Philips MasterColor®
Ceramic Metal Halide
CDM-R111 Lamps

Ideal for accent/decorative lighting, general lighting, and downlighting in retail applications

MasterColor® CDM-R111

A compact solution for retail displays

Philips MasterColor® CDM-R111 combines the trendy look of the 111mm aluminum reflector halogen lamps with the long life, high energy efficiency and crisp white light of ceramic metal halide MasterColor lamps.

MasterColor® Technology: less operating costs

- 38W CDM-R111 lasts 3 times longer than 75W halogen Aluline Pro 111 lamps
- 38W CDM-R111 uses less than half the energy used compared to 75W halogen Aluline Pro111 lamps
- Excellent color quality

Look and feel of Aluline Pro 111: excellent look in the store

- Integrated protection glass for open luminaires
- Improved cap for reduced glare
- Specially designed reflector for MasterColor
- Same size and high tech look
- Twist and lock system for easy installation

PHILIPS

sense and simplicity

Philips MasterColor® Ceramic Metal Halide CDM-R111 Lamps

Ordering Data (Subject to change without notice)

Product Number	Ordering Code	Nom. Watt.	MBCP[1]	Beam Angle[2]	Approx. Initial Lumens[3]	Approx. Mean Lumens[4]
15297-4	CDM-R111 20W/830 10DG	22	20,000	10˚	750	500
20882-7	CDM-R111 20W/830 24DG	22	4500	24˚	750	500
13554-1	CDM-R111 35W/830 10DG	38	35,000	10˚	1100	720
13556-6	CDM-R111 35W/830 24DG	38	8500	24˚	1350	880
13921-2	CDM-R111 35W/830 40DG	38	4000	40˚	1350	880
14754-6	CDM-R111 70W/830 10DG	70	50,000	10˚	2500	1625
14755-3	CDM-R111 70W/830 24DG	70	15,000	24˚	2850	1850
14795-8	CDM-R111 70W/830 40DG	70	9000	40˚	2850	1850

Electrical and Technical Data

Lamp Operating Volt. (rms)(Nom.)[5] ——— 100 (20W)
——— 88 (35W)
——— 83 (70W)
Initial Lamp Volt. Range (rms)[6] ——— 96-109 (20W)
——— 80-100 (35W)
——— 78-87 (70W)
Lamp Operating
Current (Amps) Nominal (rms) ——— 0.22 (20W)
——— 0.53 (35W)
——— 0.88 (70W)
Lamp Current Crest Factor (Maximum) ——— 1.8
Warm-up to 80% Full Brightness ——— 3 minutes
Restrike Time for Hot Lamps ——— 4–8 minutes
Ballast Open Circuit Voltage ——— 198 RMS Min.
Pulse Peak Volts ——— 3000-4000
Pulse Width @ 90% Peak ——— 2 Micro Sec. Minimum
Pulse Repetition Rate (Minimum)[7] ——— 1 per Half Cycle
Minimum Operating Temp. ——— -30˚C (-22˚F)

Ordering Information

ANSI Designation ——— C175/O (20W)
——— C130/O (35W)
——— C139/O (70W)
Package Quantity ——— 6

Physical Characteristics

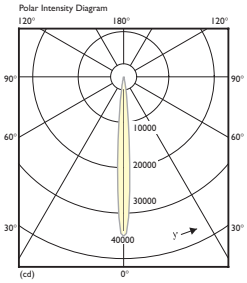
Bulb Size ——— R111
Bulb Finish ——— Faceted Aluminum
Base ——— GX8.5
Max. Overall Length (MOL) ——— 3.74" (95mm)
Max. Permissible Temperatures:
Base/Neck Transition – 180˚C (356˚F) (20W/70W)
——— 150˚C (302˚F) (35W)
Neck/Reflector ——— 200˚C (392˚F)
Top Anti-Glare Top ——— 400˚C (752˚F) (20W/70W)
——— 350˚C (662˚F) (35W)
Arc Tube Material ——— Polycrystalline Alumina

Operating Characteristics

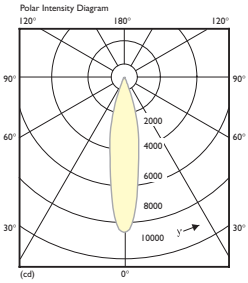
Rated Average Life, Hours.[8] ——— 9000 (20W/70W)
——— 11,000 (35W)
CRI ——— 85 (20W)
——— 81 (35W)
——— 84 (70W)
Correlated Color Temp. (CCT)[4] ——— 3000K
CIE Chromaticity Approx.[4] ——— x-.429, y-.395 (20W)
——— x-.433 y-.402 (35W)
——— x-.439 y-.393 (70W)
Efficacy (lpw) ——— 34 (20W)
——— 37 (35W)
——— 41 (70W)

Polar Intensity Diagram

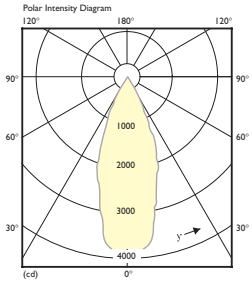
Beam spread at 50% Maximum Beam
Candlepower—0˚ Primary Angle



CDM-R111 35W 10DG



CDM-R111 35W 24DG



CDM-R111 70W 24DG

Operating Position

Universal—Open or Enclosed Luminaire

Note: Use on thermally protected electronic ballast only.

1) Maximum Beam Candlepower
2) Beam Angle at 50% of MBCP
3) Measured at 100 hrs. life. Approximate lumen values listed are for vertical operation of the lamp.
4) Approximate lumen output at 40% of lamp rated average life.
5) Measured at rated lamp watts on a linear reactor. LPW does not include ballast losses.
6) Measured with the lamp operating at rated watts.
7) Option-Pulse Width @ 90% Peak, 1 micro second minimum with 2 pulses per half cycle.
8) 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.

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 less than 10 nCi of 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.
   C. Operate 39W PAR-20 and PAR-30L lamps only on thermally protected ballast.
   D. Operate CDM-R111 lamp only on approved thermally protected electronic ballast.
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 up to 10 minutes (4–8 minutes for CDM-R111) 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. For proper installation and removal, lamp should be handled by the sides of the reflector and not by the aluminum front anti-glare cap.

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