

# EFU Fluorescent Factory Sealed Luminaires

## Explosionproof, Dust-Ignitionproof

UNILETS® for use with Threaded Metal Conduit Suitable for use in Wet Locations

### NEC/CEC:

Class I, Division 1 and 2, Groups C, D  
Class II, Division 1 and 2, Groups E, F, G  
Class III

### Applications

- Classified areas such as inside paint spray booths, in pharmaceutical firms, paint-manufacturing plants, printing plants or any location where ignitable dust, fumes, gases, paint residue, paint powder or corrosive atmospheres may be present.

### Features

- Factory sealed unit – no external seals required. Installation is easy.
- A wide range of ballasts and voltages are available for both domestic and export applications.
- Three hubs on each end of fixture provide for straight-down mounting or at 45° to either side. Two close-up plugs furnished for each end of fixture.
- Explosionproof, impact-resistant and heat-resistant glass tubes protect lamps.
- Reflectors can easily be removed for replacement or cleaning using only a screwdriver.
- Appleton EFU fixtures are supplied with Class P ballasts, equipped with an automatic thermally activated protective device. They offer protection against excessive voltage, internal ballast short circuiting, inadequate lamp maintenance and improper fixture application.
- Non-sparking exterior surfaces for safer operation.

### Standard Materials

- Hood, housings and reflectors: copperfree (4/10 of 1% max.) aluminum
- Hood and housings: gray epoxy finish
- Reflectors: white baked enamel inside and gray epoxy outside

### Options

- Emergency battery pack. Suffix -EL.
- Fusing: ARS, AH and AVH fixtures supplied as standard with Class P ballasts with built-in protective device. Additional external fusing available at extra cost. Suffix -F.

### NEC/CEC Certifications and Compliances

- UL Standard: UL 1598, UL 844
- UL Listed: E10794
- CSA Standard: C22.2 No. 250, C22.2 No. 137
- CSA Certified: 65182



Explosionproof caps easily removed  
(shown with caps removed) for easy access.  
Allows quick wiring or relamping.

