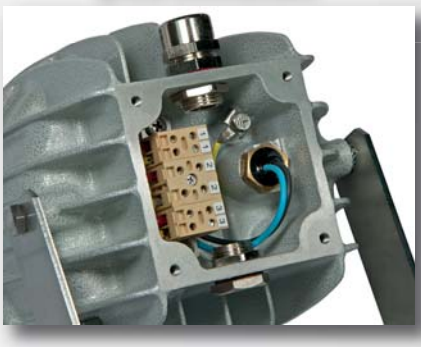
EVL

- Zone 1, 2, 21, 22
- Replaces traditional discharge lamps more than 400W
- Saves in energy, maintenance and installation costs
- Instant, bright illumination
- Suitable for GAS category IIC

Ex e terminal housing for a quick connection



Entries

LED Multichip

CORTEM GROUP®

EVL series High bay LED lighting fixture

The new LED lighting fixtures EVL series has been developed with the aim of redefining the concepts of compactness, versatility and ease of installation thanks to the new LED lighting system "COB" (ChipOnBoard). It features Multichip LED formed by a matrix of LEDs connected together and covered with a layer of diffused phosphorus. This technology obtains high values of lumen output and the installation at low heights, without the risk of disturbing the operator. The EVL series consists of four lighting fixtures sizes and represents the LED alternative for all those areas where it was normal to use lighting fixtures with discharge lamps of low and medium power greater than 400W. The body, made of aluminium alloy, is equipped with fins that act as a heat sink allowing a fast and effective dispersion of heat generated by the normal operation of the LED. The geometric conformation of the cooling fins was also designed with the objective of minimizing the deposit of combustible dust, allowing the self-cleaning of the lighting fixture by air or water present in the environment. Furthermore, thanks to the absence of UV emission, there is no ionization of the air particles around the lighting fixture, an intrinsic characteristic of LED technology which limits the attraction of dust and insects. The design of the lamp body, in addition to being functional to the duration of the system, gives the equipment very high light efficiency. The electrical connection is easier thanks to a 'Ex e' terminal housing which allows the entry with a 'Ex e' cable gland (no barrier). In addition, an opposed plugged hole permits the through wiring connection.

Application sectors:

Oil refineries | Chemical and petrochemical plants | Anti light pollution | Offshore plants | Onshore plants | Perimeter lighting | Oil loading/ unloading jetties | 100% Cortem product

CERTIFICATION DATA

Classification:	Group II	Category 2GD		
Installation: EN 60079.14	zone 1 - zone 2 (Gas)	zone 21 - zone 22 (Dust)		
Marking:	CE 0722 Ex II 2GD Ex de IIC T.. Gb - Ex tb IIIC T..°C Db IP66			
Certification:	ATEX ITS 14 ATEX 18144			
	IEC Ex IECEx ITS 14.0061	All IEC Ex, TR CU and INMETRO certification data can be downloaded at www.cortemgroup.com		
	TR CU AVAILABLE			
	INMETRO DNV 15.0173			
Standards:	CENELEC EN 60079-0: 2012, EN 60079-1: 2009, EN 60079-7: 2007, EN60079-31: 2009 and EUROPEAN DIRECTIVE 2014/34/UE IEC 60079-0: 2011, IEC 60079-1: 2007-04, IEC 60079-31: 2013, IEC 60079-7: 2006-07			
Ambient temperature:	See "ambient temperature range" table			
Degree of protection:	IP66			

STANDARD AMBIENT TEMPERATURE RANGE FOR EVL LIGHTING FIXTURES

LED LIGHTING FIXTURE	EVL-60		EVL-70	EVL-80	EVL-100
AMBIENT TEMPERATURE	-20°C +40°C	-20°C +60°C	-20°C +60°C	-20°C +60°C	-20°C +55°C
CLASS TEMPERATURE	T6	T5	T4	T4	T4
MAXIMUM SURFACE TEMPERATURE	85°C	100°C	135°C	135°C	135°C

