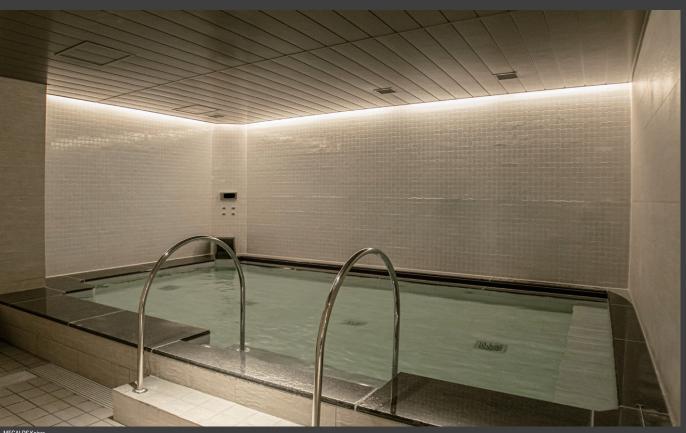
Outdoor Rigid light

## LRO Luci EFRO 1P65



# LRO



MEGALOS Koiwa Location: Japan Lighting design: DAIKO ELECTRIC CO.,LTD. Photo: Nomura Real Estate Life & Sports Co.,Ltd.



Mia Saigon, Luxury Collection Hotel Location: Vietnam Lighting design: LUMINO DESIGN

EFRO IP65



### Luci EFRO IP65

Double waterproof and moisture-proof structure, suitable for shower rooms and landscapes. Round shape with high efficiency 8.4W/m 600lm/m with adjustable clip for cove light and aluminum channel for surface wall mount

#### **Specifications**

#### Dimensions

Cross section W 25 x H 36 mm including clip Standard length 5 types of fixed length

11	42	862
582	302	162

#### Color temperature

	4000K	3500K	3000K	2700K	2400K	
Ra 90						

#### Electrical & Output

Power Consumption (W/m)	8.4
Luminous flux @ 3000K (lm/m)	601

#### **Features**

- Gasket between the end cap and tube
- Fuse on circuit board against unexpected over current
- Sealed by special glue at the end cap and tube  $\,$
- IP67 screw fixing connector
- Coated circuit board for prevention against humidity



#### Accesories

#### Mounting crip for EFRO





Connectors can be put under LED fixture

Adjustable angle for cove light







Optional aluminum channel for surface wall mounting

#### Project reference









#### Luci EFRO IP65

## **LRO**

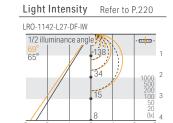




- Steam-proof which passed Japanese humidity test
- For bathroom or Spa usage
- Aluminium mounting rail for surface mount

#### Model No. **LRO** DF IW **Product Name** Cover type Environment Light source color 0162 IW: IP65 (Indoor) LRO DF: Diffuser WW: Warm white 3500K 0302 Semi-outdoor) 0582 L30: Warm white 3000K L27 : Warm white 2700K 0862 1142 L24: Warm white 2400K





#### Specification

opcoi	Heation						
Length	l		0162	0302	0582	0862	1142
Model	No.		LRO-0162- DF-IW	LRO-0302- DF-IW	LRO-0582DF-IW	LRO-0862- DF-IW	LRO-1142DF-IW
Power	consumption		1.2W	2.4W	4.8W	7.2W	9.6W
Fitting	length(L)		162mm	302mm	582mm	862mm	1142mm
Weight			62g	100g	172g	234g	310g
Luminaire efficacy(2700K)		700K)	90.3 lm/W	90.3 lm/W	90.3 lm/W	90.3 lm/W	90.3 lm/W
Light s	ource color		= Device inventory * = Equi	valent			
D	7100K		-	=	-	-	-
N	5000K		-	-	-	-	-
W	4000K	Ra94	○ 100 lm*	○ 201 lm*	○ 401 lm*	○ 602 lm	○ 802 lm*
WW	3500K	Ra 94	○ 95 lm*	○ 191 lm*	○ 381 lm*	○ 572 lm	○ 862 lm*
L30	3000K	Ra93	○ 86 lm*	○ 172 lm*	○ 344 lm*	○ 516 lm	○ 688 lm*
L27	2700K	Ra 93	○ 87 lm*	○ 174 lm*	○ 349 lm*	○ 523 lm	○ 697 lm*
L24	2400K	Ra 94	○ 83 lm*	○ 166 lm*	○ 331 lm*	○ 497 lm	○ 662 lm*
L21	2100K		-	-	-	-	-

