



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

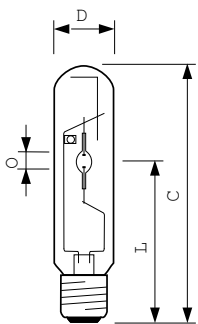


CDO-TT Plus 50W /828 E27



250.0 W E40

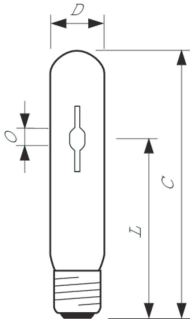
Dimensional drawing



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

MASTER CityWhite CDO-TT

Dimensional drawing



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

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 Content (Hg) (Max)	Mercury Content (Hg) (Nom)
928082019235	MASTER CityWhite CDO-TT Plus 70W/828 E27	74 kWh	7.8 mg	7.8 mg
928082619230	MASTER CityWhite CDO-TT Plus 70W/942 E27	74 kWh	6.6 mg	6.6 mg
928082119231	MASTER CityWhite CDO-TT Plus 100W/828 E40	99 kWh	12 mg	11.6 mg
928082219231	MASTER CityWhite CDO-TT Plus 150W/828 E40	149 kWh	15.8 mg	15.8 mg

Order Code	Full Product Name	Energy Consumption kWh/1000 h	Mercury Content (Hg) (Max)	Mercury Content (Hg) (Nom)
928082519230	MASTER CityWhite CDO-TT Plus 150W/942 E40	150 kWh	13 mg	12.6 mg
928082319230	MASTER CityWhite CDO-TT Plus 250W/830 E40	250 kWh	25 mg	25.3 mg
928082419235	MASTER CityWhite CDO-TT Plus 50W/828 E27	53 kWh	5.4 mg	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)			Power (Rated)		Re-Ignition Time	
		(Nom)	Voltage (Max)	Voltage (Min)	Voltage (Nom)	(Nom)	(Min) (Max)	
928082019235	MASTER CityWhite CDO-TT Plus 70W/828 E27	0.96 A	101 V	85 V	91 V	73.5 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)
928082619230	MASTER CityWhite CDO-TT Plus 70W/942 E27	0.77 A	-	-	96 V	74.0 W	720 s	
928082119231	MASTER CityWhite CDO-TT Plus 100W/828 E40	0.118 A	105 V	89 V	100 V	99.0 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	150.0 W	900 s	
928082319230	MASTER CityWhite CDO-TT Plus 250W/830 E40	0.295 A	108 V	92 V	99 V	250.0 W	900 s	
928082419235	MASTER CityWhite CDO-TT Plus 50W/828 E27	0.760 A	92 V	76 V	83 V	53.0 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	0.447	0.4	828	Warm White (WW)	2800 K	83	86
928082619230	MASTER CityWhite CDO-TT Plus 70W/942 E27	0.371	0.366	942	Cool White (CW)	4200 K	-	90
928082119231	MASTER CityWhite CDO-TT Plus 100W/828 E40	0.447	0.4	828	Warm White (WW)	2800 K	-	88
928082219231	MASTER CityWhite CDO-TT Plus 150W/828 E40	0.447	0.4	828	Warm White (WW)	2800 K	-	87
928082519230	MASTER CityWhite CDO-TT Plus 150W/942 E40	0.371	0.366	942	Cool White (CW)	4200 K	-	91
928082319230	MASTER CityWhite CDO-TT Plus 250W/830 E40	0.434	0.398	830	Warm White (WW)	3000 K	-	88
928082419235	MASTER CityWhite CDO-TT Plus 50W/828 E27	0.447	0.4	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 (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 lm/W	7750 lm	
928082619230	MASTER CityWhite CDO-TT Plus 70W/942 E27	80 %	75 %	92 %	70 %	87 %	84 %	83 %	101 lm/W	7500 lm	
928082119231	MASTER CityWhite CDO-TT Plus 100W/828 E40	85 %	82 %	95 %	80 %	92 %	90 %	88 %	106 lm/W	10450 lm	
928082219231	MASTER CityWhite CDO-TT Plus 150W/828 E40	85 %	82 %	95 %	80 %	92 %	90 %	88 %	110 lm/W	16400 lm	
928082519230	MASTER CityWhite CDO-TT Plus 150W/942 E40	80 %	78 %	92 %	76 %	87 %	84 %	83 %	107 lm/W	16100 lm	
928082319230	MASTER CityWhite CDO-TT Plus 250W/830 E40	85 %	82 %	95 %	80 %	92 %	90 %	88 %	113 lm/W	28400 lm	
928082419235	MASTER CityWhite CDO-TT Plus 50W/828 E27	80 %	74 %	98 %	71 %	96 %	92 %	88 %	104 lm/W	5500 lm	

