

Born for Industrial Safety



Hammer™ (ESS-FEL-H Series)

Hazardous Location LED Luminaire

Hammer™

Hazardous Location LED Luminaire

ESS-FEL-H Series



CID1 Model



CID2 Model

Product description

The Hammer™ ESS-FEL-H Series LED Luminaire is designed for installations where moisture, dirt, dust, corrosion and vibration may be present, or NEMA 3 and 4X areas where wind, water, snow or high ambient can be expected.

They can be used in locations made hazardous by the presence of flammable vapors or gases or combustible dusts as defined by the NEC and IEC.

ESS-FEL-H Series is ideal for retrofit of existing HPS/MH and offers higher efficacy for increased energy savings, lower maintenance costs and shorter paybacks.

Features

- Best-in-class system efficacy-Up to 150Lm/W
- Universal Voltage: AC120-277,347-480V (50/60Hz)
- Instant illumination and restrike-no warm-up time required
- Ambient range -40°C-+65°C (-40°F~+149°F)
- Safe and reliable heat transfer - Offering a T-rating of T6 (CID1) / T4A (C1D2) / T6 (CII D1)
- Shock-and vibration-resistant - Durable LEDs with solder-less board connection
- Anti-corrosion housing tested 1000hrs to standard ASTM"B117-11"
- All exposed fasteners with quality stainless steel 316
- High Temperature silicone gasketing
- Thermal shock and impact resistant tempered glass lens for CID1,PC Lens for CID2 models
- Harsh & Hazardous Duty

Compliance

NEC/CEC Standard

UL844
Class I Division 1, Group B, C, D* glass lens only
Class I Division 2, Group A, B, C, D
Class II Division 1, Group E, F, G
Class III
Class I, Zone 1, Group IIB+H2
Class I, Zone 2, Group IIC
Zone 21, Group IIIC
UL 1598 Wet Locations
UL 1598A Marine Outside Type (Salt Water)

CSA C22.2 No.137
CSA C22.2 NO. 250.0

FCC
IP66& IP67
IK10 (PC) / IK08 (Glass)
5G vibration
1000hrs salt spray

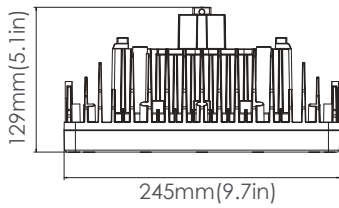
Application

- Power Plants
- Heavy Industrials Storage Facility
- Paper mills
- Wastewater Treatment Plants
- Loading Docks Platforms
- Shipyards
- Chemical Processing Facility
- Petrochemical Processing Facility

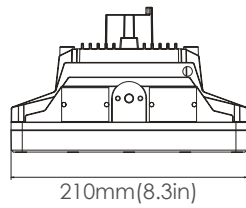
Warranty

5-Year Standard Warranty
LED lumen Maintenance: L70>130,000 Operation Hours@65°C

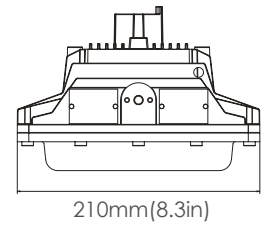
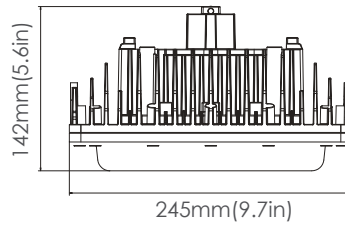
Product Dimensions



