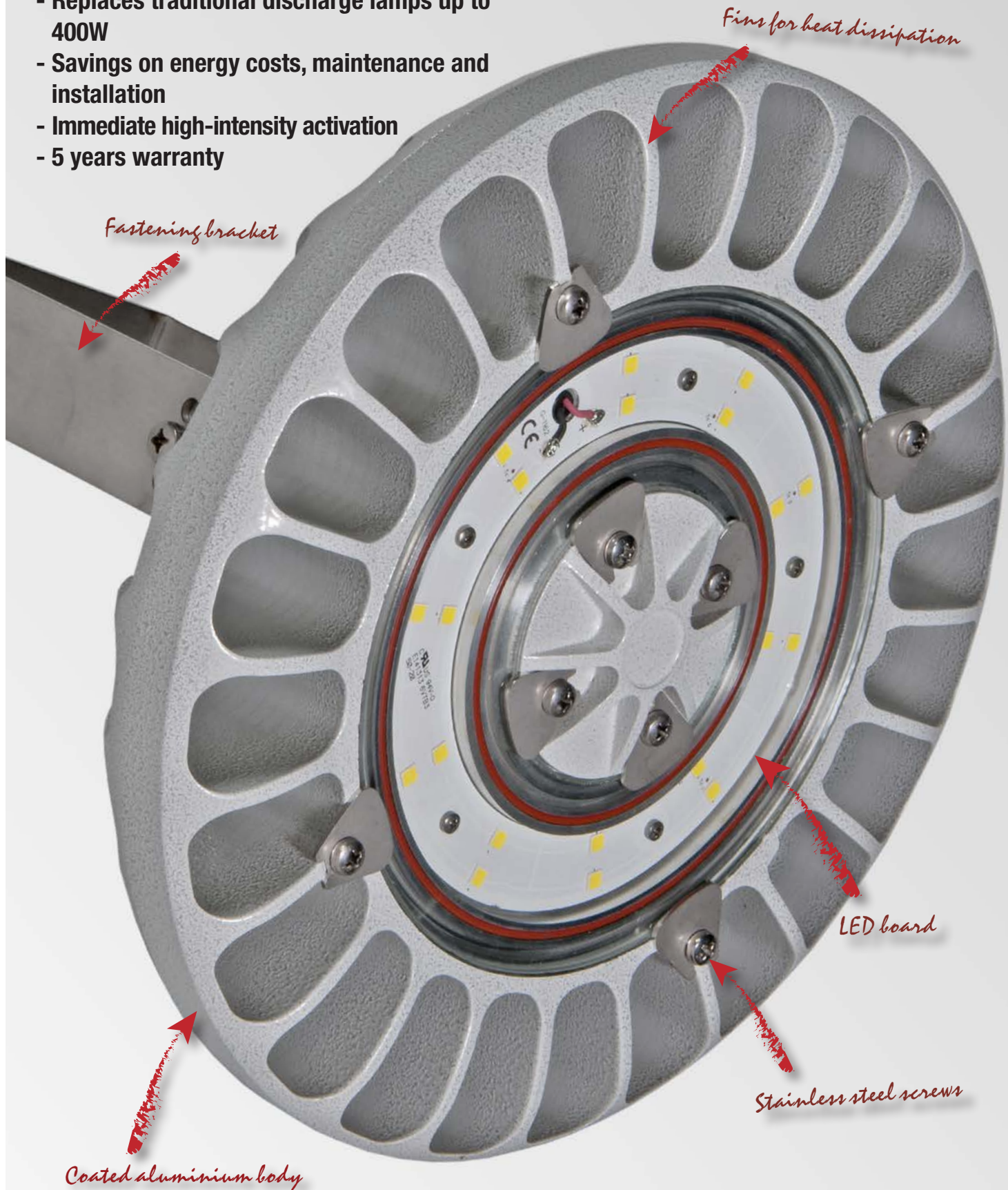


- Zone 1, 2, 21, 22
- Replaces traditional discharge lamps up to 400W
- Savings on energy costs, maintenance and installation
- Immediate high-intensity activation
- 5 years warranty



# FLOWEX series High Bay LED lighting fixtures

FlowEx series lighting fixtures represent the most recent evolution of low-bay and high-bay LED lighting for environments with potentially explosive atmospheres.

