Green Value Lighting Solutions

By Marco

"Environmentally friendly, cost effective lighting solutions"

Business Plan

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Executive Summary

With energy prices increasing and an increased interest in sustainability, a market for high efficiency, environmentally friendly lighting has been created. This need can now be cost effectively met with LED lighting technology because of recent advances in LED manufacturing techniques in China combined with maturing LED technology. Currently, no one has successfully entered into the market place to fill this void. Marco is well positioned to step forward and fill this void.

LED lighting technology has numerous advantages over fluorescent lighting, the current industry standard. It is twice as energy efficient, has a 50% longer lifetime, has less maintenance requirements, uses no mercury, and contributes to reduced climate control costs. While this product is significantly more expensive up front than fluorescent lighting, the many advantages of the product cause it to actually save the customer money over the long term. In fact, it to has $53,002 in cost savings over 3 years for the average retail store. In addition to the cost savings, there are huge intangible benefits as well. For example, converting a retail store to our product will assist the store in becoming LEED certified because of the mercury savings the product provides.

Marco's product will be a total solution for retail companies interested in converting to LED overhead lighting. The product will consist of 3 parts: 2 LED lighting tubes, a light

housing fixture, and support/installation. The tubes are high quality and customized to meet the customer's aesthetic needs. The housing is designed for cost savings, efficiency, and aesthetics. The third part of the product is installation/support. Installation will occur with any retailer who does not have an existing installation team. This is a value added service that will help us to support and promote our brand name as well as increase our revenue. All three aspects of the product will be branded with our LED lighting brand name: Green Value Lighting Solutions (GVLS).

Some strategic issues that Marco will face are: how to compete with larger competitors, how to create uniqueness to prevent imitation, how to create value, how to prevent quality control issues, and how to overcome the high up front cost of the product considering its price sensitive customers.

The strategies to overcome these barriers to success are: branding of all parts under a strong brand, differentiation of fixture and LED tube over time through customer feedback, being customer relationship focused, a strong LED tube supplier alliance, and low cost pricing.

Product

Introduction

Our product meets customer needs for energy efficient and environmentally friendly overhead lighting. It will be a total solution consisting of 3 parts: LED light tubes, light fixture, and installation/support.

Opportunity

With energy prices increasing and an increased interest in sustainability, a market for high efficiency, environmentally friendly lighting has been created. This need can now be cost effectively met with LED lighting technology because of recent advances in LED manufacturing techniques in China combined with maturing LED technology. Currently, no one has successfully entered into the market place to fill this void. Marco is well positioned to step forward and fill this void because of its set of core competencies that are well aligned with this opportunity.

Marco has over 20 years of experience selling to retail customers and responding to their needs, and its sister company, MPW, has over 7 years of experience manufacturing and sourcing in China. Therefore, Marco can leverage its retail relationships, infrastructure, experience, and trusted brand name to achieve a huge success with this product.

Technology

Benefits of LEDs

High Efficiency

The primary benefit LED products bring to customers is that they are much more efficient. A typical T8 fluorescent bulb requires 45 watts to operate, whereas LED tubes from JingJiang consume only 17 watts to produce the same amount of light. This cuts lighting costs by 60%, generating value and paying back the bulb in less than two years. Another effect of higher efficiency is that ambient heat from the light source is decreased. This means that climate control costs like air conditioning or refrigeration are reduced.

Longer Lifetime

The average fluorescent bulb will "burn out" in less than two years. However, LEDs do not burn out like traditional bulbs. Instead, their lumen output is slowly reduced over time. The LED tubes from JingJiang will last up to six years, but will only produce 40% of their original output at the end of their life. After three years, the tubes will maintain 70% of their output, so we would recommend that our customers replace them every three years. The longer lifetime of LEDs reduces maintenance costs, downtime, and material wastes.

LEDs products also last longer because no ballast is required to ignite the bulb. Solid-state technology means that all light is generated electronically, eliminating the need for a physical spark. This means that less parts of the fixture can break, further reducing maintenance time.

Environmentally Friendly

Simply because they are more efficient, LEDs cut down on carbon emissions by consuming less electricity. Another reason why solid-state lighting is better for the environment is that it eliminates dangerous waste products.

Fluorescent bulbs contain mercury and lead, which generates toxic waste when they break or are thrown away. Mercury and lead waste takes a long time to recycle or dispose of, making this one of the world's largest environmental issues. LEDs contain no mercury or lead, removing this impact on the environment. By reducing the amount of mercury they produce, retailers can get valuable certification in *Leadership in Energy and Environmental Design* (LEED). LEED certification is a way to show customers that a building is environmentally friendly.