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|                                                                                     | Lamp                                                                                                          | Volts               | Hub Size (Inches) | Temperature Rating | Supply Wire °C (°F) | Catalog Number ② |
|-------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------|---------------------|-------------------|--------------------|---------------------|------------------|
| <b>Two Lamps</b>                                                                    |                                                                                                               |                     |                   |                    |                     |                  |
|    | <b>32 W</b>                                                                                                   |                     |                   |                    |                     |                  |
|                                                                                     | Rapid Start                                                                                                   | 120-277 V, 50/60 Hz | 3/4               | T-6                | 60 (140)            | ARS232-BU ①      |
|                                                                                     | T8 Bi-Pin                                                                                                     |                     |                   |                    |                     |                  |
|                                                                                     | 1.22 m (4') 265MA                                                                                             | 347 V, 60 Hz        | 3/4               | T-6                | 60 (140)            | ARS232-347 ③①    |
|                                                                                     | <b>40 W</b>                                                                                                   |                     |                   |                    |                     |                  |
|                                                                                     | Rapid Start                                                                                                   | 120-277 V, 50/60 Hz | 3/4               | T-6                | 60 (140)            | ARS240-BU ①      |
|                                                                                     | T12 Bi-Pin                                                                                                    |                     |                   |                    |                     |                  |
|                                                                                     | 1.22 m (4') 430MA                                                                                             | 347 V, 60 Hz        | 3/4               | T-6                | 60 (140)            | ARS240-347 ③①    |
|                                                                                     | <b>60 W</b>                                                                                                   |                     |                   |                    |                     |                  |
|                                                                                     | Rapid Start High Output                                                                                       | 120-277 V, 50/60 Hz | 3/4               | T-6                | 60 (140)            | AH260-BU         |
|   | T-12 Recessed Double Contact                                                                                  |                     |                   |                    |                     |                  |
|                                                                                     | 1.22 m (4') 800MA                                                                                             | 347 V, 60 Hz        | 3/4               | T-6                | 60 (140)            | AH260-347 ③      |
|                                                                                     | <b>110 W</b>                                                                                                  |                     |                   |                    |                     |                  |
|                                                                                     | Rapid Start VHO-SHO                                                                                           | 120 V, 60 Hz        | 3/4               | T-6                | 60 (140)            | AVH210-118       |
|                                                                                     | T-12 Recessed Double Contact                                                                                  | 277 V, 60 Hz        | 3/4               | T-6                | 60 (140)            | AVH210-277       |
|                                                                                     | 1.22 m (4') 1500MA                                                                                            | 347 V, 60 Hz        | 3/4               | T-6                | 60 (140)            | AVH210-347 ③     |
| <b>Three Lamps</b>                                                                  |                                                                                                               |                     |                   |                    |                     |                  |
|  | <b>32 W</b>                                                                                                   |                     |                   |                    |                     |                  |
|                                                                                     | Rapid Start                                                                                                   | 120-277 V, 50/60 Hz | 3/4               | T-6                | 60 (140)            | ARS332-BU ①      |
|                                                                                     | T8 Bi-Pin                                                                                                     |                     |                   |                    |                     |                  |
|                                                                                     | 1.22 m (4') 265MA                                                                                             | 347 V, 60 Hz        | 3/4               | T-6                | 60 (140)            | ARS332-347 ③①    |
|                                                                                     | <b>40 W</b>                                                                                                   |                     |                   |                    |                     |                  |
|                                                                                     | Rapid Start                                                                                                   | 120-277 V, 50/60 Hz | 3/4               | T-6                | 60 (140)            | ARS340-BU        |
