

Sealite® Sphere

- Easy Direct Replacement of a Halogen Light
- 6000 Meter (6013 Al) or 11000 Meter (Be-Cu) Depth Rated
- True Lumen Output Brighter Than a 150W HID Light
- 120V AC (50/60Hz)/120V DC Dimmable
- Available In Different Color Temperatures and Housing Materials
- Virtually Zero Maintenance With Over 50,000 Hours of Rated LED Lifespan
- Provides The Highest True Lumens Per Watt and Lumens Per Weight



Patents Pending



DEEPSEA

POWER & LIGHT

SeaLite® Sphere

MANUAL REV 03/09/11



Patent Pending

GENERAL NOTES AND WARNINGS

Your SeaLite® Sphere is designed and built for years of maintenance-free operation. Simple pre- and post-cruise maintenance is all that should be done.

- There should be no reason to ever open the body of your SeaLite® Sphere light. There are no user serviceable parts inside your new underwater light. Your SeaLite® Sphere was thoroughly pressure tested prior to leaving the factory to confirm the integrity of the complete assembly. Opening the housing may cause potential problems when resealing.
- You may run your SeaLite® Sphere at full power in air. This light is equipped with thermal sensing circuitry which will automatically shut down your light and prevent it from overheating. The light will return to full brightness once it is submerged and allowed to cool.

- **DANGER!** When the SeaLite® Sphere is operated in air the body may reach temperatures in excess of 65° C (150°F). These temperatures may be enough to cause burns if the light is handled without protective clothing.
- Do not tamper with the split retaining ring that holds the front window. The front window requires a press to install the split retaining ring, and it is difficult to reinstall. Tampering with the lighthouse in any way may damage the light and void your warranty.
- **DANGER!** Do not operate any high voltage electrical equipment in or around water without using a Ground Fault Interrupt circuit (GFI) and an isolation transformer, especially when divers are in the water.
- **WARNING!** Do not clean any part of the lighthouse with any type of alcohol.

PRE DIVE INSPECTION

- Check to make sure that the rear bulkhead connector is secure before deployment.
- Check the following areas for previous damage, wear or corrosion: rear bulkhead connector, power cable, front window, and cowl.

POST DIVE INSPECTION

- Rinse your SeaLite® Sphere in fresh water after use in saltwater.
- **DANGER!** After each deployment, carefully check to make sure the light is operational and has not flooded. If it gets flooded, upon surfacing, the light can become internally pressurized, which may be potentially dangerous. Additionally, if the power remains on when the light has partially flooded, it is possible for electrolytic generation of an explosive mixture of hydrogen and oxygen gases. If a light appears flooded upon removal from the water, it should be treated as potentially dangerous. Point the light away from persons and valuable equipment and make sure that the power is disconnected. See the Flooded Light Repair procedure for more information.



DEEPSEA
Power & Light®

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TROUBLESHOOTING

1. If the light stops working while underwater assume that it has been flooded. **See Flooded Light Repair procedure below.**
2. Once it has been determined that the light is not flooded, or if it does not turn on during pre-deployment checks, check the input power cable/inline connector to make sure that correct voltage is being supplied, and that the correct pinout is being used. See page 4 and 5 of this manual for electrical specs and connector pin assignments.
3. If the light still does not work, return it to DSPL using the **RMA Procedure for Repair** below.

FLOODED LIGHT REPAIR

If the light stops working while underwater, you should assume that it has been flooded. When working on a potentially flooded light, it is important to use appropriate personal protective equipment to include, at a minimum, eye and hand protection.

1. Place the light face down on a table making sure that the connector side is facing up.
2. Slowly unscrew the connector until the face o-ring seal no longer touches the back of the body. This will vent any internal pressure to atmospheric pressure. Listen for venting gases from around the threads. Soapy water will help show any leaking gas.
3. Once it is determined that the light is not or no longer internally pressurized, it is recommended that the light be returned with the connector partly unscrewed as in step 2 above, to DeepSea Power & Light for evaluation and repair using the **RMA Procedure for Repair** below.
4. An emergency field repair kit with instructions is available from DeepSea Power & Light. See below.

