

Solid-State Lighting Series

EDIS Circular Module Datasheet

Featuring high efficient aluminum reflector and protective glass cover, the circular Edistar module is designed for large, open area lighting such as warehouse lighting high/low bay application and pedestrian sidewalk lighting, The module offers an assembly base enabling easy installation to an external heat-sink.

Features :

- Solid State Lighting Technology
- Superior Quality Light
- Reduce CO₂Emission
- Energy Saving(50W/100W)
- Ecologically Friendly
- Long life-time
- IP65

Typical Applications :

- High/Low Bay
- Outdoor Lighting
- Street Lighting





A Solid-State Lighting Premium Expert

Table of Contents

• Nomenclature.....	2
• Dimensions.....	3
• Absolute Maximum Ratings.....	3
• Specifications.....	3
• Electrical Specifications.....	4
• Illuminance Specifications.....	4
• Light Pattern.....	4
• Application.....	5
• Comparison of Circular Module.....	6
• Environmentally Friendly.....	7
• Thermal Design.....	9
• Package Information.....	10

Nomenclature

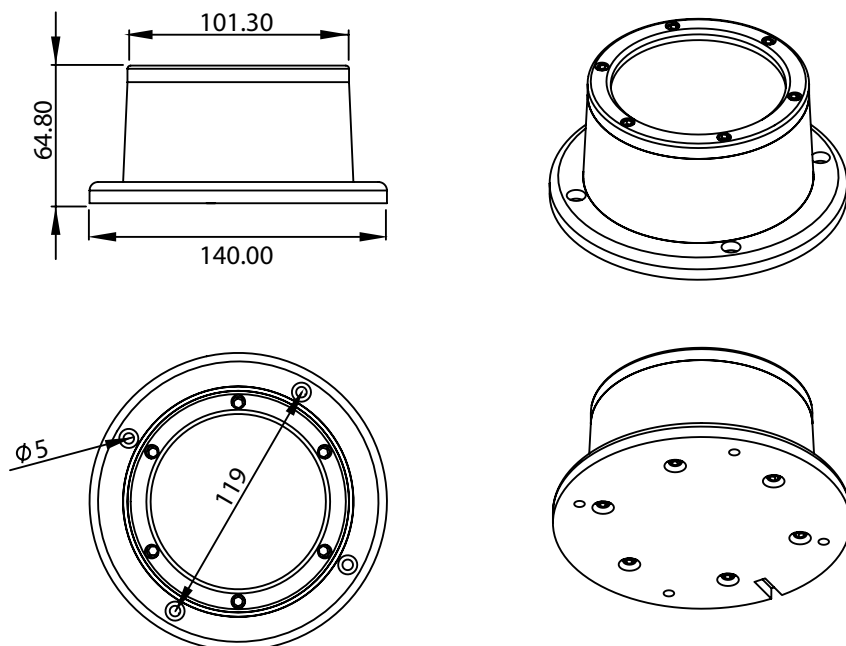
The following table describes the available colors, and angles.

EDIS - M 050 - W 1 0

X1		X2		X3		X4		X5		X6	
SSL Series		Module Type		Wattage		Color		Serial NO.1		Serial NO.2	
Code	Type	Code	Type	Code	Type	Code	Type				
EDIS	EDISON	M	Module	050	50W	W	Cool White				
	Intergrated Solution			100	100W	H	Neutral White				
						X	Warm White				

Table 1 : EDIS circular module nomenclature.

Dimensions



Notes:
 1. Unit : mm.
 2. Tolerance : ± 2.5 mm.

Figure 1 : EDIS circular module dimensions.

Absolute Maximum Ratings

The following table shows electrical characteristics and operating temperature of Circular Module.

Parameter	Symbol	Rating	Units
Operating Temperature	T_{opr}	-30 ~ 40	$^{\circ}C$
Storage Temperature	T_{stg}	-40 ~ 60	$^{\circ}C$
Using Ingress Protection (IP)		IP65	

Table 2 : EDIS circular module absolute maximum ratings.

Specifications

The following describes the choices of color temperature, angles, and CRI of Circular Module for different demand.

Parameter	Rating	Units
Power Consumption	50 / 100	W
Field Angle	100	Degree
Color Temperature	6600 / 4300 / 3000	K
CRI	70 / 75 / 80	/
Weight	830 \pm 5	g

Table 3 : EDIS circular module specifications.

