



# Direct retrofit and long life with immediate energy savings

## Energy Advantage CDM Lamps with Allstart Technology

Philips Energy Advantage CDM lamps with AllStart Technology is a high-efficiency protected "O" rated CDM lighting solution that provides energy savings without compromising light quality.

### Benefits

- Reduced maintenance and recycling costs
- Direct retrofit for both probe and pulse start magnetic ballasts (not suitable for operation on electronic ballasts)
- Excellent color rendering of CRI  $\geq 85$

### Features

- Provides crisp, white light
- Up to 100 lumens per watt
- Universal operating position that does not affect the lamp life; exception: 860W vertical position only.
- Long life  $\geq 20,000$  hrs rated average life<sup>>1</sup>
- \* 330W CDM lamp with AllStart™Technology compared to 400W quartz Metal Halide lamp. <sup>>1</sup> 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 Advantage CDM Lamps with Allstart Technology

## Application

- Ideal for high-ceiling industrial, retail and distribution centers as well as outdoor applications.

## Warnings and Safety

- 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: 21 CFR 1040.30 Canada: SOR/DORS/80-381)

## Versions



330 W Exclusionary Mogul Screw

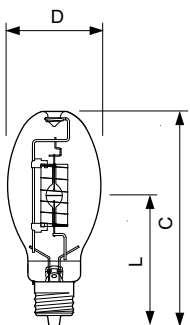
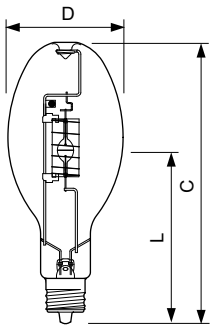


EX39, ED-28, Clear



330 W Exclusionary Mogul Screw

## Dimensional drawing



Product	D (max)	D	L (max)	L	C
330W ED37 CO Allstart 1SL	118 mm	4.625 in	184 mm	178 mm	11.5 in
Allstart Energy Adv 330W ED37 CL 1SL	118 mm	4.625 in	184 mm	178 mm	11.5 in

Product	D	D	L (min)	L (max)	L	C
CDM205/U/O/4K/EA/ED28	3.5 in	89 mm	125 mm	129 mm	127 mm	8.313 in
CDM145/U/O/4K/ED28 EA	3.5 in	88.9 mm	125 mm	129 mm	127 mm	8.313 in
ALLSTART						
CDM330/U/O/4K/ED28 EA	3.5 in	89 mm	132 mm	127 mm	127 mm	8.313 in
ALLSTART						

# Energy Advantage CDM Lamps with Allstart Technology

## General Information

Cap-Base	EX39
Operating Position	UNIVERSAL

## Light Technical

Color Rendering Index (Min)	-
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## Approval and Application

Order Code	Full Product Name	Mercury (Hg) Content (Max)	Picogram Per Lumen Hour
928601165903	Allstart Energy Adv 330W ED37 CL 1SL	50 mg	84.2 pg/lm.h
928601166003	CDM205/U/O/4K/EA/ED28	38 mg	121.8 pg/lm.h
928601168202	CDM330/U/O/4K/ED28 EA ALLSTART	50 mg	96.7 pg/lm.h

Order Code	Full Product Name	Mercury (Hg) Content (Max)	Picogram Per Lumen Hour
928601168302	CDM145/U/O/4K/ED28 EA ALLSTART	37 mg	163.1 pg/lm.h
928601166803	330W ED37 CO Allstart 1SL	50 mg	90 pg/lm.h

## Operating and Electrical

Order Code	Full Product Name	Lamp Current (Nom)	Voltage (Max)	Voltage (Min)	Voltage (Nom)	Power (Rated) (Nom)	Re-Ignition Time (Min) (Nom)
928601165903	Allstart Energy Adv 330W ED37 CL 1SL	3.02 A	140 V	120 V	130 V	-	15 min
928601166003	CDM205/U/O/4K/EA/ED28	1.9 A	138 V	118 V	128 V	-	18.3 min
928601168202	CDM330/U/O/4K/ED28 EA ALLSTART	3.02 A	140 V	120 V	130 V	-	20 min
928601168302	CDM145/U/O/4K/ED28 EA ALLSTART	1.45 A	141 V	117 V	125 V	145.5 W	8 min
928601166803	330W ED37 CO Allstart 1SL	3.02 A	140 V	120 V	130 V	-	15 min

## General Information

Order Code	Full Product Name	Life To 50% Failures (Nom)
928601165903	Allstart Energy Adv 330W ED37 CL 1SL	24000 h
928601166003	CDM205/U/O/4K/EA/ED28	20000 h
928601168202	CDM330/U/O/4K/ED28 EA ALLSTART	20000 h