Safer Materials

Fluorescent bulbs are fragile and contain mercury gases that are toxic to breathe in. LED tubes not only eliminate mercury gas, but are manufactured from an impact-resistant plastic, making them much safer for anybody who has to handle them.

When pulse-start HID lights were first installed into manufacturing environments, some of them malfunctioned and exploded over the heads of workers, dropping shards of hot glass from high ceilings. Solid-state lighting is able to absorb larger variances in voltages before being adversely affected. Rather than shattering, LEDs slowly dim out without causing any physical damage.

Smaller Light Spectrum

All LEDs only emit a small band of frequencies, eliminating unwanted signals. In overhead lighting, LEDs only generate frequencies within the visible light spectrum. Because no ultraviolet or infrared light comes from this spectrum, the spoiling rate of food slows down, and insects are not attracted to light sources. These attributes are valuable to retail customers selling produce, meats, and other perishables.

Recent Developments in LEDs

LEDs are currently used for mobile phone handsets, laptop backlights, LCD screens, outdoor signs, and exterior automotive lights. However, there are few price-sensitive LED products for the general illumination market. The purpose of general illumination products is to light places, such as businesses and retail outlets. This is the largest use of lighting products, by far. The main factor preventing LEDs from entering into this market has been high prices.

High-power LED light sources have only recently reached the point where they can be produced in large quantities at reasonable prices with good quality control. Modern LEDs are still at least ten times more expensive than fluorescents, but the direct energy savings from more efficient lighting pays the high upfront costs back in less than two years. A report from March 2008 by researchers at Darnell Group estimates LEDs will be making significant a penetration in the general illumination market around 2013 or 2014. The goal for Marco is to enter this growing market early, developing a brand and reputation for quality overhead LED lighting.

Other Technological Threats

Because LED technology is changing at such a fast rate, it will be important to monitor related technologies to watch for a market disruption. If a product is more efficient than Marco's LED tubes, it is likely that LED fixtures will become obsolete.

Ultra-high-brightness LEDs (UHB-LEDs) are new solid-state light sources that have an output greater than 250 lumens. They are an especially attractive solution for large volume lighting issues, such as high-bay retail areas. The increased power of UHB-LEDs allows them to be optimized more than normal LEDs, creating higher lumen maintenance rates and efficiencies. For these reasons, UHB-LEDs are considered the key to growth in LED general lighting markets. At this point, they are too expensive to be considered a competitor, but the high prices of UHB-LEDs are expected to decrease rapidly within the next ten years.

Organic Light Emitting Diode (OLED) technology is another type of solid-state light source. It is being adopted into display applications on cell phones and television screens. Organic LED technology for Lighting Applications (OLLA) is a European organization that publishes research on high brightness OLEDs, specifically for the purpose of general lighting applications. In their most recent publication, they show that OLEDs are currently limited by a lifetime of only 10,000 hours and a low efficiency of 50.7 lumens per watt. These means that, although they are much more efficient than LCD and plasma displays, they cannot compete with fluorescents or standard LEDs in the general lighting sector.

Pricing

The pricing strategy that recommended for this product line is one of low cost. Our target market, retail construction, is extremely price sensitive. Also, many other potential competitors exist in the category of overhead LED lights. These other competitors have greater resources, experience, and brand recognition that allow them to pursue high prices more effectively than is possible for Marco. Marco's core competencies lie in the ability to source low cost inputs and use existing infrastructure to assemble and deliver a final product quickly and efficiently to meet the customer's specific needs.

For this reason the main factor in the initial pricing of the final product is the cost of production plus a modest gross profit margin percentage. We plan to vary this percentage based on three factors: ease of imitation by competition, bargaining power of the customer, and value of the product. Due to the huge cost savings and other intangible benefits our product provides, the value of our product is inherently high. This factor alone would warrant a significant profit margin per unit. Unfortunately there are other market forces to consider: bargaining power of customer and ease of product imitation. These two factors force us to pursue a lower profit margin per unit in order to compete. It is recommended that for those customers who have less bargaining power, a profit margin of 40% is recommended. For a customer with high bargaining power, such as WM USA, a profit margin of 30% is

recommended as the guideline. It is important to remember that as our product becomes more differentiated and unique, higher margins will be pursued.

Given our estimated costs and these profit margin guidelines, we recommend pricing the product at $123.01 for WM USA and $132.48 for other retailers. Prices do not include installation. Installation prices would vary greatly and be determined on an individual basis.

Competitors

GE Lumination http://www.lumination.com/

6180 Halle Drive Valley View, Ohio 44125-4635 USA

Phone: (216) 606-6555 Fax: (216) 606-6599

Company Size

Lumination, LLC, was previously a joint venture between The General Electric Company (GE) and the Emcore Corporation. In August of 2006, GE purchased Lumination for $100 million and formed a strategic alliance with the Nichia Corporation, the world's largest LED manufacturer. Since that time, Lumination has established a reputation as the leader in high-end white LED technology and products.