FIELD REPAIR KIT

- DeepSea offers a field repair kit (driver board, o-rings, desiccant pack) with detailed instructions should you wish to have the resources to change an LED driver in the field. Contact DSPL Sales for further information.
- It is recommended that the light be pressure tested once reassembled. If pressure testing facilities are not available, soak the light in clean, fresh water for several hours to insure that the light is at least sealed well enough to hold out water.

IMPORTANT! DeepSea Power & Light cannot be responsible for any damage incurred during emergency field repairs. Evidence of opened housings will void the warranty. Such repairs should be undertaken only as a last resort and by qualified personnel.

LIMITED WARRANTY

Seller warrants that the goods (except internal electronic components) sold under this contract will be free from defect in material and workmanship for a period of one year from the date of shipment from the factory, if they have been properly used. Internal electronic components are warranted for 90 days from the date of shipment from the factory, if they have been properly used. This warranty will be limited to the repair or replacement of parts and the necessary labor and services required to repair the goods. **IT IS EXPRESSLY AGREED THAT THIS WARRANTY WILL BE IN LIEU OF ALL WARRANTIES OF FITNESS AND IN LIEU OF THE WARRANTY OF MERCHANTABILITY.** This warranty is the exclusive and only warranty to pass with the goods under this contract. No agent, employee, or representative of the Seller has any authority to bind Seller to any information, representation, or warranty concerning the goods sold under this contract, and unless an affirmation, representation, or warranty made by an agent, employee, or representative is specifically included within this contract, it will not be enforceable by Buyer. If notice of defect is given to DeepSea Power & Light, Inc. within such 90 day or one year warranty period, the sole obligation of DeepSea Power & Light, Inc. shall be to furnish new or repaired parts free of charge in exchange for parts which have been proved defective and does not include any other costs such as the cost of removal of the defective part, installation, labor, or consequential damages of any kind, the exclusive remedy being to require DeepSea Power & Light, Inc. to furnish such new parts. Under no circumstances shall the Buyer be entitled to recover any incidental damages as that term is defined in Commercial Code §2715.

RMA PROCEDURE FOR REPAIR

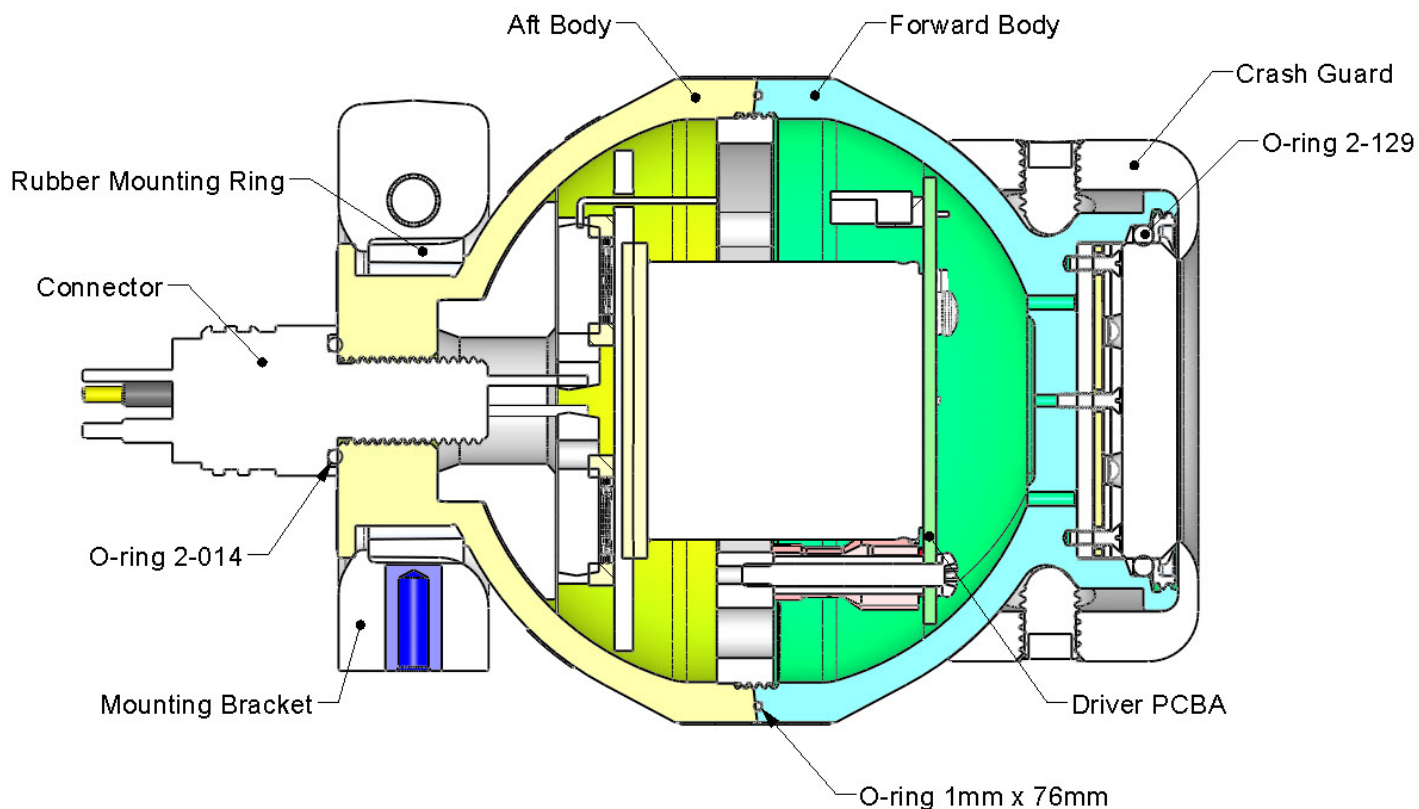
Should it be necessary to return your Matrix to the factory, follow the procedure for the **Flooded Light Repair** above, leaving the connector partially unscrewed.

