



The easiest switch to comfortable white light

MASTER CityWhite CDO-TT

Ceramic metal halide lamp with clear tubular outer bulb shape, used in outdoor offering pleasant white light

Benefits

- White warm color impression providing comfort and safety
- Easy upgrade from SON to white light without additional cost
- Flexible light levels and reduced energy consumption possible via dimming option

Features

- High-quality white light
- Directly retrofit on HPS (SON/NAV) installations for upgrade from yellow to white light
- "Plus" concept with high efficacy translates into high light output and improved lumen maintenance
- Good color rendering and harmonized warm white color temperature
- Dimmable

Application

- Beautification and functional lighting for City centers, shopping centers and pedestrian areas, residential areas, road lighting and floodlighting

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Warnings and Safety

- Use only in totally enclosed luminaire, even during testing (IEC61167, IEC 62035, IEC60598)
- The luminaire must be able to contain hot lamp parts if the lamp ruptures
- Lamps may use electromagnetic control gear or electronic gear suitable to drive CDO lamps (e.g. HID-PV Xt CDO)
- Control gear must include end-of-life protection (IEC61167, IEC 62035)
- Warm restart time can be up to 15 minutes; T15 ignitors therefore advised
- A lamp breaking is extremely unlikely to have any 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.

Versions



CDO-TT Plus, 70W, E27



CDO-TT Plus 100W & 150W E40



CDO-TT Plus 250W /830 E40

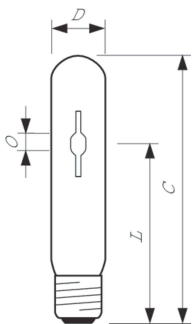


CDO-TT Plus 50W /828 E27



CDO-TT Plus 250W /940

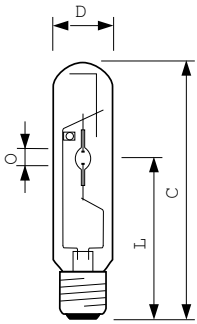
Dimensional drawing



Product	D (max)	O	L	C (max)
MASTER CityWhite CDO-TT Plus 70W/828 E27	36 mm	7.15 mm	102 mm	156 mm
MASTER CityWhite CDO-TT Plus 50W/828 E27	36 mm	5.25 mm	102 mm	156 mm
MASTER CityWhite CDO-TT Plus 70W/942 E27	36 mm	7.75 mm	102 mm	156 mm

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Dimensional drawing



Product	D (max)	O	L	C (max)
MASTER CityWhite CDO-TT Plus 100W/828 E40	47 mm	8.5 mm	132 mm	211 mm
MASTER CityWhite CDO-TT Plus 150W/828 E40	47 mm	10 mm	132 mm	211 mm
MASTER CityWhite CDO-TT Plus 250W/830 E40	47 mm	12.1 mm	157 mm	257 mm
MASTER CityWhite CDO-TT Plus 250W/940 E40	47 mm	12.30 mm	158 mm	255 mm
MASTER CityWhite CDO-TT Plus 150W/942 E40	46 mm	10 mm	132 mm	211 mm

Approval and Application

Energy Efficiency Label (EEL) A+

General Information

Operating Position UNIVERSAL

Mechanical and Housing

Bulb Finish Clear

Approval and Application

Order Code	Full Product Name	Energy	
		Consumption kWh/ 1000 h	Mercury (Hg) Content (Nom)
928082019235	MASTER CityWhite CDO-TT Plus 70W/828 E27	81 kWh	7.8 mg
928082619230	MASTER CityWhite CDO-TT Plus 70W/942 E27	81 kWh	6.6 mg
928082119231	MASTER CityWhite CDO-TT Plus 100W/828 E40	108 kWh	11.6 mg
928082219231	MASTER CityWhite CDO-TT Plus 150W/828 E40	163 kWh	15.8 mg

Order Code	Full Product Name	Energy	
		Consumption kWh/ 1000 h	Mercury (Hg) Content (Nom)
928082519230	MASTER CityWhite CDO-TT Plus 150W/942 E40	164 kWh	12.6 mg
928082319230	MASTER CityWhite CDO-TT Plus 250W/830 E40	275 kWh	25.3 mg
928082419235	MASTER CityWhite CDO-TT Plus 50W/828 E27	58 kWh	5.4 mg
928487500191	MASTER CityWhite CDO-TT Plus 250W/940 E40	275 kWh	19.5 mg

Controls and Dimming

Order Code	Full Product Name	Dimmable
928082019235	MASTER CityWhite CDO-TT Plus 70W/828 E27	Yes
928082619230	MASTER CityWhite CDO-TT Plus 70W/942 E27	Yes
928082119231	MASTER CityWhite CDO-TT Plus 100W/828 E40	Yes
928082219231	MASTER CityWhite CDO-TT Plus 150W/828 E40	Yes