CID1 Model

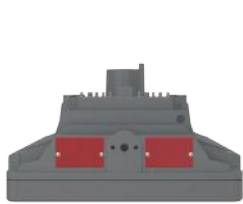


CID2 Model



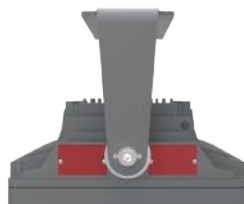
Model	Net weight CID1(Glass)	Net weight CID2(PC)	Product Dimensions (L×W×H)	Gross weight CID1(Glass)	Gross weight CID2(PC)	Package Dimensions (L×W×H)
ESS-FEL-H-21	4.8kg/10.5lbs	3.3kg/7.3lbs	245×210×129mm 9.7×8.3×5.1in CID1(Glass)	5.8kg/12.8lbs	4.3kg/9.5lbs	339×278×202mm 13.3×10.9×8.0in
ESS-FEL-H-40	4.9kg/10.8lbs	3.4kg/7.5lbs		5.9kg/13.0lbs	4.4kg/9.7lbs	
ESS-FEL-H-50	5.3kg/11.7lbs	3.8kg/8.4lbs	245×210×142mm 9.7×8.3×5.6in CID2(PC)	6.3kg/13.9lbs	4.8kg/10.6lbs	
ESS-FEL-H-60	5.3kg/11.7lbs	3.8kg/8.4lbs		6.3kg/13.9lbs	4.8kg/10.6lbs	

Mounting



Pendant

CID1 Model

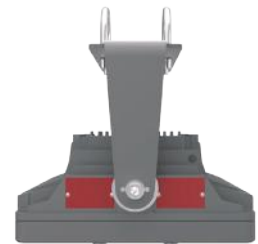


Bracket



Ceiling

CID2 Model*



Pole



Stanchion 25°



Stanchion 90°

CID2 Model*



Wall 25°



Wall 90°



Safety cable installed

* Not for luminaires marked for Class I, Division 1, available for Glass or PC lens models with C1D2 / C2D1 listings

Technical Parameter

Electrical

Specification	ESS-FEL-H-21	ESS-FEL-H-40	ESS-FEL-H-50	ESS-FEL-H-60	
Rated Power	21W	40W	50W	60W	
Input Voltage	AC120-277	AC120-277	AC347-480	AC120-277	
Input Frequency	50/60Hz				
Input Current	(AC120/277V)	0.18/0.09A	0.34/0.16A	N.A	0.48/0.215A
	(AC347/480V)	N.A	N.A	0.15/0.1A	N.A
Power Factor	≥0.9				
Driver Efficiency	≥90%				
Surge Protection	2kv	2kv	6kv	6kv	

Optical

Specification	ESS-FEL-H-21	ESS-FEL-H-40	ESS-FEL-H-50	ESS-FEL-H-60
Lumen Output	4200Lm	6499Lm	7179Lm	8514Lm
Lumens Per Watt	150Lm/W*			
Beam Angle	T2/T3/T5			
Correlated Color Temperature (CCT)	2700K/4000K/5000K			
Color Rendering Index (CRI)	Ra>75			

*value calculated based on 5000K ,varies to different spec

Environmental

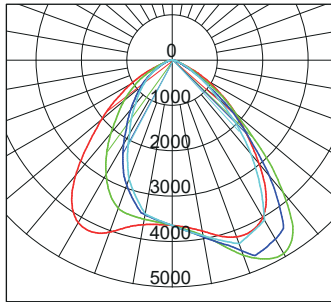
Specification	ESS-FEL-H-21	ESS-FEL-H-40	ESS-FEL-H-50	ESS-FEL-H-60	
Ambient Operating Temperature	-40°C~+65°C(-40°F~+149°F)			60W only 64°C	
Optimal Operating Temperature	25°C (77°F)				
T-code	CID1	T6	T6	T6	T5
	CID2	T4A	T4	T4A	T4
	CIID1	T6	T6	T6	T5

Mechanical

Specification	ESS-FEL-H-21	ESS-FEL-H-40	ESS-FEL-H-50	ESS-FEL-H-60
Housing Material	Copper-free Aluminum			
Lens Material	Tempered glass(Clear/Frosted)/PC(Diffused only)			
Hardware	Stainless steel 316			
Color	Dark Grey (RAL7037)			
Finish	Polyster powder coating for uniform corrosion resistance			
Protection	IP66 & 67/IK08(Glass)/IK10(PC)/5G vibration/1000hrs salt spray			
Mounting	Pendant, Bracket, Ceiling, Pole, Wall, Stanchion			
Installation	MIN 90°C SUPPLY CONDUCTORS			
Cable entries	1 x NPT3/4 (one at top)			
Termination	Leads(standard L/N/G,Dim+/Dim-/12V),Cord optional			