The FlowEx series is made up of three lamp body sizes and is the LED alternative for all those areas where it was customary for low and medium power discharge lighting fixtures up to 400W to be installed.

The design of the finned body, made of aluminium alloy, acts as an excellent heat sink for the LED board, allowing fast and effective dissipation of the heat generated during normal operation of the LEDs themselves. Furthermore, the geometric structure of the cooling fins is designed to minimise the deposits of combustible dust and allow air or water present in the surrounding area to self-clean the lighting fixture.

Based on the principles of Lean manufacturing, the design resulted in a lighting fixture that is light and easy to install, yet robust and durable at the same time.

They feature a high-quality die-cast aluminium body and a glass diffuser which is resistant to impact and high temperatures.

Available in different sizes and with a wide range of voltage and power features, the FlowEx series is optimally designed and certified for the area of installation.

The use of LED dual-die technology and high-power LED boards provides a lumen output from 4.800 lm to 28.000 lm, making the range highly efficient and long lasting in terms of its electronics and lighting technology.

## Sectors of application:



Petroleum refineries



Chemical and petrochemical facilities



Anti-light pollution



Offshore facilities



Onshore facilities



Perimeter zone lighting



Petroleum loading/unloading pontoons



100% produced by Cortem

## CERTIFICATE DATA

<b>Classification:</b>	Group II	Category 2GD/3G	
<b>Installation:</b> EN 60079.14	zone 1, 2, 21, 22 FLOWEX-ME	zone 2, 21, 22 FLOWEX-MN	
<b>Marking:</b>	CE 0722 Ex II 2GD - Ex eb mb IIC T.. Gb - Ex tb IIIC T..°C Db IP66		FLOWEX-ME
	CE Ex II 3G - Ex nR IIC T.. Gc IP66 CE 0722 Ex II 2D - Ex tb IIIC T..°C Db IP66		FLOWEX-MN
<b>Certificate:</b>	ATEX CML 21 ATEX 3606X	FLOWEX-ME	
	ATEX CML 21 ATEX 4607X ATEX CML 21 ATEX 3610X	FLOWEX-MN	
	IEC Ex CML 21.0070X	For all IEC Ex, UKEX certification data, download the certificate from <a href="http://www.cortemgroup.com">www.cortemgroup.com</a>	
	UKEX AVAILABLE		
<b>Standards:</b>	CENELEC EN60079-0: 2018, EN60079-7: 2015+A1:2018, EN60079-15: 2015/2019, EN60079-18: 2015+A1:2017, EN60079-31: 2014 and EUROPEAN DIRECTIVE 2014/34/EU IEC60079-0: 2017, IEC60079-7: 2017, IEC60079-15: 2017, IEC 60079-18: 2017, IEC60079-31: 2013		
<b>Temperature class:</b>	For all permitted ambient temperature classes, please see the "Selection tables"		
<b>Ambient temperature:</b>	-60°C +60°C	For all permitted ambient temperature ranges, please see the "Selection tables"	
<b>Degree of protection:</b>	IP66		

# FLOWEX series High Bay LED lighting fixtures



NO PHOTOBIOLOGICAL RISK  
(IEC / EN 62471 STANDARD)

