

Quality **LED** Lighting

LED Bulkheads
Recessed Ceiling Luminaires
Emergency Lighting



Welcome to Fern-Howard Lighting



UK based design, UK based manufacture

Fern-Howard is UK based. Our products are designed and manufactured in our state-of-the-art factory in Alton, Hampshire where more than half a million fittings are produced every year - from complete luminaires to precise injection moulded light guides.

Innovative, energy-efficient designs

We invest heavily in R&D, creating lighting solutions that are technologically advanced yet simple to specify, install and use. Solutions like EdgeLED™ that has transformed the quality of light produced by LED luminaires and our “Time in a Box” concept that dramatically increases installer efficiency.



Working with global innovators in LED and Electronics we integrate the very latest lighting control technology into our products - making them even more energy efficient.

Elegant LED recessed ceiling luminaires

The revolutionary EdgeLED™ light guide technology in our recessed ceiling luminaires means their light is never harsh, never tiring - and more precisely distributed than ever before. They show how well designed luminaires can save running costs and boost personal productivity.



Robust utility bulkheads

Our utility bulkheads can be found in stairways and corridors, in public spaces and factories – their robust design, minimal light spillage and energy efficiency make people’s lives safer and reduce running costs every day.



A dedicated sales team

Wholesalers, contractors and specifiers deserve support dedicated to their needs.

Wholesale

Our sales team helps electrical distributors and contractors to get the very best from Fern-Howard products. They assist with technical queries, with pricing and with finding the best solution for each and every job. They understand the challenges – and know the answers.

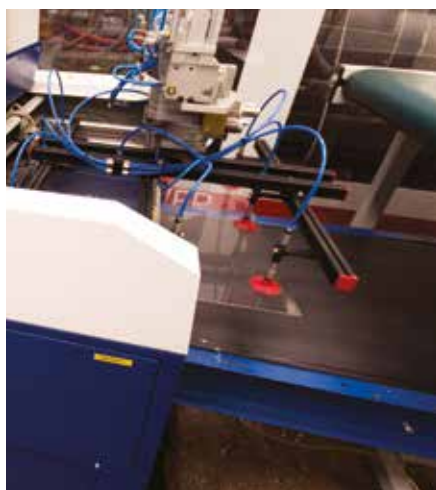
Specification

Our sales team also helps lighting designers, architects and developers plan, design and execute lighting projects. Their in-depth knowledge allows innovative designs to be undertaken with confidence – and ensures that reality matches your vision.

World-class customer support

The Fern-Howard business has been built on technical excellence – and excellent customer support.

Our UK based customer service and technical support teams are expert, informed, and always ready to assist.





Section One: LED PANELS

NEW recessed modular ceiling luminaires featuring EdgeLED™ light panels that produce perfectly uniform light with minimal glare



pages
8-9

Sabre300



pages
10-11

Sabre600



page
12

Mounting
Accessories

Section Two: LED BULKHEADS

Reliable and robust Galaxy LED bulkheads – 47% Energy Saving against 2D



page
16

Time-in-
a-box



page
17

Galaxy
LED



pages
18-19

Alleycat
Round &
Square



page
20

Columbus



page
21

Columbus
Minor



page
22

Drum



page
23

Galileo



pages
24-25

Icebreaker



page
26

Micro-Max



page
27

Mini-Max



page
28

Meridian



page
29

Moonlight



pages
30-31

Trojan
Round &
Square



page
32

Accessories



page
33

Retrofit
Geartray

Section Three: EMERGENCY

Emergency LED luminaires



page
36

Exodus

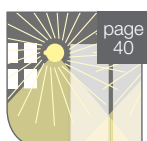


page
37

One Spot

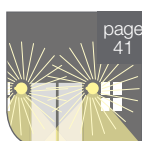
Section Four: TECHNICAL

Technical information



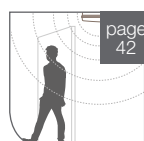
page
40

Lighting
Control



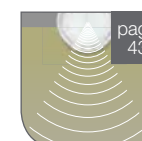
page
41

Photocell



page
42

Absence &
Presence
Detection



page
43

Corridor
Function



pages
44-45

Dimming



pages
46-47

Light
Management
Systems



pages
48-49

Emergency
Lighting



pages
50-51

Glossary

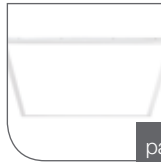




pages
8-9

Sabre300

New range of recessed modular ceiling luminaires featuring inset EdgeLED™ light panels



pages
10-11

Sabre600

Ultra slim recessed ceiling luminaires, perfect for office applications



page
12

Mounting Accessories

For installation into or onto different ceiling types

Sabre300 – Recessed Ceiling Luminaire



Recessed ceiling luminaire featuring an inset EdgeLED™ light panel that produces pleasant and perfectly uniform light with low glare.


Its exceptional optical efficiency and light distribution reduce the number of fixtures required in a typical installation.

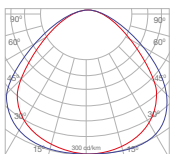
- Highly energy efficient EdgeLED™ optical system with a life span of 30,000 hours (L70)
- Managed light distribution through MicroLens® technology from Rambus delivers best in class optical efficiency
- Drastically reduced running and maintenance costs
- Qualifying for ECA support

Suitable for retrofit, refurbishment or new build

- Integral driver and pre-wired terminal block
- Slim profile (84mm)
- Suitable for T-bar ceiling grids
- Mounting accessories available for different ceiling types, see page 10.



| | |
|--|---|
| <input type="checkbox"/> White Body | <input type="checkbox"/> Prismatic Diffuser |
| Dimensions: □ 598 x 598 x 84mm | Weight: 3.6kg |
| Mounting type:  Recessed Ceiling | |



Photometric files at
www.fernhoward.com

Rambus
Lighting Technology

Ordering Guide

| Standard Product Code | Light Management Options Suffix* | | | | | | | Performance Data | | |
|-----------------------|----------------------------------|---------|-------------------|---------------|-----------|------------------|-----------|------------------|-----------|---------------|
| | DALI | Dimming | Corridor Function | 3hr Emergency | Self-Test | Microwave Sensor | Photocell | Lumen Output Lm | Wattage W | Efficacy Lm/W |
| Sabre300 | | | | | | | | | | |
| FHML300-250 | DA | DIM | CF | EM | AT | MS | - | 3,000 | 35 | 85 |



Lumen Output in EM: 300Lm

Example Code: Sabre300 35W with Corridor Function and Emergency

*Most combinations are possible except the following:

- DA & DIM - Dimming and DALI cannot be combined
- AT & EM - AT represents Self-Test Emergency configuration



up to
85
Lm/W

30,000
Hours
L70

>85
CRI (Ra)

4,000K
Colour
Temperature

Extended
5 YEAR
Warranty
Register with us



Slim profile (84mm) makes the Sabre300 suitable for most exposed and concealed T-bar ceiling grids

Easy to clean wipe-over surface

Integral driver and pre-wired terminal block ensure quick and easy installation

Contemporary injection moulded housing combines style and durability

EdgeLED™ light guide creates a pleasant and uniform light with minimal energy consumption



Sabre600 – Recessed Ceiling Luminaire

Ultra slim and very energy efficient, the Sabre600 recessed ceiling luminaire features an integral EdgeLED™ light panel that produces perfectly uniform light with minimal glare.

Its exceptional optical efficiency and light distribution help to reduce the number of fixtures required in a typical installation.

- Helps achieve LG7 requirements *(2600 lumen option only)
- Highly energy efficient EdgeLED™ optical system with a life span of 30,000 hours (L70)
- Managed light distribution through MicroLens® technology from Rambus delivers best in class optical efficiency
- Drastically reduced running and maintenance costs
- Qualifying for ECA support

Suitable for retrofit, refurbishment or new build

- Pre-wired driver
- Ultra slim profile (11mm)
- Suitable for T-bar ceiling grids
- Mounting accessories available for different ceiling types, see page 10.

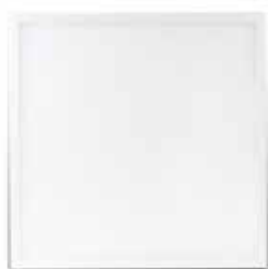


FRONT FACE



EdgeLED

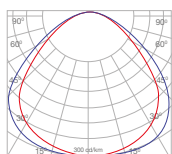
LG7



☐ White Frame ☐ Opal Diffuser

Dimensions: 596 x 596 x 11mm Weight: 4.5kg

Mounting type: ☒ Recessed Ceiling



Photometric files at www.fernhoward.com

Rambus
Lighting Technology

Ordering Guide

| Standard Product Code | Light Management Options Suffix* | | | | | | | Performance Data | | |
|-----------------------|----------------------------------|---------|-------------------|-----------|-----------|------------------|-----------|------------------|-----------|---------------|
| | DALI | Dimming | Corridor Function | Emergency | Self-Test | Microwave Sensor | Photocell | Lumen Output Lm | Wattage W | Efficacy Lm/W |
| Sabre600 | | | | | | | | | | |
| FHML600-260 | DA | DIM | CF | EM | AT | MS | - | 2,600 | 30 | 87 |
| FHML600-330 | DA | DIM | CF | EM | AT | MS | - | 3,600 | 42 | 85 |

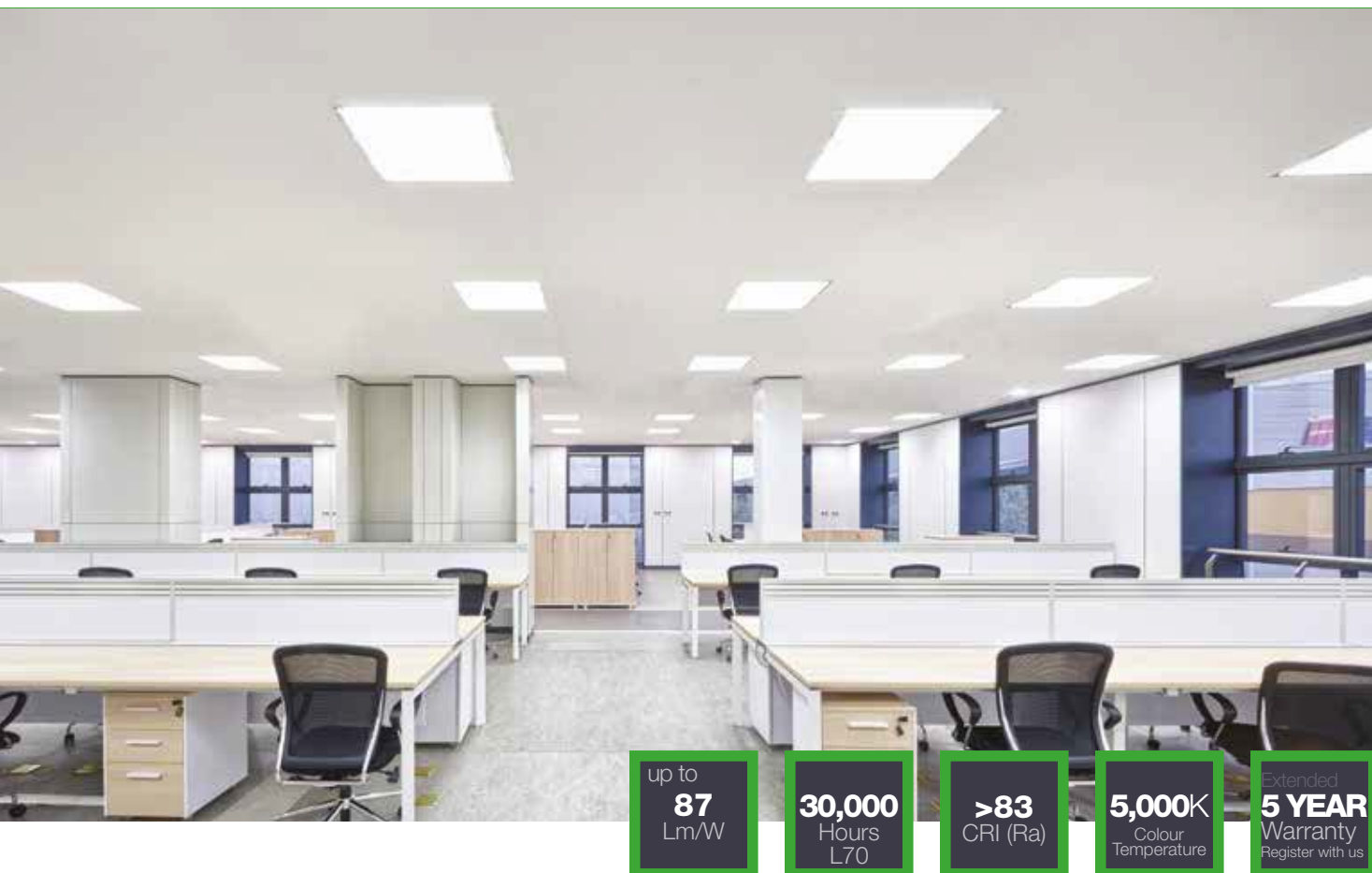
FHBL600-260 - CF - MS

Lumen Output in EM: 300Lm

Example Code: Sabre600 30W with Corridor Function and Microwave Sensor

*Most combinations are possible except the following:

- DA & DIM - Dimming and DALI cannot be combined
- AT & EM - AT represents Self-Test Emergency configuration



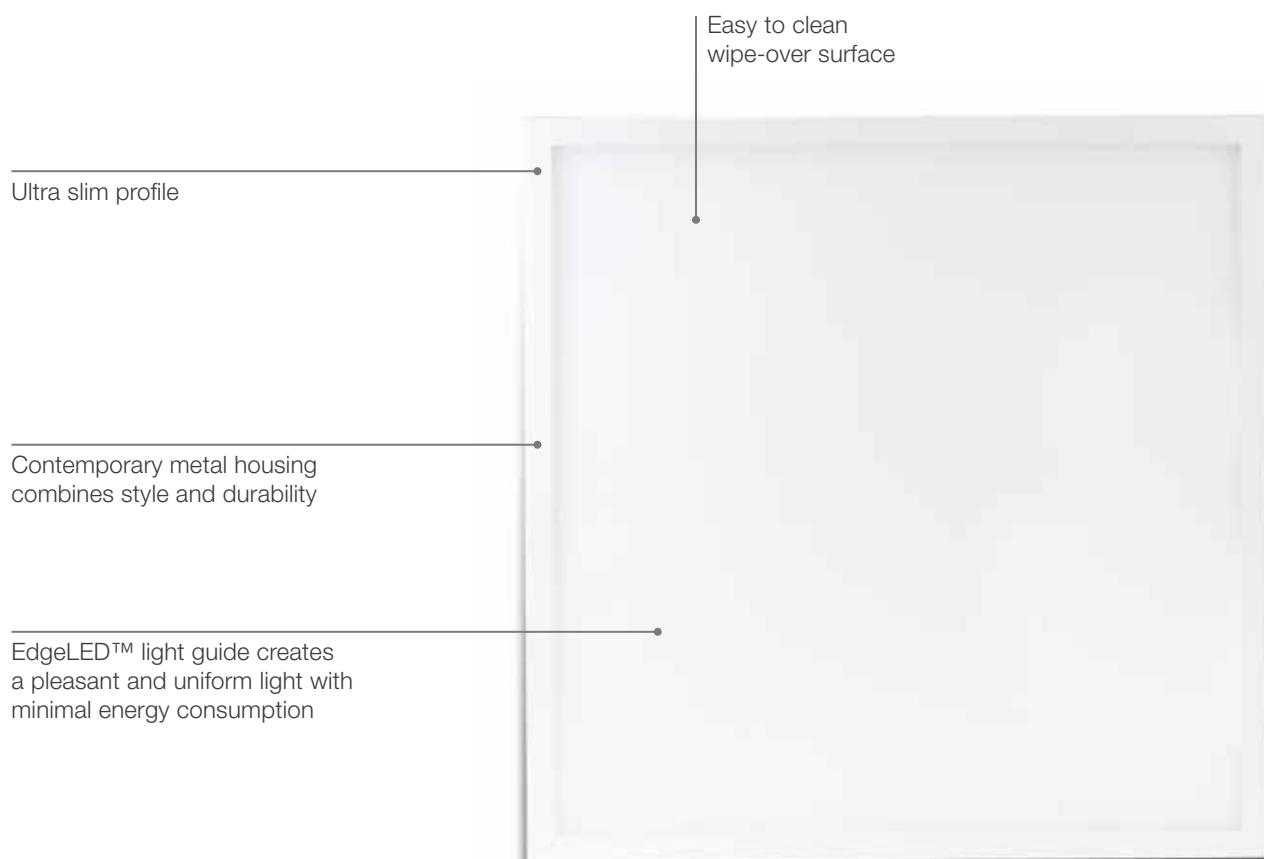
up to
87
Lm/W

30,000
Hours
L70

>83
CRI (Ra)

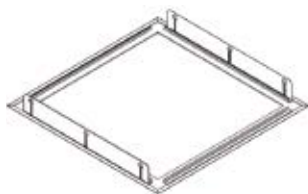
5,000K
Colour
Temperature

Extended
5 YEAR
Warranty
Register with us



Mounting Accessories – for Recessed Ceiling Luminaires

A range of mounting accessories makes it easy to install Fern-Howard recessed ceiling luminaires into or onto different ceiling types.



Recessed frame kit for solid ceiling installations – FHS508

- Allows our recessed ceiling luminaires to be installed into a solid plasterboard or wooden ceiling
- Lumafix ceiling clips included

Note: The metal pan ceiling tile is Made to Order, please specify RAL colour required within your order to ensure the tile exactly matches the colour of your ceiling.



Metal pan ceiling tile – FHS526

- Allows our recessed ceiling luminaires to be mounted into a standard Armstrong, SAS or Burgess ceiling structure
- Please check your exact ceiling type with us before you order this product!

Note: The metal pan ceiling tile is Made to Order, please specify RAL colour required within your order to ensure the tile exactly matches the colour of your ceiling.



Surface Mount Box – FHS4130

- Allows our recessed ceiling luminaires to be mounted onto the underside of the ceiling

Note: This metal mounting box cannot be used in combination with a Microwave Sensor!



Suspension Kit E – FHS4204

- Allows the Sabre600 to be hung from a high, gabled or suspended ceiling
- Ceiling fixings are not included



Suspension Kit S – FHS4207

- The suspension kit consists of a mounting box and cables, allowing the Sabre luminaires to be encased and then hung from a high, gabled or suspended ceiling
- Ceiling fixings are not included



| Standard Product Code | Description | | | | | Suitable to use with: |
|--|--------------------------|----------|-----------------|-------------|-----------------------|-----------------------|
| | Mounting Type | Material | Colour | Weight (kg) | Dimensions (mm) | |
| Recessed Frame Kit for solid ceiling installations | | | | | | |
| FHS508 | Recessed - Solid Ceiling | Steel | White (RAL9016) | 1.7kg | 664 x 664 x 71 | |
| Metal Pan Ceiling Tile | | | | | | |
| FHS526 | Metal Pan Ceiling Tile | Steel | White (RAL9016) | 0.52kg | 602 x 602 x 98 | Sabre600 Sabre300 |
| Surface Mount Box | | | | | | |
| FHS4130 | Surface Mount | Steel | White (RAL9016) | 3.1kg | 600 x 600 x 30 | Sabre600 Sabre300 |
| Suspension Kit E | | | | | | |
| FHS4204 | Suspended | Steel | Silver | 0.08kg | 3m | Sabre600 |
| Suspension Kit S | | | | | | |
| FHS4207 | Suspended | Steel | White & Silver | 3.35kg | 602 x 602 x 98 and 3m | Sabre600 Sabre300 |







Time-in-a-box

Saves you time and money

page 16



Galaxy LED

Up to 47% Energy Saving against 2D

page 17



Alleycat Round & Square

Robust and vandal proof – aluminium bodied bulkhead

pages 18-19



Columbus

Slim yet vandal resistant bulkhead – perfect where durability is important

page 20



Columbus Minor

Compact IP65 rated bulkhead, ideal where space is tight

page 21



Drum

No frills, great value LED luminaire that fits into tight spaces

page 22



Galileo

Elegant LED wall luminaire with a spun steel base

page 23



Icebreaker

Slim decorative LED luminaire, available in two sizes

pages 24-25



Micro-Max

Durable and compact LED bulkhead

page 26



Mini-Max

Highly energy efficient IP65 rated bulkhead

page 27



Meridian

LED luminaire available with many light management options

page 28



Moonlight

Robust bulkhead with a factory fitted dusk-to-dawn photocell

page 29



Trojan Round & Square

Cost-effective and robust – Polycarbonate bodied bulkhead

pages 30-31



Accessories

For Fern-Howard bulkheads

page 32



Retrofit Geartray

One-component back-lit LED Geartray to upgrade 2D bulkheads

page 33

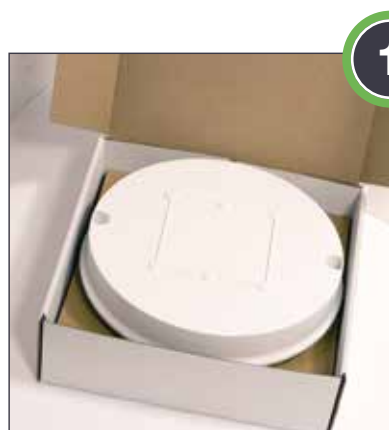
Time-in-a-Box



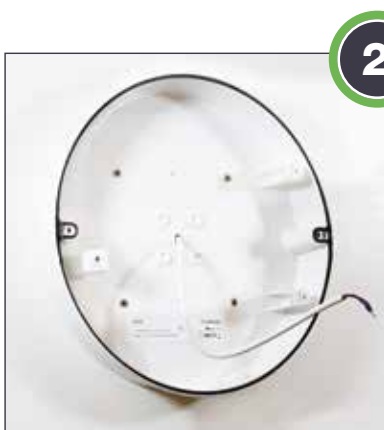
saves you time and money...

Time-in-a-Box is Fern-Howard's unique packaging method, which presents component parts to the installer in exactly the order required. All parts are kept safely in the box until required.

In independently controlled tests, Time-in-a-Box has been found to halve the fitting time required over a comparable luminaire, making installation swift and easy.



Ready to go...



Mount base to surface



Clip geartray into place



Ready for **hands free** connection



Safely connect supply



Tighten retainer screw
(EM options only)



Use captive screws to screw
the diffuser into place



You're done, luminaire is fitted

Galaxy LED

the quality 2D replacement



- ✓ Reliable & robust, built to last
- ✓ Highly energy efficient
- ✓ Low maintenance, no re-lamping cost
- ✓ Long life
- ✓ Suitable for frequent switching
- ✓ Instant start and Flicker-free
- ✓ Light Management Options available



Retained Diffuser Screws

Separately available anti-tamper security screws protect against vandalism

Durable Polycarbonate Diffuser

High-impact polycarbonate diffuser, designed to last



Back-lit LED Array

Optimised for energy efficiency

Robust Base

Designed to withstand vandalism and abuse



Hinged gear tray

Hinged Geartray

Aids swift and easy installation



Formed-in-place Foam Gasket

Protects the luminaire against ingress of dust or water

Alleycat Round & Square – Galaxy LED Bulkhead

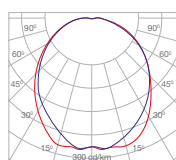


| | |
|--------------|------------------|
| ● Black Base | ● Clear Diffuser |
| ○ White Base | ○ Opal Diffuser |

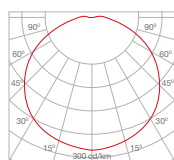
| | |
|-------------------------|----------------|
| Dimensions: | Weight: |
| Rd: Ø 350 x 118mm | 2.3kg |
| Sq: □ 246 x 246 x 103mm | 2.3kg |

Mounting type:

| | |
|---------|----------|
| Wall | Interior |
| Ceiling | Exterior |



Clear



Opal

Photometric files at
www.fernhoward.com

The most robust and vandal proof LED bulkhead in our range, the Alleycat is IP65 rated with a die-cast aluminium base, high-grade UV stabilised polycarbonate diffuser and a formed-in-place foam gasket.

