

Foil

Light and sound:
the total classroom solution





Beyond
compliance

Beyond
lighting

Beyond
expectations

Every classroom
deserves to be lit by

Foil

Already the market leader,
our commitment to sustainability
and performance has taken
it to the next level.

A classic, reimagined.

Foil

Every angle illuminated;
every base covered



Deliver acoustic compliance to exacting standards DfE BB93 with integrated anechoic panels made from over 40% recycled material.



Lighting performance beyond the horizontal with optical innovation considering all compliance metrics, as required in LG5 and DfE output specification Annex 2E.



Optimal user experience with integrated wireless controls that create lighting scenes appropriate for different types of learning today and into the future.



Reduce operational energy use with the latest LED and battery technology, integrated controls for daylight and occupancy.



Simple install and clutter free aesthetic with fewer installation points needed, integrated acoustic panels and the ability to integrate further services.



Meet your sustainability goals thanks to our commitment to circular design principles and the assessment and reporting of the full life-cycle impact of our products.

Lighting design done right

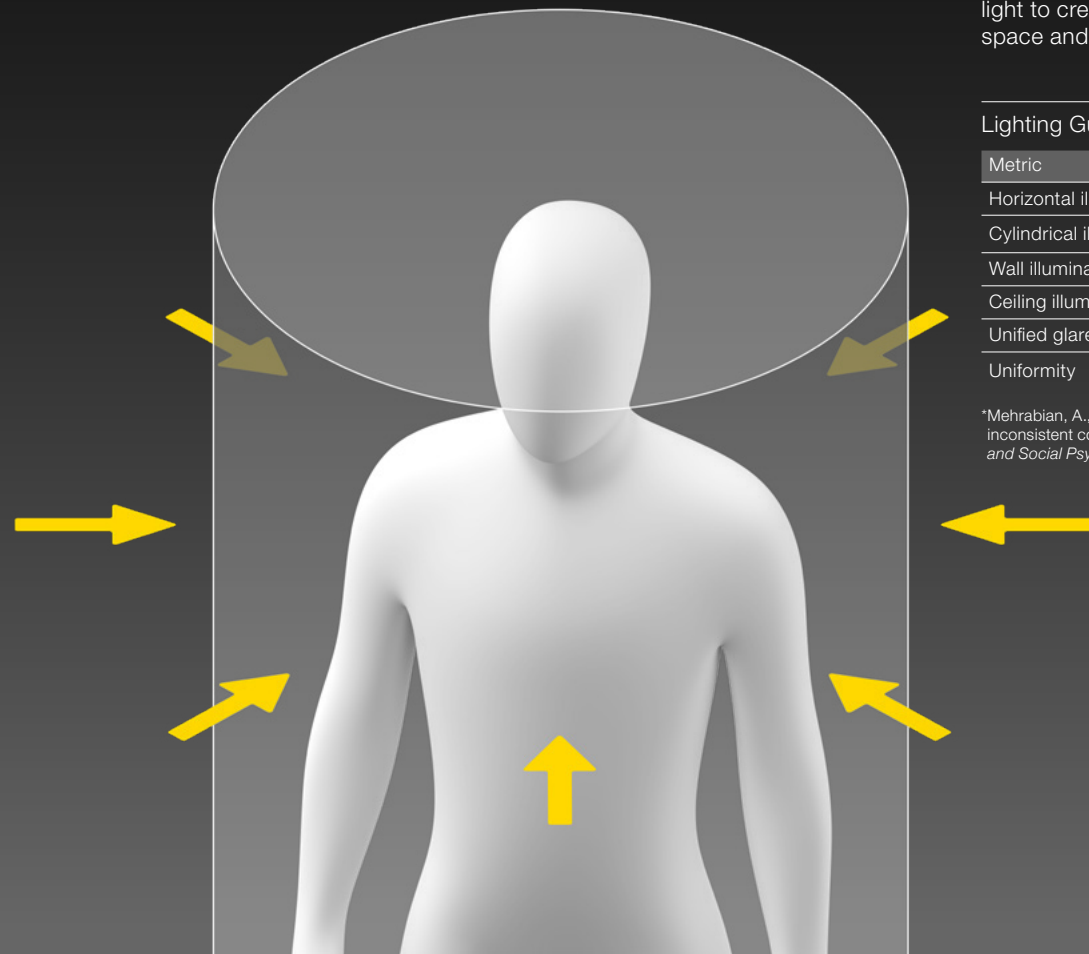
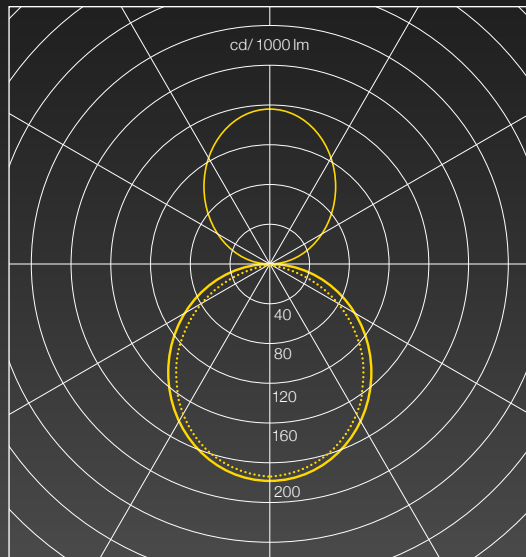
We know that all too often lighting design only considers two-dimensions — the horizontal plane. But learning doesn't just happen at a desk. Classrooms are multi-disciplinary, multi-dimensional environments and good design needs to understand that and respond to it.

