



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 colour 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 colour rendering and harmonized warm white colour temperature
- Dimmable

Application

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

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 electronic or electromagnetic control gear
- Control gear must include end-of-life protection (IEC61167, IEC 62035)

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Versions



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
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
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
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
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	
928082619230	MASTER CityWhite CDO-TT Plus 70W/942 E27	0.77 A	-	-	96 V	74 W	720 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	149.0 W	900 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)

MASTER CityWhite CDO-TT

Order Code	Full Product Name	Cap-Base	Life To 10% Failures (Nom)	Life To 20% Failures (Nom)	Life To 50% Failures (Nom)	Life To 5% Failures (Nom)	LSF 12000 h Rated	LSF 16000 h 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 %
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 %
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	LSF	LSF	LSF	LSF	Order Code	Full Product Name	LSF	LSF	LSF	LSF	LSF
		2000 h Rated	20000 h Rated	4000 h Rated	6000 h Rated	8000 h Rated			2000 h Rated	20000 h Rated	4000 h Rated	6000 h Rated	8000 h 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 %	928487500191	MASTER CityWhite CDO-TT Plus 250W/940 E40	-	-	-	-	-
928082219231	MASTER CityWhite CDO-TT Plus 150W/828 E40	99 %	90 %	99 %	99 %	99 %							

Luminaire Design Requirements

Order Code	Full Product Name	Bulb Temperature (Max)	Order Code	Full Product Name	Bulb Temperature (Max)
928082019235	MASTER CityWhite CDO-TT Plus 70W/828 E27	350 °C	928082519230	MASTER CityWhite CDO-TT Plus 150W/942 E40	450 °C
928082619230	MASTER CityWhite CDO-TT Plus 70W/942 E27	350 °C	928487500191	MASTER CityWhite CDO-TT Plus 250W/940 E40	450 °C
928082219231	MASTER CityWhite CDO-TT Plus 150W/828 E40	450 °C			

Light Technical (1/3)

Order Code	Full Product Name	Chromaticity Coordinate X (Nom)	Chromaticity Coordinate Y (Nom)	Colour Code	Colour Designation	Correlated Colour Temperature (Nom)	Colour Rendering Index (Min)	Colour Rendering Index (Nom)
		928082019235	MASTER CityWhite CDO-TT Plus 70W/828 E27	446	393	828	Warm white (WW)	2800 K
928082619230	MASTER CityWhite CDO-TT Plus 70W/942 E27	363	365	942	Cool White (CW)	4200 K	-	90
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

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Order Code	Full Product Name	Chromaticity Coordinate X (Nom)	Chromaticity Coordinate Y (Nom)	Colour Code	Colour Designation	Correlated Colour Temperature (Nom)	Colour Rendering Index (Min)	Colour Rendering Index (Nom)
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	2000 h Rated	20000 h Rated	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	
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 %	109 lm/W	16200 lm	
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
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
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
928082219231	MASTER CityWhite CDO-TT Plus 150W/828 E40	T46
928082519230	MASTER CityWhite CDO-TT Plus 150W/942 E40	T46
928487500191	MASTER CityWhite CDO-TT Plus 250W/940 E40	T46



