



# Direct retrofit with immediate energy savings for quartz metal halide

## MASTERColour CDM MW Eco

Ceramic metal halide lamps with clear tubular or coated ellipsoid outer bulb, tailor-made to replace and outperform quartz metal halide lamps on existing gear.

### Benefits

- Direct retrofit for various quartz metal halide lamps, operates on existing control gear (Mercury and HPS)
- Lowest total cost of ownership when relamping due to energy savings and long service life as a result of high lumen maintenance

### Features

- Proven Philips ceramic technology (CDM) offering
- High efficacy for energy savings and more initial light
- Excellent lumen maintenance resulting in long service life
- Excellent color rendering, meeting EN1246-1

### Application

- Sports lighting, floodlighting of buildings and monuments, area lighting e.g. harbors and building sites, canopy lighting e.g. petrol stations
- High-bay lighting e.g. industrial workshops, exhibition halls, hypermarkets, shopping malls, DIY stores, churches, airports and train stations

# MASTERColour CDM MW Eco

## Warnings and Safety

- For use with control gear designed for high pressure mercury or high-pressure sodium lamps with external ignitor
- A lamp breaking is extremely unlikely to have an impact on your health. If a lamp breaks, ventilate the room for 30 minutes and remove the parts, preferably with gloves. Put them in a sealed plastic bag and take it to your local waste facilities for recycling. Do not use a vacuum cleaner.
- Warm restart time can be up to 15 minutes; T15 ignitors therefore advised.

## Versions



CDM-T MW eco



CDM-E MW eco

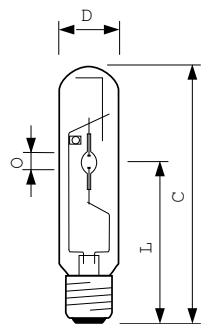
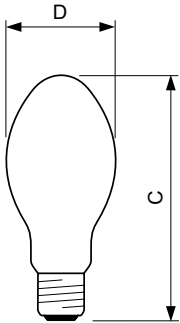


CDM-EP MW eco



CDM-EP MW eco

## Dimensional drawing

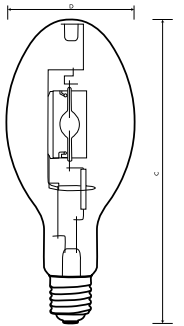
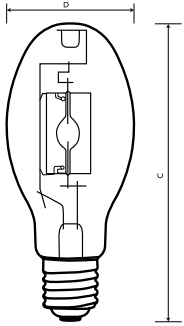


| Product  | D (max) | C (max) |
|--|---------|---------|
| MASTERColour MW eco MASTERColour CDM-E MW eco 360W/842 E40 | 91 mm   | 226 mm  |
| MASTERColour MW eco MASTERColour CDM-E MW eco 230W/842 E40 | 91 mm   | 226 mm  |

| Product  | D     | O       | L      | C (max) |
|--|-------|---------|--------|---------|
| MASTERColour MW eco MASTERColour CDM-T MW eco 360W/842 E40 | 47 mm | 11.9 mm | 161 mm | 257 mm  |
| MASTERColour MW eco MASTERColour CDM-T MW eco 230W/842 E40 | 47 mm | 12.4 mm | 157 mm | 257 mm  |

# MASTERColour CDM MW Eco

## Dimensional drawing



| Product   | D (max) | C (max) |
|---|---------|---------|
| MASTERColour MW eco MSTColour CDM-EP MW eco 230W/840 E40 CL | 91 mm   | 215 mm  |

| Product   | D (max) | C (max) |
|---|---------|---------|
| MASTERColour MW eco MSTColour CDM-EP MW eco 360W/840 E40 CL | 121 mm  | 290 mm  |

### Operating and electrical

|                              |       |
|------------------------------|-------|
| Re-ignition Time (Min) (Max) | 900 s |
|------------------------------|-------|

### General information

|          |     |
|----------|-----|
| Cap-Base | E40 |
|----------|-----|

|                  |      |
|------------------|------|
| LSF 2000 h Rated | 99 % |
|------------------|------|

