EGG LIGHTING

5 OCTOBER 2026

CASE STUDY · REMANUFACTURE · SHELTERED HOUSING

62%

STANDARD FITTING · RM058-NO

54%

EMERGENCY FITTING · RM058-EM

reused by weight

Survey every position before specifying anything, and the answer differs room by room. At Mission Place, this is what that produced.



Mission Place, Motherwell — a communal corridor after installation.

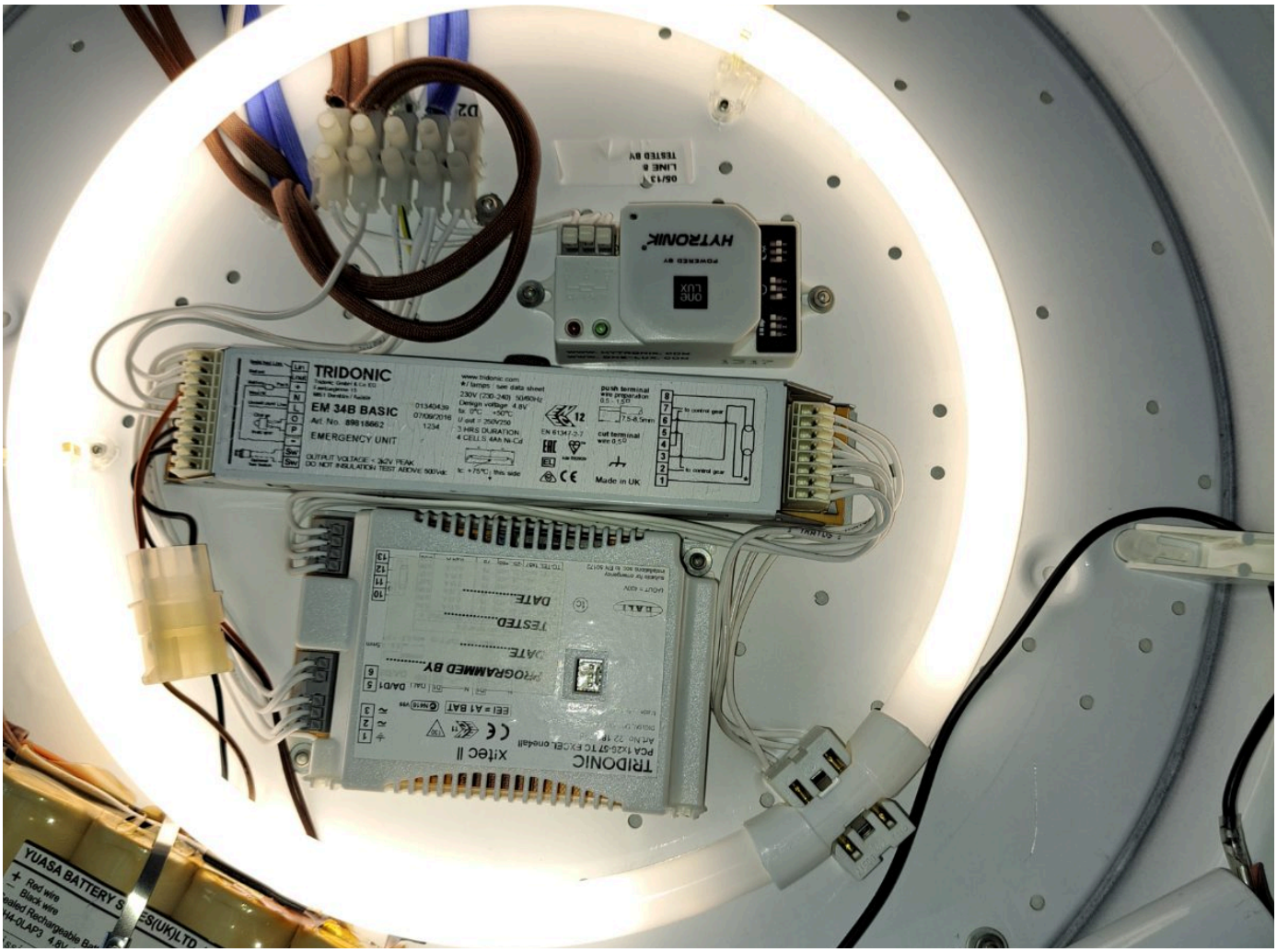
CLIENT	LOCATION	SCOPE	DELIVERED
Trust Housing Association	14 Mission Place, Motherwell	Survey, remanufacture, installation, certification	April 2023 to November 2024