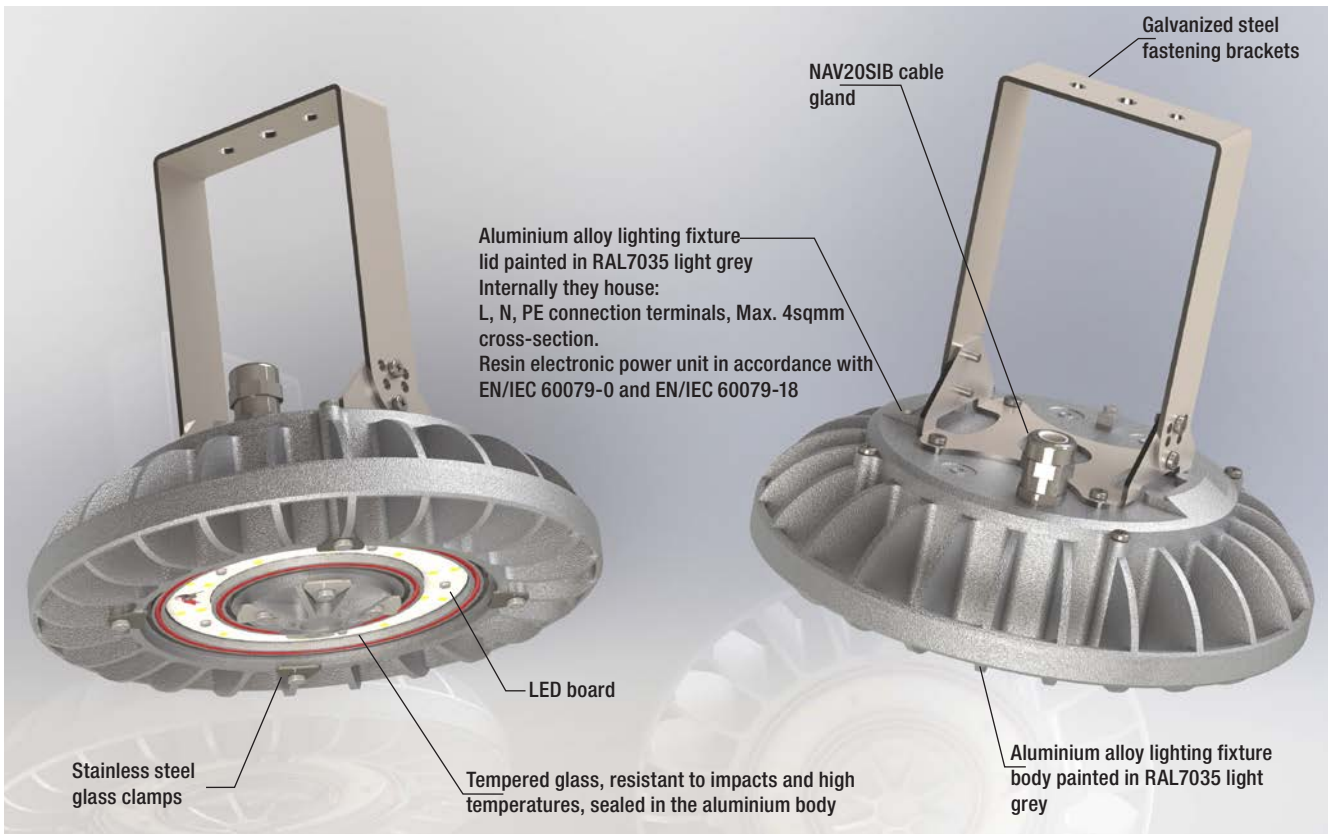


ORIGINAL PRODUCT

## MECHANICAL FEATURES

<b>Body:</b>	Aluminium alloy with low copper content. With cooling fins for high levels of heat dissipation
<b>Front glass:</b>	Tempered glass, resistant to high temperatures and knocks
<b>Seals:</b>	Silicone resistant to acids, hydrocarbons and high temperatures
<b>Fastening bracket:</b>	Galvanized steel
<b>Screws:</b>	Stainless steel
<b>Entry points:</b>	1xØ20 entry point. Fixture complete with a NAV20SIB cable gland
<b>Coating:</b>	Polyester RAL 7035 (Light grey)
<b>Corrosion resistance:</b>	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)


