EVNL

- Zone 2, 22
- Replaces traditional discharge lamps exceeding 400W
- Savings on energy costs, maintenance and installation
- Immediate high-intensity activation

Ex casing and terminal holder for quick connection

COB LED lighting

Cooling fins for high levels of heat dissipation

EVNL series, High Bay LED lighting fixtures for zone 2, 22

Cortem Group presents the new range of LED lighting, suitable for plants in zone 2 and zone 22 and with which it aims to meet market needs, keeping cost reductions at the foreground, improving the quality of the product and increasing the lighting solution specifications.
The advantage of the EVNL lighting fixtures is the implementation of the "Ex nR" version which classifies the equipment as a restricted breathing device. The careful design together with the meticulous choice of materials to seal the lighting fixture limits the entry of flammable gases, vapours or mists during normal operation of the lighting fixture.
This series of LED lighting fixtures is made using "COB" (ChipOnBoard) LED lighting, Multichip LEDs formed of an LED matrix connected to each other and covered with a layer of diffused phosphorus. The particular design of the body in aluminium alloy allows quick and easy dispersion of the heat generated during normal operation of LED lights. Furthermore, the geometric structure of the cooling fins has been designed to minimise the deposits of combustible dust and allow air or water present in the surrounding area to exert a cleaning action on the fixture.
The lighting fixtures of the EVNL Series can be powered by a cable and a simple "Ex e" cable gland with a single gasket, without needing to carry out sealing interventions in the field. Furthermore, an entry point with an opposing plug allows the in/out connection for connecting multiple lighting bodies onto one single power line.

Sectors for use:

Petroleum refineries | Chemical and petrochemical plants | Anti-light pollution | Offshore plants | Onshore plants | Lighting of perimeter zones | Petroleum loading/ unloading pontoons | 100% produced by Cortem

CERTIFICATION DATA

Classification:	Group II	Category 3GD		
Installation: EN 60079.14	zone 2 (Gas)	zone 22 (Dust)		
Execution:	CE Ex II 3GD Ex nR IIC T.. Gc - Ex tc IIIC T..°C Dc IP66			
Certificate:	ATEX CML 17 ATEX 4159X			
	IEC Ex IEC Ex CML 17.0081X	For all IEC Ex and INMETRO certification data, download the certificate from www.cortemgroup.com		
	INMETRO DNV 17.0140X			
Standard:	CENELEC EN 60079-0: 2013, EN 60079-15: 2010, EN 60079-31: 2014 and EUROPEAN DIRECTIVE 2014/34/UE IEC 60079-0: 2011, IEC 60079-15: 2010, IEC 60079-31: 2013			
Temperature class:	85°C (T6) / 135°C (T4)	100°C (T5) / 135°C (T4)		
Ambient temperature:	-40°C +50°C	-40°C +60°C		
	For details regarding the temperatures, see "Selection table"			
Protection rating:	IP66			