Replacing a lighting scheme nobody has measured is a decision made blind

Communal lighting in sheltered and later-living schemes ages quietly. Fittings work until they do not, emergency units are tested but rarely catalogued, and by the time a scheme comes up for renewal there is usually no record of what is on the walls — how many, of what type, at what load, and which of them carry a battery.

That gap decides the project before it is priced. With no record of individual positions there is no basis for treating one fitting differently from another, so renewal means choosing a single new product and replacing everything. Serviceable housings go into a skip beside failed gear, the embodied carbon already in the building is written off, and the landlord ends the job with a new scheme and still no asset record.

The work described here started from the other end. Every position was surveyed and recorded before anything was specified, and the appraisal was allowed to reach a different answer in different rooms. What follows is what that produced, and what each figure rests on.



An ASD Harmony bulkhead part-way through conversion — the original fluorescent lamp, control gear and emergency battery still in place, with the new sensor fitted.

The survey reached a different answer in almost every room

Mission Place is a Trust Housing Association sheltered housing development at 14 Mission Place, Motherwell. The work covered the communal areas across two floors — the entrance and reception, seven hallways, stairwells, two common rooms, assisted bathrooms, a laundry, a hairdressing room, scooter stores and ancillary cupboards.

The Lighting Decision Audit — lighting survey, asset register and options appraisal — recorded every position individually. The record runs to 13 pages, room by room, each entry giving the quantity, the existing fitting type and the proposed replacement. It was carried out in April 2023 and reissued in revised form on 13 September 2023.

The existing stock was mixed. ASD Harmony bulkheads in several variants — standard, Halo, 532 mm, emergency and non-emergency — accounted for most of the hallway, stairwell and common-room positions. Alongside them sat linear battens, downlights, spotlights, decorative wall fittings, a pendant and running-man signs.

The appraisal did not reach one answer. Remanufacture was proposed only where the existing fitting was a Harmony and was suitable for it. Everywhere else the survey named bought-in replacements, and in two positions specified new ASD product in preference to a remanufactured one. One position was not assessed at all, and the record says so: the boiler room was behind a combination lock and is entered as unknown.

A survey that returns a single answer for a whole building has not looked at the building.



Remanufacture in progress — the original housings and diffusers retained, new gear trays built to the approved specification of 18 May 2023.

Every requirement carried a value, a tolerance and a test

Nothing about the product was left to the installer's judgement.

Two products were developed from the existing bulkhead: a dimming-sensor variant, and a dimming-sensor variant with an emergency battery. Both reuse the original aluminium housing and polycarbonate diffuser and replace everything inside.

The approved remanufacturing specification is dated 18 May 2023 and carries 26 numbered requirements. Each names a value, a tolerance, a verification method and where the requirement came from. Correlated colour temperature 4000 K within 5%, verified by spectrometer test. Nominal output 3,200 lumens within 5%. Power below 30 W and power factor above 85%, both recorded as measured on 100% of units rather than on a type sample. Total harmonic distortion below 15%. A microwave sensor with its behaviour fixed rather than left to the installer: two seconds to fade in, five held, 30 to fade out.

Rated life is L90 B10 in excess of 50,000 hours. The product is UKCA marked, and was assessed against BS EN 60598-2-1 and, for the emergency variant, BS EN 60598-2-22.

Remanufacturing a luminaire brings a manufacturer's obligations, and they were met in full

Putting a remanufactured luminaire into a building places a new product on the market. The obligations that follow are a manufacturer's, not an installer's.