## FLOWEX-080 LIGHTING FIXTURE IN DETAIL



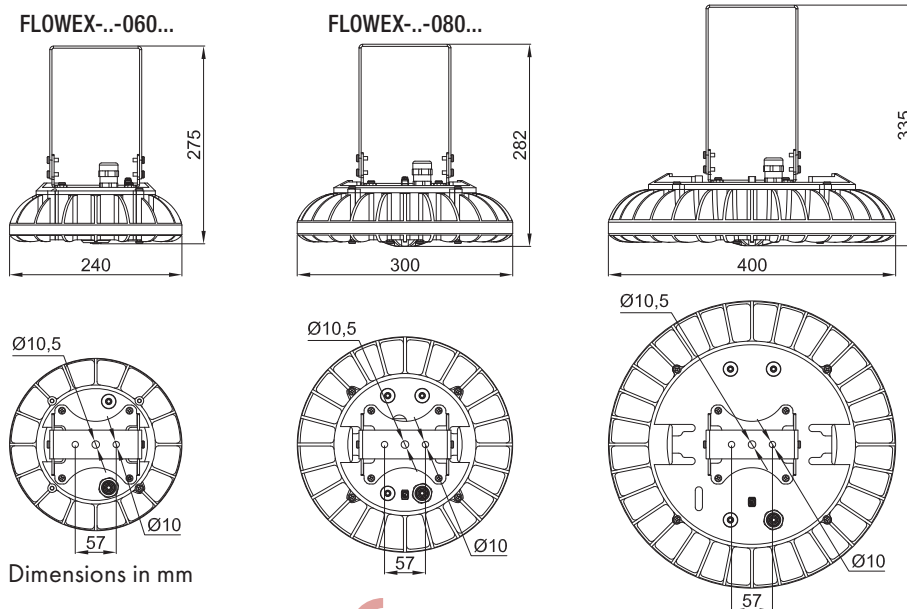


# FLOWEX series High Bay LED lighting fixtures

## FLOWEX series selection table

Code	Real power Watt	Rated power Watt	Temperature class / Maximum surface temperature				Lumen lm	Light intensity cd	Overall efficiency Lm/W	Weight kg	 mm	
			TA=+40°C	TA=+50°C	TA=+55°C	TA=+60°C						
Zone 1, 2, 21, 22	FLOWEX-ME-060030	32,8	30	T6 / 73°C	T5 / 83°C	T5 / 88°C	T5 / 93°C	4785	1700	146	3,2	285x245x135
	FLOWEX-ME-060040	38,8	40	T6 / 73°C	T5 / 83°C	T5 / 88°C	T5 / 93°C	5531	1966	143	3,2	285x245x135
	FLOWEX-ME-060050	46,7	50	T6 / 73°C	T5 / 83°C	T5 / 88°C	T5 / 93°C	6389	2273	137	3,2	285x245x135
	FLOWEX-ME-060060	55,6	60	T6 / 73°C	T5 / 83°C	T5 / 88°C	T5 / 93°C	7285	2592	131	3,2	285x245x135
	FLOWEX-ME-080070	69,1	70	T5 / 86°C	T4 / 95°C	T4 / 101°C	T4 / 106°C	9547	3438	138	4,2	305x305x140
	FLOWEX-ME-080080	79,4	80	T5 / 86°C	T4 / 95°C	T4 / 101°C	T4 / 106°C	10646	3834	134	4,2	305x305x140
	FLOWEX-ME-080090	89,2	90	T5 / 86°C	T4 / 95°C	T4 / 101°C	T4 / 106°C	11641	4197	129	4,2	305x305x140
	FLOWEX-ME-080100	101,7	100	T5 / 86°C	T4 / 95°C	T4 / 101°C	T4 / 106°C	12708	4582	125	4,2	305x305x140
	FLOWEX-ME-100120	117,0	120	T6 / 74°C	T5 / 84°C	T5 / 89°C	T5 / 94°C	17687	6221	151	7,8	405x405x145
	FLOWEX-ME-100140	136,5	140	T6 / 74°C	T5 / 84°C	T5 / 89°C	T5 / 94°C	20154	7086	148	7,8	405x405x145
	FLOWEX-ME-100160	156,6	160	T6 / 74°C	T5 / 84°C	T5 / 89°C	T5 / 94°C	22422	7882	143	7,8	405x405x145
	FLOWEX-ME-100180	173,6	180	T5 / 85°C	T5 / 95°C	T4 / 100°C	T4 / 105°C	24218	8513	140	7,8	405x405x145
FLOWEX-ME-100200	190,1	200	T5 / 85°C	T5 / 95°C	T4 / 100°C	T4 / 105°C	25709	9040	135	7,8	405x405x145	
FLOWEX-ME-100220	214,2	220	T5 / 85°C	T5 / 95°C	T4 / 100°C	T4 / 105°C	27961	9837	131	7,8	405x405x145	
Zone 2, 21, 22	FLOWEX-MN-060030	32,8	30	T6 / 73°C	T5 / 83°C	T5 / 88°C	T5 / 93°C	4784	1700	146	3,2	285x245x135
	FLOWEX-MN-060040	38,8	40	T6 / 73°C	T5 / 83°C	T5 / 88°C	T5 / 93°C	5531	1966	143	3,2	285x245x135
	FLOWEX-MN-060050	46,7	50	T6 / 73°C	T5 / 83°C	T5 / 88°C	T5 / 93°C	6389	2273	137	3,2	285x245x135
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	FLOWEX-MN-100180	173,6	180	T5 / 85°C	T5 / 95°C	T4 / 100°C	T4 / 105°C	24218	8513	140	7,8	405x405x145
FLOWEX-MN-100200	190,1	200	T5 / 85°C	T5 / 95°C	T4 / 100°C	T4 / 105°C	25709	9040	135	7,8	405x405x145	
FLOWEX-MN-100220	214,2	220	T5 / 85°C	T5 / 95°C	T4 / 100°C	T4 / 105°C	27961	9837	131	7,8	405x405x145	

