

The Next Generation Of White Light

PHILIPS MASTERCOLOR CDM ELITE MEDIUM WATTAGE SYSTEM

RoHS[‡]
COMPLIANT



Listed 704G

Philips MasterColor CDM Elite Medium Wattage System. The Philips MasterColor CDM Elite MW System provides superior, long-lasting white light for both indoor and outdoor use. MasterColor CDM Elite MW Lamps and Ballasts create high performance in one system.

Features

- Color rendering of CRI 90+
- Low mercury, lead free
- Up to 113 lumens per watt for the system and up to 123 lumens per watt for the lamp
- Bi-pin locking lamp base design available for higher optical efficiency

Benefits

- Crisp, white light output
- Lower energy usage than traditional magnetic ballast options[^]
- Familiar ED28 and ED37 bulb shapes available
- Stable color performance over the life of the system

Applications

Indoor

- Retail
- Gymnasiums/Fieldhouses
- High tech manufacturing facilities

Outdoor

- Architectural facades
- Parking areas
- Street lighting

(‡, ^ See page 3 for footnotes)



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Philips MasterColor CDM Elite MW Tubular Lamps Ordering, Electrical and Technical Data

(Subject to change without notice)

Product Number	Lamp Order Code	Nom. Watts	ANSI Code	Approx. Initial Lumens ¹	Approx. Mean Lumens ²	Efficacy (lm/w)	Color Temp. (Kelvin)	CRI	Burn Postion	Rated Avg. Life (Hrs.)	Lumen Maint. 20khr (%)
22062-4	CDM Elite MW 210/T9/930/U/E	210	C183/E	24,150	21,735	115	3000	90	Universal	28,000	80
21831-3	CDM Elite MW 315/T9/930/U/E	315	C182/E	38,700	34,440	123	3000	90	Universal	40,000	80
22063-2	CDM Elite MW 210/T9/942/U/E	210	C182/E	23,000	20,470	110	4200	90	Universal	30,000	80
22064-0	CDM Elite MW 315/T9/942/U/E	315	C182/E	35,500	31,150	113	4200	90	Universal	33,000	80
23806-3	CDM Elite MW 210/T12/930/U/O	210	C182/O	23,300	21,600	111	3000	90	Universal	25,000	80
23807-1	CDM Elite MW 315/T12/930/U/O	315	C182/O	36,200	31,500	115	3000	90	Universal	20,000	80
23808-9	CDM Elite MW 210/T12/942/U/O	210	C182/O	22,800	20,500	109	4200	90	Universal	30,000	80
23809-7	CDM Elite MW 315/T12/942/U/O	315	C182/O	34,300	30,780	109	4200	90	Universal	25,000	80

Philips MasterColor CDM Elite MW Mogul Base Lamps Ordering, Electrical and Technical Data

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Product Number	Base	Bulb	Ordering Code	ANSI Code	Watts	Bulb Finish	LCL (In.)	MOL (In.)	Rated Avg. Life (Hrs.) ³	Approx. Initial Lumens ⁴
427054	Ex39 Excl. Mog.	ED28	CDM210/U/O/4K ED28 12PK	C183/O	210	Clear	5	8 5/16	20000	22100
427732	Ex39 Excl. Mog.	ED28	CDM210/C/U/O/4K ED28 12PK	C183/O	210	Coated	-	8 5/16	20000	20550
427047	Ex39 Excl. Mog.	ED37	CDM315/U/O/4K ED37 6PK	C182/O	315	Clear	7	11 1/2	20000	34300
427724	Ex39 Excl. Mog.	ED37	CDM315/C/U/O/4K ED37 6PK	C182/O	315	Coated	-	11 1/2	20000	31900

Product Number	Approx. Mean Lumens ⁵	CRI	Color Temp (K)	Burn Postion
427054	18785	90	3950	Universal
427732	17465	90	3950	Universal
427047	29155	90	4150	Universal
427724	27115	90	4150	Universal

Philips MasterColor CDM Elite MW Ballast Ordering, Electrical and Technical Data

(Subject to change without notice)