At Whitecroft, we've been lighting
classrooms for over 75 years.



Foil creates the perfect three-dimensional light, combining direct and indirect light and using innovative optical design to balance vertical illuminance with visual comfort.

Three-dimensional design — putting light in the right place



Two-dimensional lighting focuses purely on light on desks and neglects a vital aspect of learning — the teacher-pupil connection. With an estimated 55% of communication delivered non-verbally*, achieving high levels of cylindrical illuminance and modelling will reduce shadows and masking of non-verbal cues.

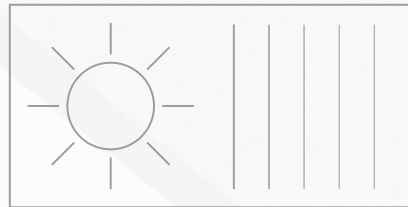
Light designed to fall on vertical planes also illuminates walls, areas where learning aids and artwork are often displayed. Wall coverings should also be considered as part of the lighting solution, reflecting light to create a bright, comfortable space and reduce glare.

Lighting Guide 5 and DfE Annex 2E

Metric	Targets
Horizontal illuminance	300/500 lux
Cylindrical illuminance	≥150 lux
Wall illuminance	50% of horizontal
Ceiling illuminance	30% of horizontal
Unified glare rating	≤19
Uniformity	≥0.6

*Mehrabian, A., & Weiner, M. (1967). Decoding of inconsistent communications. *Journal of Personality and Social Psychology*

Smart, yet simple

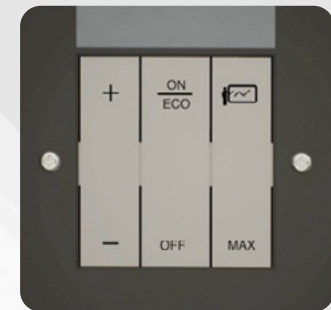


Less energy,
more flexibility
with our range of
intuitive controls

Lighting design should consider the function of the classroom throughout the day and even into the evening, as needs — and daylight — change.

Organic Response® automatically balances classroom lighting with daylight to keep levels comfortable and reduce energy by up to 30%.

Intuitive controls also offer teachers lighting options to help focus attention and improve comfort as screens and other learning aids are introduced.



Sounding good?

Integrated acoustic enhancement that's fully compliant.

Open soffit ceilings not only create a modern aesthetic, it also has practical considerations; maximising daylight and improving access for ease of maintenance. However, the exposed hard surface means an acoustic reverberation solution is needed.

Walls are valuable learning spaces, so not ideal locations for sound cladding, which can also be costly to install. Foil solves this, integrating panels filled with anechoic material.