EVL series High bay LED lighting fixture

ORIGINAL PRODUCT

MECHANICAL FEATURES

Body:	Low copper content aluminium alloy fitted with cooling fins for better heat dissipation
Glass face:	Shock and temperature resistant tempered glass sealed with aluminium ring
Gaskets:	Acid, hydrocarbon and high temperature resistant silicone
Supporting bracket:	Stainless steel 316L
Bolts and screws:	Stainless steel
Entries:	2 x ISO M20 entries. Fixture kit with PLG1IB plug and REV1IB cable gland
Coating:	Epoxy coating Ral 7035 (Light grey)
Corrosion Resistance :	The STANDARD of the aluminium alloy used by Cortem has passed the tests required by standards EN60068-2-30 (hot/humid cycles) and EN60068-2-11 (salt mist tests)

EXPLODED DIAGRAM OF EVL-70 LIGHTING FIXTURE

CORTEM GROUP®

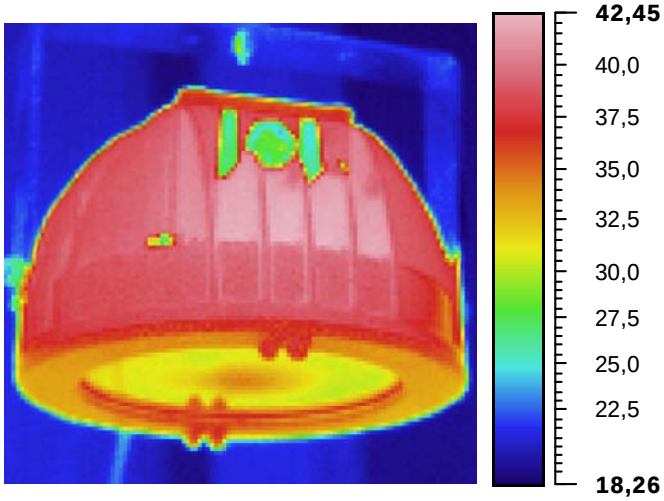
EVL series High bay LED lighting fixture

Electrical features	EVL-60	EVL-70	EVL-80	EVL-100
Power supply:	120-277 Vac	120-277 Vac	220-240 Vac	100-277 Vac
Rated frequency:	50-60 Hz ±5%	50-60 Hz ±5%	50-60 Hz ±5%	50-60 Hz ±5%
Power consumption:	27 W	53 W	86 W	154 W
Connection:	Direct connection to terminal board L, N, Pe. Section 4mm², suitable for loop-in/loop-out			
Power factor:	>0,93	>0,90	>0,95	>0,96
Rated current:	126 mA	250 mA	380 mA	720 mA
EMC (electromagnetic compatibility):	EN 55015, EN 61547, IEC 61000-3-2, IEC 61000-3-3, IEC 61000-4-...			
THD (total harmonic distortion):	<15% 100-240 Vac			
Over-voltage protection:	2 kV	2 kV	6kV	2kV
Driver performances:	Over-Voltage protection, Over-Current protection, Short-Circuit protection			
Dimmer:	YES (0-10 Vdc)	YES (0-10 Vdc)	On request	On request
Photometric features				
LED Multichip:	Cree CXB	Cree CXB	Cree CXB	Citizen
Viewing angle:	115°	115°	115°	115°
Colour temperature:	5700 K	5700 K	5700 K	5000 K
CRI:	70	70	70	70
Instant Restrike:	YES	YES	YES	YES
L80:	47100	55400	44100	> 60000
Lumen:	**3140 lm**	**6564 lm**	**9732 lm**	**19125 lm**
Maximum light intensity:	**1282 cd**	**2377 cd**	**3660 cd**	**6866 cd**
Overall efficiency:	**116 lm/W**	**124 lm/W**	**113 lm/W**	**124 lm/W**