- Energy efficient LED geartray with a life span of 30,000 hours (L70)
- IP65 – formed-in-place foam gasket protects against dust and water
- Robust die-cast aluminium body in black or white
- Clear or opal polycarbonate diffuser
- Retained diffuser screws
- Security screws available, see page 32

Simple to install and use

- Hinged LED geartray and Time-in-a-Box packaging for swift and easy installation
- BESA box fixing points for easy cable entry
- Wall or ceiling mountable
- Exterior or interior use





up to
102
Lm/W

30,000
Hours
L70

84
CRI (Ra)

4,000K
Colour
Temperature

Extended
5 YEAR
Warranty
Register with us

Ordering Guide

| Standard Product Code | Light Management Options Suffix* | | | | | | | | | Performance Data | | |
|-----------------------------------|----------------------------------|-----------------|------|---------|-------------------|---------------|-----------|------------------|-----------|------------------|-----------|---------------|
| | Base Colour | Diffuser Option | DALI | Dimming | Corridor Function | 3hr Emergency | Self-Test | Microwave Sensor | Photocell | Lumen Output Lm | Wattage W | Efficacy Lm/W |
| Alleycat Round Galaxy LED | | | | | | | | | | | | |
| FHBL9965-090 | B/W | CL | DA | DIM | CF | EM | AT | MS | PH | 950 | 10 | 95 |
| | B/W | OP | DA | DIM | CF | EM | AT | MS | PH | 520 | 10 | 52 |
| FHBL9965-160 | B/W | CL | DA | DIM | CF | EM | AT | MS | PH | 1,525 | 15 | 102 |
| | B/W | OP | DA | DIM | CF | EM | AT | MS | PH | 830 | 15 | 55 |
| FHBL9965-210 | B/W | CL | DA | DIM | - | EM | AT | MS | PH | 1,800 | 20 | 90 |
| | B/W | OP | DA | DIM | - | EM | AT | MS | PH | 990 | 20 | 50 |
| Alleycat Square Galaxy LED | | | | | | | | | | | | |
| FHBL9065-090 | B/W | CL | DA | DIM | CF | EM | AT | MS | PH | 925 | 10 | 93 |
| | B/W | OP | DA | DIM | CF | EM | AT | MS | PH | 550 | 10 | 55 |
| FHBL9065-160 | B/W | CL | DA | DIM | CF | EM | AT | MS | PH | 1,500 | 15 | 100 |
| | B/W | OP | DA | DIM | CF | EM | AT | MS | PH | 900 | 15 | 60 |
| FHBL9065-210 | B/W | CL | DA | DIM | - | EM | AT | MS | PH | 1,800 | 20 | 90 |
| | B/W | OP | DA | DIM | - | EM | AT | MS | PH | 1,050 | 20 | 53 |



FHBL9965-160 - W - CL - EM

Example Code: Alleycat Round 15W, White, Clear with Emergency

*Most combinations are possible except the following:

- DA & DIM - Dimming and DALI cannot be combined
- AT & EM - AT represents Self-Test Emergency configuration

Lumen Output in EM:
Clear diffuser - 400Lm
Opal diffuser - 260Lm



Columbus – Galaxy LED Bulkhead



Slim yet vandal resistant, the Columbus is IP65 rated and exceptionally robust, thanks to its screwed-down polycarbonate diffuser, rigidly constructed polycarbonate base and strong, symmetrical shape.

- Energy efficient LED geartray with a life span of 30,000 hours (L70)
- IP65 – formed-in-place foam gasket protects against dust and water
- Flush fit to fixing surface ensures vandal resistance
- Robust Polycarbonate body in black or white
- Clear or opal polycarbonate diffuser
- Retained diffuser screws
- Security screws available, see page 32

Simple to install and use

- Hinged LED geartray and Time-in-a-Box packaging for swift and easy installation
- BESA box fixing points for easy cable entry
- Wall or ceiling mountable
- Exterior or interior use



up to
102
Lm/W

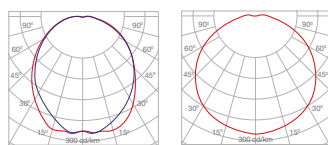
30,000
Hours
L70

84
CRI (Ra)

4,000K
Colour
Temperature

Extended
5 YEAR
Warranty
Register with us

| | |
|------------------------------------|------------------|
| ● Black Base | ● Clear Diffuser |
| ○ White Base | ○ Opal Diffuser |
| Dimensions: Ø 300 x 88mm | |
| Weight: 1.3kg | |
| Mounting type: | |
| ◀ Wall | ▶ Interior |
| ⬆ Ceiling | ⬆ Exterior |



Clear
Photometric files at
www.fernhoward.com

Opal



Ordering Guide

| Standard Product Code | | Light Management Options Suffix* | | | | | | | | Performance Data | | |
|----------------------------|-------------|----------------------------------|------|---------|-------------------|---------------|-----------|------------------|-----------|------------------|-----------|---------------|
| | Base Colour | Diffuser Option | DALI | Dimming | Corridor Function | 3hr Emergency | Self-Test | Microwave Sensor | Photocell | Lumen Output Lm | Wattage W | Efficacy Lm/W |
| Columbus Galaxy LED | | | | | | | | | | | | |
| FHBL965-090 | B/W | CL | DA | DIM | CF | EM | AT | MS | PH | 950 | 10 | 95 |
| | B/W | OP | DA | DIM | CF | EM | AT | MS | PH | 520 | 10 | 52 |
| FHBL965-160 | B/W | CL | DA | DIM | CF | EM | AT | MS | PH | 1,525 | 15 | 102 |
| | B/W | OP | DA | DIM | CF | EM | AT | MS | PH | 830 | 15 | 55 |
| FHBL965-210 | B/W | CL | DA | DIM | - | EM | AT | MS | PH | 1,800 | 20 | 90 |
| | B/W | OP | DA | DIM | - | EM | AT | MS | PH | 990 | 20 | 50 |

FHBL965-160 - W - OP - CF - MS

Example Code: Columbus 15W, White, Opal with Corridor Function and Microwave Sensor

*Most combinations are possible except the following:

- DA & DIM – Dimming and DALI cannot be combined
- AT & EM – AT represents Self-Test Emergency configuration

Lumen Output in EM:
Clear diffuser - 400Lm
Opal diffuser - 260Lm



Columbus Minor – Galaxy LED Bulkhead



Compact and vandal resistant, the energy efficient Columbus Minor is exceptionally robust, thanks to its screwed-down polycarbonate diffuser, rigidly constructed polycarbonate base and strong, symmetrical shape.

- Energy efficient LED geartray with a life span of 30,000 hours (L70)
- IP65 – formed-in-place foam gasket protects against dust and water
- Flush fit to fixing surface ensures vandal resistance
- Robust polycarbonate combo base – removable black skirt gives a choice of black or white
- Compact 218 mm diameter body
- Clear or opal polycarbonate diffuser
- Retained diffuser screws
- Security screws available, see page 32

Simple to install and use

- LED geartray
- BESA box fixing points for easy cable entry
- Wall or ceiling mountable
- Exterior or interior use



up to
100
Lm/W

30,000
Hours
L70

>83
CRI (Ra)

4,000K
Colour
Temperature

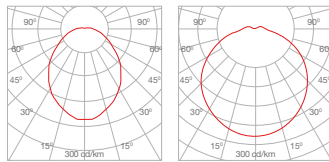
Extended
3 YEAR
Warranty
Register with us

- Black Skirt ● Clear Diffuser
- White Skirt ○ Opal Diffuser

Dimensions: Ø 218 x 95mm
Weight: 1.1kg

Mounting type:

- Wall Interior
- Ceiling Exterior



Clear Opal

Photometric files at
www.fernhoward.com

Ordering Guide

| Standard Product Code | | | Light Management Options Suffix* | | | | | | | Performance Data | | |
|---------------------------|------------|-----------------|----------------------------------|---------|-------------------|---------------|-----------|------------------|-----------|------------------|-----------|---------------|
| | Combo Base | Diffuser Option | DALI | Dimming | Corridor Function | 3hr Emergency | Self-Test | Microwave Sensor | Photocell | Lumen Output Lm | Wattage W | Efficacy Lm/W |
| Columbus Minor Galaxy LED | | | | | | | | | | | | |
| FHBL-90-075-BW | BW | CL | - | - | CF | - | - | MS | - | 1,100 | 11 | 100 |
| | BW | OP | - | - | CF | - | - | MS | - | 550 | 11 | 50 |

FHBL-90-075 - BW - CL - CF - MS

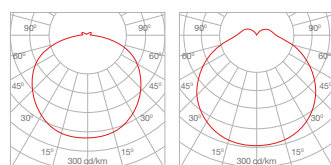
Example Code: Columbus Minor 11W, Combo Base, Clear with Corridor Function and Microwave Sensor

*CF is only available in combination with MS





- Black Skirt ● Clear Diffuser
 - White Skirt ○ Opal Diffuser
- Dimensions: Ø 218 x 106mm Weight: 1.1kg
- Mounting type:
- ◀ Wall Interior
 - ▲ Ceiling



Photometric files at
www.fernhoward.com



Drum – Galaxy LED Bulkhead

A no-frills, great value LED luminaire with a small footprint that fits into tight spaces. The luminaire comes with a combo base – a removable black skirt gives a choice of black or white.

- Energy efficient LED geartray with a life span of 30,000 hours (L70)
- Compact 218mm diameter body
- Robust polycarbonate combo base – removable black skirt gives a choice of black or white
- Clear or opal polycarbonate diffuser

Simple to install and use

- LED geartray
- BESA box fixing points for easy cable entry
- Wall or ceiling mountable
- Interior use



up to
109
Lm/W

30,000
Hours
L70

>83
CRI (Ra)

4,000K
Colour
Temperature

Extended
3 YEAR
Warranty
Register with us

Ordering Guide

| Standard Product Code | | | Light Management Options Suffix* | | | | | | | Performance Data | | |
|---|------------|-----------------|----------------------------------|---------|-------------------|---------------|-----------|------------------|-----------|--------------------------|--------------------|------------------------|
| | Combo Base | Diffuser Option | DALI | Dimming | Corridor Function | 3hr Emergency | Self-Test | Microwave Sensor | Photocell | Lumen Output Lm | Wattage W | Efficacy Lm/W |
| Drum Galaxy LED | | | | | | | | | | | | |
| FHBL-50-075 | BW | CL | - | - | CF | - | - | MS | - | 1,200 | 11 | 109 |
| | BW | OP | - | - | CF | - | - | MS | - | 700 | 11 | 64 |
| <div><div>FHBL-50-075</div><div>-</div><div>BW</div><div>-</div><div>OP</div><div>-</div><div>CF</div><div>-</div><div>MS</div></div> | | | | | | | | | | | | |

Example Code: Drum 11W, Combo Base, Opal with Corridor Function and Microwave Sensor

*CF is only available in combination with MS



Galileo – Galaxy LED Bulkhead

An elegant and highly versatile interior LED wall luminaire available in two sizes (350 and 430mm), the Galileo features a quality spun steel base in powder coated white.