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Order Code	Full Product Name	LLMF	LLMF	LLMF			Luminous Efficacy (rated) (Nom)	Luminous Flux (Nom)		
		12000 h Rated	16000 h Rated	LLMF 2000 h Rated	20000 h Rated	LLMF 4000 h Rated			LLMF 6000 h Rated	LLMF 8000 h Rated
928487500191	MASTER CityWhite CDO-TT Plus 250W/940 E40	-	-	-	-	-	-	-	106 lm/W	-

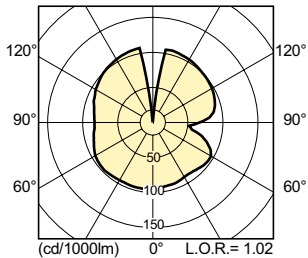
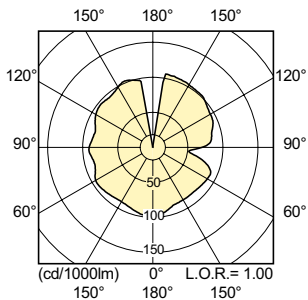
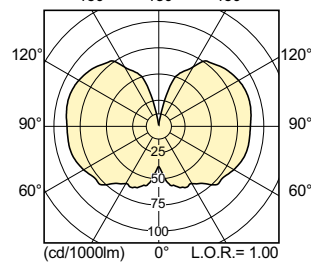
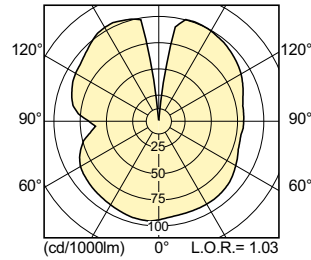
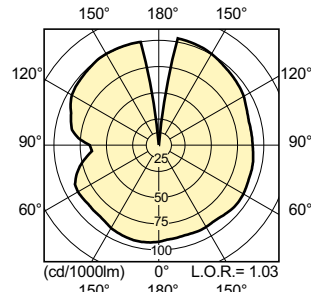
Light Technical (3/3)

Order Code	Full Product Name	Luminous Flux (Rated) (Nom)	Ratio Scotopic/ Photopic Lumens
928082019235	MASTER CityWhite CDO-TT Plus 70W/828 E27	7750 lm	1.30
928082619230	MASTER CityWhite CDO-TT Plus 70W/942 E27	7500 lm	1.86
928082119231	MASTER CityWhite CDO-TT Plus 100W/828 E40	10450 lm	1.30
928082219231	MASTER CityWhite CDO-TT Plus 150W/828 E40	16400 lm	1.30

Order Code	Full Product Name	Luminous Flux (Rated) (Nom)	Ratio Scotopic/ Photopic Lumens
928082519230	MASTER CityWhite CDO-TT Plus 150W/942 E40	16100 lm	1.79
928082319230	MASTER CityWhite CDO-TT Plus 250W/830 E40	28400 lm	1.30
928082419235	MASTER CityWhite CDO-TT Plus 50W/828 E27	5500 lm	1.30
928487500191	MASTER CityWhite CDO-TT Plus 250W/940 E40	26500 lm	-

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



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