EVNL series, High Bay LED lighting fixtures for zone 2, 22

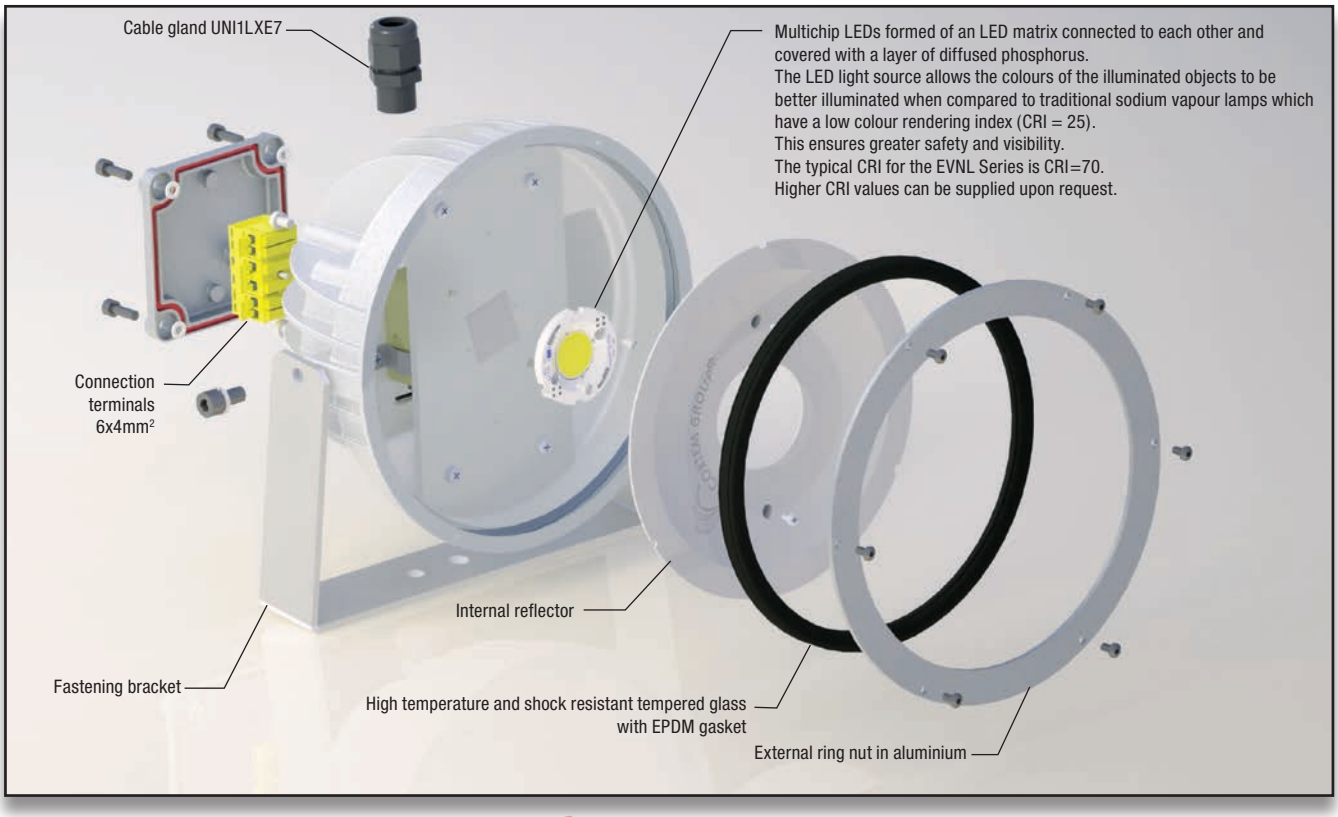
EXEMPT FROM PHOTOBIOLOGICAL RISK (STANDARD IEC / EN 62471)

ORIGINAL PRODUCT

MECHANICAL CHARACTERISTICS

Body:	Aluminium alloy with low copper content. With cooling fins for high levels of heat dissipation.
Transparent front cover:	High temperature and shock resistant tempered glass
Gasket:	EPDM resistant to acids, hydrocarbons and high temperatures
Fastening bracket:	Stainless steel
Screws:	Stainless steel
Entry points:	2 ISO M20 entry points Fixture complete with a PLG1ILXE7 plug and UNI1LXE7 cable gland
Coating:	Polyester RAL 7035 (Light grey)
Corrosion Resistance:	The STANDARD of the aluminium alloy used by Cortem has passed the tests required by the Standard EN60068-2-30 (hot-humid cycles) and EN60068-2-11 (salt fog test)