- Energy efficient LED geartray with a life span of 30,000 hours (L70)
- Two body sizes available: 350 and 430mm
- Spun steel body in powder coated white
- 430 body features backlit fly-proof slots that create a halo effect on the mounting surface
- Opal polycarbonate diffuser (Ø350 available in clear or opal)

Simple to install and use

- Clip-in diffuser without any screws
- Hinged LED geartray and Time-in-a-Box packaging for swift and easy installation
- BESA box fixing points for easy cable entry
- Wall or ceiling mountable
- Interior use



IP20

IK10



LED

Hinged gear tray

up to
103
Lm/W

30,000
Hours
L70

84
CRI (Ra)

4,000K
Colour
Temperature

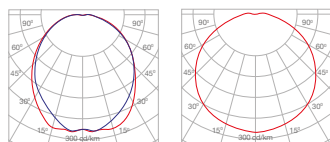
Extended
5 YEAR
Warranty
Register with us

- Powder Coated White
- Clear Diffuser
- Opal Diffuser

Dimensions, 2 sizes: Weight:
Ø 350 x 115mm 2.3kg
Ø 430 x 115mm 2.8kg

Mounting type:

- Wall
- Interior
- Ceiling



Clear

Opal

Photometric files at
www.fernhoward.com



Ordering Guide

| Standard Product Code | | | Light Management Options Suffix* | | | | | | | Performance Data | | |
|-----------------------|-------------|-----------------|----------------------------------|---------|-------------------|---------------|-----------|------------------|-----------|--------------------------------|--------------------------|------------------------------|
| | Base Colour | Diffuser option | DALI | Dimming | Corridor Function | 3hr Emergency | Self-Test | Microwave Sensor | Photocell | Lumen Output <small>Lm</small> | Wattage <small>W</small> | Efficacy <small>Lm/W</small> |
| Galileo350 Galaxy LED | | | | | | | | | | | | |
| FHBL350-090 | W | CL | DA | DIM | CF | EM | AT | MS | - | 960 | 10 | 96 |
| | W | OP | DA | DIM | CF | EM | AT | MS | - | 600 | 10 | 60 |
| FHBL350-160 | W | CL | DA | DIM | CF | EM | AT | MS | - | 1,550 | 15 | 103 |
| | W | OP | DA | DIM | CF | EM | AT | MS | - | 970 | 15 | 65 |
| FHBL350-210 | W | CL | DA | DIM | - | EM | AT | MS | - | 1,840 | 20 | 92 |
| | W | OP | DA | DIM | - | EM | AT | MS | - | 1,160 | 20 | 58 |
| Galileo430 Galaxy LED | | | | | | | | | | | | |
| FHBL430-090 | W | OP | DA | DIM | CF | EM | AT | MS | - | 600 | 10 | 60 |
| FHBL430-160 | W | OP | DA | DIM | CF | EM | AT | MS | - | 960 | 15 | 64 |
| FHBL430-210 | W | OP | DA | DIM | - | EM | AT | MS | - | 1,150 | 20 | 58 |

FHBL350-210 - W - OP - DIM

Example Code: Galileo430 20W, White, Opal with Dimming

*Most combinations are possible except the following:

- DA & DIM - Dimming and DALI cannot be combined
- AT & EM - AT represents Self-Test Emergency configuration

Lumen Output in EM:
Clear diffuser - 400Lm
Opal diffuser - 260Lm



Icebreaker – Galaxy LED Bulkhead

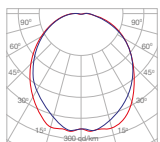


- White Trim ● Clear Diffuser
- Chrome Trim ○ Opal Diffuser

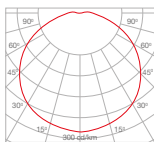
Dimensions, 2 sizes: **Weight:**
 Mini: Ø 245 x 65mm 0.5kg
 Large: Ø 325 x 70mm 0.85kg

Mounting type:

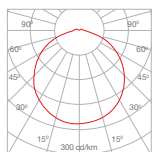
- Wall Interior
- Ceiling



Mini Clear



Mini Opal



Opal

Photometric files at
www.fernhoward.com

A slim decorative LED luminaire that achieves a very low profile by integrating a reflective surface geartray within the body to produce a timeless, clean and simple design. A white or chrome decorative trim creates an appealing halo of light on the mounting surface.

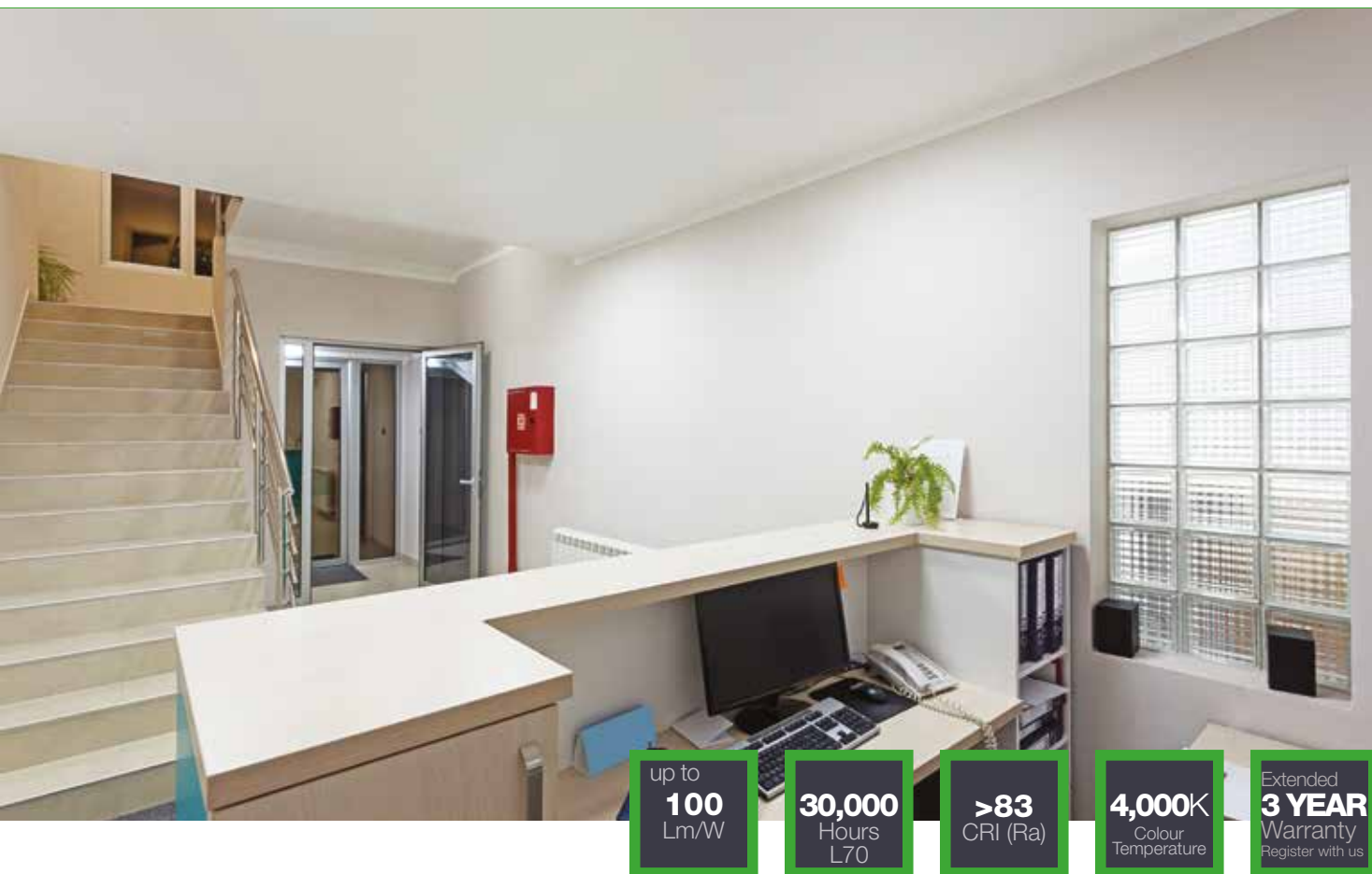
The Icebreaker LED is available in two sizes, Ø245mm and Ø325mm.

- Energy efficient LED geartray with a life span of 30,000 hours (L70)
- Available in two sizes - 325 and 245mm diameter
- Robust polycarbonate body with a decorative trim, available in white or chrome
- Opal polycarbonate diffuser (Ø245mm available in clear or opal)
- Also available without trim

Simple to install and use

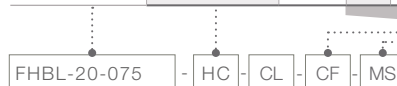
- Clip-in diffuser without any screws
- LED geartray
- BESA box fixing points for easy cable entry
- Wall or ceiling mountable
- Interior use





Ordering Guide

| Standard Product Code | | | Light Management Options Suffix* | | | | | | | Performance Data | | |
|-----------------------------------|--------------|--------------------|-------------------------------------|---------|-------------------|---------------|-----------|------------------|-----------|---------------------|-----------|---------------|
| | Trim Options | Diffuser Options** | DALI | Dimming | Corridor Function | 3hr Emergency | Self-Test | Microwave Sensor | Photocell | Lumen Output Lm | Wattage W | Efficacy Lm/W |
| Icebreaker Mini Galaxy LED | | | | | | | | | | | | |
| FHBL-20-075 | HW / HC / W | CL | - | - | CF | - | - | MS | - | 1,100 | 11 | 100 |
| | HW / HC / W | OP | - | - | CF | - | - | MS | - | 750 | 11 | 68 |
| Icebreaker Galaxy LED | | | | | | | | | | | | |
| FHBL-20-095 | HW / HC / W | OP | - | - | CF | EM | - | MS | - | 900 | 14 | 64 |



Example Code: Icebreaker Mini 11W, Chrome Trim, Clear with Corridor Function and Microwave Sensor

*CF is only available in combination with MS

**MS cannot be combined with EM

**Available with White (HW) or Chrome (HC) trim or without trim (W)

Lumen Output in EM:
Opal diffuser - 230Lm





Micro-Max – Galaxy LED Bulkhead



Durable, vandal proof and energy efficient, this compact LED bulkhead is only 182mm square, it features a screwed down polycarbonate diffuser and rigidly constructed polycarbonate base.

- Energy efficient LED geartray with a life span of 30,000 hours (L70)
- IP65 – formed-in-place foam gasket protects against dust and water
- Smooth external edges for vandal resistance and easy cleaning
- Compact polycarbonate body in black or white
- Clear or opal polycarbonate diffuser
- Retained diffuser screws
- Security screws available, see page 32

Simple to install and use

- LED geartray
- BESA box fixing points for easy cable entry
- Wall or ceiling mountable
- Exterior or interior use



up to
100
Lm/W

30,000
Hours
L70

>83
CRI (Ra)

4,000K
Colour
Temperature

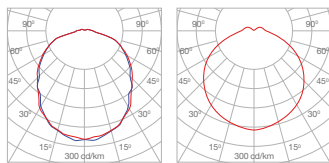
Extended
3 YEAR
Warranty
Register with us

- White Base ● Clear Diffuser
- Black Base ○ Opal Diffuser

Dimensions: Weight:
□ 182 x 182 x 55mm 0.6kg

Mounting type:

- Wall Interior
- Ceiling Exterior



Clear Opal

Photometric files at
www.fernhoward.com

Ordering Guide

| Standard Product Code | | Light Management Options Suffix* | | | | | | | | Performance Data | | |
|-----------------------------|-------------|----------------------------------|------|---------|-------------------|---------------|-----------|------------------|-----------|------------------|-----------|---------------|
| | Base Colour | Diffuser Option | DALI | Dimming | Corridor Function | 3hr Emergency | Self-Test | Microwave Sensor | Photocell | Lumen Output Lm | Wattage W | Efficacy Lm/W |
| Micro-Max Galaxy LED | | | | | | | | | | | | |
| FHBL60-075 | B/W | CL | - | - | CF | - | - | MS | PH | 1,100 | 11 | 100 |
| | B/W | OP | - | - | CF | - | - | MS | PH | 600 | 11 | 55 |

FHBL60-075 - W - CL

Example Code: Micro-Max 11W, White, Clear

*CF is only available in combination with MS





Mini-Max – Galaxy LED Bulkhead

Highly energy efficient and vandal resistant, the Mini-Max is IP65 rated with a screwed down polycarbonate diffuser and rigidly constructed polycarbonate base.

