EVNL-B

- Zone 2, 21, 22
- Replaces traditional discharge lamps exceeding 400W
- Savings on energy costs, maintenance and installation
- Immediate high-intensity activation

'Ex op is'
safe optical radiation

Ex casing and terminal holder for quick connection

LED multi plate

Cooling fins for high levels of heat dissipation

EVNL-B Series LED floodlights and fixtures for zone 2, 21, 22

Cortem Group is pleased to present its lighting fixtures and floodlights of the EVNL-B series, suitable for plants in zone 2, 21 and 22, keeping cost reductions at the foreground, improving the quality of the product and increasing the lighting solution specifications. The advantage of the EVNL-B lighting fixtures is the implementation of the "Ex nR" version combined with the "Ex op is" which classifies the equipment as a restricted breathing device with certified optical safety. 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. 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 EVNL-B series can be supplied with 10°, 20° and 40° optics (60° and 80° optics are also available for the EVNL-60B series) fitted directly on the LED board, which modify the photometry allowing different concentrations of the light beam. An advantage provided by the LED floodlights of the EVNL-B series is the assurance that lighting will never fail.
In fact, if one LED stops working, the others will continue. Furthermore, during the activation stage, the light reaches its maximum power emission immediately.

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 2D/3GD
Installation: EN 60079.14	zona 2 (Gas)	zona 21, 22 (Dust)
Execution:	CE 0722 Ex II 2D Ex tb op is IIIC T...°C Db IP66	zone 21
	CE Ex II 3GD Ex nR IIC T.. Gc - Ex tc IIIC T..°C Dc IP66	zone 2, 22
Certificate:	ATEX CML 17 ATEX 3162X	
	ATEX CML 17 ATEX 4159X	
	IEC Ex IECEx CML 17.0081X	For all IEC Ex, TR CU and INMETRO certification data, download the certificate from www.cortemgroup.com
	TR CU DISPONIBLE	
	INMETRO DNV 17.0140X	
Standard:	CENELEC EN 60079-0: 2013, EN 60079-15: 2010, EN 60079-28: 2015, EN 60079-31: 2014 and EUROPEAN DIRECTIVE 2014/34/UE IEC 60079-0: 2011, IEC 60079-15: 2010, IEC 60079-28: 2015, IEC 60079-31: 2013 European Directive 2004/108 Electromagnetic compatibility European Directive 2012/19/UE, 2002/96/CE, 2003/108/CE WEEE European Directive 2011/65/UE RoHS	
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"

