

# Lighting: LED Lighting Fixture, (Compatible with Antenna barrier), NFDR1 Series

Restricted Breathing and Dust protection by enclosure

Zone 2 – 21 &amp; 22

## Application

The NFDR1 luminaire is designed for explosion protection with ignition protection status nR (restricted breathing), providing an nR solution that greatly simplifies on-site installation for the operator.

## Specification

|                  |                                                                                                                                                       |
|------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------|
| Body material    | : Marine grade copper-free aluminium alloy with polyester powder coated, RAL 7032 (grey)<br>(optional offshore painting-acrylic polyurethane coating) |
| Lens             | : Heat and high impact resistant clear glass (4J impact)                                                                                              |
| Bolts            | : Stainless steel, SS 304<br>(optional SS 316)                                                                                                        |
| Bracket          | : Hot-dip galvanized steel<br>(optional SS 304 or SS 316)                                                                                             |
| Sealing (O-ring) | : Silicone                                                                                                                                            |

## Product Features

|                             |                                                                                                                              |
|-----------------------------|------------------------------------------------------------------------------------------------------------------------------|
| Luminous efficacy           | : 115-125 lm/W                                                                                                               |
| Colour temperature          | : Standard 5,700 K (daylight)<br>(optional 2,700 K; 3,000 K; 3,500 K; 4,000 K; 5,000 K; 6,500 K etc.)                        |
| Colour Rendering Index (Ra) | : ≥ 80                                                                                                                       |
| Chip                        | : LUXEON 5050 - Lumileds<br>(optional Cree, Bridgelux, Nichia)                                                               |
| Beam angle                  | : Average 115-120° without lens with lens<br>30-100 W; 60°<br>110-350 W; 30°, 60°, 90°<br>(other beam angle, please specify) |

## Fixture Life

- L70 - Rated lifetime of 60,000 hours at ambient temperatures of 85°C.
- L80 - Rated lifetime of 43,318 hours at ambient temperatures of 85°C.
- L90 - Rated lifetime of 20,534 hours at ambient temperatures of 85°C.

Ceiling mounting

Steel bracket mounting



Pendant mounting

Stanchion mounting ;  
30 degree angleStanchion mounting ;  
90 degree angle

Wall mounting



## Technical Data

| Hazardous Area           | Gas                                                                                     | Dust                       |
|--------------------------|-----------------------------------------------------------------------------------------|----------------------------|
| Zones                    | 2                                                                                       | 21 & 22                    |
| Equipment Group/Category | Ex II 3G                                                                                | Ex II 2D                   |
| Symbol of Protection     | Ex nR IIC T6..T4 Gc                                                                     | Ex tb IIC T85°C..T130°C Db |
| Certificate              | KDB 23 ATEX 0020X<br>IECEX KDB 23.0005X                                                 |                            |
| Conformity to Standards  | EN IEC 60079-0, EN 60079-15, EN IEC 60079-31<br>IEC 60079-0, IEC 60079-15, IEC 60079-31 |                            |
| Ambient Temperature      | -40°C to +60°C (30 W to 300 W)<br>-40°C to +55°C (310 W to 350 W)                       |                            |
| Index of Protection      | IP66/ IK08                                                                              |                            |

|               |                                                                                                                                                                                        |
|---------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Entry Threads | Ceiling, Bracket ; 2x M20x1.5, 2x M25x1.5 or<br>2x 1/2" NPT, 2x 3/4" NPT<br>Wall ; 4x M20x1.5, 4x M25x1.5 or 4x 1/2" NPT, 4- 3/4" NPT<br>Pendant ; 1x 3/4" NPT, Stanchion ; 1-1/4" NPT |
| Mounting      | Ceiling, Wall, Pendant, Steel bracket or Stanchion mounting                                                                                                                            |
| Connection    | L, N and PE ; for 1-4 mm <sup>2</sup> cable (Through wiring system with an extra terminal block for cable connection at both ends.)                                                    |
| Rated Voltage | 110-240 V AC, 50/60 Hz, P.F. ≥ 0.95                                                                                                                                                    |

