

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 CO₂ Emission
- Energy Saving(50W/100W/120W)
- Ecologically Friendly
- Long Life-Time
- IP65

Typical Applications :

- High/Low Bay
- Outdoor Lighting
- Street Lighting





A Solid-State Lighting Premium Expert

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Nomenclature

The following table describes the available colors, and angles.

EDIS - M 05 1 - W 1 0

X1		X2		X3		X4		X5		X6		X7	
LED Item		Module		Power		Filed Angle		Emitting Color		Reflector		Heatsink	
Code	Type	Code	Type	Code	Type	Code	Type	Code	Type	Code	Type	Code	Type
EDIS	Edison	M	Module	05	50W	1	40°	W	Cool White	1	Circular Reflector		
	Integrated			10	100W	2	60°	H	Neutral White				
	Soution			12	120W	0	90°	X	Warm White				
						3	120°						

Table 1 : EDIS Circular Module nomenclature.

Dimensions

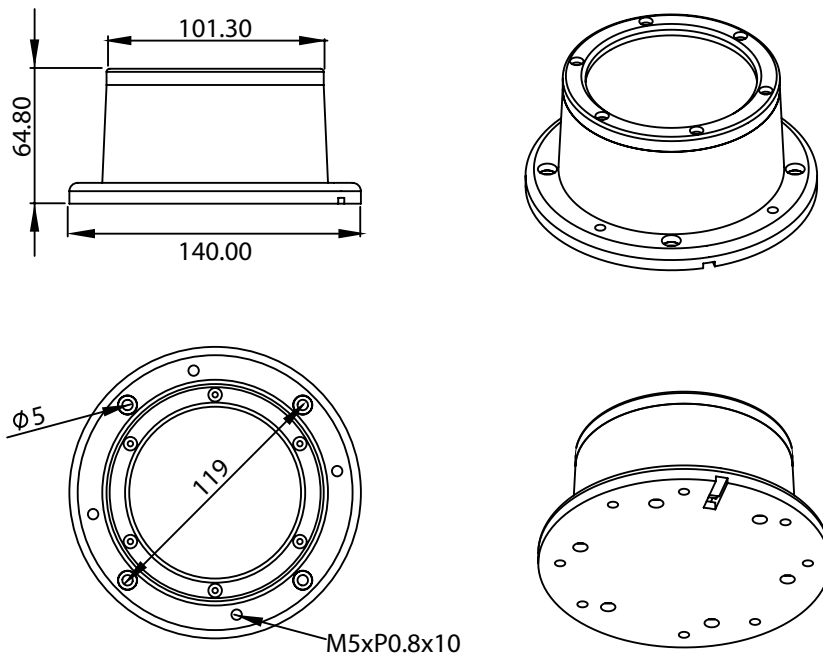
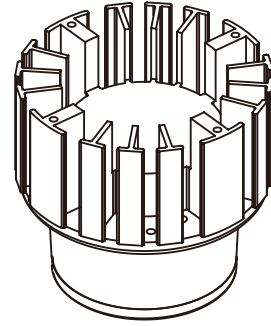
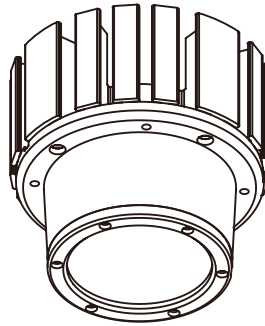
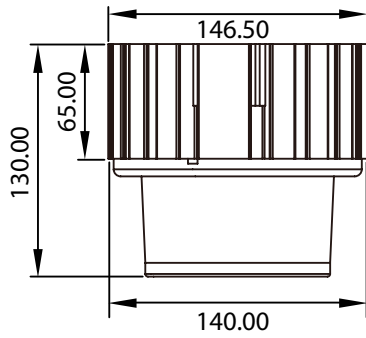


Figure 1 : EDIS Circular Module dimensions.