### Dimensional drawings



## FLOWEX series High Bay LED lighting fixtures

Electrical features	FLOWEX-..060..	FLOWEX-..080..	FLOWEX-..100..
Supply voltage:	100-277 Vac	100-277 Vac	100-277 Vac
Rated frequency:	50-60 Hz ±5%	50-60 Hz ±5%	50-60 Hz ±5%
Rated power consumption* :	<b>..030</b> 30 W	<b>..070</b> 70 W	<b>..120</b> 120 W
	<b>..040</b> 40 W	<b>..080</b> 80 W	<b>..140</b> 140 W
	<b>..050</b> 50 W	<b>..090</b> 90 W	<b>..160</b> 160 W
	<b>..060</b> 60 W	<b>..100</b> 100 W	<b>..180</b> 180 W
	-	-	<b>..200</b> 200 W
	-	-	<b>..220</b> 220 W
Connection:	Cable entry directly to the terminal board L, N, PE. Max. 4 sq mm cross-section		
Power factor:	>0.95	>0.95	>0.95
Rated current:	<b>..030</b> 150 mA	<b>..070</b> 310 mA	<b>..120</b> 540 mA
	<b>..040</b> 180 mA	<b>..080</b> 360 mA	<b>..140</b> 620 mA
	<b>..050</b> 210 mA	<b>..090</b> 400 mA	<b>..160</b> 700 mA
	<b>..060</b> 250 mA	<b>..100</b> 450 mA	<b>..180</b> 770 mA
	-	-	<b>..200</b> 840 mA
	-	-	<b>..220</b> 950 mA
EMC (Electromagnetic Compatibility):	EN 55015, EN 61547, IEC 61000-3-2, IEC 61000-3-3		
THD (Total Harmonic Distortion):	<10%		
Over-voltage protection:	4 kV	4 kV	4 kV
Driver performance levels:	Over-Voltage Protection, Over-Current Protection, Short-Circuit Protection		
Dimming (on request only in the ..- MN version):	(0-10 V) or PWM or resistor	(0-10 V) or PWM or resistor	(0-10 V) or PWM or resistor
<b>Photometric features</b>			
Multichip LED:	High power LED	High power LED	High power LED
Viewing angle:	120°	120°	120°
Colour temperature:	5000 K	5000 K	5000 K
CRI:	>70	>70	>70
Instant Restrike:	YES	YES	YES
L90:	> 60000 h	> 60000 h	> 60000 h

\* Test performed at 230 Vac

### ACCESSORIES UPON REQUEST / SPECIAL REQUESTS

Different rated voltages

Dimming only in the ..- MN version (code example FLOWEX-MN-100180-**D**)

Lighting fixture with different holes for cable entry:

- FLOWEX-MN-080080-**DB** N°2 entries Ø20
- FLOWEX-MN-080080-**DC** N°1 entry Ø25
- FLOWEX-MN-080080-**DD** N°2 entries Ø25

Additional U-bolts for assembly to a pole

Eye bolt

Special lid for direct installation on pole (code example FLOWEX-ME-080080-**T**)