- Independently tested and proven to reduce acoustic reverberation
- Supports full compliance with DfES Building Bulletin 93
- Reduces ceiling clutter and improves maintenance access
- Panel body made from 44mm thick mineral wool with over 40% recycled content
- Panel facing made from 100% recycled PET in white or black (a variety of colours are available to suit requirements; see our Custom Made playbook)

For more technical information, see page 12 or visit our website.

Type of room	New build Tmf (seconds)	Refurbishment Tmf (seconds)
Nursery school	≤0.6	≤0.8
Primary school classrooms	≤0.6	≤0.8
Secondary school classrooms	≤0.8	≤1.0
Open-plan teaching areas	≤0.5	≤0.5
Open-plan resource areas	≤1.2	≤1.2
Music classrooms	≤1.0	≤1.0
Small lecture rooms	≤0.8	≤1.0
Larger lecture rooms	≤1.0	≤1.0
Study rooms	≤0.8	≤1.0
Libraries	≤1.0	≤1.2
Science laboratories	≤0.8	≤1.0
Drama studios	≤1.0	≤1.0
Design and Technology	≤0.8	≤1.0
Art rooms	≤0.8	≤1.0
Audio-visual, video conference rooms	≤0.8	≤0.8
Atria, circulation spaces not used for teaching and learning	≤1.5	≤2.0
Dance studio	≤1.2	≤1.5
Interviewing/counselling rooms	≤0.8	≤0.8
Office, medical room, staffroom	≤1.0	≤1.2
Dining rooms	≤1.0	≤1.5

DCSF BB93: Performance standards for reverberation in teaching and study spaces — mid-frequency reverberation time, Tmf, in finished but unoccupied and unfurnished rooms



In-use energy

Utilising latest LED, LiFePO4 battery and controls technology to maximise and reduce overall energy consumption in operation



Increased recycled content

Acoustic material made from over 40% pre-consumer recycled content



Future thinking

Cartridge technology for hassle-free future upgrades



Innovative optimisation

Such as utilisation of double-sided LED boards reduces Foil's carbon impact and use of materials



Less material

We've worked hard with our suppliers to reduce waste and remove any superfluous material



Less packaging

Our minimal packaging approach removes waste from your site

Reduced
embodied carbon
material extraction
carbon miles
maintenance
end of life waste

Foil was already a market leader

But our commitment to sustainability means we're always restless for more. We work to circular design principles. That means finding ways to reduce the impact of our products throughout their life-cycle. And we don't just say it, we prove it. Foil comes with a third-party life-cycle assessment (LCA) and environmental product declaration (EPD), calculating whole life environmental impact.

Increased performance
Foil re-imagined



Streamline design, streamlined installation

We understand that construction sites are pressured environments balancing cost, time on site and safety. It's why Foil is designed with straightforward installation in mind to de-risk your project timelines.

Zero-fuss install

Foil offers a staged installation to reduce risk of damage to the product. Shipped to save on site storage and labour intensive movement.

