



# Energy efficiency and long life

## Ceramalux ALTO

These lamps pass the EPA's TCLP test for non-hazardous materials. Ideal for industrial applications, warehouses, post top applications and parking lots.

### Benefits

- Low mercury - better for the environment.
- Long Life - 24,000 hours Rated Average Life.
- High efficacy up to 140 LPW.

### Features

- Low total cost of ownership.
- Long life—up to 24,000 hours.
- High efficacy up to 140 LPW.
- ALTO® Lamp Technology - Sustainable solution.
- ED 18 Available in 200, 250 and 400 watt; ED-23 1/2 Available in 50, 70,100, and 150 watt

### Application

- Ideal for street and roadway lighting, parking lots and garages, warehouses and manufacturing facilities where lower maintenance costs are desired.

# Ceramalux ALTO

## Versions



E39, ED-23 1/2, Coated



E39, E-25, Clear

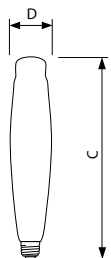
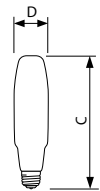
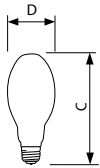


E39, ED-18, Clear



E39, ED-23 1/2, Clear

## Dimensional drawing



### Product

SON 150W E39 ED75 CL SL/12

C50S68/ALTO 12PK

SON 100W E39 ED75 CL SL/12

SON 70W E39 ED75 CL SL/12

C70S62 3PK

C100S54 3PK

C150S55 3PK

C100S54/D ALTO PH 12PK

### Product

C200S66/ALTO 12PK

SON 400W E39 ED58 CL SL/12

SON 250W E39 ED58 CL SL/12

C400S51 3PK

### Product

C1000S52/ALTO

# Ceramalux ALTO

General Information	
Cap-Base	E39
Main Application	General and Street Lighting
Operating Position	Universal
Luminaire Design Requirements	
Bulb Temperature (Max)	400 °C
Light Technical	
Correlated Color Temperature (Nom)	2100 K
Mechanical and Housing	
Bulb Material	Hard Glass

## Approval and Application

Order Code	Full Product Name	Mercury (Hg) Content (Max)	Picogram Per Lumen Hour
332270	C100S54/D ALTO PH 12PK	22.1 mg	-
368837	C1000S52/ALTO	18 mg	11.3 pg/lm.h
140987	C400S51 3PK	23.5 mg	26.4 pg/lm.h
467373	C400S51/ALTO 12PK	23.5 mg	26.4 pg/lm.h
467217	C250S50/ALTO 12PK	23.5 mg	-
467225	C200S66/ALTO 12PK	31 mg	-
140961	SON ALTO 150W LV E E39 CL SL/3	17 mg	-

Order Code	Full Product Name	Mercury (Hg) Content (Max)	Picogram Per Lumen Hour
467233	C150S54/ALTO 12PK	17 mg	-
140953	SON ALTO 100W LV E E39 CL SL/3	22.1 mg	-
467241	C100S55/ALTO 12PK	22.1 mg	-
140947	SON ALTO 70W LV E E39 CL SL/3	17 mg	-
467258	C70S62/ALTO 12PK	17 mg	-
467266	C50S68/ALTO 12PK	17.7 mg	-

## Operating and Electrical

Order Code	Full Product Name	Lamp Current (Nom)	Voltage (Max)	Voltage (Min)	Voltage (Nom)	Re-Ignition Time (Min) (Max)
332270	C100S54/D ALTO PH 12PK	2.1 A	62 V	45 V	55 V	2 min
368837	C1000S52/ALTO	4.7 A	275 V	210 V	250 V	3 min
140987	C400S51 3PK	4.6 A	115 V	84 V	100 V	1 min
467373	C400S51/ALTO 12PK	4.6 A	115 V	84 V	100 V	1 min
467217	C250S50/ALTO 12PK	3.0 A	110 V	79 V	95 V	2 min
467225	C200S66/ALTO 12PK	2.4 A	115 V	90 V	100 V	1 min
140961	SON ALTO 150W LV E E39 CL SL/3	3.2 A	62 V	48 V	55 V	2 min
467233	C150S54/ALTO 12PK	3.2 A	62 V	48 V	55 V	2 min
140953	SON ALTO 100W LV E E39 CL SL/3	2.1 A	62 V	45 V	55 V	2 min
467241	C100S55/ALTO 12PK	2.1 A	62 V	45 V	55 V	2 min
140947	SON ALTO 70W LV E E39 CL SL/3	1.6 A	60 V	44 V	52 V	2 min
467258	C70S62/ALTO 12PK	1.6 A	60 V	44 V	52 V	2 min
467266	C50S68/ALTO 12PK	1.18 A	62 V	46 V	52 V	2 min