Threaded pole attachment with fixed 25° orientation

Fastening brackets in stainless steel AISI 304 or AISI 3016L

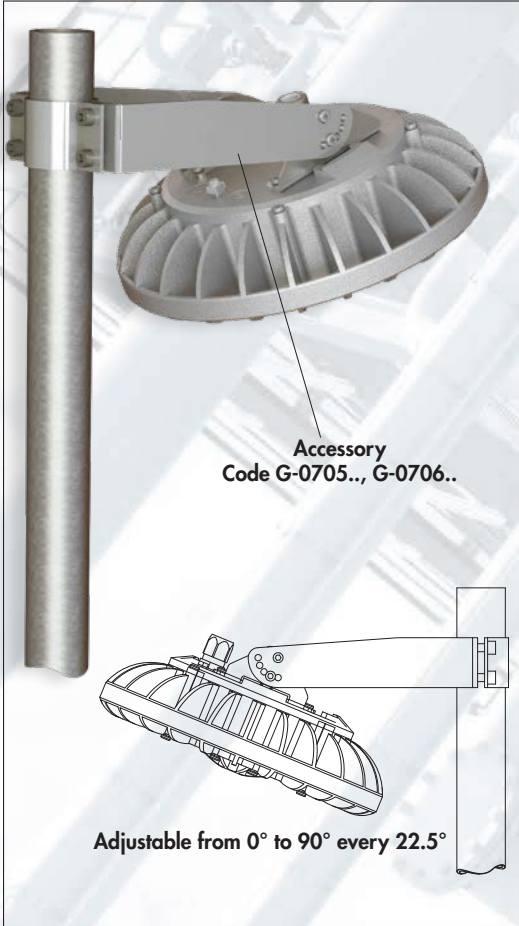
Unpainted lighting fixtures for shorter lead times (code example FLOWEX-MN-080080-**DB-NP**, FLOWEX-MN-080080-**T-NP**)

## FLOWEX series High Bay LED lighting fixtures

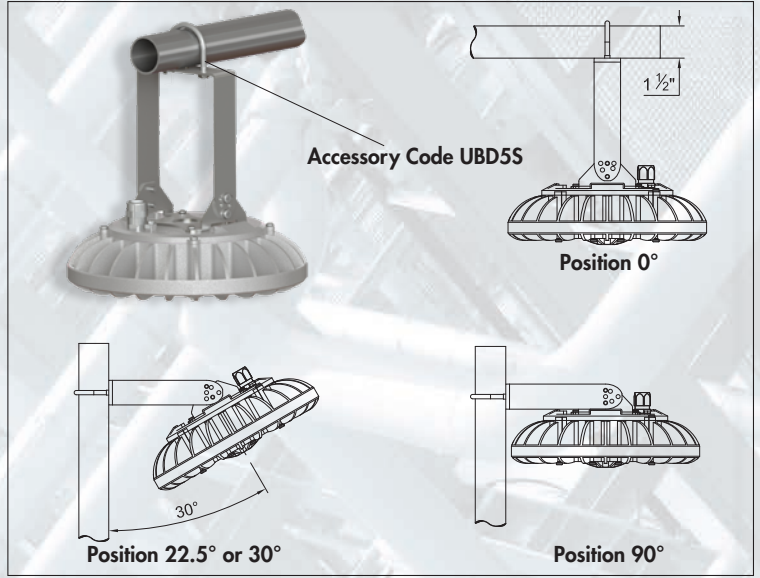
ILLUSTRATION	DESCRIPTION	MODEL	FEATURES	CODE	KEY
	Electronic power unit	FLOWEX-ME-060030	100-277 Vac	EBM-50C/850	
		FLOWEX-ME-060040		EBM-50C/1000	
		FLOWEX-ME-060050		EBM-50C/1200	
		FLOWEX-ME-060060		EBM-50C/1400	
		FLOWEX-ME-080070		EBM-100C/560	
		FLOWEX-ME-080080		EBM-100C/640	
		FLOWEX-ME-080090		EBM-100C/700	
		FLOWEX-ME-080100		EBM-100C/800	
		FLOWEX-ME-100120		EBM-240C/790	
		FLOWEX-ME-100140		EBM-240C/920	
		FLOWEX-ME-100160		EBM-240C/1050	
		FLOWEX-ME-100180		EBM-240C/1150	
		FLOWEX-ME-100200		EBM-240C/1250	
		FLOWEX-ME-100220		EBM-240C/1400	
				Electronic power unit	
FLOWEX-MN-060040	LEDDEVL060/2				
FLOWEX-MN-060050	LEDDEVL060/2/3				
FLOWEX-MN-060060	LEDDEVL060/2/4				
FLOWEX-MN-080070	LEDDEVL080/4/5				
FLOWEX-MN-080080	LEDDEVL080/4/6				
FLOWEX-MN-080090	LEDDEVL080/4				
FLOWEX-MN-080100	LEDDEVL080/4/7				
FLOWEX-MN-100120	LEDDEVL100/1/6				
FLOWEX-MN-100140	LEDDEVL100/1/7				
FLOWEX-MN-100160	LEDDEVL100/1/8				
FLOWEX-MN-100180	LEDDEVL100/1/9				
FLOWEX-MN-100200	LEDDEVL100/1/1				
FLOWEX-MN-100220	LEDDEVL100/1				
	U-bolt for assembly on a pole		for poles Ø1 1/2"		Material: stainless steel AISI 316L
	Adjustable pole fixing bracket for Ø1 1/2" poles	FLOWEX-...060..	Galvanized steel	G-0705	 
		FLOWEX-...080..		G-0706	
		FLOWEX-...060..	Stainless steel AISI 304	G-0705IN	
		FLOWEX-...080..		G-0706IN	
		FLOWEX-...100..	Stainless steel AISI 316L	G-0705A4	
		FLOWEX-...100..		G-0706A4	
	Fastening bracket	FLOWEX-...060..	Stainless steel AISI 304	G-1262IN	 
		FLOWEX-...080..	Stainless steel AISI 316L	G-1262A4	
		FLOWEX-...100..	Stainless steel AISI 304	G-1263IN	
			Stainless steel AISI 316L	G-1263A4	