## Catalogue Number Logic

NFDR1 - ■ ■ ■

| Series | LED power<br>(see ordering requirement table below) | Mounting type              | Entry threads | Accessories                        |
|--------|-----------------------------------------------------|----------------------------|---------------|------------------------------------|
| C      |                                                     | Ceiling                    | M1 M20x1.5    | G Guard                            |
| C1     |                                                     | Steel Bracket              | M2 M25x1.5    | AN Antenna (ANTE series)           |
| P      |                                                     | Pendant                    | N1 1/2" NPT   | SP Surge protection 10 kA, 8/20 μs |
| W      |                                                     | Wall                       | N2 3/4" NPT   |                                    |
| S30    |                                                     | Stanchion, 30 degree Angle |               |                                    |
| S90    |                                                     | Stanchion, 90 degree Angle |               |                                    |

## Ordering Requirements; 30 W to 220 W

| Cat. No.            | LED power | Voltage                   | Temp. Class (for zone 2) |         | Max. Surface Temp.* (for zone 21 & 22) |         |
|---------------------|-----------|---------------------------|--------------------------|---------|----------------------------------------|---------|
|                     |           |                           | Ta 40°C                  | Ta 60°C | Ta 40°C                                | Ta 60°C |
| NFDR1-30 □ - □ □ □  | 30 W      | 110-240 V AC,<br>50/60 Hz | T6                       | T5      | T85°C                                  | T100°C  |
| NFDR1-40 □ - □ □ □  | 40 W      |                           |                          |         |                                        |         |
| NFDR1-50 □ - □ □ □  | 50 W      |                           |                          |         |                                        |         |
| NFDR1-60 □ - □ □ □  | 60 W      |                           |                          |         |                                        |         |
| NFDR1-70 □ - □ □ □  | 70 W      |                           |                          |         |                                        |         |
| NFDR1-80 □ - □ □ □  | 80 W      |                           |                          |         |                                        |         |
| NFDR1-90 □ - □ □ □  | 90 W      |                           |                          |         |                                        |         |
| NFDR1-100 □ - □ □ □ | 100 W     |                           |                          |         |                                        |         |
| NFDR1-110 □ - □ □ □ | 110 W     |                           |                          |         |                                        |         |
| NFDR1-120 □ - □ □ □ | 120 W     |                           |                          |         |                                        |         |
| NFDR1-130 □ - □ □ □ | 130 W     |                           |                          |         |                                        |         |
| NFDR1-140 □ - □ □ □ | 140 W     |                           |                          |         |                                        |         |
| NFDR1-150 □ - □ □ □ | 150 W     |                           |                          |         |                                        |         |
| NFDR1-160 □ - □ □ □ | 160 W     |                           |                          |         |                                        |         |
| NFDR1-170 □ - □ □ □ | 170 W     |                           |                          |         |                                        |         |
| NFDR1-180 □ - □ □ □ | 180 W     |                           |                          |         |                                        |         |
| NFDR1-190 □ - □ □ □ | 190 W     |                           |                          |         |                                        |         |
| NFDR1-200 □ - □ □ □ | 200 W     |                           |                          |         |                                        |         |
| NFDR1-210 □ - □ □ □ | 210 W     |                           |                          |         |                                        |         |
| NFDR1-220 □ - □ □ □ | 220 W     |                           |                          |         |                                        |         |

Remark \* : The maximum surface temperatures are specified for dust free condition. The dust layer which may cover around the lighting fixture will cause to higher surface temperature.

# Lighting: LED Lighting Fixture, (Compatible with Antenna barrier), NFDR1 Series

Restricted Breathing and Dust protection by enclosure

Zone 2 – 21 & 22



## Ordering Requirements;

230 W to 350 W (Pendant or steel bracket mounting)



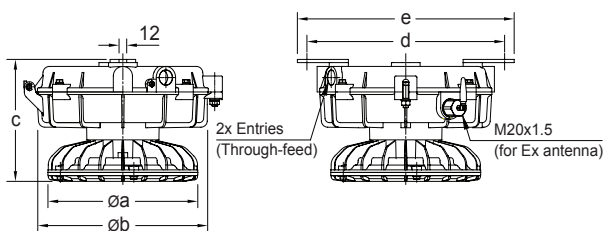
| Cat. No.            | LED power | Voltage                   | Temp. Class<br>(for zone 2) |          | Max. Surface Temp.*<br>(for zone 21 & 22) |          |
|---------------------|-----------|---------------------------|-----------------------------|----------|-------------------------------------------|----------|
|                     |           |                           | Ta 40 °C                    | Ta 60 °C | Ta 40 °C                                  | Ta 60 °C |
| NFDR1-230 □ - □ □ □ | 230 W     | 110-240 V AC,<br>50/60 Hz | T5                          | T4       | T95°C                                     | T130°C   |
| NFDR1-240 □ - □ □ □ | 240 W     |                           |                             |          |                                           |          |
| NFDR1-250 □ - □ □ □ | 250 W     |                           |                             |          |                                           |          |
| NFDR1-260 □ - □ □ □ | 260 W     |                           |                             |          |                                           |          |
| NFDR1-270 □ - □ □ □ | 270 W     |                           |                             |          |                                           |          |
| NFDR1-280 □ - □ □ □ | 280 W     |                           |                             |          |                                           |          |
| NFDR1-300 □ - □ □ □ | 300 W     |                           |                             |          |                                           |          |

