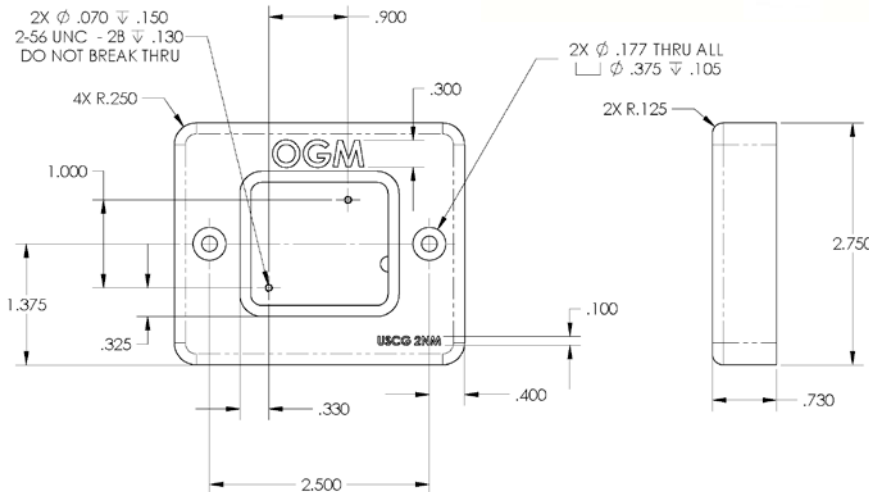


Product Brief: LX2-Pier (ST)

Product Description

LX2-Pier light was originally designed for the Military as a navigation light series (LX2-ST = stern nav light), however the simplicity of the design and the rugged construction lends well to other harsh environment applications like Piers, Bridges and outdoor structures. LED color options include warm white, blue, green, amber and others. Standard is cool white. 2nm visibility per USCG testing as navigation light.



Tech Specs:

- ✓ Operating Voltage: 10V to 24V DC or 120-240 AC (using AC/DC Converter)
- ✓ Current Draw: 0.17 Amp (at 12V DC operation)
- ✓ Power Consumption: 2W at maximum brightness
- ✓ Light Output: 100 Lumens per LED (USCG 2nm visibility)
- ✓ Viewing Angle: Vertical =120 Deg; Horizontal =135 Deg
- ✓ Module Dimensions: Complete set unit in 6x6x6 non-metallic enclosure
- ✓ Materials: Light is hard anodized aluminum with acrylic lens; enclosure is hot compression molded fiberglass reinforced polyester (thermoset)
- ✓ Standard bright white, warm white and blue with custom colors available with minimum order