- Energy efficient LED geartray with a life span of 30,000 hours (L70)
- IP65 – formed-in-place foam gasket protects against dust and water
- Smooth external edges for vandal resistance and easy cleaning
- Robust Polycarbonate body in black or white
- Clear or opal polycarbonate diffuser
- Retained diffuser screws
- Security screws available, see page 32

Simple to install and use

- Hinged LED geartray and Time-in-a-Box packaging for swift and easy installation
- BESA box fixing points for easy cable entry
- Wall or ceiling mountable
- Exterior or interior use



up to
100
Lm/W

30,000
Hours
L70

84
CRI (Ra)

4,000K
Colour
Temperature

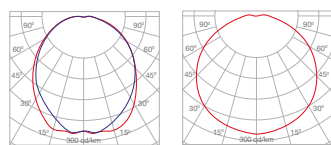
Extended
5 YEAR
Warranty
Register with us

- White Base ● Clear Diffuser
- Black Base ○ Opal Diffuser

Dimensions: Weight:
□ 246 x 246 x 89mm 1.3kg

Mounting type:

- Wall Interior
- Ceiling Exterior



Clear Opal
Photometric files at
www.fernhoward.com



Ordering Guide

| Standard Product Code | Light Management Options Suffix* | | | | | | | | | Performance Data | | |
|----------------------------|----------------------------------|-----------------|------|---------|-------------------|---------------|-----------|------------------|-----------|------------------|-----------|---------------|
| | Base Colour | Diffuser Option | DALI | Dimming | Corridor Function | 3hr Emergency | Self-Test | Microwave Sensor | Photocell | Lumen Output Lm | Wattage W | Efficacy Lm/W |
| Mini-Max Galaxy LED | | | | | | | | | | | | |
| FHBL565-090 | B/W | CL | DA | DIM | CF | EM | AT | MS | PH | 925 | 10 | 93 |
| | B/W | OP | DA | DIM | CF | EM | AT | MS | PH | 550 | 10 | 55 |
| FHBL565-160 | B/W | CL | DA | DIM | CF | EM | AT | MS | PH | 1,500 | 15 | 100 |
| | B/W | OP | DA | DIM | CF | EM | AT | MS | PH | 900 | 15 | 60 |
| FHBL565-210 | B/W | CL | DA | DIM | - | - | - | MS | PH | 1,800 | 20 | 90 |
| | B/W | OP | DA | DIM | - | - | - | MS | PH | 1,050 | 20 | 53 |

FHBL565-090 - B - CL - EM

Example Code: Mini-Max 10W, Black, Clear with Emergency

*Most combinations are possible except the following:

- DA & DIM – Dimming and DALI cannot be combined
- AT & EM – AT represents Self-Test Emergency configuration

Lumen Output in EM:
Clear diffuser - 400Lm
Opal diffuser - 260Lm



Meridian – Galaxy LED Bulkhead

A general-purpose wall or ceiling LED luminaire that is available with an extensive choice of light management options. The simple, clean lines of the Meridian combined with its twist-and-lock diffuser make it both easy to maintain and exceptionally versatile.

- Energy efficient LED geartray with a life span of 30,000 hours (L70)
- Robust polycarbonate body in black or white
- Opal polycarbonate twist-and-lock diffuser

Simple to install and use

- Twist-and-lock diffuser without any screws
- Hinged LED geartray and Time-in-a-Box packaging for swift and easy installation
- BESA box fixing points for easy cable entry
- Wall or ceiling mountable
- Interior use



up to
60
Lm/W

30,000
Hours
L70

84
CRI (Ra)

4,000K
Colour
Temperature

Extended
5 YEAR
Warranty
Register with us

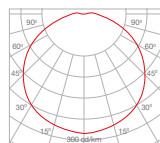
○ White Base ○ Opal Diffuser

● Black Base

Dimensions: Weight:
Ø 300 x 105mm 1.3kg

Mounting type:

Wall Interior
Ceiling



Opal

Photometric files at
www.fernhoward.com

Ordering Guide

| Standard Product Code | Light Management Options Suffix* | | | | | | | | | Performance Data | | |
|----------------------------|----------------------------------|-----------------|------|---------|-------------------|---------------|-----------|------------------|-----------|------------------|-----------|---------------|
| | Base Colour | Diffuser Option | DALI | Dimming | Corridor Function | 3hr Emergency | Self-Test | Microwave Sensor | Photocell | Lumen Output Lm | Wattage W | Efficacy Lm/W |
| Meridian Galaxy LED | | | | | | | | | | | | |
| FHBL932-090 | B/W | OP | DA | DIM | CF | EM | AT | MS | PH | 555 | 10 | 56 |
| FHBL932-160 | B/W | OP | DA | DIM | CF | EM | AT | MS | PH | 900 | 15 | 60 |
| FHBL932-210 | B/W | OP | DA | DIM | - | EM | AT | MS | PH | 1,070 | 20 | 54 |

FHBL932-160 - B - OP - DIM

Example Code: Meridian 15W, Black, Opal with Dimming

*Most combinations are possible except the following:

- DA & DIM – Dimming and DALI cannot be combined
- AT & EM – AT represents Self-Test Emergency configuration

Lumen Output in EM:
Opal diffuser - 260Lm



Moonlight – Galaxy LED Bulkhead



Robustly constructed, the Moonlight is an LED luminaire that can be relied on. It is IP44 rated and also offers exceptionally low running costs, making it ideally suited for semi-exposed exterior applications requiring dusk-to-dawn operation.

- Energy efficient LED geartray with a life span of 30,000 hours (L70)
- Factory fitted dusk-to-dawn photocell
- Option without photocell also available
- Black ABS body with opal polypropylene diffuser

Simple to install and use

- Clip-in diffuser without any screws
- LED geartray
- Wall or ceiling mountable
- Interior or semi-exposed exterior use



up to
90
Lm/W

30,000
Hours
L70

>83
CRI (Ra)

4,000K
Colour
Temperature

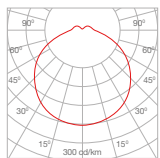
Extended
3 YEAR
Warranty
Register with us

● Black Base ○ Opal Diffuser

Dimensions: Weight:
□ 190 x 190 x 85mm 0.5kg

Mounting type:

Wall Interior
Ceiling Semi exposed



Opal

Photometric files at
www.fernhoward.com

Ordering Guide

| Standard Product Code | | Light Management Options Suffix* | | | | | | | | Performance Data | | |
|-----------------------------|-------------|----------------------------------|------|---------|-------------------|---------------|-----------|------------------|-----------|------------------|-----------|---------------|
| | Base Colour | Diffuser Option | DALI | Dimming | Corridor Function | 3hr Emergency | Self-Test | Microwave Sensor | Photocell | Lumen Output Lm | Wattage W | Efficacy Lm/W |
| Moonlight Galaxy LED | | | | | | | | | | | | |
| FHBL790 | B | OP | - | - | - | - | - | - | integral | 900 | 10 | 90 |
| FHBL795* | B | OP | - | - | - | - | - | - | without | 900 | 10 | 90 |

FHBL790

Example Code: Moonlight 10W, Black, Opal with Integral Photocell

*Moonlight features an integral dusk-to-dawn photocell, but is also available without

Trojan Round & Square – Galaxy LED Bulkhead

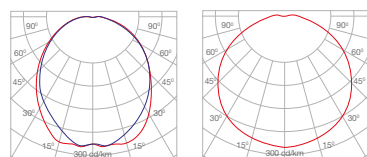


- White Base ● Clear Diffuser
- Black Base ○ Opal Diffuser

Dimensions: **Weight:**
 Rd: Ø 296 x 95mm 1.2kg
 Sq: □ 254 x 254 x 95mm 1.2kg

Mounting type:

- Wall Interior
- Ceiling Exterior



Clear

Opal

Photometric files at
www.fernhoward.com

A cost-effective range of robust, vandal resistant, IP65 rated LED bulkhead luminaires.

The screwed-down polycarbonate diffuser, rigidly constructed polycarbonate base and strong symmetrical shape protect the Trojan against abuse.

- Energy efficient LED geartray with a life span of 30,000 hours (L70)
- IP65 – formed-in-place foam gasket protects against dust and water
- Robust Polycarbonate body in black or white
- Clear or opal polycarbonate diffuser
- Retained diffuser screws
- Security screws available, see page 32

Simple to install and use

- Hinged LED geartray and Time-in-a-Box packaging for swift and easy installation
- BESA box fixing points for easy cable entry
- Wall or ceiling mountable
- Exterior or interior use





up to
101
Lm/W

30,000
Hours
L70

84
CRI (Ra)

4,000K
Colour
Temperature

Extended
5 YEAR
Warranty
Register with us

Ordering Guide

| Standard Product Code | | | Light Management Options Suffix* | | | | | | | Performance Data | | |
|---------------------------------|-------------|-----------------|----------------------------------|---------|-------------------|---------------|-----------|------------------|-----------|------------------|-----------|---------------|
| | Base Colour | Diffuser Option | DALI | Dimming | Corridor Function | 3hr Emergency | Self-Test | Microwave Sensor | Photocell | Lumen Output Lm | Wattage W | Efficacy Lm/W |
| Trojan Round Galaxy LED | | | | | | | | | | | | |
| FHBL947-090 | B/W | CL | DA | DIM | CF | EM | AT | MS | PH | 925 | 10 | 93 |
| | B/W | OP | DA | DIM | CF | EM | AT | MS | PH | 525 | 10 | 53 |
| FHBL947-160 | B/W | CL | DA | DIM | CF | EM | AT | MS | PH | 1,500 | 15 | 100 |
| | B/W | OP | DA | DIM | CF | EM | AT | MS | PH | 850 | 15 | 57 |
| FHBL947-210 | B/W | CL | DA | DIM | - | EM | AT | MS | PH | 1,780 | 20 | 89 |
| | B/W | OP | DA | DIM | - | EM | AT | MS | PH | 1,020 | 20 | 51 |
| Trojan Square Galaxy LED | | | | | | | | | | | | |
| FHBL547-090 | B/W | CL | DA | DIM | CF | EM | AT | MS | PH | 950 | 10 | 95 |
| | B/W | OP | DA | DIM | CF | EM | AT | MS | PH | 600 | 10 | 60 |
| FHBL547-160 | B/W | CL | DA | DIM | CF | EM | AT | MS | PH | 1,520 | 15 | 101 |
| | B/W | OP | DA | DIM | CF | EM | AT | MS | PH | 980 | 15 | 65 |
| FHBL547-210 | B/W | CL | DA | DIM | - | EM | AT | MS | PH | 1,800 | 20 | 90 |
| | B/W | OP | DA | DIM | - | EM | AT | MS | PH | 1,180 | 20 | 59 |



FHBL947-210 - W - CL - MS
 Example Code: Trojan Round 20W, White, Clear with Microwave Sensor

- *Most combinations are possible except the following:
- DA & DIM – Dimming and DALI cannot be combined
 - AT & EM – AT represents Self-Test Emergency configuration

Lumen Output in EM:
 Clear diffuser - 400Lm
 Opal diffuser - 260Lm

Accessories – for Fern-Howard Bulkheads

Photocell Kit – FHS456

A self-fit dusk-to-dawn photocell kit that combines outstanding reliability with low running costs in an easy-to-install, durable polycarbonate casing.