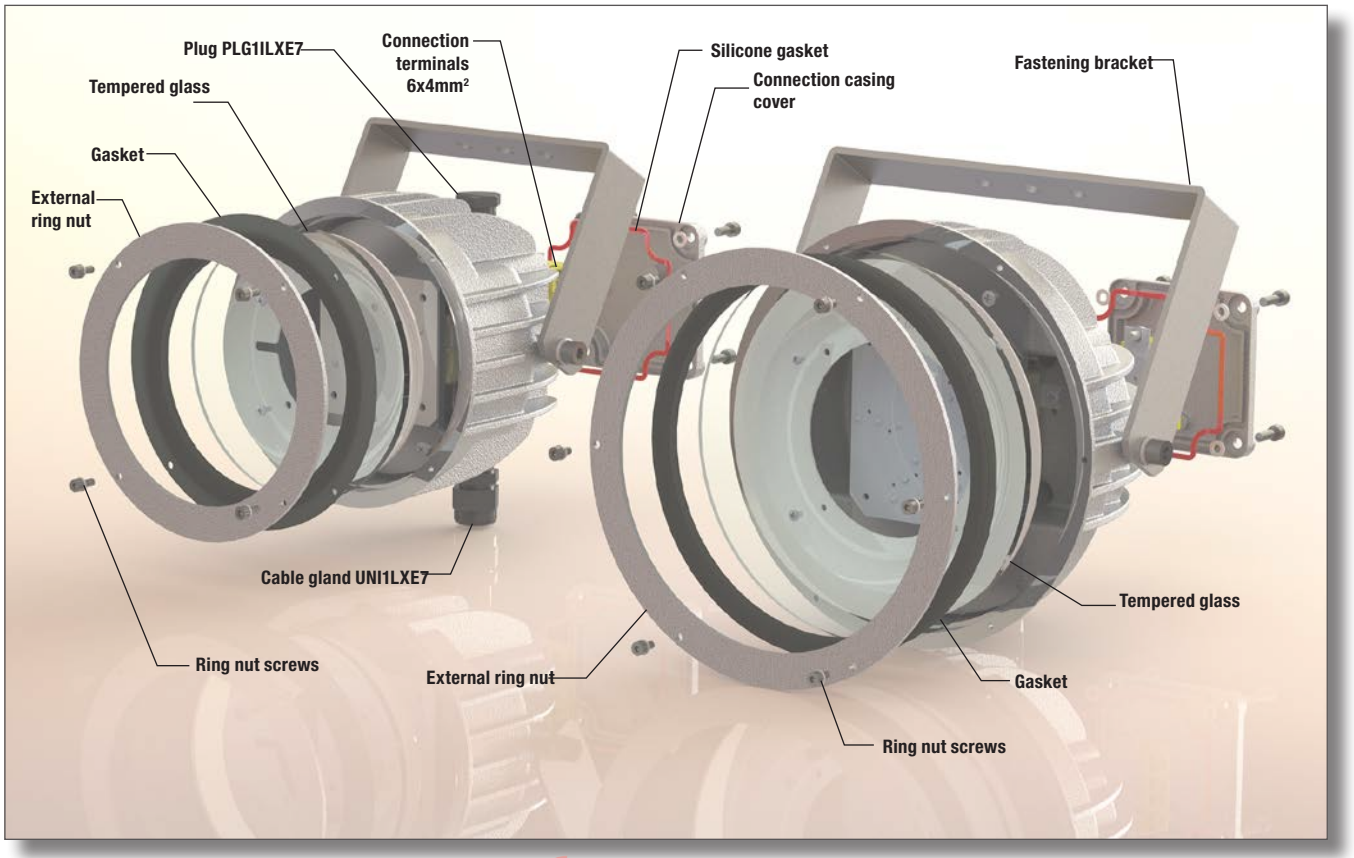
Protection rating:	IP66

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-60B AND EVNL-70B

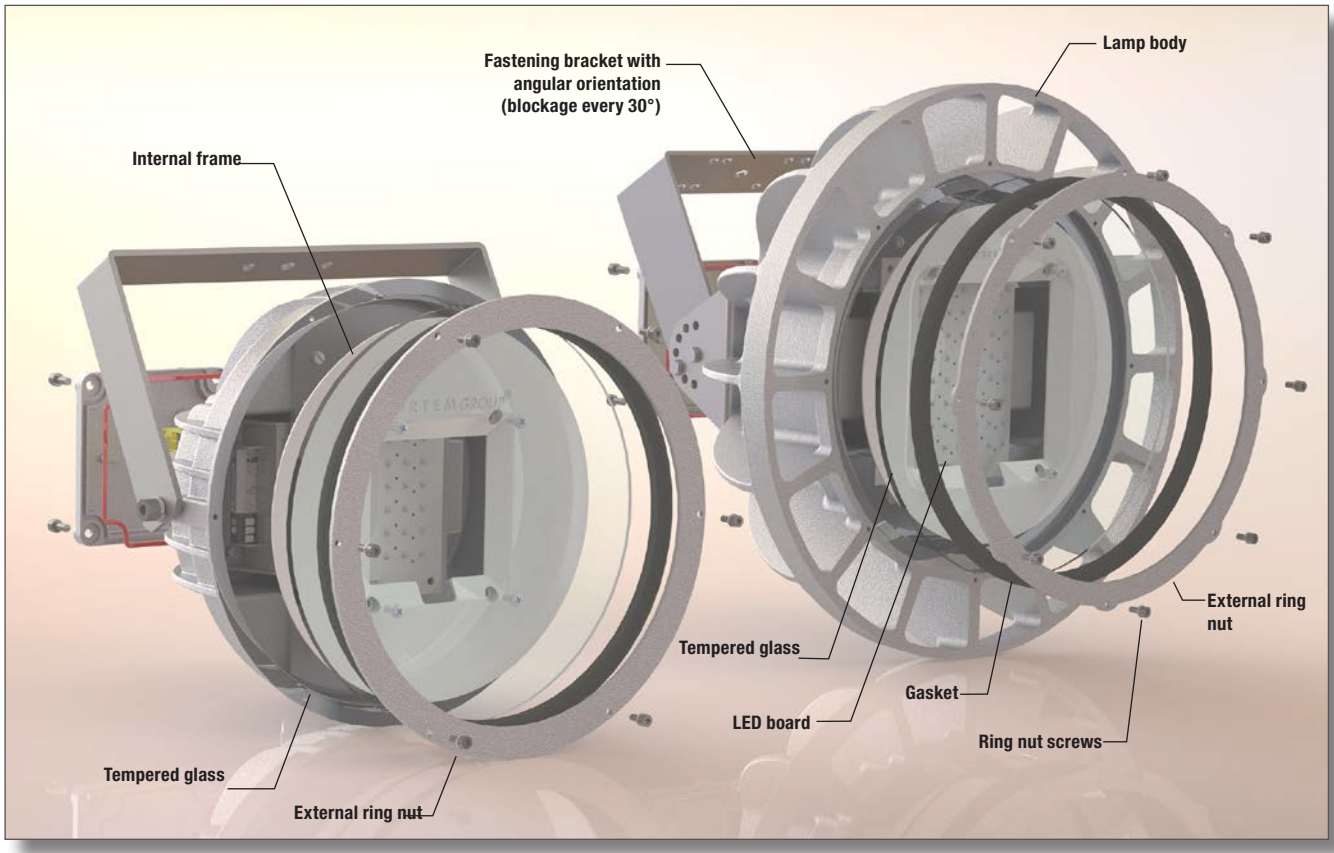


EVNL-B Series LED floodlights and fixtures for zone 2, 21, 22

Electrical specifications	EVNL-60B	EVNL-70B	EVNL-80B	EVNL-100B
Supply voltage:	120/240/277 Vac	120/240/277 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:	30 W*	41 W*	81 W*	158 W*
Connection:	Cable entry directly to the terminal board L, N, PE. Max. cross-section 4 mm², suitable for in-out			
Power factor:	>0,94	>0,96	>0,98	>0,96
Rated current:	137 mA	186 mA	361 mA	717 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) PWM or resistor
Photometric specifications				
LED Multichip:	Cree XTE	Cree XTE	Cree XTE	Cree XTE
Viewing angle	120°			
Colour temperature:	5700 K	5700 K	5700 K	5700 K