EXPLODED VIEW OF LIGHTING FIXTURE EVNL-70



EVNL series, High Bay LED lighting fixtures for zone 2, 22

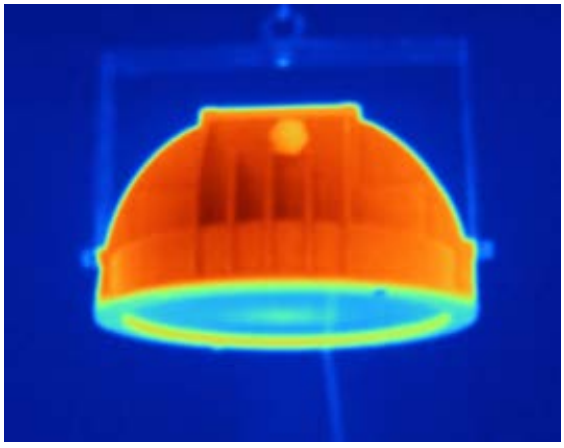
Electrical specifications	EVNL-60	EVNL-70	EVNL-80	EVNL-100
Supply voltage:	120-277 Vac	120-277 Vac	220-240 Vac	100-277 Vac
Rated frequency:	50-60 Hz ±5%	50-60 Hz ±5%	50-60 Hz	50-60 Hz
Lamp power consumption:	27 W*	54 W*	78 W*	154 W*
Connection:	Cable entry directly to the terminal board L, N, PE. Max. cross-section 4 mm2, suitable for in-out			
Power factor:	>0,93	>0,91	>0,98	>0,96
Rated current:	127 mA	250 mA	350 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	6 kV	2 kV
Driver performance levels:	Over-Voltage Protection, Over-Current Protection, Short-Circuit Protection			
Dimming (upon request):	(0-10 V)	(0-10 V)	(0-10 V)	(0-10 V) o PWM or resistor
Photometric specifications				
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:	> 61000	> 61000	> 61000	> 61000
Lumen:	**3587 lm**	**7216 lm**	**9932 lm**	**19477 lm**
Maximum lighting intensity:	**1364 cd**	**2592 cd**	**3490 cd**	**6923 cd**
Overall efficiency:	**131 lm/W**	**133 lm/W**	**127 lm/W**	**128 lm/W**

** Test at 230Vac*

ACCESSORIES UPON REQUEST / SPECIAL IMPLEMENTATIONS

Dimming (code EVNL-80/**D**)
Different colour temperatures (code EVNL-80/**2700K**)
Additional U-bolts for assembly to a pole
Eye bolt
Metal cable gland

EVNL Series Selection table



THERMOGRAPHIC DETECTION EVNL-70

After an initial transitory period, the lamp reaches thermal stability. The thermographic detection is shown in this image.

With an ambient temperature of 23°C (shown by the blue colour in the background), the highest temperature reached by the LED lamp is 55°C .

These thermal performance levels are tangible proof of the high efficiency of LED light sources.

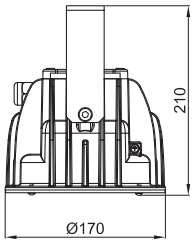
The temperature distribution on the fins which is a result of precise Thermal Management, should also be noted.

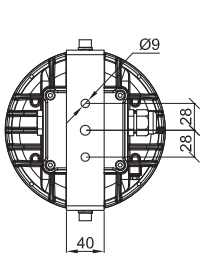
Code	Transparent part	Lamp type	Watt*	Class / Max surface temperature °C		Weight kg	mm
				+50°C	+60°C		
EVNL-60	GLASS	LED	27 W	T6 / 83°C	T5 / 93°C	2,5	215x205x170
EVNL-70	GLASS	LED	54W	-	T4 / 122°C	3,3	250x235x165
EVNL-80	GLASS	LED	78 W	-	T4 / 122°C	4,3	290x290x170
EVNL-100	GLASS	LED	152 W	-	T4 / 122°C	9,2	385x385x250