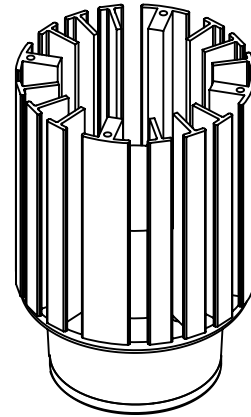
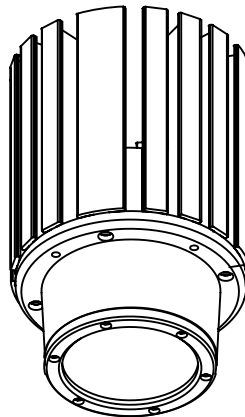
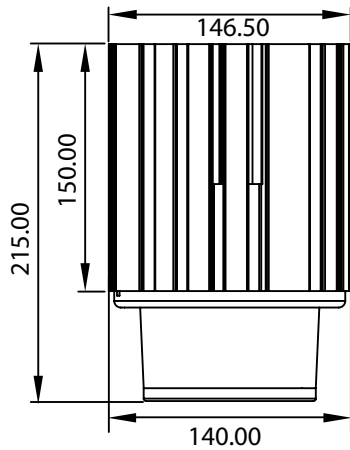
- Notes:
1. Unit : mm.
 2. Tolerance : ± 2.5 mm.

Dimensions

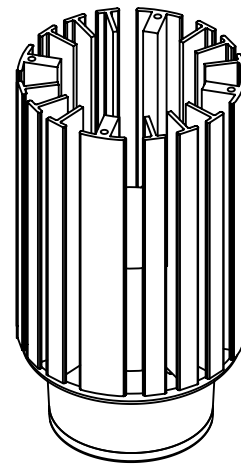
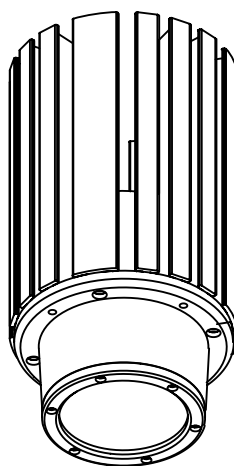
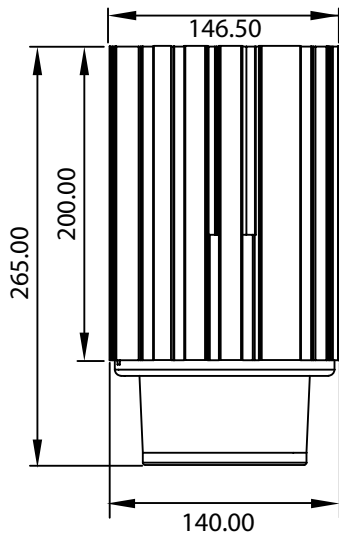
EDIS-M05x-W12 (50W)



EDIS-M10x-W12 (100W)



EDIS-M12x-W12 (120W)



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

Figure 2 : 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	°C
Storage Temperature	T _{stg}	-40 ~ 60	°C
Using Ingress Protection (IP)		IP65	
LED Life Time		25,000	hrs

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 / 120	W
Field Angle	40 / 60 / 90 / 120	Degree
Color Temperature	5300~6300 / 3800~4500 / 2800~3200	K
CRI	70 / 75 / 80	/
Weight	830±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-M05x-x10	50W	24V	2.4A
EDIS-M10x-x10	100W	33V	3.0A
EDIS-M12x-x10	120W	33V	3.6A

Table 4 : EDIS Circular Module electrical specifications.

Illuminance Specifications

Luminous flux of 50W EDIS Circular Module.

Power Consumption	Parameter	CCT	Field Angle	Flux (min.)	Flux (Typ.)
50W	EDIS-M051-W10	5300~6300K	40°	2100 lm	2300 lm
	EDIS-M051-H10	3800~4500K	40°	1750 lm	1950 lm
	EDIS-M051-X10	2800~3200K	40°	1650 lm	1850 lm
	EDIS-M052-W10	5300~6300K	60°	2350 lm	2600 lm
	EDIS-M052-H10	3800~4500K	60°	2000 lm	2200 lm
	EDIS-M052-X10	2800~3200K	60°	1900 lm	2100 lm
	EDIS-M050-W10	5300~6300K	90°	2400 lm	2700 lm
	EDIS-M050-H10	3800~4500K	90°	2100 lm	2300 lm
	EDIS-M050-X10	2800~3200K	90°	2000 lm	2200 lm
	EDIS-M053-W10	5300~6300K	120°	2350 lm	2600 lm
	EDIS-M053-H10	3800~4500K	120°	2000 lm	2200 lm
	EDIS-M053-X10	2800~3200K	120°	1900 lm	2100 lm

Table 5 : 50W EDIS Circular Module illuminance specifications.