CRI:	>70	>70	>70	>70
Instant Restrike:	YES	YES	YES	YES
L80:	> 63500	> 60500	> 63500	> 60500
Lumen:	**2862 lm**	**4865 lm**	**8757 lm**	**16437 lm**
Maximum lighting intensity:	**1070 cd**	**1600 cd**	**2996 cd**	**6072 cd**
Overall efficiency:	**96 lm/W**	**118 lm/W**	**108 lm/W**	**104 lm/W**

** Test at 230Vac*

EXPLODED VIEW OF LIGHTING FIXTURE EVNL-80B AND EVNL-100B



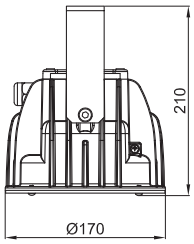
EVNL-B Series Selection table

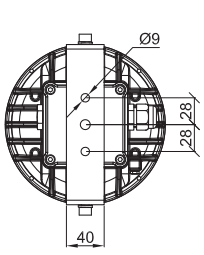
Code	Transparent part	Lamp type	Watt*	Class / Max surface temperature °C		Weight kg	mm
				+50°C	+60°C		
EVNL-60B	GLASS	LED	30 W	T6 / 83°C	T5 / 93°C	2,5	215x205x170
EVNL-70B	GLASS	LED	41W	-	T4 / 122°C	3,3	250x235x165
EVNL-80B	GLASS	LED	81 W	-	T4 / 122°C	4,3	290x290x170
EVNL-100B	GLASS	LED	158 W	-	T4 / 122°C	9,2	385x385x250

