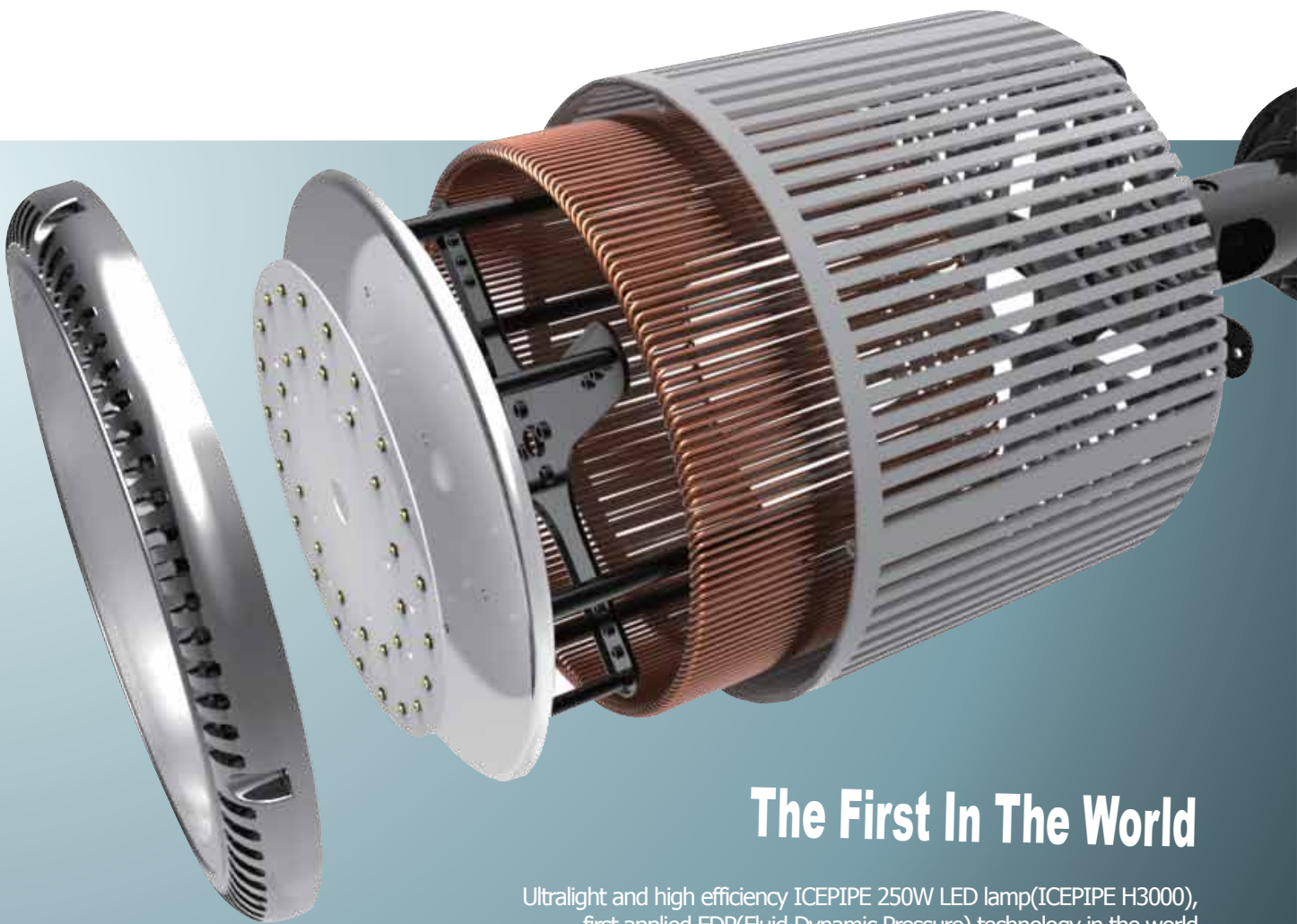


..... **ICEPIPE** LED Lamp

ICEPIPE LED Lamp is power-saving,
high-efficiency, high-power and featherweight



The First In The World

Ultralight and high efficiency ICEPIPE 250W LED lamp(ICEPIPE H3000),
first applied FDP(Fluid Dynamic Pressure) technology in the world

Check Points for Purchasing of an LED Lamp

- Check if an LED chip features high efficiency.**
When a high efficiency LED chip is used, the electricity charge can be saved up to 30%.

- Check the brightness, lifespan, and waterproof features in relation to the temperature of the LED chip.**
 - Depending on the temperature level of the LED chip, the lifespan and brightness of the LED lamp differs by as much as 30%
 - In case the temperature of the heatsink is high, the waterproof function may fail due to the deterioration of the waterproofing materials.

- Check the weight and the volume of an LED lamp.**
There may be risks in installation when an LED lamp is heavier than the preexisting metal lamp.
In addition, a bigger and heavier LED lamp requires more installation, A/S, Replacement costs.

- Check the intensity of floor illumination in relation to the height of LED lamp installation.**
The light exposure angle of a typical LED lamp is 120degrees. According to the height of the LED lamp installation, Lens with 30/40/50/60 light exposure angle degrees must be installed on LED chips respectively to realize preferred floor illumination.



1. Check if the LED chip features high efficiency.

➔ LED lamps having identical outputs (W) can have different brightness and taking the high efficiency lamp as the standard, would require about 40% more low efficiency lamps to achieve the same effect. Moreover, a low efficiency lamp will incur up to 30% more electricity charge compared to a high efficiency lamp.

▶ For a case of 125W LED Lamp

* LED Chip applied q'ty : 124 / Power Efficiency : 90% / Optical Efficiency : 88% / LED Junction Temperature(Tj) : 70C

LED Chip Type	Price Comparison	Optical Efficiency(lm/W)	Luminous flux(lm)
Cree XPG (R4)	100 %	91.9 lm/W	11,491 lm
Cree XPC (Q5)	40 %	65.8 lm/W	8,221 lm

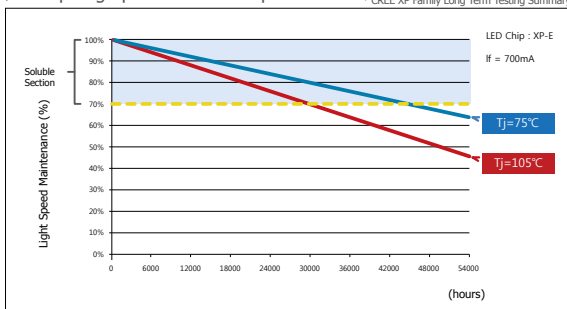
Even among Cree Chips we see a price difference of as much as 2.5 times between a high efficiency model and a low efficiency one. The low-grade chip also shows only 71% of the optical efficiency of an LED lamp manufactured with a quality chip. To achieve the same brightness, it implies the need to purchase 1.4 times more low grade chip LED lamps. Consequently, the purchasing price and electricity charge are respectively increased by 40%. It is important, therefore, to always check the type of chip used and how the optical efficiency and the total brightness are rated even when the LED lamps have identical output (W) when compared for purchasing.

2. Check the brightness, lifespan, and waterproof feature in accordance to the temperature of an LED chip.

- ➔ An LED chip is an electron device and when the heat resistance increases, its brightness declines and the lifespan rapidly shortens.
- ➔ When the temperature of a heatsink is high, the waterproof function may fail due to the deterioration of the waterproofing materials.

▶ Lifespan graph based on temperature

* CREE XP Family Long Term Testing Summary

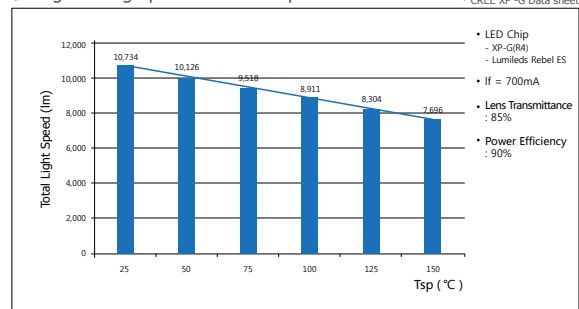


* When the junction temperature of an LED chip increases from 75C to 105C, the LED lifespan decreases by 33.3%.

※ ICEPIPE LED Lamp is a product designed and manufactured so that the temperature of the LED module is maintained at 55 degrees celcius or less to minimize the decline in lifespan and brightness due to heat.

▶ Brightness graph based on temperature

* CREE XP -G Data sheet



* When the junction temperature of an LED chip increases from 50C to 150C, the brightness decreases by 24%.

3. Giving consideration to the installation location, check the weight and volume of the LED lamp.

➔ Due to weight and volume factors in a typical LED lamp, additional structures may be required for ceiling installations. Also caution must be taken when installing in outdoor security/street lamps.

▶ ICEPIPE LED Lamp Weight per Capacity

LED Lamp Output	Product Weight(kg)			Remark
	ICEPIPE LED Lamp	Other LED Lamp	MH Lamp	
125 W	2.0 kg	8~10 kg	6.0 kg (250 W)	Power excluded
250 W	3.2 kg	15~18 kg	7.5 kg (500 W)	Power excluded
500 W	4.5 kg	20~30 kg	8.5 kg (1,000 W)	Power excluded

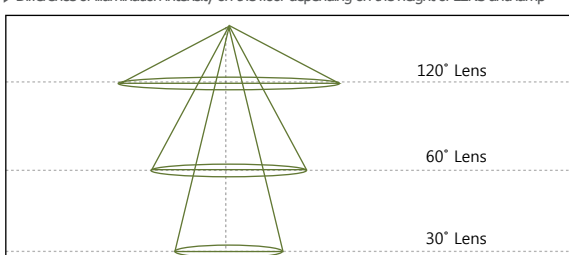
* For a street light with 10m height, the weight of a preexisting metal lamp is 6kg. When replaced with a typical LED lamp of above 6kg, the lighting column may be damaged.

* For indoor lighting, the weight of a metal lamp is again 6kg. When it is replaced with a typical LED lamp of above 6kg, there may be adverse effects on the ceiling/roof structure.

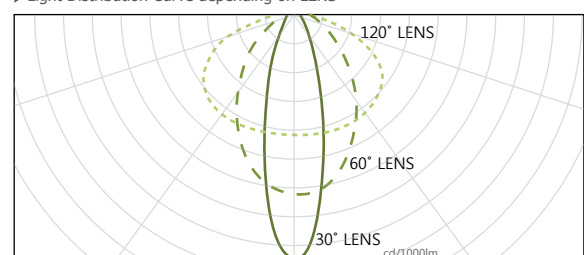
4. Check the intensity of the floor illumination in relation to the height of the LED lamp installation

➔ The light exposure angle of a typical LED lamp is 120degrees. According to the height of the LED lamp installation, lens with 30/40/50/60 light exposure angle degrees must be installed on LED chips respectively to realize the preferred floor illumination

▶ Difference of illumination intensity on the floor depending on the height of LENS and lamp

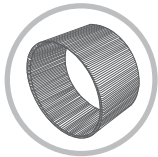


▶ Light Distribution Curve depending on LENS





Distinctive Marks & Strengths of ICEPIPE LED LAMP



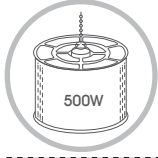
01 Realization of maximum radiation intensity and lifespan by lowering the temperature of the LED chip

The temperature of the LED lamp has been decreased, based on the optimum design for protection against heat, by the use of the ICEPIPE technology.



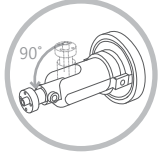
02 Realization of the worlds lightest LED lamp relative to volume

The world's lightest, relative to volume, LED lamp is realized through the patented ICEPIPE technology of Zaonzi. (Weight of the 125W LED lamp is 2.5kg)



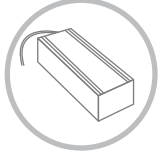
03 Realization of the world's highest output LED lamp

The largest capacity LED lamp, 500W and above, is realized.



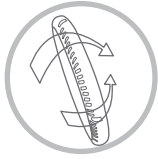
04 Hinge bracket rotatable 360° degrees

The hinge bracket is free to rotate 360° degrees.



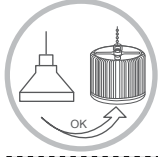
05 Internal, external, waterproof, explosion proof power options

Depending on the operating environment, the power can be installed internally or externally with waterproof or explosion proof features selectable as well.



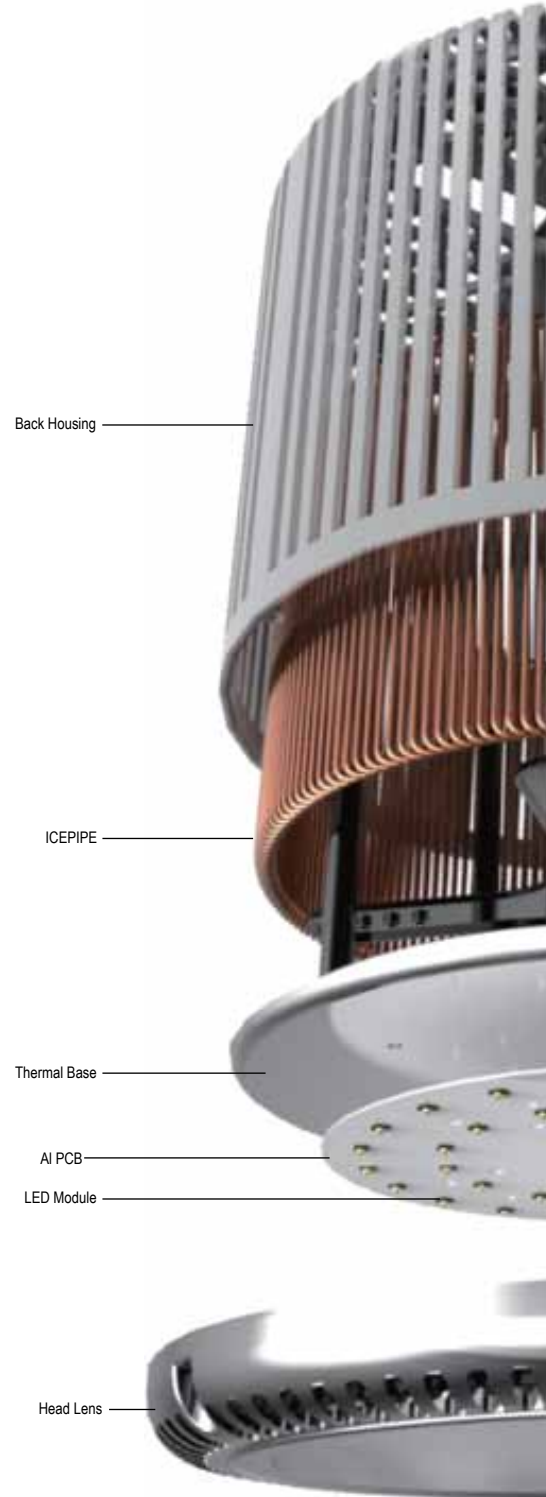
06 Aerodynamic, waterproof, heatproof, explosion proof lens design

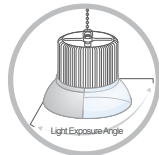
Breathings holes are formed on the border of the head lens and a passage is formed on the cover allowing crosswinds to pass through.