For warranty and non-warranty repairs please contact DeepSea Power & Light for a RMA number prior to returning your item. Please have your light model number, serial number and any other pertinent information along with a description of the problem, on hand when you call, or include them in a fax or e-mail.

When shipping your item, be sure that the freight is pre-paid (CODs will not be accepted) and that the RMA number is clearly printed on the outside of the box.

All shipments should be sent to the address below:

DeepSea Power & Light
Attn: RMA #####
4033 Ruffin Road
San Diego, CA 92123-1817
U.S.A
Tel: (858) 576-1261
Fax: 858-576-0219
e-mail: RMA@deepsea.com



PARTS LIST

Part Number	Description
712-029-023-0A	Aft Body
712-029-026-0A	Forward Body
712-029-605-0A	Crash Guard Kit (include 4 plastic screws)
712-029-907-0A	Driver Board 120V AC/DC
710-040-605-0A-01	Mounting Bracket Kit
712-029-028-0A	Rubber Mounting Ring
(See spec sheet)	Electrical Connector
712-029-601-0A	Fuse Replacement Kit
712-029-602-0A	Driver Replacement Kit
712-029-603-0A	Interconnect PCB Replacement
712-029-035-0A	Logo Label (included in O-ring kit)
712-029-606-0A	O-rings Kit (includes 2-129, 1mm x 76mm, 2-014, desiccant, and label)

SeaLite® Sphere

Finally, a true & simple LED equivalent to a Halogen light that does not require any compromises. Utilizing the latest in high brightness LED technology, the SeaLite Sphere provides incredible light output for its amazingly compact size. Engineered to be extremely rugged and reliable, this solid light encompasses a long list of useful and practical features. Automatic thermal shutdown, scratch-resistant sapphire crystal port, and its simple dimming options are just a few examples of features integrated into a spherical pressure housing rated to 6000m allowing this light to easily handle anything that the harsh ocean environment throws at it, from the splash zone to the deep ocean abyssal plains.

The SeaLite Sphere is ideal for any applications where space is at a premium, price is an important consideration, and lumens-to-weight ratio is one of the deciding factors. With an ultra-long life, the SeaLite Sphere requires no maintenance and no bulb replacement.

Leave the lighting of your next mission to us! Let us use our 28 years of expertise as the world leading manufacturer of reliable underwater lights for deep submersibles, ROV's, offshore oil & commercial diving industries to illuminate where you work.

