



**COOL LIGHTS**™

# **CL-MF0150 150w CDM (Ceramic Discharge Metalhalide) Fresnel Operations Manual**



**Cool Lights USA  
[www.CoolLights.biz](http://www.CoolLights.biz)**

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## Introduction

This is the operations manual for the Cool Lights USA CL-MF0150 CDM (Ceramic Discharge Metalhalide) 150 watt Fresnel Spotlight. Your CDM 150 puts out an equivalent hard light to a tungsten 650w fresnel (without the same wattage draw or heat) and includes all the features you would expect to find in any fresnel including a focus control and fresnel lens. You should have received the CL-MF0150 fresnel, a barndoor unit, mounting yoke with yoke to baby stand adapter, 10 ft. fresnel to ballast connection cable (permanently attached to fresnel on one end), a 150w CDM ballast, 15 foot American power cord with IEC adapter and a CDM bulb in either 5400K or 3000K depending upon the choice you made when ordering. While the CDM 150 ballast includes an American power cord, it functions on any voltage between 100VAC and 240VAC 50/60hz. All items have been protected by the Expanded Polyethylene (EPE) Foam pictured in Figure 1, which shows the contents of the box you received. Should any parts be missing contact us at [support@coolights.biz](mailto:support@coolights.biz) and mention your order number and which part or parts are missing.



Figure 1: Packing of the CL-MF0150 Fresnel

## Assembly Process

**Remove the fresnel from the box.** Take the fresnel from the box and remove the plastic sac which surrounds it for protection. Also remove the CDM 150 ballast. The fresnel-to-ballast connection cable (also known in the industry as “ballast-to-lamp head cable”) is permanently attached to the fresnel and has a 3 pin, keyed bayonet style connector on one end. This connector will mate with the female side on the CDM 150 ballast and lock in place with 1/3 turn. You should find the bulbs you were to receive in the same box packed in the EPE foam inserts. Remove those also—they come in a small cardboard box.



**Figure 2 – The hinge side of the lid on the left**

is the side you will open from. To open the lid, you should push in on the lid firmly until it unlatches from the right side (the side opposite of the hinges). Then simply open it up. Inside you can see what is known as the focusing sled. On the focusing sled is the mirror and the G12 socket where you will insert the CDM bulb. Since the bulb has an outer envelope of quartz, you should not handle it directly with your

**Insert the bulb in the fresnel.** In order to insert the CDM bulb into the fresnel, you must open the top lid to access the socket area inside. While the insertion of the bulb may be easy, it is not intuitive how to access the bulb compartment by opening the lid. This is because the lid has a seamless look to it and it is not evident that it can be opened. Starting off, you should hold the lid as shown in figure 2. This picture shows that the left side (facing from the back or top) has hinges for the lid and thus, the other side is a sort of latch and



**Figure 3 – The right side opens...**



**Figure 4 – Inserting the bulb**

hands. It's best to use a soft cloth of some sort as shown in Figure 4. The oils from your fingers can shorten the life of the bulb so keep this in mind! There is no polarization on the bulb so therefore it is not important which pin goes into which part of the socket. In addition, there is no functional difference between the CL-15054 daylight CDM bulb and the CL-15030 "tungsten" CDM bulb other than color temperature. Both bulbs insert in the same manner. To close the lid, simply shut it, squeeze a bit on the lid and latch it back in place.

**Put the fresnel on a stand.** The bottom of the yoke on the fresnel includes a yoke to baby stand adapter with a thumbscrew adjustment to lock it in place. Open the thumbscrew enough to allow the unobstructed insertion on the baby "spud" or 5/8" male adapter at the top of your stand. Then tighten the thumbscrew to make sure of a secure attachment. The fresnel should not wobble on the connection.



**Figure 5 – Putting on a stand**

**Warning.** You should not over-tighten the thumbscrew either as it can be stripped and ruined with too much forcing. Just apply enough tightening pressure to get a good connection and not more.



**Figure 6 – The connectors and switch on the ballast**

**Attach the lamp head (fresnel) to ballast cable to the ballast.** The lamp head has a 10 foot cable attached to it with a gray 3 pin connector on the end as shown in Figure 6. This connector is keyed and cannot be attached wrongly to the ballast. Simply find the key and match it to the connector on the ballast and then turn 1/3 turn to lock and secure it in place.

**Warning.** You should never attach this connector while the ballast is plugged in to line voltage, nor should you un-attach it while ballast is plugged in. You run the risk of damaging the ballast in this case!

**Mounting ballast on the light stand.** The ballast includes a nylon strap and carabiner clip (attached to its

back) to allow versatile attachment in different configurations to the light stand or yoke. You can simply attach the carabiner to one of the thumbscrews of the light stand or to the yoke. You can wrap the nylon strap around the base of the light stand, etc. Many different configurations are possible with this included type of attachment. Of course, you can also just lay the ballast on the floor at the base of the light stand as well. Figure 7 shows the carabiner attached to the top riser thumbscrew of the light stand.



**Figure 7 – Ballast attached to stand with carabiner**

**Plug the ballast into the wall socket.** Make sure the power switch of the ballast is in the off or “0” position. Using the included American IEC type power plug, insert the IEC adapter end into the ballast and the other plug end into the wall socket. The ballast can operate on any voltage in the world from 100v to 240v 50/60hz. To adapt the American power plug to another socket type in another country is a simple mechanical type adapter and no other transformer or other type of adaptation is necessary.