07 Available for 1 to 1 replacement with preexisting MH lamps

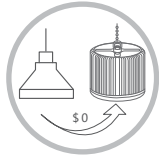
Preexisting 125W MH lamps can be directly replaced with the 125W ICEPIPE LED lamp to achieve the same brightness.





08 Reflector adjusting the shading direction and its size

The reflector is designed with 8 pieces and its transparency or non-transparency can be adjusted according to the direction of light preferred by the user.



09 No initial investment cost

The price for a replacement ICEPIPE LED lamp is identical to that of the preexisting metal lamp and no additional cost is required.



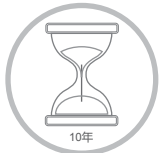
10 Saving of approximately \$410 when used for 10 years

It effectively saves maintenance cost with its long lifespan and reduced electricity consumption.



11 Free for 3 toxic substance (Mercury, Lead and Ultraviolet)

It's harmless to human skin and body because doesn't contain any mercury, lead and ultraviolet.



12 Luminous flux Maintenance Rate

It's luminous flux maintenance rate is higher than that of the preexisting lamp.
LED Lamp Replacement Cycle : 10 Years (When used for 15 hours daily)



13 Environment-friendly lamp

The use of LED lamps shows an Earth loving mind



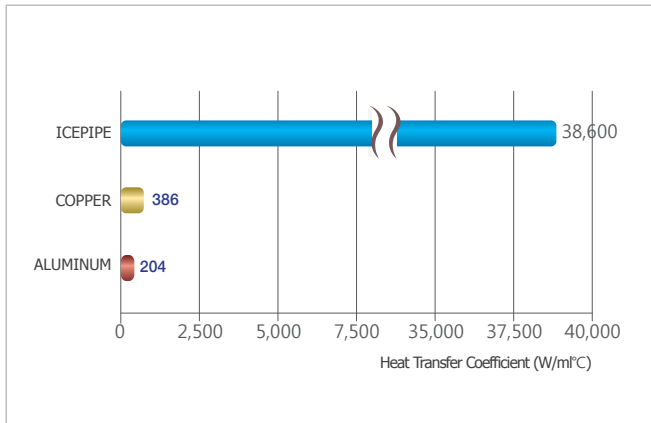
14 High Color rendering similar to the Sunlight

A natural color close to that of the sunlight is realized to reduce eyestrain and to enhance the living environment and human performance

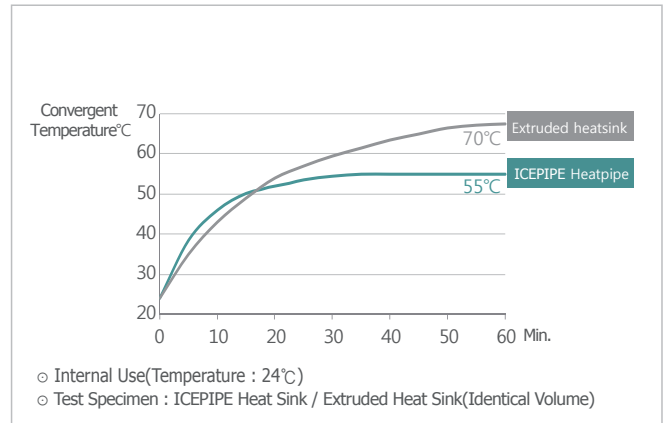
01 ICEPIPE LED Lamp Features Realization of maximum radiation intensity and lifespan by lowering the temperature of the LED chip

The ICEPIPE LED lamp makes use of patented technology which uses fluids to effectively and rapidly absorb heat from the LED and transfer it away.

► Heat Transfer Speed Comparison : ICEPIPE Heat Sink shows a speed 200 times the speed of ALUMINUM



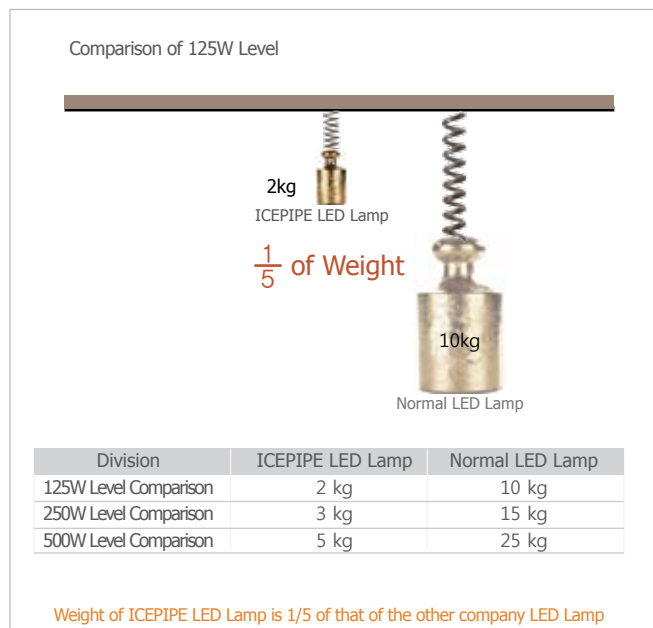
► Temperature Comparison : LED Temperature is lowered based on the optimal ICEPIPE design.



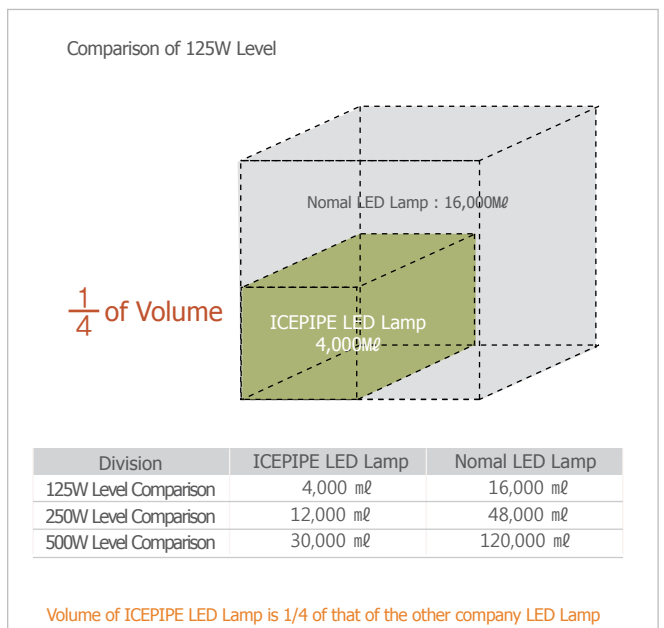
02 ICEPIPE LED Lamp Features Realization of the worlds lightest LED Lamp relative to volume

Based on the new technology of ICEPIPE, the weight has been lightened to 1/5 of the weight of other products and the volume has been decreased to 1/4 of the volume of other products.

■ Weight Comparison



■ Volume Comparison



03 ICEPIPE LED Lamp Features Realization of the world's highest output LED Lamp

By using ICEPIPE technology, an LED lamp with the least weight(15g/Watt) with 500W or more has been developed. Presently, the LED lamp can be used as a street lamp, manufactory lamp, spot light, harbor lamp that are 10m or greater in sizes. In addition, the price of a structure can be saved up to 30%, the electricity charge can be cut in half, and the replacement cost can be saved



Street Lamp



factory Lamp



Spot Light

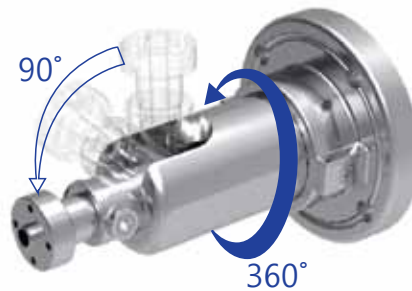


Harbor Lamp

04 ICEPIPE LED Lamp Features Hinge bracket rotatable 360° degrees

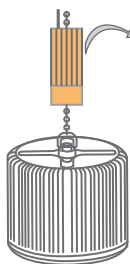
It is designed in a structure to never limit the flow of air and is very suitable for floodlighting. No performance decline is present regardless of installing directions. It can be equipped to suit the environment and its installation is very convenient.

It is vertically foldable in 90° degrees to up/down and horizontally rotatable in 360° degrees to the left/right.



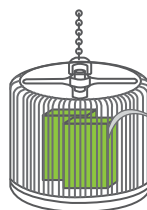
05 ICEPIPE LED Lamp Features Internal, external, waterproof, explosion proof power options

Depending on the operating environment, the power can be installed internally or externally with waterproof or explosion proof features selectable as well.



External Power

It is the power installed on the external section of the LED lamp and waterproof/explosion-proof features are applied.

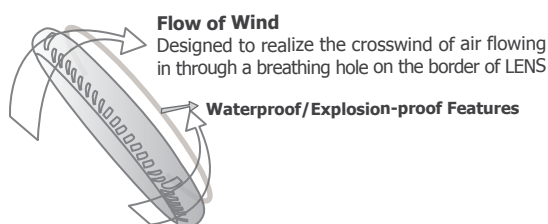


Internal Power

It is the power installed within the LED lamp and waterproof/explosion-proof features are applied



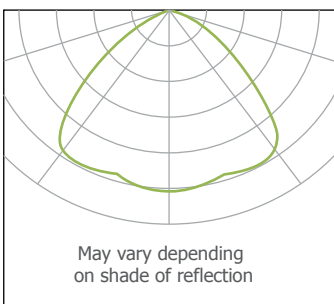
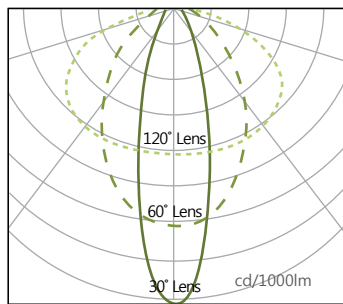
06 ICEPIPE LED Lamp Features Aerodynamic, waterproof, heatproof, explosion proof lens design

Breathings holes are formed on the border of the head lens and a passage is formed on the cover allowing crosswinds to pass through.



07 ICEPIPE LED Lamp Features Available 1:1 Replacement with Preexisting MH Lamp

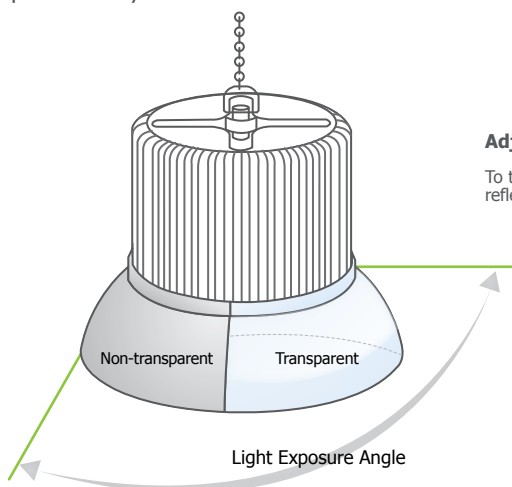
A MH lamp with 250W can be replaced with an LED lamp with 125W in a ratio of 1:1.

Division	MH Lamp 250W	ICEPIPE LED Lamp 125W
Shape		
Size	Φ400mm x 450mm	Φ230mm x 293mm
Weight	4 kg	2.5 kg
Light Distribution Curve	 May vary depending on shade of reflection	 120° Lens 60° Lens 30° Lens cd/1000lm

- * Caution : When the capacity or the brightness of ICEPIPE LED Lamp for a replacement is greater or smaller than that of a MH lamp, Installation interval of an LED lamp must be adjusted and thus a precautious attention is needed.
- * Option Lens can be used to adjust the light distribution rate.

08 ICEPIPE LED Lamp Features Reflector adjusting the shading direction and its size(In Preparation)

The reflector is designed with 8 pieces and it is transparently or non-transparently installable according to the direction of light preferred by the user.



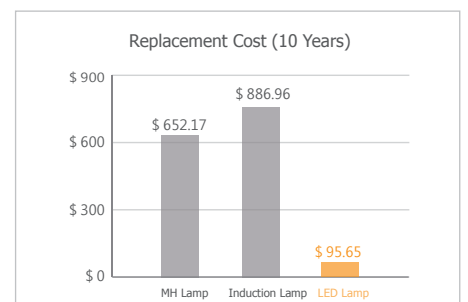
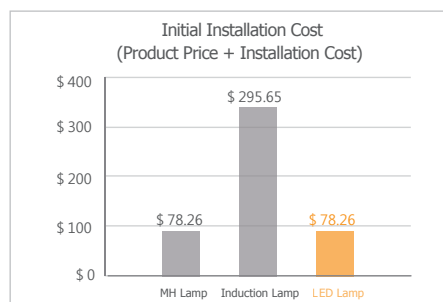
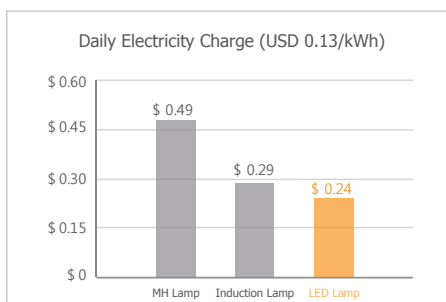
Adjusting direction of lighting.

