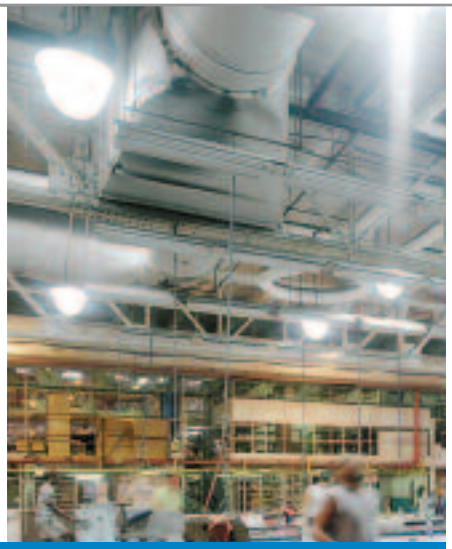
MasterColor® Ceramic Metal Halide HPS-Retro White™

Replace yellow light with crisp, bright white light with just a simple twist!

Standard HPS Lamp



MasterColor HPS-Retro White

Ideal for industrial applications, warehouses, post top applications and parking lots

- **Optimized for Operation on HPS Ballasts**
- **No Shut Off Required**
  Ideal for 24-hour a day, 7-day a week operations (relamp fixtures at or before the end of rated life)
- **Patent-Pending Coil Design Offers Protection for Open Fixture Rating**
- **Uses ALTO® Lamp Technology to Pass EPA's TCLP* Test for Non-Hazardous Waste**
  Offers reduced cost for hazardous waste disposal
- **85%+ Lumen Maintenance**

** The TCLP is the US EPA's Toxicity Characteristic Leaching Procedure.*

PHILIPS

Boeing Made the Switch!

…from yellow to MasterColor® HPS-Retro White™

"The HPS-Retro White lamps allowed us to change HPS fixtures to white light without replacing the fixtures. The 17% reduction in footcandles has been compensated by the brighter light. The brighter lamps have eliminated shadows. HPS-Retro White has provided another tool for better lighting by just changing the lamp."

John W. Daigh, Boeing Plant Engineering

Photos courtesy of Boeing

Boeing Plant, Wichita, Kansas. Standard HPS bulbs (left) were replaced by MasterColor HPS-Retro White bulbs (above) in July, 2001.

A Mail-Handling Facility Made the Switch!

…from yellow to MasterColor® HPS-Retro White™

In a mail-handling facility in Minnesota, standard HPS bulbs (above) were replaced by MasterColor HPS-Retro White bulbs (right).

Don Wong Photo, Inc.

The Ceramic Discharge Arc Tube is more robust than the traditional quartz arc tube

– Superior lumen maintenance
– Crisp, bright, white light

Patent-Pending "Coil Design"