### Light technical

|                   |                 |
|-------------------|-----------------|
| Color Designation | Cool White (CW) |
|-------------------|-----------------|

|                    |      |
|--------------------|------|
| LLMF 12000 h Rated | 80 % |
|--------------------|------|

|                    |      |
|--------------------|------|
| LLMF 16000 h Rated | 77 % |
|--------------------|------|

|                   |      |
|-------------------|------|
| LLMF 2000 h Rated | 92 % |
|-------------------|------|

|                    |      |
|--------------------|------|
| LLMF 20000 h Rated | 75 % |
|--------------------|------|

|                   |      |
|-------------------|------|
| LLMF 4000 h Rated | 87 % |
|-------------------|------|

|                   |      |
|-------------------|------|
| LLMF 6000 h Rated | 84 % |
|-------------------|------|

|                   |      |
|-------------------|------|
| LLMF 8000 h Rated | 82 % |
|-------------------|------|

### Mechanical and housing

|               |            |
|---------------|------------|
| Bulb Material | Hard Glass |
|---------------|------------|

## Approval and application

| Order Code   | Full Product Name   | Energy Consumption kWh/1000 h | Mercury (Hg) Content (Max) | Mercury (Hg) Content (Nom) |
|--------------|---|-------------------------------|----------------------------|----------------------------|
| 928070119230 | MASTERColour MW eco MASTERColour CDM-T MW eco 230W/842 E40  | 227 kWh                       | 32 mg                      | 32.0 mg                    |
| 928070319230 | MASTERColour MW eco MASTERColour CDM-T MW eco 360W/842 E40  | 361 kWh                       | 48 mg                      | 48.0 mg                    |
| 928070219830 | MASTERColour MW eco MASTERColour CDM-E MW eco 360W/842 E40  | 360 kWh                       | 48 mg                      | 48.0 mg                    |
| 928070419830 | MASTERColour MW eco MASTERColour CDM-E MW eco 230W/842 E40  | 229 kWh                       | 32 mg                      | 32.0 mg                    |
| 928495309891 | MASTERColour MW eco MSTColour CDM-EP MW eco 230W/840 E40 CL | 248 kWh                       | -                          | 27 mg                      |
| 928495409891 | MASTERColour MW eco MSTColour CDM-EP MW eco 360W/840 E40 CL | 392 kWh                       | -                          | 44.6 mg                    |

## Controls and dimming

| Order Code   | Full Product Name  | Dimmable | Order Code   | Full Product Name  | Dimmable |
|--------------|--|----------|--------------|--|----------|
| 928070119230 | MASTERColour MW eco MASTERColour CDM-T MW eco 230W/842 E40 | No       | 928070219830 | MASTERColour MW eco MASTERColour CDM-E MW eco 360W/842 E40 | No       |
| 928070319230 | MASTERColour MW eco MASTERColour CDM-T MW eco 360W/842 E40 | No       | 928070419830 | MASTERColour MW eco MASTERColour CDM-E MW eco 230W/842 E40 | No       |

## MASTERColour CDM MW Eco

| Order Code   | Full Product Name   | Dimmable |
|--------------|---|----------|
| 928495309891 | MASTERColour MW eco MSTColour CDM-EP MW eco 230W/840 E40 CL | -        |

| Order Code   | Full Product Name   | Dimmable |
|--------------|---|----------|
| 928495409891 | MASTERColour MW eco MSTColour CDM-EP MW eco 360W/840 E40 CL | -        |

### Operating and electrical (1/2)

| Order Code   | Full Product Name  | Lamp               |               |               |               |
|--------------|--|--------------------|---------------|---------------|---------------|
|              |  | Current (EM) (Nom) | Voltage (Max) | Voltage (Min) | Voltage (Nom) |
| 928070119230 | MASTERColour MW eco MASTERColour CDM-T MW eco 230W/842 E40 | 0.212 A            | 132 V         | 118 V         | 127 V         |
| 928070319230 | MASTERColour MW eco MASTERColour CDM-T MW eco 360W/842 E40 | 3.42 A             | 133 V         | 115 V         | 123 V         |
| 928070219830 | MASTERColour MW eco MASTERColour CDM-E MW eco 360W/842 E40 | 0.354 A            | 127 V         | 109 V         | 118 V         |

| Order Code   | Full Product Name   | Lamp               |               |               |               |
|--------------|---|--------------------|---------------|---------------|---------------|
|              |   | Current (EM) (Nom) | Voltage (Max) | Voltage (Min) | Voltage (Nom) |
| 928070419830 | MASTERColour MW eco MASTERColour CDM-E MW eco 230W/842 E40  | 2.26 A             | 127 V         | 113 V         | 117 V         |
| 928495309891 | MASTERColour MW eco MSTColour CDM-EP MW eco 230W/840 E40 CL | 2.09 A             | 133 V         | 113 V         | 123 V         |
| 928495409891 | MASTERColour MW eco MSTColour CDM-EP MW eco 360W/840 E40 CL | 3.55 A             | 127 V         | 109 V         | 118 V         |