Electrical Specifications

The following describes the electrical operating parameters.

Parameter	Power Consumption	Forward Voltage	Constant Current
EDIS-M050-x10	50W	24V	2.4A
EDIS-M100-x10	100W	33V	3.0A

Table 4 : EDIS circular module electrical specifications.

Illuminance Specifications

The tables present the illuminance level with respect to different color temperature.

Power Consumption	Parameter	CCT	Field Angle	Flux (Typ.)
50W	EDIS-M050-W10	6600K	100°	3000 lm
	EDIS-M050-H10	4300K	100°	2700 lm
	EDIS-M050-X10	3000K	100°	2500 lm
100W	EDIS-M100-W10	6600K	100°	5200 lm
	EDIS-M100-H10	4300K	100°	4650 lm
	EDIS-M100-X10	3000K	100°	4200 lm

Table 5 : EDIS circular module illuminance specifications.

Light Pattern

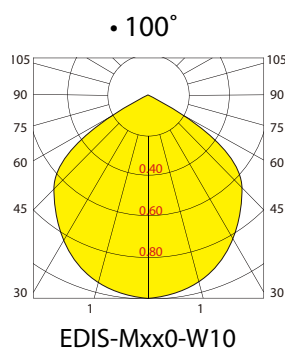


Figure 2 : EDIS circular module light pattern.

Application

High/Low Bay Application

The following diagram is showing High/Low Bay Fixture with traditional light source. Generally the height of high bay is higher than 8 meters, and low bay is used under 8 meters. High altitude comes with high power consumption bulb, such as 400W Mercury Vapor Lamp in high bay. On the other hand, low altitude uses low power bulb.

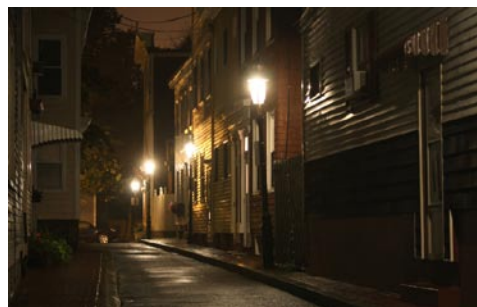
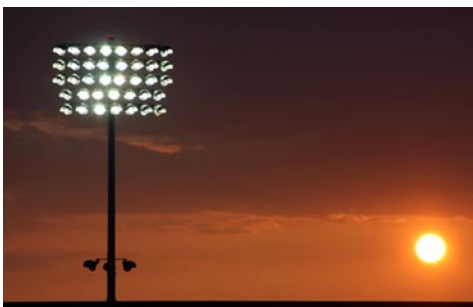
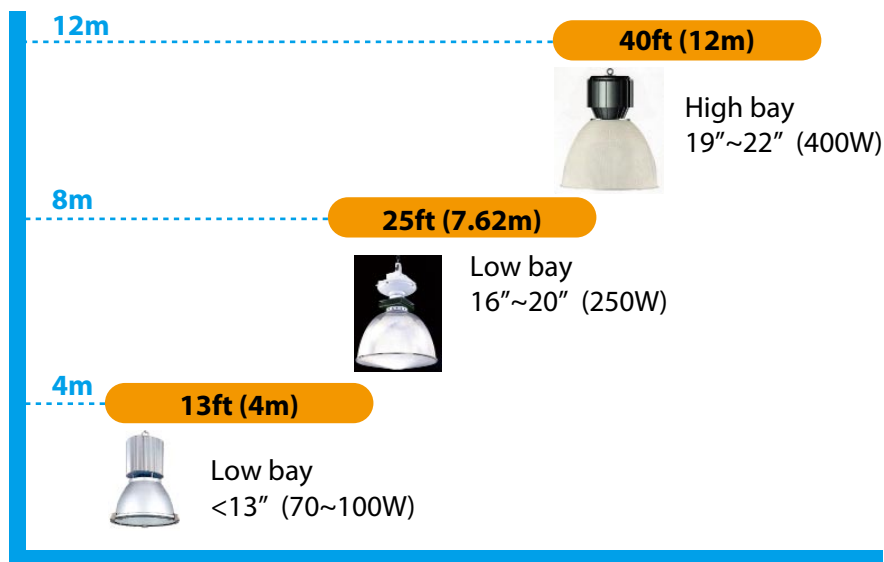


Figure 3 : EDIS circular module application.