Order Code	Full Product Name	Life To 50% Failures (Nom)
928601168302	CDM145/U/O/4K/ED28 EA ALLSTART	20000 h
928601166803	330W ED37 CO Allstart 1SL	24000 h

## Luminaire Design Requirements

Order Code	Full Product Name	Bulb Temperature (Max)
928601165903	Allstart Energy Adv 330W ED37 CL 1SL	163 °C
928601166003	CDM205/U/O/4K/EA/ED28	175 °C
928601168202	CDM330/U/O/4K/ED28 EA ALLSTART	240 °C

Order Code	Full Product Name	Bulb Temperature (Max)
928601168302	CDM145/U/O/4K/ED28 EA ALLSTART	400 °C
928601166803	330W ED37 CO Allstart 1SL	163 °C

## Light Technical (1/3)

Order Code	Full Product Name	Chromaticity Coordinate X (Max)	Chromaticity Coordinate X (Min)	Chromaticity Coordinate X (Nom)	Chromaticity Coordinate Y (Max)	Chromaticity Coordinate Y (Min)	Chromaticity Coordinate Y (Nom)	Color Code
928601165903	Allstart Energy Adv 330W ED37 CL 1SL	0.397	0.365	0.381	0.404	0.364	0.384	940
928601166003	CDM205/U/O/4K/EA/ED28	0.397	0.365	0.381	0.404	0.364	0.384	841
928601168202	CDM330/U/O/4K/ED28 EA ALLSTART	0.397	0.365	0.381	0.404	0.364	0.384	940

## Energy Advantage CDM Lamps with Allstart Technology

Order Code	Full Product Name	Chromaticity Coordinate X (Max)	Chromaticity Coordinate X (Min)	Chromaticity Coordinate X (Nom)	Chromaticity Coordinate Y (Max)	Chromaticity Coordinate Y (Min)	Chromaticity Coordinate Y (Nom)	Color Code
928601168302	CDM145/U/O/4K/ED28 EA ALLSTART	0.390	0.358	0.374	0.400	0.360	0.380	940
928601166803	330W ED37 CO Allstart 1SL	0.402	0.370	0.386	0.404	0.364	0.390	940

### Light Technical (2/3)

Order Code	Full Product Name	Color Designation	Correlated Color Temperature (Nom)		Color Rendering Index (Nom)	Lumen Maintenance - 10% Life		Luminous Efficacy (rated) (Min)	Luminous Efficacy (rated) (Nom)	Design Mean Lumens	Luminous Flux (Rated) (Min)
			-	4200 K		90 %	80 %				
928601165903	Allstart Energy Adv 330W ED37 CL 1SL	4000 Kelvin	-	86	90 %	75 %	91 lm/W	97 lm/W	24000 lm	30000 lm	
928601166003	CDM205/U/O/4K/EA/ED28	4100 Kelvin	-	84	94 %	80 %	88 lm/W	95 lm/W	15600 lm	18000 lm	
928601168202	CDM330/U/O/4K/ED28 EA ALLSTART	4000 Kelvin	-	87	90 %	80 %	91 lm/W	97 lm/W	25600 lm	30000 lm	
928601168302	CDM145/U/O/4K/ED28 EA ALLSTART	4000 Kelvin	4200 K	87	90 %	80 %	85 lm/W	95 lm/W	11020 lm	12400 lm	
928601166803	330W ED37 CO Allstart 1SL	4000 Kelvin	3950 K	86	90 %	80 %	85 lm/W	94 lm/W	23250 lm	28000 lm	

### Light Technical (3/3)

Order Code	Full Product Name	Luminous Flux (Rated) (Nom)	Order Code	Full Product Name	Luminous Flux (Rated) (Nom)
928601165903	Allstart Energy Adv 330W ED37 CL 1SL	32000 lm	928601168302	CDM145/U/O/4K/ED28 EA ALLSTART	13775 lm
928601166003	CDM205/U/O/4K/EA/ED28	19500 lm	928601166803	330W ED37 CO Allstart 1SL	31000 lm
928601168202	CDM330/U/O/4K/ED28 EA ALLSTART	32000 lm			

### Mechanical and Housing

Order Code	Full Product Name	Bulb Finish	Bulb Shape	Order Code	Full Product Name	Bulb Finish	Bulb Shape
928601165903	Allstart Energy Adv 330W ED37 CL 1SL	Clear	ED-37	928601168302	CDM145/U/O/4K/ED28 EA ALLSTART	Clear	ED-28
928601166003	CDM205/U/O/4K/EA/ED28	Clear	ED-28	928601166803	330W ED37 CO Allstart 1SL	Coated glass	ED-37
928601168202	CDM330/U/O/4K/ED28 EA ALLSTART	Clear	ED-28				