To transfer light in a direction and a size preferred, certain parts of the 8 non-transparent reflector sections can be replaced with transparent reflectors to adjust the direction of light.

09 ICEPIPE LED Lamp Features

LED Lamp is more economical compared to the preexisting Lamp.

Division		MH Lamp	Induction Lamp	LED Lamp	Remark
Power Consumption		250 W	150 W	125 W	Based on an operation for 15 daily hours and 25 monthly days
Daily Electricity Charge		\$ 0.49	\$ 0.29	\$ 0.24	\$0.13/kWh is applied, when A/C is used
Initial Installation Cost		\$ 78.26	\$ 295.65	\$ 78.26	Consumer applies and installation wage(\$43.48) is included
Replacement Cost	Lamp	\$ 13.04	\$ 234.78	\$ 0.00	Lifespan: MH Lamp(1yr)/Induction Lamp(3yr)/LED Lamp(10yr)
	Stabilizer	\$ 17.34	\$ 17.39	\$ 52.17	Lifespan: MH Lamp(2yr)/Induction Lamp(3yr)/LED Lamp(5yr)
	Wage	\$ 43.48	\$ 43.48	\$ 43.48	
	Total	\$ 73.91	\$ 295.65	\$ 95.65	

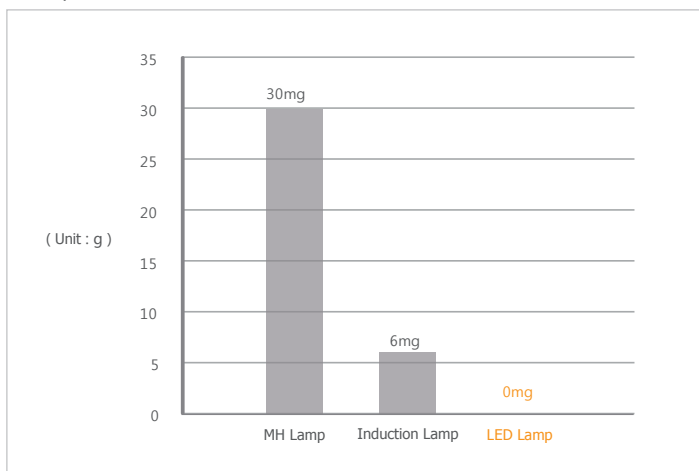


10 ICEPIPE LED Lamp Features

LED Lamp is harmless to human body cause of free mercury, lead and ultraviolet.

Harmless to body with no mercury and lead, also no skin damage cause of no ultraviolet.
 The current existing lamp; Sodium lamp(30mg), MH lamp(30mg), Induction lamp(6mg) has contained mercury.

Mercury Content



※ Damage Case

1. Metal mercury compound leak in Shinilbon Nitrogen Factory (End of March 1982)
 : 437 Casualties(Poisoned Symptoms: Hand Sensation Failure/Speech Disorder /Difficulty in Walking)
2. Domestic Thermometer-producing Factory Case(July 1988)
 : Mun, Song Myon(15-year old)'s Death: Died of mercury poisoning based on 2 months of employment in a thermometer-producing factory.

※ Minimization of various kinds of waste discharge based on no hazardous articles and long-lifespan.

Production of domestic waste-fluorescence(each piece contains 25mg of mercury) : 150,000,000 pieces per year Collection and Throughput : Less than 2%
 → More than 100,000,000 pieces are incinerated and reclaimed.
 Annually over 2.5 tons of mercury contaminates atmosphere or land.
 (Excerpted from Green Consumer Network in Korea -2007-)

11 ICEPIPE LED Lamp Features

No initial investment cost is required

1. No additional cost is required.

The price for a replacement with an ICEPIPE LED lamp is identical to that of the preexisting metal lamp and no additional cost is required (Based on a condition of paying the electricity charge in installment)

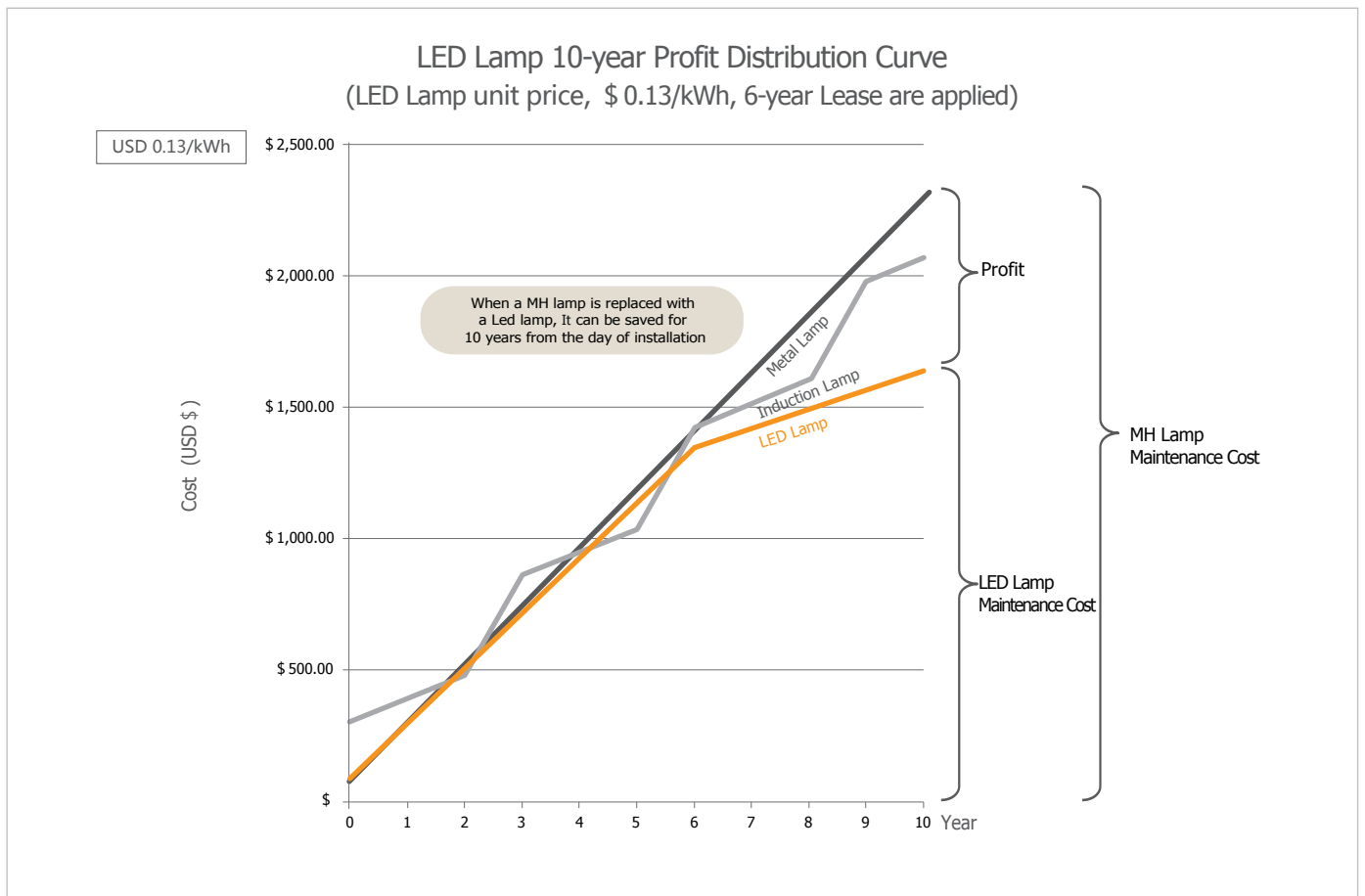
2. No A/S cost or replacement cost is required.

No A/S cost is raised and thus is economic in a long-term (LED Lamp & Power Replacement is Free of Charge)

3. No worries even when the electricity charge is raised.

The electricity charge can be saved approximately up to 50% compared to the use of a metal lamp.

Accumulated cost of LED Lamp and other light sources (Initial Installation Cost + Electricity Charge + Replacement Cost)

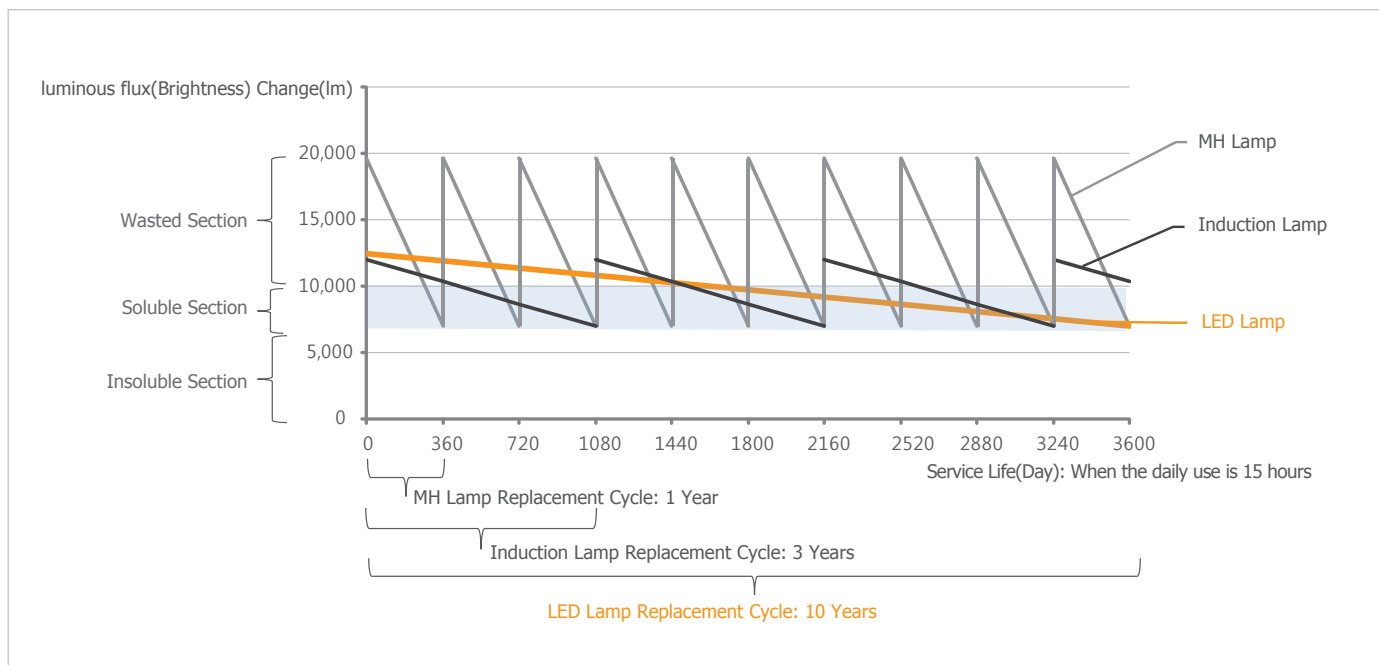


- This graph is calculated by having a consumer make a payment of "Tax Credit" to the supplier.
- "Tax Deduction" in accordance to the "Article 25-2" of The Act for Special Tax Restriction is the price deducting 20% of the installation cost from the corporate/income tax in the year concerned when a consumer replaces a preexisting lighting instrument with the supplier's high-efficiency certified lighting instrument.
- "Profit Distribution Agreement" is an agreement allowing an auto monthly withdrawal of the cost saved (Electricity Charge Saving + Replacement Cost Saving) based on the replacement of a preexisting lighting instrument with an LED lighting instrument to an account designated by the supplier.




12 ICEPIPE LED Lamp Features Higher luminous flux maintenance rate than the preexisting Lamp

Brightness(luminous flux : lm) Change per light source

※ When the brightness(luminous flux) is decreased to 7,000lm, the time setting is 5,400hours for a MH lamp, 16,200hours for an induction lamp, and 54,000hours for an LED lamp.