Order Code	Full Product Name	Dimmable
928082519230	MASTER CityWhite CDO-TT Plus 150W/942 E40	Yes
928082319230	MASTER CityWhite CDO-TT Plus 250W/830 E40	Yes
928082419235	MASTER CityWhite CDO-TT Plus 50W/828 E27	Yes
928487500191	MASTER CityWhite CDO-TT Plus 250W/940 E40	No

Operating and Electrical

Order Code	Full Product Name	Lamp Current (EM) (Nom)	Voltage			Power (Rated) (Nom)	Re-Ignition Time (Min) (Max)
			(Max)	(Min)	(Nom)		
928082019235	MASTER CityWhite CDO-TT Plus 70W/828 E27	0.96 A	101 V	85 V	91 V	73.5 W	720 s
928082619230	MASTER CityWhite CDO-TT Plus 70W/942 E27	0.77 A	-	-	96 V	74.0 W	720 s

MASTER CityWhite CDO-TT

Order Code	Full Product Name	Lamp Current (EM)			Power (Rated)		Re-ignition Time	
		(Nom)	Voltage (Max)	Voltage (Min)	Voltage (Nom)	(Nom)	(Min)	(Max)
928082119231	MASTER CityWhite CDO-TT Plus 100W/828 E40	0.118 A	105 V	89 V	100 V	98.5 W	900 s	
928082219231	MASTER CityWhite CDO-TT Plus 150W/828 E40	0.177 A	106 V	90 V	99 V	148.5 W	900 s	
928082519230	MASTER CityWhite CDO-TT Plus 150W/942 E40	0.181 A	-	-	97 V	149 W	900 s	
928082319230	MASTER CityWhite CDO-TT Plus 250W/830 E40	0.295 A	108 V	92 V	99 V	250 W	900 s	
928082419235	MASTER CityWhite CDO-TT Plus 50W/828 E27	0.760 A	92 V	76 V	83 V	53 W	720 s	
928487500191	MASTER CityWhite CDO-TT Plus 250W/940 E40	3 A	112 V	92 V	102 V	250.0 W	900 s	

General Information (1/2)

Order Code	Full Product Name	Cap-Base	Life To 10%	Life To 20%	Life To 50%	Life To 5%	LSF 12000 h	LSF 16000 h
			Failures (Nom)	Failures (Nom)	Failures (Nom)	Failures (Nom)	Rated	Rated
928082019235	MASTER CityWhite CDO-TT Plus 70W/828 E27	E27	15000 h	17000 h	27000 h	13000 h	90 %	81 %
928082619230	MASTER CityWhite CDO-TT Plus 70W/942 E27	E27	8000 h	12000 h	20000 h	6000 h	80 %	65 %
928082119231	MASTER CityWhite CDO-TT Plus 100W/828 E40	E40	20000 h	22500 h	27000 h	18000 h	99 %	97 %
928082219231	MASTER CityWhite CDO-TT Plus 150W/828 E40	E40	20000 h	22500 h	27000 h	18000 h	99 %	97 %
928082519230	MASTER CityWhite CDO-TT Plus 150W/942 E40	E40	8000 h	12000 h	20000 h	6000 h	80 %	65 %
928082319230	MASTER CityWhite CDO-TT Plus 250W/830 E40	E40	16000 h	18500 h	23000 h	14000 h	98 %	90 %
928082419235	MASTER CityWhite CDO-TT Plus 50W/828 E27	E27	15000 h	17000 h	21000 h	13000 h	90 %	74 %
928487500191	MASTER CityWhite CDO-TT Plus 250W/940 E40	E40	9000 h	12000 h	18000 h	-	-	-

General Information (2/2)

Order Code	Full Product Name	LSF 2000 h	LSF 20000 h	LSF 4000 h	LSF 6000 h	LSF 8000 h	Order Code	Full Product Name	LSF 2000 h	LSF 20000 h	LSF 4000 h	LSF 6000 h	LSF 8000 h
		Rated	Rated	Rated	Rated	Rated			Rated	Rated	Rated	Rated	Rated
928082019235	MASTER CityWhite CDO-TT Plus 70W/828 E27	99 %	71 %	99 %	98 %	96 %	928082519230	MASTER CityWhite CDO-TT Plus 150W/942 E40	99 %	50 %	98 %	95 %	91 %
928082619230	MASTER CityWhite CDO-TT Plus 70W/942 E27	99 %	50 %	98 %	95 %	91 %	928082319230	MASTER CityWhite CDO-TT Plus 250W/830 E40	99 %	71 %	99 %	99 %	99 %
928082119231	MASTER CityWhite CDO-TT Plus 100W/828 E40	99 %	90 %	99 %	99 %	99 %	928082419235	MASTER CityWhite CDO-TT Plus 50W/828 E27	99 %	50 %	99 %	99 %	98 %
928082219231	MASTER CityWhite CDO-TT Plus 150W/828 E40	99 %	90 %	99 %	99 %	99 %	928487500191	MASTER CityWhite CDO-TT Plus 250W/940 E40	-	-	-	-	-

