



# The most energy-efficient reliable white light solution for Outdoor

## MASTER CosmoWhite CPO-TW & CPO-TW Xtra

New-generation ceramic metal halide lamps used in Outdoor offering efficient and pleasant white light

### Benefits

- Attractive white light
- Best optical efficacy allows greater spacing between luminaires, thereby reducing investment
- Highest energy saving and lowest cost of ownership

### Features

- Highly efficient white light
- Long reliable lifetime combined with highest system efficacy
- Unique new burner design and positioning in combination with best lamp fixation (PGZ12) provides best optical efficacy
- Compact size: 50% smaller than SON/HPL systems
- New electronic gear platform including dimming options

### Application

- Urban public lighting for city centers, residential areas and roads

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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
- Use only with electronic control gear
- Control gear must include end-of-life protection (IEC61167, IEC 62035)

Approval and Application	
Energy Efficiency Label (EEL)	A+
Controls and Dimming	
Dimmable	Yes
Operating and Electrical	
Re-ignition Time (Min) (Max)	900 s
General Information	
Cap-Base	PGZ12
LSF 12000 h Rated	99 %
LSF 2000 h Rated	99 %
LSF 4000 h Rated	99 %
LSF 6000 h Rated	99 %
LSF 8000 h Rated	99 %
Operating Position	UNIVERSAL
Light Technical	
Colour Designation	White (WH)
Mechanical and Housing	
Bulb Finish	Clear
Bulb Shape	T19

## Approval and Application

Order Code	Full Product Name	Energy Consumption kWh/1000 h	Mercury (Hg) Content (Nom)
15001500	MASTER CosmoWhite CPO-TW Xtra 45W/628 PGZ12	50 kWh	2.0 mg
20851415	MASTER CosmoWhite CPO-TW Xtra 60W/728 PGZ12	66 kWh	2.0 mg
21121715	MASTER CosmoWhite CPO-TW Xtra 90W/728 PGZ12	99 kWh	3.0 mg
20853815	MST COSMOWH CPO-TW Xtra 140W/728 PGZ12	154 kWh	3.9 mg

## Operating and Electrical

Order Code	Full Product Name	Voltage (Max)	Voltage (Min)	Voltage (Nom)	Power (Rated)
15001500	MASTER CosmoWhite CPO-TW Xtra 45W/628 PGZ12	98 V	84 V	91 V	45.0 W
20851415	MASTER CosmoWhite CPO-TW Xtra 60W/728 PGZ12	99 V	85 V	92 V	60.0 W

Order Code	Full Product Name	Voltage (Max)	Voltage (Min)	Voltage (Nom)	Power (Rated)
21121715	MASTER CosmoWhite CPO-TW Xtra 90W/728 PGZ12	98 V	86 V	92 V	90.0 W
20853815	MST COSMOWH CPO-TW Xtra 140W/728 PGZ12	100 V	88 V	94 V	140.0 W

## General Information (1/2)

# MASTER CosmoWhite CPO-TW & CPO-TW Xtra

Order Code	Full Product Name	Life To		Life To	
		Life To 10% Failures (Nom)	20% Failures (Nom)	50% Failures (Nom)	Life To 5% Failures (Nom)
15001500	MASTER CosmoWhite CPO-TW Xtra 45W/628 PGZ12	24000 h	27000 h	32000 h	21500 h
20851415	MASTER CosmoWhite CPO-TW Xtra 60W/728 PGZ12	24000 h	27000 h	32000 h	21500 h

Order Code	Full Product Name	Life To		Life To	
		Life To 10% Failures (Nom)	20% Failures (Nom)	50% Failures (Nom)	Life To 5% Failures (Nom)
21121715	MASTER CosmoWhite CPO-TW Xtra 90W/728 PGZ12	24000 h	27000 h	32000 h	21500 h
20853815	MST COSMOWH CPO-TW Xtra 140W/728 PGZ12	20000 h	24000 h	30000 h	18000 h

## General Information (2/2)

Order Code	Full Product Name	LSF	LSF	LSF	LSF
		16000 h Rated	20000 h Rated	24000 h Rated	30000 h Rated
15001500	MASTER CosmoWhite CPO-TW Xtra 45W/628 PGZ12	99 %	97 %	90 %	63 %
20851415	MASTER CosmoWhite CPO-TW Xtra 60W/728 PGZ12	99 %	97 %	90 %	63 %