ACCESSORIES AVAILABLE / SPECIAL REQUESTS

CRI values higher
U bolt for pole mounting
Eyebolt

EVL series selection chart



THERMAL IMAGING EVL-70

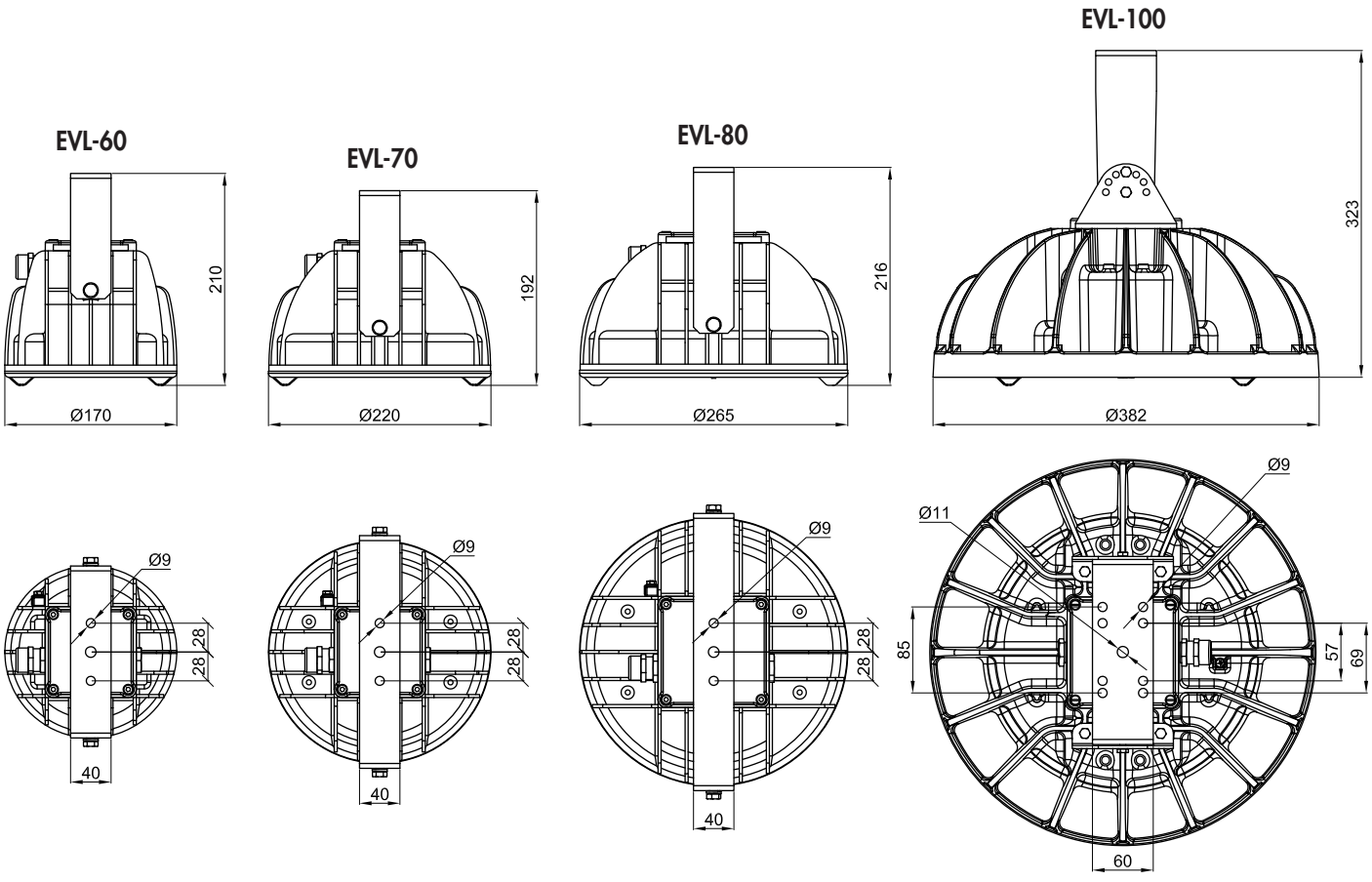
Following a very brief initial period, the lighting fixture reaches thermal stability. This image shows the detected heat. With the ambient temperature at 18°C (as shown by the blue background) the LED lamp barely touches 42°C at the hottest point.

This thermal performance is tangible proof of the high efficiency of LED lamps as a source of light.

It is also worth noting the distribution of heat on the fins that are the result of sophisticated Thermal Management.