Between 2006 and 2007, Lumination's investment in new products increased by more than 50 percent. GE has reported that revenue from energy efficient products in 2007 was greater than $14 billion, and related research and development funding for these products was increased to $1 billion. It is speculated that annual sales of GE environmental products is expected to exceed $25 billion by 2010. These numbers indicate that GE Lumination is not only our largest competitor, but is also the fasted growing one.

Target Markets

Lumination currently supplies LED lighting solutions in signage, architecture, transportation signals, and retail display markets. Their products are always the best quality available, employ the latest technology, and are often customized for the client. Because they focus on high-grade, innovative LED products, Lumination competes at a different price point than Marco.

However, Lumination's intent is to quickly penetrate the general illumination market and replace standard fluorescent fixtures with LEDs. When they do, they will create lower-priced products for all of the markets Marco is targeting. Their latest white LED specifically is designed for commercial, residential, hospitality, retail, and architectural purposes. When Lumination's product pricing decreases, they will become Marco's largest direct competitor.

Relevant Products

In 2006, WM USA installed Lumination's white LED refrigerated display cases in over 500 test stores. WM USA spent about $30 million to develop the refrigerator LED lighting system in cooperation with Lumination.

The Vio™ LED is Lumination's latest white LED, designed to penetrate the general illumination markets Marco is interested in. Fortunately, these lights are point source lights, so this product would not directly compete with Marco's tube lighting system at this time. Also, Lumination is mainly marketing the lights, rather than the fixtures. If they started producing turn-key overhead lighting systems, this product will directly compete would Marco's.

Philips Lumileds Lighting Company http://www.lumileds.com/

370 West Trimble Road San Jose, California, 95131 USA

Phone: (408) 964-2900 Email: info@lumileds.com

Company Size

In November 2005, Philips purchased Lumileds remaining shares from Agilent Technologies for $948 million. At the time, Lumileds stated that it employed 1760 people. They also released financial data, showing $324 million in sales and annual growth of 28% ending July 2005.

Target Market

Lumileds creates custom LED instillations for general lighting purposes, tailoring to markets similar to Marco's. However, because Lumileds strictly uses cutting-edge technologies for custom applications, they are competing on a totally different price point. Other industries Lumileds serves include automotive lighting, display backlighting, camera phone flash, and portable light sources.

Philips Solid-State Lighting / Color Kinetics http://www.colorkinetics.com/

Company Size

In August 2007, Philips acquired Color Kinetics for $688 million and rebranded the company as Philips Solid-State Lighting (SSL). In doing so, they have obtained a large IP portfolio of digitally-controlled LED lighting technologies. Philips SSL has currently installed more than 15,000 of their products worldwide, giving them many contacts in a wide variety of markets. Reported sales in 2006 was approximately $65 million, with an annual growth rate of 31%.

Target Market

Philips SSL should not be considered a direct competitor of Marco. Their competitive advantage is in high technology products that utilize complex integrated lighting control,

called Chromacore. It allows single LEDs to emit a variety of different colors and lighting effects. This expensive technology is the core of every Philips SSL product.

Although Philips SSL is more than qualified to manufacture high-power LEDs and fixtures, they are currently not capable of doing so at low price points for general lighting applications. It is not likely that they are interested in Marco's product markets.

Osram-Sylvania http://www.sylvania.com/

100 Endicott Street Danvers, MA, USA 01923

Phone: 978-777-1900 Fax: 978-750-2152

Company Size

In 2006, Osram increased sales by 6% to $7.1 billion. Osram's profit rose to $747 million. That year, the research and development budget increased to $371 million. Osram also released that they had 40,307 active employees worldwide. From these figures, it is evident that Osram-Sylvania has a large amount of research resources. However, it is important to note that they specialize in older lamp technologies, including incandescent, compact fluorescent, and HIDs.

Related Products

Sylvania mainly manufactures and sells outdated lighting products. For overhead lighting, they produce HID and fluorescent bulbs. Although Sylvania does produce LED products, they are only used as "enhancements and decorative lighting". In this sense, they currently would not compete with Marco for the LED general lighting sector.

However, Sylvania recently fitted the Migros Supermarket in Eschenbach, Switzerland with LED lighting technology for general illumination covering an 829 square meter store. The area lights, accenting, and refrigerated display cases contain Golden Dragon LEDs from Osram-Sylvania. The partnership of these companies was instigated by Migros, and is the only retail outlet Sylvania has fitted. Although it appears that Sylvania desires to enter the LED retail lighting market, this has given them viable experience if the wish to do so in the near future.