Luminous flux of 100W EDIS Circular Module.

Power Consumption	Parameter	CCT	Field Angle	Flux (min.)	Flux (Typ.)
100W	EDIS-M101-W10	5300~6300K	40°	3850 lm	4250 lm
	EDIS-M101-H10	3800~4500K	40°	3150 lm	3500 lm
	EDIS-M101-X10	2800~3200K	40°	2750 lm	3050 lm
	EDIS-M102-W10	5300~6300K	60°	4300 lm	4800 lm
	EDIS-M102-H10	3800~4500K	60°	3600 lm	4000 lm
	EDIS-M102-X10	2800~3200K	60°	3100 lm	3450 lm
	EDIS-M100-W10	5300~6300K	90°	4500 lm	5000 lm
	EDIS-M100-H10	3800~4500K	90°	3700 lm	4100 lm
	EDIS-M100-X10	2800~3200K	90°	3300 lm	3600 lm
	EDIS-M103-W10	5300~6300K	120°	4300 lm	4800 lm
	EDIS-M103-H10	3800~4500K	120°	3600 lm	4000 lm
	EDIS-M103-X10	2800~3200K	120°	3100 lm	3450 lm

Table 6 : 100W EDIS Circular Module illuminance specifications.

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 250W Mercury Vapor Lamp in high bay. On the other hand, low altitude uses low power bulb.

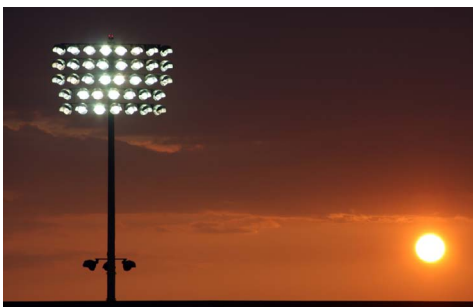
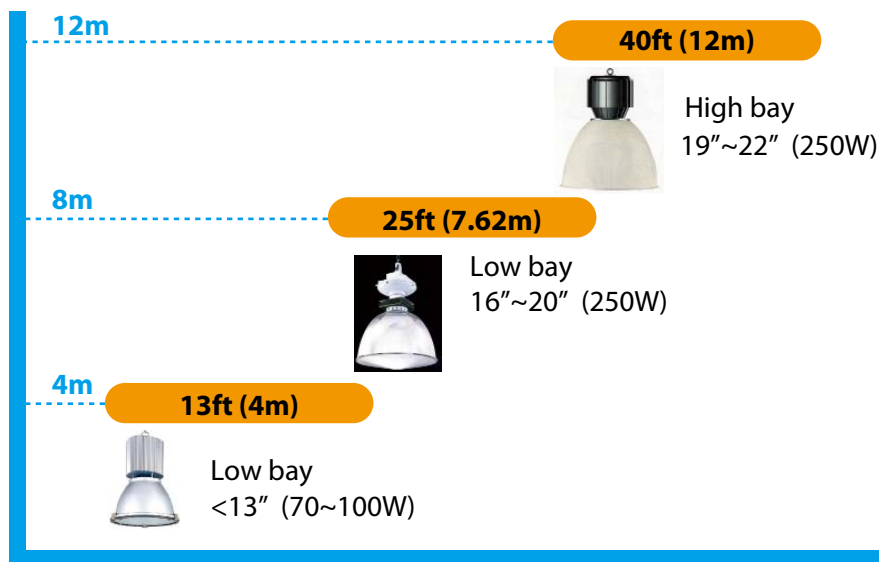


Figure 4 : EDIS Circular Module application.

