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Strictly Private & Confidential
Reciprocus is delighted to present to you our initial views on potential growth of lighting in the United States of America.

- Our indicative view is predicted on publicly available information and our knowledge of lighting market in the United States of America.
- The global LED lighting market is forecasted to grow at CAGR of 12.4%.
- This growth is supported by the key driver, which is mainly spurred by the increasing demand for energy efficient lighting such as Light Emitting Diode (LED) and Compact Fluorescent Lights (CFL) lighting.
- Europe holds the largest market share in the LED lighting market and APAC region is expected to have the highest growth rate.
- We have identified one main market with potential growth opportunity – the US
- Based on our research, the US has the highest import volume of LED lights from ASEAN countries, in particular, the Philippines and Indonesia.
- The key driver to the US market is the growth residing in applications such as commercial/industrial lighting, horticultural lighting and marine lighting.
- We observed that key vendors such as GE Lighting, Philips Lighting and Cree have continued to engage in R&D to develop technologies and cost saving measures. This will be crucial for LED light vendors to sustain their competitiveness.
- Given the exciting prospects in the United States, we would recommend Singapore companies in the lighting industry to explore and expand into the US market.
Macroeconomic Outlook of the Industry

Business Overview

- **Steady Global Trade:** The global market for LED lighting is projected to grow at a tremendous rate at a CAGR of 12.4% during 2016 to 2020 and reach US$ 56 billion by 2020.

- **Key Drivers:** The high penetration rate of LED lighting is mainly driven by the demand for energy efficient lighting as well as the increasing LED application, such as sports lighting as well as architectural usage. The application of LEDs was limited to certain specific lighting needs in the past, but the realization of its energy efficiency means it is now widely used in most lighting applications.

- **Market Leaders:** The 5 largest exporters are China, Germany, USA, Italy and Mexico. Malaysia and Indonesia are the largest ASEAN exporters, ranked 22nd and 28th respectively.

- **Region Analysis:** The development of European LED lighting as well as the European government’s incentives to promote energy-efficient lights allowed the region to hold the largest market share. This is followed by North America and China. However, the Asia Pacific region is to witness fastest growth rate in LED lighting.

### Key Revenue Drivers

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Industry Outlook and Analysis

Porter’s 5 Forces Analysis

- **Power of Buyers**: Due to the lack of substitutes, the demand for LED lighting is relatively constant and inelastic. However, the LED light manufacturers adopted aggressive sales promotions which drives the prices down. As such, LED light buyers have a high bargaining power.

- **Power of Sellers**: Suppliers of raw materials for LED lights generally have a certain level of bargaining power and price control strategy.

- **Degree of Rivalry**: The LED lighting market has strong growth and high potential which leads to high degree of rivalry. Key producers such as OSRAM Sylvania, Philips Lighting, General Electric and many other players seek to gain market share via continuous innovations in technology and seeking patents on their products.

- **Substitute Threat**: As LED lighting has taken over conventional lighting, there is currently a lack of substitutes in the market.

- **Likelihood of New Entry**: The lack of legal restrictions and high growth market makes new companies want to enter the LED lighting market. However, huge market players have high economies of scale to produce cheaper yet good quality products which may deter new entrants to the market.

Analysis Breakdown
Growing demand for LED lights: With the Canadian government’s ban on traditional incandescent light bulbs and the emerging demand for industrial lighting in the US, LED lights account for 45% of the lighting industry in 2016 and is projected to reach 70% in 2020.

Emerging opportunities in ASEAN export market: Despite the growing demand for LED lights, North America’s import volume from ASEAN is considered relatively small as compared to major players such as China and EU28.

United States
Population: 321.4 million
Total GDP (2015): US$ 17.95 trillion
LED light market size (2015): US$ 5.4 billion
10-Year CAGR: 13.4%
Opportunities Spotlight and Analysis

**Why USA?**

- **Growth in Sales:** There is a steady demand of LED lights in US, with growth residing in applications such as commercial/industrial lighting, horticultural lighting and marine lighting. The fastest growth is found in industrial applications such as troffers, panel lights, tunnel lights and high/low bay lights.

- **Emerging Trends:** Horticultural lighting is identified as an emerging opportunity in US as there is a growing demand for tailor-made light recipes for plants cultivation. Also, the legalization of marijuana trade for medical purposes in the US will further drive the horticulture lighting market.

- **International Green Construction Code:** The code establishes a minimum green requirement for new and existing buildings and has been adopted by an ever greater number of local jurisdictions. The continued adoption of this code will create greater demand for more energy efficient lighting alternatives including LED lighting.

**Conclusion:**
We have shortlisted the USA as a key potential opportunity, which, given the growth of the lighting market and the trends driving it, should convince Singapore companies to closely monitor and consider expansion into the US market.
About Reciprocus

We specialize in assisting small and medium-sized businesses with expansion into overseas markets:

- Selecting and Structuring Route to Entry;
- Mergers, Acquisitions, Joint Ventures;
- Distributorships, Franchising and Licensing;
- Capital Raising.

For more information about our practice, visit our website at: www.reciprocus.com.

IE Singapore Assistance

The Singapore Government co-funds up to 70% of the third party professional fees for internationalization activities under the following schemes:

**Market Readiness Assistance Grant:** Market assessment, market entry and business matching activities.

**Global Company Partnership Grant:** Market research, scouting for overseas partners and due diligence activities.

Contact Details

Reciprocus International
International Plaza
10 Anson Road #10-22
Singapore 079903
Tel: +65-6225-9986
Fax: +65-6225-8223

Reciprocus Americas
Empire State Building
350 5th Ave, Suite 7610
New York, NY 10118
Tel: +1-212-565-0600
Fax: +1-646-349-3532

Reciprocus Europe
Taefernstrasse 22a
5405 Baden-Daettwil
Switzerland
Tel: +41 56 470 42 70
Fax: +41 56 470 42 72

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David Emery
Chairman
david@reciprocus.com

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Robert MacPherson
Junior Partner
robert@reciprocus.com

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