Spec may be subject to change without announcement. The optical data provided on the each product pages are for reference only; the data values are not guaranteed. Please use as reference materials for your planning.

#### **General Specification**

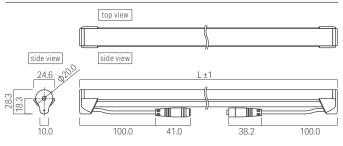
Input voltage	DC24V		
Environment	Bathroom, semi-outdoor, Moistureproof (IP65)*1		
Max. length per circuit	4.5m		
Material (body)	Polycarbonate, PVC cable, IP65 connector		
Material (cover, clip)	Polycarbonate		
Material (mounting rail)	Aluminum		
Attachments	Mounting clip     2pcs for 582mm or shorter     3pcs for 862mm or longer		
Option parts	1 Mounting clip 2 Mounting rail 3 Power supply cable		
Certification	CE, Complied with JIS0920, IP65		
Operating temperature	$0^{\circ}\text{C} \sim +35^{\circ}\text{C}$ (No Condensation)		
Dimmable	Yes (0-10V/1-10V, DMX, DALI, PWM)		
Power Supplies	Required		

\*1 Installing in a sauna, bathroom/shower room operated 24 hours a day is not allowed.

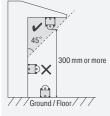
#### Max. connectable length per power supply

Length of LED fixture (70% loading factor) *: split into multiple circuits	Power supply	
~4.1m	50W power supply	
~8.3m*	100W power supply	
~12.5m*	150W power supply	

#### External dimensions



#### Prohibited installation places:



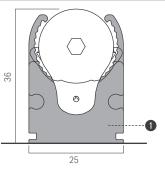
When using EFRO in semi-outdoor, it must be installed with the aluminum rail for EFRO. Please installed the LED fixture and the cable within the range of 45° eaves of the roof and 300 mm or more away from the ground or the floor. Please do not install the LED fixture and cables in the follow place:

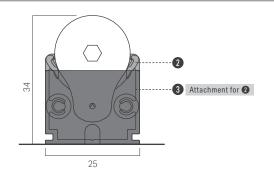
- direct expose to water or pooling of water
- direct sunlight
- liquids including chroline or chemicals
- high temperature and high humidity such as saunas and public bath
- coastal areas which are affected by sea spray



Do not cut the LED fixture and the lead wire of outdoor product at a job site. Please do appropriate treatment for the lead wire and connector of the terminal of outdoor LED fixture.

### Cross sectional view





#### Option parts



#### 1 Mounting clip for EFRO Attachment

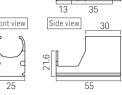
#### Model No: LRO-PT-A

Attached with LED fixture 2 pcs for 582 mm or shorter 3 pcs for 862 mm or longer 5 pcs for 983mm to 1463mm

- Holding LED fixture at both ends
- Angle adjustable
   Connectors can be put under the LED fixture
- Material: Clear polycarbonate

For extra order, 3 pcs / bag



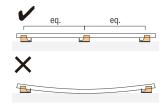


Top view

#### Cautions: Use accurate number of Mounting parts

Install 3pcs of Mounting clips at the middle and both edge sides of LED fixture if the LED fixture is longer than 862mm. Otherwise, the LED fixture will bow by its weight and may defect.