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	90°

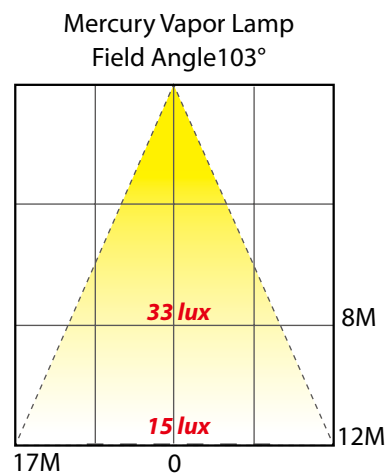
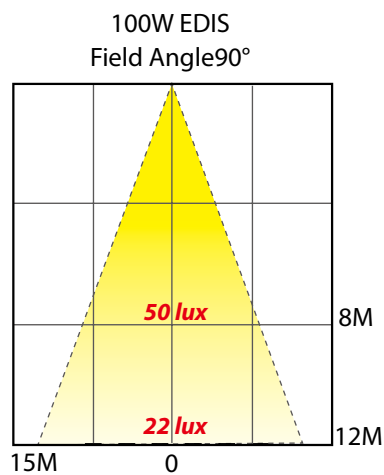


Figure 5 : EDIS Circular Module comparison.



A Solid-State Lighting Premium Expert

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

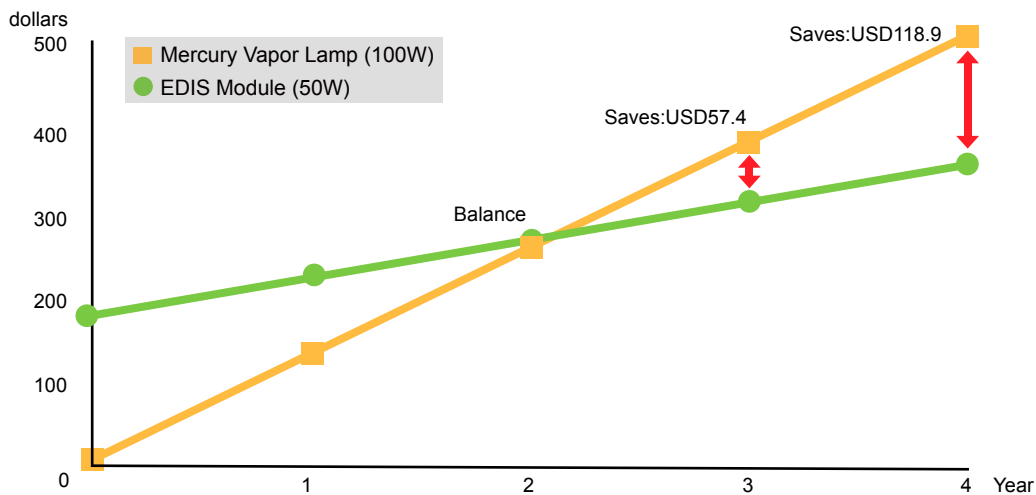
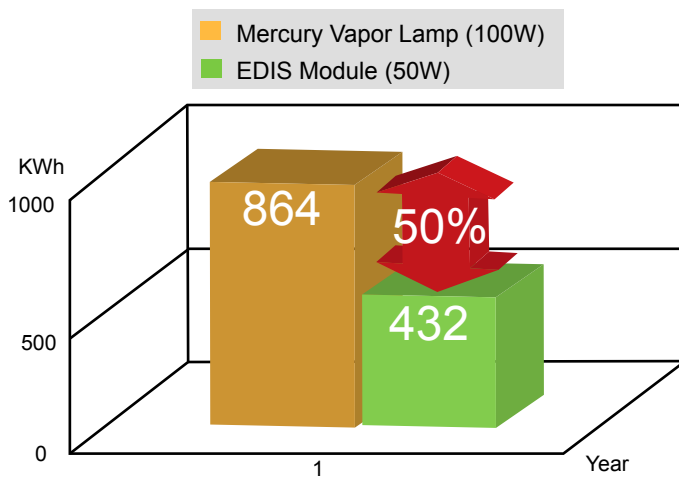
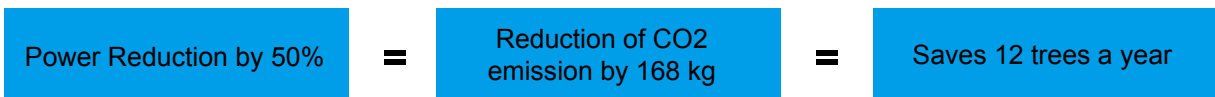


Figure 6 : 50W EDIS Module VS 100W Mercury Vapor Lamp.