13 ICEPIPE LED Lamp Features Comparison of Illuminating Particularities per Light Source

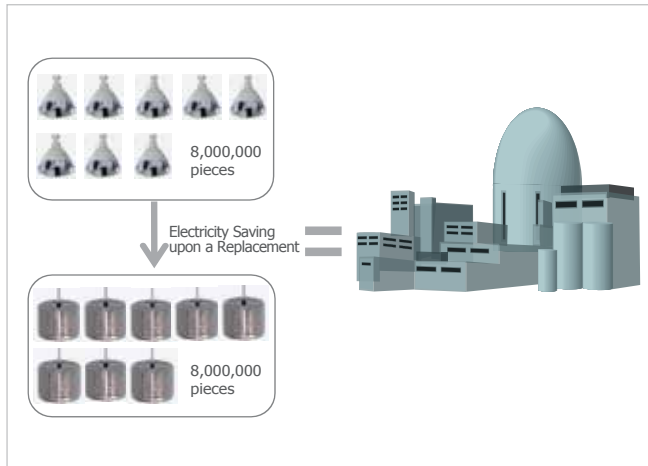
Division	 MH Lamp	 Induction Lamp	 LED Lamp	Remark
Power Consumption	250 W	150 W	125 W	K Lighting Company Usage Data
Initial luminous flux	19,700 lm	12,000 lm	12,500 lm	
Interim luminous flux	7,000 lm	7,000 lm	7,000 lm	
Initial Efficiency	79 lm/W	90 lm/W	100 lm/W	
Interim Efficiency after 6,000hours	47 lm/W	63 lm/W	95 lm/W	
Color Rendering Index	65 Ra	80 Ra	75 Ra	
Mercury Content	30 mg	6 mg	0 mg	
Initial Relighting Time	8~10 minutes	Immediately	Immediately	
Strength/Weakness	① High mercury content (30mg) ② Long initial lighting time ③ Short lifespan (low light intensity maintenance) ④ Rapid decrease of actual light intensity ⑤ short actual replacement cycle (5,400hours)	① Mercury content (6mn) ② Risk of high voltage use ③ Vulnerable to external environment ④ Rapid decrease of actual light intensity ⑤ Short actual replacement cycle (10,800hours)	① Low power consumption ② Long lifespan (high light intensity maintenance) ③ Environment-friendly ④ No radiation of ultraviolet/infrared light ⑤ Brightness control	

※ The LED Lamp luminous & Efficiency are based on LED Chip Spec. Standards

14 ICEPIPE LED Lamp Features Led Lighting is environment-friendly lighting.

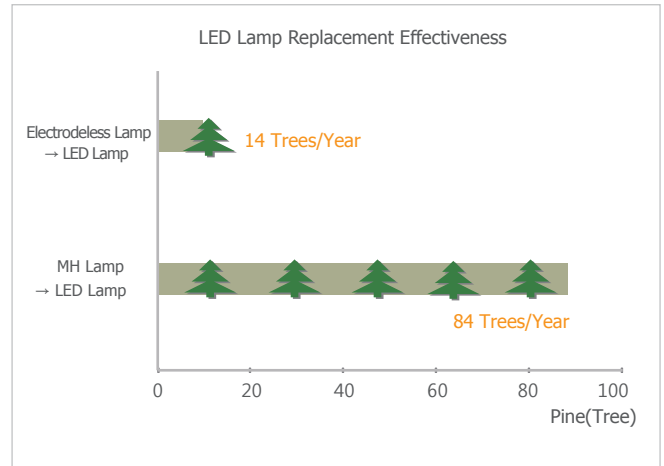
The use of an LED lamp is the love of earth.

When 8,000,000 pieces of 250W MH lamps are replaced with 125W LED lamps, 1 nuclear power plant can be reduced.



※ When Nuclear Power Plant Facility Capacity is 1,000,000KW
 ※ Data Source : Korea Hydro & Nuclear Power Co.,Ltd.,

When a 250W MH lamp is replaced with a 125W LED lamp, its effectiveness is identical to planting 84 grown trees annually.



※ Co2 Absorption of a Grown Pine Tree: 5kg/year
 ※ Data Source: Korea Energy Management Corporation, Co2 Discharge Information: 1WH=0.425g
 When MH Lamp(250W)/Electrodeless Lamp(150W)/LED Lamp(125W) are used 15hours/day for 365 days

15 ICEPIPE LED Lamp Features Natural color similar to that of the sunlight is displayed.

A natural color based on high color rendition(Ra75 ~ 90) is displayed.

A natural color similar to that of the sunlight is displayed to ease eye tiredness and enhance the living environment and tasking efficiency.

Color Rendering(Ra)	Color rendering of different phosphors		
75 ~ 90 (LED Lamp)			
60 ~ 80 (Metal Halide)			
25 (Sodium Lamp)			

※ Strengths of Color Rendering

1. The visibility is high in low illumination.
2. When used during the night, it is more effective in preventing disturbance to human sleep and an excessive growth of plants(Crop Damage) compared to preexisting red light source.
3. It provides convenient, quality, and well-being lighting to ease eye tiredness.

※ Commercial Effectiveness

It is suitable to places requiring the exact color tone and thus is very effective in increasing the sales of a show room in a shopping mall, clothing store, cosmetics store, studio, art gallery, and museum.

ICEPIPE H2000 Series Specification



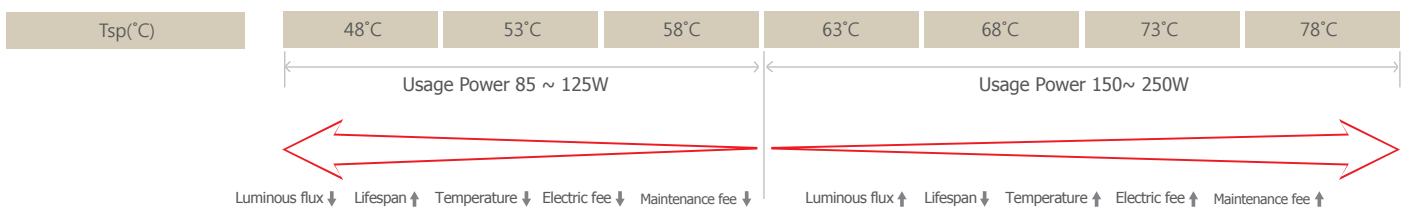
ICEPIPE H2000 (85W, 100W, 125W, 150W)

	W Rating							
	85W	100W	125W	150W				
Luminous efficiency without lens (lm/W)	92.0	78.2			Luminous efficiency after installing lens (lm/W)			
Luminous flux without lens (lm)	7820	6647			Luminous flux after installing lens (lm)			
	Power efficiency : 90%							
ICEPIPE H2000 85W LED : Cree XPG R4 Lumileds Rebel ES	85W	100W	125W	150W				
	92.0	78.2	86.8	73.8	79.6	67.7	74.0	62.9
	7820	6647	8680	7378	9950	8458	11100	9435

	85W		100W		125W		150W		180W	
	ICEPIPE H2000 100W LED : Cree XPG R4 Lumileds Rebel ES	96.4	81.9	91.8	78.0	85.4	72.6	79.4	67.5	73.9
	8194	6965	9180	7803	10675	9074	11910	10124	13302	11307

	85W		100W		125W		150W		180W		200W	
	ICEPIPE H2000 125W LED : Cree XPG R4 Lumileds Rebel ES	99.8	84.8	95.3	81.0	89.6	76.2	84.0	71.4	78.6	66.8	73.8
	8483	7211	9530	8101	11200	9520	12600	10710	14148	12026	14760	12546

	85W		100W		125W		150W		180W		200W		250W	
	ICEPIPE H2000 150W LED : Cree XPG R4 Lumileds Rebel ES	102.7	87.3	98.7	83.9	93	79.1	88.2	75.0	82.3	70.0	78.4	66.6	71.7
	8730	7420	9870	8390	11625	9881	13230	11246	14814	12592	15680	13328	17925	15236



1. The colored sections are indicated high efficiency products from each W rating in the table "ICEPIPE H2000 Series Product Analysis" as above. Products are analyzed the most economic if high efficiency lamp condition is satisfied with each W rating, considering luminous flux,, temperature, lifespan, electricity, and maintenance cost.

- ※ If overloads to fixtures than standard (right side of green line), get more brightness (Luminous flux) but be getting low efficiency and short lifetime cause of high junction temperature. It might be wastefully than standard (green line; High efficiency)
- ※ If limited loads to fixture than standard (left side of green line), get high efficiency and long lifetime, but be getting darkness and need to purchase extra fixtures to cover up darkness. It might be wastefully than standard (green line; High efficiency)

2. Luminous flux can be increased or decreased by controlling current after buying colored high efficiency products if necessary. However, it may reduce lamp lifespan. Reference to sales representative for more technical support.

ICEPIPE H2000 85W H C R L S B

Features

1. Effect of saving Electric and CO₂

Brightness Comparison	MH Lamp 170 W	=	ICEPIPE H2000 Lamp 85 W
Annual Electricity Charge(\$)	\$ 121.402	50% Reduction	\$ 60.701
Annual CO ₂ Discharge Rate(kg)	396 kg	50% Reduction	198 kg

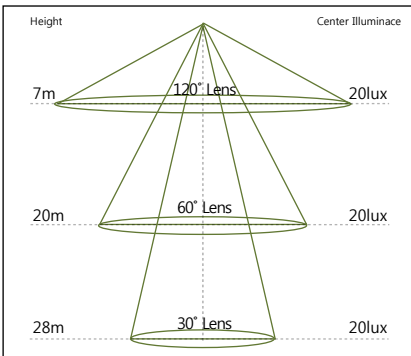
(CO₂ Discharge = 1Wh = 0.425g) (Electricity Charge : \$ 0.13/kWh *15hrs of daily use)

- Semi-permanent Lifespan of 50,000hours
- No conflagration risk due to temperature maintenance of heating section at 48~63°C based on the optimum heatproof design
- Available replacement of metal halide lamp 170W with ICEPIPE LED Lamp H2000 85W at a ratio of 1:1

Specification

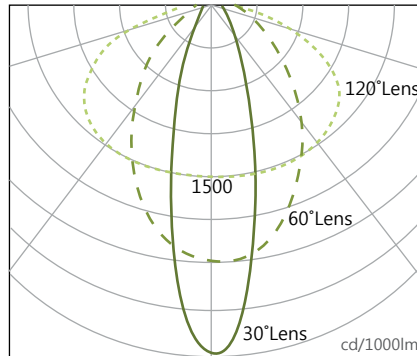
Article	H2000 85W
Power consumption(W)	85 W
Voltage(VAC)	90 ~ 277 VAC
Power factor(PF)	0.9 PF
LED Chip	Cree XPG R4, Lumileds Rebel ES
Luminous flux(lm)	6,800 lm
LED efficiency(lm/W)	77.3 lm/W
Color temperature(K)	3,200 ~ 6,500 K
Color rendering(Ra)	75 Ra
Radiation angle(°)	120°
Lifespan(hrs)	50,000 hrs
Dimension(mm)	Φ230mm x 192mm
Weight(kg)	2.0 kg

Intensity of Illumination



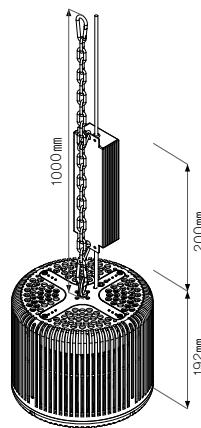
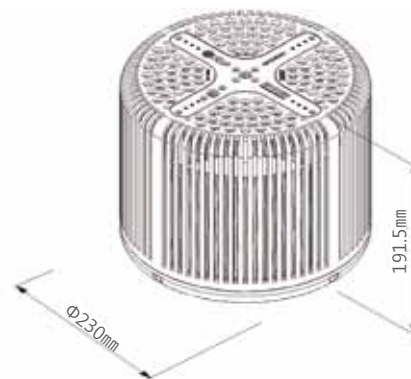
*This table is data on the sample data(It may be changed upon release)

Light distribution chart



*This table is data on the sample data(It may be changed upon release)

Drawing



Application



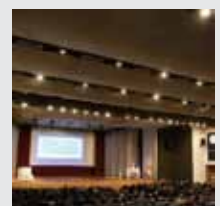
Shopping Center



Warehouse



Factory



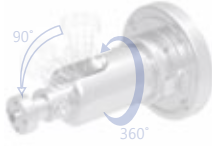
Convention Centre



Shopping mall

ICEPIPE H2000 85W Option

H Hinge Bracket



This is an unapplied model.

C Chain



* Contact to Representative for longer than 100cm

Material	STEEL
Size	100 cm
Weight	800 g
Chain thickness	Φ4
Coupler	Ring Type

R Reflector



This is an unapplied model.

L Lens



Model	L3	L4	L5
Beam angle	30°	40°	50°
Height	7.5 mm	7.5 mm	7.5 mm
Material	PC optical grade	PC optical grade	PC optical grade

S SMPS



Model	SI(Built-in)	SE(Built-out)
Input Voltage	AC90-277 V	AC90-277 V
Power consumption	85 W	85 W
Output Voltage	36 V	36 V
Output Current	2.36 A	2.36 A
Max. Power	150 W	150 W

B Back Housing



Model	BG
Material	PP
Weight	150 g
Color	■(Grey)

ORDERING INFORMATION

SAMPLE NUMBER: ICEPIPE H2000-H-L1-R-S1-BG

ICEPIPE H2000

<input type="text" value="85"/> W	<input type="text" value="H"/> -	<input type="text" value="L3"/> -	<input type="text" value="R"/> -	<input type="text" value="SI"/> -	<input type="text" value="BG"/>
Power	Bracket	Lens	Reflector	SMPS	Back Housing
<input type="text" value="85"/> =85W	<input type="text" value="H"/> =Hinge Bracket <input type="text" value="C"/> =Chain	<input type="text" value="L3"/> =Lens 30° <input type="text" value="L4"/> =Lens 40° <input type="text" value="L5"/> =Lens 50°	<input type="text" value="R"/> =Reflector	<input type="text" value="SI"/> =Built-in <input type="text" value="SE"/> =Built-out	<input type="text" value="BG"/> =Grey

ICEPIPE H2000 100W H C R L S B

Features

1. Effect of saving Electric and CO₂

Brightness Comparison	MH Lamp 200 W	=	ICEPIPE H2000 Lamp 100 W
Annual Electricity Charge(\$)	\$ 142.82	50% Reduction	\$ 71.413
Annual CO ₂ Discharge Rate(kg)	466 kg	50% Reduction	233 kg

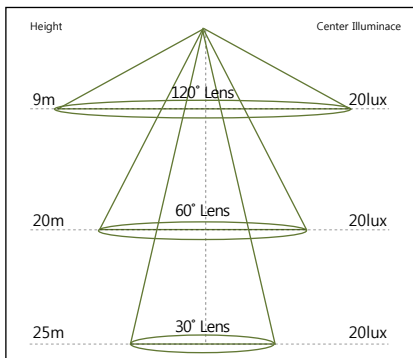
(CO₂ Discharge = 1Wh = 0.425g) (Electricity Charge : \$ 0.13/kWh *15hrs of daily use)

- Semi-permanent Lifespan of 50,000hours
- No conflagration risk due to temperature maintenance of heating section at 53~68°C based on the optimum heatproof design
- Available replacement of metal halide lamp 200W with ICEPIPE LED Lamp H2000 100W at a ratio of 1:1