| Cat. No.            | LED power | Voltage                   | Temp. Class<br>(for zone 2) |          | Max. Surface Temp.*<br>(for zone 21 & 22) |          |
|---------------------|-----------|---------------------------|-----------------------------|----------|-------------------------------------------|----------|
|                     |           |                           | Ta 40 °C                    | Ta 55 °C | Ta 40 °C                                  | Ta 55 °C |
| NFDR1-310 □ - □ □ □ | 310 W     | 110-240 V AC,<br>50/60 Hz | T5                          | T4       | T95°C                                     | T130°C   |
| NFDR1-320 □ - □ □ □ | 320 W     |                           |                             |          |                                           |          |
| NFDR1-330 □ - □ □ □ | 330 W     |                           |                             |          |                                           |          |
| NFDR1-340 □ - □ □ □ | 340 W     |                           |                             |          |                                           |          |
| NFDR1-350 □ - □ □ □ | 350 W     |                           |                             |          |                                           |          |

Remark \* : The maximum surface temperatures are specified for dust free condition. The dust layer which may cover around the lighting fixture will cause to higher surface temperature.

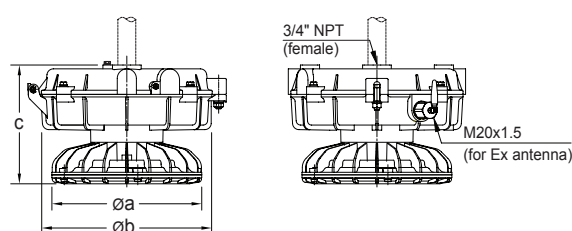
## Dimension ; 30 W to 220 W

### Ceiling mounting



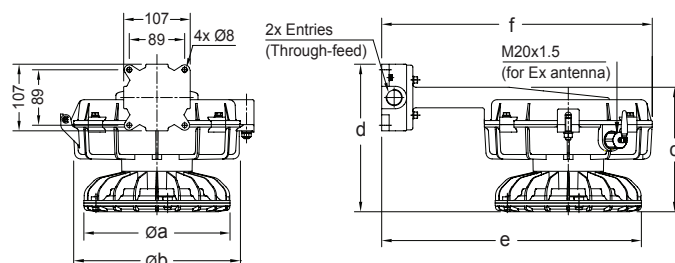
| Cat. No.                     | Dimensions in mm |     |     |     |     | Approx. weight (kg) |
|------------------------------|------------------|-----|-----|-----|-----|---------------------|
|                              | Øa               | Øb  | c   | d   | e   |                     |
| NFDR1-30C-□□ to 90C-□□       | 235              | 190 | 221 | 222 | 244 | 6.5                 |
| NFDR1-100C-□□                | 235              | 270 | 191 | 310 | 340 | 7.4                 |
| NFDR1-110C-□□ to 220C-□□     | 340              | 270 | 201 | 310 | 340 | 10.9                |
| NFDR1-30C-□□AN to 100C-□□AN  | 235              | 270 | 191 | 310 | 340 | 7.6                 |
| NFDR1-110C-□□AN to 220C-□□AN | 340              | 270 | 201 | 310 | 340 | 10.9                |

