



LED Linear High Bay

HIPAN Product Introduction

C O N T E N T S

- Why INUI designs HI-PAN
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- Intelligent Controls
- More Customized Options
- Mounting and Packaging

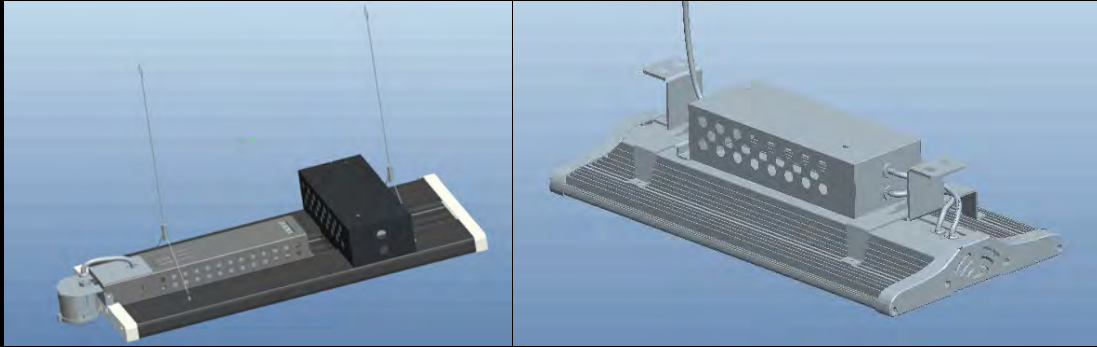
PART ONE

WHY INUI DESIGNS HI-PAN

Purpose of designing HI-PAN

Most of LED linear high bays are IP20 or IP40 rated. But IP65/IP66 high bay is mostly needed in the marketplace for indoor warehouse to prevent the humid environment. And according to many clients' feedback, they want IP66 linear high bay with integrated smart controls.

We have done customized solutions like this:



For convenience of the clients, INUI achieve a breakthrough in linear high bay lighting with IP66 rating for indoor& outdoor application, meanwhile support integral and customized intelligent controls: **PIR Sensor, Motion Sensor, photocell, Zigbee, as well as DALI, 0-10V, 1-10V dimming** for huge energy saving. Furthermore, HI-PAN can be equipped with built-in emergency backup battery and used in central emergency grid.

PART TWO

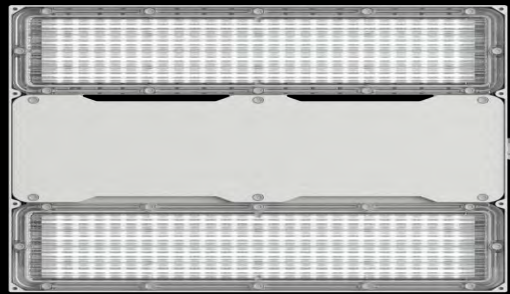
PRODUCT INTRODUCTION

Specification

Model No.	HI-PAN-100	HI-PAN-150	HI-PAN-200	HI-PAN-240	HI-PAN-300	HI-PAN-400	HI-PAN-480
Power	100±5W	150±7W	200±10W	240±7W	300±9W	400±12W	500±14W
LED Type	SEOUL LED						
Luminous Flux	15,500lm	23,250lm	31,000lm	37,200lm	46,500lm	62,000lm	77,500lm
Efficacy (±5%)	155LM/W (5000K Ra70)						
Colour Temperature	5000K (3000K, 4000K optional)						
CCT/CRI	Ra70 (Ra80 optional)						
Beam Angle	60° / 90° / 28x85° / 60x120°						
Power Supply	SOSEN						
Input Voltage	200-240 VAC, 50 / 60 Hz						
Power Factor	>0.91						
Surge Protection	6kV line-line, 10kV line-earth						
Driver Type	Constant Current (CC)						
Operating Temperature	30°C to + 50°C(-22°F to 122°F)						
Dimension mm(inch)	340×325×60(13.38"×12.8"×2.36")		680×325×60(26.77"×12.8"×2.36")			1020×325×60 (40.16"×12.8"×2.36")	