Fixture Type: _____

Catalog #: _____

Project: _____

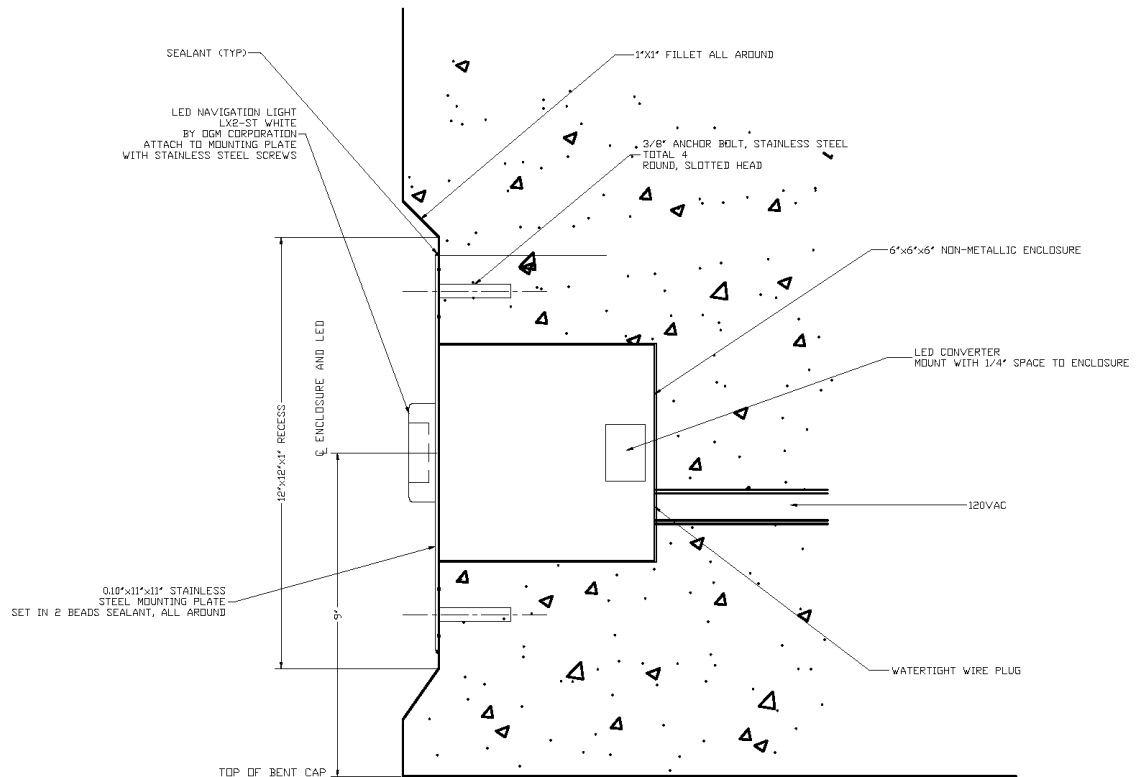
Location: _____

ORDER INFO

Model #	LED Color	Housing Finish
LX2-Pier/ST	White/W	Alum/BLK
	Blue/B	Alum/Nat
	Custom/[Color]	Alum/Clear

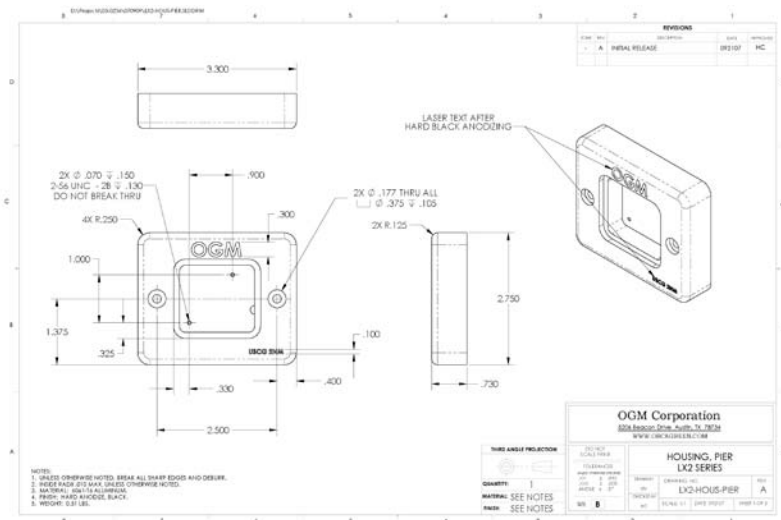
Features:

- ✓ Simple 2 wire installation
- ✓ Wide operating voltage range: 10V to 24V DC or 120-240 AC (using AC/DC converter)
- ✓ 50,000 hour operational life span
- ✓ Rugged industrial enclosure for harsh, aggressive environments
- ✓ Non-corrosive materials stands up to an exceptionally broad range of environmental exposures
- ✓ Watertight (submersible rating pending)
- ✓ UV resistant minimizes the affects of sunlight
- ✓ Easy maintenance, Low cost of operations – no bulbs to replace
- ✓ Low profile, pleasing aesthetics easily blends into piers and bridge designs
- ✓ 3 year warranty