Order Code	Full Product Name	LSF	LSF	LSF	LSF
		16000 h Rated	20000 h Rated	24000 h Rated	30000 h Rated
21121715	MASTER CosmoWhite CPO-TW Xtra 90W/728 PGZ12	99 %	97 %	90 %	63 %
20853815	MST COSMOWH CPO-TW Xtra 140W/728 PGZ12	97 %	90 %	80 %	50 %

## Luminaire Design Requirements

Order Code	Full Product Name	Bulb Temperature (Max)
15001500	MASTER CosmoWhite CPO-TW Xtra 45W/628 PGZ12	380 °C
20851415	MASTER CosmoWhite CPO-TW Xtra 60W/728 PGZ12	400 °C

Order Code	Full Product Name	Bulb Temperature (Max)
21121715	MASTER CosmoWhite CPO-TW Xtra 90W/728 PGZ12	470 °C
20853815	MST COSMOWH CPO-TW Xtra 140W/728 PGZ12	550 °C

## Light Technical (1/3)

Order Code	Full Product Name	Chromaticity	Chromaticity	Colour	
		Coordinate X (Nom)	Coordinate Y (Nom)	Colour Code	Rendering Index (Min)
15001500	MASTER CosmoWhite CPO-TW Xtra 45W/628 PGZ12	459	412	628	63
20851415	MASTER CosmoWhite CPO-TW Xtra 60W/728 PGZ12	453	405	728	70

Order Code	Full Product Name	Chromaticity	Chromaticity	Colour	
		Coordinate X (Nom)	Coordinate Y (Nom)	Colour Code	Rendering Index (Min)
21121715	MASTER CosmoWhite CPO-TW Xtra 90W/728 PGZ12	449	412	728	67
20853815	MST COSMOWH CPO-TW Xtra 140W/728 PGZ12	440	413	728	-

## Light Technical (2/3)

## MASTER CosmoWhite CPO-TW & CPO-TW Xtra

Order Code	Full Product Name	Colour					LLMF			
		Rendering	LLMF 12000	LLMF 16000	LLMF 2000	LLMF 20000	LLMF 24000	30000 h	LLMF 4000	LLMF 6000
		Index (Nom)	h Rated	h Rated	h Rated	h Rated	h Rated	Rated	h Rated	h Rated
15001500	MASTER CosmoWhite CPO-TW Xtra 45W/628 PGZ12	66	89 %	87 %	92 %	86 %	84 %	82 %	90 %	90 %
20851415	MASTER CosmoWhite CPO-TW Xtra 60W/728 PGZ12	73	89 %	87 %	92 %	86 %	84 %	82 %	90 %	90 %
21121715	MASTER CosmoWhite CPO-TW Xtra 90W/728 PGZ12	70	92 %	91 %	94 %	90 %	-	-	93 %	93 %
20853815	MST COSMOWH CPO-TW Xtra 140W/728 PGZ12	72	89 %	88 %	94 %	87 %	86 %	-	93 %	92 %

### Light Technical (3/3)

Order Code	Full Product Name	LLMF 8000 h Rated	Luminous Efficacy (rated) (Nom)	Luminous Flux (Rated) (Nom)	Ratio
					Scotopic/Photopic Lumens
15001500	MASTER CosmoWhite CPO-TW Xtra 45W/628 PGZ12	90 %	110 lm/W	4950 lm	1.15
20851415	MASTER CosmoWhite CPO-	90 %	120 lm/W	7200 lm	1.15

Order Code	Full Product Name	LLMF 8000 h Rated	Luminous Efficacy (rated) (Nom)	Luminous Flux (Rated) (Nom)	Ratio
					Scotopic/Photopic Lumens
	TW Xtra 60W/728 PGZ12				
21121715	MASTER CosmoWhite CPO-TW Xtra 90W/728 PGZ12	93 %	120 lm/W	10800 lm	1.15
20853815	MST COSMOWH CPO-TW Xtra 140W/728 PGZ12	91 %	125 lm/W	17600 lm	1.30