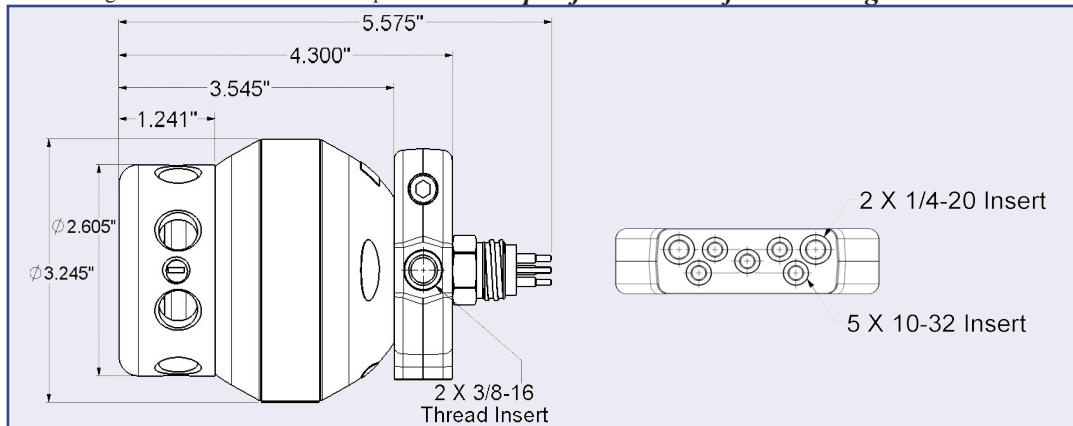
MECHANICAL	
Body Material	Hard Anodized 6013-T8 Aluminum (standard) Beryllium copper (optional)
Window Material	Sapphire
Mounts	High Strength Plastic Mounting Collar (standard & included) Stainless Steel Yoke & Helmet Mounting Brackets are available
Weight in Air	710 g (1.56 lbs) for standard Al housing
Weight in Salt Water	267 g (0.58 lbs) for standard Al housing
Implodible Volume	127.82 cm ³ (7.8 in ³)
True Lumens / Watt	53 Lumens/Watt
True Lumens/Weight in Water	25 Lumens/Gram for standard Al housing
ENVIRONMENTAL	
Depth Rating	8,820 psi (6,000 m - 20,000 ft)
Test Pressure	10,000 psi
Crush Depth*	13,000 psi (8,964 msw - 29,578 fsw)
Min/Max Operation Temp.	-10°C to 40°C (14° to 104°F)
OPTICAL	
Color	Red, White 6k° Mix, White, Blue, Green
Lumens in the Water**	Standard: 6000 Lumens typical (whit 6k° Mix LED's) Optional: 6300 Lumens typical (with 9000°K LED's)
Color Temp	Standard: 6000°K (White 6k° Mix) Optional: 9000°K (White LED's)
Beam Pattern***	Flood: 75°
Color Rendering Index (CRI)	77 (Standard White LED's)
ELECTRICAL	
Input	1.5A @ 120V AC Nominal (140V AC Max), 150W 1.0A @ 135V DC Nominal, 150V DC Max, 150W Max
Dimming	AC phase control dimmer & variable voltage (Variac)

*Crush depth is based on one sample only.

**True amount of light leaving the fixture, as measured with a calibrated integrating sphere. (calibration traceable to NIST)

***Beam angle measured to full width half power.

Specifications subject to change without notice.

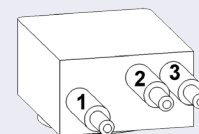


Standard Connectors



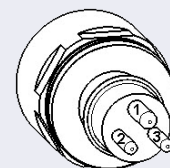
BH3MP

(1=Hot, 2=Neutral, 3=Ground to shell)



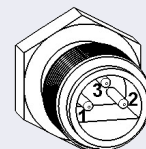
LPBH3MP

(1=Hot, 2=Neutral, 3=Ground to shell)



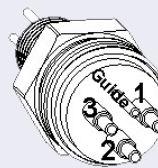
XSG3BCL

(1=Ground to shell, 2=Neutral, 3=Hot)