PUERTA MAYA CRUISE SHIP PIER REPLACEMENT
EDGE LIGHT DETAIL
15 NOVEMBER 2007

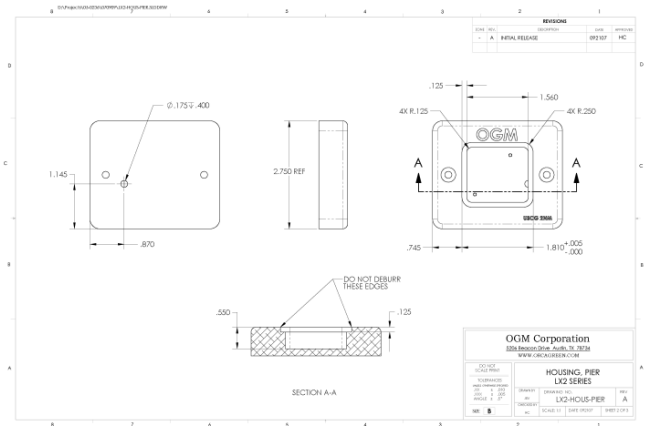
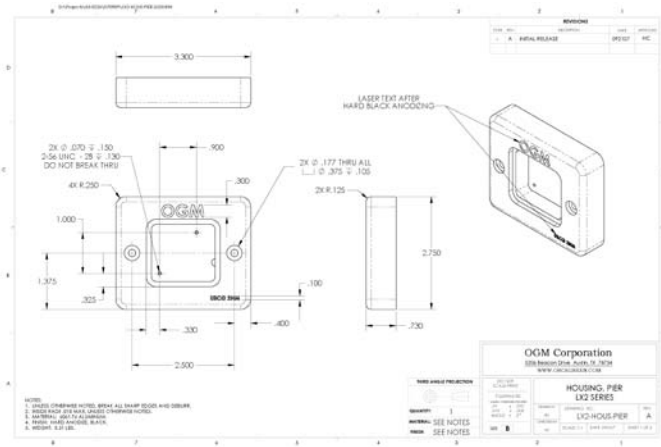
LX2-Pier (ST) LED Light



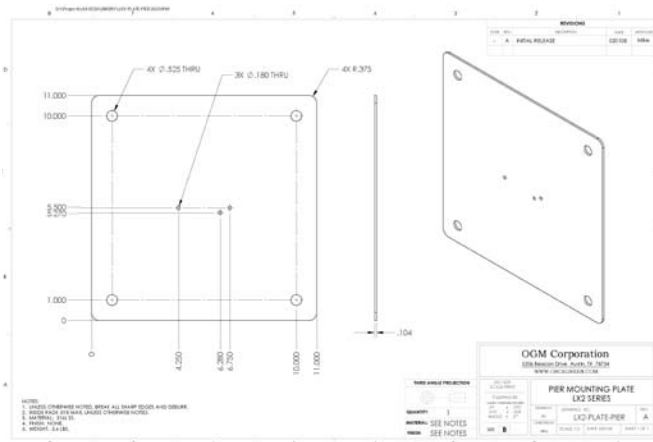
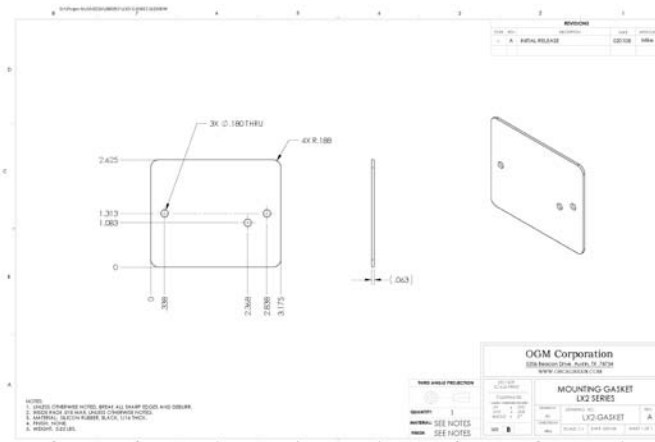
Installation Options:

- ✓ OGM LX2 SS-Plate 11"x11"x0.104 316L marine grade stainless steel plate with LX2-Pier mounting holes and 4 Pier mounting holes.
- ✓ OGM LX2 APV12-24 Transformers: 24VDC 108-132VAC input to power 1 LX2-Pier light
- ✓ OGM LX2 Pier HW LX2-Pier Silicone Gaskets, Screws, Nuts, Washers, Lock washers
- ✓ OGM LX2 NMENCL Enclosure non-metallic for transformer with front cover