Modular Design

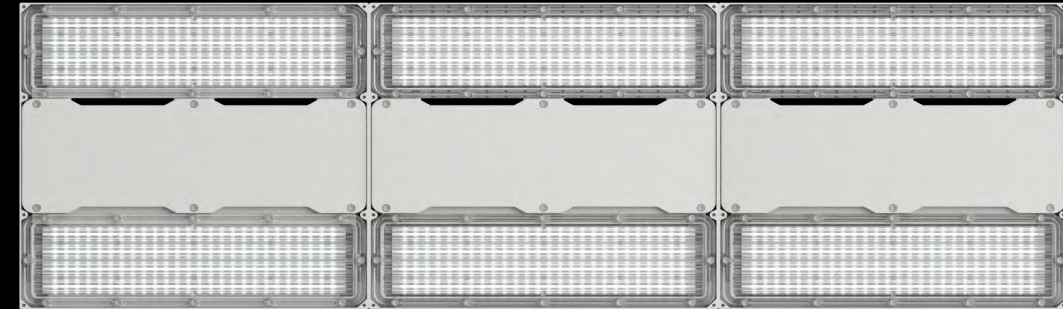
Large light-emitting surface, delivers uniform light.
Modular design, Sturdy structure, Excellent heat dissipation.



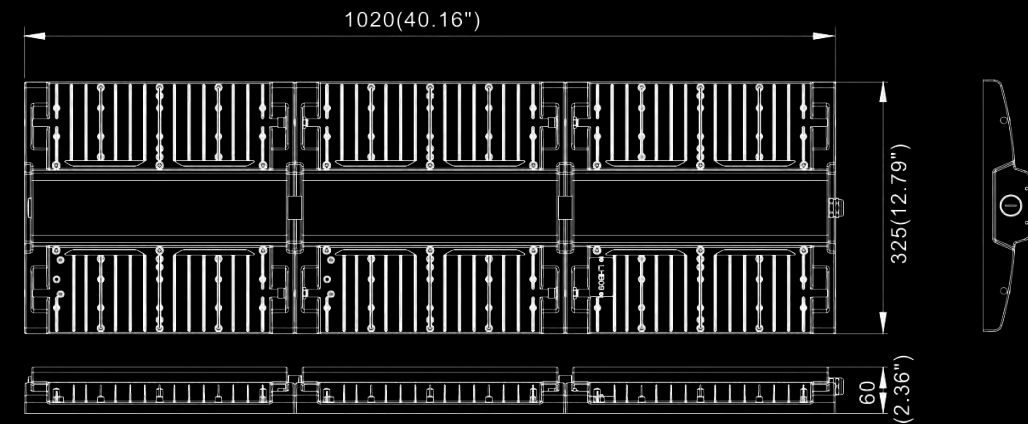
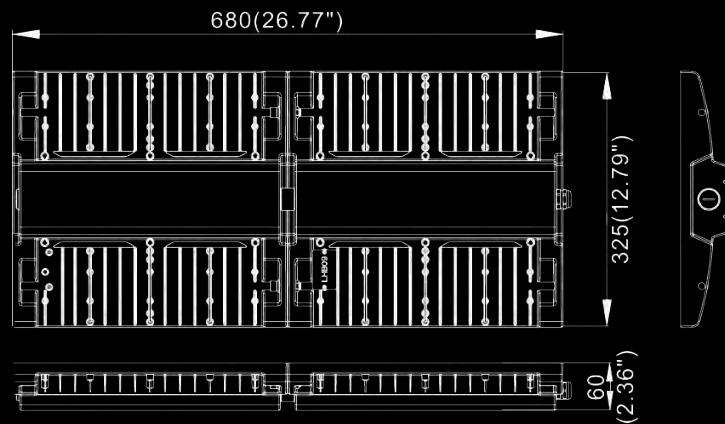
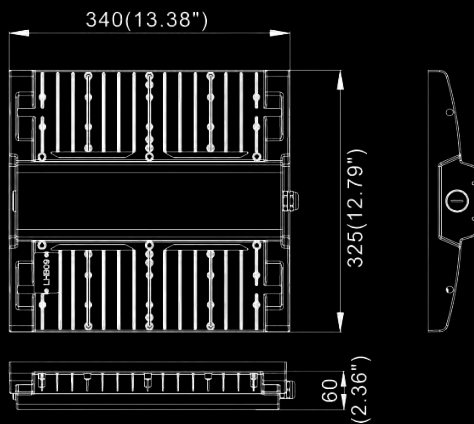
100W / 150W



200W / 240W / 300W



400W / 480W



Product Dimensions

Compact construction with IP66 , IK10 rated.