** Test at 230Vac*

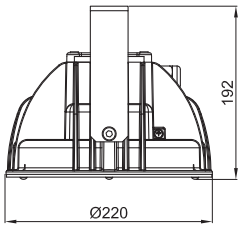
DIMENSIONAL DRAWINGS

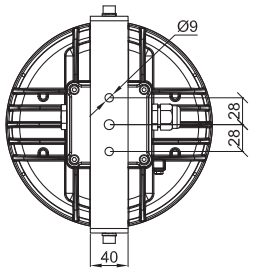
EVNL-60B...



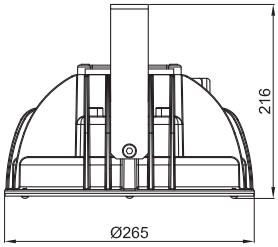


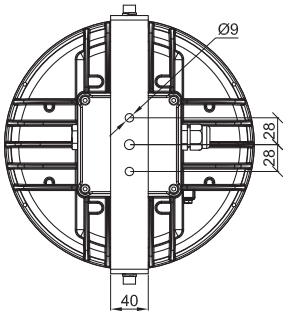
EVNL-70B...



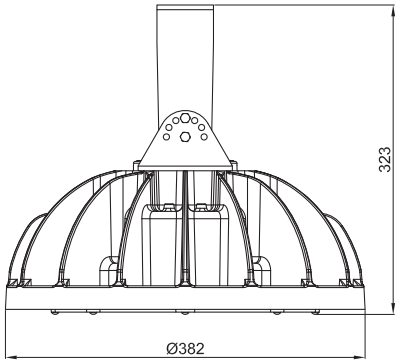


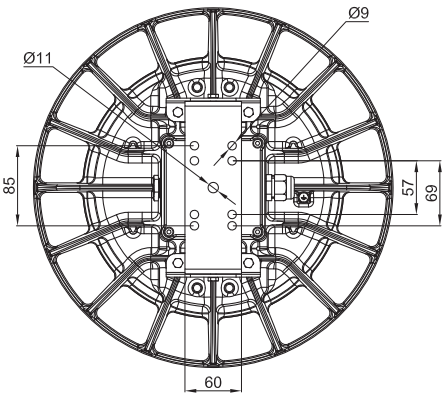
EVNL-80B...





EVNL-100B...





