

LONG LIFE LIGHTS The Long Life Lights concept comprises light sources with extra long service life. The concept is the result of innovative product development and rigorous quality control. For our customers, the unique service life means that light sources do not need to be changed so often, which reduces their maintenance costs. The products in the concept are therefore an investment for our customers and for the environment. Products such as fluorescent tubes and light bulbs are developed, manufactured and sold within the framework of the Long Life Lights concept.

Aura *REFLECTOR*

LONG LIFE

light for direct and indirect applications



Aura *REFLECTOR* fluorescent lamps are developed for use in applications where a sufficient level of light must be available through direct or indirect reflection. The design with an integral horizontal reflecting layer of 160° inside an outer glass tube provides additional more than 60% of light at the place where it is needed. The construction is the same as the *THERMO* solution. An Aura Long Life fluorescent lamp is cased in the outer glass tube which creates a thermal insulation.

REFLECTOR lamps are an optimal solution for applications where the light distribution supports the specific installation. In indoor areas as well as outdoor with high lumen output at low ambient temperatures.

The Long Life fluorescent lamps are based on the two special Aura patents for the unique cathode construction and the inside protection layer.

Aura *REFLECTOR* Long Life fluorescent lamps are available in high quality tri-phosphor range with an excellent colour rendering of Ra 85 (colour/865 Ra 80).

The versions are:

- T8 (26 mm Ø) with outer glass tube of 38 mm Ø.
- T5 (16 mm Ø) with outer glass tube of 26 mm Ø.

The starting characteristics of Aura *REFLECTOR* Long Life lamps are excellent.

Industrial facilities,
e.g. Car industry
Colour industry
Sawmills
Foundries
Car parks
Sign lighting
Cold stores
Outdoor lighting

Applications

REFLECTOR Long Life lamps are developed for use in cold and dusty environments where lamp replacement is difficult and time consuming and the overall operational costs are high.

An additional area of use for the *REFLECTOR* lamps is indirect lighting where the lamp has to be fixed in a way that the light is directed into the fitting or on to the ceiling.



Aura *REFLECTOR* Long Life are decided to use at the airport of Innsbruck. The combination of long service life and a high level of light were basic advantages.



Aura *REFLECTOR* Long Life lamps offer great opportunities in industrial installations. The light is distributed to where it is needed and long service life in conjunction with group replacement gives an optimal control of total costs of operation.

Product range

T8 Long Life (26 mm)

REFLECTOR Long Life lamps with a basic 26 mm Ø fluorescent lamp integrated in the outer tube are available based on *ULTIMATE*.

Most popular in low temperature applications are fluorescent lamps with an outer diameter of 38 mm which is the former standard. These lamps have a better relative lumen behaviour and are still very much in use in outdoor lighting.

Aura *REFLECTOR* lamps with the 26 mm lamp inside a 38 mm outer tube achieve through the thermo insulation the best light efficacy at low temperatures.

Operation is possible with conventional or low loss ballast and starter or electronic ballast.

T5 Long Life (16 mm)

New creative developments and constructions for low temperature and outdoor areas are now possible with *REFLECTOR* lamps based on the latest lamp technology of *T5 LL HIGH EFFICIENT* and *T5 LL HIGH OUTPUT* lamps.

With a special design inside the 16 mm *T5 LL* lamps integrated in the 26 mm outer glass tube it is possible to reach the same extremely high level of light as the Reflector lamps with 38 mm Ø. Standard *T5 HE* and *HO* lamps are based on a different concept for indoor lighting application in small sized closed luminaires where the ambient temperature is high.

The shape of the end caps is G13 to fix the lamp and outer tube in best condition but the connection pins are G5.

The lamps fit well in all luminaires designed for standard *T5 HE* or *HO* for use in functional areas (with the exception of luminaires where the dimension is extremely minimized). In places like outdoor signs or cool houses *T5 LL HE REFLECTOR* and *T5 LL HO REFLECTOR* open the field for new developments and offers with the opportunity for energy saving operations.

Lifetime

The service life of *REFLECTOR* Long Life fluorescent lamps is based on the integrated Long Life lamp. Service life is reached when the amount of light in an installation falls to 80% of the initial 100-hour value. Service life of the lamp failure rate and the lumen depreciation is calculated based on a 3-hour operation switching cycle according to IEC/EN 60081.

The service life data for conventional or low loss ballast with starter and electronic ballast operation are listed in the programme data overview on the final page.

In installations where lamps are inaccessible or where lamp replacement causes disturbances to production, the long service life of Aura Long Life lamps gives more rational lighting maintenance and improves long term planning for group replacements. Group replacement of fluorescent lamps provides optimal control of the operational costs and a uniform level of light. For economical and ecological reasons Aura recommends group replacement of Long Life fluorescent lamps.

Long Life Guarantee

The Aura Long Life fluorescent lamps are developed and manufactured in accordance with the IEC/EN 60081 standard. Continuous strict quality control processes secure fluorescent lamps of top quality.