# FLOWEX series High Bay LED lighting fixtures

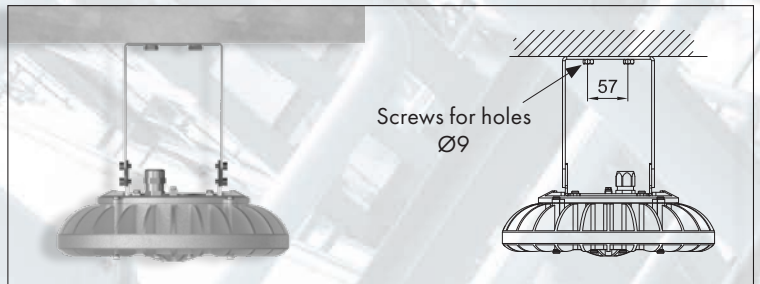
## Typical assemblies with installation accessories



Pole mount mechanism with adjustable bracket



Assembly on 1 1/2" conduit pipe with UBD



Ceiling mount, tall model TYPE "U"

### DIRECT POLE ATTACHMENT SYSTEM

Lighting fixture prearranged for direct installation on pole



### STANCHION MOUNTING WITH FIXED ORIENTATION AT 25°

Direct connection to terminal board L, N, Pe. Possible section 1.5mm<sup>2</sup> for loop-in/loop-out. Input of 3 single cables up to 4mm<sup>2</sup>, input-output with 6 single cables up to 1.5mm<sup>2</sup>.



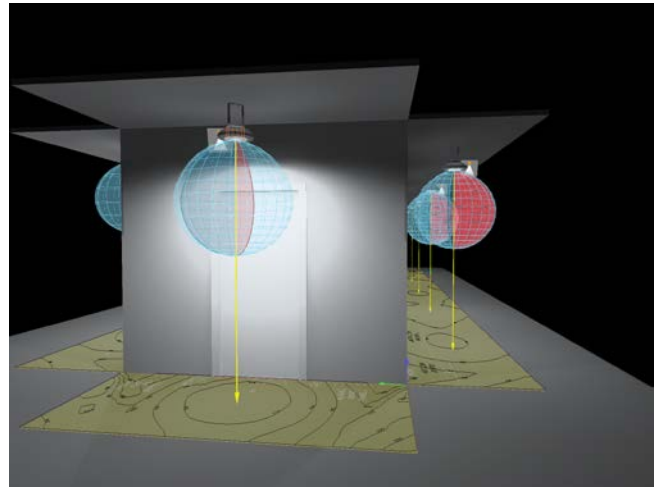
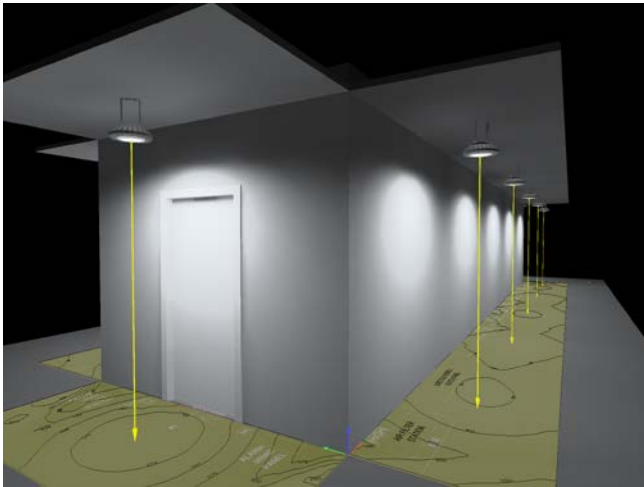
Code	X	Y	Weight kg	mm
FLOWEX-060...-IX	372	215	4,5	372x170x215
FLOWEX-080...-IX	419	242	8,2	351x351x242
FLOWEX-100...-IX	478	280	12,0	412x412x280