Comparison of Circular Module

The following diagram compares mercury vapor lamp with circular module.

HQL : 250W , Mercury Vapor Lamp



Low Bay	Lux@1m	Field Angle
HQL : 250W Flux (lm)=4231 CCT=5602 °K	Glass Cover 2700	103°

Circular Module : 100W



Low Bay	Lux@1m	Field Angle
EdiStar : 100W Flux(lm) = 4580 CCT = 5670 °K	Glass Cover 3685	100°

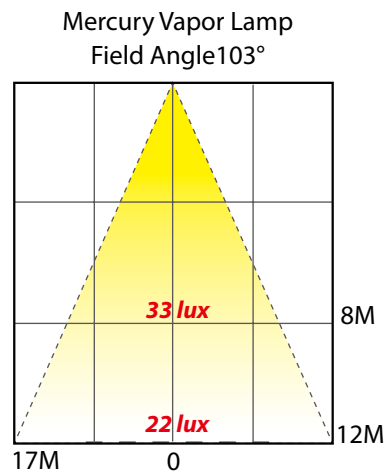
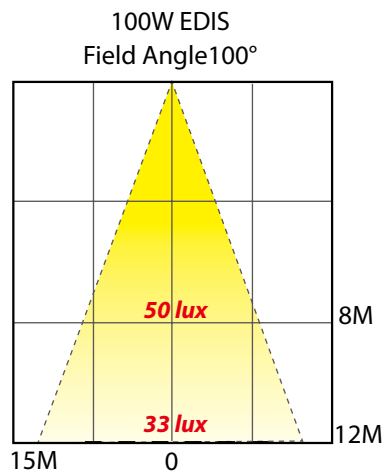


Figure 4 : EDIS circular module comparison.

Environmentally Friendly

With the increasing demand for energy and the effect on global warming, Edison Opto plays a role in preserving the forest by reducing energy consumption, and CO₂ emission one step at a time.

Replacing traditional mercury vapor lamp with Edison Opto EdiStar Module lighting application, one can help in reducing global warming by lots of CO₂ annually.

50W EDIS Module VS 100W Mercury Vapor Lamp

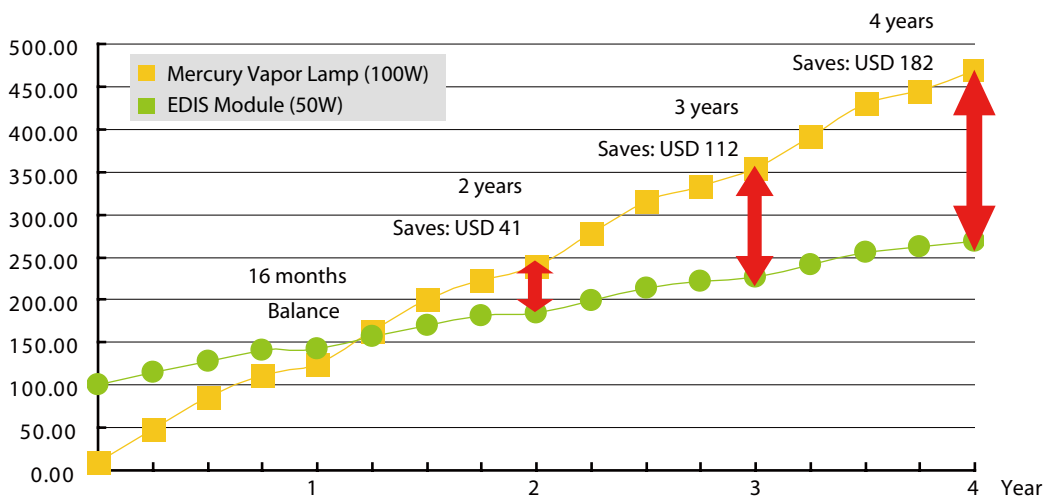
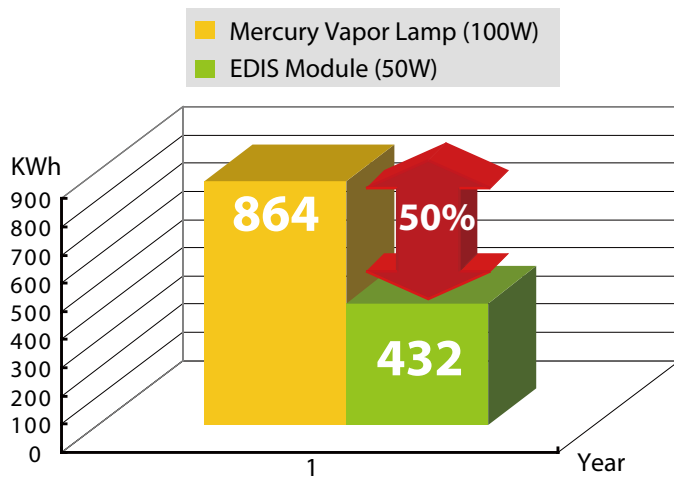
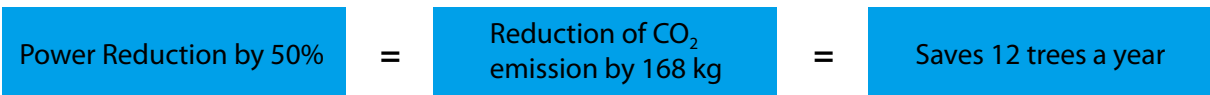