Modular design, 60W-500W.
155lm/W @70Ra.

Integral smart controls optional:
Motion sensor, PIR sensor,
and emergency back up.

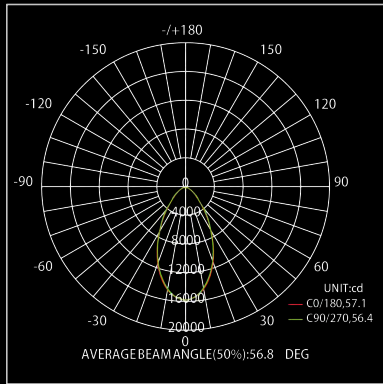
Good performance in Anti-glare
control.



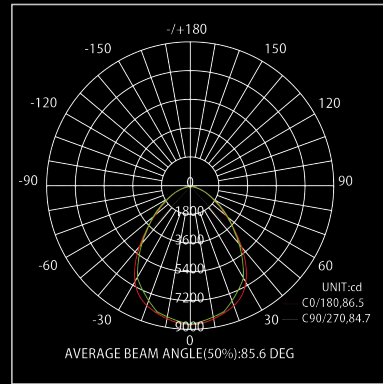
Excellent Fresnel Lens Available

The tailored optic lens delivers useful symmetric lighting distribution, 60° and 90° optional, it is suitable for high ceiling mounting, and improves the lighting uniformity of open areas.

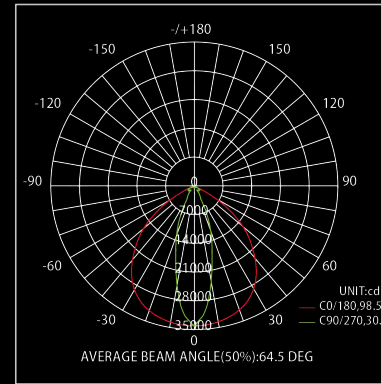
In addition, the long and narrow lighting distribution 28x85° , 60x120° is ideal for aisle area lighting, a great help to reduce the light loss.