** Test at 230Vac*

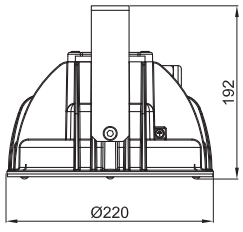
DIMENSIONAL DRAWINGS

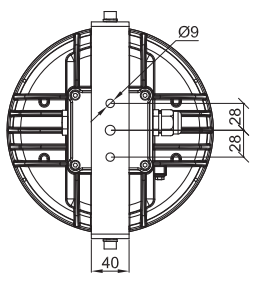
EVNL-60



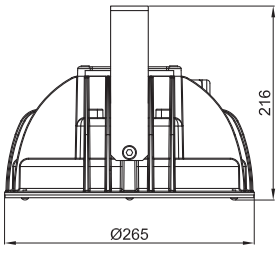


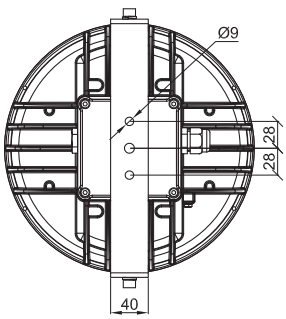
EVNL-70



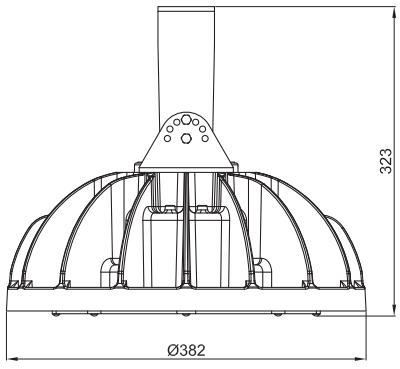


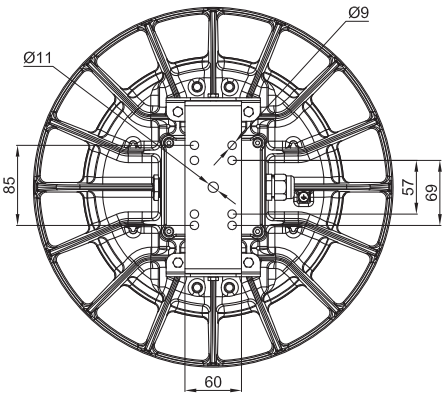
EVNL-80





EVNL-100





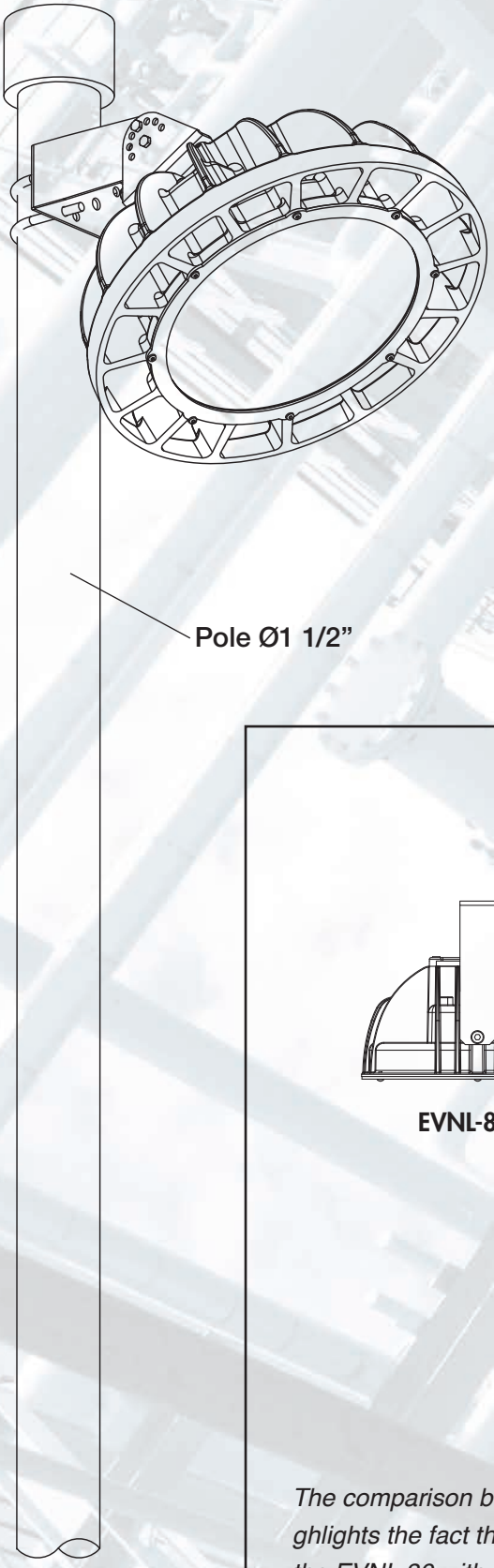
Dimensions in mm

Accessories upon request and spare parts for lighting fixtures of the EVNL Series