Dimensions in mm

ACCESSORIES UPON REQUEST / SPECIAL IMPLEMENTATIONS

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

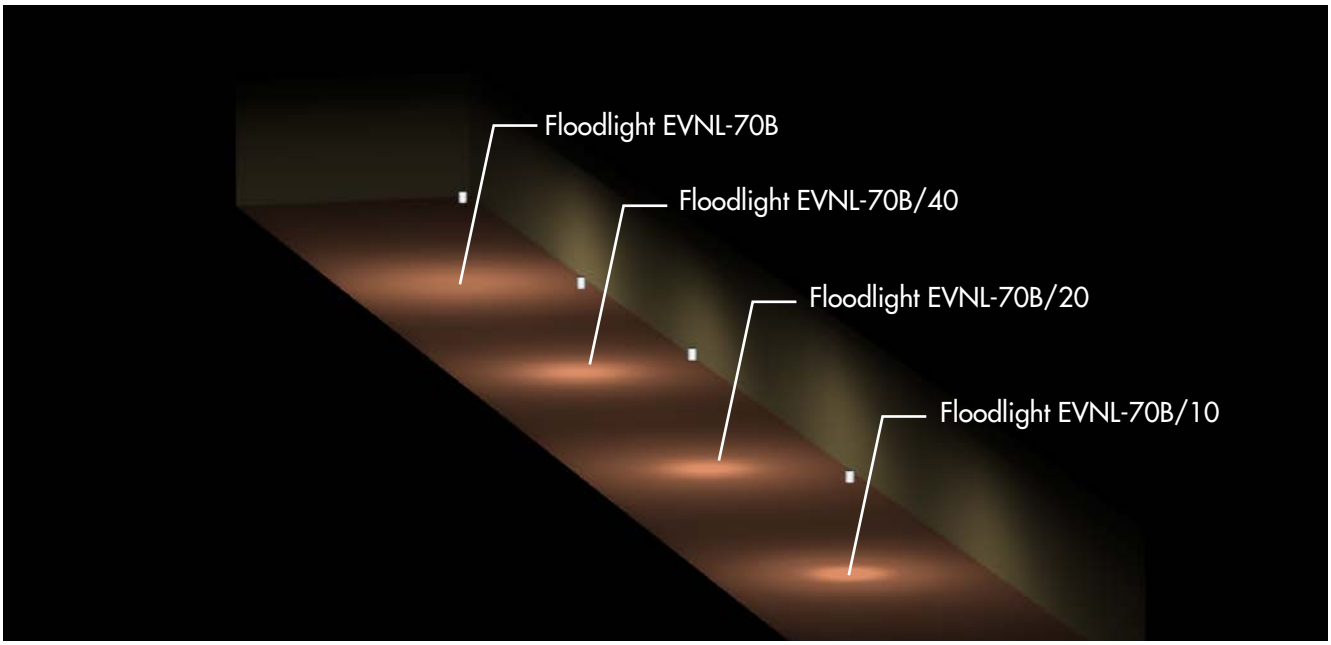
Optics available for the floodlight version

Opening of luminous beam	EVNL-60B...	EVNL-70B..	EVNL-80B...	EVNL-100B...
10°	-	EVNL-70B/10	EVNL-80B/10	EVNL-100B/10
20°	-	EVNL-70B/20	EVNL-80B/20	EVNL-100B/20
40°	-	EVNL-70B/40	EVNL-80B/40	EVNL-100B/40
60°	EVNL-60B/60	-	-	-
80°	EVNL-60B/80	-	-	-

EVNL-60B...

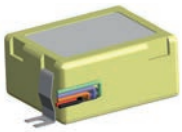
EVNL-70B..., EVNL-80B..., EVNL-100B...

The range of LED floodlights belonging to the EVNL...B Series has optics able to provide sufficient lighting for any small or medium sized application requirement, always taking into consideration a suitable installation distance.



Floor lighting with different luminous beams provided with the floodlight EVNL-70B.

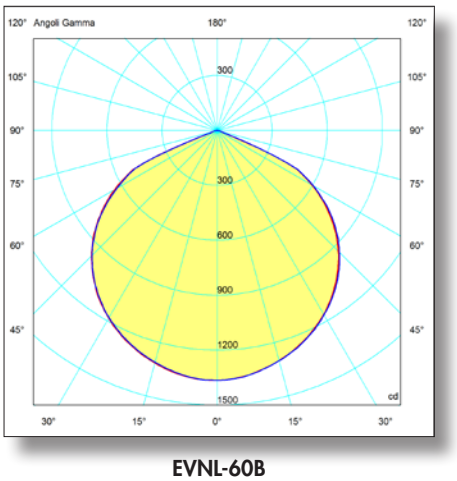
Accessories upon request and spare parts for lighting fixtures of the EVNL-B Series