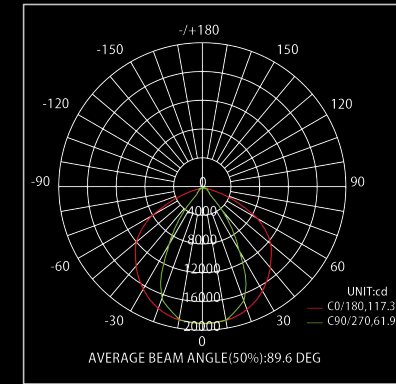
60°



90°

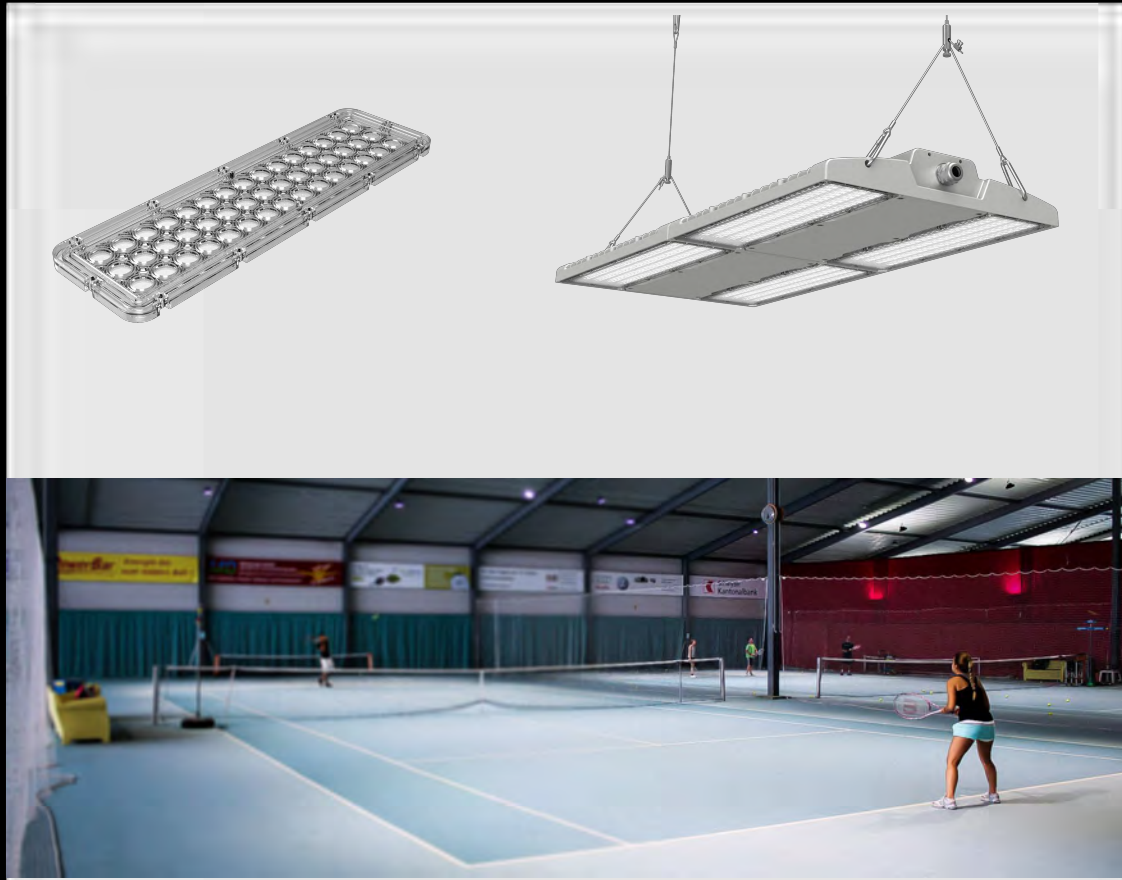


25 X 85°



60 X 120°


Anti-Glare Control-Dotted PC Lens



- The specially designed dotted PC Lens has a better performance for anti-glare control.
- Whole piece design is easy to replace the lens and keep in stock.

Reliability Test

IP66 Test

Table 16: IP Test 16: IP		IPX6	P
Test	Compliance with IEC/EN 60598-1, CLAUSE 9.2 IEC/EN 60598-1 9.2		
Base of Test	IEC/EN 60598-1, CLAUSE 9.2 IEC/EN 60598-1 9.2		
Base of Result	<p>After completion of the tests, the luminaire shall withstand the electric strength test specified in Section 10, and inspection shall show:</p> <p>a) no trace of water on current-carrying parts</p> <p>b) no trace of water entered in any part of a watertight or pressure watertight luminaire;</p>		
			

IK10 Impact Test

Test Report

1. IK Code

1.1 Test Requirements

Reference standard: IEC 62262:2002;

Test Specimen: Glass

Specimen status: Unpacked, non-operating;

Test apparatus: Pendulum hammer; Impact en

Impact position: Lamp cover .

1.2 Initial Check

Before the test, the specimen exhibited no structural or functional failure.

1.3 Acceptance Criteria

After the test, the lamp cover of specimen should exhibit no structural damage and functional failure.

1.4 Test Result

After the test, there was damage of the cover plate.

Table 1

Sample Name	Sample Description	IK Code	Impact energy	Verdict
LHB09-150W	Plastic+aluminum	IK10	20J	Pass



Reliability Test

At 50°C temperature test, the driver Tc is only 65°C.

Reported Lumen Maintenance Life >54000Hrs @L80
Lumen maintenance up to 98%.

