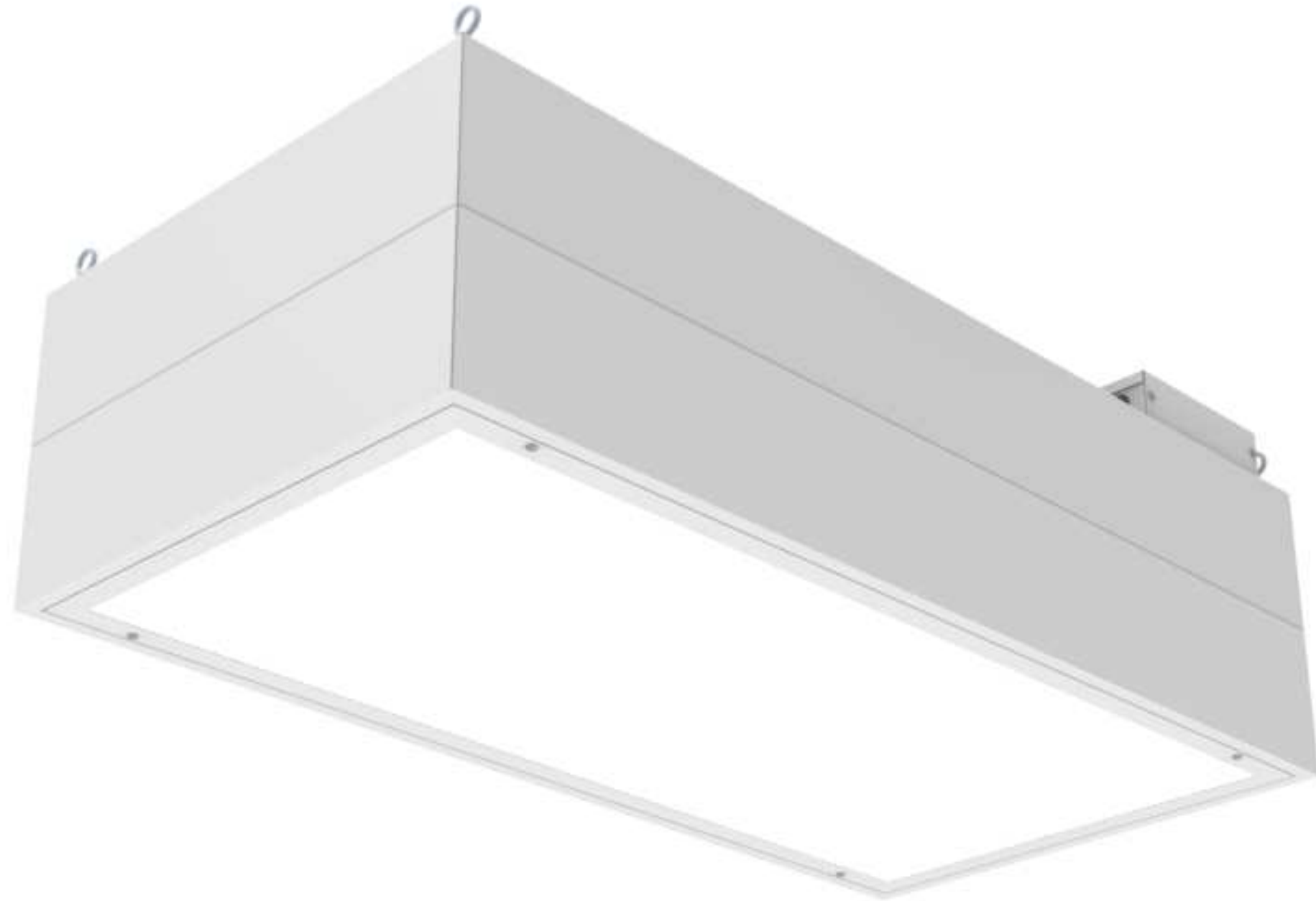


# ULFD

## ULTRA LAMINAR FLOW DIFFUSER WITH INTEGRATED LED LIGHTING

### FEATURES:

- LAMINAR FLOW DIFFUSER WITH INTEGRATED HIGH PERFORMANCE LED LIGHTS
- OPTIONAL HGMF - HOSPITAL GRADE MOUNTING FRAME FOR SURFACE MOUNT INSTALLATION
- UL 1598 CERTIFIED, AIR-HANDLING LUMINAIRE



High Efficiency  
90+ lm/W LED



L80 > 60,000  
hours



IP67 Sealed  
LED



90+ CRI

**PRICE** | **CRITICAL ENVIRONMENTS**

PROJECT:

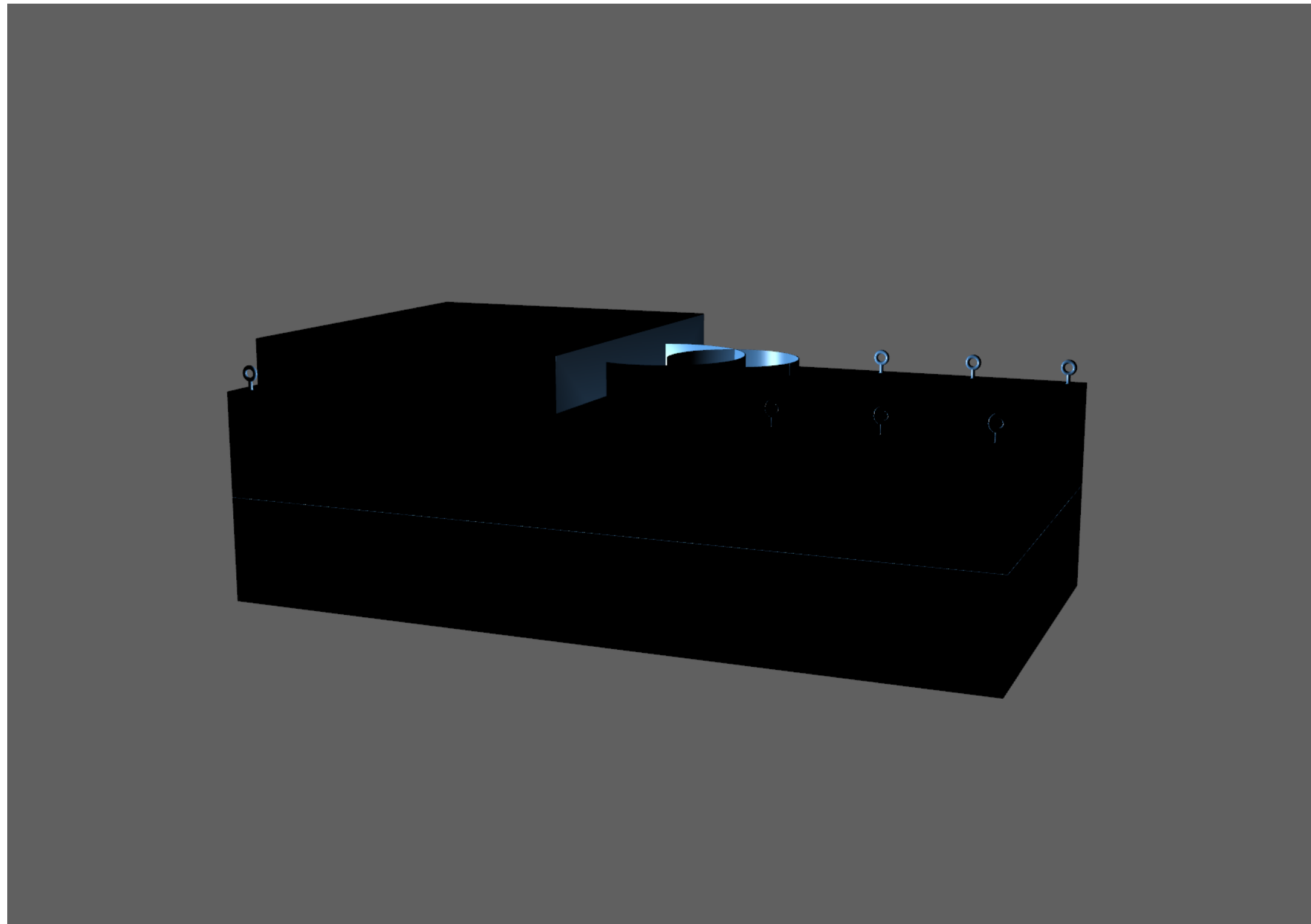
271971

Revision: A

06-15-2021

ULFD 

ULTRA LAMINAR FLOW DIFFUSER WITH INTEGRATED LED LIGHTING  
3D INTERACTIVE MODELS



**PRODUCT CONFIGURATIONS**  
(CLICK BUTTONS TO TOGGLE VIEWS)

- USE THE SCROLL WHEEL TO ZOOM
- HOLD DOWN THE LEFT MOUSE BUTTON TO ROTATE
- HOLD DOWN CTRL AND LEFT MOUSE BUTTON TO MOVE

**PRICE** | **CRITICAL ENVIRONMENTS**

PROJECT:

271971

Revision: A

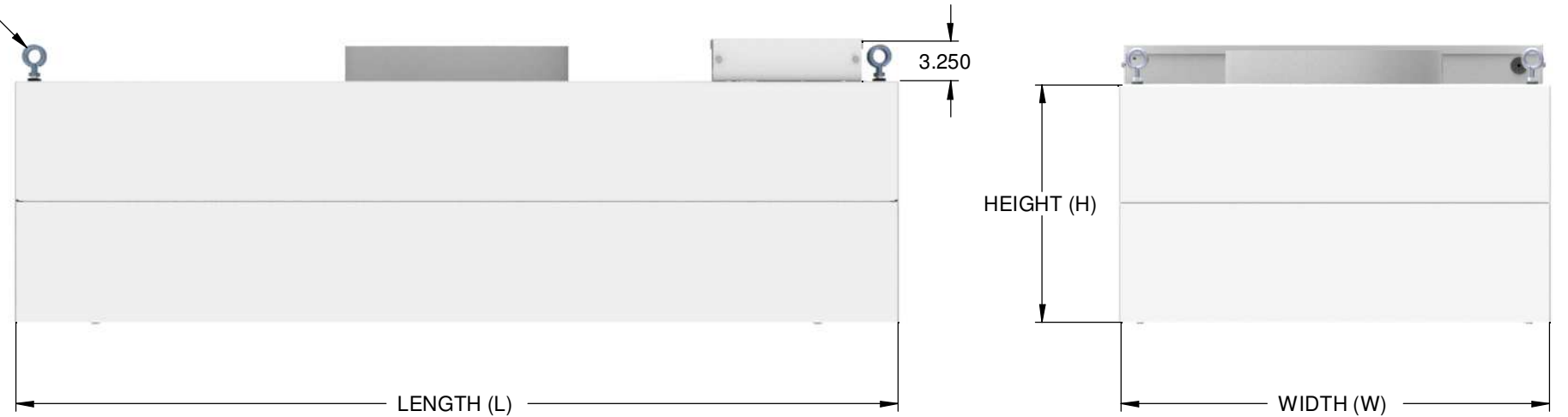
06-15-2021

# ULFD

## ULTRA LAMINAR FLOW DIFFUSER WITH INTEGRATED LED LIGHTING CONSTRUCTION DETAILS AND OPTIONS



ZINC PLATED EYEBOLTS FOR HANGING



### STANDARD CONSTRUCTION

- EXTRUDED ALUMINUM FILTER FRAME WITH URETHANE GEL
- ROOM SIDE ADJUSTABLE APERTURE PLATE DAMPER
- TWO STAINLESS STEEL RETAINER CABLES PER UNIT
- DIFFUSER FACE SECURED WITH QUARTER TURN FASTENERS
- 14 GA (.064 THICK) ALUMINUM PLENUM
- EXTRUDED ALUMINUM OUTER FRAME AND DIFFUSER FRAME
- TIG WELDED PLENUM, DIFFUSER AND OUTER FRAME
- ZINC PLATED EYE BOLTS FOR HANGING