A Declaration of Conformity was signed covering both variants. A type technical file was opened for each and carried through nine revisions. Three conformity assessments were completed on 25 May 2023. New components were designed and drawn — a spun housing, a diffuser clip, a gear tray — with a hole-pattern calculation behind them. A prototype of the emergency variant was thermally tested and the record retained, against a measured mean ambient of 18.68 °C corrected to 25 °C.



The finished product — Remanufactured ASD Harmony Bulkhead (Sensor + Emergency), model RM058-EM, UKCA marked and carrying its own unit identifier.

Assembly guidance was written for both variants and maintained to a tenth revision. It covers disassembly as well as assembly: how the existing fitting comes apart, which components are reused and which replaced, part by part. Without it, remanufacture is craft rather than process, and it cannot be repeated by anyone who was not there the first time.

The project objectives recorded in the handover file name BS 8887-240:2011, or equivalent, as the basis for reuse of the body and diffuser.

47 certificates, issued circuit by circuit in an occupied building

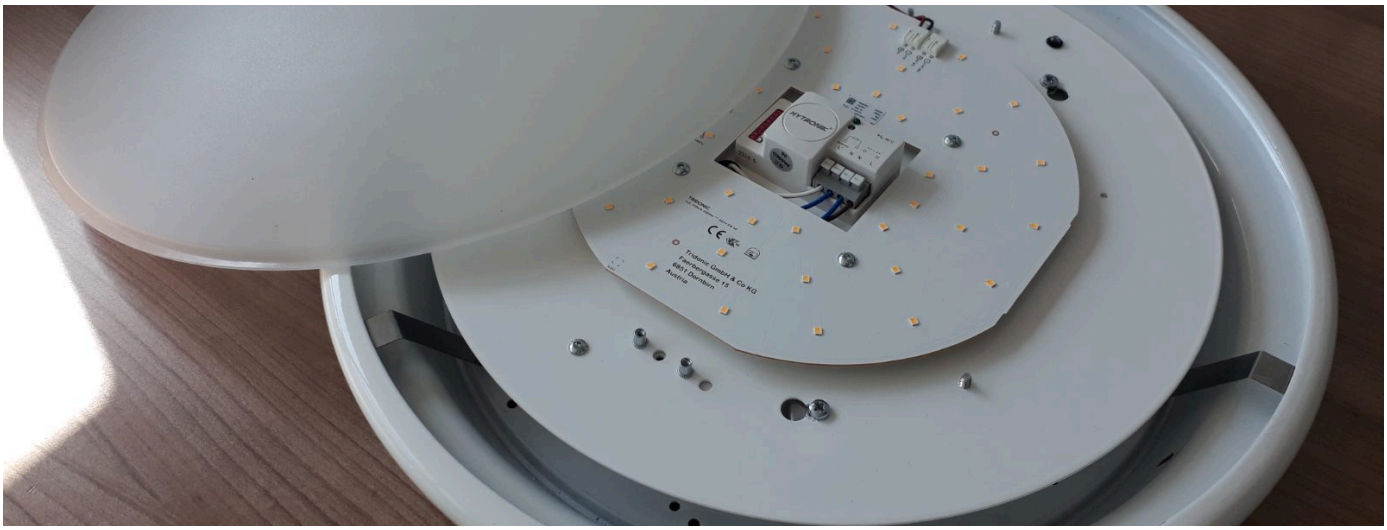
Residents were at home throughout. There was no decant, the corridors and common rooms stayed in use, and work proceeded circuit by circuit with each certified as it was completed.

Installation finished in October 2024, and 47 Minor Works Certificates were issued across the scheme — 40 covering the internal lighting circuits floor by floor, and seven the external lighting, bollards and lampposts, dated 18 October 2024.

Each certificate names its circuit, its distribution board and the area it serves, and carries the test results behind it. Circuit 5L1 — the ground and first floor centre corridor lighting, fed from the lighting distribution board in the first floor plant room — was completed on 29 October 2024, with an earth fault loop impedance of 0.52 ohms and insulation resistance above 200 megohms at 500 V, certified to BS 7671:2018 as amended to 2022 by a qualified supervisor.