Integration means simplification

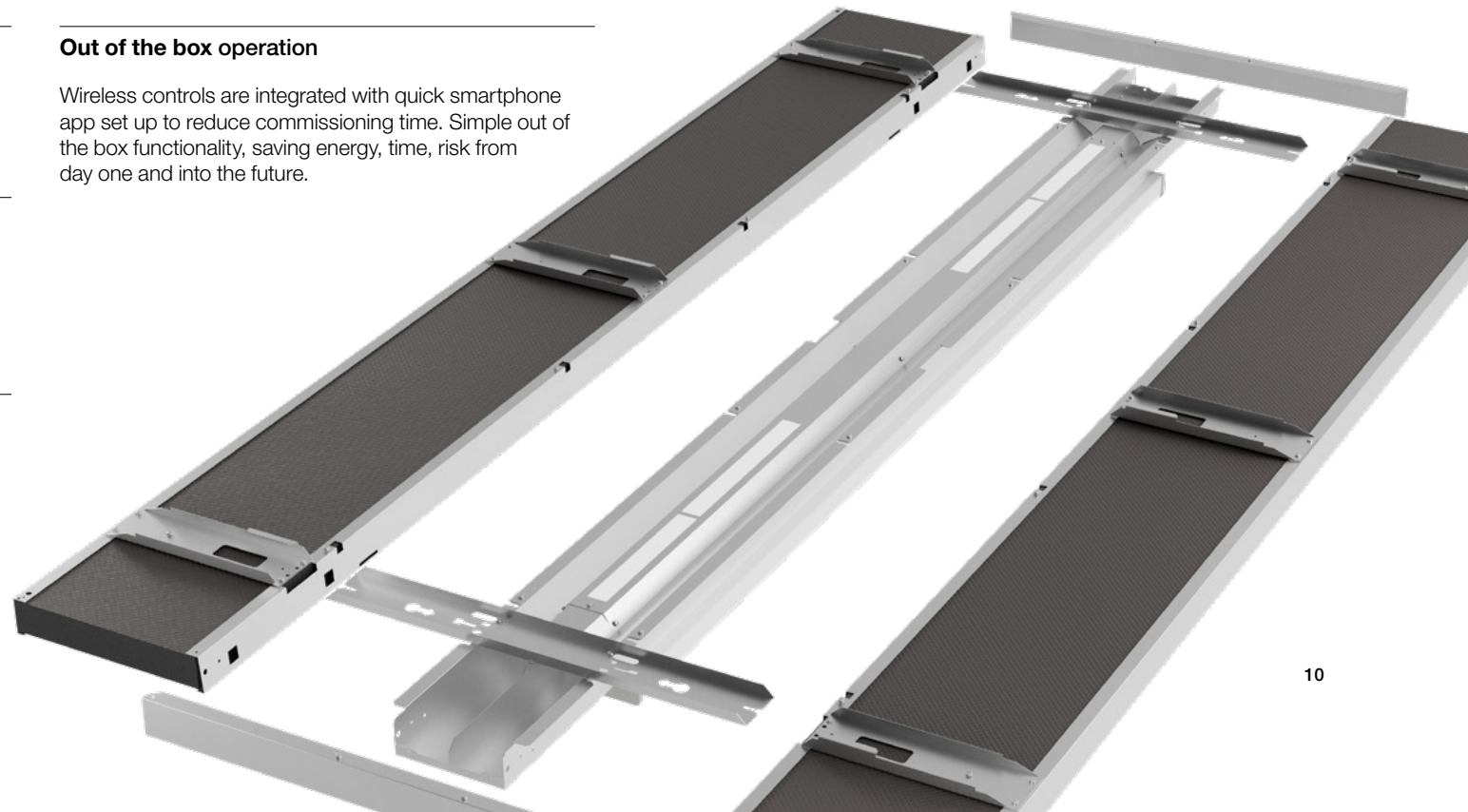
Not only does Foil integrate light and acoustic management, a wide range of services like smoke detectors, sprinkler heads and public address speakers can also be installed, minimising ceiling clutter.

Easy, on the spot maintenance

A modular build approach is used throughout. For example, a removable cartridge gives quick access to emergency lighting batteries and all components allowing easy maintenance and upgrades on the spot and at floor level.

Out of the box operation

Wireless controls are integrated with quick smartphone app set up to reduce commissioning time. Simple out of the box functionality, saving energy, time, risk from day one and into the future.



Foil offers a range of product options suitable for a variety of environments. For product information and technical details please visit our website.

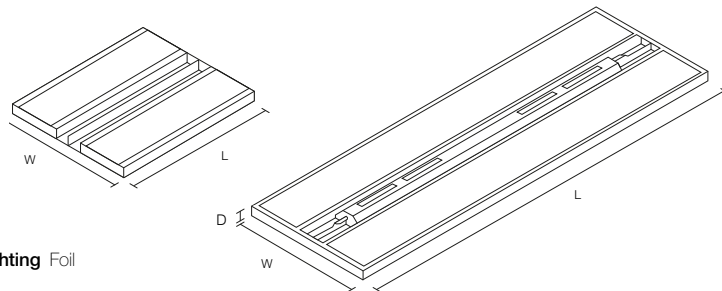
Type	Optic		Length (mm)		Body colour	Acoustic colour		Colour temperature		Colour rendition		Nominal output						Driver		Emergency			Integrated controls		LED type		
	Flush	Drop	2400	1800	Grey RAL9006	Grey	Black	3000K	4000K	Ra80	Ra90	3750	4700	5700	3970 ¹	4900	5900	7200	DALI	N/A	EM	Routefinder Wireless ²	COMEPS	None	Organic Response [®]	Standard	E Light
Flush diffuser	•		•	•	•	•	•	•	•	•	•	•	•	•					•	•	•	•	•	•	•	•	•
Drop diffuser		•	•	•	•	•	•	•	•	•	•				•	•	•	•	•	•	•	•	•	•	•	•	•