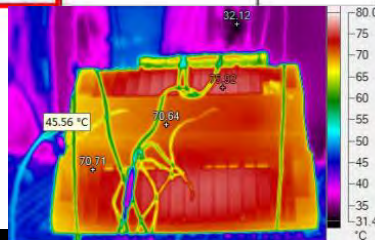
temperature (°C) of part	Temperature test				
	Normal				
	test 1 (°C)	Test 1 rise(k)	test 2 (°C)	Test 2 rise(k)	limits
1.LED Case	56.078	25.241	75.45	25.975	Ref.
2.LED Case	54.526	23.689	73.077	23.602	Ref.
3.LED Case	55.437	24.6	74.776	25.301	Ref.
4.LED Case	55.976	25.139	75.401	25.926	Ref.
5.LED Case	56.035	25.198	75.56	26.085	Ref.
6.LED Case	46.3	15.463	65.659	16.184	Ref.
7.Output wire of driver	49.972	19.135	68.928	19.453	Ref.
8.LED Driver Tc	45.223	14.386	64.883	15.408	90
9.LED Driver Case	44.678	13.841	64.744	15.269	Ref.
10.Lens	47.456	16.619	68.497	19.022	Ref.
11.Back of luminaire enclosure	53.886	23.049	73.326	23.851	Ref.
12.Back of luminaire enclosure	53.428	22.591	72.413	22.938	Ref.
13.Back of luminaire enclosure	49.166	18.329	68.394	18.919	Ref.
14.Back of luminaire enclosure	47.372	16.535	66.643	17.168	Ref.
15.Ambient temperature	30.837	--	49.475	--	--

Lumen Maintenance Projection (IESNA TM-21 Method) (IESNA TM-21 Method)	
Criteria Item (150W@ 25°C)	Result
Total operated period(hours)	4.5hours
Ambient temperature(°C)	29.797
Measured Temperature @TMP LED(°C)	66.919
50000 hours lumen maintenance of LED light source	98.05%
Forward current on each LED light source (mA)	108
Reported L80 lumen maintenance life	>54000hours

Note: Test 1, measured temperatures corrected for ta=(30±3)°C:

test 1 rise(k)= test 1 (°C)- Ambient (°C)

Test 2, Test data at room temperature(50±3°C)