### FINISH

- B12 STANDARD WHITE

### LED LIGHTING SPECIFICATIONS

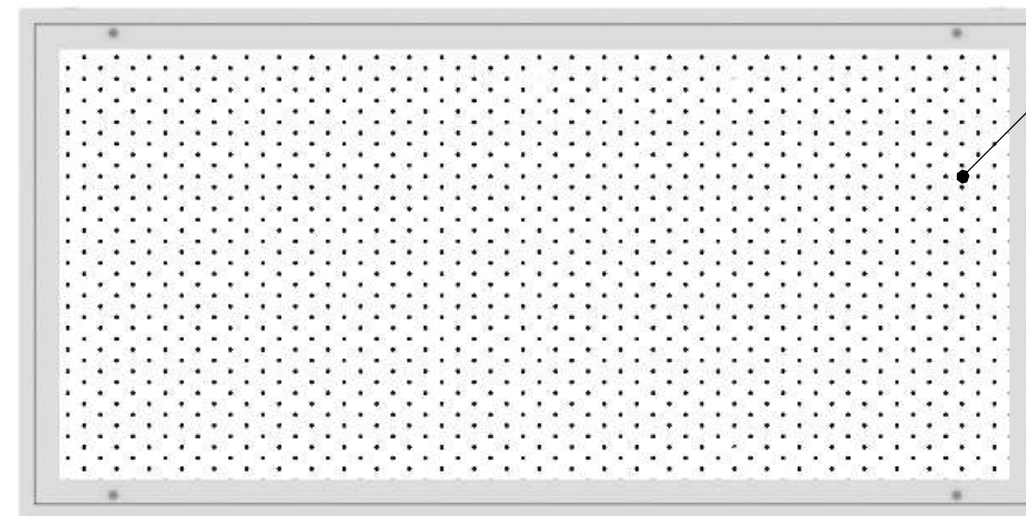
- LED LIGHTING INTEGRATED INTO EACH DIFFUSER MODULE
- IP67 RATED LED STRIP WITH QUICK CONNECTORS
- COLOR RENDERING INDEX (CRI) 90+
- L80 > 60,000 HRS.
- FOR IES PHOTOMETRIC FILES VISIT:  
[www.priceindustries.com/criticalenvironments/products/ulfd](http://www.priceindustries.com/criticalenvironments/products/ulfd)

### LED COLOR TEMPERATURE

- 5000K (5000 KELVIN)

### LISTINGS

- **UL 1598** AIR-HANDLING LUMINAIRES
- **UL 2043** FIRE TEST FOR HEAT AND VISIBLE SMOKE RELEASE FOR DISCRETE PRODUCTS AND THEIR ACCESSORIES INSTALLED IN AIR-HANDLING SPACES
- **UL2108** LOW VOLTAGE LIGHTING SYSTEM
- **UL8750** LIGHT EMITTING DIODE (LED) EQUIPMENT FOR USE IN LIGHTING PRODUCTS
- **UL1310** CLASS 2 POWER UNITS
- **UL94** FLAMMABILITY OF PLASTIC MATERIALS FOR PARTS IN DEVICES AND APPLIANCES
- **IP67** RATED INGRESS PROTECTION AGAINST DUST AND LIQUIDS
- **MIL-STD-461** FOR ELECTROMAGNETIC COMPATIBILITY



TRANSLUCENT PERFORATED POLYCARBONATE DIFFUSER FACE  
13% FREE AREA

NOMINAL UNIT SIZE	WIDTH (W)	LENGTH (L)	HEIGHT (H)
24x24	23.625	23.625	13.000
24x36	23.625	35.625	13.000
24x48	23.625	47.625	13.000

### AVAILABLE INLET SIZES:

- 6" ROUND
- 8" ROUND
- 10" ROUND
- 12" ROUND (NOT AVAILABLE FOR 2x2)

**PRICE** | **CRITICAL ENVIRONMENTS**

PROJECT:

271971

Revision: A

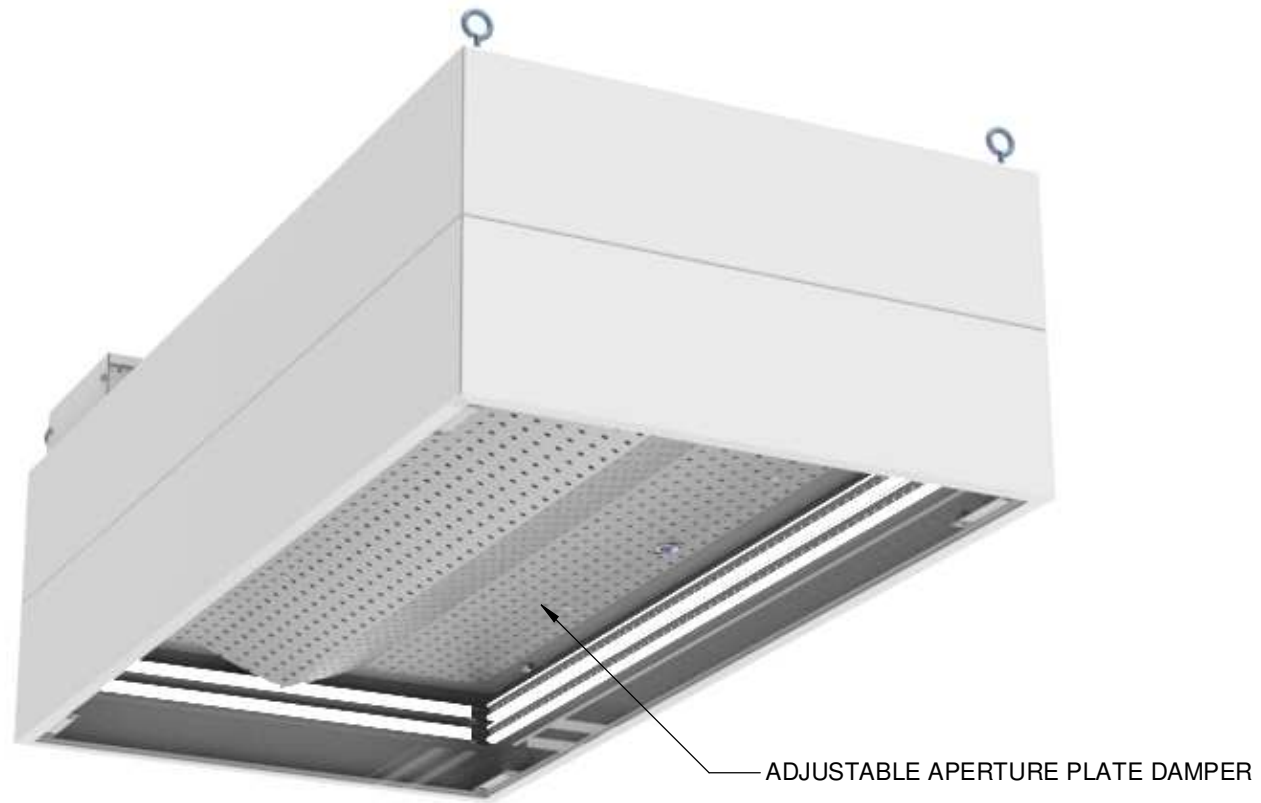
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# ULFD

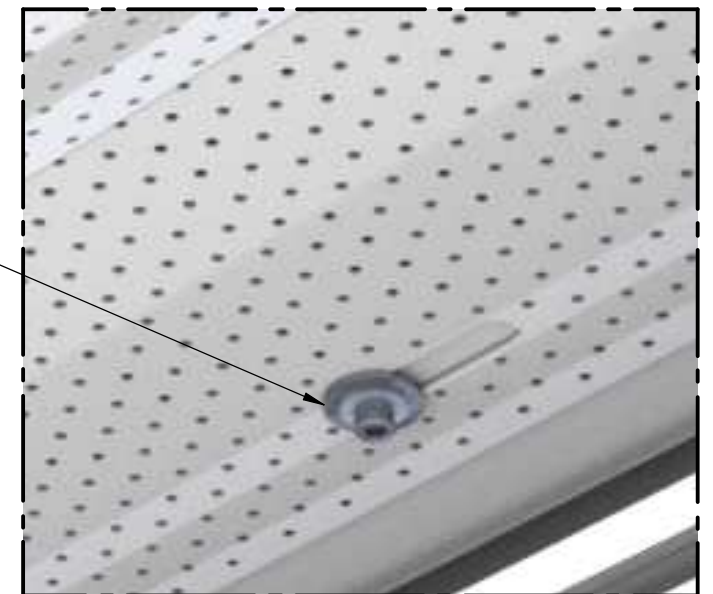
## ULTRA LAMINAR FLOW DIFFUSER WITH INTEGRATED LED LIGHTING APERTURE PLATE DAMPER DETAILS

### NOTES:

- SLIDE DAMPER APERTURE PLATE FOR AIRFLOW ADJUSTMENT BY LOOSENING AND SLIDING THE SCREW WITH A 3/16" ALLEN KEY



SLIDE SCREW EITHER FULLY LEFT OR FULLY RIGHT FOR A CLOSED DAMPER



**PRICE** | **CRITICAL ENVIRONMENTS**

PROJECT:

271971

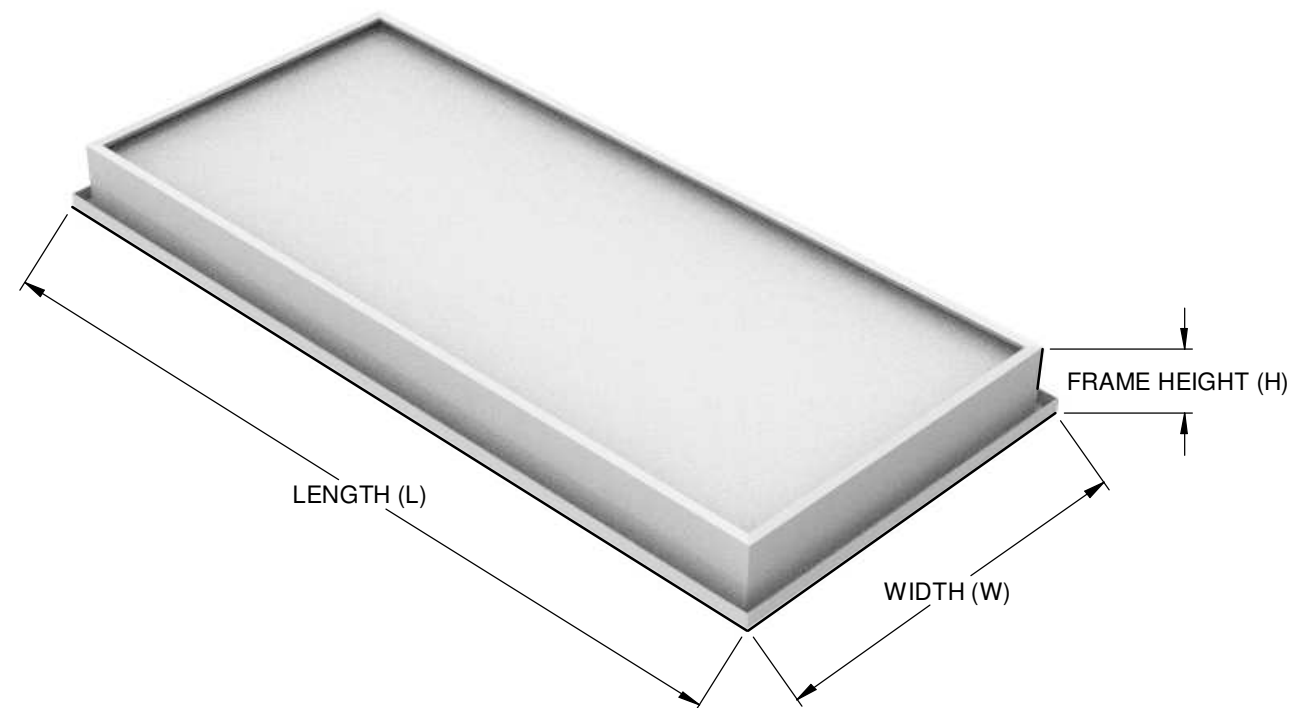
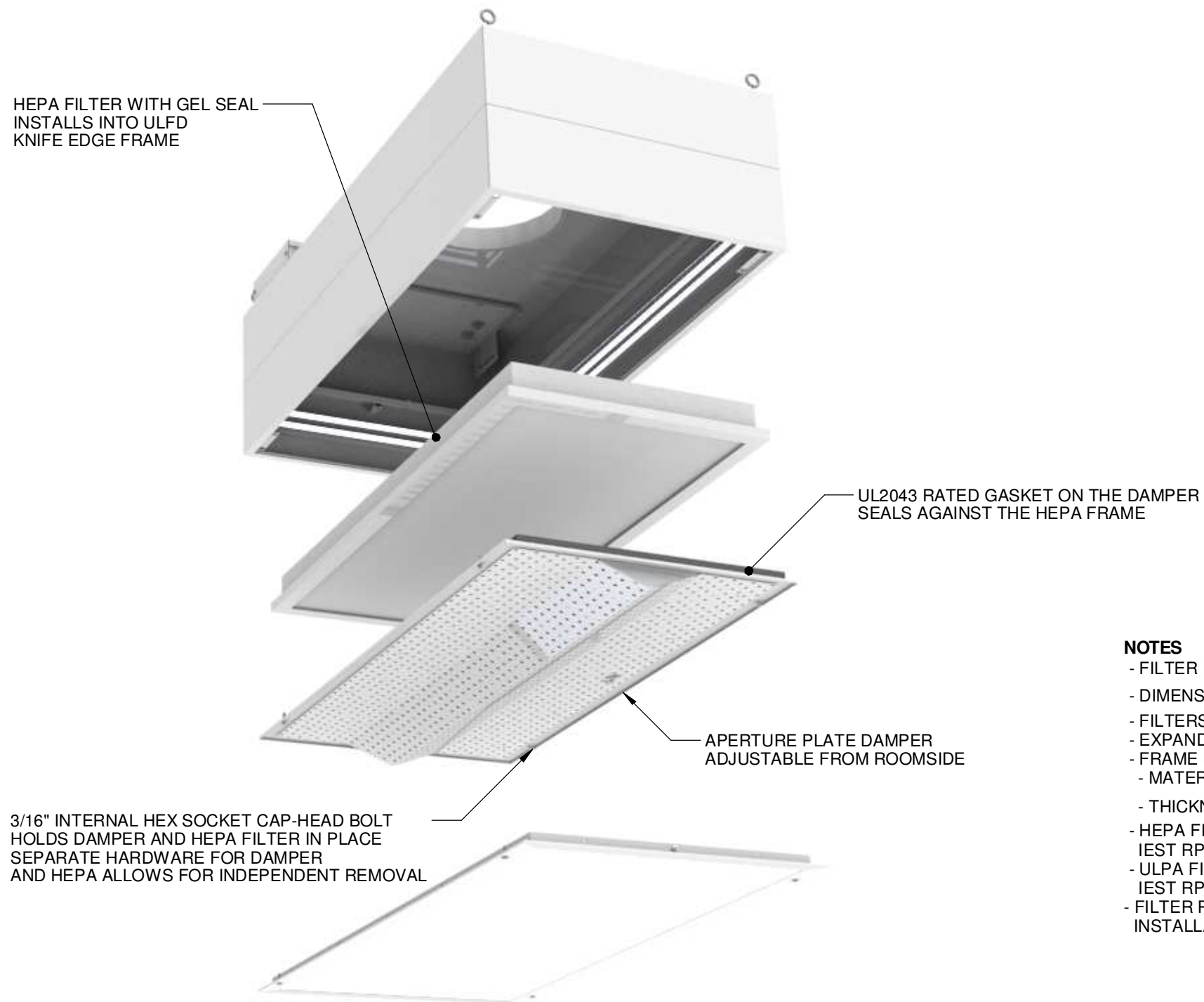
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# ULFD