|                                                                                     | T12 Bi-Pin                                                                                                    |                     |                   |                    |                     |                  |
|                                                                                     | 1.22 m (4') 430MA                                                                                             | 347 V, 60 Hz        | 3/4               | T-6                | 60 (140)            | ARS340-347 ③     |
|                                                                                     | <b>60 W</b>                                                                                                   |                     |                   |                    |                     |                  |
|                                                                                     | Rapid Start High Output                                                                                       | 120-277 V, 50/60 Hz | 3/4               | T-6                | 60 (140)            | AH360-BU         |
|  | T-12 Recessed Double Contact                                                                                  |                     |                   |                    |                     |                  |
|                                                                                     | 1.22 m (4') 800MA                                                                                             | 347 V, 60 Hz        | 3/4               | T-6                | 60 (140)            | AH360-347 ③      |
| <b>Four Lamps</b>                                                                   |                                                                                                               |                     |                   |                    |                     |                  |
|  | <b>32 W</b>                                                                                                   |                     |                   |                    |                     |                  |
|                                                                                     | Rapid Start                                                                                                   | 120-277 V, 50/60 Hz | 3/4               | T-6                | 60 (140)            | ARS432-BU ①      |
|                                                                                     | T8 Bi-Pin                                                                                                     |                     |                   |                    |                     |                  |
|                                                                                     | 1.22 m (4') 265MA                                                                                             | 347 V, 60 Hz        | 3/4               | T-6                | 60 (140)            | ARS432-347 ③①    |
|                                                                                     | <b>40 W</b>                                                                                                   |                     |                   |                    |                     |                  |
|                                                                                     | Rapid Start                                                                                                   | 120-277 V, 50/60 Hz | 3/4               | T-6                | 60 (140)            | ARS440-BU        |
|                                                                                     | T12 Bi-Pin                                                                                                    |                     |                   |                    |                     |                  |
|                                                                                     | 1.22 m (4') 430MA                                                                                             | 347 V, 60 Hz        | 3/4               | T-6                | 60 (140)            | ARS440-347 ③     |
|                                                                                     | <b>60 W</b>                                                                                                   |                     |                   |                    |                     |                  |
|                                                                                     | Rapid Start High Output                                                                                       | 120-277 V, 50/60 Hz | 3/4               | T-6                | 60 (140)            | AH460-BU         |
|  | T-12 Recessed Double Contact                                                                                  |                     |                   |                    |                     |                  |
|                                                                                     | 1.22 m (4') 800MA                                                                                             | 347 V, 60 Hz        | 3/4               | T-6                | 60 (140)            | AH460-347 ③      |
|                                                                                     | <b>110 W</b>                                                                                                  |                     |                   |                    |                     |                  |
|                                                                                     | Rapid Start Very High Output                                                                                  | 120 V, 60 Hz        | 3/4               | T-6                | 60 (140)            | AVH410-118       |
|                                                                                     | T-12 Recessed Double Contact                                                                                  | 277 V, 60 Hz        | 3/4               | T-6                | 60 (140)            | AVH410-277       |
|                                                                                     | 1.22 m (4') 1500MA                                                                                            | 347 V, 60 Hz        | 3/4               | T-6                | 60 (140)            | AVH410-347 ③     |
| <b>Protector for two-lamp fluorescent fixture</b>                                   |                                                                                                               |                     |                   |                    |                     |                  |
|  | Fits two lamp 1.22 m (4') fixtures only (ARS, AH and AVH series) UV stabilized polycarbonate                  |                     |                   |                    |                     | EFP248           |
|                                                                                     | Wire guard— use 1 piece for 2 lamp fixtures, 2 pieces for 4 lamp fixtures (not available for 3 lamp fixtures) |                     |                   |                    |                     | ARSGUSS          |