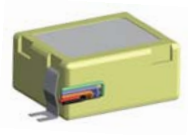
Code	Type Lamp	Watt	Class (Ta = +40°C)	Max surface temperature °C (Ta = +40°C)	Weight Kg	mm
EVL-60	LED	27 W	T5/T6	85/100	3,5	215x205x170
EVL-70	LED	53 W	T4	135	5,2	250x235x165
EVL-80	LED	86 W	T4	135	7,2	290x290x170
EVL-100	LED	154 W	T4	135	11,2	385x385x250

DIMENSIONAL DRAWING



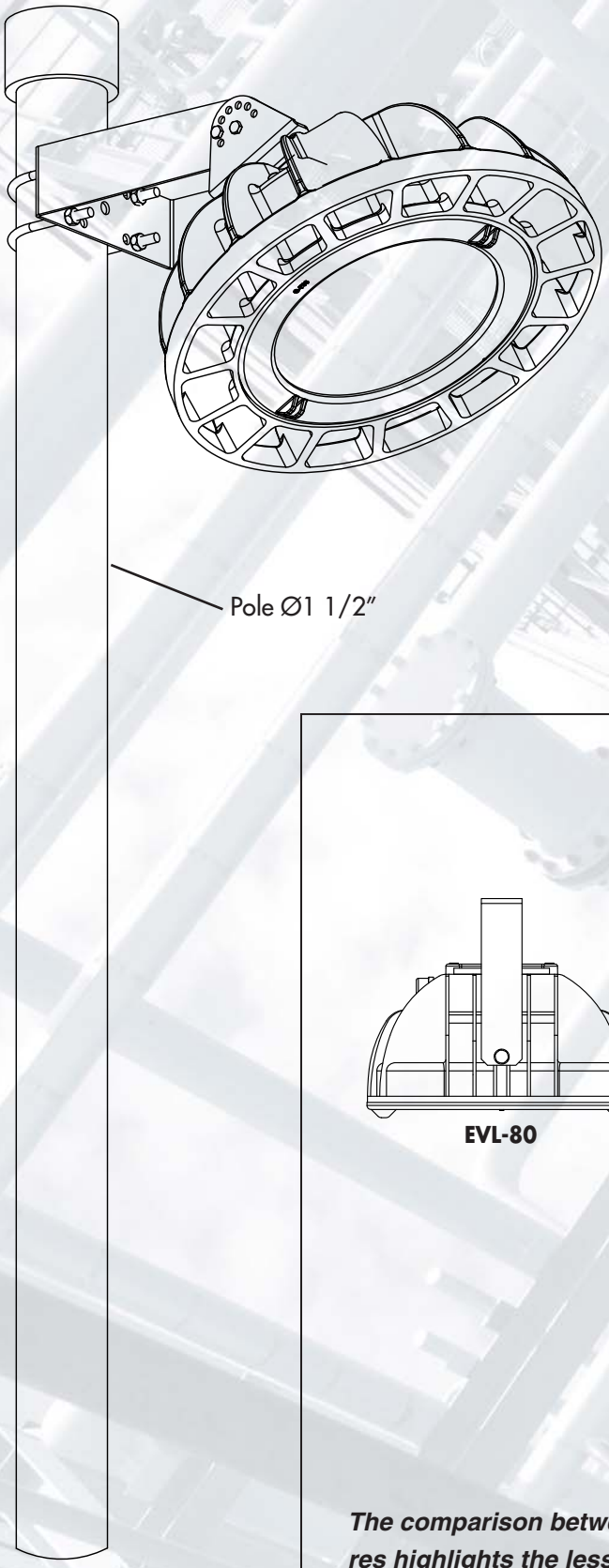
Dimensions in mm

EVL series Accessories and spare parts available on request

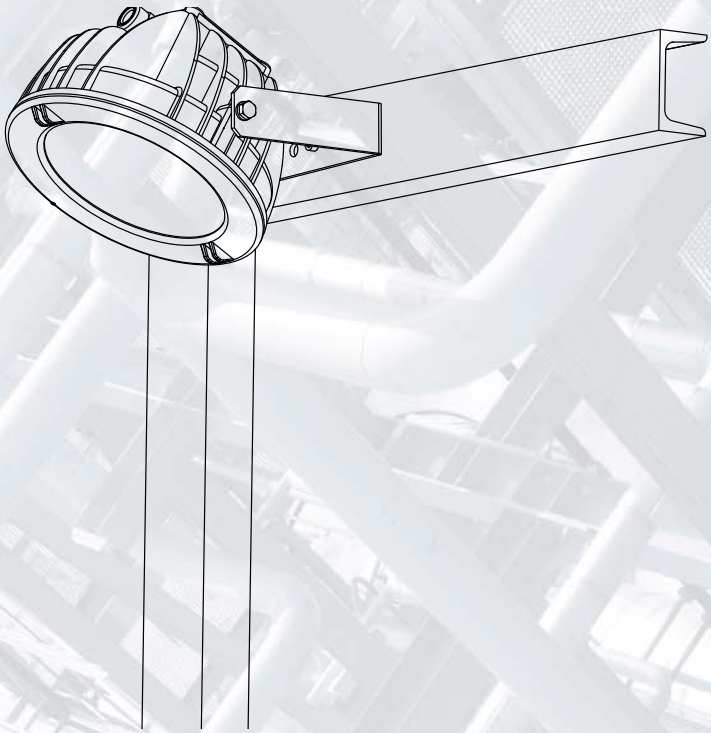
ILLUSTRATION	DESCRIPTION	MODEL	FEATURES	CODE	KEY
	Pendant eyebolt	Ø internal 20	Material: galvanised steel	GOF-8	ACCESSORY SPARE PART
	U bolt for pole mounting	for Ø1 1/2" holes	Material: stainless steel 316L	UBD5S	ACCESSORY SPARE PART
	Supporting bracket	EVL-60	Material: stainless steel 316L	G-764	SPARE PART
		EVL-70		G-765	
		EVL-80		G-766	
		EVL-100		G-827	
	Holder	EVL-60	Material body: PBT Contacts: CuSn	HOLDEVL-60	SPARE PART