Honeywell International Inc.	http://www.honeywell.com/		
101 Columbia Road	Morristown,	NJ	07962
Phone: (973) 455-2000	Fax:	(973)	455-4807

Relevant Products

Honeywell currently produces no LED products for general illumination, and has no LED lighting in retail outlets at this time. This means that they have no relevant product line that could compete with Marco's LED fixtures. However, Honeywell does possess a large IP portfolio of LED patents that is kept up to date. This, in combination with a variety of industry contacts, means that Honeywell could easily have LED products in virtually any market by the time Marco starts selling lighting fixtures.

Marketing

Markets

Our primary target market is the US retail construction industry. We already have existing sales relationships with the retail industry, therefore this market best fits our core competencies.

After approximately 1 year we will begin selling to retail industries in other geographies outside of the US, such as Europe. This will occur after we have the infrastructure and personnel to support this.

After approximately 1.5 years, we will use the expertise we have gained to enter into other markets that can benefit from cost effective environmentally friendly lighting. This list of markets is nearly endless:

- Government
- Commercial developers (malls, etc)
- Airports
- Restaurants
- Hotels

- Univ.
- Schools
- City Lighting
- HAZMAT
- Office buildings
- Libraries
- Hospitals
- Gyms

Most of these markets are segmented into 2 parts: new construction and refurbishment. New construction will be the easiest market to capture because there is no sunk cost of an existing fixture, and because of the ease of installation on a new store. Refurbishment has a slightly higher cost to the customer, however it is still very viable and we expect much of our sales to come from refitting existing stores with our lighting.

Customers

In the retail industry, our first target customer will be WM USA. It is the largest retailer in America with over 4,100 stores (150 new stores a year) and sets trends for the industry. A contract win with WM USA will create easier sales to other customers in that industry. WM USA also has an existing relationship with Marco and a recent strong interest in green initiatives, making it the ideal customer. The disadvantage of WM USA as a customer is its strong emphasis on price and its huge bargaining power. The profit margin Marco can achieve with WM USA is much less than with other customers. A contract with WM USA is viewed as a stepping-stone to reaching a variety of other customers.

Other customers to target after contracting with WM USA are retailers who Marco has existing relationships with, have large amounts of planned new stores, and have strong interest in green initiatives. For example, Whole Foods, Trader Joe's, and HEB are ideal candidates.

Branding

Branding is an important part of Marco's existing marketing plan. By establishing sub-brands for Marco's individual product lines Marco has been able to create a level of distinction for each of the individual products provided. This methodology will continue with the

introduction of the LED overhead lighting line. There will be two distinct brands for two distinct market segments.

The first and largest brand will be Green Value Lighting Solutions (GVLS) and will be marketed toward the retail customers with simpler more cost sensitive lighting needs. The slogan is "environmentally friendly, cost effective lighting solutions".

The second brand will be Green Innovations Lighting Solutions (GILS) and will be marketed toward customers who are less price sensitive and may require a higher level of customization then can be provided by a standard 48 inch fixture. This brand should be launched at the same as entry into non-retail markets, so as to meet the more high-end and customization focused needs of these various markets. This branding will be applied to both the fixtures and the LED tubes through silk screening.

The current supplier of the LED tubes (JingJiang) has agreed to remove any branding materials that would link the manufacturer of the tubes with Marco as the retailer. This prevents any of the customers from circumventing Marco and readily sourcing the supplier on their own and helps to integrate all part of our product into one branded solution.

Marketing Strategy

Our strategy for development of our brand will primarily occur through customer satisfaction and success stories. A successful product introduction with WM USA for example will raise our brand equity significantly amongst retail buyers.

Marketing of the product itself will mostly occur through sales calls, referrals, retail industry trade shows, and advertisements in industry trade publications. Other ideas include:

- Eco-friendly events such as Green Star (http://www.greenstarinc.org)
- Lighting trade shows
- LED fixture design contests such as Next Generation Luminaires (http://www.ngldc.org/).

Operations Plan

Manufacturing Plan

The product consists of 2 parts that need to be manufactured: 2 LED lighting tubes, a light housing fixture, and installation/support. The lighting tubes will be sourced from a Chinese factory which is currently at the forefront of LED manufacturing, "Hong Kong Jingjiang Optoelectronics Technology Lighting Limited". The second part of the product will consist of the light housing fixture. This part will be manufactured by a metal working factory in Xiamen with whom Marco has an existing relationship. Both parts will be branded at their respective factories and then shipped to the MPW warehouse in Shanghai where the tombstones and wiring is installed on the fixture. From there, the parts will travel by container to the Marco warehouse in Fort Worth. There, quality testing will occur to ensure no damage has occurred in shipping. Then the parts are sent to the customer site, to be installed by the customer or our technicians.