Figure 5 : 50W EDIS Module VS 100W Mercury Vapor Lamp.

Note : Calculation based on 24 hours of daily operation.

Environmentally Friendly

100W EDIS Module VS 250W Mercury Vapor Lamp

Power Reduction by 60% = Reduction of CO₂ emission by 505 kg = Saves 36 trees a year

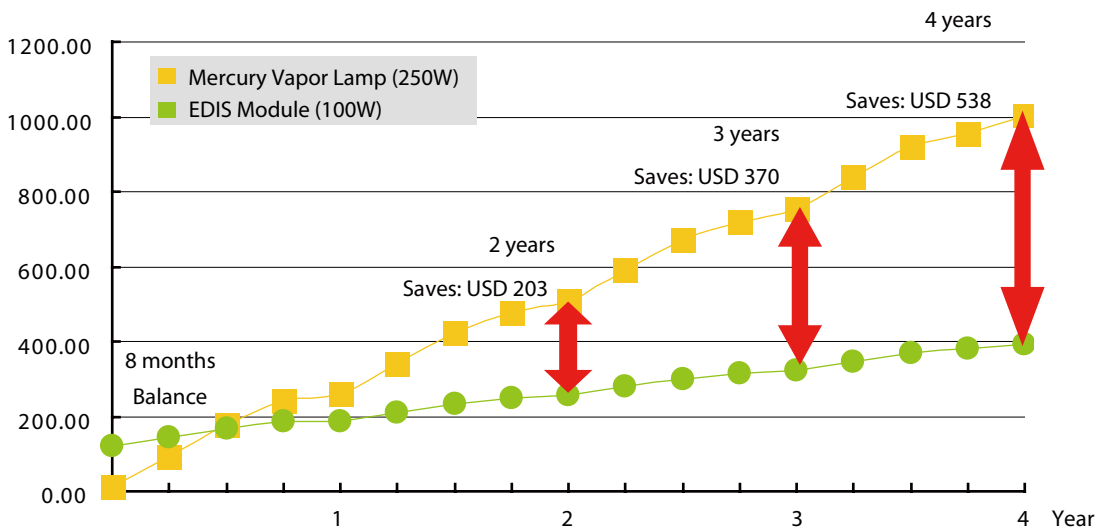
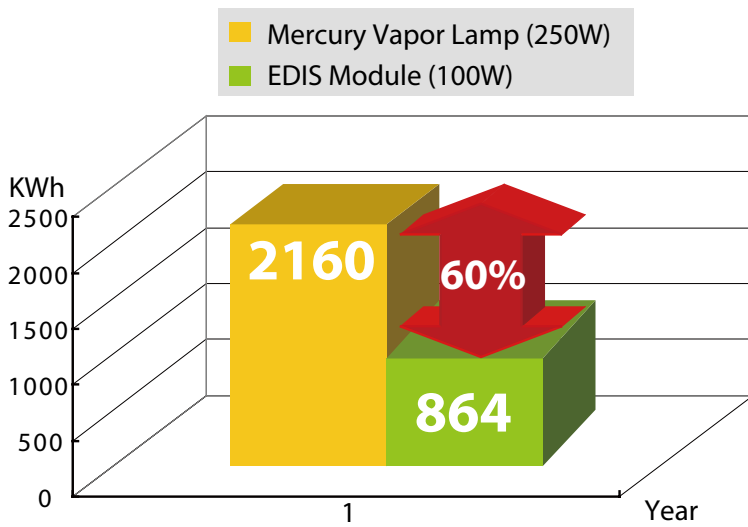


Figure 6 : 100W EDIS Module VS 250W Mercury Vapor Lamp.