## ULTRA LAMINAR FLOW DIFFUSER WITH INTEGRATED LED LIGHTING

OPTIONAL HEPA FILTRATION - SEE FTR-1-X LINESTRING



### NOTES

- FILTER PLEATS RUN PARALLEL TO THE WIDTH (W) DIMENSION
- DIMENSIONS L & W TOLERANCES  $\pm \frac{1}{16}$ "
- FILTERS COME WITH GEL SEAL FILLED CHANNEL
- EXPANDED PAINTED WHITE SCREEN ON THE DOWNSTREAM SIDE
- FRAME DETAILS:
  - MATERIAL: ANODIZED EXTRUDED ALUMINUM
  - THICKNESS:  $\frac{1}{16}$ " (MINIMUM)
- HEPA FILTERS EFFICIENCY AND LEAK SCAN TESTED TO IEST RP CC001 TYPE J
- ULPA FILTERS EFFICIENCY AND LEAK SCAN TESTED TO IEST RP CC001 TYPE F
- FILTER PACKAGED SEPERATELY FROM DIFFUSER FOR JOB SITE INSTALLATION BY OTHERS

### ACTUAL FILTER SIZE

WIDTH (W)	LENGTH (L)	HEIGHT (H)
20.69	20.69	2.88
20.69	32.69	2.88
20.69	44.69	2.88

VISIT PRICE INDUSTRIES WEBSITE FOR FILTER QUICK START GUIDE

<https://www.priceindustries.com/content/uploads/assets/literature/manuals/section%20e/ftr-room-side-replaceable-filter-rsr-quick-start-guide.pdf>

NOTE:

UL 1598 DOES NOT HAVE PROVISIONS FOR HEPA FILTERS MOUNTED WITHIN FIXTURE. ULFD COMPLIES WITH UL 1598 WITH HEPA FILTERS ORDERED SEPERATELY ON FTR-1-X LINESTRING.

**PRICE** | **CRITICAL ENVIRONMENTS**

PROJECT:

271971

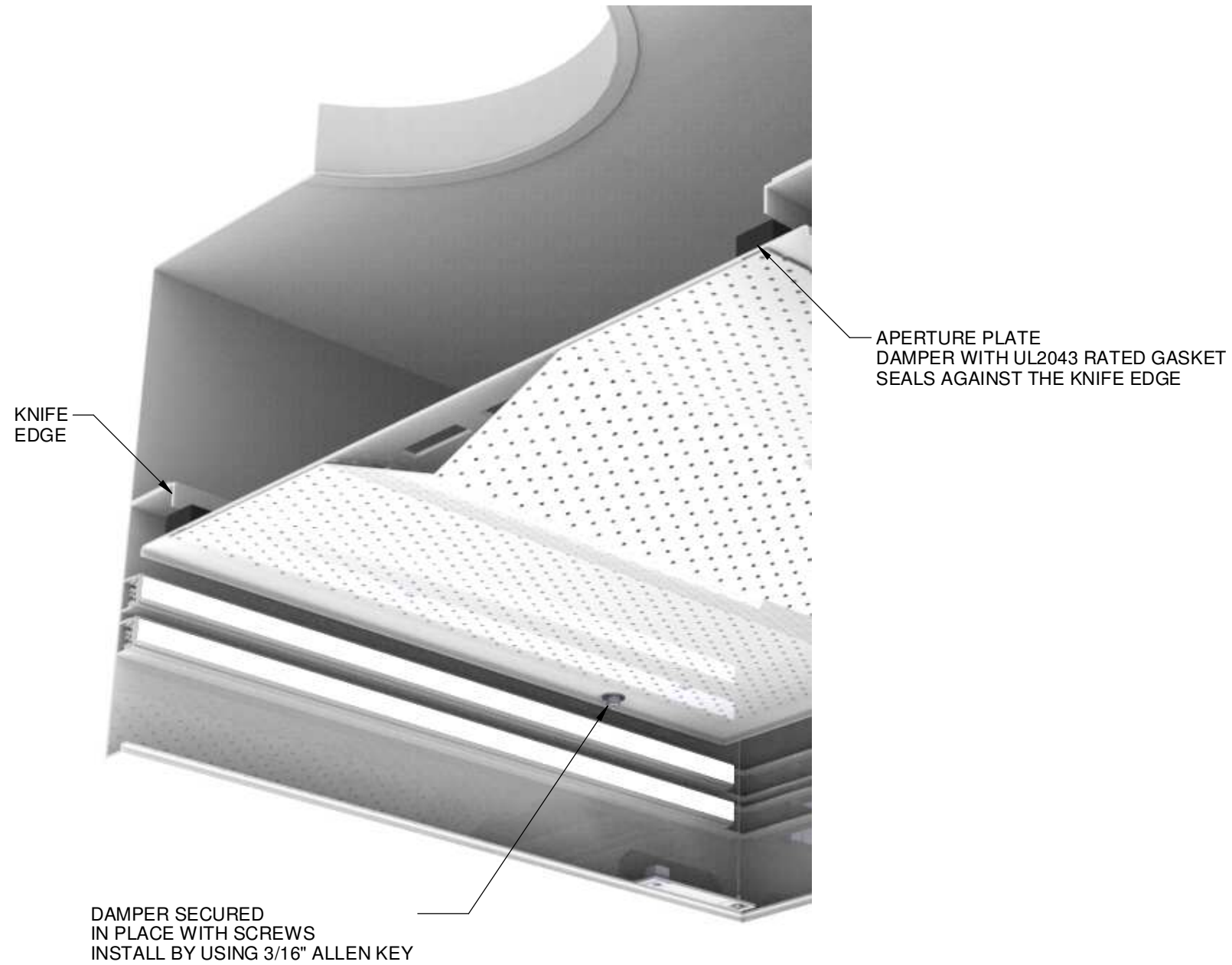
Revision: A

06-15-2021

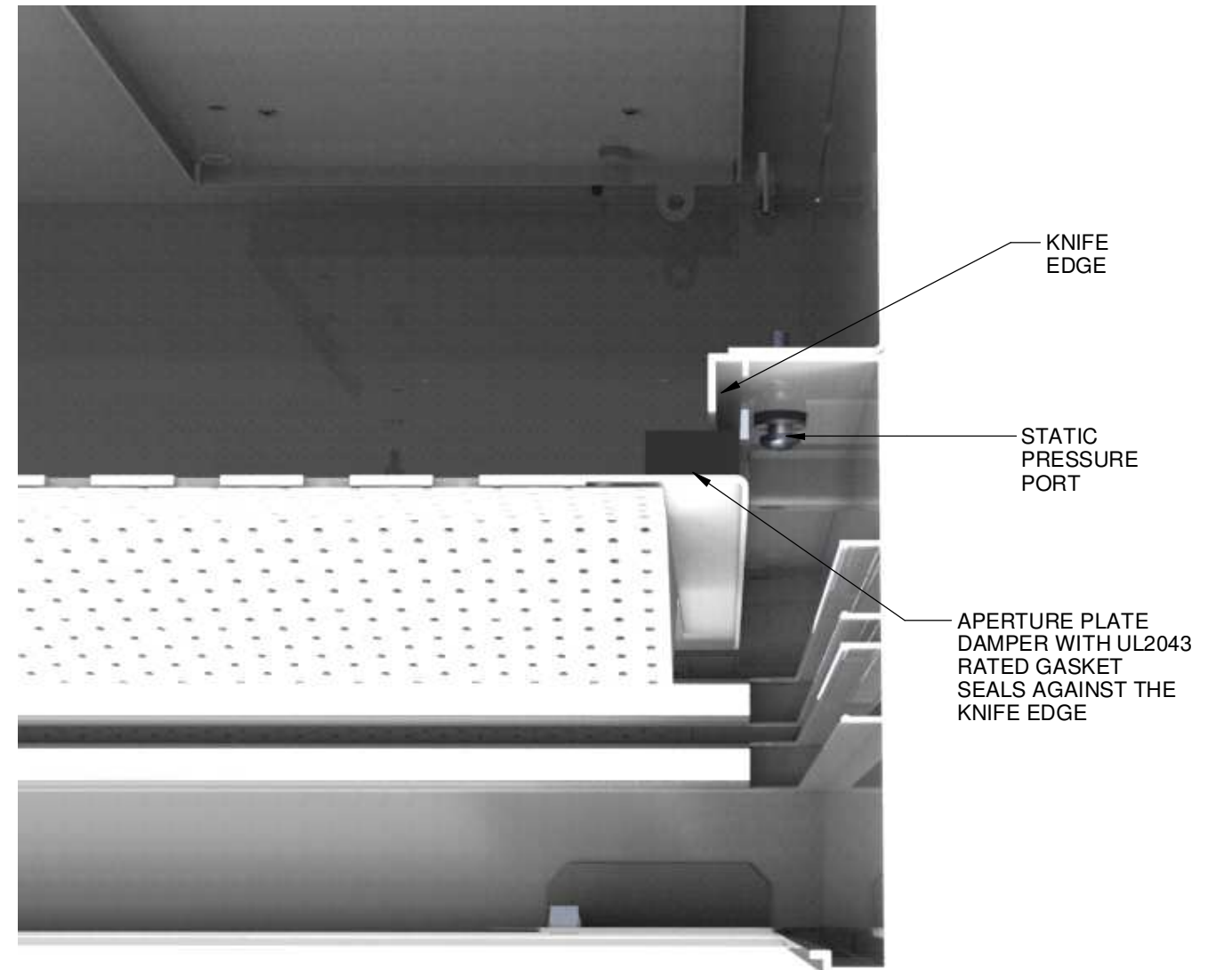
# ULFD

## ULTRA LAMINAR FLOW DIFFUSER WITH INTEGRATED LED LIGHTING DETAIL VIEWS - STANDARD CONSTRUCTION

### DAMPER INSTALLATION DETAIL



### STATIC PRESSURE PORT DETAIL



**PRICE** | **CRITICAL ENVIRONMENTS**

PROJECT:

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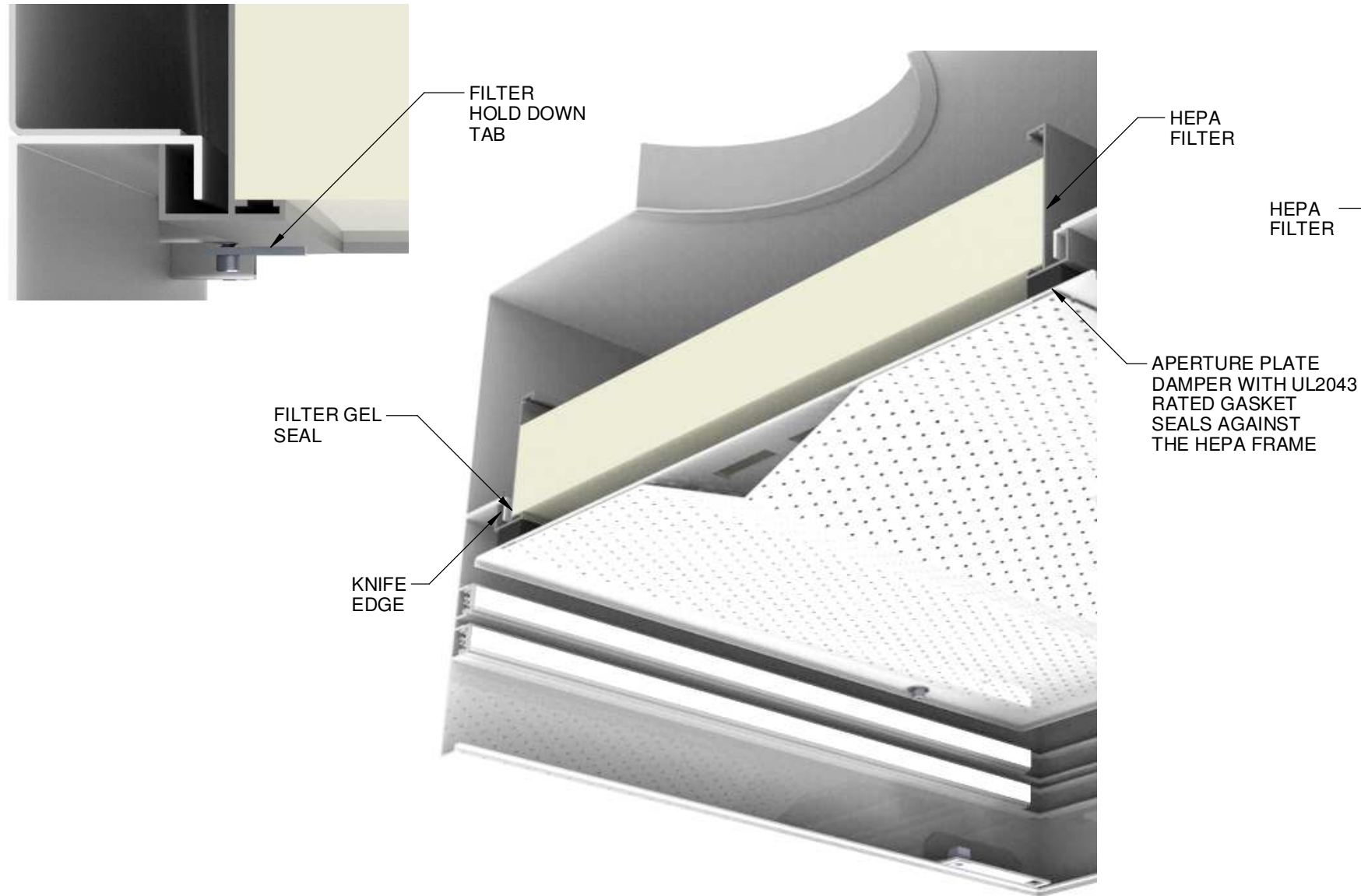
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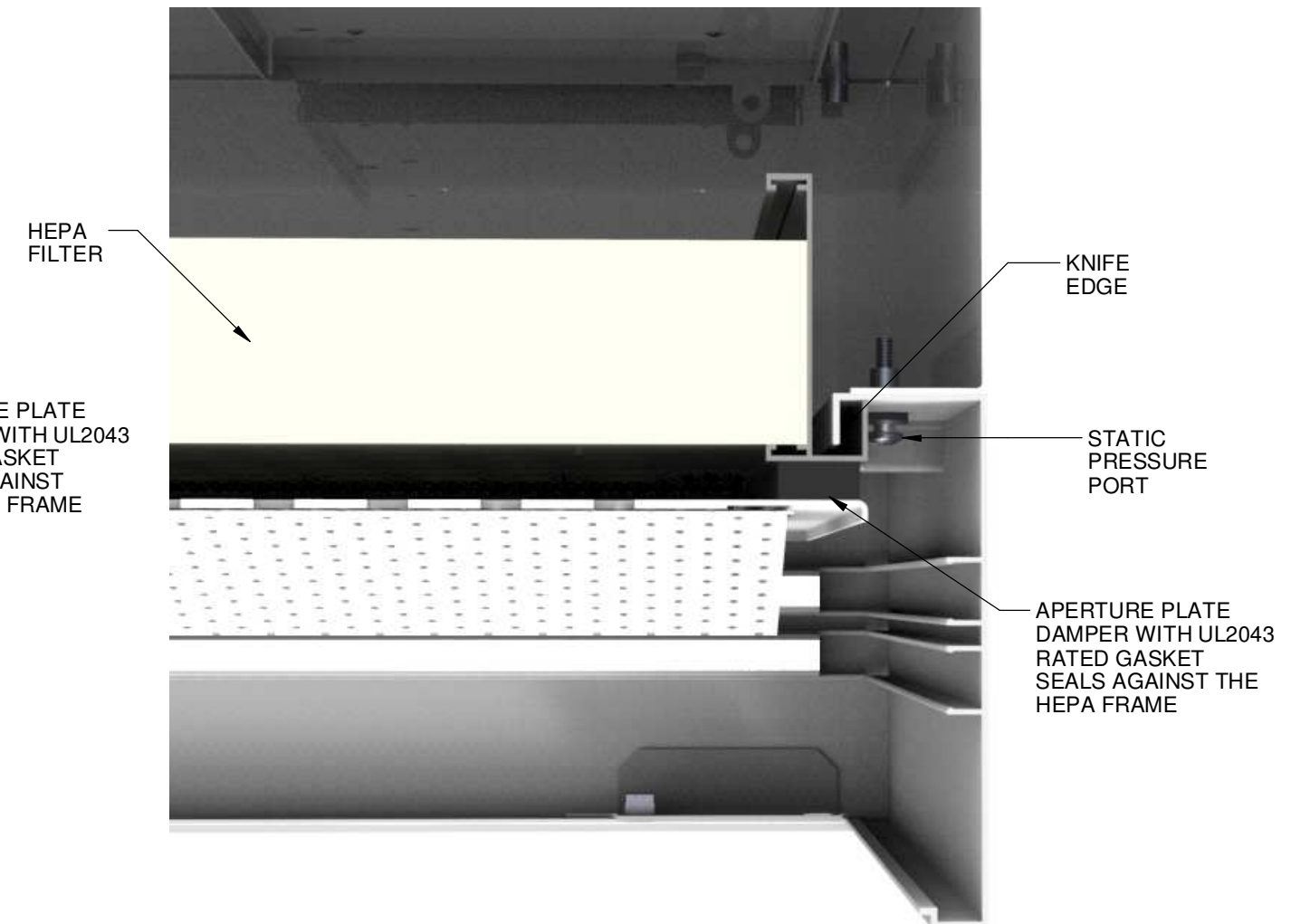
# ULFD

## ULTRA LAMINAR FLOW DIFFUSER WITH INTEGRATED LED LIGHTING DETAIL VIEWS - OPTIONAL HEPA FILTRATION - SEE FTR-1-X LINESTRING

### FILTER HOLD DOWN TAB DETAIL



### STATIC PRESSURE PORT DETAIL



**PRICE** | **CRITICAL ENVIRONMENTS**

PROJECT:

271971

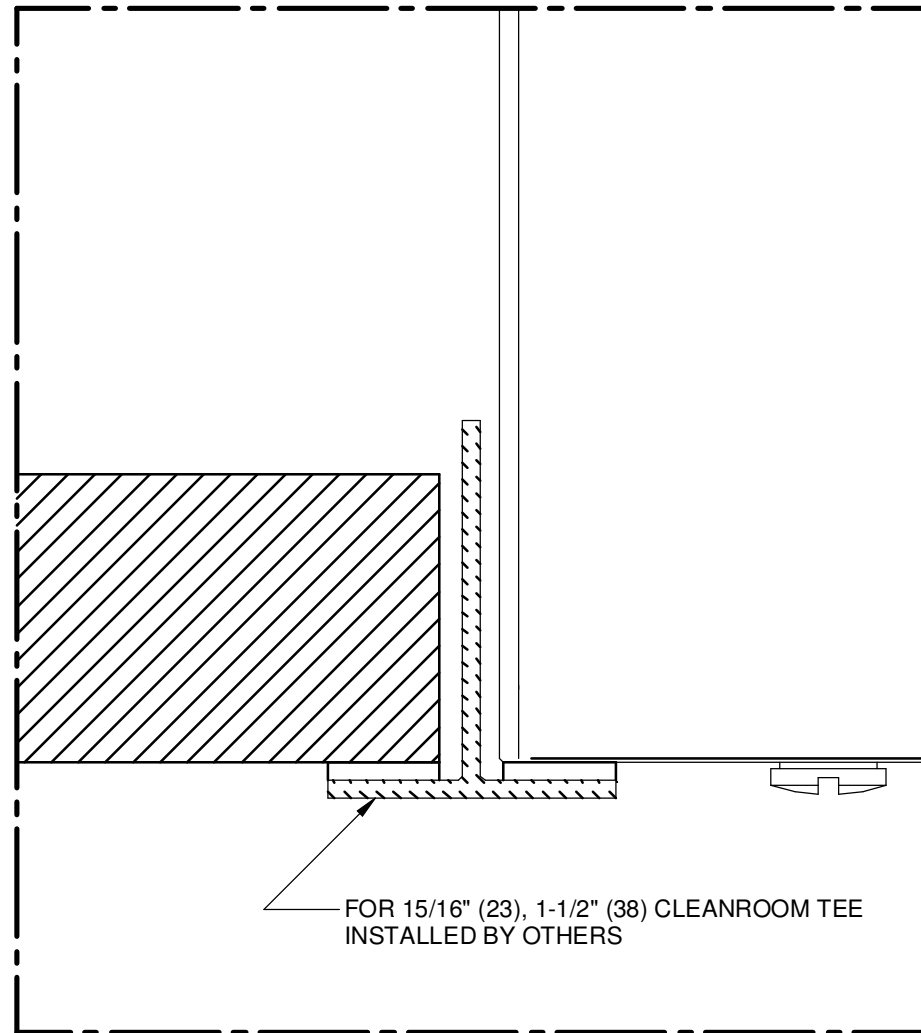
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06-15-2021

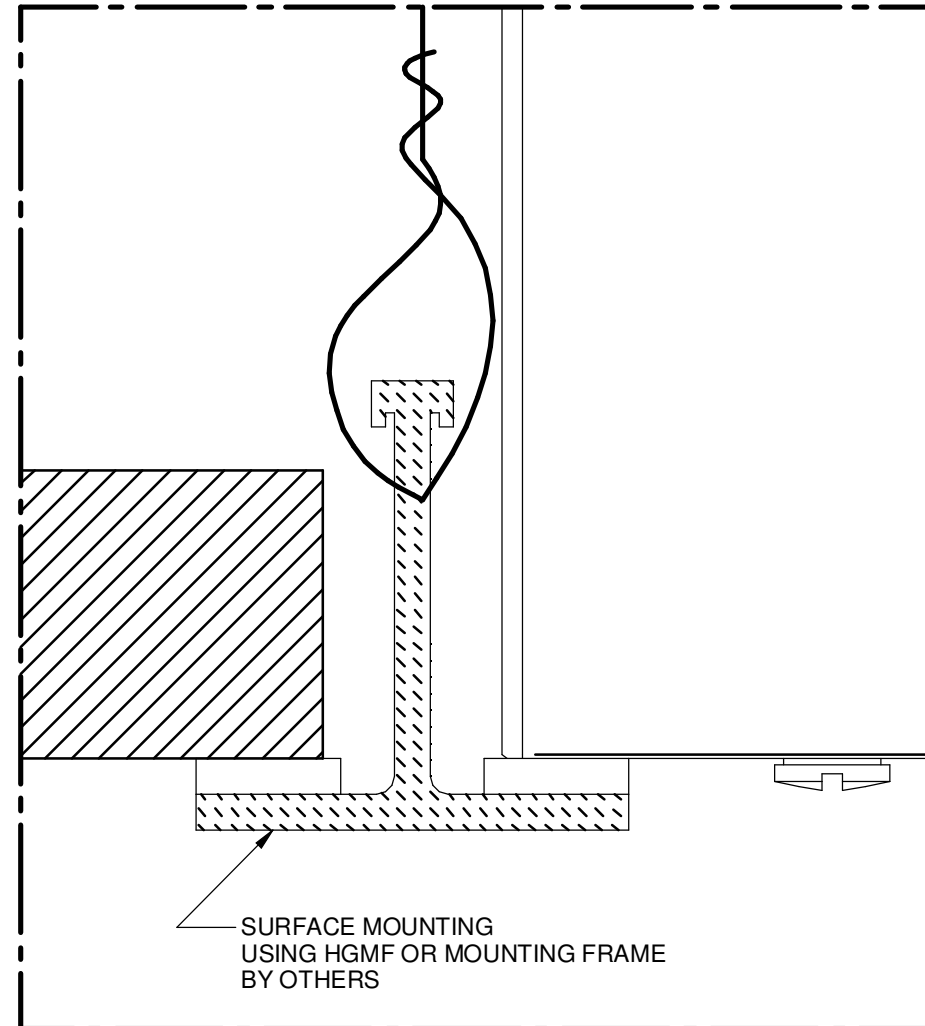
# ULFD

## ULTRA LAMINAR FLOW DIFFUSER WITH INTEGRATED LED LIGHTING MOUNTING DETAILS

### T-BAR MOUNTING



### SURFACE MOUNTING



#### NOTES:

- LAY IN CEILING INSTALLATION ONLY. UNIT SIZE DESIGNED FOR 1" WIDE T-BAR OR 1.5" WIDE T-BAR.
- FOR SURFACE MOUNT INSTALLATION ORDER SEPARATE HOSPITAL GRADE MOUNTING FRAME. SEE HGMF SUBMITTAL HERE.