Aura guarantees the published service life of the Long Life fluorescent lamps for installations that comply with the relevant standards.

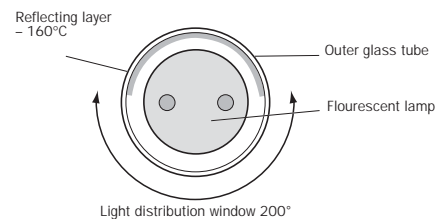
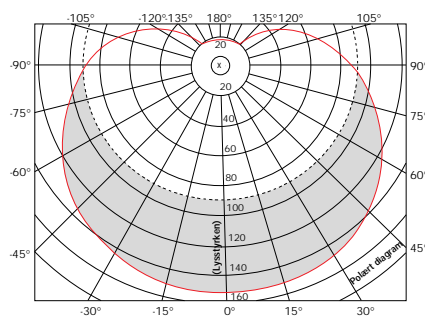
	SWITCHING CYCLE	MAGNETIC BALLAST + STARTER	ELECTRONIC BALLAST (WARM START)
LIFETIME	3 h (Service Life) 80% light available	48.000 h	70.000 h
	12 h 10% mortality rate	60.000 h	80.000 h
ULTIMATE Reflector	3 h (Service Life) 80% light available	Operation only possible with electronic ballast	48.000 h
	12 h 10% mortality rate	Operation only possible with electronic ballast	58.000 h

Contact Aura Light for information about the 30 W lifetime.

Light distribution curve (cd/1000 lm)

- (X) Lightsource
- Fluorescent lamp without reflector
- *REFLECTOR* Long Life with 160° reflection layer

REFLECTOR Long Life gives more than 60% more light intensity compared to standard fluorescent lamps without reflector.



P R O G R A M M E	TYPE	COLOUR	COLOUR TEMP. (K)	LUMINOUS FLUX (lm/100 h)*	LUMINOUS EFFICACY (lm/W)	OUTER TUBE DIAMETER Ø (mm)	LENGTH WITHOUT PINS (mm)	ART. NO.	
	Outer tube 38 mm diameter (Cap: G13)								
	ULTIMATE Reflector								
	18 W/830	Warm white	3000	1250	69	38	590	433413	
	18 W/840	White	4000	1250	69	38	590	433414	
	18 W/865	Daylight	6500	1200	66	38	590	433416	
	30 W/840	White	4000	2300	77	38	895	433424	
	36 W -1m/840	White	4000	3000	83	38	970	433444	
	36 W/830	Warm white	3000	3200	89	38	1200	433433	
	36 W/835	Middle white	3500	3200	89	38	1200	433438	
36 W/840	White	4000	3200	89	38	1200	433434		
36 W/865	Daylight	6500	3150	87	38	1200	433436		
58 W/830	Warm white	3000	5000	86	38	1500	433453		
58 W/835	Middle white	3500	5000	86	38	1500	433458		
58 W/840	White	4000	5000	86	38	1500	433454		
58 W/865	Daylight	6500	4800	82	38	1500	433456		
Outer tube 26 mm diameter (Cap: G13/G5)									
SUPREME HE Reflector									
14 W/830	Warm white	3000	1150	82	26	549	454213		
14 W/840	White	4000	1150	82	26	549	454214		
14 W/865	Daylight	6500	1000	71	26	849	454216		
21 W/830	Warm white	3000	1800	86	26	849	454223		
21 W/840	White	4000	1800	86	26	849	454224		
21 W/865	Daylight	6500	1650	7	26	849	454226		
28 W/830	Warm white	3000	2600	93	26	1149	454233		
28 W/840	White	4000	2600	93	26	1149	454234		
28 W/865	Daylight	6500	2400	86	26	1149	454236		
35 W/830	Warm white	3000	3250	93	26	1449	454253		
35 W/840	White	4000	3250	93	26	1449	454254		
35 W/865	Daylight	6500	3000	86	26	1449	454256		
SUPREME HO Reflector									
24 W/830	Warm white	3000	1600	67	26	549	457213		
24 W/840	White	4000	1600	67	26	549	457214		
39 W/830	Warm white	3000	2850	73	26	849	457223		
39 W/840	White	4000	2850	73	26	849	457224		
54 W/830	Warm white	3000	4150	77	26	1149	457233		
54 W/840	White	4000	4150	77	26	1149	457234		
49 W/830	Warm white	3000	4000	82	26	1449	457243		
49 W/840	White	4000	4000	82	26	1449	457244		
80 W/830	Warm white	3000	5850	73	26	1449	457253		
80 W/840	White	4000	5850	73	26	1449	457254		

* At ambient temperature (Ta):

T8 Lamps with outer tube 38 mm diameter: 18 W +15°C, 36 W +10°C, 58 W +5°C.

T5 Lamps with outer tube 26 mm diameter: 18 W +20°C, 36 W +15°C, 58 W +10°C.

T5 Lamps with outer tube 26 mm diameter: 14 W +15°C, 21 W +10°C, 28 W +10°C, 35 W +5°C.