Units are produced in large batches, after a contract with a customer is signed. Output capacity at both factories is high: 5,000 at JingJiang and 2,000 at Xiamen. Keeping pace with customer orders should not be a problem, however a secondary LED supplier will be sourced as demand begins to increase.

Strategic Supplier Alliance

A strategic alliance will be formed with our LED supplier, JingJiang. This alliance will benefit Marco in that it will prevent us from having to invest in R&D, it will allow us to gain competencies in a field that we are new in, and it will allow us to reduce our risk (inventory, investment, etc.). The benefits we offer to JingJiang are a reliable customer, access to the American market, and product refinement through our customer feedback. In addition, as part of the alliance, an exclusive contract to provide JingJiang's products in the North American market will be pursued.

JingJiang was chosen for this alliance because of its high quality LEDs, low prices, willingness to re-brand, high capacity, large quality control team, and certifications (CE certified, UL pending).

Management and Personnel

For management of this new product line, a new category manager will be hired at the beginning of Year 2. Management of the project will be performed by existing personnel prior to this. The reasoning behind this is that during the first year is the riskiest time for this new product and in order to minimize risk a new hire should not be taken on until the product is proven. The category manager should be someone with engineering and technology experience/background and should be promoted from within Marco unless someone with this skill set is not available.

Other personnel the project may require include additional sales team members with an understanding of lighting technology and green initiatives, a manufacturing coordinator in China, and an electrical engineering consultant to work on new prototype fixtures. These should all come as needed after Year 1, depending on how quickly the product line grows and sales increase.

Financial Analysis

Introduction

This section of the business plan will address the financial analysis that was conducted to evaluate the feasibility of the overhead LED lighting project. This analysis is composed of several three year pro-forma income statements. Each of the individual income statements address different possible scenarios that the industry might face in the coming years and how that will effect the profitability of the project. The second goal of this financial analysis is to determine the value that the LED fixture to the customer. Using this valuation an appropriate price recommendation is then determined.

Pro Forma Income Statements

In this analysis there are two main issues that are explored. The first issue is size of the customer base achieved in the first three years of production. WM USA is a necessary customer and any future expansion would rely on a successful delivery with WM USA. The second issue is a possible change in the exchange rate between the Chinese RMB and the US dollar. While right now the exchange rate hovers at 6.7 RMB to 1 USD it is very possible that this could change in the near future. The effect this change in exchange rate would have is analyzed with an updated pro forma income statement.

WM USA is the preferred customer and if the project is to continue on any level a contract with them would need to be established. For the profit analysis, it is assumed that WM USA will purchase the fixtures for 5 stores in the first year with 2200 units per store. In year 2, assuming the fixtures prove effective, WM USA will install the units in 20 stores and finally 100 stores in the third year. Using this model the project maintains a positive and increasing gross profit and it can be expected that this trend would continue as the customer base expands (Appendix A).

Another possibility is the more rapid expansion of the customer base. The opportunity may exist where an existing contract with WM USA from the 2nd and 3rd years could be leveraged to achieve contracts with other customers. The first year the additional customers would remain at zero adding an additional 0 dollars to gross profit but in the second and third years and estimated 80 and 200 stores would be added to the customer base resulting in significant additions to the gross profit (Appendix B).

The current financial environment is always changing. For example, the current trend is that the USD has been weakening against the RMB. We therefore have conducted an analysis of the affect a 6:1 RMB to USD exchange rate would have on the viability of the project. Even in the most conservative scenario, with just the WM USA customer base and with the change in exchange rate, the project still maintains a positive gross profit.

Profitability does fall but the overall result remains positive and as the customer base is expanded it can be expected that profitability will continue to increase (Appendix C).

Assumptions

There were many assumptions taken when calculating the pro forma financials, as well as the customer benefits. Primarily, the assumptions made for the pro forma financials were taken from the current financial environment (shipping costs, exchange rate, etc.), as well as the predicted selling price of our product. As these variables change, the financials will need adjustments.

For the customer benefit analyses, the typical new construction WM USA store was assumed. This being a 200,000 square foot store with 2,200 light fixtures, a SEER 14 air conditioner, etc.

For a full list of all assumptions, see Appendix D&E.

Strategic Issues

As with any opportunity, there are barriers to success that must be overcome.

The first barrier we face is that our competitors are all much larger than us, with many times more resources. They are able to research and develop innovative products, leaving us behind on the research and development curve.

The second barrier we face is that our product is not currently very unique. It consists of 2 outsourced LED tubes, a simple metal fixture, and a basic installation team. All of these parts can be easily imitated by a competitor. A challenge for us is to create differentiation and barriers to imitation through non-R&D routes because of our lack of capital to place into R&D.