¹ Only available in 1800mm ² Not available with Organic Response or AirControl

Product dimensions

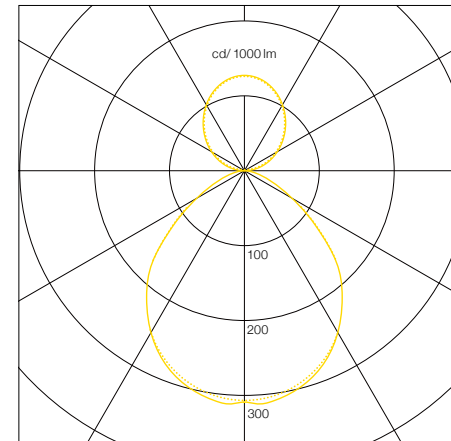
Description	Dimensions (mm)
FOIL 2400MM FL	770W x 2400L x 79D
FOIL 2400MM DD	770W x 2400L x 119D
FOIL 1800MM FL	770W x 1800L x 79D
FOIL 1800MM DD	770W x 1800L x 119D
FOIL INFILL 300MM	770W x 300L x 77D
FOIL INFILL 600MM	770W x 600L x 77D
FOIL INFILL 900MM	770W x 900L x 77D
FOIL INFILL 1200MM	770W x 1200L x 77D
FOIL INFILL 1500MM	770W x 1500L x 77D

IP44

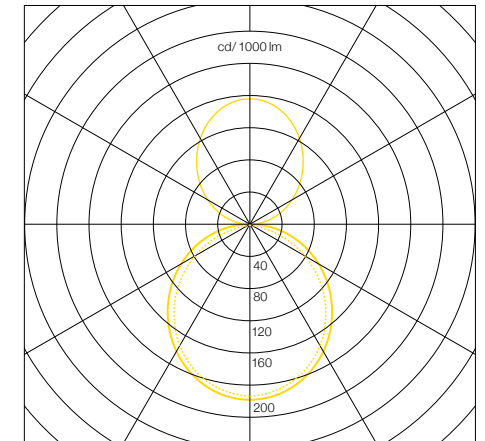


Whitecroft Lighting Foil

Foil flush diffuser polar curve

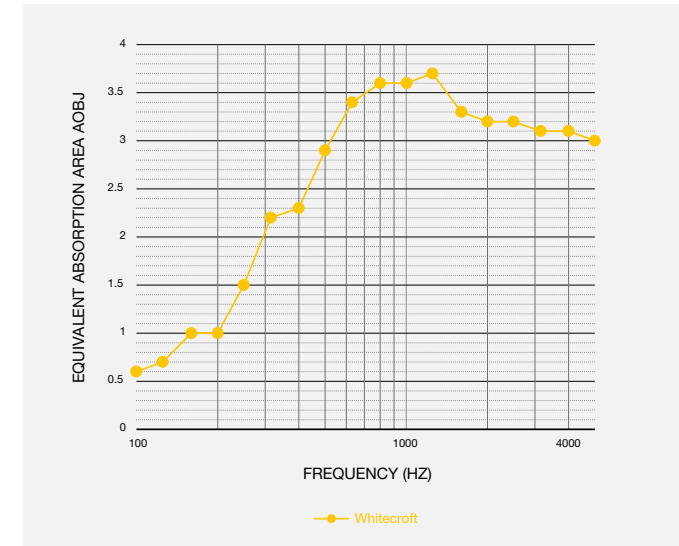


Foil drop diffuser polar curve

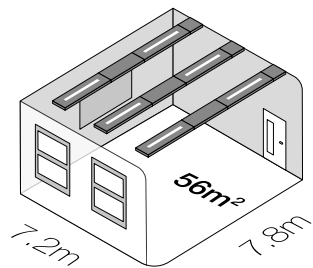


Acoustic performance

Teaching room	Floor area (m ²)	Floor finish	Number of light raft runs	Length of each run (m ²)	Additional Class A wall panels required (m ²)
General classroom	55	Carpet	3	6.8	0
General classroom	55	Carpet	2	7.2	4
ICT classroom	61	Carpet	3	6.8	0
Science studio	69	Vinyl	3	6.8	10
Science studio	69	Vinyl	4	6.8	0
Science lab/graphics/art	83	Vinyl	4	7.2	6
Specialist science lab	97	Vinyl	5	6.8	7
Specialist science lab	97	Vinyl	4	7.2	14
Resistant materials workshop	111	Vinyl	5	7.2	12