- Highly accurate positive switching at 70 lux
- Compact casing
- IP65 (lens), IP54 (casing)
- Easy to install into all Fern-Howard bulkheads that feature Photocell option (Alleycat, Columbus, Meridian, Micro-Max, Mini-Max, Trojan)

Kit includes:

- 1x One-Part Royce Thompson Photocell Module
- 1x 4way mains terminal block
- 1x Inline connector
- 2x Rubber washers
- 2x M20 nuts
- 1x Cable tie

Dimensions (photo cell): 57 x 31 x 25mm - Lens dimensions Ø 20mm



Security Screws

Range of tamper proof security screws and corresponding screwdrivers to fit our range of vandal resistant bulkheads.



FHC003
1x Plastic cutting screw

| Fitting | Number of screws required per fitting |
|----------------|---------------------------------------|
| Columbus | 3 |
| Columbus Minor | 2 |
| Micro-Max | 2 |
| Mini-Max | 2 |
| Trojan | 2 |



FHC008
1x Screwdriver for use with FHC003 screws



FHC007
1x Machine screw

| Fitting | Number of screws required per fitting |
|----------|---------------------------------------|
| Alleycat | 2 |



FHC009
1x Screwdriver for use with FHC007 screws

Retrofit Geartray – Upgrade Fern-Howard 2D Bulkheads



A new one-component backlit LED Geartray that replaces both 2D lamps and control gear inside the following Fern-Howard Time-in-a-Box bulkheads:

- Alleycat Round & Square
 - Columbus
 - Galileo
- Meridian
 - Mini-Max
 - Trojan Round & Square
- Incorporates LED chips and high efficiency LED driver
 - Hinged design for swift and easy retrofit
- Available with all standard light management options, including Emergency, Auto Test, Microwave Sensor, DALI, Dimming and Corridor Function

LED

up to
110
Lm/W

30,000
Hours
L70

84
CRI (Ra)

4,000K
Colour
Temperature

Extended
5 YEAR
Warranty
Register with us

| | |
|----------------|---------|
| Dimensions: | Weight: |
| 225 x 222 x 52 | 0.3kg |

Ordering Guide

| Standard Product Code | Light Management Options Suffix* | | | | | | | Code | Performance Data | | |
|-----------------------|----------------------------------|---------|-------------------|---------------------------|-----------|------------------|-----------|------|------------------|-----------|---------------|
| | DALI | Dimming | Corridor Function | Emergency Maintained Pack | Self-Test | Microwave Sensor | Photocell | | Lumen Output Lm | Wattage W | Efficacy Lm/W |
| Moonlight Galaxy LED | | | | | | | | | | | |
| FHBL-090 | DA | DIM | CF | EM | AT | MS | PH | GT | 1,070 | 10 | 107 |
| FHBL-160 | DA | DIM | CF | EM | AT | MS | PH | GT | 1,700 | 15 | 113 |
| FHBL-210 | DA | DIM | - | EM | AT | MS | PH | GT | 2,100 | 20 | 105 |

FHBL-160

-

EM

-

GT

Example Code: Retrofit Geartray 15W with Emergency

Lumen Output in EM: 440Lm

*38W TC-DD CFL → 20W LED

upgrade

SAME ENERGY

up to

47%

ENERGY SAVING

LESS ENERGY



Emergency Lighting

Section Three



page
36

Exodus

Weatherproof,
stylish and robust
LED emergency
bulkhead



page
37

One Spot

Stand-alone
emergency
LED spotlight



Exodus – Emergency LED Bulkhead

A weatherproof, stylish and robust LED emergency bulkhead, the Exodus can be used for 3 hour maintained or non-maintained applications.

Manufactured from vandal resistant polycarbonate, the Exodus is IP65 rated, making it suitable for internal and external use.

- Energy efficient LED system with only 4W power consumption
- IP65 – formed-in-place foam gasket protects against dust and water
- Low maintenance with LED life span of 30,000 hours (L70)
- Retained diffuser screws

Simple to install and use

- Hinged LED geartray
- Exodus can be wired for maintained or non-maintained application
- Wall or ceiling mountable
- Emergency exit legends are available for this model



up to
62
Lm/W

30,000
Hours
L70

>70
CRI (Ra)

4,000K
Colour
Temperature

Extended
3 YEAR
Warranty
Register with us



Ordering Guide

| Standard Product Code | | | | Performance Data | | |
|-----------------------|-------------|-----------------|---------------|------------------|-----------|---------------|
| | Base Colour | Diffuser Option | 3hr Emergency | Lumen Output Lm | Wattage W | Efficacy Lm/W |
| Exodus | | | | | | |
| FHBL559 | W | CL | EM | 250 | 4 | 62 |

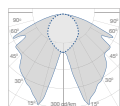
FHBL559 - W - CL - EM
 Example Code: Exodus, White, Clear, Emergency
 Lumen Output in EM: 100Lm

○ White Base ● Clear Prismatic

Dimensions: 355 x 124 x 82mm Weight: 1.1kg

Mounting type:

Wall Interior
 Ceiling Exterior



Photometric files at
www.fernhoward.com



One Spot – Emergency LED Spotlight

A stand-alone recessed emergency spotlight, suitable for a wide variety of installations.

- Robust metal can housing
- Die-cast bezel in white or silver
- 3hr non-maintained
- Green LED EM indicator built into the LED

Simple to install and use

- Non-maintained applications only
- Small cut-out size (35mm) – housing is easily fitted through the cut-out
- Spring clips for easy fit into the ceiling
- Suitable for ceiling thickness of 10mm
- Connectors are pre-wired for quick connection of batteries and driver



30,000
Hours
L70

72
CRI (Ra)

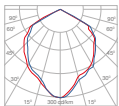
6,000K
Colour
Temperature

Extended
3 YEAR
Warranty
Register with us

○ White Bezel ● Silver Bezel

Dimensions: **Weight:**
Spotlight: Ø 45 x 35 1.1kg
Battery: Ø 31 x 149
Driver: Ø 31 x 230

Mounting type:
 Recessed Ceiling
 Interior



Photometric files at www.fernhoward.com

Ordering Guide

| Standard Product Code | Performance Data | | |
|-----------------------|------------------|--------------------------|----------------------|
| | Bezel Colour | Lumen Output in EM Lm | Wattage W |
| One Spot | | | |
| FHE5701 | SW | 110 | 1.3 Standby Power |

FHE5701 - S

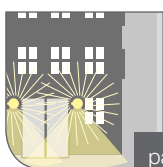
Example Code: OneSpot, Silver Bezel





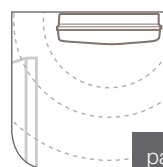
Lighting Control

page
40



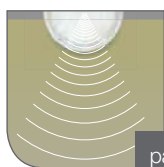
Photocell

page
41



Absence
and Presence
Detection

page
42



Corridor
Function

page
43



Dimming

pages
44-45



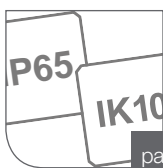
Light
Management
and Scheduling
Systems

pages
46-47



Emergency
Lighting

pages
48-49



Glossary

pages
50-51

Fern-Howard luminaires are available with all standard Light Management Options. Contact us to discover which solution is right for you.

Switching to LED can provide significant energy savings and benefits over fluorescent lighting - such as long life, instant start, dimming and frequent switching with no performance loss.

So merely using an energy efficient luminaire may not be enough - and simply turning luminaires off when no one is present is no longer satisfactory when energy efficiency is high on the agenda of users and specifiers - and safety and security is of paramount importance.

Installing luminaires with suitable lighting controls not only achieves considerable energy and cost savings, it results in better-lit environments.

Lighting Control Types

Effective lighting control adjusts levels to compensate for changes of use as well as changes in daylight.

The main options are:

- 3hr Emergency
- Self-Test
- Microwave Sensor
- Photocell
- DALI
- Dimming
- Corridor Function
- Light Management and Scheduling Systems

Lighting Controls
can provide an
additional
44%
Energy Saving

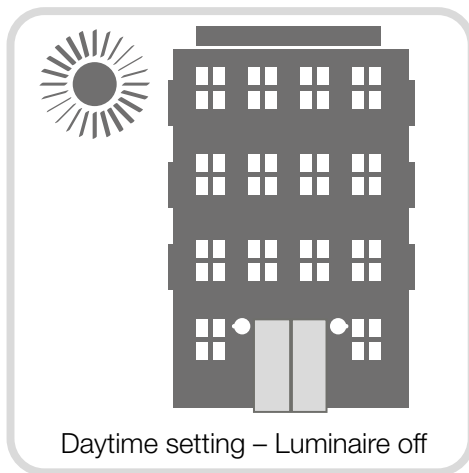
Photocell

Photocell

A photocell-controlled luminaire provides automatic dusk-to-dawn lighting. The built-in photocell detects natural light levels. The luminaire automatically switches on as dusk falls (approx. 70 lux) and switches off as the sun rises.

They are ideal for walkways, porches and all outdoor lighting applications where safety and security at night are critical.

A self-fit photocell kit is available from Fern-Howard, see page 32.



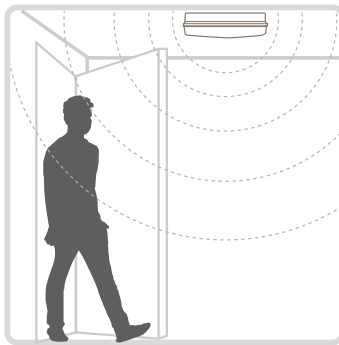
Absence and Presence Detection

Microwave Sensor

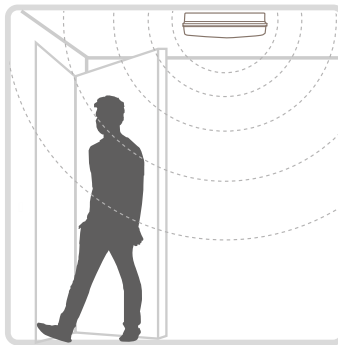
Microwave Sensors detect movement by sending out electromagnetic pulses and measuring the changes in frequency due to reflection off a moving object.

Choosing between presence and absence detection can make a significant difference to user-friendliness and energy saving. With presence detection all movement is detected (including that from trees and animals if installed outdoors).

Presence Detection (auto ON and auto OFF)



Upon entering a room the person switches on the light as normal

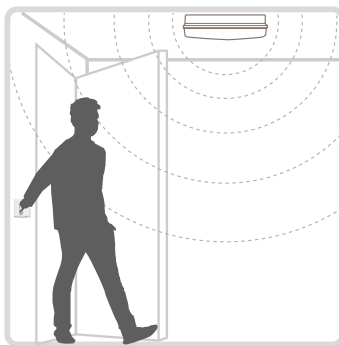


Lighting stays on as long as a presence is detected

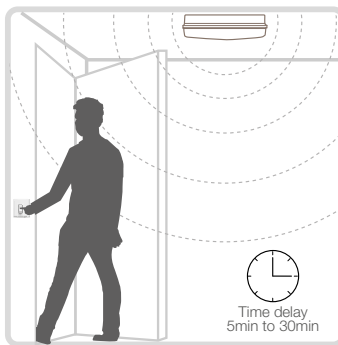


Lighting is switched off automatically when no further movement is detected

Absence Detection (manual ON and auto OFF)