– Rated for open fixture use
– Ability to operate 24/7 without shut off†

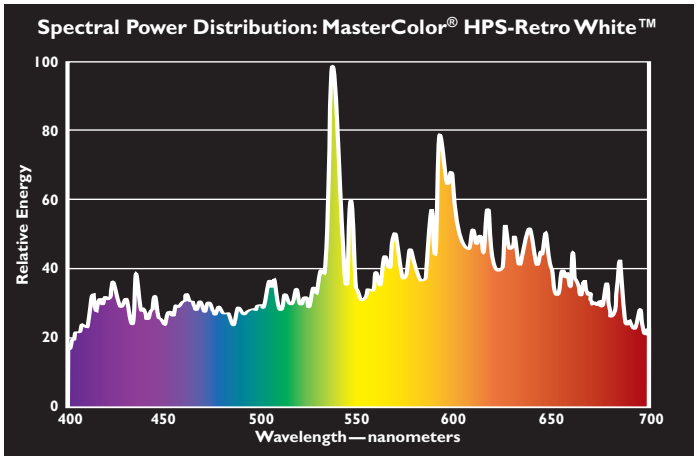
Uses ALTO Lamp Technology

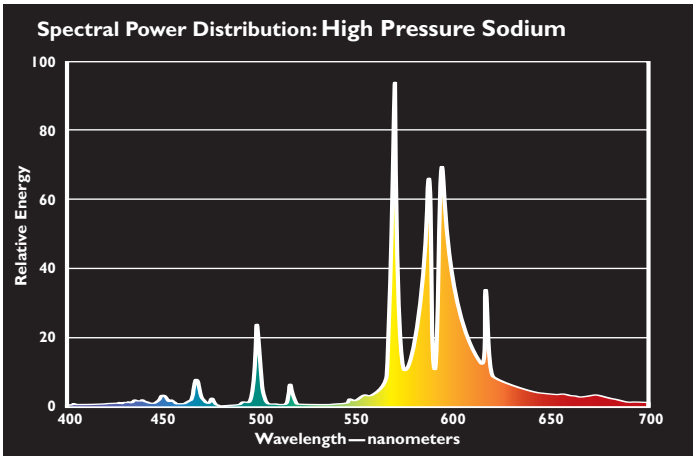
– Passes the EPA's Toxicity Characteristic Leaching Procedure (TCLP)†† for non-hazardous waste.

– This lamp is better for the environment because of its reduced mercury content. See Philips' ALTO® Brochure for more information, which is available online at:
http://www.lighting.philips.com/nam/products/catalog.php

Compare the Type of Costs for the White Light Alternative!

New Metal Halide Fixture	Lamp/Ballast Retrofit	MasterColor® HPS-Retro White™
– Labor – Lamp – Ballast – Disposal – Fixture	– Labor – Lamp – Ballast – Disposal	– Labor – Lamp





† Relamp fixtures at or before end of rated life.
†† Consult local laws & regulations which may vary.

Philips Lighting Company
200 Franklin Square Drive
P.O. Box 6800
Somerset, NJ 08875-6800
1-800-555-0050
A Division of Philips Electronics North America Corporation

Printed in USA 10/04 P-5497-C

www.philips.com

Philips Lighting
281 Hillmount Road
Markham, Ontario
Canada L6C 2S3
1-800-555-0050
A Division of Philips Electronics Ltd.

MasterColor® HPS-Retro White™

Electrical, Technical and Ordering Data (Subject to change without notice)

Product Number	Ordering Code	Nom. Watts	Bulb	Base	Std. Pkg. Qty.	ANSI Ballast Code	Color Temp. (Kelvin)	CRI	Rated Average Life (Hrs.)[351]	Approx. Initial Lumens[352]	Mean Lumens[353]
13093-0	CDM 250 S50/V/O/4K	250	ED-18	Mog.	12	M168/O	4000K	85	20,000	22,500	19,125
13094-8	CDM 400 S51/V/O/4K	400	ED-18	Mog.	12	M169/O	4000K	85	20,000	34,000	28,900

351) Rated average life is the life obtained, on the average, from large representative groups of lamps in laboratory tests under controlled conditions at 10 or more operating hours per start. It is based on survival of at least 50% of the lamps and allows for individual lamps or groups of lamps to vary considerably from the average.
352) Values for vertical operation of lamp.
353) Approximate lumen output at 40% of lamp rated average life.

V = Vertical operation ± 15°
ANSI Code: O = Open Fixture Rated

RECOMMENDED WARNINGS, CAUTIONS, AND OPERATING INSTRUCTIONS

WARNING: "These lamps can cause serious skin burn and eye inflammation from short wave ultraviolet radiation if outer envelope of the lamp is broken or punctured. Do not use where people will remain for more than a few minutes unless adequate shielding or other safety precautions are used. Certain lamps that will automatically extinguish when the outer envelope is broken or punctured are commercially available." This lamp complies with FDA radiation performance standard 21 CFR subchapter J. (USA: 21CFR 1040.30 Canada: SOR/ DORS/80-381).

If the outer bulb is broken or punctured, turn off at once and replace the lamp to avoid possible injury from hazardous short wave ultraviolet radiation. Do not scratch the outer bulb or subject it to pressure as this could cause the outer bulb to crack or shatter. A partial vacuum in the outer bulb may cause glass to fly if the envelope is struck.