Note : Calculation based on 24 hours of daily operation.



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Environmentally Friendly

100W EDIS Module vs. 250W Mercury Vapor Lamp

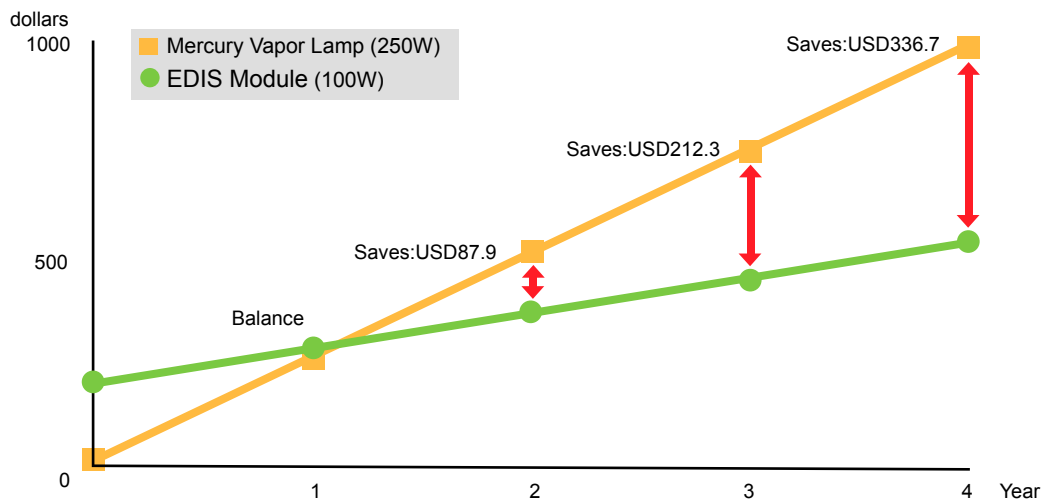
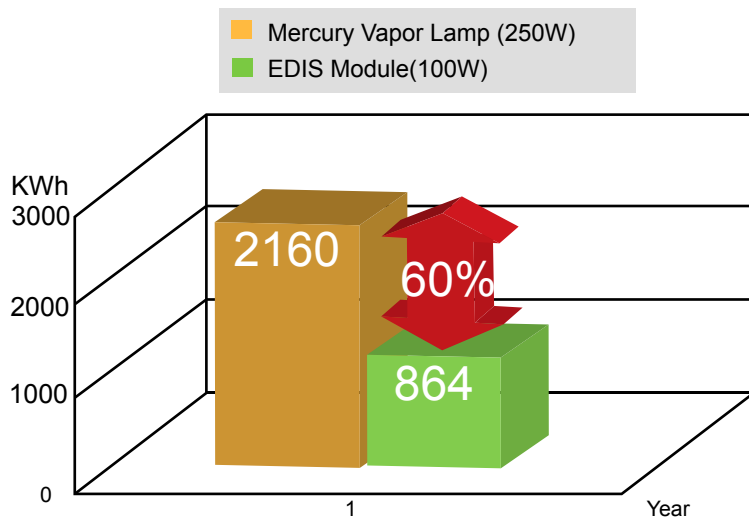
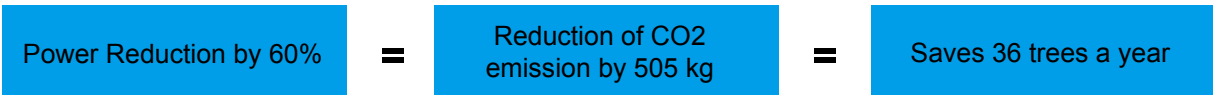


Figure 7 : 100W EDIS Module VS 250W Mercury Vapor Lamp.

Note : Calculation based on 24 hours of daily operation.