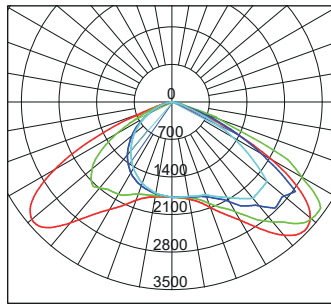
Photometric

Type II



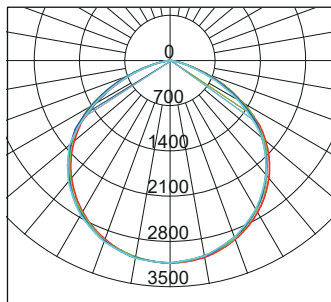
- C0/180,102.1
- C30/210,82.2
- C60/240,73.0
- C90/270,70.9

Type III



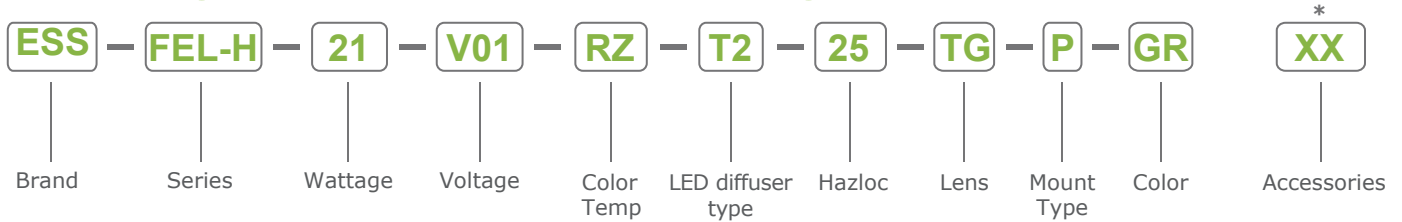
- C0/180,134.6
- C30/210,133.3
- C60/240,98.3
- C90/270,102.0

Type V



- C0/180,112.5
- C30/210,113.7
- C60/240,112.9

Ordering Information and Mounting Accessories



*: Suffix not within nomenclature as per Certification, for marketing purpose only

BRAND	SERIES	WATTAGE	VOLTAGE	COLOR TEMP
ESS	FEL-H	21=21W 40=40W 50=50W 60=60W	V01= AC120-277V V04= AC347-480V (50W only)	RN= 2700K (Warm White) RL= 4000K (Neutral White) RZ= 5000K (Neutral White)

LED DIFFUSER TYPE	HAZLOC RATING	LENS TYPE	MOUNT TYPE
T2=Type II LED diffuser* T3=Type III LED diffuser* T5=110° (No LED diffuser) * available with TG (clear glass) only	1=CID1,CID2,CIID1*(Glass lens ver) 25=CID2,CIID1# (PC lens ver)	TG = Clear glass FG = Frosted glass FP = Frosted PC(Drop lens)	P=NPT 3/4" pendant mount U=NPT 3/4" pendant+U-bracket

COLOR OF FINISH	ACCESSORIES	INSTALLATION TIPS
GR=Gray(Standard) BL=Black	JB01=Junction Box NPT 3/4" PB02= U-Bracket (SUS 304) WL25=Wall mount-25° WL90=Wall mount-90° SN2501=Stanchion-25°(NPT 1.25") SN2502=Stanchion-25°(NPT 1.50") SN9001=Stanchion-90°(NPT 1.25") SN9002=Stanchion-90°(NPT 1.50") WG04=Stainless Steel Wire guard for Flat Lens WG05=Stainless Steel Wire guard for Drop Lens SC04=Stainless Steel Safety Cable kit CA01=3' SEOWW-18/3 Cord (Factory installed) CA-X=Cable, order upon request AD01=Adapter for mounting parts "JB01" "WL25" "WL90" "SN2501 & SN2502" "SN9001 & SN9002" PC01=Pipe Clamp (M8*48mm) for pole Φ 1 7/8" (48mm) PC02=Pipe Clamp (M8*60mm) for pole Φ 2 3/8" (48mm) SP03=10kv Surge Protector for 120-277V SP04=10kv Surge Protector for 347-480V	1. Cabling 2ft (0.6m) leads standard (L/N/G, Dim+, Dim-, 12V) Special request for various length 2. Cable Entries 3/4" NPT (Top x1 open) 3. Dimming Standard: 0-10V Dimming (10-100%)

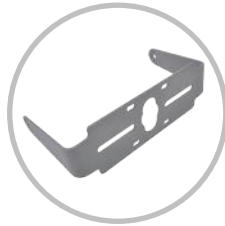


Not all product variations listed on this page are DLC qualified.*
Visit www.designlights.org/search to confirm qualification.