		EVL-70		HOLDEVL-70	
		EVL-80		HOLDEVL-80	
		EVL-100		HOLDEVL-100	
	Power supply circuit	EVL-60	120-277 Vac	LEDDEVL60	SPARE PART
		EVL-70	120-277 Vac	LEDDEVL70	
		EVL-80	220-240 Vac	LEDDEVL80	
		EVL-100	100-277 Vac	LEDDEVL100	
	Cable gland	ISO M20	std. range cable 7÷12	REV1IB	SPARE PART
	Front ring with glass	EVL-60	Aluminium ring Borosilicate glass face	G60-0587	SPARE PART
		EVL-70		G70-0587	
		EVL-80		G80-0587	
		EVL-100		G80-0587	

Installation and mounting methods

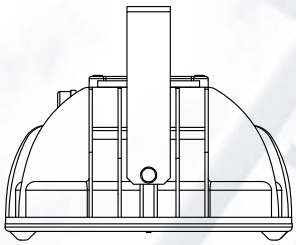
Example of pole mounting



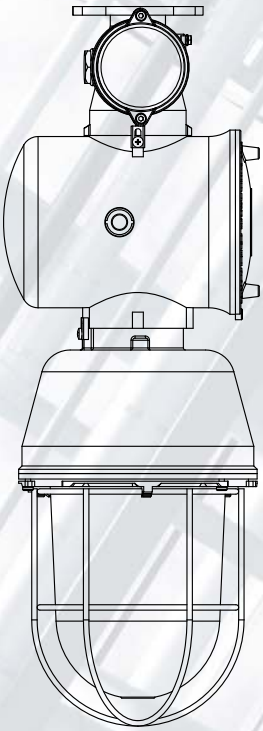
Example of wall or structure mounting



Compact size and lightweight
=
Cheaper support structures
and most space available



EVL-80



EWAES-5080F5
(Mercury)

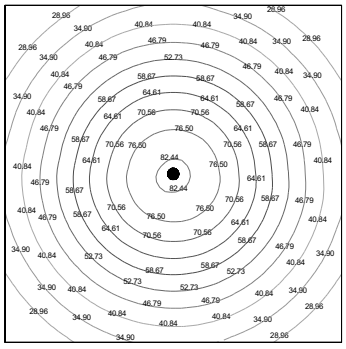
The comparison between the two lighting fixtures highlights the less space occupied by the EVL-80 with the same lighting performance.