Along these same lines, because we are simply combining outsourced products, there is an issue of where the value is added by Marco. Conveying this value to the customer is key.

Another major issue is our product's very high upfront cost compared to our customer's existing lighting. Around ten times more expensive, it will be difficult to convince our price sensitive customers to convert to our product even if the product does pay for itself over time.

Recommendations

These barriers to success are not insurmountable. With the proper strategies in place, they can be planned for and overcome.

Our first strategy will involve maintaining strong customer relationships. By listening closely to the customer's needs and quickly and cost effectively meeting those needs, we will offer our customers a value that our large and cumbersome competitors cannot match. Our goal with this strategy is to have our competitors discover the new technology while we discover the innovative ways to apply it and create the actual customer value.

Our second strategy involves branding of all parts of our solution under one strong brand. In this way, we help to create and convey value to the customer. By creating a brand name customers can trust, we offer a value beyond the sum of our outsourced parts, and we create a high barrier to imitation.

Our third strategic plan is focused on the LED tube supplier. We will form a strong strategic alliance with the JingJiang LED factory. In so doing, we create high standards of quality control, reduce our risk, reduce our costs, and are able to gain exclusivity in our markets.

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Appendices

Appendix A-Pro Forma Income Spreadsheet

MARCO LED Overhead Lighting

Pro Forma Income Statement (Current Rate)

WM USA Stores	Total Units	Price	Total Sales $	COGS
5	1250	$ 123.01	$ 153,768.66	$ 101,487.31
20	5000	$ 110.71	$ 553,567.16	$ 365,354.33
100	25000	$ 102.96	$ 2,574,087.31	$ 1,698,897.63

	Y1	Y2	Y3
Revenue	$ 153,768.66	$ 553,567.16	$ 2,574,087.31
COGS	$ 101,487.31	$ 365,354.33	$ 1,698,897.63
Gross Profit	$ 52,281.34	$ 188,212.84	$ 875,189.69
Operating Exp			
mkt&sales	$ 10,763.81	$ 13,992.95	$ 18,190.83
R&D	$ 23,065.30	$ 23,065.30	$ 23,065.30
G&A	$ 1,537.69	$ 101,537.69	$ 131,998.99
Total Op Exp	$ 35,366.79	$ 138,595.93	$ 173,255.12
NIBIT	$ 16,914.55	$ 49,616.90	$ 701,934.56
IT	$ 6,765.82	$ 19,846.76	$ 280,773.83
NIAT	$ 10,148.73	$ 29,770.14	$ 421,160.74
NIAT/store	$	$	$

2,029.75	1,488.51	4,211.61
Year 1	Year 2	Year 3

c

MARCO LED Overhead Lighting

Pro Forma Income Statement (Adjusted Rate)

WM USA Stores	Total Units	Price	Total Sales $	COGS
5	1250	$ 123.01	$ 153,768.66	$ 113,327.50
20	5000	$ 110.71	$ 553,567.16	$ 407,979.00
100	25000	$ 102.96	$ 2,574,087.31	$ 1,897,102.35

	Y1	Y2	Y3
Revenue	$ 153,768.66	$ 553,567.16	$ 2,574,087.31
COGS	$ 113,327.50	$ 407,979.00	$ 1,897,102.35
Gross Profit	$ 40,441.16	$ 145,588.16	$ 676,984.96
Operating Exp			
mkt&sales	$ 10,763.81	$ 13,992.95	$ 18,190.83
R&D	$ 23,065.30	$ 23,065.30	$ 23,065.30
G&A	$ 1,537.69	$ 101,537.69	$ 131,998.99
Total Op Exp	$ 35,366.79	$ 138,595.93	$ 173,255.12
NIBIT	$ 5,074.37	$ 6,992.23	$ 503,729.84
IT	$ 2,029.75	$ 2,796.89	$ 201,491.94
NIAT	$ 3,044.62	$ 4,195.34	$ 302,237.90
NIAT/store	$	$	$

608.92	209.77	3,022.38
Year 1	Year 2	Year 3

Pro Forma Income Statement For Other Stores

Other Stores	Total Units	Price	Total Sales $	COGS
0	0	$ -	$ -	$ -
80	16000	$ 132.48	$ 2,119,641.79	$ 1,398,963.58
200	40000	$ 119.23	$ 4,769,194.03	$ 3,147,668.06

	Y1	Y2	Y3
Revenue	$ -	$ 2,119,641.79	$ 4,769,194.03
COGS	$ -	$ 1,398,963.58	$ 3,147,668.06
Gross Profit	$ -	$ 720,678.21	$ 1,621,525.97
Operating Exp			
mkt&sales	$ -	$ 12,796.88	$ 16,635.94
R&D	$ -	$ 21,093.75	$ 21,093.75
G&A	$ -	$ 101,406.25	$ 131,828.13
Total Op Exp	$ -	$ 135,296.88	$ 169,557.81
NIBIT	$ -	$ 585,381.33	$ 1,451,968.16
IT	$ -	$ 234,152.53	$ 580,787.26
NIAT	$ -	$ 351,228.80	$ 871,180.89