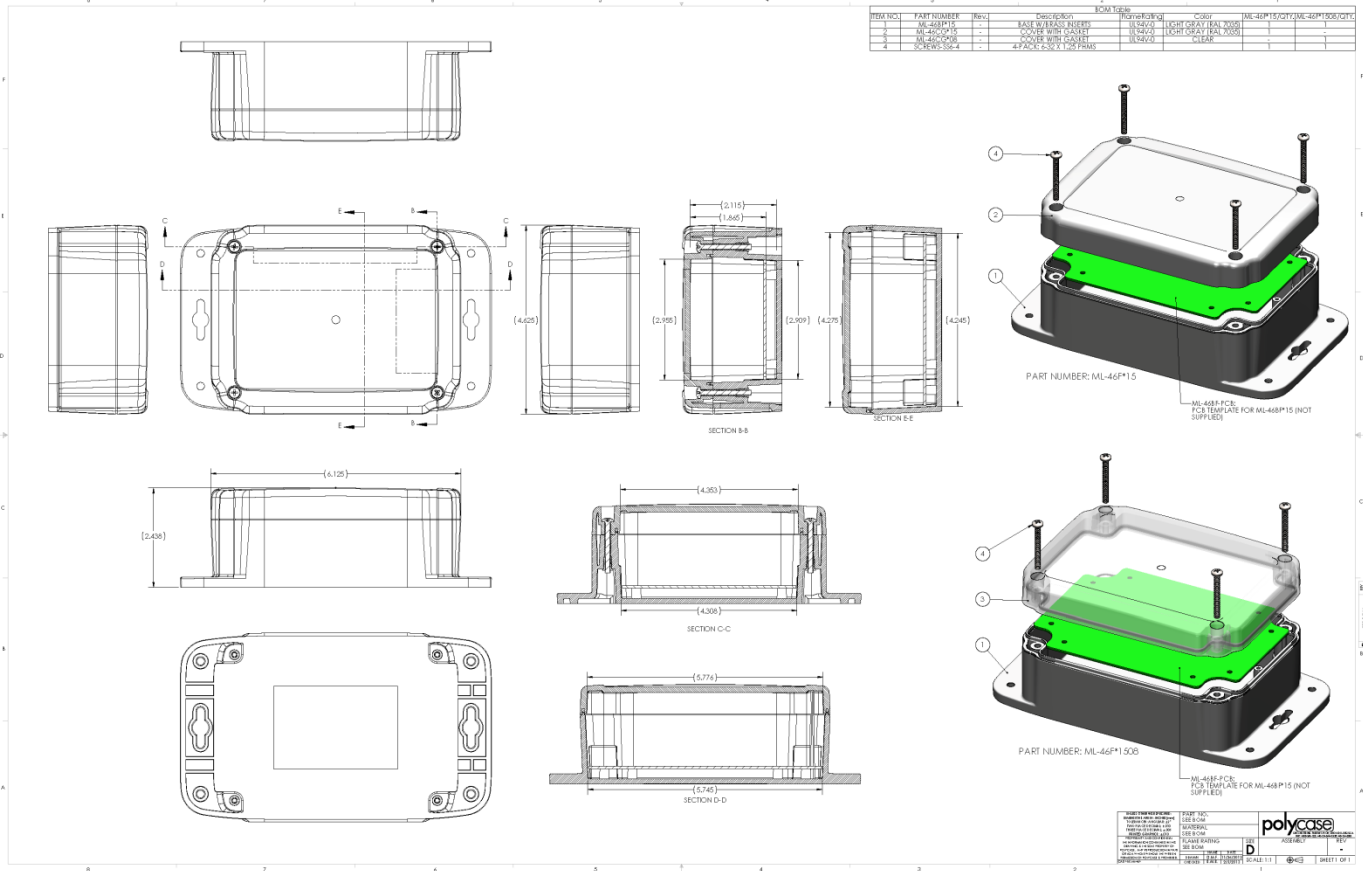
Light Specifications



Gasket Specifications



Enclosure Specifications





■ Features :

- Constant voltage design
- Universal AC input / Full range
- Protections: Short circuit / Over load / Over voltage
- Fully isolated plastic case
- Cooling by free air convection
- Small and compact size
- Class II power unit, no FG
- Class 2 power unit
- Pass LPS
- IP30 design
- Suitable for LED lighting and moving sign applications
- 100% full load burn-in test
- Low cost, high reliability
- 2 years warranty

