



Optimal lamp performance in existing luminaires

Philips MasterColor CDM Elite Medium Watt Mogul Base Lamp

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An energy-efficient “O” rated ceramic metal halide lamp is now available in ED28 & ED37 bulb shapes, without sacrificing lamp performance.

Philips makes lighting simple for you. We are the world’s leading lighting company with over 100 years of experience in creating integrated top-performing solutions that can lower your energy and maintenance costs, as well as address all of your lighting needs.

Lowering the Total Cost of Ownership

Rising costs combined with budget cuts means doing more with less. That is why our products are designed to reduce the total cost of ownership, thus freeing up resources for other critical services.

Philips can provide the complete solution for your needs today. From ballasts and luminaires to lamps and controls, Philips products can help you reduce maintenance and energy costs.

Environmental Sustainability

Performance is essential to sustainability—in energy efficiency, light levels, user comfort, and environmental impact. Philips has a strong commitment to sustainability. Philips sustainable lighting solutions can help contribute points toward the US Green Building Council Leadership in Energy and Environmental Design (LEED) certifications.

Spot Light: Philips MasterColor CDM Elite MW Mogul Base System

The Philips MasterColor CDM Elite Medium Watt system offers an unrivalled level of light quality and performance. The lamp’s sparkling white light creates a natural ambience and portrays vibrant colors. In addition, the high efficacy of the lamp and ballast system means reduced energy use and a lower cost of ownership compared to a standard Quartz Metal Halide or High Pressure Sodium system.

Now Philips MasterColor CDM Elite MW lamps are available in the familiar ED 28 and ED 37 bulb shapes (210W and 315W) with a Mogul base! For the budget conscious customer, it is the perfect retrofit solution for existing fixtures without the need of an adaptor. In comparison to the original 2-pin Elite MW base, the new Mogul base lamp has a lower system cost, while maintaining the same performance in either an open or enclosed fixture. MasterColor CDM Elite MW Mogul Base lamps are a significant upgrade opportunity over traditional HID systems and a viable alternative to fluorescent options. With a Light Center Length (LCL) identical to a QMH lamp equivalent and a consistent light output of 108 Lumens per Watt, one can create a more natural and inviting ambience.

Application Areas

The MasterColor CDM Elite MW lighting system provides superior, longer-lasting white light for both indoor and outdoor applications, including gas stations, public spaces, roads and floodlighting of buildings.



Features and Benefits:

- Excellent color rendering of CRI = 90
- Long life = 20,000 hours Rated Average Life**
- Easier integration in existing luminaires
- Dimmability option with e-Vision ballast

See the Energy Savings!

System Info	Metal Halide 250W	MasterColor CDM Elite MW 210W Mogul/U	Metal Halide 400W	MasterColor CDM Elite MW 315W Mogul/U
System Wattage	290	230	458	340
Annual Operating Hours	4000	4000	4000	4000
Avg. KWH Rate	\$0.11	\$0.11	\$0.11	\$0.11
Cost of One Watt/yr. ¹	\$0.44	\$0.44	\$0.44	\$0.44
Annual Energy Cost ²	\$127.60	\$101.20	\$201.52	\$149.60
Energy Savings Year One	–	\$26.40	–	\$51.92
Energy Savings ³ - Life	–	\$132.00	–	\$259.60













1. Cost of one watt per year = annual estimated operating hours (4000) x kWh rate (\$0.11) ÷ 1000 kWh. kWh rate may vary.

2. Annual energy cost = cost of one watt per year x system watts.

3. Energy savings based upon wattage saved x (20,000 hrs rated average life ÷ annual operating hours). Elite MW 315 2-Pin RAL = 30,000 hrs.

See which system is best for you

Over the past years Philips has launched Ceramic lamp alternatives for your Quartz Metal Halide installations. This entire line has been designed as smart lighting alternatives. Philips now has 3 distinct options for your needs. Compare the solutions:

System	Quality of Light			Rated Avg. Life**	Operation		Product Features
	CRI	Approx. Initial Lumens	Approx. Mean Lumen*		Retrofit	Ballast	
Energy Advantage CDM with AllStart Technology	≥ 85	up to 33,000	80%@8khrs	≥ 20,000 hrs	No ballast change required	Probe start and pulse start magnetic ballast	   
MasterColor CDM Elite MW Mogul Retrofit	90+	up to 34,300	89%@8khrs	20,000 hrs	Ballast change required	Electronic Ballast	   
MasterColor CDM Elite MW 2-Pin Base	90+	up to 37,800	89%@12khrs	up to 30,000 hrs	New Fixture and ballast change required	Electronic Ballast	   



Retrofit Solution



Dimmable



Energy Savings[†]




Sparkling, white light



Compactness

 Good

 Better

 Best

* Approximate mean lumen output at 40% of lamp rated average life.

