Delivery)

If you want to order Corporate License or Hard Copy, please, contact our Customer Service:

info@marketpublishers.com

Payment

To pay by Credit Card (Visa, MasterCard, American Express, PayPal), please, click button on product page <https://marketpublishers.com/r/LFD063A5C5DEN.html>