- Number of Mounting clips (LRO-PT-A) 2 pcs for 582 mm or shorter 3 pcs for 862 mm or longer





Cable holding

2 Aluminum mounting rail for EFRO \*\*\*\*

Model No: LRO-RL\*\*\*\*-AL

\*\*\*\*: Length (0164/0304/0584/0864/1144)

- 3 End cap for aluminum rail (2 pcs/bag) is included.
- For easy and guick installation: unnecessary to pre-align the clips - Connectors can be put under LED fixture - Material

Holding fixture when vertical installation

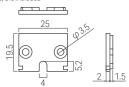
- Rail: Aluminum, End cap: Semi-clear polycarbonate
   Delivered with the same length as the product
- (Length variation: 164mm, 304mm, 584mm, 864mm, 1144mm)

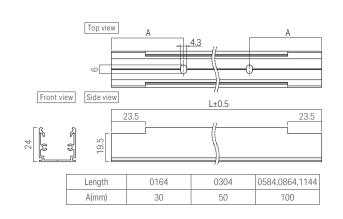


End cap for aluminum rail Attachment for 2

Model No: LRO-RL-EC

Screws (4 pcs of Flat head, M3L8) are included







4 Power supply cable 5M for AH1 connector OD3.5 Required

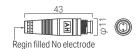
Model No: CAD-VA5000-FJNN-O 6 Connector cover for AH1 connector (1 pc/bag) is included

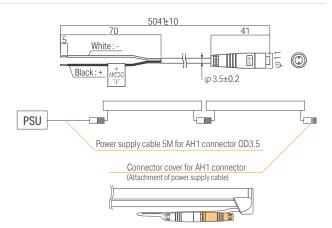
- Required for each circuit of LED fixture
- One side connector, one side bare wire

  1 pcs of connector end cap (CC-MJ-0) is attached
  to avoid water intrusion from the terminal connector of LED fixture



5 End cap for power supply cable Attachment for 4 Model No : CC-MJ-O





#### Cautions: Waterproofing process for terminal connector

The unenclosed connector at the terminal of LED fixture must be sealed with connector cover for AH1 connector which is attached with power supply cable (CAD-VA5000-FJNN-0). Make sure to rotate the fastening part until no longer can rotate.

#### Luci EFRO IP65

#### Installing the product

#### Straight installation

#### Installation with Mounting Clip

Attach Mounting clip for EFRO (LRO-PT-A) at below position with screws supplied by installer (Pan head screws M4 recommended), and insert the LED fixture with considering the direction of the connector of power supply cable side. See below picture for holding the cable and connector underneath the LED fixture. Downwards installation is available as well.



#### Vertical installation

Make sure the bottom of LED fixture hook on the edge of the Mounting clip in accordance with the diagram.

Caution: If the weight of the LED fixture is not supported by the edge of the Mounting clip, it may slide down and fall.

#### Recommended position of Monting clips

Power supply side of LED fixture

Between two LED fixtures

Terminal of LED fixture

45~65mm 55mm 100~120mm 55mm

The only one

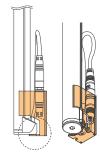












Connector cover for AH1 connector can be stored in the Mounting clip.
Connecting the power supply cable at the top of LED fixture.

#### Installation with Mounting Rail

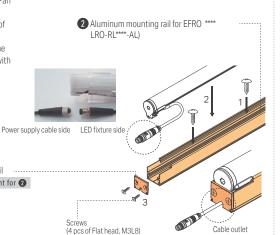
1. Attach Aluminum mounting rail for EFRO (LRO-RL\*\*\*\*-AL) at below position with screws supplied by installer (Pan head screws M4 recommended)

 Insert the LED fixture with considering the direction of the connector of power supply cable side.
 After passing the cable through the cable outlet of the end cap, fix the end cap to the rail by screws attached with

Note: The order of installation can be changed by the situation of the site.

Note: Please fix with the same number of screws as the number of screw holes.

3 End cap for aluminum rail (LRO-RL-EC) Attachment for 2

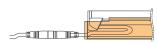


Position of connector Power supply side of LED fixture Below LED fixture

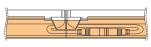
the products.