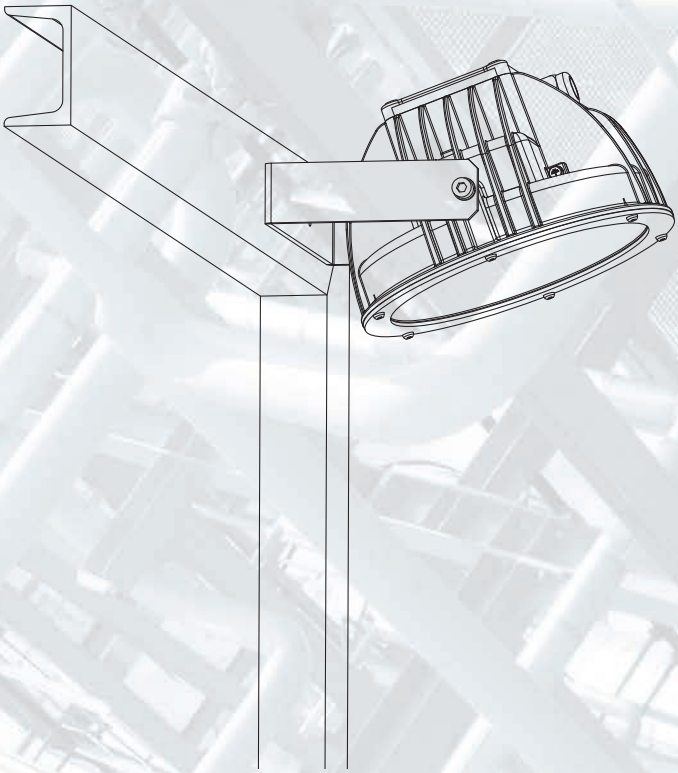
ILLUSTRATION	DESCRIPTION	MODEL	CHARACTERISTICS	CODE	KEY
	Suspended eye bolt	Ø interno 20	Material: galvanized steel	GOF-8	ACCESSORY, SPARE PART
	U-bolt for pole assembly	per pali Ø1 1/2″	Material: stainless steel AISI 316L	UBD5S	ACCESSORY, SPARE PART
	Fastening bracket	EVNL-60	Material: stainless steel AISI 316L	G-764IN	SPARE PART
		EVNL-70		G-765IN	
		EVNL-80		G-766IN	
		EVNL-100		G-827	
	Holder	EVNL-60	Body material: PBT contacts: CuSn	HOLDEVL-60	SPARE PART
		EVNL-70		HOLDEVL-70	
		EVNL-80		HOLDEVL-80	
		EVNL-100		HOLDEVL-100	
	Electronic power unit	EVNL-60	120-277 Vac	LEDDEVL60	SPARE PART
		EVNL-70	120-277 Vac	LEDDEVL70	
		EVNL-80	220-240 Vac	LEDDEVL80/2	
		EVNL-100	100-277 Vac	LEDDEVL100	
	Cable gland	ISO M20	std. cable range 7-12	UNI1LXE7	SPARE PART
	Glass + gasket	EVNL-60	Tempered front glass and black gasket in EPDM	G-831 + G-944	SPARE PART
		EVNL-70		G-830+ G70-955	
		EVNL-80		G-829 + G80-955	
		EVNL-100		G-852 + G100-955	

Installation and assembly methods

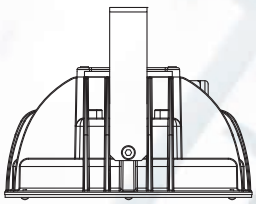
Example of mounting on a pole (EVNL-100)



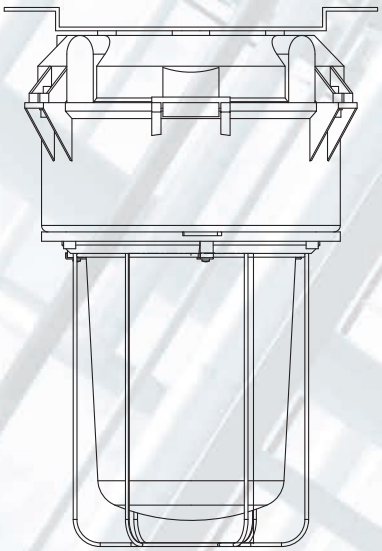
Example of mounting on a wall or structure (EVNL-80)



Less space required and lighter (Compact)
=
More economical supporting structures and greater available space



EVNL-80



EWNX-100F6 (Mercury)