ILLUSTRATION	DESCRIPTION	MODEL	CHARACTERISTICS	CODE	LEGEND
	Suspended eye bolt	internal Ø 20	Material: galvanized steel	GOF-8	ACCESSORY SPARE PART
	U-bolt for pole assembly	for poles Ø1 1/2″	Material: stainless steel AISI 316L	UBD5S	ACCESSORY SPARE PART
	Fastening bracket	EVNL-60B	Material: stainless steel AISI 316L	G-764IN	SPARE PART
		EVNL-70B		G-765IN	
		EVNL-80B		G-766IN	
		EVNL-100B		G-827	
	Electronic power unit	EVNL-60B	120-277 Vac	LEDDEVL60B	SPARE PART
		EVNL-70B	120-277 Vac	LEDDEVL70B	
		EVNL-80B	220-240 Vac	LEDDEVL80/1	
		EVNL-100B	100-277 Vac	LEDDEVL100	
	Cable gland	ISO M20	std. cable range 7-12	UNI1LXE7	SPARE PART
	Glass + gasket	EVNL-60B	Tempered front glass and black gasket in EPDM	G-831 + G-944	SPARE PART
		EVNL-70B		G-830+ G70-955	
		EVNL-80B		G-829 + G80-955	
		EVNL-100B		G-852 + G100-955	

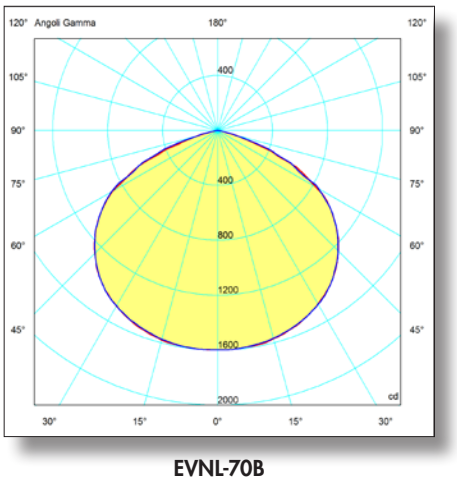
Photometric curves and specifications

Comparison between LED floodlight with lenses and floodlights with traditional light sources.

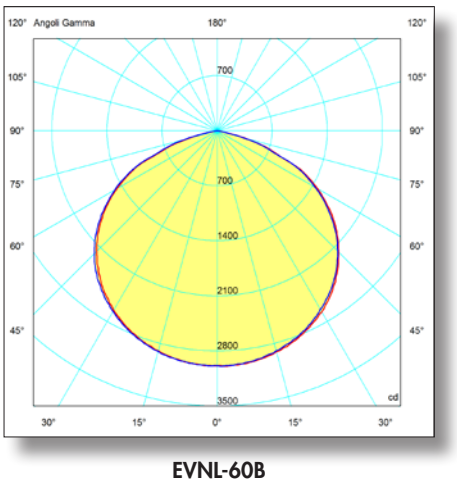
	EVNL-60B/60	EVNL-70B/40	EVNL-80B/..	EVNL-100B/..
Incandescent	300 W	500 W	600 W	1000 W
Mercury-vapour	250 W	400 W	>400 W	>400 W
Metal halides	150 W	250 W	>250 W	>400 W



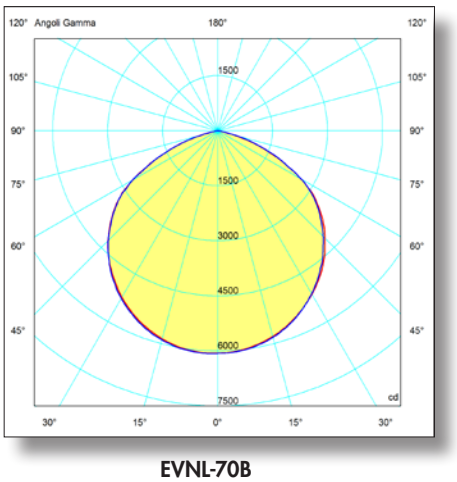
EVNL-60B
Luminous flux: 2862 lm



EVNL-70B
Luminous flux: 4865 lm



EVNL-60B
Luminous flux: 8757 lm



EVNL-70B
Luminous flux: 16437 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