Specification

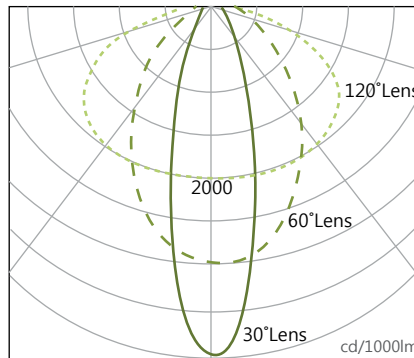
Article	H2000 100W
Power consumption(W)	100 W
Voltage(VAC)	90 ~ 277 VAC
Power factor(PF)	0.9 PF
LED Chip	Cree XPG R4, Lumileds Rebel ES
Luminous flux(lm)	8,000 lm
LED efficiency(lm/W)	78.3 lm/W
Color temperature(K)	3,200 ~ 6,500 K
Color rendering(Ra)	75 Ra
Radiation angle(°)	120°
Lifespan(hrs)	50,000 hrs
Dimension(mm)	Φ230mm × 192mm
Weight(kg)	2.0 kg

Intensity of Illumination



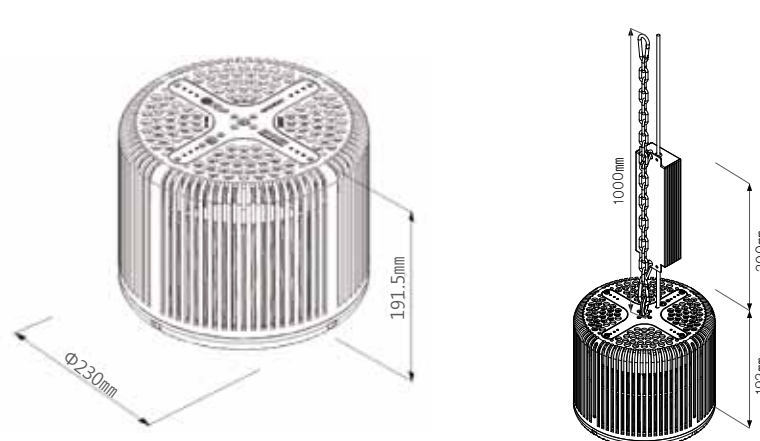
*This table is data on the sample data(It may be changed upon release)

Light distribution chart

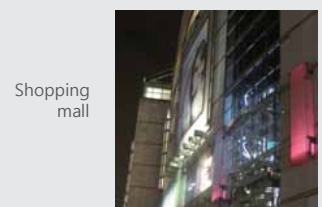
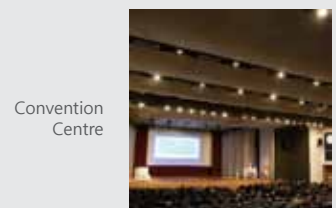
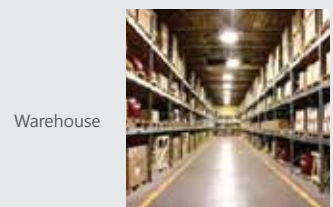


*This table is data on the sample data(It may be changed upon release)

Drawing

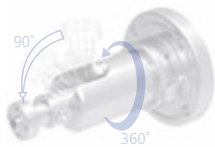


Application



ICEPIPE H2000 100W Option

(H) Hinge Bracket



This is an unapplied model.

(C) Chain



* Contact to Representative for longer than 100cm

Material	STEEL
Size	100 cm
Weight	800 g
Chain thickness	φ4
Coupler	Ring Type

(R) Reflector



This is an unapplied model.

(L) Lens



Model	L3	L4	L5
Beam angle	30°	40°	50°
Height	7.5 mm	7.5 mm	7.5 mm
Material	PC optical grade	PC optical grade	PC optical grade

(S) SMPS



Model	SI(Built-in)	SE(Built-out)
Input Voltage	AC90-277 V	AC90-277 V
Power consumption	100 W	100 W
Output Voltage	36 V	36 V
Output Current	2.78 A	2.78 A
Max. Power	150 W	150 W

(B) Back Housing



Model	BG
Material	PP
weight	150 g
Color	■(Grey)

ORDERING INFORMATION

SAMPLE NUMBER: ICEPIPE-H2000-H-L1-R-S1-BG

ICEPIPE H2000 W - - - -

Power <u>100</u> =100W	Bracket <u>H</u> =Hinge Bracket <u>C</u> =Chain	Lens <u>L3</u> =Lens 30° <u>L4</u> =Lens 40° <u>L5</u> =Lens 50°	Reflector <u>R</u> =Reflector	SMPS <u>SI</u> =Built-in <u>SE</u> =Built-out	Back Housing <u>BG</u> =Grey
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ICEPIPE H2000 125W HCRLSB

Features

1. Effect of saving Electric and CO₂

Brightness Comparison	MH Lamp 250 W	=	ICEPIPE H2000 Lamp 125 W
Annual Electricity Charge(\$)	\$ 178.53	50% Reduction	\$ 89.266
Annual CO ₂ Discharge Rate(kg)	582 kg	50% Reduction	291 kg

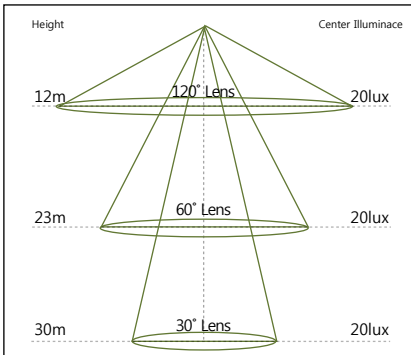
(CO₂ Discharge = 1Wh = 0.425g) (Electricity Charge : \$ 0.13/kWh *15hrs of daily use)

- Semi-permanent Lifespan of 50,000hours
- No conflagration risk due to temperature maintenance of heating section at 58~73 °C based on the optimum heatproof design
- Available replacement of metal halide lamp 250W with ICEPIPE LED Lamp H2000 125W at a ratio of 1:1

Specification

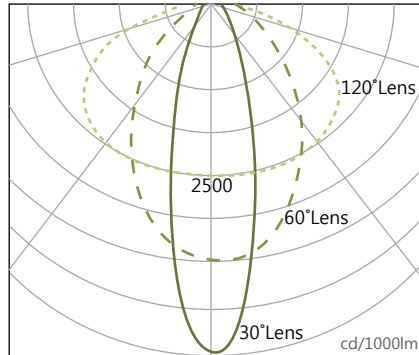
Article	H2000 125W
Power consumption(W)	125 W
Voltage(VAC)	90 ~ 277 VAC
Power factor(PF)	0.9 PF
LED Chip	Cree XPG R4, Lumileds Rebel ES
Luminous flux(lm)	10,000 lm
LED efficiency(lm/W)	76 lm/W
Color temperature(K)	3,200 ~ 6,500 K
Color rendering(Ra)	75 Ra
Radiation angle(°)	120°
Lifespan(hrs)	50,000 hrs
Dimension(mm)	Φ230mm × 192mm
Weight(kg)	2.0 kg

Intensity of Illumination



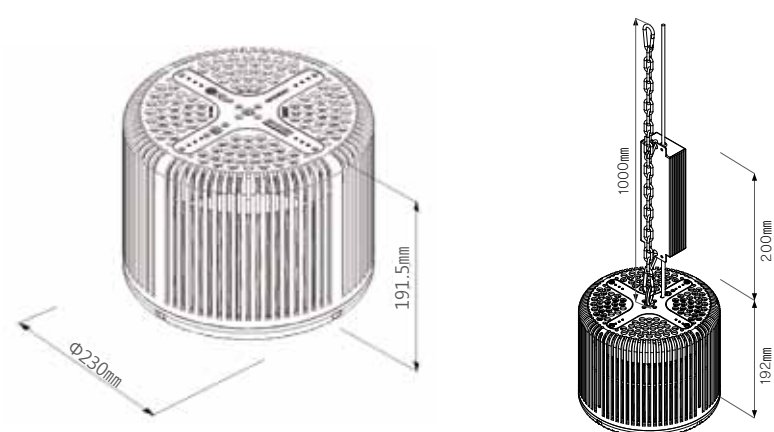
*This table is data on the sample data(It may be changed upon release)

Light distribution chart



*This table is data on the sample data(It may be changed upon release)

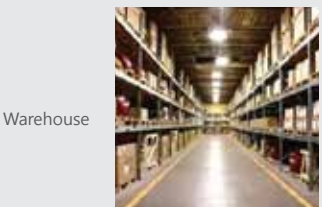
Drawing



Application



Shopping Center



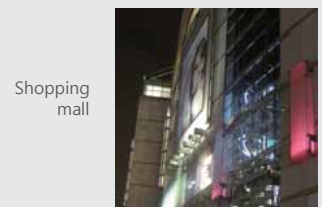
Warehouse



Factory



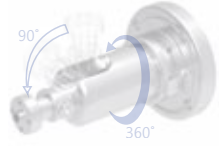
Convention Centre



Shopping mall

ICEPIPE H2000 125W Option

H Hinge Bracket



This is an unapplied model.

C Chain



* Contact to Representative for longer than 100cm

Material	STEEL
Size	100 cm
Weight	800 g
Chain thickness	Φ4
Coupler	Ring Type

R Reflector



This is an unapplied model.

L Lens



Model	L3	L4	L5
Beam angle	30°	40°	50°
Height	7.5 mm	7.5 mm	7.5 mm
Material	PC optical grade	PC optical grade	PC optical grade

S SMPS



Model	SI(Built-in)	SE(Built-out)
Input Voltage	AC90-277 V	AC90-277 V
Power consumption	125 W	125 W
Output Voltage	48 V	48 V
Output Current	2.60 A	2.60 A
Max. Power	150 W	150 W

B Back Housing



Model	BG
Material	PP
Weight	150 g
Color	■ (Grey)

ORDERING INFORMATION

SAMPLE NUMBER: ICEPIPE H2000-H-L1-R-S1-BG

ICEPIPE H2000 W - - - -

Power <input type="text"/> =125W	Bracket H =Hinge Bracket C =Chain	Lens L3 =Lens 30° L4 =Lens 40° L5 =Lens 50°	Reflector R =Reflector	SMPS SI =Built-in SE =Built-out	Back Housing BG =Grey
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ICEPIPE H2000 150W H C R L S B

Features

1. Effect of saving Electric and CO₂

Brightness Comparison	MH Lamp 300 W	=	ICEPIPE H2000 Lamp 150 W
Annual Electricity Charge(\$)	\$ 214.239	50% Reduction	\$ 107.119
Annual CO ₂ Discharge Rate(kg)	699 kg	50% Reduction	349 kg

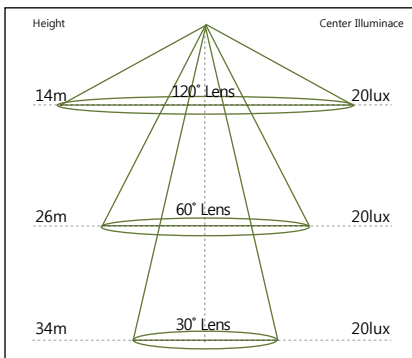
(CO₂ Discharge = 1Wh = 0.425g) (Electricity Charge : \$ 0.13/kWh *15hrs of daily use)

- Semi-permanent Lifespan of 50,000hours
- No conflagration risk due to temperature maintenance of heating section at 63~78°C based on the optimum heatproof design
- Available replacement of metal halide lamp 300W with ICEPIPE LED Lamp H2000 150W at a ratio of 1:1

Specification

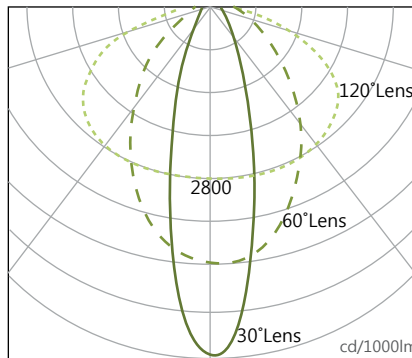
Article	H2000 150W
Power consumption(W)	150 W
Voltage(VAC)	90 ~ 277 VAC
Power factor(PF)	0.9 PF
LED Chip	Cree XPG R4, Lumileds Rebel ES
Luminous flux(lm)	12,000 lm
LED efficiency(lm/W)	75.3 lm/W
Color temperature(K)	3,200 ~ 6,500 K
Color rendering(Ra)	75 Ra
Radiation angle(°)	120°
Lifespan(hrs)	50,000 hrs
Dimension(mm)	Φ230mm × 192mm
Weight(kg)	2.0 kg

Intensity of Illumination



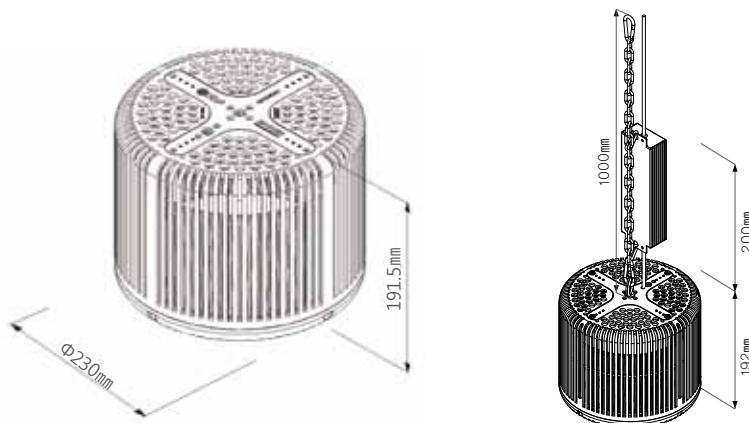
*This table is data on the sample data.(It may be changed upon release)

Light distribution chart



*This table is data on the sample data.(It may be changed upon release)

Drawing



Application

Shopping Center



Warehouse



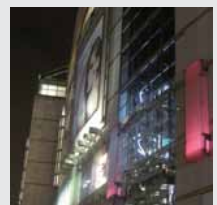
Factory



Convention Centre

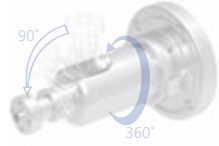


Shopping mall



ICEPIPE H2000 150W Option

H Hinge Bracket



This is an unapplied model.