## Light Technical (1/2)

Order Code	Full Product Name	Chromaticity	Chromaticity	Color		Design Mean Lumens	Luminous Flux (Rated) (Min)
		Coordinate X (Nom)	Coordinate Y (Nom)	Rendering Index (Nom)	Luminous Efficacy (rated) (Min)		
332270	C100S54/D ALTO PH 12PK	523	417	21	83 lm/W	93 lm/W	7750 lm 8300 lm
368837	C1000S52/ALTO	515	420	21	121.5 lm/W	135 lm/W	126000 lm 121500 lm

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Order Code	Full Product Name	Chromaticity Coordinate X (Nom)	Chromaticity Coordinate Y (Nom)	Color Rendering Index (Nom)	Luminous Efficacy (rated) (Min)	Luminous Efficacy (rated) (Nom)	Design Mean Lumens	Luminous Flux (Rated) (Min)
140987	C400S51 3PK	515	420	20	112.5 lm/W	125 lm/W	45000 lm	45000 lm
467373	C400S51/ALTO 12PK	515	420	20	112.5 lm/W	125 lm/W	45000 lm	45000 lm
467217	C250S50/ALTO 12PK	523	412	26	102 lm/W	114 lm/W	24300 lm	25600 lm
467225	C200S66/ALTO 12PK	521	420	16	104 lm/W	115 lm/W	19260 lm	20700 lm
140961	SON ALTO 150W LV E E39 CL SL/3	514	424	17	96 lm/W	107 lm/W	14220 lm	14400 lm
467233	C150S54/ALTO 12PK	514	424	17	96 lm/W	107 lm/W	14220 lm	14400 lm
140953	SON ALTO 100W LV E E39 CL SL/3	520	420	18	85 lm/W	94 lm/W	8460 lm	8500 lm
467241	C100S55/ALTO 12PK	520	420	18	85 lm/W	94 lm/W	8460 lm	8500 lm
140947	SON ALTO 70W LV E E39 CL SL/3	522	425	13	87.4 lm/W	97 lm/W	5670 lm	6100 lm
467258	C70S62/ALTO 12PK	522	425	13	87.4 lm/W	97 lm/W	5670 lm	6100 lm
467266	C50S68/ALTO 12PK	529	420	16	74 lm/W	82 lm/W	3600 lm	3700 lm

## Light Technical (2/2)

Order Code	Full Product Name	Luminous Flux (Rated) (Nom)	Photosynthetic Photon Flux (PPF)
332270	C100S54/D ALTO PH 12PK	9300 lm	-
368837	C1000S52/ALTO	135000 lm	1550 µmol/s
140987	C400S51 3PK	50000 lm	595 µmol/s
467373	C400S51/ALTO 12PK	50000 lm	595 µmol/s
467217	C250S50/ALTO 12PK	28500 lm	-
467225	C200S66/ALTO 12PK	23000 lm	-
140961	SON ALTO 150W LV E E39 CL SL/3	16000 lm	-

Order Code	Full Product Name	Luminous Flux (Rated) (Nom)	Photosynthetic Photon Flux (PPF)
467233	C150S54/ALTO 12PK	16000 lm	-
140953	SON ALTO 100W LV E E39 CL SL/3	9400 lm	-
467241	C100S55/ALTO 12PK	9400 lm	-
140947	SON ALTO 70W LV E E39 CL SL/3	6800 lm	-
467258	C70S62/ALTO 12PK	6800 lm	-
467266	C50S68/ALTO 12PK	4100 lm	-

## Mechanical and Housing

Order Code	Full Product Name	Bulb Finish	Bulb Shape
332270	C100S54/D ALTO PH 12PK	Coated	ED-23 1/2
368837	C1000S52/ALTO	Clear (CL)	E25
140987	C400S51 3PK	Clear (CL)	ED18
467373	C400S51/ALTO 12PK	Clear (CL)	ED18
467217	C250S50/ALTO 12PK	Clear (CL)	ED18
467225	C200S66/ALTO 12PK	Clear (CL)	ED18
140961	SON ALTO 150W LV E E39 CL SL/3	Clear (CL)	ED-23 1/2

Order Code	Full Product Name	Bulb Finish	Bulb Shape
467233	C150S54/ALTO 12PK	Clear (CL)	ED-23 1/2
140953	SON ALTO 100W LV E E39 CL SL/3	Clear (CL)	ED-23 1/2
467241	C100S55/ALTO 12PK	Clear (CL)	ED-23 1/2
140947	SON ALTO 70W LV E E39 CL SL/3	Clear (CL)	ED-23 1/2
467258	C70S62/ALTO 12PK	Clear (CL)	ED-23 1/2
467266	C50S68/ALTO 12PK	Clear (CL)	ED-23 1/2

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