**PRICE** | **CRITICAL ENVIRONMENTS**

PROJECT:

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Revision: A

06-15-2021



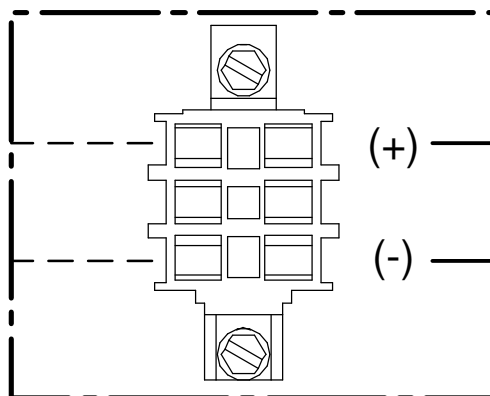
# ULFD

## ULTRA LAMINAR FLOW DIFFUSER WITH INTEGRATED LED LIGHTING

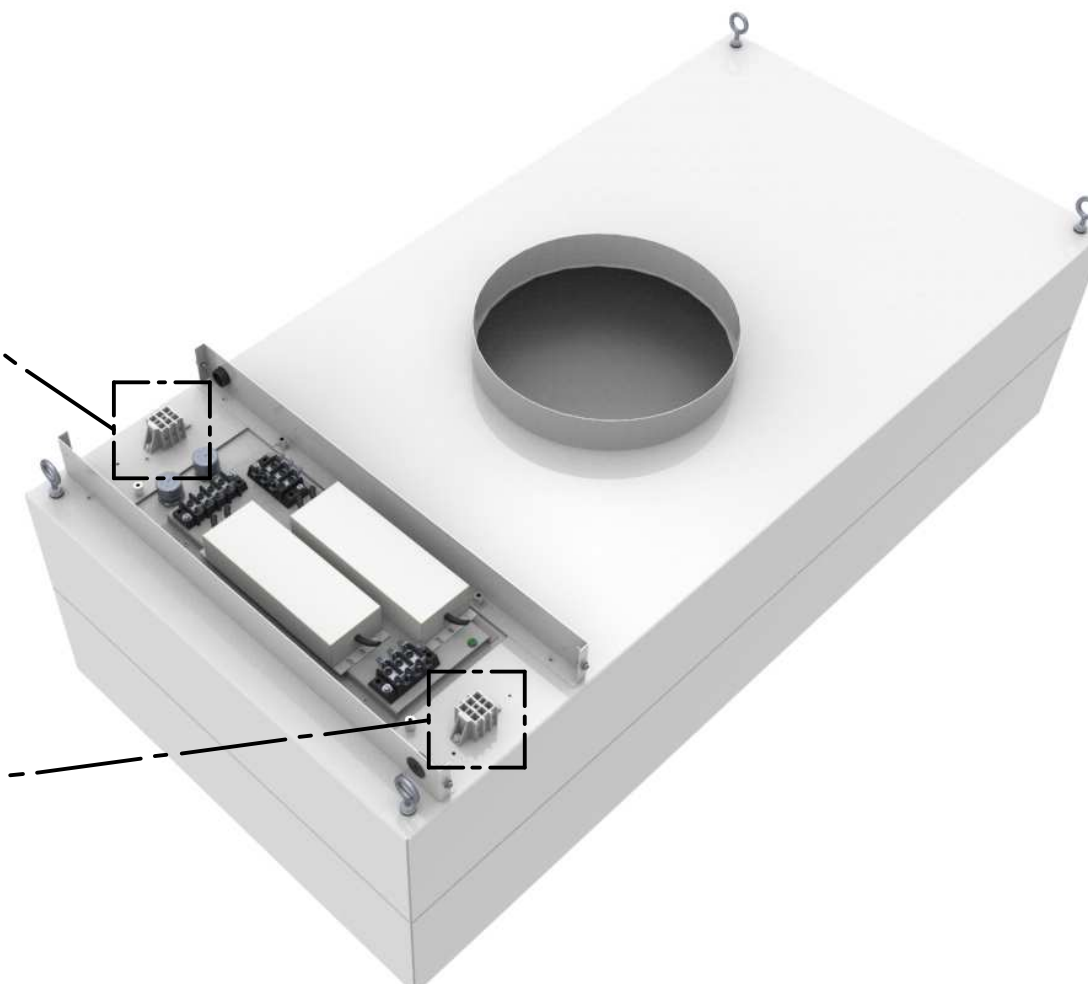
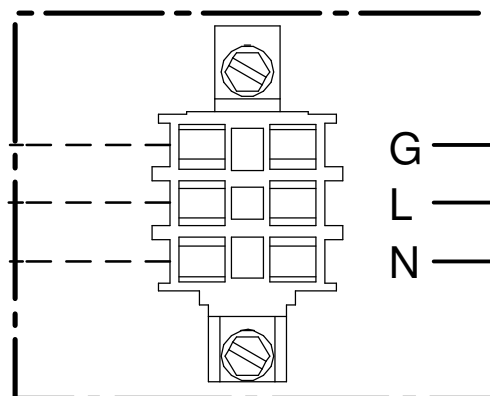
□ TOP AND ROOMSIDE ACCESS - TYPICAL WIRING DETAILS

——— PRE-WIRED FACTORY CONNECTION  
 - - - - - FIELD CONNECTION  
 G GROUND  
 N NEUTRAL  
 L LINE CONNECTION

LOW VOLTAGE 0-10V  
FIELD CONNECTIONS



HIGH VOLTAGE FIELD CONNECTIONS



0-10V DIMMER  
SWITCH

- 0-10V DIMMER SHIPS LOOSE AND MUST BE ORDERED SEPARATELY ON UCA-1-X LINE.
- THE TOTAL 0-10V CONTROL SIGNAL WIRING FOR THIS CONTROL SHOULD NOT EXCEED 500 ft. DO NOT USE WIRE SMALLER THAN 20 AWG.
- SEE UCA (ULTRA COMPONENTS AND ACCESSORIES) SUBMITTAL HERE

INSTALLATION WORK AND ELECTRICAL WIRING MUST BE COMPLETED BY A CERTIFIED ELECTRICIAN AND/OR QUALIFIED PERSON(S) IN ACCORDANCE WITH APPLICABLE ELECTRICAL CODES AND STANDARDS

**PRICE** | **CRITICAL ENVIRONMENTS**

PROJECT:

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Revision: A

06-15-2021

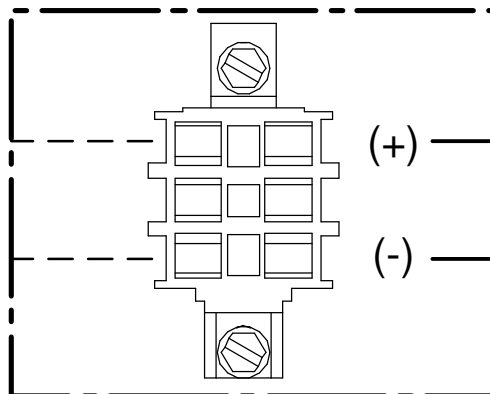
# ULFD

## ULTRA LAMINAR FLOW DIFFUSER WITH INTEGRATED LED LIGHTING

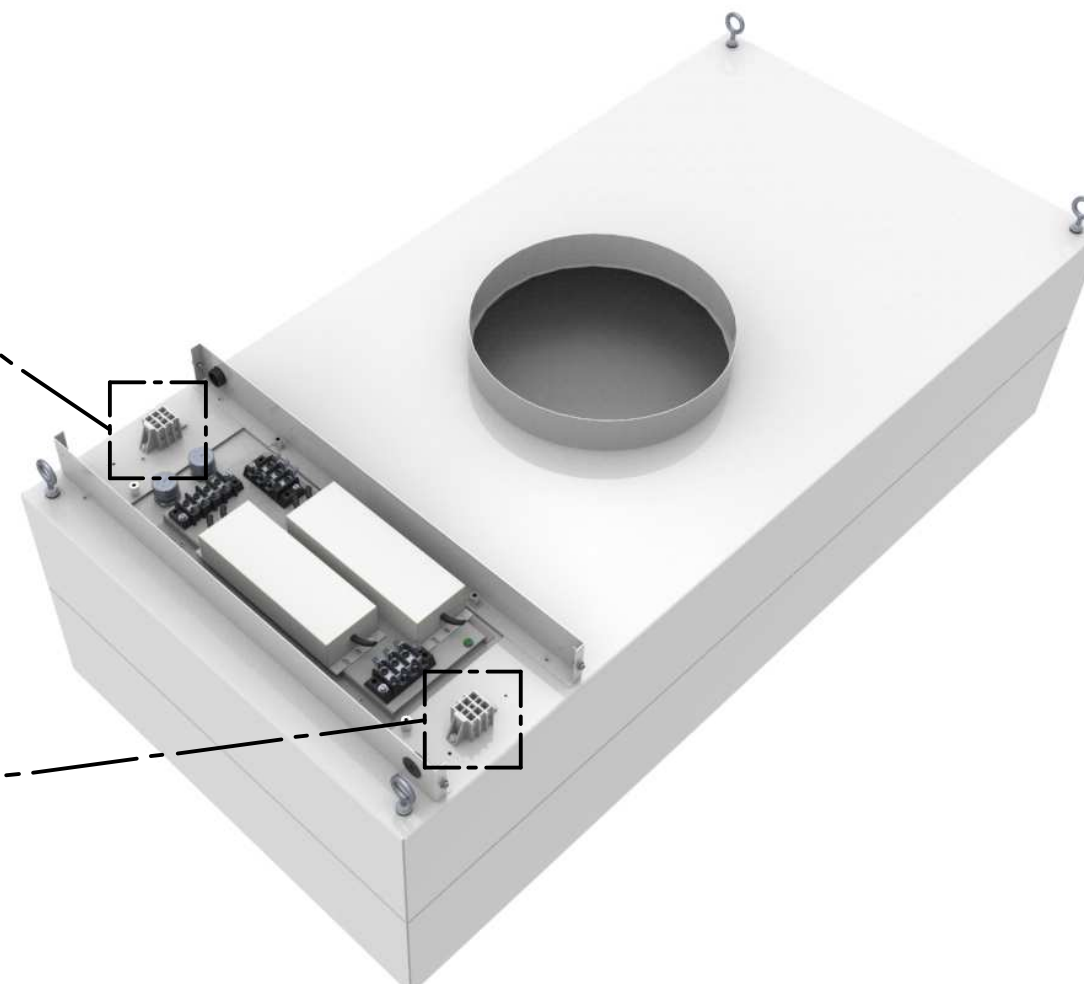
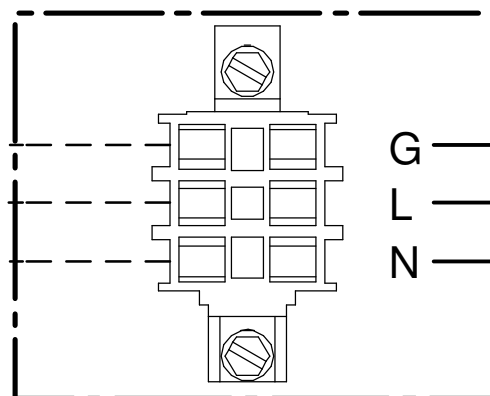
☐ TOP ACCESS - TYPICAL WIRING DETAILS

——— PRE-WIRED FACTORY CONNECTION  
 - - - - - FIELD CONNECTION  
 G GROUND  
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 L LINE CONNECTION

LOW VOLTAGE 0-10V  
FIELD CONNECTIONS



HIGH VOLTAGE FIELD CONNECTIONS



- 0-10V DIMMER SHIPS LOOSE AND MUST BE ORDERED SEPARATELY ON UCA-1-X LINE.