C Chain



* Contact to Representative for longer than 100cm

Material	STEEL
Size	100 cm
Weight	800 g
Chain thickness	Φ4
Coupler	Ring Type

R Reflector



This is an unapplied model.

L Lens



Model	L3	L4	L5
Beam angle	30°	40°	50°
Height	7.5 mm	7.5 mm	7.5 mm
Material	PC optical grade	PC optical grade	PC optical grade

S SMPS



* ■ is currently under a development

Model	SI(Built-in)	SE(Built-out)
Input Voltage	AC90-277 V	AC90-277 V
Power consumption	150 W	85 W
Output Voltage	48 V	48 V
Output Current	3.13 A	2.36 A
Max. Power	250 W	150 W

B Back Housing



Model	BG
Material	PP
Weight	150 g
Color	■ (Grey)

ORDERING INFORMATION

SAMPLE NUMBER: ICEPIPE H2000-H-L1-R-S1-BG

ICEPIPE H2000

<input type="text" value="150"/> W	<input type="text" value="H"/> -	<input type="text" value="L3"/> -	<input type="text" value="R"/> -	<input type="text" value="SI"/> -	<input type="text" value="BG"/>
Power	Bracket	Lens	Reflector	SMPS	Back Housing
<u>150</u> =150W	H =Hinge Bracket	L3 =Lens 30°	R =Reflector	SI =Built-in	BG =Grey
	C =Chain	L4 =Lens 40°		SE =Built-out	
		L5 =Lens 50°			

ICEPIPE F2000 H C R L S B

Features

1. Effect of saving Electric and CO₂

Brightness Comparison	MH Lamp 170 W	=	ICEPIPE F2000 Lamp 85 W
Annual Electricity Charge(\$)	\$ 121.402	50% Reduction	\$ 60.701
Annual CO ₂ Discharge Rate(kg)	396 kg	50% Reduction	198 kg

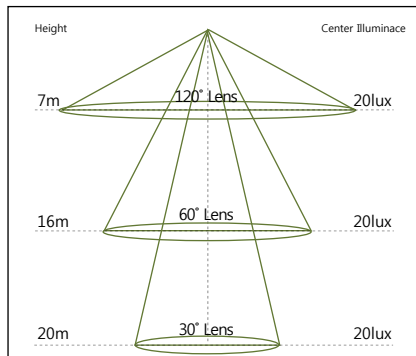
(CO₂ Discharge = 1Wh = 0.425g) (Electricity Charge : \$ 0.13/kWh *15hrs of daily use)

- Semi-permanent Lifespan of 50,000hours
- No conflagration risk due to temperature maintenance of heating section at 48~63°C based on the optimum heatproof design
- Available replacement of metal halide lamp 170W with ICEPIPE LED Lamp F2000 85W at a ratio of 1:1

Specification

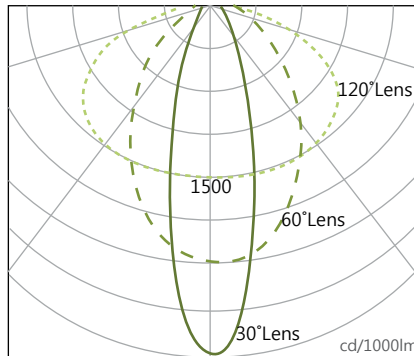
Article	F2000 85W	F2000 100W
Power consumption(W)	85 W	100 W
Voltage(VAC)	90 ~ 277 W	
Power factor(PF)	0.9 PF	
LED Chip	Cree XPG R4, Lumileds Rebel ES	
Luminous flux(lm)	6,800 lm	8,000 lm
LED efficiency(lm/W)	77.3 lm/W	73.4 lm/W
Color temperature(K)	3,200 ~ 6,500 K	
Color rendering(Ra)	75 Ra	
Radiation angle(°)	120°	
Lifespan(hrs)	50,000 hrs	
Dimension(mm)	Φ230mm × 192mm	
Weight(kg)	2.0 kg	

Intensity of Illumination



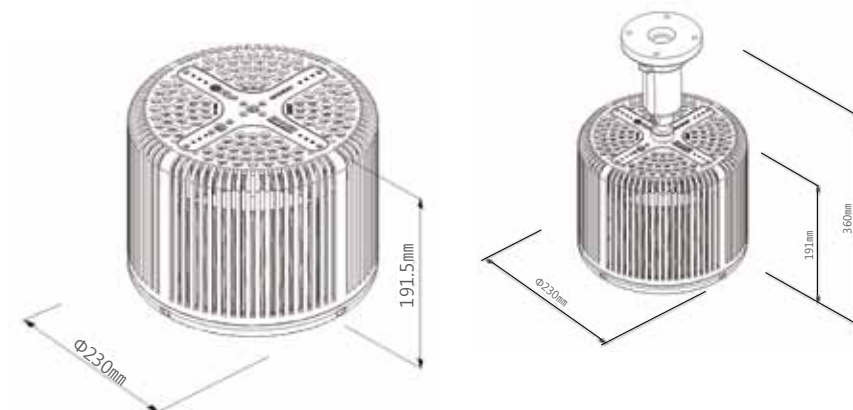
*This table is data on the sample data(it may be changed upon release)

Light distribution chart



*This table is data on the sample data(it may be changed upon release)

Drawing



Application



Shopping Center



ship



Factory



Convention Centre



Shopping mall

ICEPIPE F2000 Option

H Hinge Bracket



Material	Al 6061
Size	Φ94mm x 141mm
Weight	0.4 kg
Acceptable angle	Vertically 90° Rotation Angle 180°
Color	(Silver)

C Chain



This is an unapplied model.

R Reflector



This is an unapplied model.

L Lens



Model	L3	L4	L5
Beam angle	30°	40°	50°
Height	7.5 mm	7.5 mm	7.5 mm
Material	PC optical grade	PC optical grade	PC optical grade

S SMPS



Model	SI(Built-in)		SE(Built-out)	
Input Voltage	AC90-277 V			
Power consumption	85 W	100 W	85 W	100 W
Output Voltage	36 V		36 V	
Output Current	2.36 A	2.78 A	2.36 A	2.78 A
Max. Power	150 W		150 W	

B Back Housing



Model	BG
Material	PP
Weight	150 g
Color	(Grey)

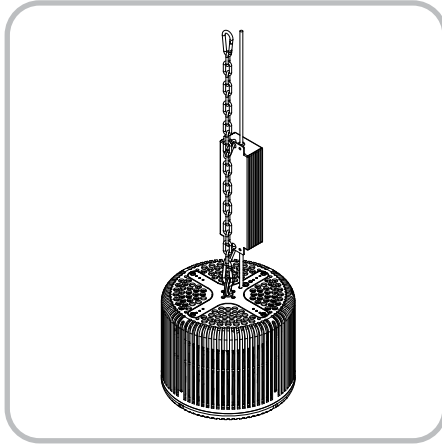
ORDERING INFORMATION

SAMPLE NUMBER: ICEPIPE-F2000-H-L1-R-S1-BG

ICEPIPE-F2000 W - - - -

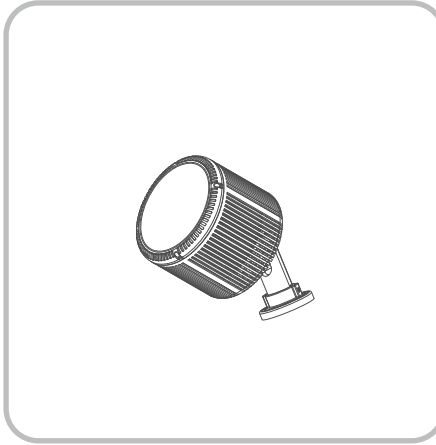
Power	Bracket	Lens	Reflector	SMPS	Back Housing
<input type="text"/> =85W	H =Hinge Bracket	L3 =Lens 30°	R =Reflector	SI =Built-in	BG =Grey
<input type="text"/> =100W	C =Chain	L4 =Lens 40°		SE =Built-out	
		L5 =Lens 50°			

ICEPIPE H2000 Series



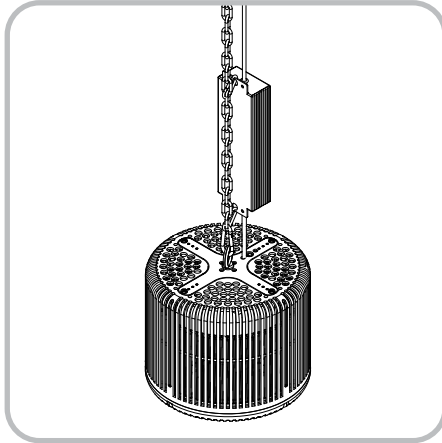
ICEPIPE H2000 (85W, 100W, 125W, 150W)

ICEPIPE F2000 Series



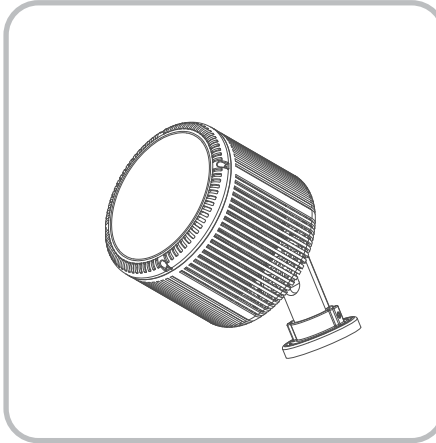
ICEPIPE F2000

ICEPIPE H3000 Series



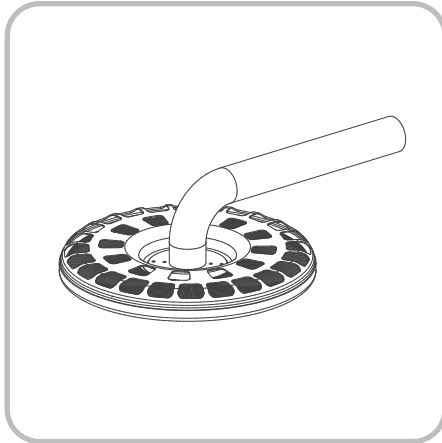
ICEPIPE H3000 (160W, 200W, 250W, 300W)

ICEPIPE F3000 Series

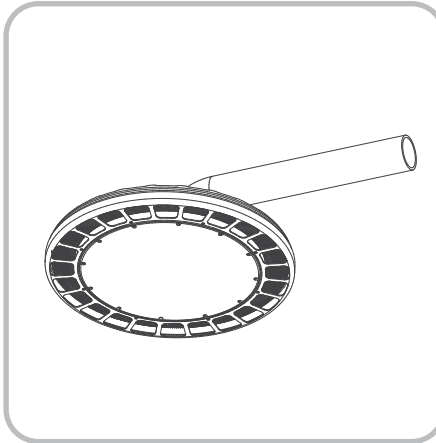


ICEPIPE F3000

ICEPIPE S4000



ICEPIPE S3000



ICEPIPE H3000 Series Specification



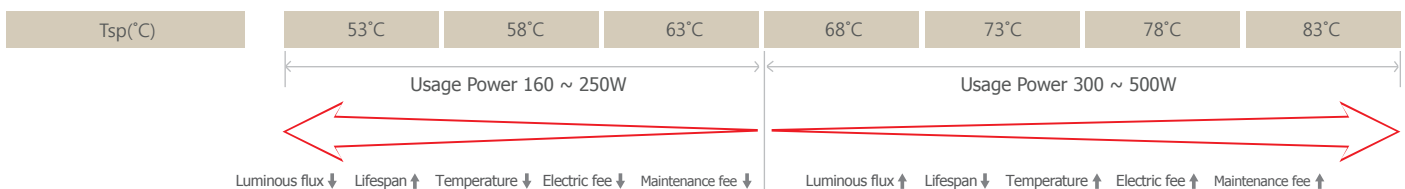
ICEPIPE H3000 (160W, 200W, 250W, 300W)

	W Rating									
	93.1	79.1								
Luminous efficiency without lens (lm/W)	93.1	79.1								
Luminous flux without lens (lm)	14896	12662								
									Power efficiency : 90%	
ICEPIPE H3000 160W LED : Cree XPG R4 Lumileds Rebel ES										
	160W	200W	250W	300W						
	93.1	79.1	87.1	74.0	82.9	70.5	74.4	63.2		
	14896	12662	17420	14807	20725	17616	22320	18972		

	160W		200W		250W		300W		350W	
	ICEPIPE H3000 200W LED : Cree XPG R4 Lumileds Rebel ES	97.4	82.8	91.6	77.9	85.2	72.4	79.3	67.4	73.9
	15584	13246	18320	15572	21300	18105	23790	20222	25865	21985

	160W		200W		250W		300W		350W		400W	
	ICEPIPE H3000 250W LED : Cree XPG R4 Lumileds Rebel ES	101.2	86.0	96.2	81.8	90.6	77.0	85.1	72.3	80.4	68.3	76.0
	16192	13763	19240	16354	22650	19252	25530	21701	28140	23919	30400	25840

	160W		200W		250W		300W		350W		400W		500W	
	ICEPIPE H3000 300W LED : Cree XPG R4 Lumileds Rebel ES	104.4	88.7	99.8	84.8	94.5	80.3	89.5	76.1	84.8	72.1	80.2	68.2	73.6
	16704	14198	19960	16966	23625	20081	26850	22823	29680	25228	32080	27268	36800	31280



1. The colored sections are indicated high efficiency products from each W rating in the table "ICEPIPE H3000 Series Product Analysis" as above. Products are analyzed the most economic if high efficiency lamp condition is satisfied with each W rating, considering luminous flux,, temperature, lifespan, electricity, and maintenance cost.