Detectors switch on the lighting automatically when a person enters a room



Lighting remains switched on as long as movement is detected



Lighting is switched off automatically when no movement is detected

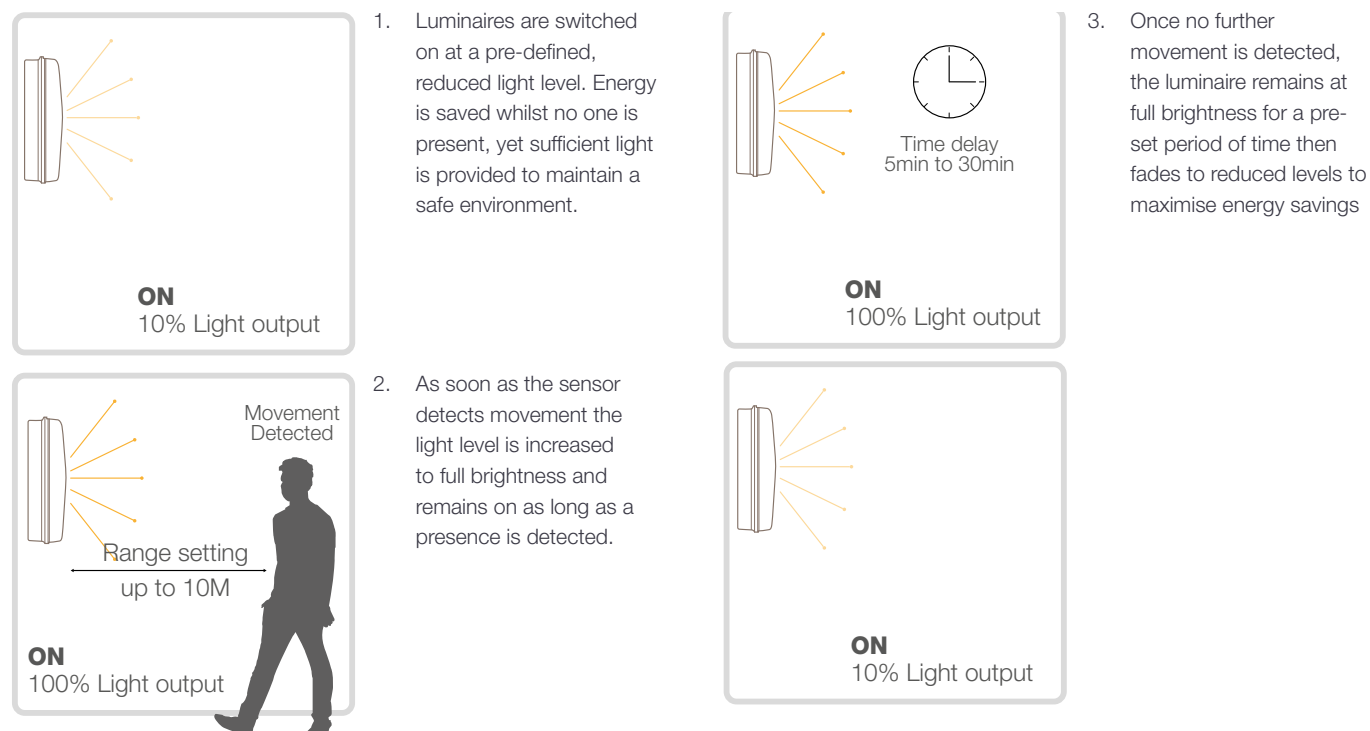
PIR – Passive Infra Red

PIR uses natural infrared light radiating from objects to determine the presence of people. It is not as reliable as microwave sensors, some have built in photocells for remote daylight dimming, a dimmable driver is required for this functionality.

PIR is not available from Fern-Howard.

Corridor Function

Luminaires with a built in corridor function are a simple and efficient way of reducing energy consumption. Where light has to be provided 24 hours a day for statutory and safety reasons, the corridor function helps to provide the right level of light at all times and for all different activity types.



This economical, 24-hour, lighting is ideal for pedestrian underpasses, underground train stations, ATM booths, corridors and stairways, lift lobbies, public buildings, warehouses and hospitals. Any medium to low traffic area that must be lit at all times for safety and security reasons.

Dimming

Dimmable LED luminaires save energy and create comfortable light levels for different activities and areas. Two different types of dimming control are available, analogue and digital.

Analogue Dimming

The main method of analogue dimming is 1-10 Volt, a low current system that is easy to install.

The dimmer produces a 1-10V DC voltage supply that can be increased or decreased smoothly, normally by using a rotary or slide dimmer.

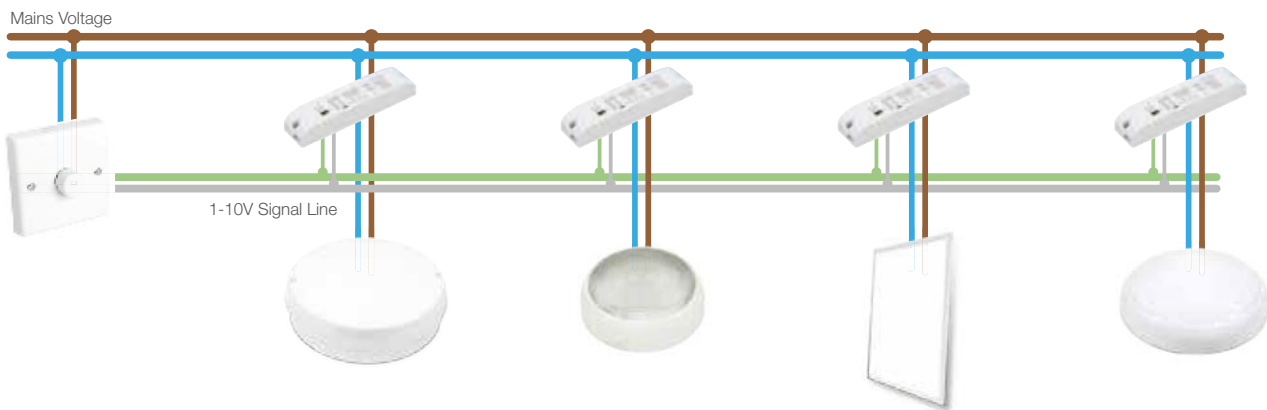
Dimming requires a separate control cable to be run to each fitting on the circuit. This 'notifies'

the driver when the power to the LEDs should be changed. As this is a direct current system, correct polarity must be maintained for the system to work.

This type of dimming is available with Fern-Howard luminaires. A 1-10V dimmer switch is required (not supplied by Fern-Howard).

Please Note:

AC Phase Control (Leading or Trailing Edge) Dimming is often confused with 1-10 Volt Analogue Dimming. This type of dimming adjusts the mains (AC) voltage to the fitting. Designed for traditional lighting technology it is only suitable for lower power domestic lighting and is not suitable, nor available, for Fern-Howard luminaires.



Digital Dimming

Digital dimming sends a digital signal along a pair of control cables; it does not suffer from mains cable interference.

In a non-addressable system the control cables run directly between the switch (reactive or push-to-make) and the luminaires. All luminaires connected to that switch will be controlled as a group.

In an addressable system, each luminaire is assigned a unique digital address and can be controlled individually.

Digital control systems are most easily split by signal

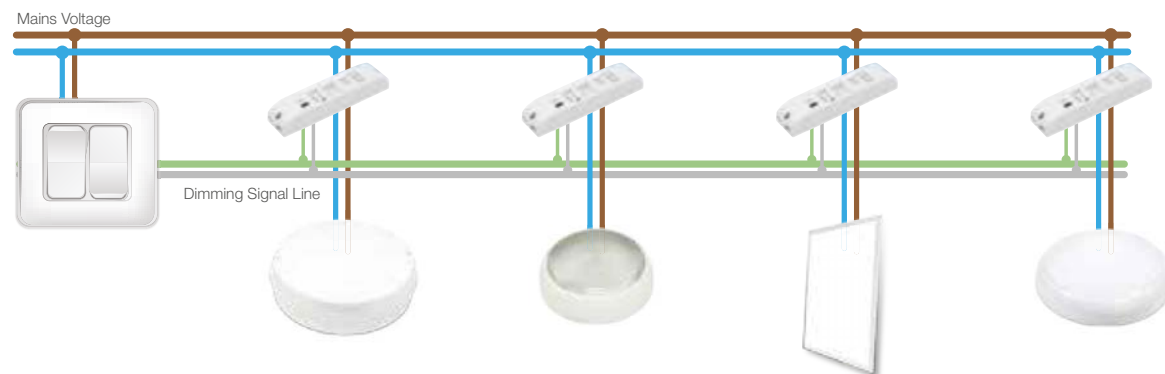
- SwitchDIM / TouchDim
- DALI (Digital Addressable Lighting Interface)

Switch/Touch Dim

The most popular and simplest option for digital dimming, this operates through a push or reactive switch wired to each luminaire in the circuit via a 4-core cable. The switch controls both dimming and power on and off.

Pushing the button sends a pulse to the ballast. This reads the pulse and controls the lamp accordingly. All luminaires in the circuit are controlled together.

This type of dimming is available with Fern-Howard luminaires and requires a reactive push switch (not supplied by Fern-Howard).



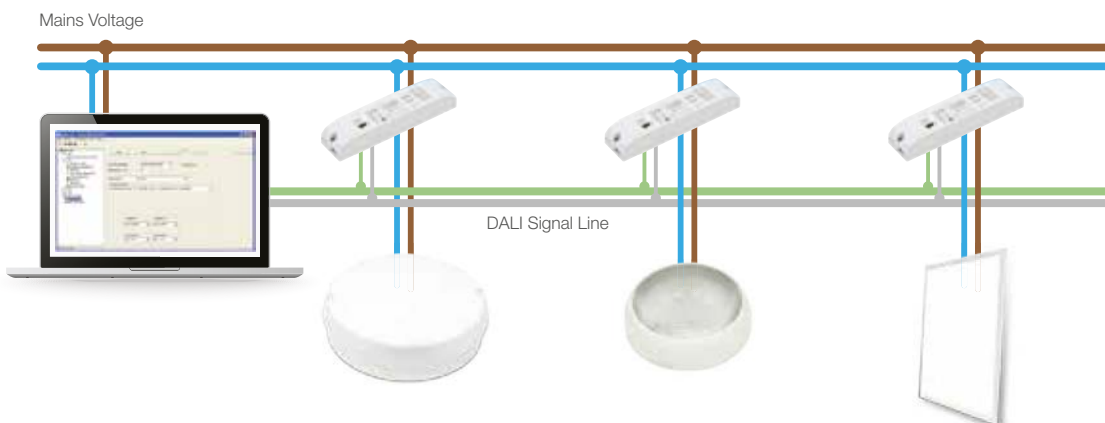
DALI (Digitally Addressable Lighting Interface)

This standard is employed by all manufacturers offering DALI ballasts.

By assigning a unique address to each luminaire in a circuit, they can be individually controlled or formed into groups. Pre-set 'scenes' can also be created for different activities or for different times of day.

Controlled via a wall interface panel, or by a PC in a central location, DALI is compatible with daylight sensors and PIR.

DALI is available with Fern-Howard luminaires.



Light Management and Scheduling Systems

Modern intelligent network based lighting control solutions manage light inputs (ambient light) as well as outputs – and by using one or more central computing devices they ensure that exactly the right amount of light is provided when and where needed - whilst simultaneously maximising energy savings and reducing carbon emissions.

Fern-Howard luminaires are compatible with all major light management systems.

For example:

- Harvard EyeNut
- Mackwell N-light®
- Lutron®
- LiteIP™
- CP Electronics



This gives
Fern-Howard customers
the **flexibility** to choose a
control system that **suits their**
needs exactly





Harvard EyeNut

A wireless control and monitoring system for lighting which gives users complete control of their lighting, cutting carbon emissions and energy use. It allows users to create their own lighting groups, control and manage emergency test schedules, manage their energy reports and data output and access a complete view of all light points within their building layout.

Up to 500 EyeNut devices (luminaires, sensors, switches etc.) can be managed from a single

gateway, via a robust, secure ZigBee wireless mesh network.

Being completely wireless, it offers a simple way of installing and commissioning a lighting control system into an existing building infrastructure, without the need for any additional wiring.

Live changes to the system and data can be accessed remotely through the EyeNut software.

Users can visualise energy consumption, operating history and luminaire status via a sophisticated suite of reports.



Mackwell N-light®

An emergency lighting test and monitoring system that facilitates every requirement from basic monitoring of emergency lighting through to system management. It has the ability to schedule functional and duration tests in accordance with the relevant BS and EN standards.

The simple and intuitive touch screen monitoring panel delivers live system status

as well as individual luminaire diagnostics and fault conditions.