NIAT/store	$ -	$ 4,390.36	$ 4,355.90

Year 1	Year 2	Year 3

MARCO LED Overhead Lighting

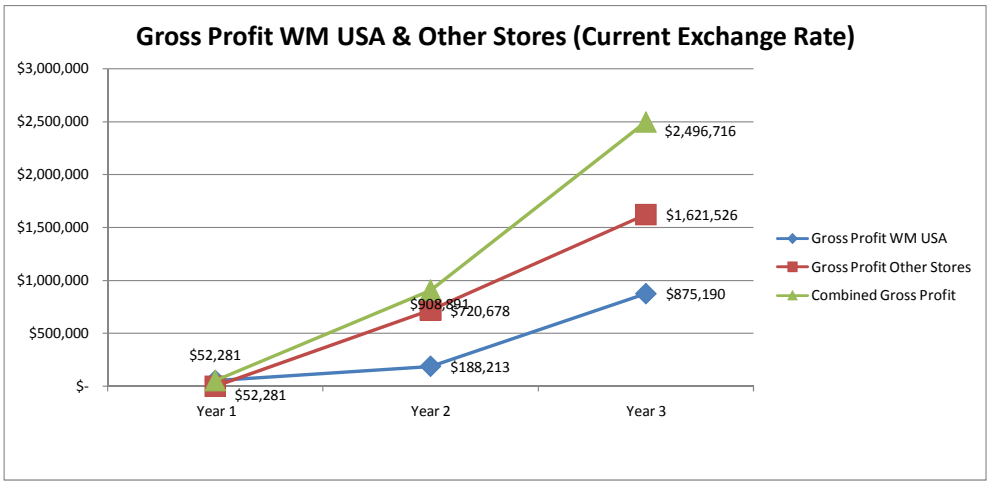
Pro Forma Income Statement (WM USA & Other Stores)

WM USA Stores	**Total Units**	**Price**	**Total Sales $**	**COGS**
5	1250	$ 123.01	$ 153,768.66	$ 101,487.31
20	5000	$ 110.71	$ 2,673,208.96	$ 1,764,317.91
100	25000	$ 102.96	$ 7,343,281.34	$ 4,846,565.69

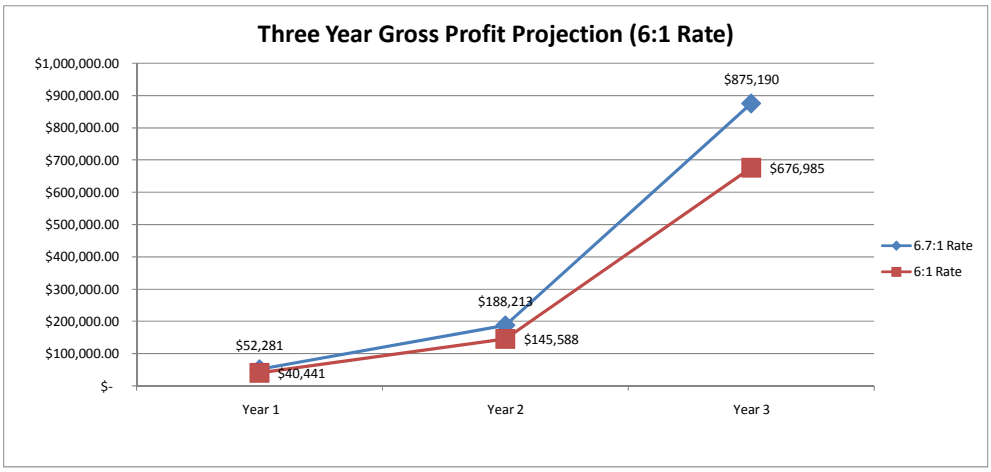
	Y1	**Y2**	**Y3**
Revenue	$ 153,768.66	$ 4,792,850.75	$ 12,112,475.3
COGS	$ 101,487.31	$ 3,163,281.49	$ 7,994,233.75
Gross Profit	$ 52,281.34	$ 908,891.04	$ 2,496,715.66
Operating Exp			
mkt&sales	$ 10,763.81	$ 13,992.95	$ 18,190.83
R&D	$ 23,065.30	$ 23,065.30	$ 23,065.30
G&A	$ 1,537.69	$ 101,537.69	$ 131,998.99
Total Op Exp	$ 35,366.79	$ 138,595.93	$ 173,255.12
NIBIT	$ 16,914.55	$ 770,295.11	$ 2,323,460.53
IT	$ 6,765.82	$ 308,118.04	$ 929,384.21