- ※ If overloads to fixtures than standard (right side of green line), get more brightness (Luminous flux) but be getting low efficiency and short lifetime cause of high junction temperature. It might be wastefully than standard (green line; High efficiency)
- ※ If limited loads to fixture than standard (left side of green line), get high efficiency and long lifetime, but be getting darkness and need to purchase extra fixtures to cover up darkness. It might be wastefully than standard (green line; High efficiency)

2. Luminous flux can be increased or decreased by controlling current after buying colored high efficiency products if necessary. However, it may reduce lamp lifespan. Reference to sales representative for more technical support.

ICEPIPE H3000 160W H C R L S B

Features

1. Effect of saving Electric and CO₂

Brightness Comparison	MH Lamp 320 W	=	ICEPIPE H3000 Lamp 160 W
Annual Electricity Charge(\$)	\$ 228.521	50% Reduction	\$ 114.260
Annual CO ₂ Discharge Rate(kg)	745 kg	50% Reduction	372.5 kg

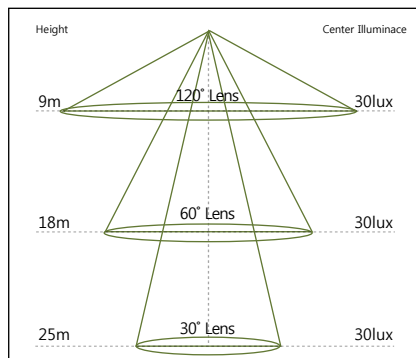
(CO₂ Discharge = 1Wh = 0.425g) (Electricity Charge : \$ 0.13/kWh *15hrs of daily use)

- Semi-permanent Lifespan of 50,000hours
- No conflagration risk due to temperature maintenance of heating section at 53~68°C based on the optimum heatproof design
- Available replacement of metal halide lamp 320W with ICEPIPE LED Lamp H3000 160W at a ratio of 1:1

Specification

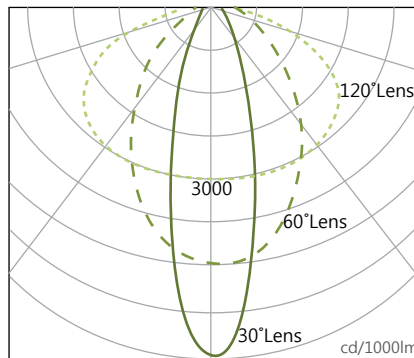
Article	H3000 160W
Power consumption(W)	160 W
Voltage(VAC)	90 ~ 277 VAC
Power factor(PF)	0.9 PF
LED Chip	Cree XPG R4, Lumileds Rebel ES
Luminous flux(lm)	12,800 lm
LED efficiency(lm/W)	78.3 lm/W
Color temperature(K)	3,200 ~ 6,500 K
Color rendering(Ra)	75 Ra
Radiation angle(°)	120°
Lifespan(hrs)	50,000 hrs
Dimension(mm)	Φ270mm × 250mm
Weight(kg)	3.2 kg(Exclude SMPS)

Intensity of Illumination



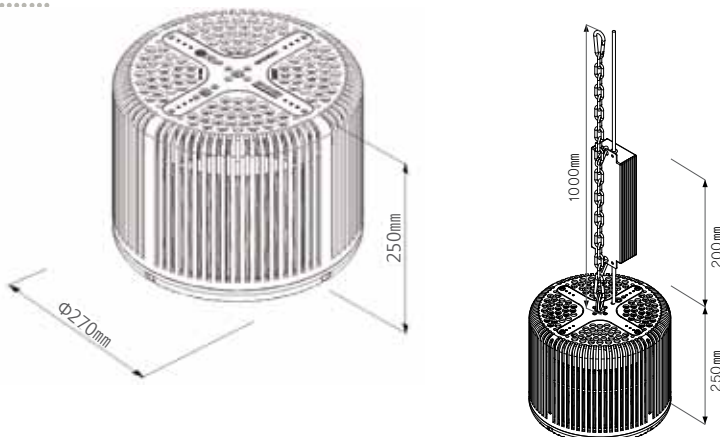
*This table is data on the sample data(It may be changed upon release)

Light distribution chart



*This table is data on the sample data(It may be changed upon release)

Drawing



Application

Harbor



Warehouse



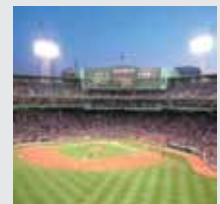
Factory



ship

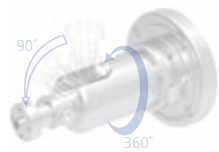


Baseball Stadium



ICEPIPE H3000 160W Option

H Hinge Bracket



This is an unapplied model.

C Chain



* Contact to Representative for longer than 100cm

Material	STEEL
Size	100 cm
Weight	800 g
Chain thickness	Φ4
Coupler	Ring Type

R Reflector



This is an unapplied model.

L Lens



Model	L3	L4	L5
Beam angle	30°	40°	50°
Height	7.5 mm	7.5 mm	7.5 mm
Material	PC optical grade	PC optical grade	PC optical grade

S SMPS



Model	SI(Built-in)	SE(Built-out)
Input Voltage	AC90-277 V	AC90-277 V
Power consumption	160 W	160 W
Output Voltage	48 V	48 V
Output Current	3.33 A	3.33 A
Max. Power	300 W	300 W

B Back Housing



Model	BG
Material	PP
Weight	150 g
Color	■ (Grey)

ORDERING INFORMATION

SAMPLE NUMBER: ICEPIPE H3000-H-L1-R-S1-BG

ICEPIPE H3000 W - - - - -

Power 160 =160W	Bracket H =Hinge Bracket C =Chain	Lens L3 =Lens 30° L4 =Lens 40° L5 =Lens 50°	Reflector R =Reflector	SMPS SI =Built-in SE =Built-out	Back Housing BG =Grey
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ICEPIPE H3000 200W **H C R L S B**

Features

1. Effect of saving Electric and CO₂

Brightness Comparison	MH Lamp 400 W	=	ICEPIPE H3000 Lamp 200 W
Annual Electricity Charge(\$)	\$ 285.652	50% Reduction	\$ 142.826
Annual CO ₂ Discharge Rate(kg)	932 kg	50% Reduction	466 kg

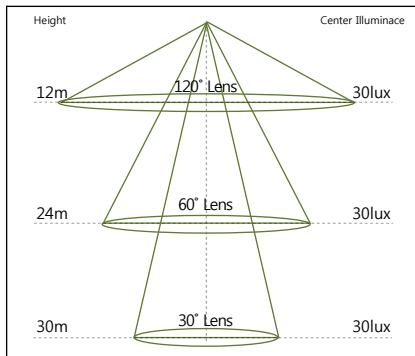
(CO₂ Discharge = 1Wh = 0.425g) (Electricity Charge : \$ 0.13/kWh *15hrs of daily use)

- Semi-permanent Lifespan of 50,000hours
- No conflagration risk due to temperature maintenance of heating section at 58~73 °C based on the optimum heatproof design
- Available replacement of metal halide lamp 400W with ICEPIPE LED Lamp H3000 200W at a ratio of 1:1

Specification

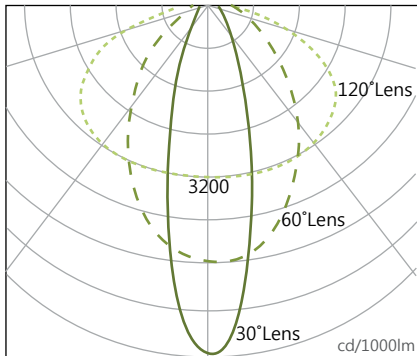
Article	H3000 200W
Power consumption(W)	200 W
Voltage(VAC)	90 ~ 277 VAC
Power factor(PF)	0.9 PF
LED Chip	Cree XPG R4, Lumileds Rebel ES
Luminous flux(lm)	16,000 lm
LED efficiency(lm/W)	77.7 lm/W
Color temperature(K)	3,200 ~ 6,500 K
Color rendering(Ra)	75 Ra
Radiation angle(°)	120°
Lifespan(hrs)	50,000 hrs
Dimension(mm)	Φ270mm × 250mm
Weight(kg)	3.2 kg(Exclude SMPS)

Intensity of Illumination



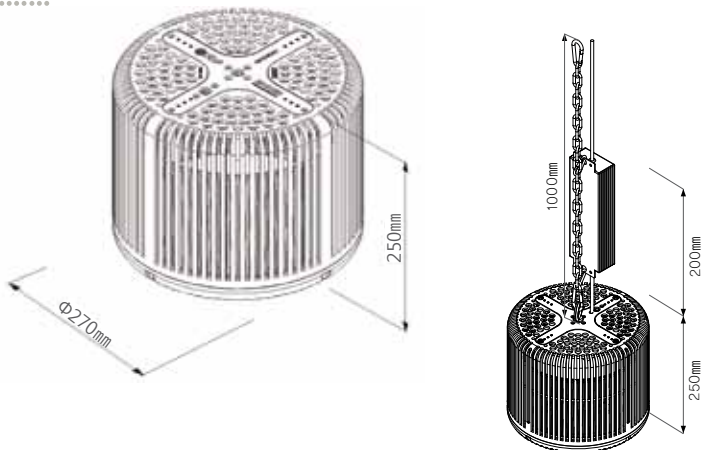
*This table is data on the sample data(It may be changed upon release)

Light distribution chart



*This table is data on the sample data(It may be changed upon release)

Drawing



Application

Harbor



Warehouse



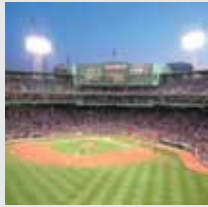
Factory



ship

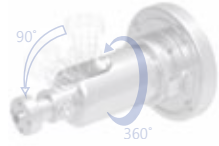


Baseball Stadium



ICEPIPE H3000 200W Option

H Hinge Bracket



This is an unapplied model.

C Chain



* Contact to Representative for longer than 100cm

Material	STEEL
Size	100 cm
Weight	800 g
Chain thickness	Φ4
Coupler	Ring Type

R Reflector



This is an unapplied model.

L Lens



Model	L3	L4	L5
Beam angle	30°	40°	50°
Height	7.5 mm	7.5 mm	7.5 mm
Material	PC optical grade	PC optical grade	PC optical grade

S SMPS



Model	SI(Built-in)	SE(Built-out)
Input Voltage	AC90-277 V	AC90-277 V
Power consumption	200 W	200 W
Output Voltage	48 V	48 V
Output Current	4.16 A	4.16 A
Max. Power	300 W	300 W

B Back Housing



Model	BG
Material	PP
Weight	150 g
Color	■(Grey)

ORDERING INFORMATION

SAMPLE NUMBER: ICEPIPE H3000-H-L1-R-S1-BG

ICEPIPE H3000 W - - - -

Power 200 = 200W	Bracket H = Hinge Bracket C = Chain	Lens L3 = Lens 30° L4 = Lens 40° L5 = Lens 50°	Reflector R = Reflector	SMPS SI = Built-in SE = Built-out	Back Housing BG = Grey
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ICEPIPE H3000 250W H C R L S B

Features

1. Effect of saving Electric and CO₂

Brightness Comparison	MH Lamp 500 W	=	ICEPIPE H3000 Lamp 250 W
Annual Electricity Charge(\$)	\$ 310.108	50% Reduction	\$ 155.054
Annual CO ₂ Discharge Rate(kg)	1,160 kg	50% Reduction	580 kg

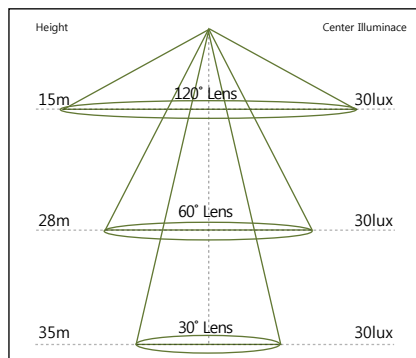
(CO₂ Discharge = 1Wh = 0.425g) (Electricity Charge : \$ 0.13/kWh *15hrs of daily use)

- Semi-permanent Lifespan of 50,000hours
- No conflagration risk due to temperature maintenance of heating section at 63~78 °C based on the optimum heatproof design
- Available replacement of metal halide lamp 500W with ICEPIPE LED Lamp H3000 250W at a ratio of 1:1

Specification

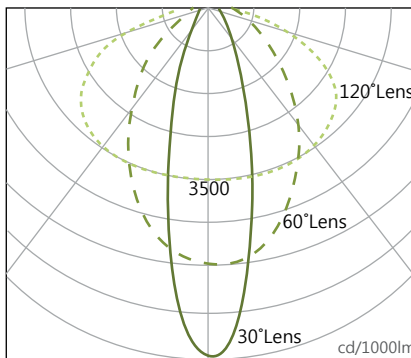
Article	H3000 250W
Power consumption(W)	250 W
Voltage(VAC)	90 ~ 277 VAC
Power factor(PF)	0.9 PF
LED Chip	Cree XPG R4, Lumileds Rebel ES
Luminous flux(lm)	20,000 lm
LED efficiency(lm/W)	77 lm/W
Color temperature(K)	3,200 ~ 6,500 K
Color rendering(Ra)	75 Ra
Radiation angle(°)	120°
Lifespan(hrs)	50,000 hrs
Dimension(mm)	Φ270mm × 250mm
Weight(kg)	3.2 kg(Exclude SMPS)

Intensity of Illumination



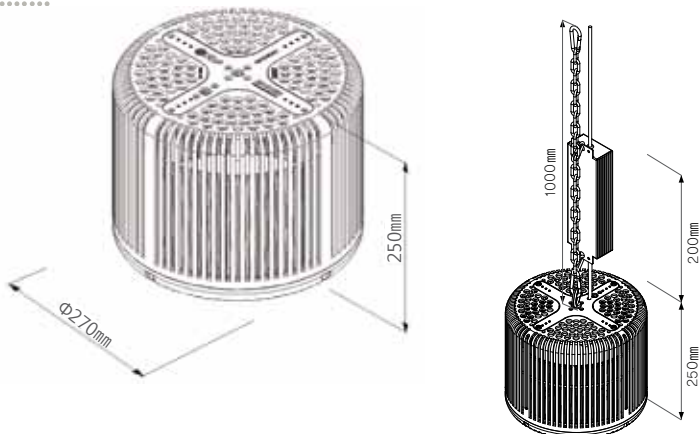
*This table is data on the sample data(It may be changed upon release)

Light distribution chart



*This table is data on the sample data(It may be changed upon release)

Drawing



Application

Harbor



Warehouse



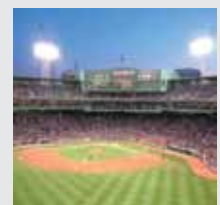
Factory



ship

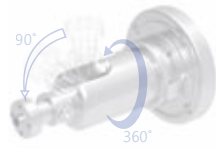


Baseball Stadium



ICEPIPE H3000 250W Option

H Hinge Bracket



This is an unapplied model.