### Operating and electrical (2/2)

| Order Code   | Full Product Name  | Power (Nom) |
|--------------|--|-------------|
| 928070119230 | MASTERColour MW eco MASTERColour CDM-T MW eco 230W/842 E40 | 227.0 W     |
| 928070319230 | MASTERColour MW eco MASTERColour CDM-T MW eco 360W/842 E40 | 361.0 W     |
| 928070219830 | MASTERColour MW eco MASTERColour CDM-E MW eco 360W/842 E40 | 360.0 W     |

| Order Code   | Full Product Name   | Power (Nom) |
|--------------|---|-------------|
| 928070419830 | MASTERColour MW eco MASTERColour CDM-E MW eco 230W/842 E40  | 228.5 W     |
| 928495309891 | MASTERColour MW eco MSTColour CDM-EP MW eco 230W/840 E40 CL | 225 W       |
| 928495409891 | MASTERColour MW eco MSTColour CDM-EP MW eco 360W/840 E40 CL | 356 W       |

### General information (1/3)

| Order Code   | Full Product Name  | Life To 10%    | Life To 20%    | Life To 50%    | Life To 5%     |
|--------------|--|----------------|----------------|----------------|----------------|
|              |  | Failures (Nom) | Failures (Nom) | Failures (Nom) | Failures (Nom) |
| 928070119230 | MASTERColour MW eco MASTERColour CDM-T MW eco 230W/842 E40 | 16000 h        | 20000 h        | 30000 h        | 12000 h        |
| 928070319230 | MASTERColour MW eco MASTERColour CDM-T MW eco 360W/842 E40 | 16000 h        | 20000 h        | 30000 h        | 12000 h        |
| 928070219830 | MASTERColour MW eco MASTERColour CDM-E MW eco 360W/842 E40 | 16000 h        | 20000 h        | 30000 h        | 12000 h        |
| 928070419830 | MASTERColour MW eco MASTERColour CDM-E MW eco 230W/842 E40 | 16000 h        | 20000 h        | 30000 h        | 12000 h        |

| Order Code   | Full Product Name   | Life To 10%    | Life To 20%    | Life To 50%    | Life To 5%     |
|--------------|---|----------------|----------------|----------------|----------------|
|              |   | Failures (Nom) | Failures (Nom) | Failures (Nom) | Failures (Nom) |
| 928495309891 | MASTERColour MW eco MSTColour CDM-EP MW eco 230W/840 E40 CL | -              | 12000 h        | 20000 h        | -              |
| 928495409891 | MASTERColour MW eco MSTColour CDM-EP MW eco 360W/840 E40 CL | -              | 12000 h        | 20000 h        | -              |

### General information (2/3)

## MASTERColour CDM MW Eco

| Order Code   | Full Product Name   | LSF 12000<br>h Rated | LSF 16000<br>h Rated | LSF 20000<br>h Rated | LSF 24000<br>h Rated | LSF 30000<br>h Rated | LSF 4000<br>h Rated | LSF 6000<br>h Rated | LSF 8000<br>h Rated | Operating<br>Position |
|--------------|---|----------------------|----------------------|----------------------|----------------------|----------------------|---------------------|---------------------|---------------------|-----------------------|
| 928070119230 | MASTERColour MW eco MASTERColour CDM-T MW eco 230W/842 E40  | 95 %                 | 90 %                 | 80 %                 | 70 %                 | 50 %                 | 99 %                | 99 %                | 98 %                | UNIVERSAL             |
| 928070319230 | MASTERColour MW eco MASTERColour CDM-T MW eco 360W/842 E40  | 95 %                 | 90 %                 | 80 %                 | 70 %                 | 50 %                 | 99 %                | 99 %                | 98 %                | P45                   |
| 928070219830 | MASTERColour MW eco MASTERColour CDM-E MW eco 360W/842 E40  | 95 %                 | 90 %                 | 80 %                 | 70 %                 | 50 %                 | 99 %                | 99 %                | 98 %                | UNIVERSAL             |
| 928070419830 | MASTERColour MW eco MASTERColour CDM-E MW eco 230W/842 E40  | 95 %                 | 90 %                 | 80 %                 | 70 %                 | 50 %                 | 99 %                | 99 %                | 98 %                | UNIVERSAL             |
| 928495309891 | MASTERColour MW eco MSTColour CDM-EP MW eco 230W/840 E40 CL | 80 %                 | 63 %                 | 50 %                 | -                    | -                    | 96 %                | -                   | 88 %                | UNIVERSAL             |
| 928495409891 | MASTERColour MW eco MSTColour CDM-EP MW eco 360W/840 E40 CL | 80 %                 | 63 %                 | 50 %                 | -                    | -                    | 96 %                | -                   | 88 %                | UNIVERSAL             |

