



# The easy-fitting solution for highly energy-efficient and reliable white light outdoors

## MASTER CosmoWhite CPO-TT Xtra

New-generation ceramic metal-halide tubular lamps used in outdoor applications, offering efficient and pleasant white light

### Benefits

- Attractive white-light alternative to current standard mercury-vapor, HPS and ceramic solutions
- Offering easy access to low-cost high-performance new system with existing standard components
- Best combination of low investment and high energy savings (up to 65%), resulting in very low cost of ownership

### Features

- Highly efficient white light; extremely high system efficacy
- Long reliable lifetime; new Xtra range offering service life of up to 6 years (> 30kh average life)
- Unique new burner design in combination with glass outer bulb and Edison lamp base offering easy fit into existing HPS / SON luminaire platform
- Designed for electronic gear platforms including all control features and dimming options offering flexible light levels and reduced energy consumption

# MASTER CosmoWhite CPO-TT Xtra

## Application

- Street lighting and area lighting, urban and residential areas and city centers; for functional lighting and city beautification

## Warnings and Safety

- Use only in a totally enclosed luminaire, even during testing (IEC 61167, IEC 62035, IEC 60598)
- The luminaire must be able to contain hot lamp parts if the lamp ruptures
- Use only with suitable electronic control gear
- Control gear must include end-of-life protection (IEC 61167, IEC 62035)
- E27 lamp holders and other parts in luminaires should be designed to withstand the ignition voltage of the electronic control gear (rated at 5 kV ignition pulse)
- 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.

Controls and Dimming	
Dimmable	Yes
Operating and Electrical	
Re-ignition Time (Min) (Max)	900 s
General Information	
Life To 10% Failures (Nom)	24000 h
Life To 20% Failures (Nom)	27000 h
Life To 50% Failures (Nom)	32000 h
Life To 5% Failures (Nom)	21500 h
LSF 12000 h Rated	99 %
LSF 16000 h Rated	99 %
LSF 2000 h Rated	99 %
LSF 20000 h Rated	97 %
LSF 24000 h Rated	90 %
LSF 30000 h Rated	63 %
LSF 4000 h Rated	99 %
LSF 6000 h Rated	99 %
LSF 8000 h Rated	99 %
Operating Position	P20
Light Technical	
Chromaticity Coordinate X (Nom)	0.447
Chromaticity Coordinate Y (Nom)	0.4
Colour Code	628
Colour Designation	Warm white (WW)
Correlated Colour Temperature (Nom)	2800 K
Mechanical and Housing	
Bulb Finish	Clear

## Approval and Application

Order Code	Full Product Name	Energy Consumption kWh/1000 h	Mercury (Hg) Content (Max)	Mercury (Hg) Content (Nom)
69034400	MST CosmoWhite CPO-TT Xtra 60W/628 E27	60 kWh	2 mg	2.0 mg
69171600	MST CosmoWhite CPO-TT Xtra 45W/628 E27	45 kWh	2 mg	2.0 mg
68115100	MST CosmoWhite CPO-TT Xtra 90W/628 E40	90 kWh	3 mg	3.0 mg
69032000	MST CosmoWhite CPO-TT Xtra 140W/628 E40	141 kWh	3.9 mg	3.90 mg

## Operating and Electrical (1/2)

# MASTER CosmoWhite CPO-TT Xtra

Order Code	Full Product Name	Lamp			
		Current (EM) (Nom)	Voltage (Max)	Voltage (Min)	Voltage (Nom)
69034400	MST CosmoWhite CPO-TT Xtra 60W/628 E27	0.64 A	98 V	84 V	92 V
69171600	MST CosmoWhite CPO-TT Xtra 45W/628 E27	0.49 A	97 V	83 V	91 V

Order Code	Full Product Name	Lamp			
		Current (EM) (Nom)	Voltage (Max)	Voltage (Min)	Voltage (Nom)
68115100	MST CosmoWhite CPO-TT Xtra 90W/628 E40	0.97 A	97 V	81 V	92 V
69032000	MST CosmoWhite CPO-TT Xtra 140W/628 E40	0.156 A	97 V	85 V	90 V

## Operating and Electrical (2/2)

Order Code	Full Product Name	Power (Nom)
69034400	MST CosmoWhite CPO-TT Xtra 60W/628 E27	60.0 W
69171600	MST CosmoWhite CPO-TT Xtra 45W/628 E27	45.0 W

Order Code	Full Product Name	Power (Nom)
68115100	MST CosmoWhite CPO-TT Xtra 90W/628 E40	90.0 W
69032000	MST CosmoWhite CPO-TT Xtra 140W/628 E40	141.0 W