C Chain



* Contact to Representative for longer than 100cm

Material	STEEL
Size	100 cm
Weight	800 g
Chain thickness	Φ4
Coupler	Ring Type

R Reflector



This is an unapplied model.

L Lens



Model	L3	L4	L5
Beam angle	30°	40°	50°
Height	7.5 mm	7.5 mm	7.5 mm
Material	PC optical grade	PC optical grade	PC optical grade

S SMPS



Model	SI(Built-in)	SE(Built-out)
Input Voltage	AC90-277 V	AC90-277 V
Power consumption	250 W	250 W
Output Voltage	48 V	48 V
Output Current	5.2 A	5.2 A
Max. Power	300 W	300 W

B Back Housing



Model	BG
Material	PP
Weight	150 g
Color	■ (Grey)

ORDERING INFORMATION

SAMPLE NUMBER: ICEPIPE H3000-H-L1-R-S1-BG

ICEPIPE H3000 W - - - -

Power 250 =250W **Bracket** H=Hinge Bracket
C=Chain

Lens L3=Lens 30°
L4=Lens 40°
L5=Lens 50°

Reflector R=Reflector

SMPS SI=Built-in
SE=Built-out

Back Housing BG=Grey

ICEPIPE H3000 300W HCRLSB

Features

1. Effect of saving Electric and CO₂

Brightness Comparison	MH Lamp 600 W	=	ICEPIPE H3000 Lamp 300 W
Annual Electricity Charge(\$)	\$ 428.478	50% Reduction	\$ 214.239
Annual CO ₂ Discharge Rate(kg)	1,390 kg	50% Reduction	695 kg

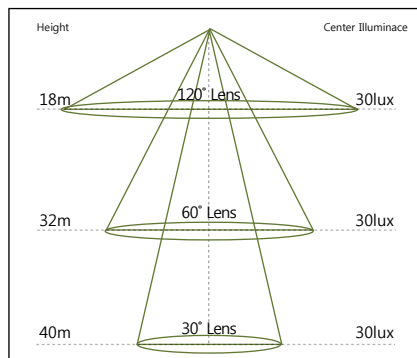
(CO₂ Discharge = 1Wh = 0.425g) (Electricity Charge : \$ 0.13/kWh *15hrs of daily use)

- Semi-permanent Lifespan of 50,000hours
- No conflagration risk due to temperature maintenance of heating section at 68~83°C based on the optimum heatproof design
- Available replacement of metal halide lamp 600W with ICEPIPE LED Lamp H3000 300W at a ratio of 1:1

Specification

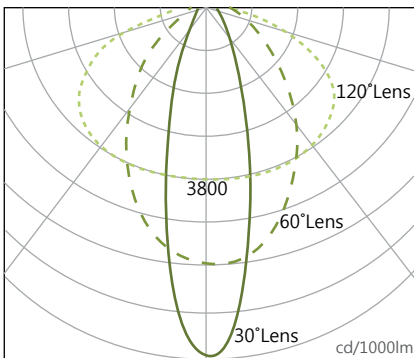
Article	H3000 300W
Power consumption(W)	300 W
Voltage(VAC)	90 ~ 277 VAC
Power factor(PF)	0.9 PF
LED Chip	Cree XPG R4, Lumileds Rebel ES
Luminous flux(lm)	24,000 lm
LED efficiency(lm/W)	76.3 lm/W
Color temperature(K)	3,200 ~ 6,500 K
Color rendering(Ra)	75 Ra
Radiation angle(°)	120°
Lifespan(hrs)	50,000 hrs
Dimension(mm)	Φ270mm × 250mm
Weight(kg)	3.2 kg(Exclude SMPS)

Intensity of Illumination



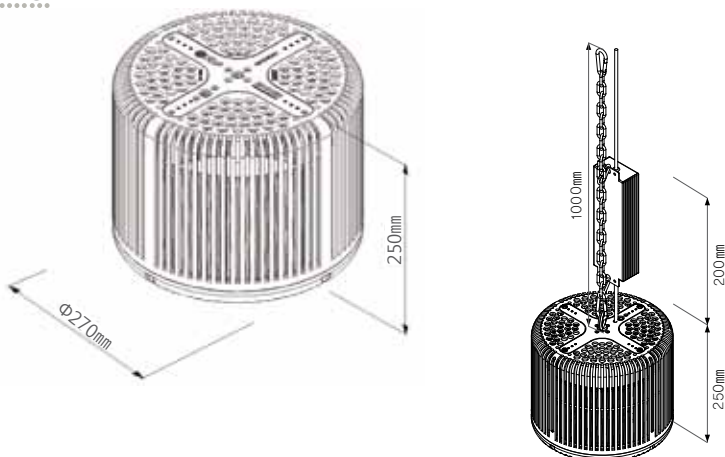
*This table is data on the sample data(It may be changed upon release)

Light distribution chart

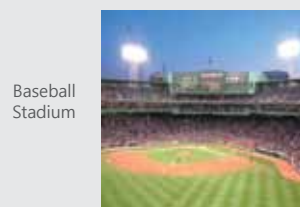
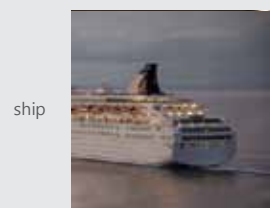
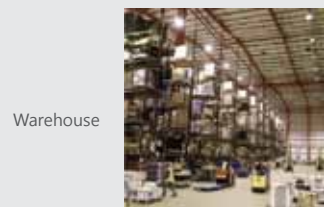
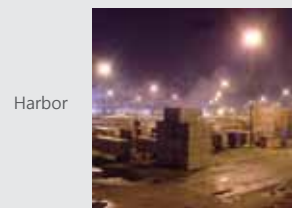


*This table is data on the sample data(It may be changed upon release)

Drawing

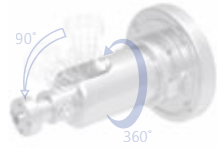


Application



ICEPIPE H3000 300W Option

H Hinge Bracket



This is an unapplied model.

C Chain



* Contact to Representative for longer than 100cm

Material	STEEL
Size	100 cm
Weight	800 g
Chain thickness	Φ4
Coupler	Ring Type

R Reflector



This is an unapplied model.

L Lens



Model	L3	L4	L5
Beam angle	30°	40°	50°
Height	7.5 mm	7.5 mm	7.5 mm
Material	PC optical grade	PC optical grade	PC optical grade

S SMPS



* ■ is currently under a development * ■ 2 sets for more than 300w

Model	SI(Built-in)	SE(Built-out)
Input Voltage	AC90-277 V	AC90-277 V
Power consumption	300 W	300 W
Output Voltage	36 V	36 V
Output Current	8.33 A	8.33 A
Max. Power	600 W	600 W

B Back Housing



Model	BG
Material	PP
Weight	150 g
Color	■ (Grey)

ORDERING INFORMATION

SAMPLE NUMBER: ICEPIPE H3000-H-L1-R-S1-BG

ICEPIPE H3000 W - - - -

Power =300W **Bracket** =Hinge Bracket **Lens** =Lens 30° **Reflector** =Reflector **SMPS** =Built-in **Back Housing** =Grey

C=Chain **L3**=Lens 40° **L4**=Lens 40° **L5**=Lens 50° **SE**=Built-out

ICEPIPE F3000 H C R L S B

Features

1. Effect of saving Electric and CO₂

Brightness Comparison	MH Lamp 320 W	=	ICEPIPE F3000 Lamp 160 W
Annual Electricity Charge(\$)	\$ 228.521	50% Reduction	\$ 114.260
Annual CO ₂ Discharge Rate(kg)	745 kg	50% Reduction	372.5 kg

(CO₂ Discharge = 1Wh = 0.425g) (Electricity Charge : \$ 0.13/kWh *15hrs of daily use)

2. Semi-permanent Lifespan of 50,000hours

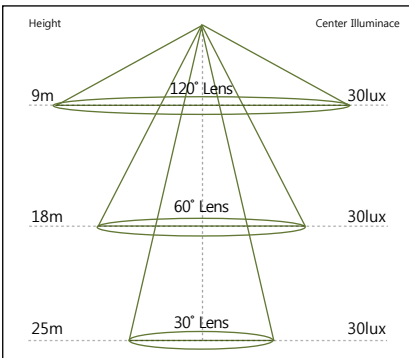
3. No conflagration risk due to temperature maintenance of heating section at 53~68°C based on the optimum heatproof design

4. Available replacement of metal halide lamp 320W with ICEPIPE LED Lamp F3000 160W at a ratio of 1:1

Specification

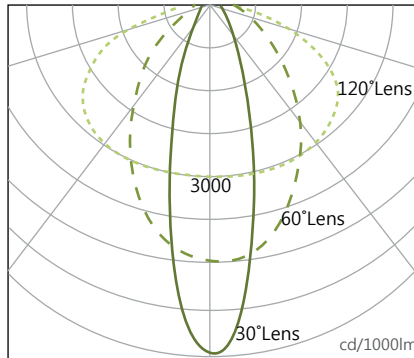
Article	F3000 160W	F3000 200W
Power consumption(W)	160 W	200 W
Voltage(VAC)	90 ~ 277 VAC	
Power factor(PF)	0.9 PF	
LED Chip	Cree XPG R4, Lumileds Rebel ES	
Luminous flux(lm)	12,800 lm	16,000 lm
LED efficiency(lm/W)	78.3 lm/W	74.3 lm/W
Color temperature(K)	3,200 ~ 6,500 K	
Color rendering(Ra)	75 Ra	
Radiation angle(°)	120°	
Lifespan(hrs)	50,000 hrs	
Dimension(mm)	Φ270mm × 250mm	
Weight(kg)	3.2 kg(Exclude SMPS)	

Intensity of Illumination



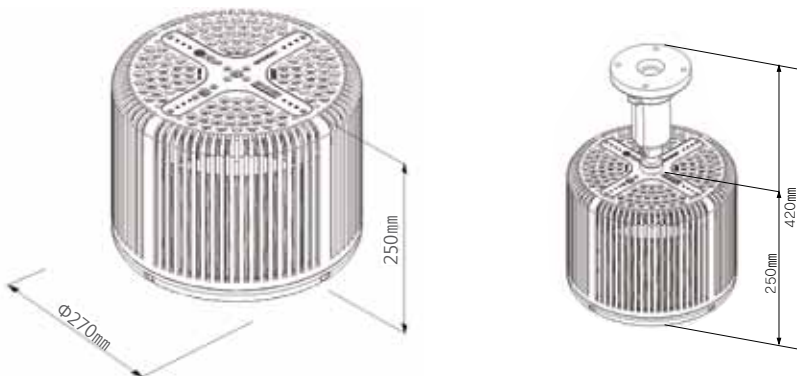
*This table is data on the sample data(It may be changed upon release)

Light distribution chart



*This table is data on the sample data(It may be changed upon release)

Drawing



Application

Harbor



Warehouse



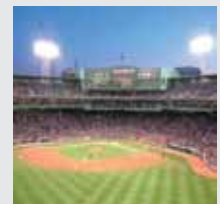
Factory



ship



Baseball Stadium



ICEPIPE F3000 Option

H Hinge Bracket



Material	Al 6061
Size	Φ94mm x 141mm
Weight	0.4 kg
Acceptable angle	Vertically 90° Rotation Angle 180°
Color	(Silver)

C Chain



This is an unapplied model.

R Reflector



This is an unapplied model.

L Lens



Model	L3	L4	L5
Beam angle	30°	40°	50°
Height	7.5 mm	7.5 mm	7.5 mm
Material	PC optical grade	PC optical grade	PC optical grade

S SMPS



Model	SI(Built-in)		SE(Built-out)	
Input Voltage	AC90-277 V		AC90-277 V	
Power consumption	160 W	200 W	160 W	200 W
Output Voltage	48 V		48 V	
Output Current	3.33 A	4.16 A	3.33 A	4.16 A
Max. Power	300 W		300 W	

B Back Housing



Model	BG
Material	PP
Weight	150 g
Color	(Grey)

ORDERING INFORMATION

SAMPLE NUMBER: ICEPIPE F3000-H-L1-R-S1-BG

ICEPIPE F3000

<input type="text" value="160"/> W	<input type="text" value="H"/> -	<input type="text" value="L3"/> -	<input type="text" value="R"/> -	<input type="text" value="SI"/> -	<input type="text" value="BG"/>
Power	Bracket	Lens	Reflector	SMPS	Back Housing
160 =160W	H =Hinge Bracket	L3 =Lens 30°	R =Reflector	SI =Built-in	BG =Grey
200 =200W	C =Chain	L4 =Lens 40°		SE =Built-out	
		L5 =Lens 50°			

2010.10.27 Ver. 2.0

Creative Idea, New Technology
Environmental Friendly