** 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.

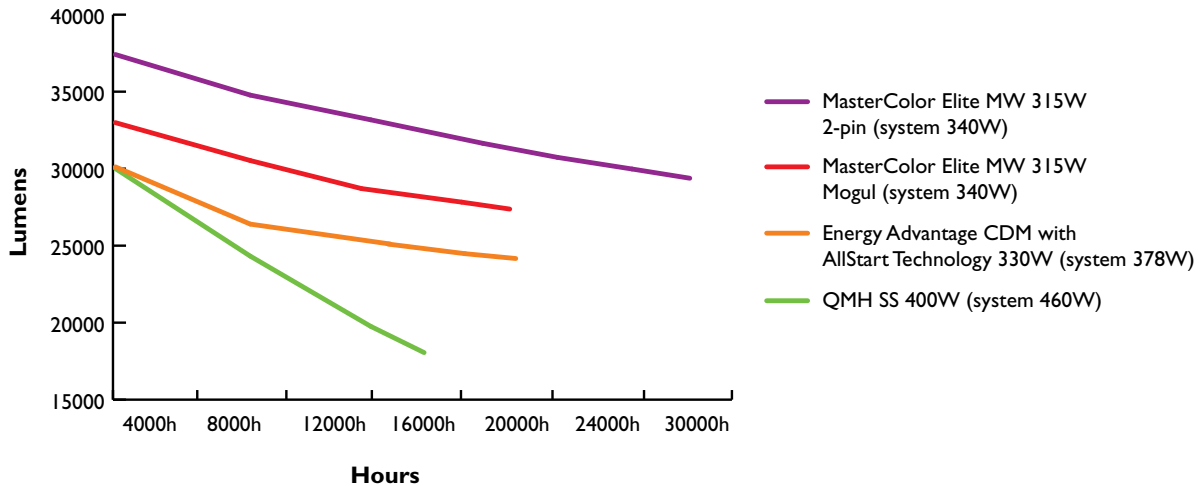
† Energy savings based upon each system's wattage as compared to 458 system watts for a Quartz Metal Halide 400W System. Please refer to chart above for more information.

All of these three alternatives have superior performance compared to a standard Quartz Metal Halide lamp. While all three options of the CDM line will help meet your energy efficiency goals, the best choice is dependent on your overall needs and applications. See the difference.

- **Energy Advantage CDM lamps with AllStart Technology** are designed to operate on both probe and pulse start magnetic ballasts, without requiring a ballast change or the need for additional equipment.
- **MasterColor CDM Elite MW Mogul Base lamp** retrofit offers easy design-in and is the perfect retrofit solution for existing fixtures without the need of an adaptor.
- **MasterColor CDM Elite MW 2-pin base** is the ideal solution for new luminaires. This lamp is 50% smaller than standard metal halide lamps and gives freedom in optic and luminaire design along with better optical control.

Lumen Output Over Time

The graph below illustrates the lumen output over time for the Elite Medium Wattage systems, and the Energy Advantage Lamp with AllStart Technology compared to a Standard Quartz Metal Halide 400W system.



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

Product Number	Base	Bulb	Ordering Code	ANSI Code	Watts	Bulb Finish	LCL (In.)	MOL (In.)	Rated Avg. Life (Hrs.) ¹	Approx. Initial Lumens ²	Approx. Mean Lumens ³	CRI	Color Temp (K)	Burn Position
42705-4	EX39 Excl. Mog.	ED28	CDM210/U/O/4K ED28 12PK	C183/O	210	Clear	5	8 5/16	20,000	22,100	18,785	90	3950	Universal
42773-2	EX39 Excl. Mog.	ED28	CDM210/C/U/O/4K ED28 12PK	C183/O	210	Coated	-	8 5/16	20,000	20,550	17,465	90	3950	Universal
42704-7	EX39 Excl. Mog.	ED37	CDM315/U/O/4K ED37 6PK	C182/O	315	Clear	7	11 1/2	20,000	34,300	29,155	90	4150	Universal
42772-4	EX39 Excl. Mog.	ED37	CDM315/C/U/O/4K ED37 6PK	C182/O	315	Coated	-	11 1/2	20,000	31,900	27,115	90	4150	Universal

1) 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.

2) Measured at 100 hours of life in a vertical operating position.

3) Approximate mean lumen output at 40% of lamp rated average life.

WARNINGS, CAUTIONS, AND OPERATING INSTRUCTIONS

R "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.

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.

- Before lamp installation/replacement, shut power off and allow lamp and fixture to cool to avoid electrical shock and potential burn hazards.
- Use only auxiliary equipment meeting Philips and/or ANSI standards. Use within voltage limits recommended by ballast manufacturer.
 - Operate lamp only within specified limits of operation.
 - For total supply load refer to ballast manufacturers electrical data.
 - All pulse start mogul based lamps require a socket rated to withstand a 4000 volt pulse.
- Periodically inspect the outer envelope. Replace any lamps that show scratches, cracks or damage
- If a lamp bulb support is used, be sure to insulate the support electrically to avoid possible decomposition of the bulb glass.
- 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 15 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.

10. Use this lamp only in fixtures that contain a Pulse Start metal halide ballast and are specifically designed for use with Pulse Start metal halide lamps.



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