The description of the minor works on that certificate reads Remanufactured LED Upgrade. That is the wording on a statutory certificate issued to the landlord, not a phrase chosen for a brochure afterwards.

Controls — occupancy sensing and dimming — went into the corridors and the lounge, the areas named in the project objectives. One sensor was fitted to every unit, and its settings are adjustable at the fitting, so a level that proves wrong for a building once people are living under it can be changed without rewiring and without replacing a luminaire.



A remanufactured bulkhead opened — new LED module and microwave sensor inside the retained housing.

EMERGENCY LIGHTING

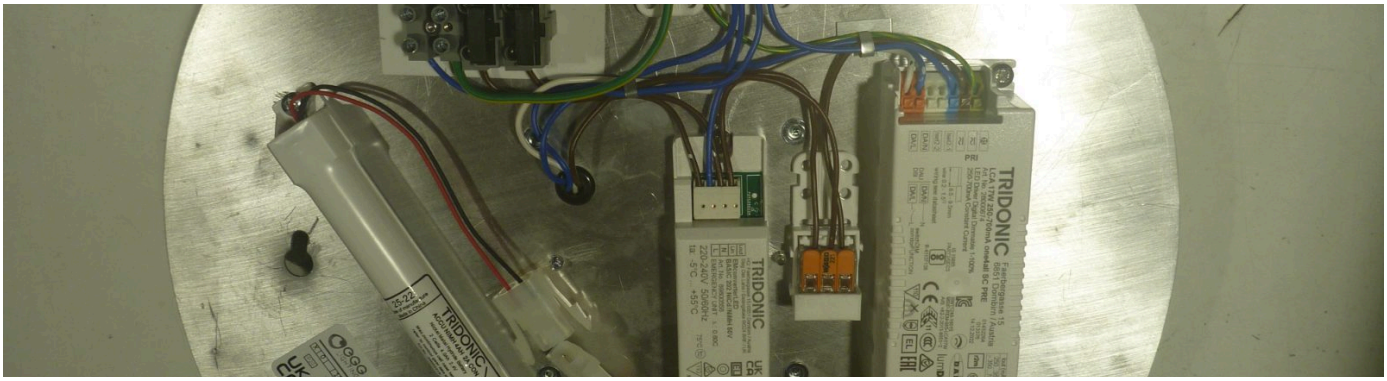
The emergency lighting checklist was completed, not left as a signature

The landlord received the audit trail, not only the certificate.

Emergency lighting was certified separately on 11 November 2024, under certificate 107-ML1-11112024RH. The declaration records conformity to BS 5266-1:2016, BS EN 1838:2013 and BS EN 50172:2004 — the editions current at the date of certification. Recommended reinspection is five years, or a change of tenant or owner.

A certificate records a conclusion. The checklist behind it records the questions that were asked to reach that conclusion. At Mission Place the landlord received both. These are its findings, as completed on the day:

WHAT THE CHECKLIST ASKED	RECORDED
Are plans of the system available and correct?	**Yes**
Has the system been designed for the correct mode of operation and duration?	**Yes**
Are the correct areas covered to meet the risk assessment, and all identified hazards?	**Yes**
Is there illumination from at least two luminaires in each section of the escape route?	**Yes**
Are luminaires at least 2 m above the floor and clear of smoke reservoirs?	**Yes**
Are additional luminaires located to cover toilets, lifts and plant rooms?	**Yes**
Do the luminaires conform to BS EN 60598-2-22?	**Yes**
Does the installation conform to the good practice defined in BS 7671?	**Yes**
Are the test facilities safe to operate, and clearly marked with their function?	**Yes**
Is the responsible person trained to operate them and record the results correctly?	**Yes**
Does the system operate correctly when tested?	**Yes**



The gear tray as built: Tridonic driver and LED module, emergency converter and battery. Power and power factor were measured on 100% of units.