NOTE: In paint spray areas, solvents and thinners may "cloud" the polycarbonate. Light transmission characteristics may be reduced.

① For Emergency Battery Pack, add suffix -EL.

② Fluorescent lamps are not included. Supplied with automatic resetting dual protected "Class P" ballast. For additional external fusing, add suffix -F.

③ Certified to meet the Canadian Electrical Code (CEC) only.

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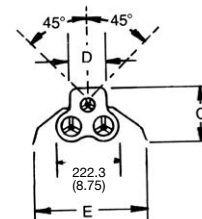
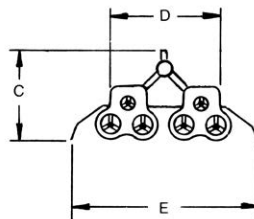
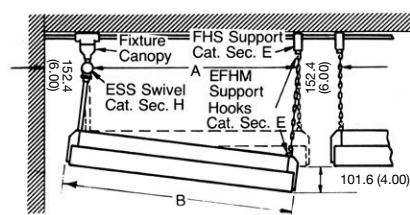
UNILETS® for use with Threaded Metal Conduit Suitable for use in Wet Locations

### NEC/CEC:

Class I, Division 1 and 2, Groups C, D  
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Class III

| Lamps                                                      | Hz    | Voltage | Operating Amps | Input Watts | Starting Temperature °C (°F) | Catalog Number |
|------------------------------------------------------------|-------|---------|----------------|-------------|------------------------------|----------------|
| <b>32 W Rapid Start T-8 Bi-Pin 48" 265 mA</b>              |       |         |                |             |                              |                |
| 2                                                          | 50/60 | 120-277 | .52-.22        | 62-60       | -18 (0)                      | ARS232-BU      |
| 2                                                          | 60    | 347     | .20            | 59          | -18 (0)                      | ARS232-347 ①   |
| 3                                                          | 50/60 | 120-277 | .78-.33        | 93-93       | -18 (0)                      | ARS332-BU      |
| 3                                                          | 60    | 347     | .30            | 86          | -18 (0)                      | ARS332-347 ①   |
| 4                                                          | 50/60 | 120-277 | 1.03-.43       | 124-120     | -18 (0)                      | ARS432-BU      |
| 4                                                          | 60    | 347     | .40            | 118         | -18 (0)                      | ARS432-347 ①   |
| <b>40 W Rapid Start T-12 Bi-Pin 48" 430 mA</b>             |       |         |                |             |                              |                |
| 2                                                          | 50/60 | 120-277 | .70-.35        | 84-42       | 10 (50)                      | ARS240-BU      |
| 2                                                          | 60    | 347     | .30            | 96          | 10 (50)                      | ARS240-347 ①   |
| 3                                                          | 50/60 | 120-277 | .99-.45        | 114         | 10 (50)                      | ARS340-BU      |
| 3                                                          | 60    | 347     | .50            | 140         | 10 (50)                      | ARS340-347 ①   |
| 4                                                          | 50/60 | 120-277 | 1.40-.70       | 168-84      | 10 (50)                      | ARS440-BU      |
| 4                                                          | 60    | 347     | .60            | 192         | 10 (50)                      | ARS440-347 ①   |
| <b>60 W Rapid Start High Output T-12 Bi-Pin 48" 800 mA</b> |       |         |                |             |                              |                |
| 2                                                          | 50/60 | 120-277 | 1.05-.55       | 122-86      | -29 (-20)                    | AH260-BU       |
| 2                                                          | 60    | 347     | .50            | 145         | -29 (-20)                    | AH260-347 ①    |
| 3                                                          | 50/60 | 120-277 | 1.54-.66       | 182         | -29 (-20)                    | AH360-BU       |
| 3                                                          | 60    | 347     | .90            | 256         | -29 (-20)                    | AH360-347 ①    |
| 4                                                          | 50/60 | 120-277 | 2.10-1.10      | 244-172     | -29 (-20)                    | AH460-BU       |
| 4                                                          | 60    | 347     | 1.00           | 290         | -29 (-20)                    | AH460-347 ①    |
| <b>110 W Rapid Start VHO-SHO T-12 Bi-Pin 48" 1500 mA</b>   |       |         |                |             |                              |                |
| 2                                                          | 60    | 120     | 2.60           | 300         | -29 (-20)                    | AVH210-118     |
| 2                                                          | 60    | 277     | .98            | 250         | -29 (-20)                    | AVH210-277     |
| 2                                                          | 60    | 347     | .90            | 250         | -29 (-20)                    | AVH210-347 ①   |
| 4                                                          | 60    | 120     | 5.20           | 600         | -29 (-20)                    | AVH410-118     |
| 4                                                          | 60    | 277     | 1.96           | 500         | -29 (-20)                    | AVH410-277     |
| 4                                                          | 60    | 347     | 1.80           | 500         | -29 (-20)                    | AVH410-347 ①   |

### Dimensions in Millimeters (Inches)



| No. of Lamps | A              | B              | C             | D             | E             |
|--------------|----------------|----------------|---------------|---------------|---------------|
| 2            | 1184.4 (46.63) | 1332.0 (52.44) | 222.3 (8.75)  | 139.7 (5.50)  | 381.0 (15.00) |
| 3            | 1184.4 (46.63) | 1332.0 (52.44) | 222.3 (8.75)  | 139.7 (5.50)  | 489.0 (19.25) |
| 4            | 1184.4 (46.63) | 1332.0 (52.44) | 290.6 (11.44) | 355.6 (14.00) | 596.9 (23.50) |

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\* Data is based on F32 TB Rapid Start Lamps. For other lamps use the following multipliers: 60 W Cool White – 1.50; and 110 W VHO – 2.19. Candlepower distribution curves and other coefficients of utilization tables are available on request.