### General information (3/3)

| Order Code   | Full Product Name  | System<br>Description               |
|--------------|--|-------------------------------------|
| 928070119230 | MASTERColour MW eco MASTERColour CDM-T MW eco 230W/842 E40 | Universal                           |
| 928070319230 | MASTERColour MW eco MASTERColour CDM-T MW eco 360W/842 E40 | Horizontal<br>Operating<br>Position |
| 928070219830 | MASTERColour MW eco MASTERColour CDM-E MW eco 360W/842 E40 | Universal                           |

| Order Code   | Full Product Name   | System<br>Description |
|--------------|---|-----------------------|
| 928070419830 | MASTERColour MW eco MASTERColour CDM-E MW eco 230W/842 E40  | Universal             |
| 928495309891 | MASTERColour MW eco MSTColour CDM-EP MW eco 230W/840 E40 CL | Universal             |
| 928495409891 | MASTERColour MW eco MSTColour CDM-EP MW eco 360W/840 E40 CL | Universal             |

### Luminaire design requirements

| Order Code   | Full Product Name  | Bulb Temperature<br>(Max) |
|--------------|--|---------------------------|
| 928070119230 | MASTERColour MW eco MASTERColour CDM-T MW eco 230W/842 E40 | 550 °C                    |
| 928070319230 | MASTERColour MW eco MASTERColour CDM-T MW eco 360W/842 E40 | 600 °C                    |
| 928070219830 | MASTERColour MW eco MASTERColour CDM-E MW eco 360W/842 E40 | 350 °C                    |

| Order Code   | Full Product Name   | Bulb Temperature<br>(Max) |
|--------------|---|---------------------------|
| 928070419830 | MASTERColour MW eco MASTERColour CDM-E MW eco 230W/842 E40  | 350 °C                    |
| 928495309891 | MASTERColour MW eco MSTColour CDM-EP MW eco 230W/840 E40 CL | 350 °C                    |
| 928495409891 | MASTERColour MW eco MSTColour CDM-EP MW eco 360W/840 E40 CL | 350 °C                    |

### Light technical (1/2)

| Order Code   | Full Product<br>Name                                       | Chromaticity          |                       | Correlated<br>Color<br>Temperature |                      |
|--------------|--|-----------------------|-----------------------|------------------------------------|----------------------|
|              |  | Coordinate X<br>(Nom) | Coordinate Y<br>(Nom) | Color<br>Code                      | Temperature<br>(Nom) |
| 928070119230 | MASTERColour MW eco MASTERColour CDM-T MW eco 230W/842 E40 | 0.371                 | 0.366                 | 842                                | 4200 K               |
| 928070319230 | MASTERColour MW eco MASTERColour                           | 0.371                 | 0.366                 | 842                                | 4200 K               |

| Order Code   | Full Product<br>Name                   | Chromaticity          |                       | Correlated<br>Color<br>Temperature |                      |
|--------------|--|-----------------------|-----------------------|------------------------------------|----------------------|
|              |  | Coordinate X<br>(Nom) | Coordinate Y<br>(Nom) | Color<br>Code                      | Temperature<br>(Nom) |
| 928070219830 | MASTERColour CDM-E MW eco 360W/842 E40 | 0.371                 | 0.366                 | 842                                | 4200 K               |