### Pendant mounting



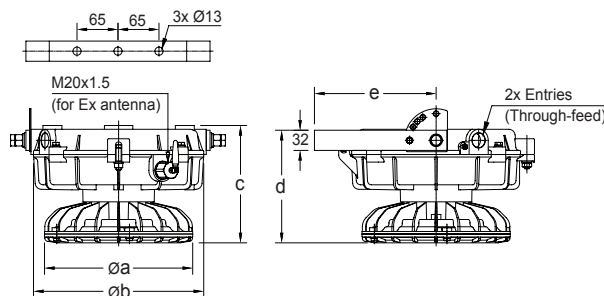
| Cat. No.                     | Dimensions in mm |     |     | Approx. weight (kg) |
|------------------------------|------------------|-----|-----|---------------------|
|                              | Øa               | Øb  | c   |                     |
| NFDR-30P-N2 to 90P-N2        | 235              | 190 | 217 | 6.5                 |
| NFDR-100P-N2                 | 235              | 270 | 186 | 7.4                 |
| NFDR1-110P-N2 to 220P-N2     | 340              | 270 | 196 | 10.9                |
| NFDR-30P-N2AN to 100P-N2AN   | 235              | 270 | 186 | 7.6                 |
| NFDR1-110P-N2AN to 220P-N2AN | 340              | 270 | 196 | 10.9                |

### Wall mounting



| Cat. No.                     | Dimensions in mm |     |     |     |     |     | Approx. weight (kg) |
|------------------------------|------------------|-----|-----|-----|-----|-----|---------------------|
|                              | Øa               | Øb  | c   | d   | e   | f   |                     |
| NFDR1-30W-□□ to 90W-□□       | 235              | 190 | 221 | 258 | 378 | 355 | 7.1                 |
| NFDR1-100W-□□                | 235              | 270 | 200 | 237 | 418 | 435 | 87.0                |
| NFDR1-110W-□□ to 220W-□□     | 340              | 270 | 210 | 247 | 470 | 435 | 11.5                |
| NFDR1-30W-□□AN to 100W-□□AN  | 235              | 270 | 200 | 237 | 418 | 435 | 8.2                 |
| NFDR1-110W-□□AN to 220W-□□AN | 340              | 190 | 210 | 247 | 470 | 435 | 11.5                |

### Steel bracket mounting



| Cat. No.                       | Dimensions in mm |     |     |     |     | Approx. weight (kg) |
|--------------------------------|------------------|-----|-----|-----|-----|---------------------|
|                                | Øa               | Øb  | c   | d   | e   |                     |
| NFDR1-30C1-□□ to 90C1-□□       | 235              | 190 | 217 | 211 | 162 | 7.5                 |
| NFDR1-100C1-□□                 | 235              | 270 | 186 | 179 | 193 | 8.7                 |
| NFDR1-110C1-□□ to 220C1-□□     | 340              | 270 | 196 | 193 | 189 | 12.2                |
| NFDR1-30C1-□□AN to 100C1-□□AN  | 235              | 270 | 186 | 179 | 193 | 9.0                 |
| NFDR1-110C1-□□AN to 220C1-□□AN | 340              | 190 | 223 | 193 | 189 | 12.5                |

# Lighting: LED Lighting Fixture, (Compatible with Antenna barrier), NFDR1 Series

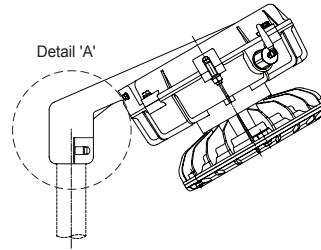
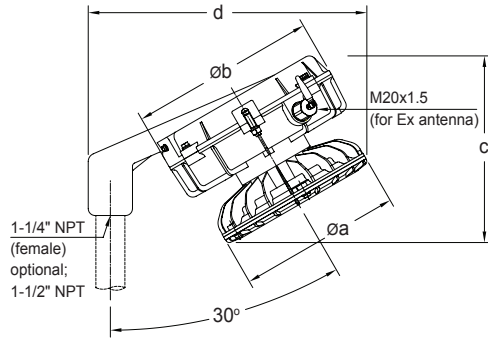
Restricted Breathing and Dust protection by enclosure

Zone 2 – 21 & 22

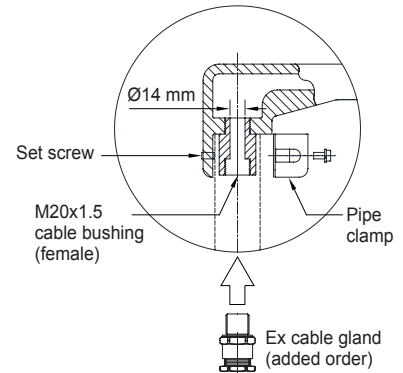
## Dimensions ; 30 W to 220 W

Stanchion Mounting ; 30 degree angle  
Conduit type (standard)