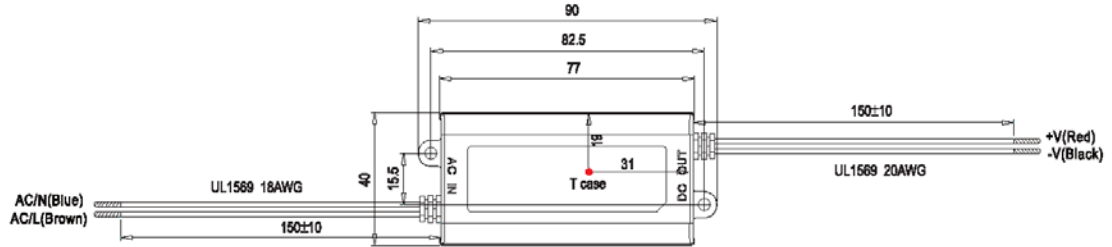


SPECIFICATION

MODEL	APV-12-5	APV-12-12	APV-12-15	APV-12-24	
OUTPUT	DC VOLTAGE	5V	12V	15V	24V
	RATED CURRENT	2A	1A	0.8A	0.5A
	CURRENT RANGE	0 ~ 2A	0 ~ 1A	0 ~ 0.8A	0 ~ 0.5A
	RATED POWER	10W	12W	12W	12W
	RIPPLE & NOISE (max.) Note.2	100mVp-p	120mVp-p	120mVp-p	150mVp-p
	VOLTAGE TOLERANCE Note.3	±5.0%			
	LINE REGULATION	±1.0%			
	LOAD REGULATION	±2.0%			
	SETUP, RISE TIME Note.6	1500ms, 30ms / 230VAC		1500ms, 30ms / 115VAC at full load	
	HOLD UP TIME (Typ.)	20ms/230VAC	15ms/115VAC at full load		
INPUT	VOLTAGE RANGE Note.4	90 ~ 264VAC	127 ~ 370VDC		
	FREQUENCY RANGE	47 ~ 63Hz			
	EFFICIENCY (Typ.)	76%	82%	82%	84%
	AC CURRENT	0.2A/230VAC 0.35A/115VAC			
	INRUSH CURRENT(Typ.)	COLD START 70A(twidth=120µs measured at 50% Ipeak) at 230VAC			
PROTECTION	LEAKAGE CURRENT	0.25mA / 240VAC			
	OVER LOAD	Above 105% rated output power Protection type : Hiccup mode, recovers automatically after fault condition is removed			
	OVER VOLTAGE	5.75 ~ 6.75V	13.8 ~ 16V	17.5 ~ 21V	27.6 ~ 32.4V
ENVIRONMENT	WORKING TEMP.	-30 ~ +70°C (Refer to "Derating Curve")			
	WORKING HUMIDITY	20 ~ 90% RH non-condensing			
	STORAGE TEMP., HUMIDITY	-40 ~ +80°C, 10 ~ 95% RH			
	TEMP. COEFFICIENT	±0.03%/°C (0 ~ 50°C)			
	VIBRATION	10 ~ 500Hz, 2G 10min./1cycle, period for 60min. each along X, Y, Z axes			
SAFETY & EMC	SAFETY STANDARDS	UL8750, CSA C22.2 No.250.0-08 approved, Design refer to TUV EN61347-1			
	WITHSTAND VOLTAGE	I/P-O/P:3.75KVAC			
	ISOLATION RESISTANCE	I/P-O/P:>100M Ohms / 500VDC / 25°C / 70% RH			
	EMC EMISSION	Compliance to EN55015, EN61000-3-2 Class A, EN61000-3-3			
OTHERS	EMC IMMUNITY	Compliance to EN61547, EN61000-4-2, 3, 4, 5, 6, 8, 11; light industry level (surge 2KV), criteria A			
	MTBF	1145.7K hrs min. MIL-HDBK-217F (25°C)			
NOTE	DIMENSION	77*40*29(L*W*H)			
	PACKING	0.08Kg; 120pcs/11.8Kg/0.93CUFT			
<p>1. All parameters NOT specially mentioned are measured at 230VAC input, rated load and 25°C of ambient temperature. 2. Ripple & noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1µf & 47µf parallel capacitor. 3. Tolerance : includes set up tolerance, line regulation and load regulation. 4. Derating may be needed under low input voltage. Please check the static characteristics for more details. 5. The power supply is considered as a component that will be operated in combination with final equipment. Since EMC performance will be affected by the complete installation, the final equipment manufacturers must re-qualify EMC Directive on the complete installation again. 6. Length of set up time is measured at first cold start. Turning ON/OFF the power supply may lead to increase of the set up time. 7. The unit might not be suitable for lighting applications in EU countries. Please check with your local authorities for the possible use of the unit.</p>					