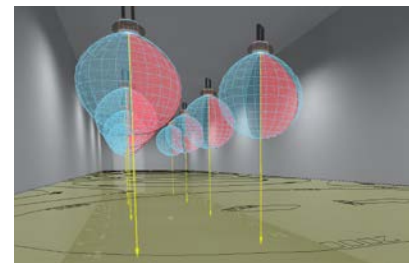
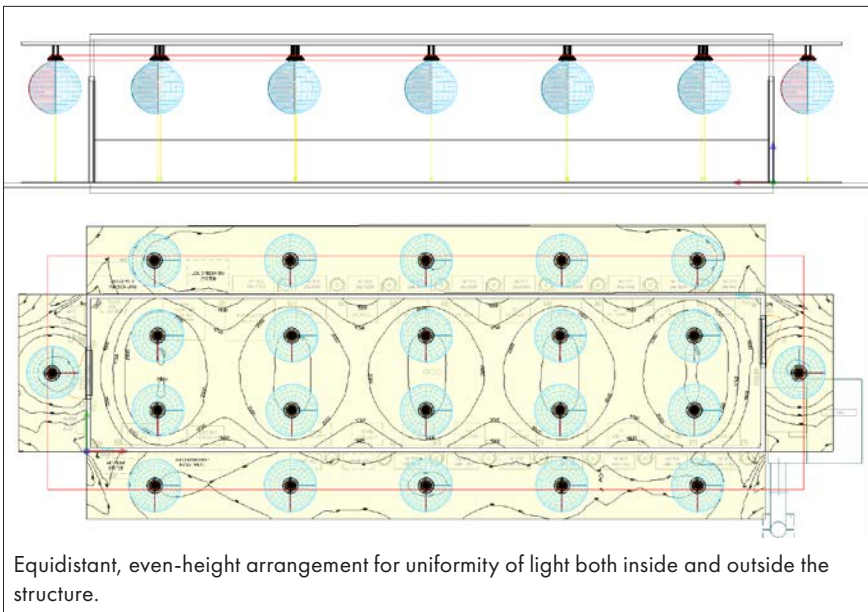
# FLOWEX series High Bay LED lighting fixtures

## Photometric study example

FLOWEX series ceiling-mounted lighting fixtures



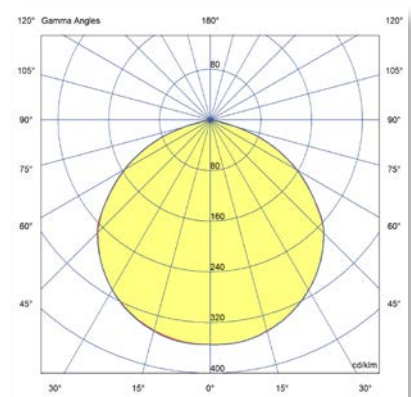
Representation of an outdoor installation - perimeter lighting on 13m and 3m lengths



Representation of an indoor installation - room height 2.7m, worktop height 0.8m

### List of lighting fixture power used

$\Phi_{total}$	$P_{total}$	Efficiency			
114222 lm	793.6 W	143.9 lm/W			
	Pc.	Item	P	$\Phi$	Efficiency
Internal area	10	FLOWEX...060030	32.8 W	4785 lm	145.9 lm/W
External area	12	FLOWEX...060040	38.8 W	5531 lm	142.5 lm/W



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](http://www.cortemgroup.com).

— = level 90270  
— = level 0180