Cable type (pipe clamp)



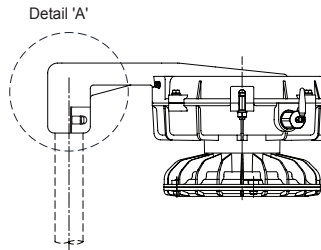
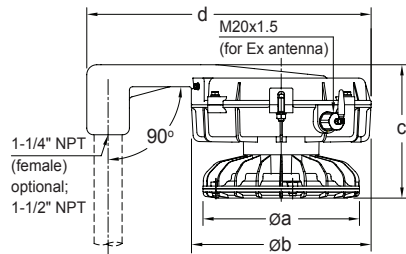
Detail 'A'



| Cat. No.                     |                                | Dimensions in mm |     |     |     | Approx. weight (kg) |
|------------------------------|--------------------------------|------------------|-----|-----|-----|---------------------|
| Conduit type                 | Cable type                     | Øa               | Øb  | c   | d   |                     |
| NFDR1-30S30 to 90S30         | NFDR1-30S301 to 90S301         | 235              | 190 | 268 | 374 | 7.1                 |
| NFDR1-100S30                 | NFDR1-100S301                  | 235              | 270 | 270 | 397 | 8.0                 |
| NFDR1-110S30 to 220S30       | NFDR1-110S301 to 220S301       | 340              | 270 | 304 | 448 | 11.5                |
| NFDR1-30S30-AN to 100S30-AN  | NFDR1-30S301-AN to 100S301-AN  | 235              | 270 | 270 | 397 | 8.2                 |
| NFDR1-110S30-AN to 220S30-AN | NFDR1-110S301-AN to 220S301-AN | 340              | 270 | 304 | 448 | 11.5                |

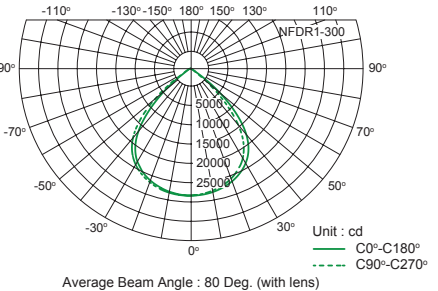
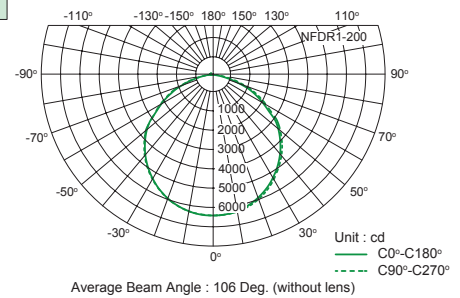
Stanchion Mounting ; 90 degree angle  
Conduit type (standard)

Cable type (pipe clamp)



| Cat. No.                     |                                | Dimensions in mm |     |     |     | Approx. weight (kg) |
|------------------------------|--------------------------------|------------------|-----|-----|-----|---------------------|
| Conduit type                 | Cable type                     | Øa               | Øb  | c   | d   |                     |
| NFDR1-30S90 to 90S90         | NFDR1-30S901 to 90S901         | 235              | 190 | 221 | 345 | 7.1                 |
| NFDR1-100S90                 | NFDR1-100S901                  | 235              | 270 | 200 | 427 | 8.0                 |
| NFDR1-110S90 to 220S90       | NFDR1-110S901 to 220S901       | 340              | 270 | 210 | 427 | 11.5                |
| NFDR1-30S90-AN to 100S90-AN  | NFDR1-30S901-AN to 100S901-AN  | 235              | 270 | 200 | 427 | 8.2                 |
| NFDR1-110S90-AN to 220S90-AN | NFDR1-110S901-AN to 220S901-AN | 340              | 270 | 210 | 427 | 11.5                |

## Luminous Intensity Distribution Curve

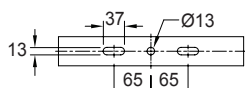


Complete photometrics, please contact us.

## Dimensions (mm) ; 230 W to 350 W

Steel bracket mounting

Pendant mounting



Approx. weight: 17.0 kg  
17.3 kg (with antenna)

Approx. weight: 14.8 kg  
15.1 kg (with antenna)