Environmentally Friendly

120W EDIS Module VS 400W Mercury Vapor Lamp

Power Reduction by 70% = Reduction of CO₂ emission by 1286 kg = Saves 92 trees a year

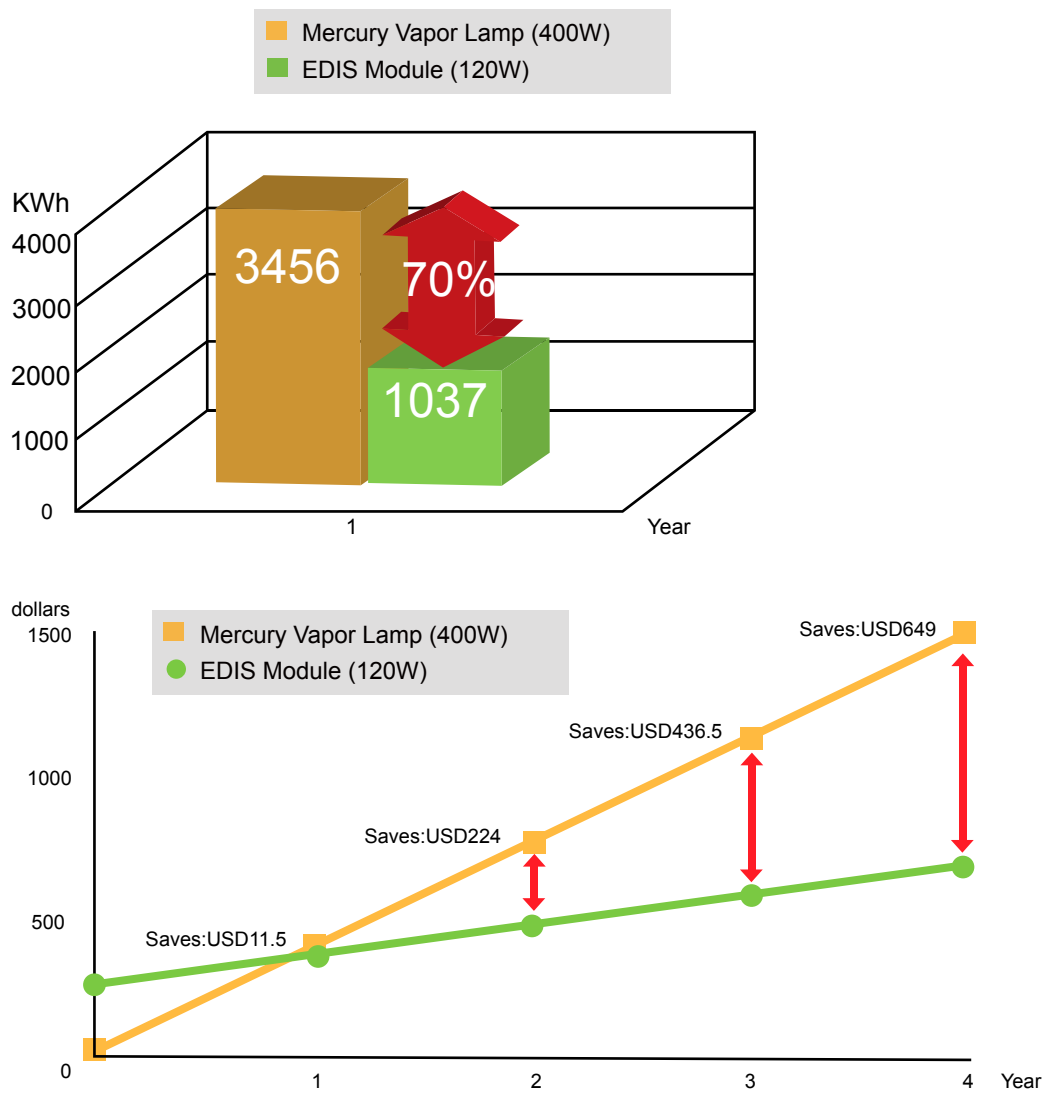


Figure 7 : 120W EDIS Module VS 400W Mercury Vapor Lamp.