NIAT	$ 10,148.73	$ 462,177.07	$ 1,394,076.32
NIAT/store	$ 2,029.75	$ 23,108.85	$ 13,940.76
	Year 1	Year 2	Year 3

Appendix B-Pro Forma Income Graph (WM + Other Stores)



Appendix C-Pro Forma Income Graph (6:1 Exchange Rate)



Appendix D-Financial Assumptions

Pro Forma Income Statement Assumptions

Price starts at 225 and falls as production increases
Variable cost of 0.66
Fixed costs of 0
First year 5 stores, Second year 20 stores, Third year 100 Stores
1250, 5000, and 25,000 units respectively
COGS falls by 10% by year 2 and another 7% from year 2 to 3
30% growth rate of Marketing and Sales expenses after year 1 caused by need for training of new employees and increased marketing efforts
R&D Costs remain flat and could potentially fall due to initial prototyping and design having been completed in preliminary phases. They could rise, however, due to need for refinement after initial test market phase.

Administrative Expenses jump in year 2 because a manager salary is added for LED light devision.
40% income tax rate

General Assumptions

Installation cost of LED and Fluorescent fixture is the same
Cost of a fluorescent fixture is same as Marco LED fixture
Climate Control Formula: unit size, BTU/h × hours per year, h × power cost, $/kW·h ÷ SEER, BTU/W·h ÷ 1000 W/kW
LED Bulbs Do Not Contain Any Mercury

Appendix E-Customer Benefit Assumptions

Cost Analysis Variables	
Approximate Kw/hr cost in average WM USA store	$0.08
Annual Fluorescent Bulb Operating Hours	8760.00
Annual LED Bulb Operating Hours	8760.00
Bulbs per store (2 per fixture)	480
Electrician's hourly rate	$25.00
Labor cost to replace ballast when burned out (elec. hourly rate/time)	$8.33
Labor cost to replace 1 light bulb when burned out (elec. hourly rate/time)	$4.17
Cost of 1 Fluorescent tube (USD)	$3.00
Cost of 1 LED tube (USD)	$45.60
Exchange Rate (RMB:USD)	6.70
Average Power Usage of LED Tube (watts)	17.00
Average Power Usage of Fluorescent Tube In Use (watts)	45.00
Average Lifetime of Fluorescent Tube (hours)	5000.00
Average Lifetime of LED Tube (hours)	50000.00
Average Cost of Fluorescent Fixture Ballast	$9.00
Annual Ballast Failure Rate	1.8%
Cost of Ballast	$9.00
Cost of Marco LED Fixture	$19.40
Cost of Fluorescent Fixture	$19.40
Installation Cost per Fixture	$10.00

Carbon Footprint Variables	
Annual Emission of CO2 per 10,000kwh	1.08

Climate Control Variables	
Heat Output of 1.0 kWh of Lighting	3413
SEER Rating of Store Air Conditioners (>=13)	14

Mercury Reduction Variables	
Average Mercury Content of Fluorescent Tube (mg)	12

Appendix F-Competitor Links

Lumination

- http://www.lumination.com/product.php?id=56
- http://www.usatoday.com/money/industries/retail/2006-09-24-WM USA-cover-usat_x.htm
- http://www.geconsumerproducts.com/pressroom/press_releases/lighting/gelcore/WM USA_LED_display.htm
- http://www.geconsumerproducts.com/pressroom/press_releases/lighting/commercial_lighting/Lumination_2007.htm
- http://www.geconsumerproducts.com/pressroom/press_releases/lighting/commercial_lighting/GE_Nichia_LED.htm

Philips

- http://www.colorkinetics.com/technologies/core/
- http://origin.newscenter.philips.com/about/news/article-15801.page

Osram-Sylvania

- http://content.sylvania.com/app/display.aspx?id=003695284
- http://www.sylvania-lamps.com/
- http://eqas.mysylvania.com/content/display.scfx?id=003693456
- http://www.ledsmagazine.com/news/3/10/4
- http://www.treehugger.com/files/2007/03/migros_supermar.php

Honeywell

- http://www.honeywellbuildingsolutions.co.uk/
- http://www.ledsmagazine.com/news/4/10/34

Appendix G-Technology Sources

- http://findarticles.com/p/articles/mi_pwwi/is_200803/ai_n24390662
- http://www.hitech-projects.com/euprojects/olla/news/press_release_june_2008/OLLA_pressrelease6_v4.pdf
- http://www.ge.com/research/grc_2_9_1.html
- http://www.eetimes.eu/uk/60300073