**Turn on the ballast.** Simply turn the ballast switch to the “1” or on position. The switch is pictured in Figure 6 right next to the IEC power plug. Once started, the light slowly comes up to full color temperature over 5 minutes (or less). It starts faint and gradually builds up to a bluish-green cast and finally to 5400K for the “daylight” CDM and



**Figure 8 – The bulb takes up to five minutes to stabilize color temperature.**



**Figure 9 – Color Stabilized after 5 minutes.**

3000K for the “tungsten” CDM version. Figure 9 shows the color stabilization of the light after 5 minutes.

**IMPORTANT NOTE ON BULB IGNITION / COOL DOWN:**

Should you turn off the fresnel or should the power go out (unplanned), you should not expect the fresnel to light again for 5 minutes or so. If you do turn it back on before the cool down period is over, there is an enforcing timer in the ballast that keeps it from coming on until it senses the bulb has cooled down enough. It will retry every 2 minutes or so until it senses the current necessary to ignite is in the proper range (bulb is cool) and will then reignite. This type of bulb and system is known as a “cold start” system or “not hot restart” (NHR). An

“HMI” (Osram Trademark) or one of its “clones” is a hot restart type bulb and has a lesser life. This is one major reason why the CDM 150 bulb life is so long as it is not a hot start (HMI) type of bulb. This hot restart process is extremely stressful to the bulbs and the main reason that HMI bulbs do not last much over 750 to 1000 hours.

**Beam focusing.** On the back of the fresnel is a knob for focusing the spotlight beam between a wide and narrow beam. The knob simply controls a screw drive which rolls the focus sled inside the fresnel back and forth. You will find this to be one of the best features of a fresnel and also the kind of control you typically won’t find in a floodlight or other type open face light. The ability to go between a wide or narrow beam and the barndoors will allow many different kinds of effects. Colored gels clipped to the barndoors make the effects even more interesting. Effects such as a light streak on the background behind a subject. In figure 10, you can also see a handle on the back of the unit, this is to allow easy positioning of angle of the fresnel while it is hot.



**Figure 10 – The beam focus knob.**



**Figure 11 – Angle adjustment thumbscrew.**

**Angle adjustment using the yoke.** When you need to adjust the angle of the fresnel, un-tighten the thumbscrew knob on the side of the fresnel and using the handle (shown in figure 10) on the back of the fresnel simply move into the position desired and retighten the thumbscrew as shown in Figure 11.

**Barndoors.** The CL-MF0150 CDM 150 fresnel includes as standard a barndoor unit which fits into the accessory holder on the front of the fresnel. The barndoors come attached to the fresnel out of the box. They are



**Figure 12 – Barndoor lock.**

locked in place with a safety lock on the top of the fresnel as pictured in Figure 12. In order to unlock this lock and remove the barndoors, simply pull up on the lock and swing it over to one side so it no longer attaches to the barndoor. Then just slide the barndoor up and out of the accessory holders. There is a ring around the barndoor where it attaches to these holders to allow rotating the barndoors 360 degrees around. This is useful in the light streak effects mentioned earlier to get an angle on the streak of light on the wall. When closing the barndoors for storage or shipping, the side flaps close first then the upper and lower fold over the top of the side flaps.

***Fixture transport.*** When transporting the fixture, its best to take the delicate and fragile bulb out if there is even the slightest chance of the fixture not being well protected from bumps and mishaps. Also, never operate the fixture while it is on! This can result in bulb damage.

**Warning.** Wait until the bulb is well cooled down before moving the fresnel around or trying to take it out of the socket. The bulb can be damaged during transport of the fresnel so wait until cool and remove the bulb and store in a secure carrying case. Serious burns or injury can result from touching the hot bulb during its cool-down period!

## Troubleshooting

When troubleshooting any problem, always start with the simplest possibilities and work forward to the more complex ones as you exhaust each scenario. Start with the power plug and make sure it is not only securely plugged into the wall and the IEC plug adapter. The lamp head to ballast connector as well should be securely plugged into the CDM 150 ballast. After that, make sure you have the bulb securely fastened into the G12 socket and are working within the suggested optimum operating temperatures of 60°F and 125°F (15°C to 51°C). There is no fan in the ballast so it is highly recommended not to use it in overly hot conditions for a long period of time.

If all trouble shooting options are exhausted, then you most likely have developed a bad switch, ballast or socket. If the unit is still in warranty, you will need to acquire an RMA from [info@coollights.biz](mailto:info@coollights.biz) so the defective unit can be returned and repaired or replaced.

# Operating Specifications and Parameters

## **General Specifications**

*Lens Size:* 112mm

*Accessory Holder Size:* 168mm

*Weight:* 8 lbs.

*Construction:* Cast aluminum and aluminum extrusions

*Dimensions:* 7.5" long X 11.8" high X 8.6" wide

*Lamp Socket Type:* G12

*Lamp Type:* CDM 150w metal halide type (high CRI)

*Ballast Power Requirements:* 100v to 240v 50 / 60 hz

*Amperage:* .75 amps at 110v / 1.5 amps at 220v

*Power plug type:* American 3 prong (grounded) to IEC adapter

*Dimming Capability:* No

## **Operating Specifications**

*Optimal Temperature Range:* 60°F to 125°F (15°C to 51°C)

## **Conclusion**

This completes setup and testing of the Cool Lights CL-MF0150 CDM 150 Fresnel Spotlight. With proper care, you should get many years of service out of its sturdy aluminum construction, high quality sockets and reflectors and superior universal voltage input ballasts. Thanks for your business!

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