128 emergency luminaires can be controlled per touch panel.

Test reports may be viewed and printed using N-light® software and remote access is possible through Ethernet connection via a variety of networking options.



Lutron® Energi TriPak

A single room control system consisting of wireless sensors, switches, dimmers, and remote controls that maximizes energy savings for any room.

Wireless sensors and switch controllers negate the need for complex installation wiring.

Helps end user to control energy usage for a room and giving them an entry level in terms of dimming controls.



LiteIP™

LiteIP™ is a flexible, intelligent wireless lighting system that scales perfectly from 1 to 1000's of luminaires.

Wireless luminaires are programmed to operate using drag and drop menus. Changes

to individual luminaire operation can be undertaken without altering any wiring.

Emergency lighting tests are run automatically and reports are generated, avoiding the need for manual recording of results.



CP Electronics Lighting Control

Lighting management systems by CP Electronics, range from pluggable solutions (Vitesse Modular™, Vitesse Plus) to networkable (RAPID) and wireless control (An-10) to suit a variety of applications. Working alongside these systems, a range of reliable energy saving PIR and microwave

presence detectors minimize energy use and reduce costs to companies, whilst ensuring maximum user comfort.

These solutions can control switched or dimmed fittings supporting DALI, DSI and 1-10V protocols. CP Electronics products can work across any light source, any building, any space.

Emergency Lighting

What is Emergency Lighting?

Legislation requires all occupied buildings to have adequate escape lighting to allow safe exit should mains power fail. Escape and exit routes in the UK must be lit to a minimum of one lux during an emergency.

Emergency luminaires have integral back-up batteries, - continuously charged during normal operation. They power the luminaire for at least 3 hours should power fail. Emergency light output is approx. 10% of normal levels.

Every emergency luminaire must have a green LED indicator to show it is charged and functional.

The Fire Precautions (Workplace) Regulations 1997 & BS5266 part 1 - require building owners to test emergency lighting systems regularly and maintain them in proper working order.

Maintained and Non-Maintained luminaires

Maintained luminaires

Maintained luminaires operate as normal light fittings during everyday operation and can be controlled with all other luminaires in the area. When power fails they automatically switch to battery backup.

Non-maintained luminaires

Non-maintained luminaires remain off during everyday operation, only illuminating when mains power fails.

Fern-Howard luminaires can operate both as maintained or non-maintained fittings.

What is Self-Test?

(also commonly known as AutoTest)

Self-Test is an intelligent emergency module that carries out routine functional and duration testing in-time with the relevant standards.

By eliminating the need for manual testing and automatically signaling faults that require action, Self-Test is highly cost effective.

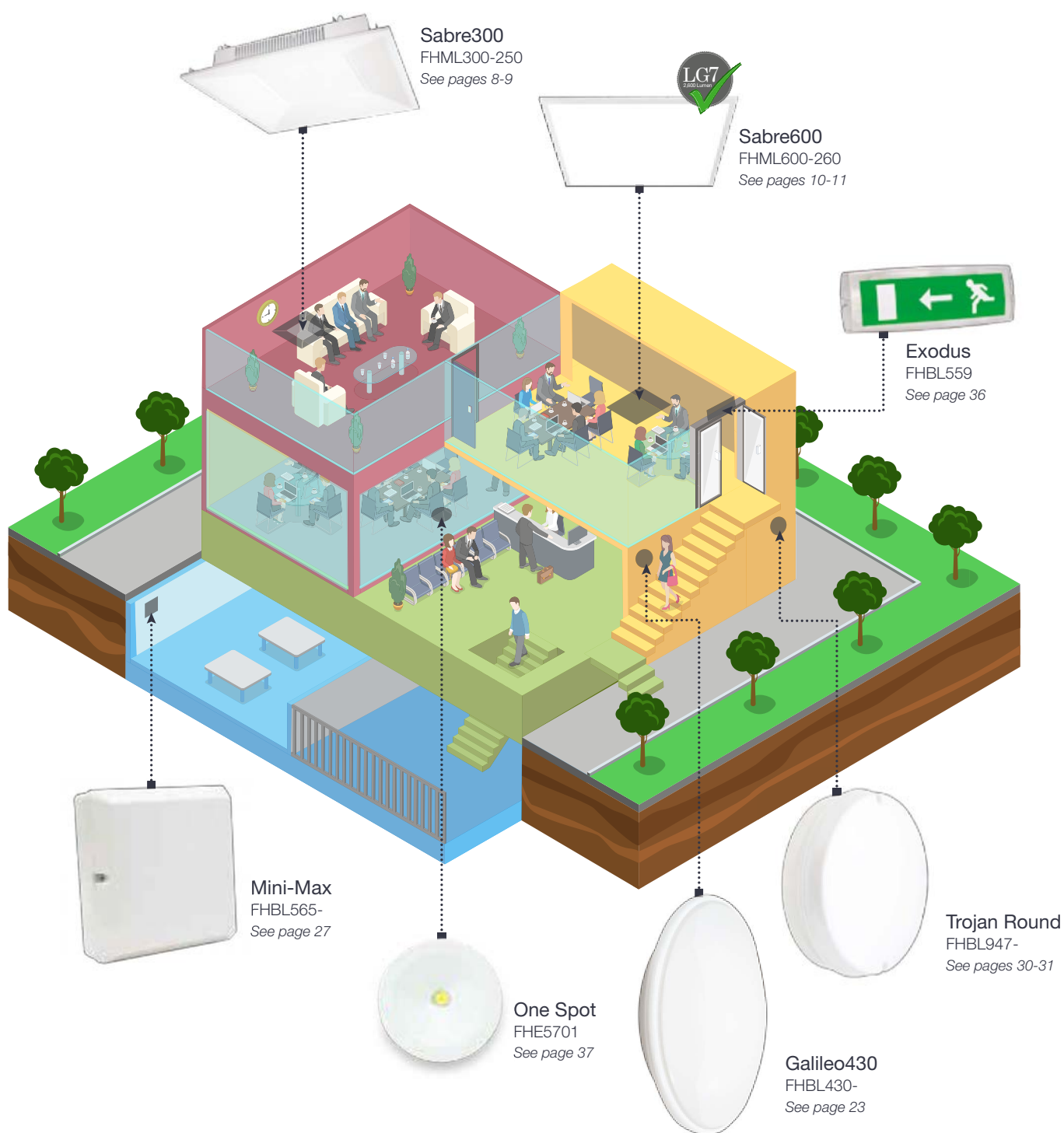
What is Central Battery Backup (CBS)?

A central battery supplies power to all emergency luminaires in the building, luminaires do not require integrated batteries, but do need a convertor to handle the CBS power.

Common systems are 50V dc, 90V dc, 110V ac/dc, and 240V ac/dc.

Fern-Howard have solutions for all these systems.





This graphic shows potential applications for Fern-Howard Emergency luminaires and luminaires with Emergency option, it does not represent a complete lighting scheme.

Ingress Protection Rating

Defines the degree of protection against intrusion (body parts such as hands and fingers), dust and moisture provided by the luminaire enclosure.

IP ratings are defined in European standard EN 60529.

An IP65 icon luminaire would be protected against the ingress of dust and low pressure water jets.

| First digit: | | Second digit: | |
|---|---|-----------------------------|---|
| Protection against dust and other solid objects | | Protection against moisture | |
| 0 | No protection | 0 | No protection |
| 1 | Protection against solid objects ≥ Ø50mm | 1 | Protection against dripping water (vertically falling drops) |
| 2 | Protection against solid objects ≥ Ø12mm | 2 | Protection against dripping water (titled up to 15°) |
| 3 | Protection against solid objects ≥ Ø2.5mm | 3 | Protection against spraying water (at any angle up to 60°) |
| 4 | Protection against solid objects ≥ Ø1mm | 4 | Protection against splashing water (from any direction) – splash-proof |
| 5 | Protection against dust – limited ingress | 5 | Protection against low pressure water jets (from any direction) |
| 6 | Totally protected against dust | 6 | Protection against powerful water jets (from any direction) – jet-proof |
| | | 7 | Protection against temporary immersion down to 1m |
| | | 8 | Protection against permanent immersion at specified water depth |



Impact Protection Rating

Is an international numeric classification for the degrees of protection provided by enclosures for electrical equipment against external mechanical impacts.

IK ratings are defined in European standard EN 62262.

The classification ranges from IK00 (not protected) to IK10, which offers protection to an impact of 20 Joules (equivalent to the impact of 5 kg mass dropped from 400mm above impacted surface), tested using a pendulum hammer (as per EN 60068-2-75).



| IK Rating | IK01 | IK02 | IK03 | IK04 | IK05 | IK06 | IK07 | IK08 | IK09 | IK10 |
|------------------------|------|------|------|------|------|------|------|------|------|------|
| Impact energy (Joules) | 0.14 | 0.2 | 0.35 | 0.5 | 0.7 | 1 | 2 | 5 | 10 | 20 |

All Fern-Howard Galaxy bulkheads are IK10 rated.

Electrical Safety Classification



Fittings comply with Class I earthed electrical requirements



Fittings comply with Class II double insulated electrical requirements (i.e. without an earth termination).

Light Emitting Diode



These fittings include a backlit LED light source.

EdgeLED™ luminaire



EdgeLED™ technology places LEDs around the edge of a light guide – a highly engineered optical device containing thousands of micro lenses that precisely control the density of light travelling through the guide.

Spaces can be lit to equal levels using fewer, more efficient, luminaires. Energy and costs are saved, CO2 emissions are lower, and reduced lamp changes cut maintenance costs considerably.

Rambus
Lighting Technology

Light Guide 7

These fittings help a lighting scheme to comply with requirements stated in part L of the Light Guide 7, a design guide on how to light office spaces well.

Copies of LG7 can be purchased online at www.cibse.org/knowledge

Hinged Geartray



Aids swift and easy installation.

3h Emergency



These fittings feature integral Emergency packs.

Specification of Mounting Type and Operating Range



Wall mountable



Ceiling mountable



Recessed ceiling



Only suitable for interior applications



Suitable for semi-exposed exterior applications



Suitable for exterior applications

Time-in-a-Box



saves you time and money...

Please refer to page 16.

Colour Rendering Index (Ra)



Is a quantitative measure indicating how accurate a light source is at rendering colour when compared to a reference light source.

The higher the CRI, the better the colour rendering ability.

Colour Temperature



A descriptive term for the appearance of light expressed in Kelvin (K).

| | |
|----------------|--|
| > 5,000K | cool colour (bluish white) |
| 3,500 – 4,000K | mid-range colour |
| 2,700 - 3,000K | warm colour (yellowish white through to red) |

Warranty



All Fern-Howard products are designed and manufactured to exacting standards for excellent performance, reliable operation and long life.



This also enables Fern-Howard to offer market-leading warranty periods and give unrivalled support on the rare occasions when help is needed. Exact warranty terms vary by product. Extended warranties are subject to limitations of use and must be registered with Fern-Howard within 1 year of initial purchase date from an authorised wholesaler. Full details can be found on our website.

Fern-Howard - a UK based manufacturer of energy efficient, high quality, luminaires since 1987 - creates products that reduce energy consumption without compromising light quality and that cut light pollution by delivering that light precisely where it is needed.

Over 500,000 LED and 2D fittings are manufactured annually at Fern-Howard's state-of-the-art UK factory. These products, known for being both highly functional and contractor friendly, have been developed in close conjunction with leading lighting control manufacturers.



All products are Designed & Manufactured in the UK



FernHoward
Lighting

Fern-Howard, 2 Newman Lane, Alton, Hampshire, GU34 2QR, United Kingdom.
Tel: +44 (0)1420 470400 **Fax:** +44 (0)1420 489536 **Email:** lighting@fernhoward.com
www.fernhoward.com

Registered in England Reg. No. 3202749
We reserve the right to alter specifications without notice in accordance with our policy of continuous product improvement. Design and copyright rights reserved and our standard Terms & Conditions apply.