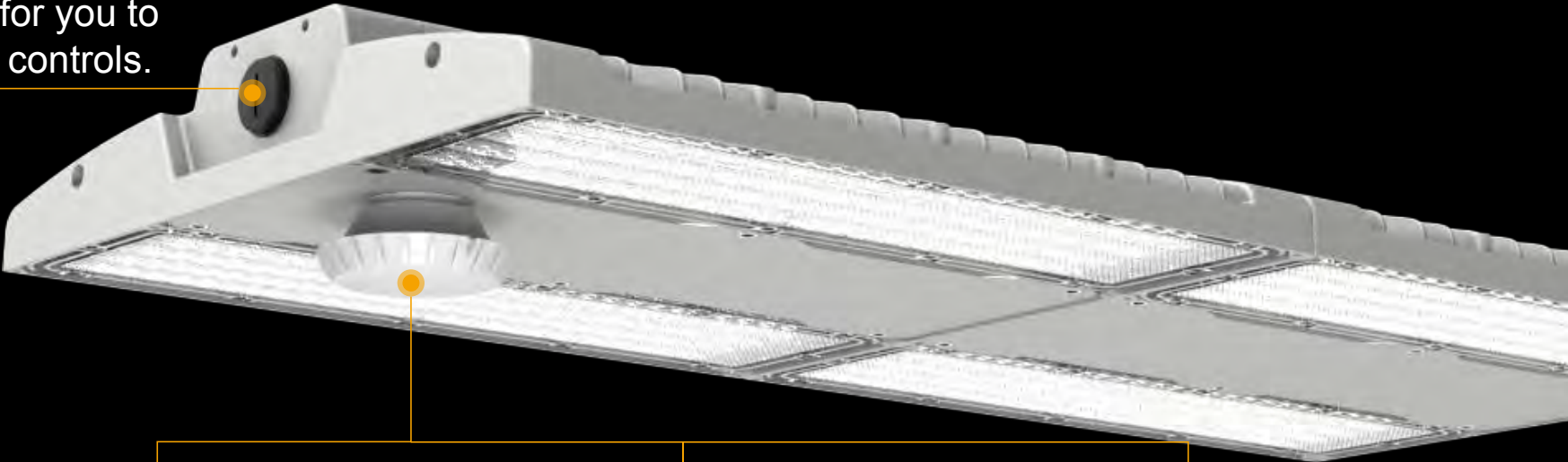


PART THREE

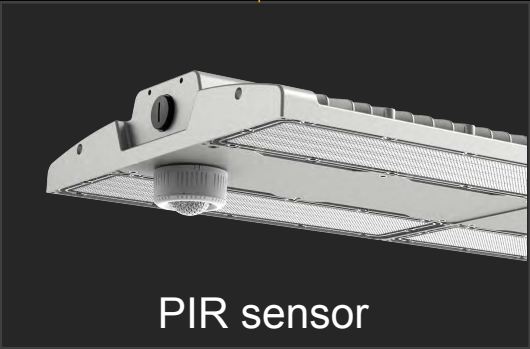
INTELLIGENT CONTROLS

Integral Smart Control Options

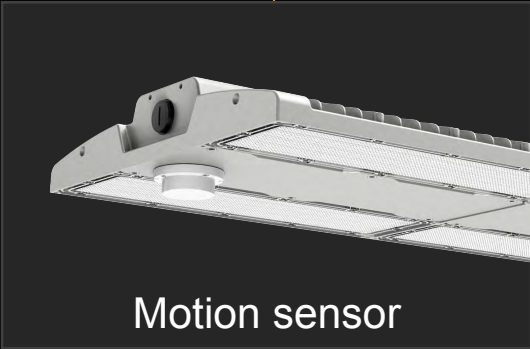
Reserved hole here for you to install any intelligent controls.



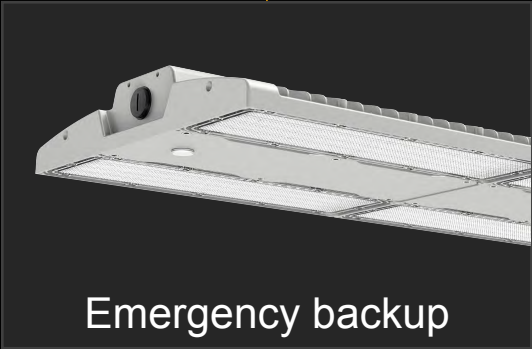
Reserved hole for DIY



PIR sensor



Motion sensor



Emergency backup

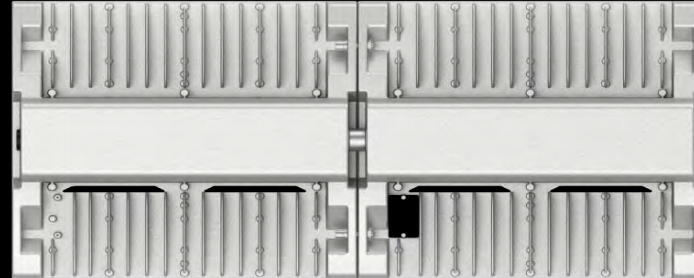
Emergency Solution

Integral Emergency backup 8W, illumination time 3 hours.



LHB09-Emergency Backup

100W / 150W



200W / 240W



PART FOUR

MORE CUSTOMIZED OPTIONS

1. Higher Efficacy Up to 180lm/W

The “strip” PC lens would allow more LEDs to be soldered on the PCB, and would be flexible to customize different lumen packages. We could do 160lm/W, 170lm/W and 180lm/W as your call.