### NEC/CEC:

Class I, Division 1 and 2, Groups C, D  
Class II, Division 1 and 2, Groups E, F, G  
Class III

### Photometric Data

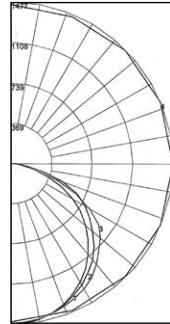
**Zone Lumens** Total Luminaire Efficiency = 78.6%

CIE Type – Direct

| Plane    | Spacing Criteria |
|----------|------------------|
| 0-180    | 1.28             |
| 90-270   | 1.36             |
| Diagonal | 1.44             |

**Zonal Lumen Summary**

| Zone    | Lumens  | % Lamp | % Fixture |
|---------|---------|--------|-----------|
| 0-30    | 1162.26 | 20.4   | 25.9      |
| 100-110 | 0.00    | 0.00   | 0.00      |
| 110-120 | 0.00    | 0.00   | 0.00      |
| 120-130 | 0.00    | 0.00   | 0.00      |
| 130-140 | 0.00    | 0.00   | 0.00      |
| 140-150 | 0.00    | 0.00   | 0.00      |
| 150-160 | 0.00    | 0.00   | 0.00      |
| 160-170 | 0.00    | 0.00   | 0.00      |
| 170-180 | 0.00    | 0.00   | 0.00      |



REPORT NUMBER: **ARS232**

Lamps: Two 32 W Explosionproof Fluorescent with Reflector \*

**Coefficients of Utilization – Zonal Cavity Method**

**Effective Floor Cavity Reflectance 0.20**

| % Ceiling Rcc | % Walls | Rw | 80 | 70 | 50 | 30 | 10 | 0  |
|---------------|---------|----|----|----|----|----|----|----|
| 0             | 94      | 94 | 94 | 94 | 91 | 91 | 91 | 91 |
| 1             | 86      | 82 | 78 | 75 | 83 | 80 | 77 | 74 |
| 2             | 78      | 71 | 66 | 61 | 76 | 70 | 65 | 60 |
| 3             | 71      | 62 | 56 | 51 | 69 | 61 | 55 | 50 |
| 4             | 65      | 55 | 48 | 43 | 63 | 54 | 47 | 42 |
| 5             | 59      | 49 | 42 | 36 | 58 | 48 | 41 | 36 |
| 6             | 55      | 44 | 37 | 32 | 53 | 43 | 36 | 32 |
| 7             | 51      | 40 | 33 | 28 | 49 | 39 | 32 | 28 |
| 8             | 47      | 36 | 29 | 25 | 46 | 36 | 29 | 25 |
| 9             | 44      | 33 | 27 | 22 | 43 | 33 | 26 | 22 |
| 10            | 41      | 31 | 24 | 20 | 40 | 30 | 24 | 20 |

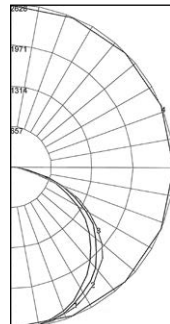
**Zone Lumens** Total Luminaire Efficiency = 96.8%

CIE Type – Direct

| Plane    | Spacing Criteria |
|----------|------------------|
| 0-180    | 1.26             |
| 90-270   | 1.38             |
| Diagonal | 1.46             |

**Zonal Lumen Summary**

| Zone    | Lumens  | % Lamp | % Fixture |
|---------|---------|--------|-----------|
| 0-30    | 2098.20 | 25.0   | 25.8      |
| 100-110 | 0.00    | 0.00   | 0.00      |
| 110-120 | 0.00    | 0.00   | 0.00      |
| 120-130 | 0.00    | 0.00   | 0.00      |
| 130-140 | 0.00    | 0.00   | 0.00      |
| 140-150 | 0.00    | 0.00   | 0.00      |
| 150-160 | 0.00    | 0.00   | 0.00      |
| 160-170 | 0.00    | 0.00   | 0.00      |
| 170-180 | 0.00    | 0.00   | 0.00      |