- THE TOTAL 0-10V CONTROL SIGNAL WIRING FOR THIS CONTROL SHOULD NOT EXCEED 500 ft. DO NOT USE WIRE SMALLER THAN 20 AWG.

- SEE UCA (ULTRA COMPONENTS AND ACCESSORIES) SUBMITTAL HERE

INSTALLATION WORK AND ELECTRICAL WIRING MUST BE COMPLETED BY A CERTIFIED ELECTRICIAN AND/OR QUALIFIED PERSON(S) IN ACCORDANCE WITH APPLICABLE ELECTRICAL CODES AND STANDARDS

**PRICE** | **CRITICAL ENVIRONMENTS**

PROJECT:

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Revision: A

06-15-2021

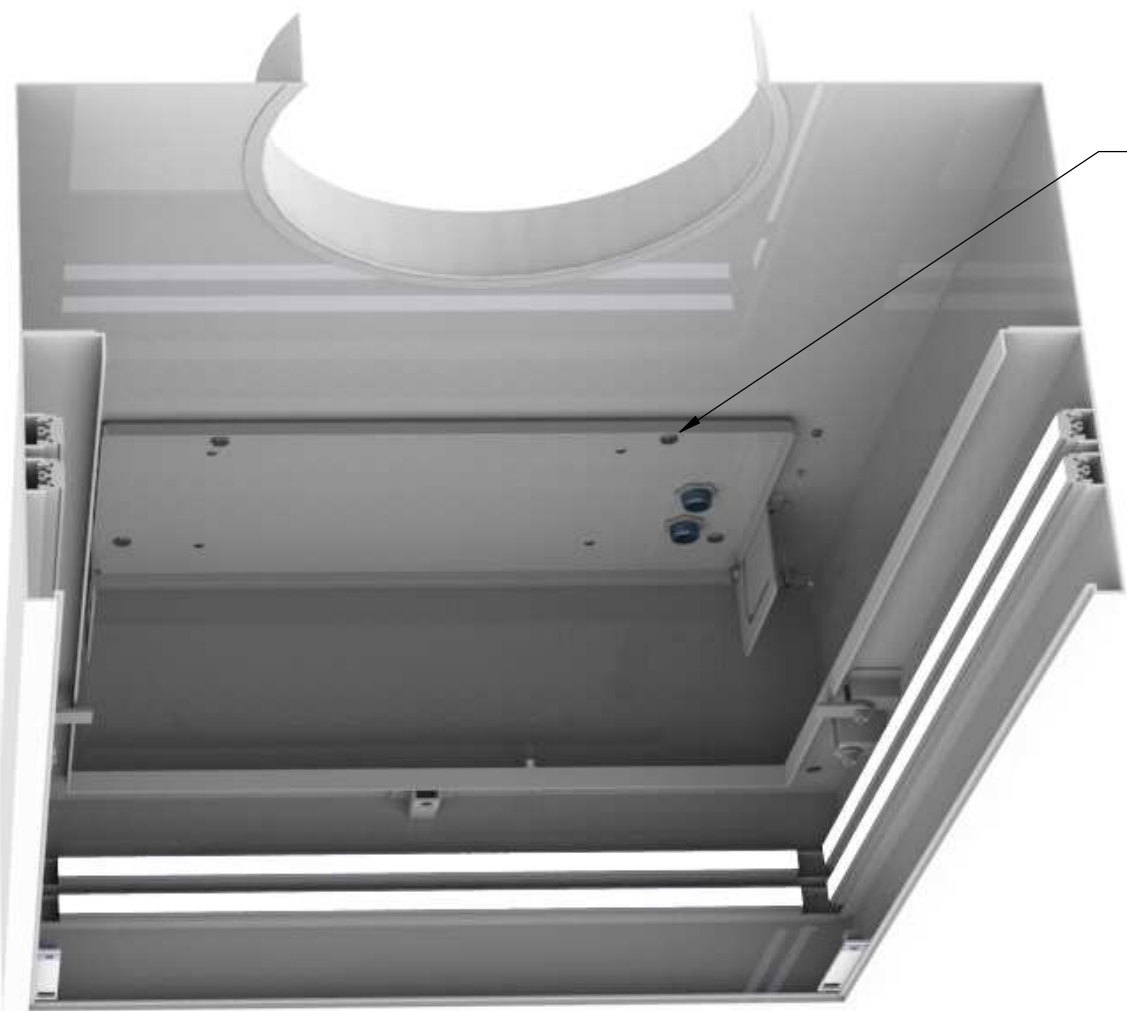
# ULFD

## ULTRA LAMINAR FLOW DIFFUSER WITH INTEGRATED LED LIGHTING

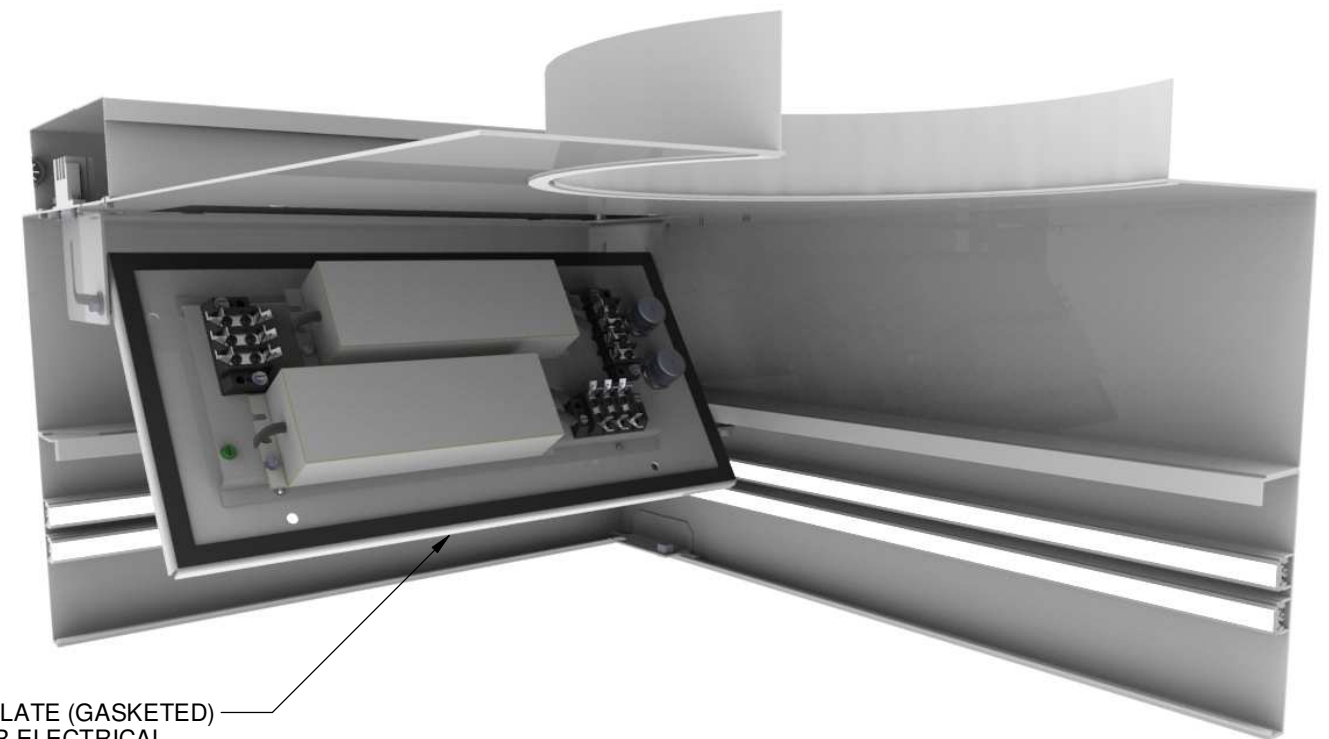
### □ TOP AND ROOMSIDE ACCESS - TYPICAL WIRING DETAILS

#### WARNING

- SHOCK HAZARD, DISCONNECT POWER BEFORE SERVICING UNIT



REMOVE BOLTS (x 4)  
TO UNMOUNT THE  
DRIVER ACCESS PLATE



ACCESS PLATE (GASKETED)  
TO DRIVER ELECTRICAL  
COMPONENTS

3) ACCESS PLATE SWINGS OUT TO ENABLE ACCESS TO THE ELECTRICAL COMPONENTS

- 1) REMOVE FACE, FILTER AND GASKETED CONTROLS LID TO ACCESS CONTROL BOX ASSEMBLY
- 2) REMOVE THE FOUR BOLTS TO UNMOUNT THE DRIVER ACCESS PLATE

**PRICE** | **CRITICAL ENVIRONMENTS**

PROJECT:

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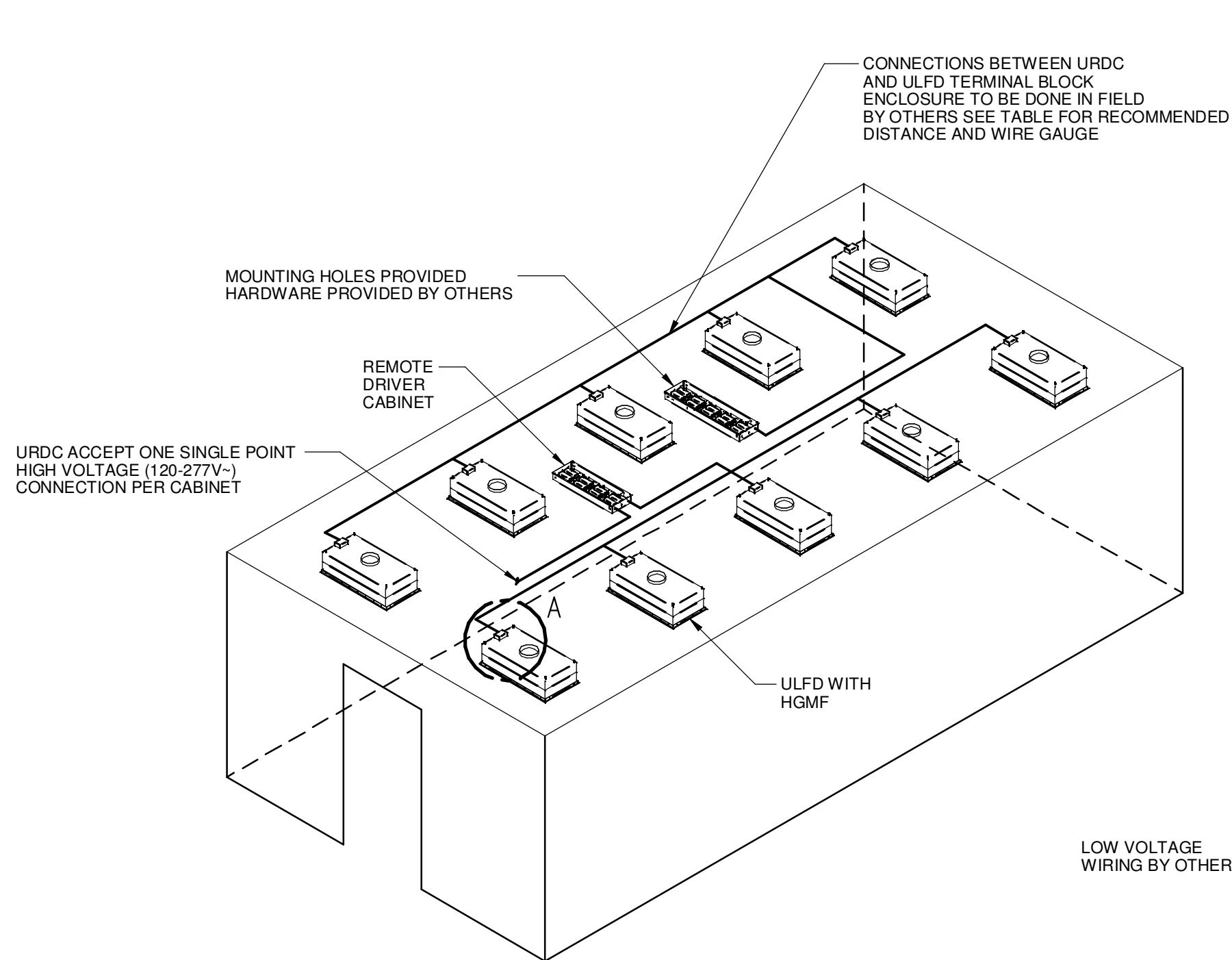
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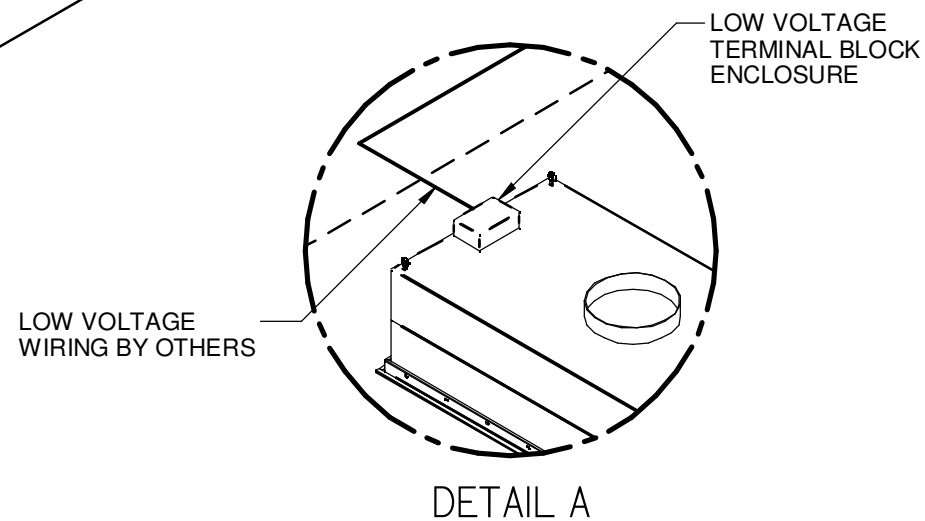
# ULFD