Features and photometric diagrams

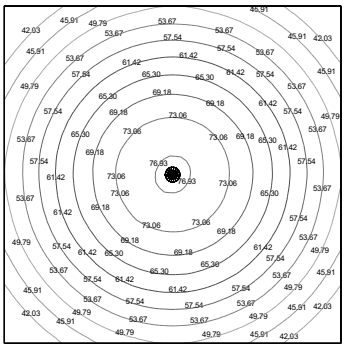
EVL-..., Example of equivalents

			
EVL-60 (27 W) EVL-70 (53 W) EVL-80 (86 W) EVL-100 (154 W) LED	(125 W) (250 W) (400 W) (>400 W) Mercury	(70 W) (150 W) (250 W) (400 W) Sodium	(70 W) (150 W) (250 W) (>400 W) Metal halide
Typical energy saving	 77%		 61%

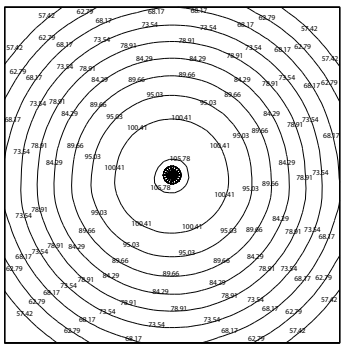
EVL-60 illumination on the floor expressed in lux in a room 5m x 5m with the lighting fixtures centrally placed at **3.5m** in height.



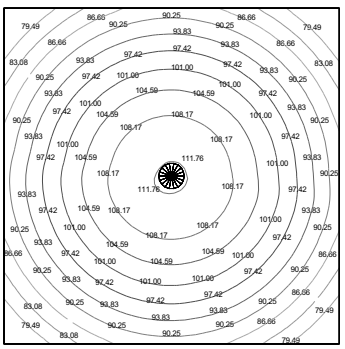
EVL-70 illumination on the floor expressed in lux in a room 5m x 5m with the lighting fixtures centrally placed at **5m** in height.

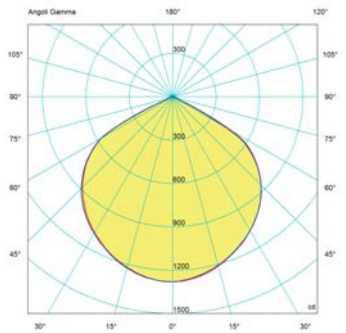


EVL-80 illumination on the floor expressed inlux in a room 5m x 5m with the lighting fixtures centrally placed at **9m** in height

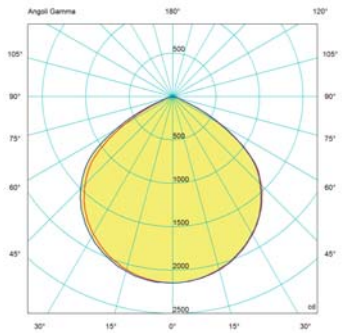


EVL-100 illumination on the floor expressed inlux in a room 5m x 5m with the lighting fixtures centrally placed at **7m** in height

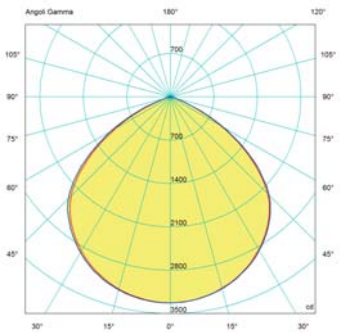




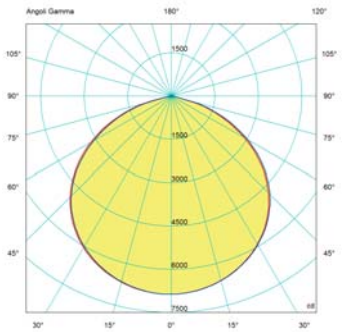
EVL-60 Luminous flux: 3140 lm



EVL-70 Luminous flux: 6564 lm



EVL-80 Luminous flux: 9732 lm



EVL-100 Luminous flux: 19125 lm

On Cortem Group web site you can download .LDT and .IES lighting data files for the design and simulation of lighting levels in 2D and 3D, rendering and ray tracing.

= plane 90270

= plane 0180