Outside of mounting rail



Between two LED fixture



To reduce the gap of two LED fixtures, end caps are not necessary to use.

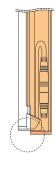
Terminal of LED fixture
Below LED fixture

5 Connector cover for AH1 connector
(CC-MJ-O) Attachment for ①

Make sure the bottom of LED fixture hook on the edge of the end cap for aluminum rail in accordance with the diagram.

Caution: If the weight of the LED fixture is not supported by the end cap for aluminum mounting rail, it may slide down and fall.

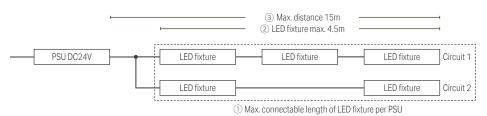
#### Terminal of LED fixture



Connector cover for AH1 connector can be stored in the Mounting rail.
Connecting the power supply cable at the top of LED fixture.

EFRO IP65

#### System configuration diagram



① Max. connectable total length of LED fixture per power supply depends on capacity of power supply. Recommended loading factor: 70% (without dimming) or 60% (with dimming)

Luci EFRO IP65

- ② If connectable length of LED fixture per circuit exceeds the maximum, please split into multiple circuit.
- ③ To avoid voltage drop, please consider the max. distance from power supply to the end of LED fixture. (i.e. total cable length plus LED fixture length)

#### Luci EFRO IP65

#### Illuminance data



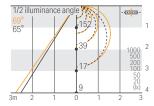
#### ERO EFRO IP65

Color temparature 4000K 3500K 3000K 2700K 2400K

#### Direct horizontal surface light intensity distribution chart

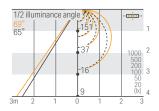
LRO-1142-W-DF-IW

Light source color4000KBrightness152 cdLuminous flux802 lmColor rendering indexRa 94



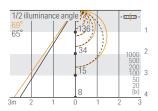
LRO-1142-WW-DF-IW

Light source color3500KBrightness151 cdLuminous flux762 lmColor rendering indexRa 94



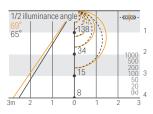
LRO-1142-L30-DF-IW

Light source color3000KBrightness136 cdLuminous flux688 lmColor rendering indexRa 93



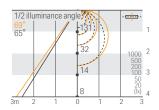
LRO-1142-L27-DF-IW

Light source color2700KBrightness138 cdLuminous flux697 lmColor rendering indexRa 93



LRO-1142-L24-DF-IW

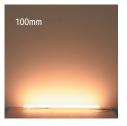
Light source color2400KBrightness131 cdLuminous flux662 lmColor rendering indexRa 93

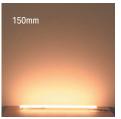


#### Distance from wall







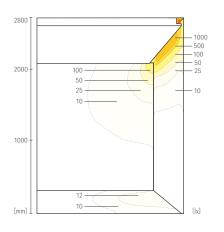


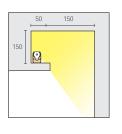




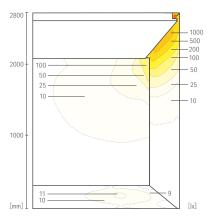
#### Recommendend dimensions and illumination distribuitions

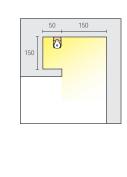
#### Cornice lighting-1 CH=2800



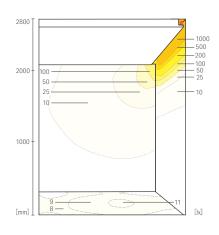


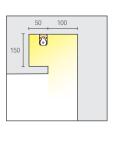
Cornice lighting-2 CH=2800



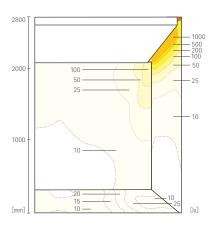


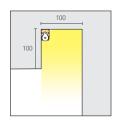
#### Cornice lighting-3 CH=2800





#### Cornice lighting-4 CH=2800





#### Cove lighting CH=2800