■ Mechanical Specification

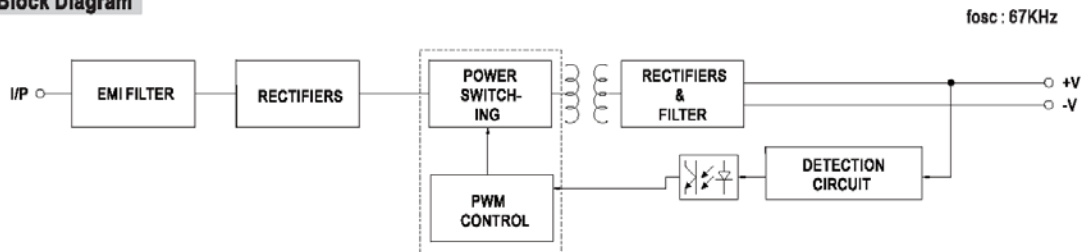
Unit:mm



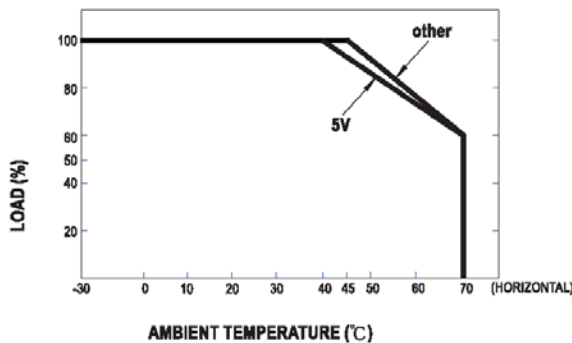
※ T case: Max. Case Temperature



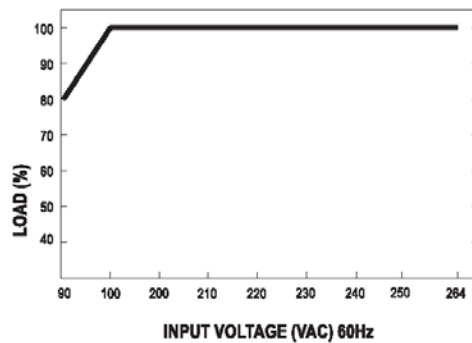
■ Block Diagram



■ Derating Curve



■ Static Characteristics



Product Brief



OGM has been working with a collection of small US businesses since 2002 to provide innovative products and solutions to our Maritime Customers. The LX2-Pier light is an OGM design and manufactured with OGM's long-standing manufacturing partner in San Marcos, Texas. Ember Industries, Inc. is a full service ISO 9001:2000 certified contract manufacturing organization with extensive experience in the electronic assembly industry for military and medical.

As an environmentally conscientious company, Ember is fully compliant to the requirements of the RoHS initiatives and recycles much of the waste materials and byproducts resulting from the assembly process.

Ember Industries:
ISO 9001:2000



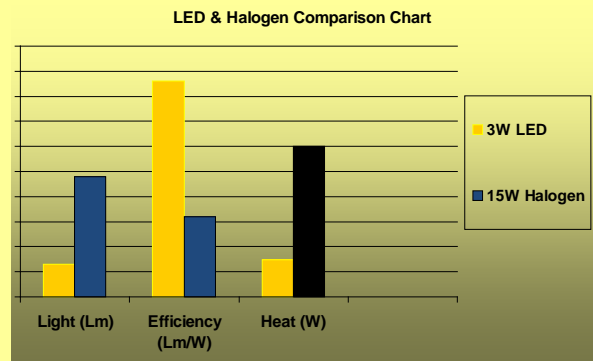
“ OGM continues to bring leading edge LED & Renewable technology to the Marine Industry. ”



Why use LEDs?

- ✓ **Efficiency** --up to 5 times less power than conventional bulbs for lighting
- ✓ **Reliability** --LEDs are semiconductors which are immune to shock and vibration
- ✓ **Long Life** --Last 25 to 50 times longer than conventional bulbs
- ✓ **Lower Maintenance Cost** --No replacement bulbs need to be stocked or routine bulb replacements. LEDs will last 17 years with daily operation.
- ✓ **Low Heat**

LED & Halogen Comparisons for Light Output and Efficiency*



*Based on 2006 technology



Small Businesses United



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OGM™

Orca Green Marine, LLC
Industrial/Bridges/Piers
7040 Bembe Beach Road, Ste 1
Annapolis, MD 21403
Pending ED/WOSB Certification