Note : Calculation based on 24 hours of daily operation.

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.

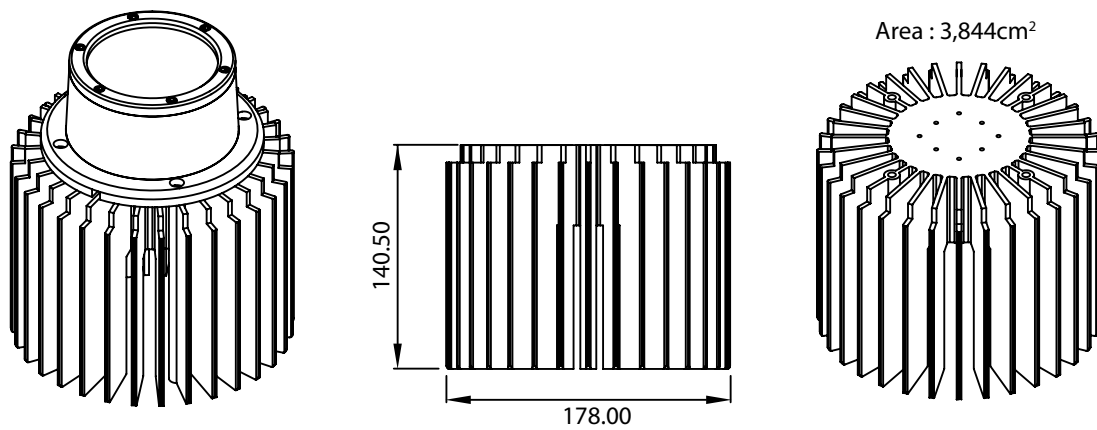


Figure 8 : EDIS Circular Module sample heat-sink design.

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 8 : EDIS Circular Module Equilibrium Temperature.

Package Information

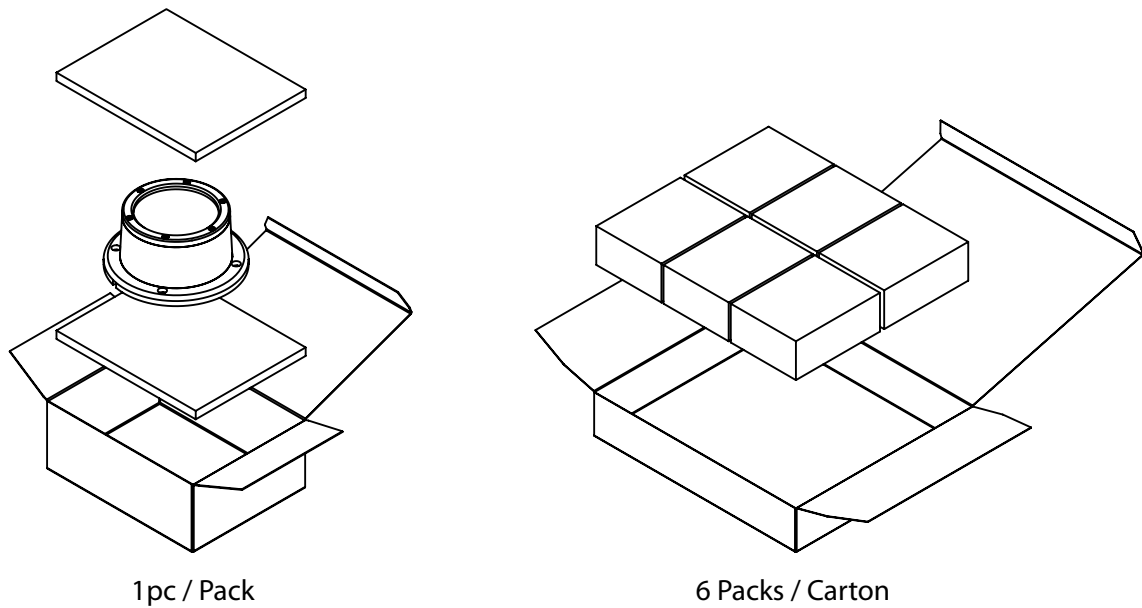


Figure 9 : EDIS Circular Module Package Information.

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)