JB01

Ceiling
Junction Box NPT 3/4"
Grey Painted A356 Aluminum AL



PB02

Wall/Pipe
U-Bracket (SUS 304)
Stainless steel bracket



WL25

Wall mount-25°
NPT 3/4" Grey Painted
A356 Aluminum AL



WL90

Wall mount-90°
NPT 3/4" Grey Painted
A356 Aluminum AL



SN2501

Stanchion-25°,
NPT 1.25"(1.660"Pole OD)
slip-fit stanchion mount

SN2502

Stanchion-25°,
NPT 1.50"(1.900"Pole OD)
slip-fit stanchion mount

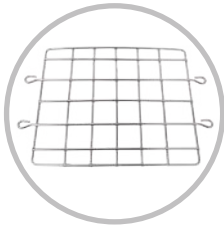


SN9001

Stanchion-90°,
NPT 1.25"(1.660"Pole OD)
slip-fit stanchion mount

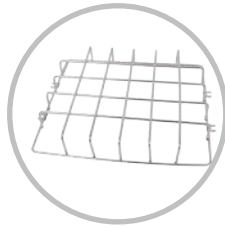
SN9002

Stanchion-90°,
NPT 1.50"(1.900"Pole OD)
slip-fit stanchion mount



WG04

Stainless Steel
Wire guard



WG05

Stainless Steel
Wire guard



SC04

Stainless Steel
Safety Cable kit



CA01

3' SEOWW-18/3 Cord
(Factory installed)



AD01

Adapter for
mounting parts



PC01

Stanchion mount
Pipe clamp_one pair



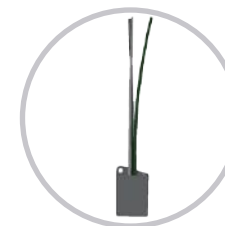
PC02

Stanchion mount
Pipe clamp_one pair



SP03

10KV Surge
Protector 100~277V



SP04

10KV Surge
Protector 347~480V

Class I Locations

Class I locations are those in which inflammable gases or vapors are or may be present in sufficient quantities to produce explosive or flammable mixtures.

CLASS I, DIVISION 1

Class I, Division 1 locations are where hazardous atmosphere may be present during normal operations. It may be present continuously, intermittently, periodically or during normal repair or maintenance operations, or those areas where a breakdown in processing equipment releases hazardous vapors with the simultaneous failure of electrical equipment.

CLASS I, DIVISION 2

Class I, Division 2 locations are those in which volatile flammable liquids or gases are handled, processed or used. Normally they will be confined within closed containers or in closed systems from which they can escape only in the case of rupture or deterioration of the containers or systems.

Class II Locations

Class II locations are those that are hazardous because of the presence of combustible dust.

CLASS II, DIVISION 1

Class II, Division 1 locations include areas where combustible dust may be in suspension in the air under normal conditions in sufficient quantities to produce explosive or ignitable mixtures (Dust may be emitted into the air continuously, intermittently or periodically), or where failure or malfunction of equipment might cause a hazardous location to exist and provide an ignition source with the simultaneous failure of electrical equipment, included also are locations in which combustible dust of an electrically conductive nature may be present.

CLASS II, DIVISION 2

Class II, Division 2 locations are those in which combustible dust will not normally be in suspension nor will normal operations put dust in suspension, but where accumulation of dust may interfere with heat dissipation from electrical equipment or where accumulations near electrical equipment may be ignited.

Class III Locations

Class III locations are those considered hazardous due to the presence of easily ignitable fibers or flyings, which are in quantities sufficient to produce ignitable mixtures.

CLASS III, DIVISION 1

Locations in which easily ignitable fibers or materials producing combustible flyings are handled, manufactured or used.

CLASS III, DIVISION 2

Locations where easily ignitable fibers are stored or handled.