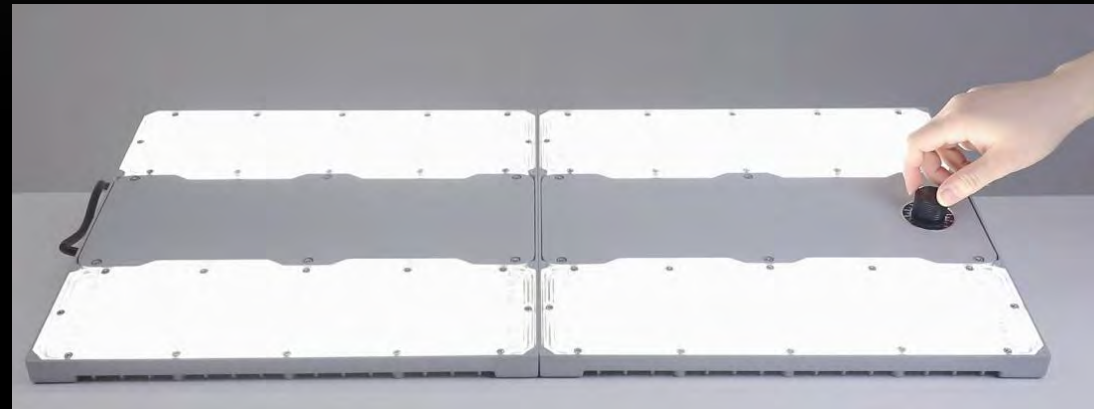
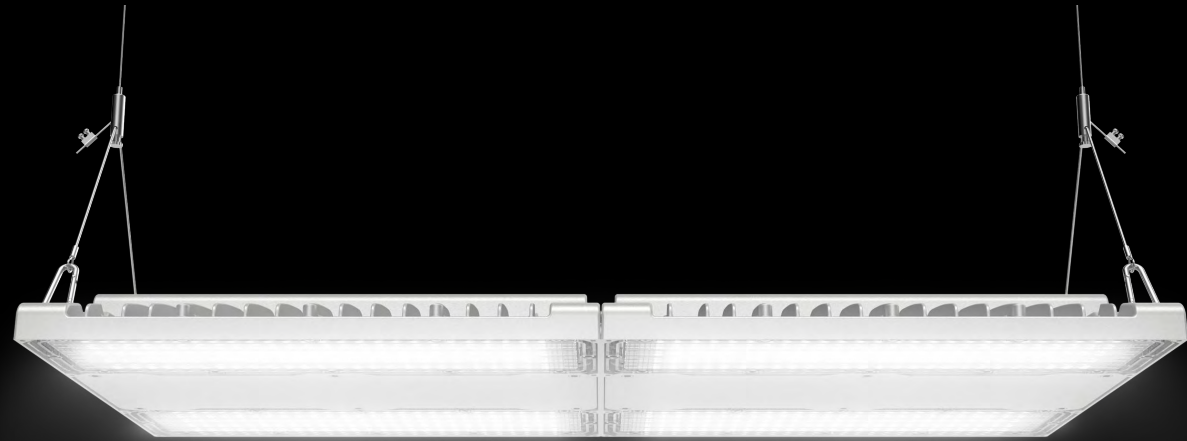


2. Field-adjustable Lumen Output

The field-adjustable lumen output option enables Refinado to be tuned to the exact needs of a particular application through multiple levels of adjustment, which makes it very easy to have different watts in stock.