Note : Calculation based on 24 hours of daily operation (€9.41/KWh).

Environmentally Friendly

100W EDIS Module VS 400W Mercury Vapor Lamp

Power Reduction by 75% = Reduction of CO₂ emission by 1010 kg = Saves 72 trees a year

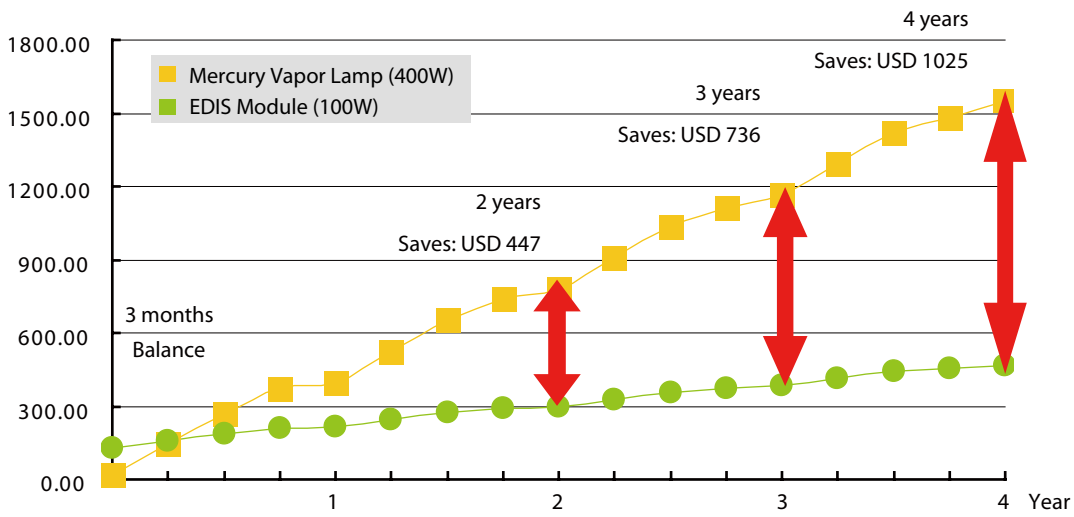
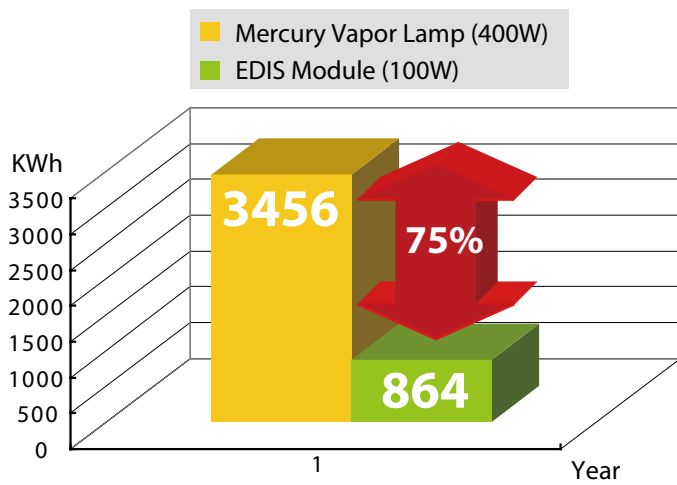


Figure 7 : 100W EDIS Module VS 400W Mercury Vapor Lamp.

Note : Calculation based on 24 hours of daily operation (€9.41/KWh).

Thermal Design

Sample Heat-sink Design

The following diagram describes recommended heat-sink design aluminum alloy 6063. It is the common material used for extrusion heat-sink. The specifications and parameters serve as design reference and are conditioned in the most ideally free convection environment. Result would vary if the extruded heat-sink is placed in an enclosed environment under different ambient temperature.