WARNING: The arc-tube of metal halide lamps are designed to operate under high pressure and at temperatures up to 1000° C and can unexpectedly rupture due to internal or external factors such as a ballast failure or misapplication. If the arc-tube ruptures for any reason, the outer bulb may break and pieces of extremely hot glass might be discharged into the surrounding environment. If such a rupture were to happen, **THERE IS A RISK OF PERSONAL INJURY, PROPERTY DAMAGE, BURNS AND FIRE.**

These lamps are designed to retain all the glass particles should an arc tube rupture occur. The following operating instructions are recommended to minimize these occurrences.

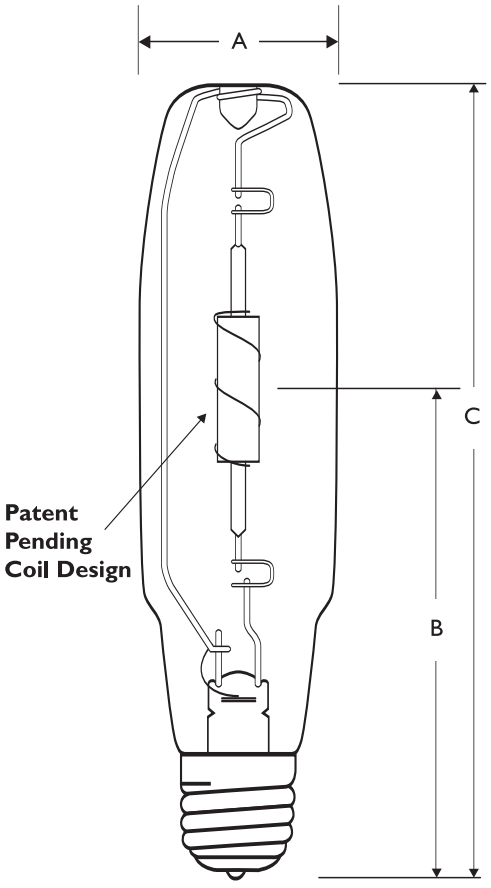
RELAMP FIXTURES AT OR BEFORE THE END OF RATED LIFE. Allowing lamps to operate until they fail is not advised and may increase the possibility of inner arc tube rupture.

This lamp contains an arc tube with a filling gas containing Kr-85 and is distributed by Philips Lighting Company, a division of Philips Electronics North America Corporation, Somerset, New Jersey, 08875.

CAUTION: TO REDUCE THE RISK OF PERSONAL INJURY, PROPERTY DAMAGE, BURNS AND FIRE RESULTING FROM AN ARC-TUBE RUPTURE THE FOLLOWING **LAMP OPERATING INSTRUCTIONS** MUST BE FOLLOWED:

LAMP OPERATING INSTRUCTIONS:

1) RELAMP FIXTURES AT OR BEFORE THE END OF RATED LIFE. Allowing lamps to operate until they fail is not advised and may increase the possibility of inner arc tube rupture.
2) Before lamp installation/replacement, shut power off and allow lamp and fixture to cool to avoid electrical shock and potential burn hazards.
3) Use only auxiliary equipment meeting Philips and/or ANSI standards. Use within voltage limits recommended by ballast manufacturer.
   A. Operate lamp only within specified limits of operation.
   B. For total supply load refer to ballast manufacturers electrical data.
4) Periodically inspect the outer envelope. Replace any lamps that show scratches, cracks or damage.
5) If a lamp bulb support is used, be sure to insulate the support electrically to avoid possible decomposition of the bulb glass.
6) Protect lamp base, socket and wiring against moisture, corrosive atmospheres and excessive heat.
7) Time should be allowed for lamps to stabilize in color when turned on for the first time. This may require several hours of operation, with more than one start. Lamp color is also subject to change under conditions of excess vibration or shock, and color appearance may vary between individual lamps.
8) Lamps may require 10 to 20 minutes to re-light if there is a power interruption.
9) Take care in handling and disposing of lamps. If an arc tube is broken, avoid skin contact with any of the contents or fragments.



Dimensions (mm/in)	
A =	57/2.25
B (LCL) =	146/5.75
C (MOL) =	248/9.75

LCL = Light Center Length
MOL= Maximum Overall Length