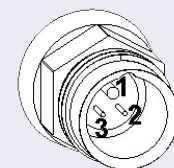
1503

(1=Hot, 2=Neutral, 3=Ground to shell)



MCBH3MP

(1=Hot, 2=Neutral, 3=Ground to shell)



MSAJ3BCR

(1=Hot, 2=Neutral, 3=Ground to shell)

Patents Pending

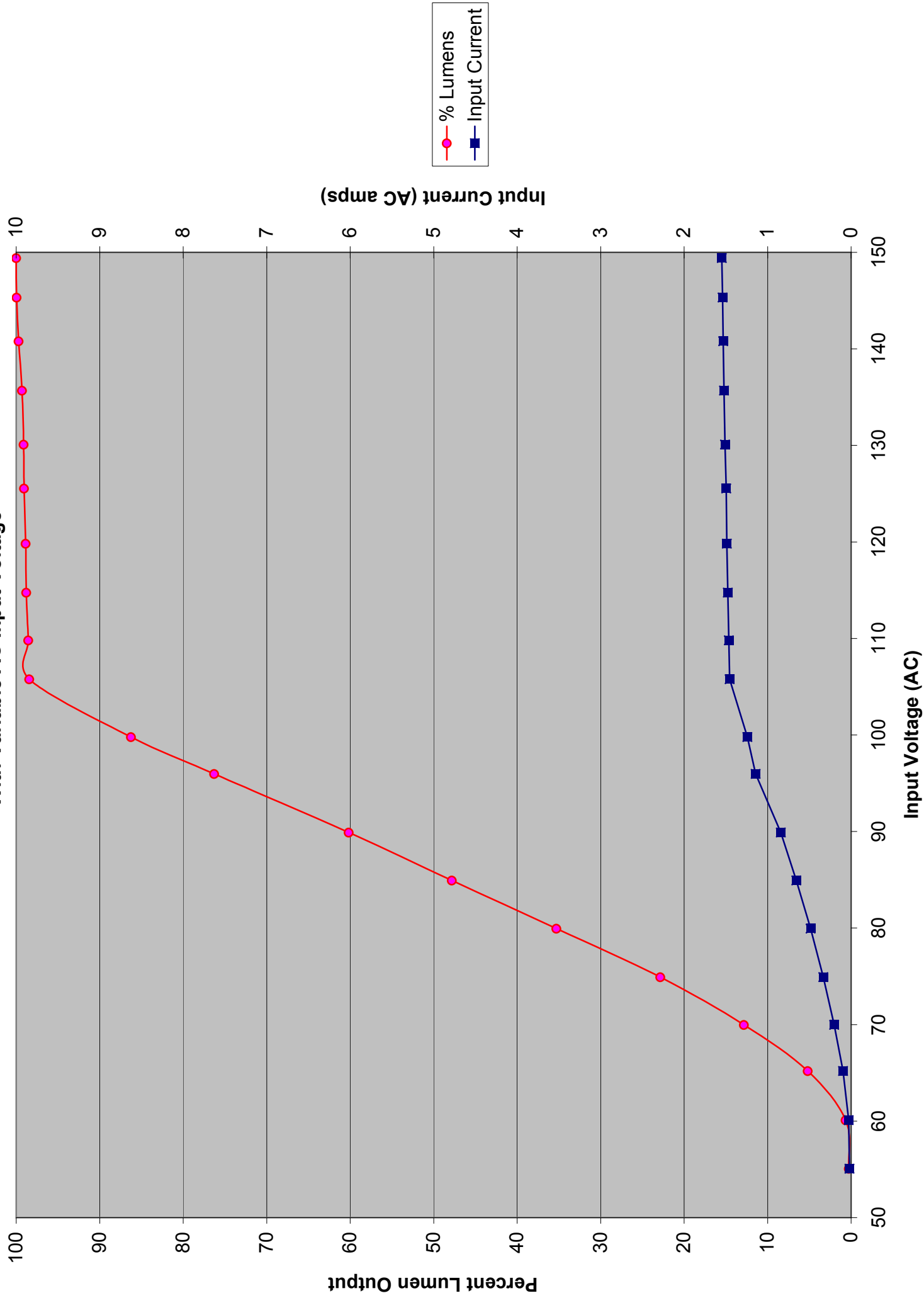
DSPL ENG 712-029-001 Rev: 03/09/11



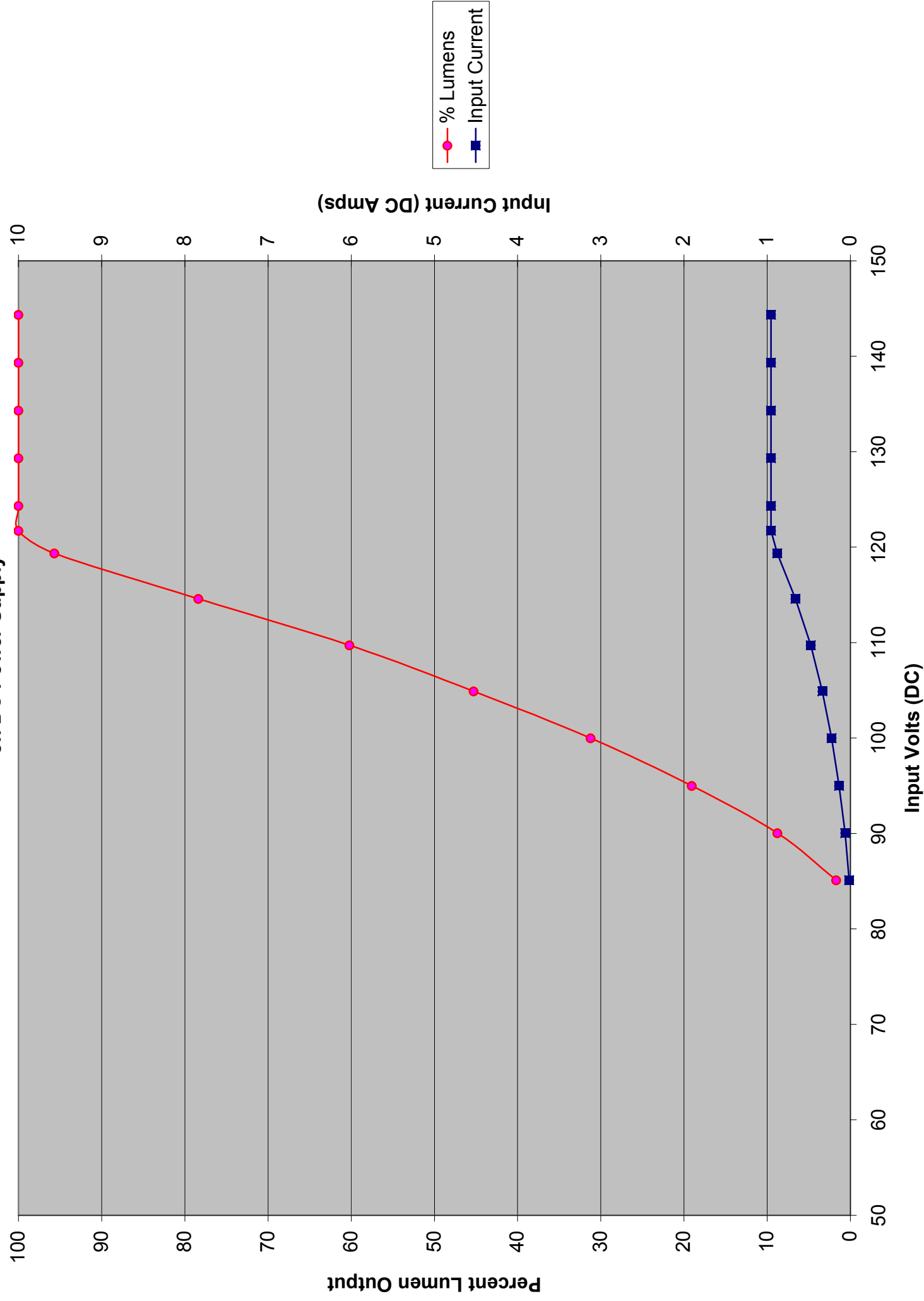
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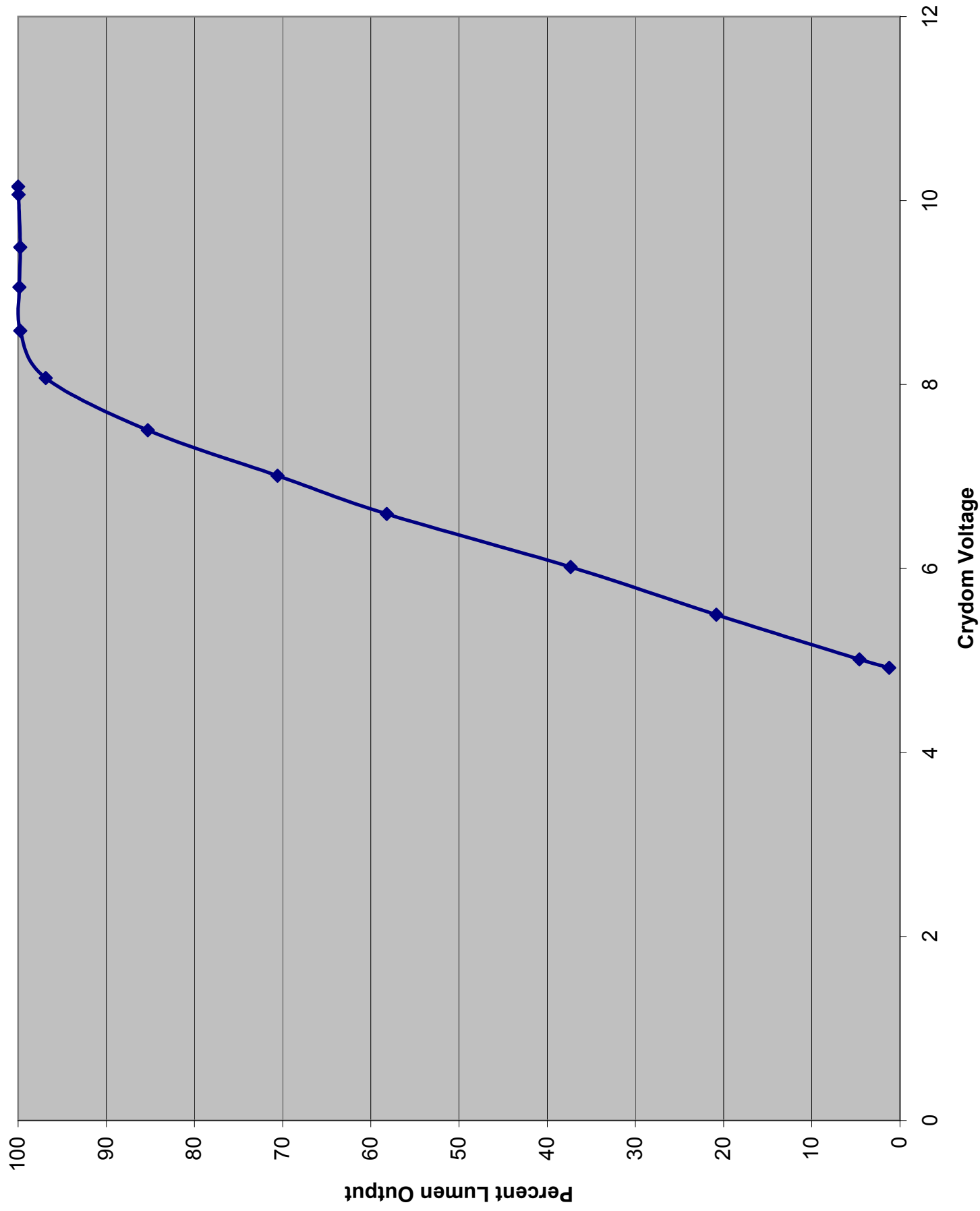
Sealite® Sphere Dimming Characteristics
With Variable AC Input Voltage



Sealite® Sphere Dimming Characteristics
on DC Power Supply



**Sealite® Sphere Dimming Characteristics
on a Crydom Phase Control Dimmer**



—◆— % Lumens