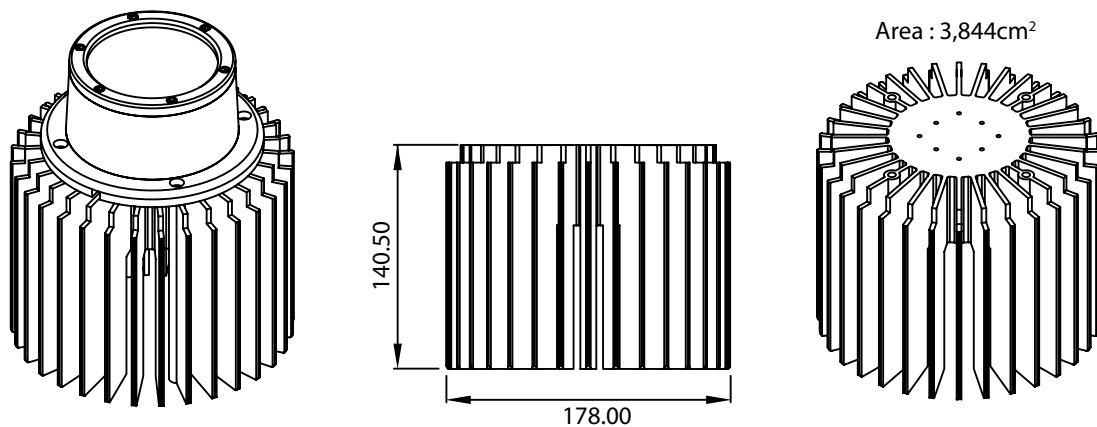


Figure 8 : EDIS circular module sample heat-sink design.

The following table describes Circular Module with above heat-sink under 25°C ambient temperature.

Part Number	Equilibrium Temperature
EDIS-M050-x10	45°C
EDIS-M100-x10	65°C

Table 6 : EDIS Circular Module Equilibrium Temperature.

Package Information

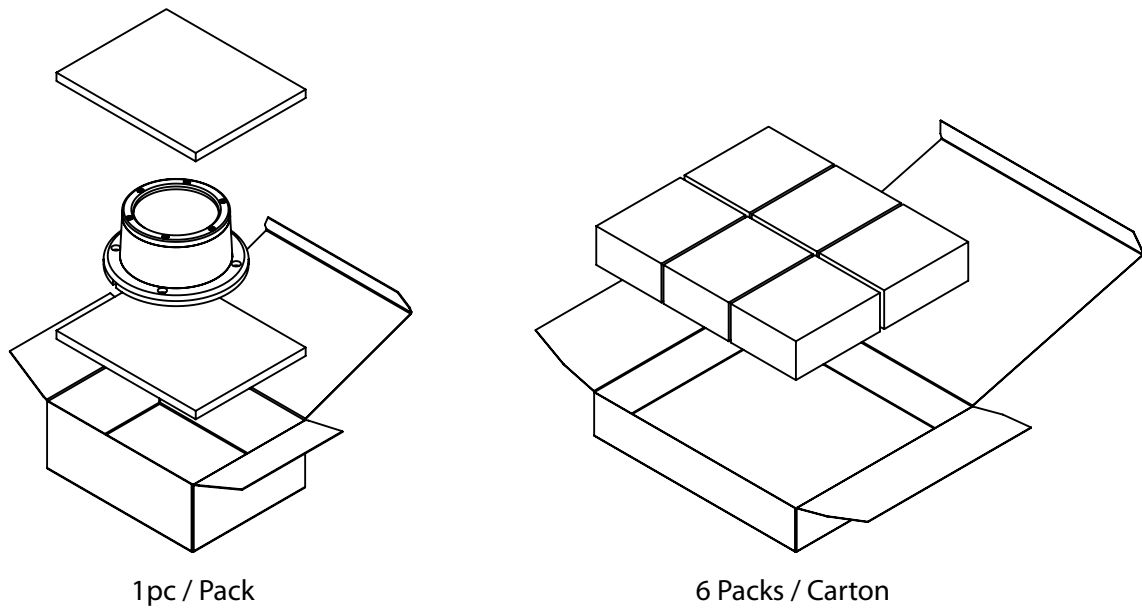


Figure 9 : EDIS Circular Module Package Information.

Notes:

1. Every Circular Module comes with a set of accessories including four socket head cap screws(M5) and one thermal pad (K=3W/mK).
2. Pack Dimensions : 200m(length)*155mm(width)*80mm(height)
3. Carton Dimensions: 446mm(length)*300mm(width)*140mm(height)