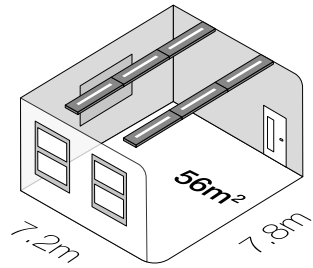


General teaching: 56m²



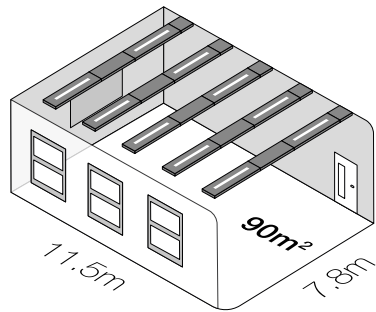
	Target (LG5/Annex 2E)	Drop diffuser (2400mm low output)	Flush diffuser (2400mm mid output)
Spacing		2.5 x 3.9	2.5 x 3.9
Average	300	328	331
Uniformity	0.6	0.7	0.69
Wall illuminance	50%	55%	45%
Ceiling illuminance	30%	81%	69%
Cylindrical	150	152	138
UGR	19	15.8	15.5
W/m ² (W/M2/100lx)	-	4.13 (1.26)	3.63 (1.10)

General teaching: 56m²

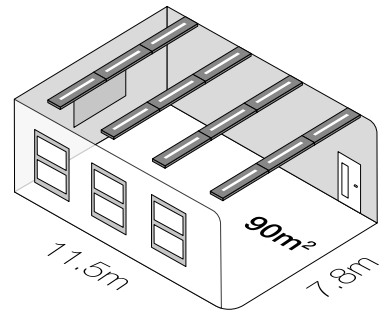


	Target (LG5/Annex 2E)	Drop diffuser (2400mm low output)	Flush diffuser
Spacing		3.8 x 2.4	N/A
Average	300	335	
Uniformity	0.6	0.6	
Wall illuminance	50%	53%	
Ceiling illuminance	30%	86%	
Cylindrical	150	154	
UGR	19	15.8	
W/m ² (W/M2/100lx)	-	4.13 (1.24)	

Technical classroom: 90m²



	Target (LG5/Annex 2E)	Drop diffuser (2400mm high output)	Flush diffuser
Spacing		2.4x3.9	N/A
Average	500	532	
Uniformity	0.6	0.81	
Wall illuminance	50%	57%	
Ceiling illuminance	30%	86%	
Cylindrical	150	250	
UGR	19	17.4	
W/m ² (W/M2/100lx)	-	6.32 (1.19)	



	Target (LG5/Annex 2E)	Drop diffuser (2400mm mid output)	Flush diffuser (2400mm high output)
Spacing		3 x 2.4	3 x 2.4
Average	500	537	522
Uniformity	0.6	0.66	0.62
Wall illuminance	50%	56%	47%
Ceiling illuminance	30%	86%	76%
Cylindrical	150	256	223
UGR	19	17	15.9
W/m ² (W/M2/100lx)	-	6.22 (1.15)	5.48 (1.05)



UK Head Office

Whitecroft Lighting Ltd
Burlington Street
Ashton-Under-Lyne
Lancashire
OL7 0AX

T +44 (0)161 330 6811
email@whitecroftlight.com

London Office

Whitecroft Lighting Ltd
Suite 779 Salisbury House
London Wall
Finsbury Circus
EC2M 5SQ

T +44 (0)161 330 6811

Rep. Ireland Office

Fagerhult Ltd
F1 Calmount Park
Ballymount, Dublin 12
Ireland

T +353 (0)1 426 0200
info@fagerhult.ie
www.fagerhult.ie