## ULTRA LAMINAR FLOW DIFFUSER WITH INTEGRATED LED LIGHTING

### □ URDC (ULTRA REMOTE DRIVER CABINET) - TYPICAL WIRING DETAILS




- URDC'S REQUIRE SINGLE POINT HIGH VOLTAGE (120-277V~) CONNECTION (277V~ RECOMMENDED)
- 0-10V DIMMER SHIPS LOOSE. DIMMER TO BE ORDERED SEPARATELY ON UCA-1-X LINE
- THE TOTAL 0-10V CONTROL SIGNAL WIRING FOR THIS CONTROL SHOULD NOT EXCEED 500 ft. DO NOT USE WIRE SMALLER THAN 20 AWG
- 8A 0-10V DIMMER CONTROLS UP TO 6 DRIVERS AT ~120V AND UP TO 16 DRIVERS AT ~277V
- 16A 0-10V DIMMER CONTROLS UP TO 13 DRIVERS AT ~120V AND UP TO 32 DRIVERS AT ~277V
- LED DRIVERS SHIP FACTORY WIRED AND INSTALLED IN URDC
- LED DRIVERS OFFER CONTINUOUS, FLICKER-FREE DIMMING FROM 100% TO 10% WITH RELAY SHUTOFF
- OPTIONAL 0.1% DIMMING AVAILABLE
- ULFD MODULES COME WITH FACTORY WIRED AND INSTALLED TOP MOUNTED LOW VOLTAGE TERMINAL BLOCK ENCLOSURE
- INCOMING HIGH VOLTAGE POWER AND LOW VOLTAGE CONNECTION BETWEEN ULFD MODULES AND REMOTE DRIVER CABINET ARE THE RESPONSIBILITY OF THE INSTALLER
- MAX DISTANCE BETWEEN ULFD MODULES AND URDC IS DEPENDANT ON WIRE GAUGE TO MINIMIZE VOLTAGE DROP, SEE TABLE BELOW



LOW VOLTAGE WIRE LENGTHS	
WIRE GAUGE (awg)	LENGTH OF WIRE (feet)
18	15
16	25
14	45
12	70
10	115

WIRING SCHEMATIC IS NOT TO SCALE AND IS SHOWN FOR REFERENCE ONLY  
 INSTALLATION WORK AND ELECTRICAL WIRING MUST BE COMPLETED BY A CERTIFIED ELECTRICIAN  
 AND/OR QUALIFIED PERSON(S) IN ACCORDANCE WITH APPLICABLE ELECTRICAL CODES AND STANDARDS



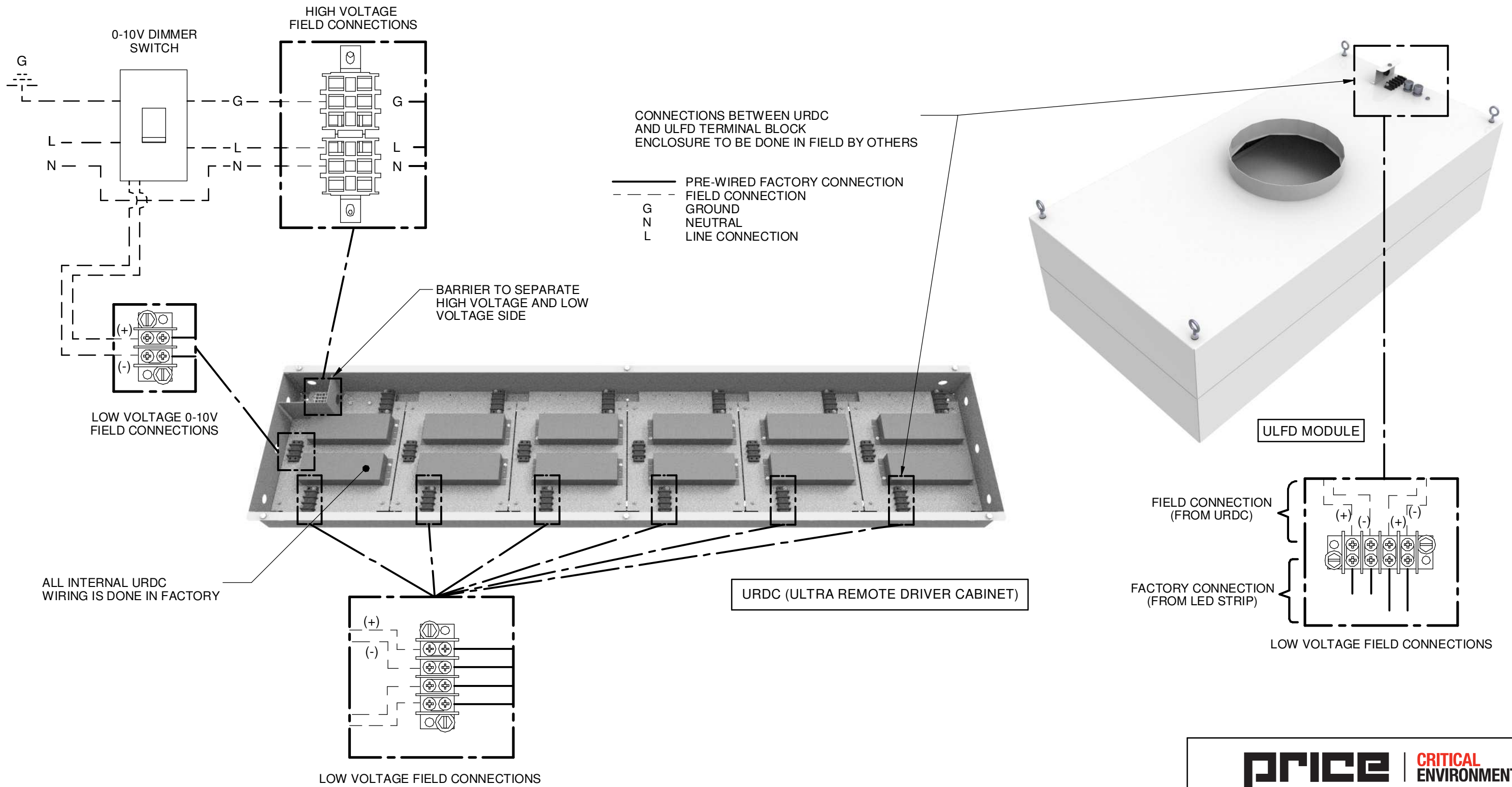
PROJECT:

271971
Revision: A
06-15-2021

# ULFD

## ULTRA LAMINAR FLOW DIFFUSER WITH INTEGRATED LED LIGHTING

### URDC (ULTRA REMOTE DRIVER CABINET) - TYPICAL WIRING DETAILS



NOTE: 8A DIMMER SWITCH SHOWN TO BE ORDERED SEPARATELY ON UCA-1-X LINE

INSTALLATION WORK AND ELECTRICAL WIRING MUST BE COMPLETED BY A CERTIFIED ELECTRICIAN AND/OR QUALIFIED PERSON(S) IN ACCORDANCE WITH APPLICABLE ELECTRICAL CODES AND STANDARDS



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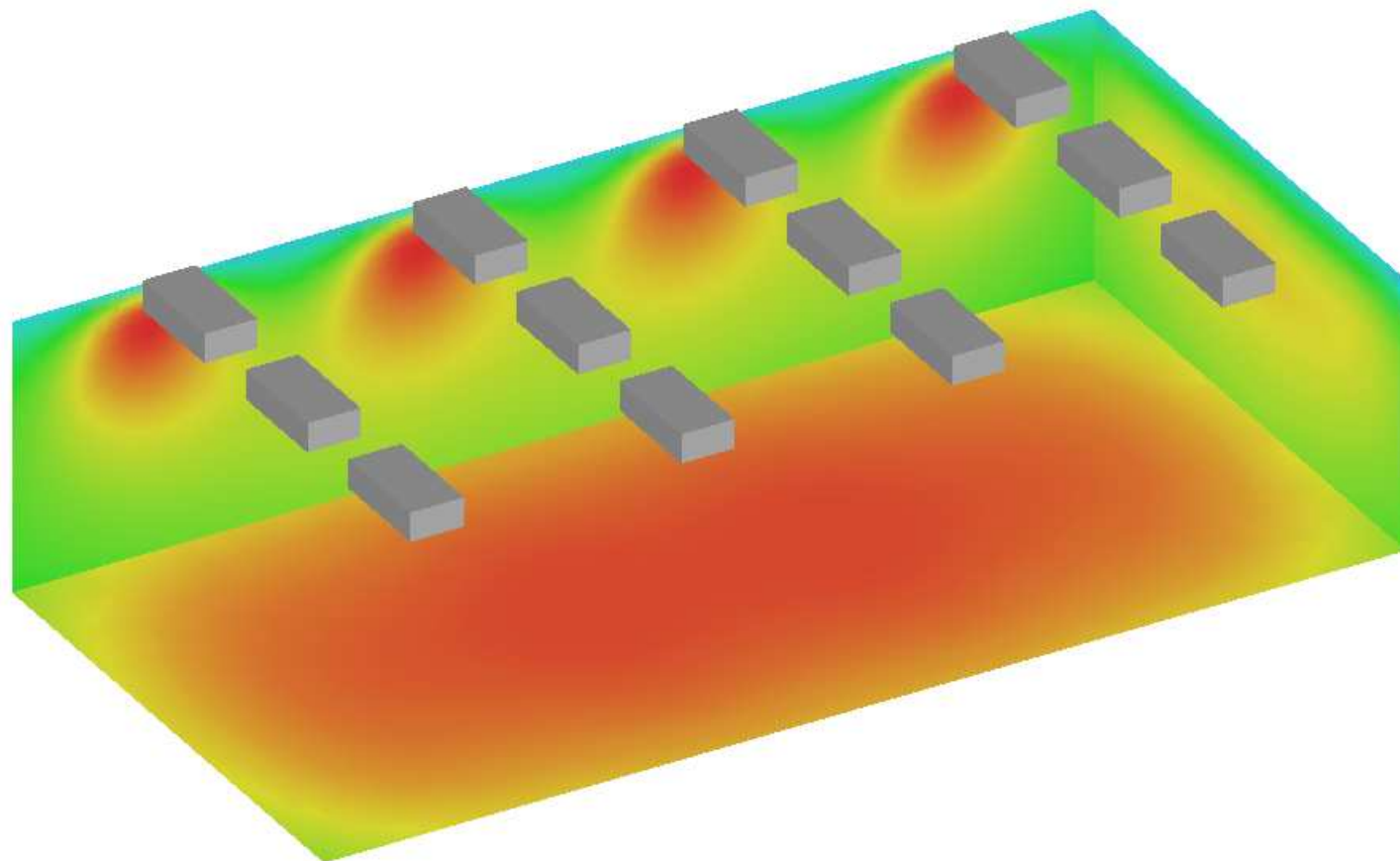
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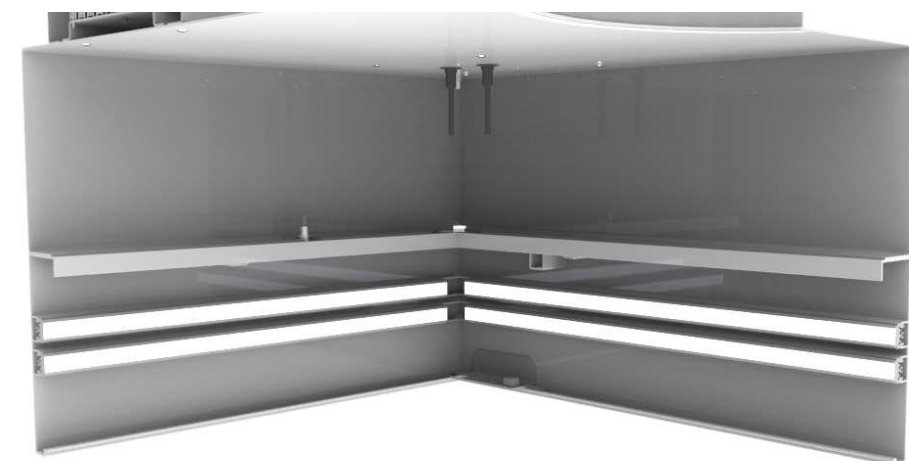
06-15-2021