Luminaire Design Requirements

MASTER CityWhite CDO-TT

Order Code	Full Product Name	Bulb Temperature (Max)
928082019235	MASTER CityWhite CDO-TT Plus 70W/828 E27	350 °C
928082619230	MASTER CityWhite CDO-TT Plus 70W/942 E27	350 °C
928082119231	MASTER CityWhite CDO-TT Plus 100W/828 E40	450 °C
928082219231	MASTER CityWhite CDO-TT Plus 150W/828 E40	450 °C
928082519230	MASTER CityWhite CDO-TT Plus 150W/942 E40	450 °C

Order Code	Full Product Name	Bulb Temperature (Max)
928082319230	MASTER CityWhite CDO-TT Plus 250W/830 E40	450 °C
928082419235	MASTER CityWhite CDO-TT Plus 50W/828 E27	350 °C
928487500191	MASTER CityWhite CDO-TT Plus 250W/940 E40	450 °C

Light Technical (1/3)

Order Code	Full Product Name	Chromaticity	Chromaticity	Color Code	Color Designation	Correlated Color Temperature (Nom)	Color	Color
		Coordinate X (Nom)	Coordinate Y (Nom)				Rendering Index (Min)	Rendering Index (Nom)
928082019235	MASTER CityWhite CDO-TT Plus 70W/828 E27	446	393	828	Warm White (WW)	2800 K	83	86
928082619230	MASTER CityWhite CDO-TT Plus 70W/942 E27	363	365	942	Cool White (CW)	4200 K	-	90
928082119231	MASTER CityWhite CDO-TT Plus 100W/828 E40	445	395	828	Warm White (WW)	2800 K	-	88
928082219231	MASTER CityWhite CDO-TT Plus 150W/828 E40	445	395	828	Warm White (WW)	2800 K	-	87
928082519230	MASTER CityWhite CDO-TT Plus 150W/942 E40	371	380	942	Cool White (CW)	4200 K	-	91
928082319230	MASTER CityWhite CDO-TT Plus 250W/830 E40	426	390	830	Warm White (WW)	3000 K	-	88
928082419235	MASTER CityWhite CDO-TT Plus 50W/828 E27	443	395	828	Warm White (WW)	2800 K	81	84
928487500191	MASTER CityWhite CDO-TT Plus 250W/940 E40	377	372	940	Cool White (CW)	4000 K	-	90

Light Technical (2/3)

Order Code	Full Product Name	LLMF	LLMF	LLMF			LLMF 4000 h Rated	LLMF 6000 h Rated	LLMF 8000 h Rated	Luminous Efficacy (rated) (Nom)	Luminous Flux (Rated) (Nom)
		12000 h Rated	16000 h Rated	LLMF 2000 h Rated	LLMF 20000 h Rated						
928082019235	MASTER CityWhite CDO-TT Plus 70W/828 E27	80.5 %	76.5 %	97 %	73.5 %	93 %	89.5 %	86 %	105.44 lm/W	7750 lm	
928082619230	MASTER CityWhite CDO-TT Plus 70W/942 E27	80 %	75 %	92 %	70 %	87 %	84 %	83 %	101.35 lm/W	7500 lm	
928082119231	MASTER CityWhite CDO-TT Plus 100W/828 E40	85 %	82 %	95 %	80 %	92 %	90 %	88 %	106.6 lm/W	10600 lm	
928082219231	MASTER CityWhite CDO-TT Plus 150W/828 E40	85 %	82 %	95 %	80 %	92 %	90 %	88 %	110.44 lm/W	16400 lm	
928082519230	MASTER CityWhite CDO-TT Plus 150W/942 E40	80 %	78 %	92 %	76 %	87 %	84 %	83 %	108.72 lm/W	16200 lm	
928082319230	MASTER CityWhite CDO-TT Plus 250W/830 E40	85 %	82 %	95 %	80 %	92 %	90 %	88 %	113.2 lm/W	28400 lm	
928082419235	MASTER CityWhite CDO-TT Plus 50W/828 E27	80 %	74 %	98 %	71 %	96 %	92 %	88 %	103.77 lm/W	5500 lm	