## General Information

Order Code	Full Product Name	Cap-Base
69034400	MST CosmoWhite CPO-TT Xtra 60W/628 E27	E27
69171600	MST CosmoWhite CPO-TT Xtra 45W/628 E27	E27

Order Code	Full Product Name	Cap-Base
68115100	MST CosmoWhite CPO-TT Xtra 90W/628 E40	E40
69032000	MST CosmoWhite CPO-TT Xtra 140W/628 E40	E40

## Luminaire Design Requirements

Order Code	Full Product Name	Bulb Temperature (Max)
69034400	MST CosmoWhite CPO-TT Xtra 60W/628 E27	350 °C
69171600	MST CosmoWhite CPO-TT Xtra 45W/628 E27	350 °C

Order Code	Full Product Name	Bulb Temperature (Max)
68115100	MST CosmoWhite CPO-TT Xtra 90W/628 E40	450 °C
69032000	MST CosmoWhite CPO-TT Xtra 140W/628 E40	450 °C

## Light Technical (1/3)

Order Code	Full Product Name	Colour Rendering	Colour Rendering	LLMF 12000 h	LLMF 16000 h
		Index (Min)	Index (Nom)	Rated	Rated
69034400	MST CosmoWhite CPO-TT Xtra 60W/628 E27	-	70	85 %	83 %
69171600	MST CosmoWhite CPO-TT Xtra 45W/628 E27	-	65	89 %	87 %

Order Code	Full Product Name	Colour Rendering	Colour Rendering	LLMF 12000 h	LLMF 16000 h
		Index (Min)	Index (Nom)	Rated	Rated
68115100	MST CosmoWhite CPO-TT Xtra 90W/628 E40	63	66	87 %	86 %
69032000	MST CosmoWhite CPO-TT Xtra 140W/628 E40	-	68	88 %	87 %

## Light Technical (2/3)

Order Code	Full Product Name	LLMF								Luminous Efficacy (rated) (Nom)	Luminous Flux (Nom)
		LLMF 2000 h Rated	LLMF 20000 h Rated	LLMF 24000 h Rated	LLMF 30000 h Rated	LLMF 4000 h Rated	LLMF 6000 h Rated	LLMF 8000 h Rated			
69034400	MST CosmoWhite CPO-TT Xtra 60W/628 E27	88 %	82 %	80 %	78 %	86 %	86 %	86 %	119.17 lm/W	7150 lm	
69171600	MST CosmoWhite CPO-TT Xtra 45W/628 E27	92 %	86 %	84 %	82 %	90 %	90 %	90 %	105 lm/W	4725 lm	
68115100	MST CosmoWhite CPO-TT Xtra 90W/628 E40	93 %	85 %	84 %	83 %	91 %	90 %	88 %	113.48 lm/W	10200 lm	

## MASTER CosmoWhite CPO-TT Xtra

Order Code	Full Product Name	LLMF				LLMF 4000 h Rated	LLMF 6000 h Rated	LLMF 8000 h Rated	Luminous Efficacy (rated) (Nom)	Luminous Flux (Nom)
		LLMF 2000 h Rated	LLMF 20000 h Rated	LLMF 24000 h Rated	30000 h Rated					
69032000	MST CosmoWhite CPO-TT Xtra 140W/628 E40	93 %	85 %	84 %	-	92 %	91 %	89 %	116.31 lm/W	16400 lm

### Light Technical (3/3)

Order Code	Full Product Name	Luminous Flux (Rated) (Nom)	Ratio
			Scotopic/ Photopic Lumens
69034400	MST CosmoWhite CPO-TT Xtra 60W/628 E27	7150 lm	1.15
69171600	MST CosmoWhite CPO-TT Xtra 45W/628 E27	4725 lm	1.08

Order Code	Full Product Name	Luminous Flux (Rated) (Nom)	Ratio
			Scotopic/ Photopic Lumens
68115100	MST CosmoWhite CPO-TT Xtra 90W/628 E40	10200 lm	1.15
69032000	MST CosmoWhite CPO-TT Xtra 140W/628 E40	16400 lm	1.23

### Mechanical and Housing

Order Code	Full Product Name	Bulb Shape
69034400	MST CosmoWhite CPO-TT Xtra 60W/628 E27	T35
69171600	MST CosmoWhite CPO-TT Xtra 45W/628 E27	T35

Order Code	Full Product Name	Bulb Shape
68115100	MST CosmoWhite CPO-TT Xtra 90W/628 E40	T46
69032000	MST CosmoWhite CPO-TT Xtra 140W/628 E40	T46