REPORT NUMBER: **ARS332**

Lamps: Three 32 W Explosionproof Fluorescent with Reflector \*

**Coefficients of Utilization – Zonal Cavity Method**

**Effective Floor Cavity Reflectance 0.20**

| % Ceiling Rcc | % Walls | Rw  | 80  | 70  | 50  | 30  | 10  | 0   |
|---------------|---------|-----|-----|-----|-----|-----|-----|-----|
| 0             | 115     | 115 | 115 | 115 | 113 | 113 | 113 | 113 |
| 1             | 105     | 101 | 97  | 93  | 103 | 99  | 95  | 91  |
| 2             | 96      | 87  | 81  | 75  | 93  | 86  | 80  | 74  |
| 3             | 87      | 77  | 69  | 62  | 84  | 75  | 68  | 62  |
| 4             | 79      | 68  | 59  | 52  | 77  | 66  | 58  | 52  |
| 5             | 73      | 60  | 51  | 45  | 71  | 59  | 51  | 45  |
| 6             | 67      | 54  | 45  | 39  | 65  | 53  | 45  | 39  |
| 7             | 62      | 49  | 40  | 34  | 60  | 49  | 40  | 34  |
| 8             | 58      | 44  | 36  | 30  | 56  | 44  | 36  | 30  |
| 9             | 54      | 41  | 33  | 27  | 53  | 40  | 32  | 27  |
| 10            | 50      | 38  | 30  | 25  | 49  | 37  | 30  | 25  |

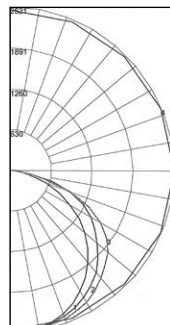
**Zone Lumens** Total Luminaire Efficiency = 70.9%

CIE Type – Direct

| Plane    | Spacing Criteria |
|----------|------------------|
| 0-180    | 1.28             |
| 90-270   | 1.42             |
| Diagonal | 1.48             |

**Zonal Lumen Summary**

| Zone    | Lumens  | % Lamp | % Fixture |
|---------|---------|--------|-----------|
| 0-30    | 2011.34 | 17.6   | 24.9      |
| 100-110 | 0.00    | 0.00   | 0.00      |
| 110-120 | 0.00    | 0.00   | 0.00      |
| 120-130 | 0.00    | 0.00   | 0.00      |
| 130-140 | 0.00    | 0.00   | 0.00      |
| 140-150 | 0.00    | 0.00   | 0.00      |
| 150-160 | 0.00    | 0.00   | 0.00      |
| 160-170 | 0.00    | 0.00   | 0.00      |
| 170-180 | 0.00    | 0.00   | 0.00      |



REPORT NUMBER: **ARS432**

Lamps: Four 32 W Explosionproof Fluorescent with Reflector \*

**Coefficients of Utilization – Zonal Cavity Method**

**Effective Floor Cavity Reflectance 0.20**

| % Ceiling Rcc | % Walls | Rw | 80 | 70 | 50 | 30 | 10 | 0  |
|---------------|---------|----|----|----|----|----|----|----|
| 0             | 84      | 84 | 84 | 84 | 82 | 82 | 82 | 82 |
| 1             | 77      | 74 | 70 | 68 | 75 | 72 | 69 | 67 |
| 2             | 70      | 64 | 59 | 55 | 68 | 62 | 58 | 54 |
| 3             | 63      | 56 | 50 | 45 | 62 | 54 | 49 | 44 |
| 4             | 58      | 49 | 43 | 38 | 56 | 48 | 42 | 37 |
| 5             | 53      | 44 | 37 | 32 | 51 | 43 | 37 | 32 |
| 6             | 49      | 39 | 33 | 28 | 47 | 38 | 32 | 28 |
| 7             | 45      | 35 | 29 | 24 | 44 | 35 | 29 | 24 |
| 8             | 42      | 32 | 26 | 22 | 41 | 32 | 26 | 22 |
| 9             | 39      | 29 | 23 | 19 | 38 | 29 | 23 | 19 |
| 10            | 37      | 27 | 21 | 18 | 36 | 27 | 21 | 17 |