# ULFD

## ULTRA LAMINAR FLOW DIFFUSER WITH INTEGRATED LED LIGHTING PHOTOMETRIC ANALYSIS - EXAMPLE LAYOUT - 24 x 48 MODULES



SINGLE ROW LED LIGHTS



DUAL ROW LED LIGHTS

### ROOM DIMENSION PARAMETERS:

800 SQ FT  
10 FT CEILING HEIGHT  
3 FT WORKPLANE

### ROOM REFLECTANCES:

CEILINGS: 80%  
WALLS: 50%  
FLOORS: 20%

- THE TABLE REFLECTS THE PERCENTAGE OF ULFD CEILING COVERAGE  
REQUIRED TO MEET AVERAGE ILLUMINANCE (FC) REQUIREMENTS  
- 50 FC AVERAGE ILLUMINATION WITH 2 ROWS OF LEDS PER MODULE SHOWN

% CEILING COVERAGE REQUIREMENT		
24 x 48 ULFD MODULES		
TARGET AVERAGE ILLUMINANCE (FC)	NUMBER OF ROWS OF LED LIGHTS PER MODULE	
	SINGLE ROW	DUAL ROW
50 FC	21%	12%
75 FC	32%	18%
100 FC	45%	24%

THE CALCULATED VALUES DO NOT INCLUDE OR ACCOUNT FOR ADDITIONAL LIGHTING.  
LIGHTING ANALYSIS HAS BEEN PERFORMED USING LAB TESTED .IES FILES AND STANDARD ROOM REFLECTANCE VALUES.  
LIGHTING CALCULATIONS ARE ESTIMATED USING BEST PRACTICE AND MAY DIFFER SLIGHTLY FROM ACTUAL FIELD CONDITIONS.

**PRICE** | **CRITICAL ENVIRONMENTS**

PROJECT:

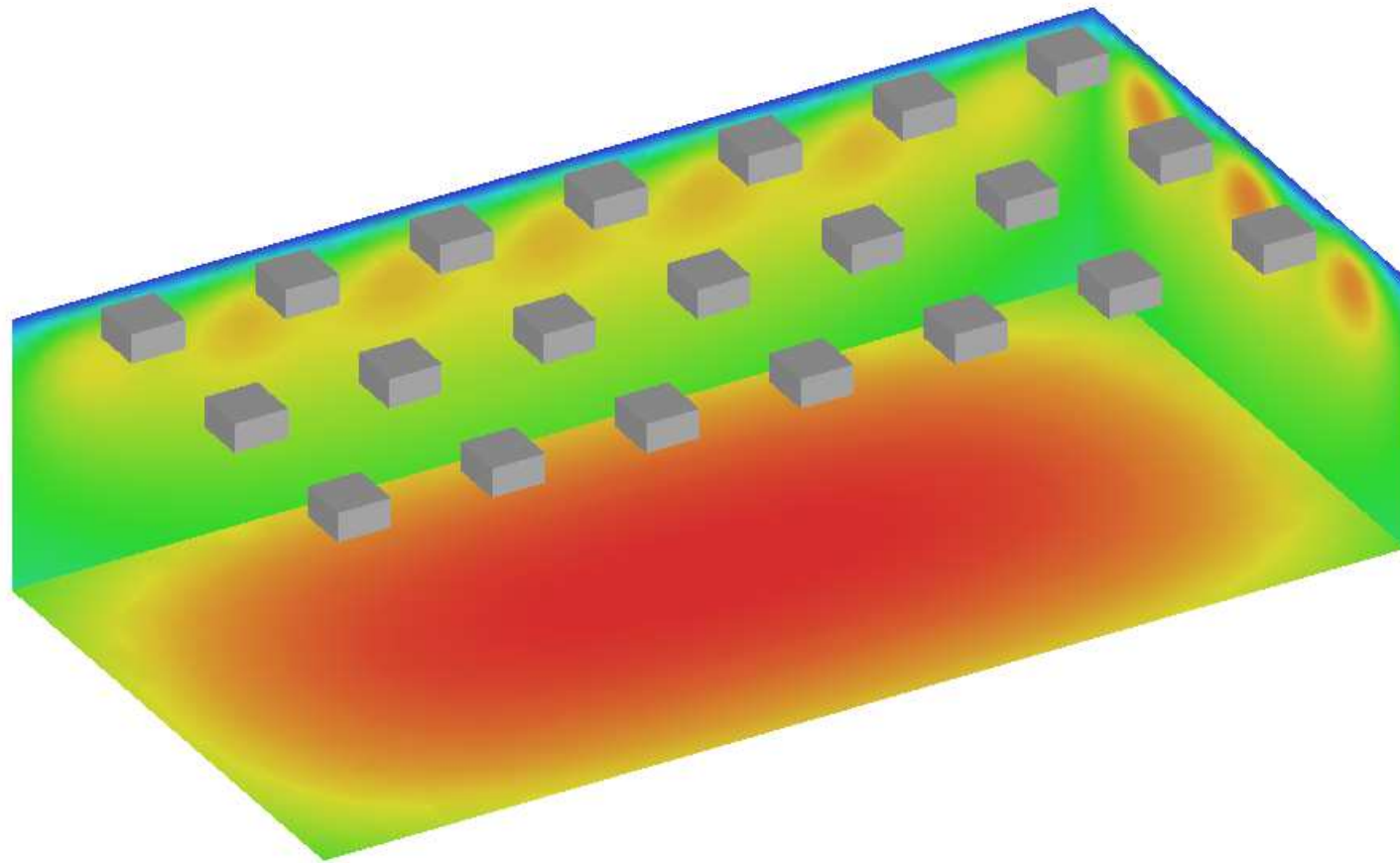
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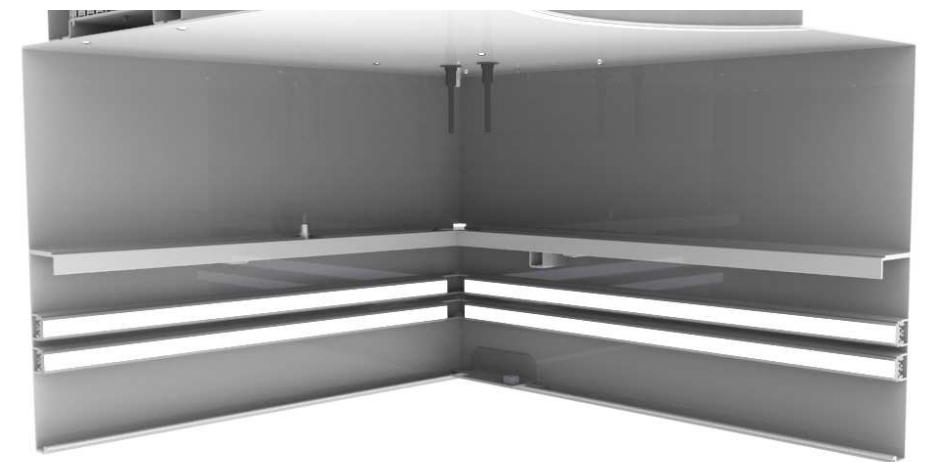
06-15-2021

# ULFD

## ULTRA LAMINAR FLOW DIFFUSER WITH INTEGRATED LED LIGHTING PHOTOMETRIC ANALYSIS - EXAMPLE LAYOUT - 24 x 24 MODULES



SINGLE ROW LED LIGHTS



DUAL ROW LED LIGHTS

### ROOM DIMENSION PARAMETERS:

800 SQ FT  
10 FT CEILING HEIGHT  
3 FT WORKPLANE

### ROOM REFLECTANCES:

CEILINGS: 80%  
WALLS: 50%  
FLOORS: 20%

% CEILING COVERAGE REQUIREMENT		
24 x 24 ULFD MODULES		
TARGET AVERAGE ILLUMINANCE (FC)	NUMBER OF ROWS OF LED LIGHTS PER MODULE	
	SINGLE ROW	DUAL ROW
50 FC	39%	21%
75 FC	57%	32%
100 FC	78%	42%

- THE TABLE REFLECTS THE PERCENTAGE OF ULFD CEILING COVERAGE REQUIRED TO MEET AVERAGE ILLUMINANCE (FC) REQUIREMENTS  
- 50 FC AVERAGE ILLUMINATION WITH 2 ROWS OF LEDS PER MODULE SHOWN

THE CALCULATED VALUES DO NOT INCLUDE OR ACCOUNT FOR ADDITIONAL LIGHTING.  
LIGHTING ANALYSIS HAS BEEN PERFORMED USING LAB TESTED .IES FILES AND STANDARD ROOM REFLECTANCE VALUES.  
LIGHTING CALCULATIONS ARE ESTIMATED USING BEST PRACTICE AND MAY DIFFER SLIGHTLY FROM ACTUAL FIELD CONDITIONS.

**PRICE** | **CRITICAL ENVIRONMENTS**

PROJECT:

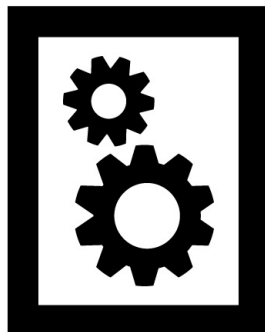
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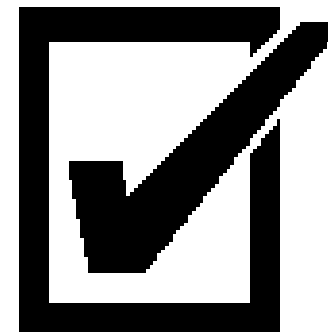
# ULFD

## ULTRA LAMINAR FLOW DIFFUSER WITH INTEGRATED LED LIGHTING SUPPORTING CONTENT



### MANUALS

ULFD LAMINAR FLOW DIFFUSER WITH INTEGRATED LED LIGHTING WIRING DIAGRAMS  
UCA ULTRA COMPONENTS AND ACCESSORIES MANUAL  
URDC ULTRA DRIVER CABINET MANUAL



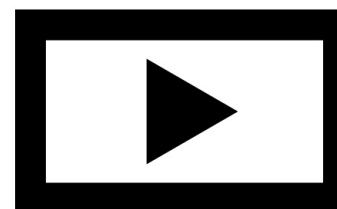
### SUBMITTALS

FTR REPLACEMENT FILTER SUBMITTAL  
HGMF HOSPITAL GRADE MOUNTING FRAME SUBMITTAL



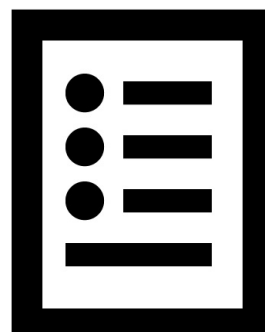
### CATALOG / PERFORMANCE

LFD LAMINAR FLOW DIFFUSER CATALOG  
LFD LAMINAR FLOW DIFFUSER PERFORMANCE DATA



### VIDEOS

LFD LAMINAR FLOW DIFFUSER SMOKE TEST  
HIGH PERFORMANCE MANUFACTURING ON CRITICAL ENVIRONMENTS PRODUCTS  
LIGHTING STANDARDS IN OPERATING ROOMS & CLEANROOMS



### SPECIFICATIONS

LFD LAMINAR FLOW DIFFUSER SPECIFICATION



FOR MORE INFORMATION ON PRICE LAMINAR FLOW DIFFUSERS,  
VISIT [PRICEINDUSTRIES.COM](http://PRICEINDUSTRIES.COM)

**PRICE** | **CRITICAL ENVIRONMENTS**

PROJECT:

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