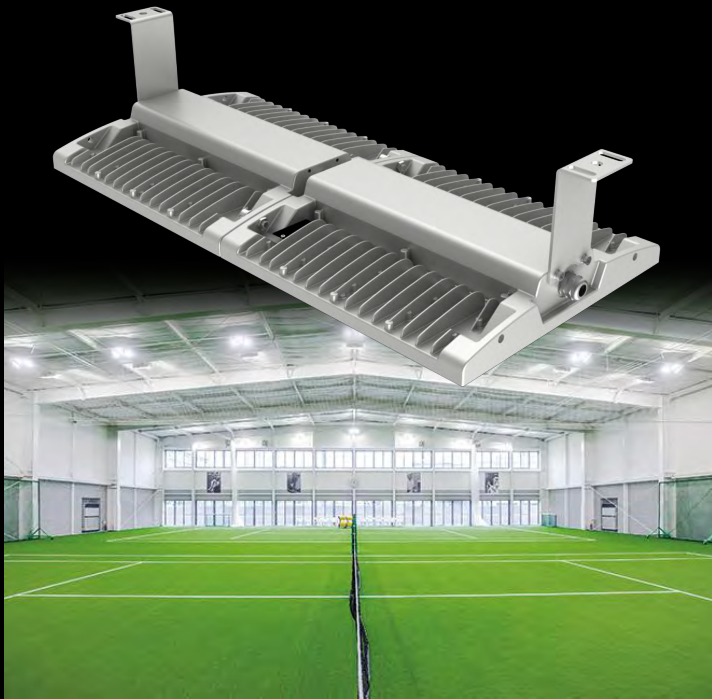
Dimmer Swivel



PART FIVE

MOUNTING OPTIONS AND PACKAGING

Mounting Options



Non-adjustable ceiling mount

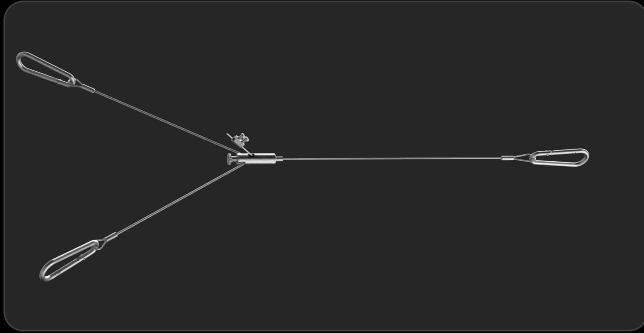


$\pm 60^\circ$ adjustable ceiling mount



Suspension mount

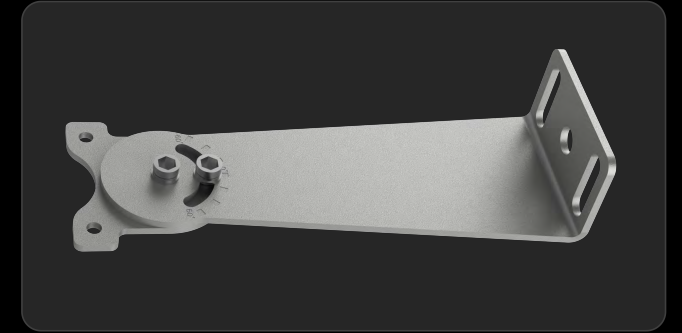
Accessories



Suspension chain

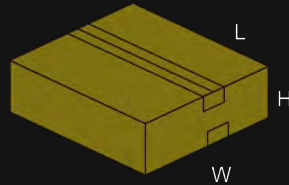
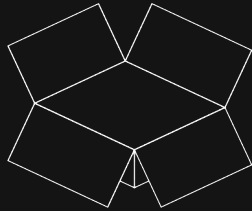
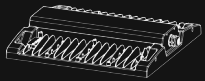


Non-adjustable bracket



$\pm 60^\circ$ adjustable bracket

Packaging Demonstration



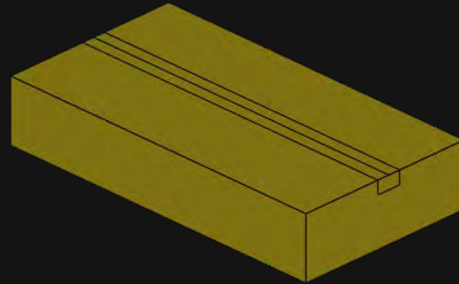
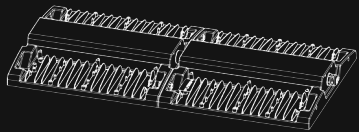
Pallet

Size: 1200x1000x120mm

Package

100W / 150W:

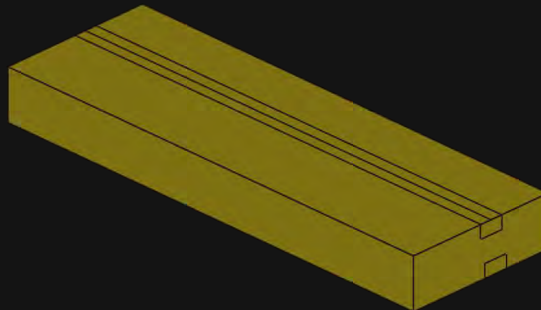
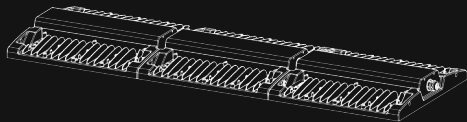
420*385*135mm 4.2Kg(100W); 4.4Kg(150W)



200W / 240W / 300W:

760*385*135mm

7.5Kg(200W); 7.6Kg(240W); 8.6kg(300W)



400W / 500W:

1100*385*135mm 11.7Kg(400W); 12Kg(480W)

Applications

Indoor sports field



Commercial areas



Industrial Factory / Hall