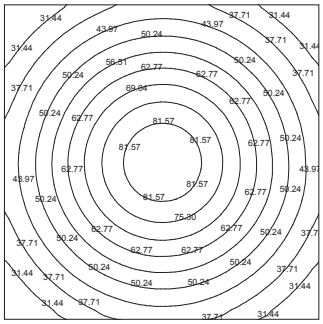
The comparison between two lighting fixtures highlights the fact that less space is occupied by the EVNL-80 with equal lighting yield

Photometric curves and specifications

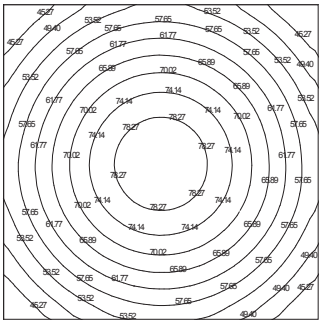
EVNL-..., equivalence

EVNL-60 (27 W) EVNL-70 (54 W) EVNL-80 (78 W) EVNL-100 (152 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 savings	78%	62%	62%

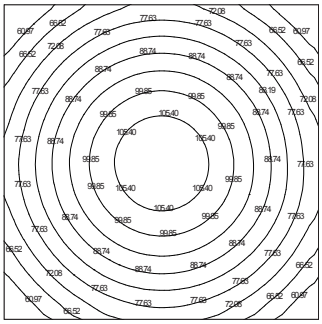
Floor lighting relating to **EVNL-60** expressed in lux in a room 5 m x 5 m with fixture at the centre at **3.5m** height.



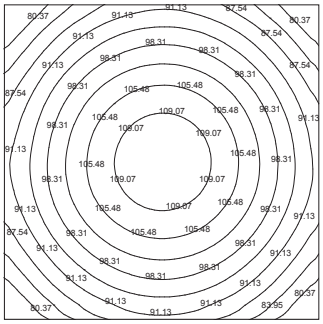
Floor lighting relating to **EVNL-70** expressed in lux in a room 5 m x 5 m with fixture at the centre at **5m** height.

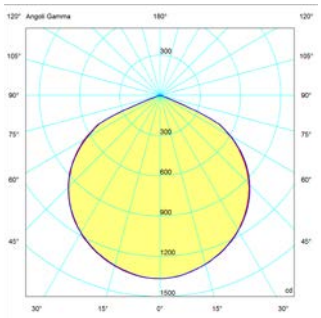


Floor lighting relating to **EVNL-80** expressed in lux in a room 5 m x 5 m with fixture at the centre at **5m** height.

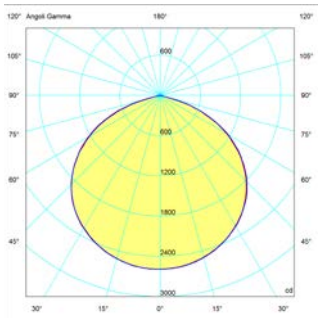


Floor lighting relating to **EVNL-100** expressed in lux in a room 5 m x 5 m with fixture at the centre at **7m** height.

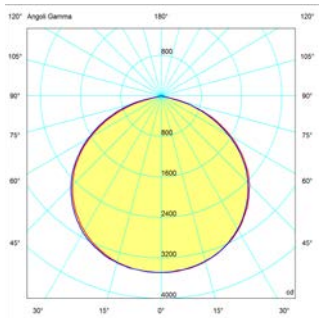




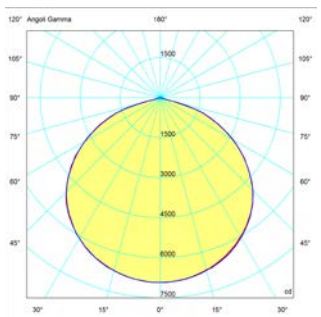
EVNL-60 Luminous flux: 3587 lm



EVNL-70 Luminous flux: 7216 lm



EVNL-80 Luminous flux: 9932 lm



EVNL-100 Luminous flux: 19477 lm

The lighting solution files for the design, planning and simulation of lighting levels in 2D-3D, rendering and ray-tracing are available from www.cortemgroup.com.

= plane 90270
= plane 0180