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| Order Code   | Full Product Name  | Chromaticity       |                    | Correlated Color |                   |
|--------------|--|--------------------|--------------------|------------------|-------------------|
|              |  | Coordinate X (Nom) | Coordinate Y (Nom) | Color Code       | Temperature (Nom) |
| 928070419830 | MASTERColour MW eco<br>MASTERColour CDM-E MW eco<br>230W/842 E40 | 0.371              | 0.366              | 842              | 4200 K            |
| 928495309891 | MASTERColour MW eco<br>MSTColour CDM-                            | 379                | 380                | 840              | 4000 K            |

| Order Code   | Full Product Name   | Chromaticity       |                    | Correlated Color |                   |
|--------------|---|--------------------|--------------------|------------------|-------------------|
|              |   | Coordinate X (Nom) | Coordinate Y (Nom) | Color Code       | Temperature (Nom) |
|              | EP MW eco<br>230W/840 E40 CL                                      |                    |                    |                  |                   |
| 928495409891 | MASTERColour MW eco<br>MSTColour CDM-EP MW eco<br>360W/840 E40 CL | 386                | 395                | 840              | 4000 K            |

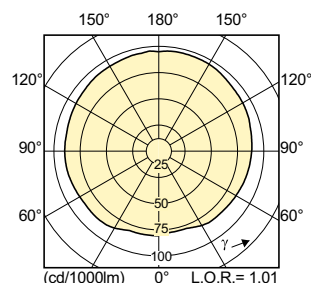
## Light technical (2/2)

| Order Code   | Full Product Name   | Color Rendering Index (Min) | Color Rendering Index (Nom) | Luminous Efficacy (rated) (Min) | Luminous Efficacy (rated) (Nom) | Luminous Flux (Min) | Luminous Flux (Nom) | Luminous Flux (Rated) (Min) | Luminous Flux (Rated) (Nom) | Ratio                    |
|--------------|---|-----------------------------|-----------------------------|---------------------------------|---------------------------------|---------------------|---------------------|-----------------------------|-----------------------------|--------------------------|
|              |   |                             |                             |                                 |                                 |                     |                     |                             |                             | Scotopic/Photopic Lumens |
| 928070119230 | MASTERColour MW eco<br>MASTERColour CDM-T MW eco<br>230W/842 E40  | -                           | 88                          | -                               | 94 lm/W                         | -                   | 21400 lm            | -                           | 21400 lm                    | 1.87                     |
| 928070319230 | MASTERColour MW eco<br>MASTERColour CDM-T MW eco<br>360W/842 E40  | -                           | 88                          | -                               | 98.06 lm/W                      | -                   | 35400 lm            | -                           | 35400 lm                    | 1.74                     |
| 928070219830 | MASTERColour MW eco<br>MASTERColour CDM-E MW eco<br>360W/842 E40  | -                           | 88                          | -                               | 90 lm/W                         | -                   | 32400 lm            | -                           | 32400 lm                    | 1.74                     |
| 928070419830 | MASTERColour MW eco<br>MASTERColour CDM-E MW eco<br>230W/842 E40  | 86                          | 89                          | -                               | 90 lm/W                         | -                   | 20500 lm            | -                           | 20500 lm                    | 1.78                     |
| 928495309891 | MASTERColour MW eco<br>MSTColour CDM-EP MW eco<br>230W/840 E40 CL | 84                          | 87                          | 84 lm/W                         | 93 lm/W                         | 18900 lm            | -                   | -                           | 21000 lm                    | -                        |
| 928495409891 | MASTERColour MW eco<br>MSTColour CDM-EP MW eco<br>360W/840 E40 CL | -                           | 90                          | 83 lm/W                         | 93 lm/W                         | -                   | -                   | 29700 lm                    | 33000 lm                    | -                        |

## Mechanical and housing

| Order Code   | Full Product Name   | Bulb Finish  | Bulb Shape |
|--------------|---|--------------|------------|
| 928070119230 | MASTERColour MW eco<br>MASTERColour CDM-T MW eco<br>230W/842 E40  | Clear        | T46        |
| 928070319230 | MASTERColour MW eco<br>MASTERColour CDM-T MW eco<br>360W/842 E40  | Clear        | T46        |
| 928070219830 | MASTERColour MW eco<br>MASTERColour CDM-E MW eco<br>360W/842 E40  | Coated glass | B90        |
| 928070419830 | MASTERColour MW eco<br>MASTERColour CDM-E MW eco<br>230W/842 E40  | Coated glass | B90        |
| 928495309891 | MASTERColour MW eco<br>MSTColour CDM-EP MW eco<br>230W/840 E40 CL | Clear        | B90        |

| Order Code   | Full Product Name   | Bulb Finish | Bulb Shape |
|--------------|---|-------------|------------|
| 928495409891 | MASTERColour MW eco<br>MSTColour CDM-EP MW eco<br>360W/840 E40 CL | Clear       | BD120      |



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