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Order Code	Full Product Name	LLMF	LLMF	LLMF			Luminous Efficacy (rated) (Nom)	Luminous Flux (Rated) (Nom)	
		12000 h Rated	16000 h Rated	LLMF 2000 h Rated	20000 h Rated	LLMF 4000 h Rated			LLMF 6000 h Rated
928487500191	MASTER CityWhite CDO-TT Plus 250W/940 E40	-	-	-	-	-	-	106 lm/W	26500 lm

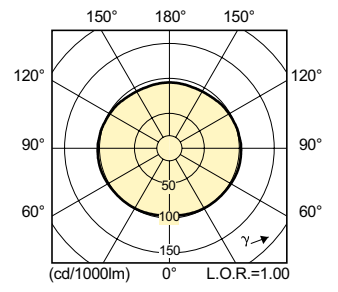
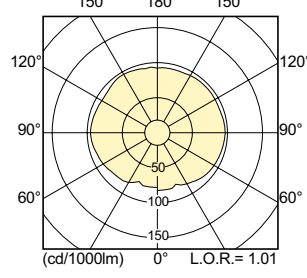
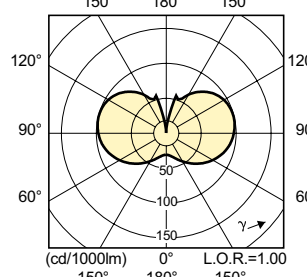
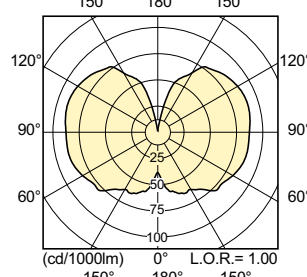
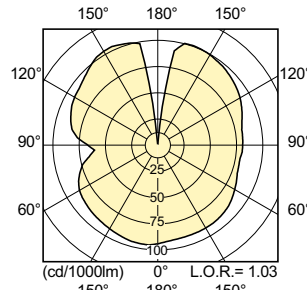
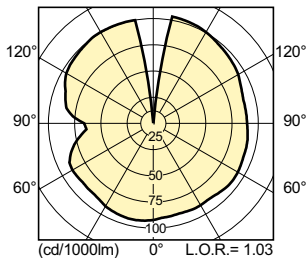
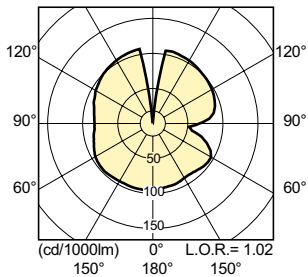
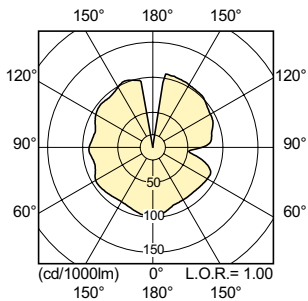
Light Technical (3/3)

Order Code	Full Product Name	Ratio Scotopic/ Photopic Lumens
928082019235	MASTER CityWhite CDO-TT Plus 70W/828 E27	1.30
928082619230	MASTER CityWhite CDO-TT Plus 70W/942 E27	1.86
928082119231	MASTER CityWhite CDO-TT Plus 100W/828 E40	1.30
928082219231	MASTER CityWhite CDO-TT Plus 150W/828 E40	1.30

Order Code	Full Product Name	Ratio Scotopic/ Photopic Lumens
928082519230	MASTER CityWhite CDO-TT Plus 150W/942 E40	1.79
928082319230	MASTER CityWhite CDO-TT Plus 250W/830 E40	1.30
928082419235	MASTER CityWhite CDO-TT Plus 50W/828 E27	1.30
928487500191	MASTER CityWhite CDO-TT Plus 250W/940 E40	-

Mechanical and Housing

Order Code	Full Product Name	Bulb Shape
928082019235	MASTER CityWhite CDO-TT Plus 70W/828 E27	T35
928082619230	MASTER CityWhite CDO-TT Plus 70W/942 E27	T35
928082119231	MASTER CityWhite CDO-TT Plus 100W/828 E40	T46
928082219231	MASTER CityWhite CDO-TT Plus 150W/828 E40	T46
928082519230	MASTER CityWhite CDO-TT Plus 150W/942 E40	T46
928082319230	MASTER CityWhite CDO-TT Plus 250W/830 E40	T46
928082419235	MASTER CityWhite CDO-TT Plus 50W/828 E27	T31
928487500191	MASTER CityWhite CDO-TT Plus 250W/940 E40	T46



MASTER CityWhite CDO-TT