Ballast Catalog Number	Lamp Operated	Input Voltage Range ⁸	Input Current Max. Operating (Amps)	Input Power ANSI (Watts)	Power Factor	Peak Ignition Voltage & Method	Nominal Ballast Housing Size (in/mm)
IZTMH210315RFL ⁶	CDM Elite MW 210W	200-277V	1.20 @ 200V, 0.82 @ 277V	229 @ 200V, 227 @ 277V	> 0.90	4.0 kV Pulse	8.2 x 4.9 x 2.2 / 208 x 124 x 56
HZTMH210315RFL ⁶	CDM Elite MW 210W	347-480V	0.68 @ 347V, 0.49 @ 480V	230 @ 347V, 228 @ 480V	> 0.90	4.0 kV Pulse	8.2 x 4.9 x 2.2 / 208 x 124 x 56
IMH210TSL ⁷	CDM Elite MW 210W	208-277V	1.11 @ 208V, 0.83 @ 277V	228 @ 208V, 228 @ 277V	> 0.90	3.0 kV Resonant	6.5 x 3.9 x 2.4 / 166 x 100 x 60
IZTMH210315RFL ⁶	CDM Elite MW 210W	200-277V	1.80 @ 200V, 1.25 @ 277V	343 @ 200V, 341 @ 277V	> 0.90	4.0 kV Pulse	8.2 x 4.9 x 2.2 / 208 x 124 x 56
HZTMH210315RFL ⁶	CDM Elite MW 210W	347-480V	1.02 @ 347V, 0.73 @ 480V	344 @ 347V, 342 @ 480V	> 0.90	4.0 kV Pulse	8.2 x 4.9 x 2.2 / 208 x 124 x 56

Ballast Catalog Number	Max Allowable Case Temp. (°C/°F)	Housing Description	Weight (lbs)	Max. Ballast to Lamp Distance (ft)	Certifications		RoHS Compliant
					UL	CSA	
IZTMH210315RFL ⁶	85°/185°	Metal with lead wires	4.5	6			√
HZTMH210315RFL ⁶	85°/185°	Metal with lead wires	4.5	6			√
IMH210TSL ⁷	90°/194°	Plastic with terminal block connector	3.1	30			√

All lamps are dimmable to 50% power (0-10V). Dimming lamps will have a negative impact on lumen output.

- 1) Measured at 100 hours of life in a vertical operating position. Measured at rated lamp watts on electronic ballast. Lumens per watt does not include ballast losses.
 - 2) Approximate lumen output at 40% of lamp rated average life.
 - 3) 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.
 - 4) Measured at 100 hours of life in a vertical operating position.
 - 5) Approximate mean lumen output at 40% of lamp rated average life.
 - 6) Ballast is dual wattage capable (210/315W), with wattage selectable using switch on end of housing. Ballast is preset for 210W operation at factory. Ballast is standard with 0-10V dimming capability down to 50% of nominal lamp power. Ballast is internally fused and thermally protected. For outdoor use additional surge protection on the line voltage input is recommended.
 - 7) Ballast operates the 210W lamp only, at fixed 100% output (i.e. no dimming). Ballast is intended for outdoor applications and includes internally 10kV of transient suppression on the line voltage input. Ballast is internally fused and thermally protected.
 - 8) Ballasts operate over the entire nominal range indicated, additionally -10% at the low end and +10% at the high end of the range.
- ‡ Restrictions on Hazardous Substances (RoHS) is a European directive (2002/95/EC) designed to limit the content of 6 substances [lead, mercury, cadmium, hexavalent chromium, polybrominated biphenyls (PBB), and polybrominated diphenyl ethers (PBDE)] in electrical and electronic products. For products used in North America compliance to RoHS is voluntary and self-certified.
- ^ The U.S. Energy Independence & Security Act of 2007 requires 150W to 500W pulse start metal halide ballasts for new luminaires to have an efficiency 88% minimum. Most magnetic ballasts used in new luminaires today are 88-89% efficient. MasterColor CDM is up to 92%+ efficient.

Warnings, Cautions, and Operating Instructions For MasterColor® CDM Elite Medium Watt Ceramic Metal Halide Tubular Single-ended Lamps

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. 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.**

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 less than 30 nCi of Kr-85 and is distributed by Philips Lighting Company, a division of Philips Electronics North American Corporation.

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. If the lamp is marked on the base with /E, use only in enclosed fixture capable of withstanding particles of glass having temperatures up to 1000°C. If the lamp is marked on the base with /O, lamp should retain all the glass particles should inner arc tube rupture occur.
3. Before lamp installation/replacement, shut power off and allow lamp and fixture to cool to avoid electrical shock and potential burn hazards.
4. 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.
 - C. All Pulse Start lamps require a socket rated to withstand a 4,000 volt pulse
5. Periodically inspect the outer envelope. Replace any lamps that show scratches, cracks or damage.
6. If a lamp bulb support is used, be sure to insulate the support electrically to avoid possible decomposition of the bulb glass.
7. Protect lamp base, socket and wiring against moisture, corrosive atmospheres and excessive heat.
8. 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.
9. Lamps may require 10 minutes to re-light if there is a power interruption.
10. Take care in handling and disposing of lamps. If an arc tube is broken avoid skin contact with any of the contents or fragments.
11. Use this lamp only in fixtures that contain a Pulse Start metal halide ballast and are specifically.



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PLT-1414BN 05/14

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