Each fitting about 20 kgCO2e lower than an equivalent new fitting — and what that figure does not mean

Embodied carbon was assessed separately for each fitting type to CIBSE TM65:2020, using the mid-level method with the standard 1.3 buffer factor applied. It is a self-assessment by EGG Lighting and is labelled as one wherever it appears.

STANDARD FITTING · RM058-NO

52.2 → 32.3 kgCO2e

19.9 lower · 38% · 62% reused by weight · self-assessed

EMERGENCY FITTING · RM058-EM

66.8 → 46.7 kgCO2e

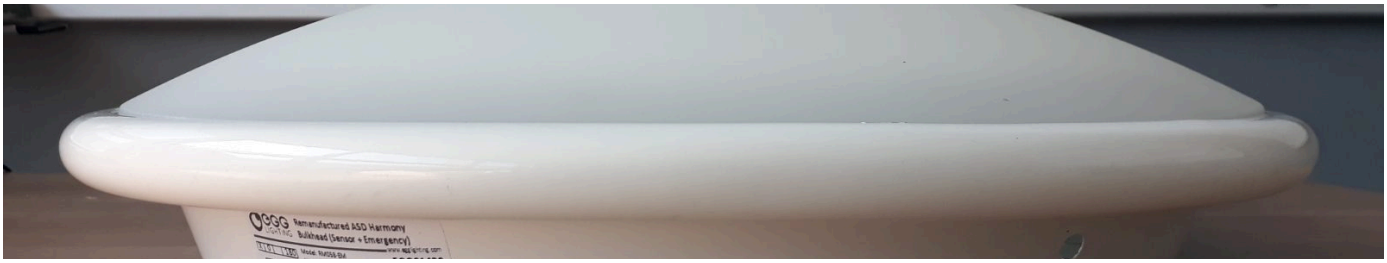
20.1 lower · 30% · 54% reused by weight · self-assessed

Against an equivalent new fitting, the standard fitting carries 32.3 kgCO2e rather than 52.2, 19.9 or 38% lower; the emergency fitting 46.7 rather than 66.8, 20.1 or 30% lower. The same 1,043 g of housing and diffuser is reused in both. The percentages by weight differ only because the emergency fitting carries 249 g of extra new components: an emergency converter, a NiMH battery and an indicator.

The difference has three sources. The 608 g aluminium housing and the 435 g polycarbonate diffuser are not made again, which accounts for 12.3 kgCO2e. The other 8 or so comes from where the work was done: assembly in Glasgow, on a grid at 0.29 kgCO2e per kWh, rather than in Asia at 0.84; and reused components travelling 80 km to the factory, rather than 900 km by road and 20,400 km by sea. On the bill of materials the housing and the diffuser appear with a quantity against them and no supplier: reused, not ordered, nil cost.

One line in that calculation matters more than the headline. Operational energy is identical for the remanufactured product and the equivalent new one, at 108 kgCO2e over the assumed service life, because both draw the same load. Remanufacture does not save operational energy against a new LED fitting. It saves embodied carbon. The operational saving at this scheme came from replacing what was there before — a different comparison, against a different baseline.

> We do not add the two together, and we do not present either as the other. Stated plainly: an embodied carbon difference of about 20 kgCO2e per fitting is roughly a fifth of the operational carbon the same fitting will account for over its life. Embodied carbon is real, it is recoverable, and it is the smaller of the two numbers. A landlord publishing a figure needs to know which one it is.



A finished unit ready for dispatch — the original aluminium housing and polycarbonate diffuser, retained and relabelled.

The next contractor can service it without us

A remanufactured fitting is a one-off unless the work behind it can be repeated.

The gear tray was built to a ZHAGA standard LED and driver hole pattern. A luminaire built to a proprietary internal layout can only be serviced by the company that built it, which is how an estate ends up replacing a whole fitting to renew a component worth a fraction of it. A standard pattern removes that dependency deliberately: when the light engine reaches the end of its life, a replacement can be bought from any manufacturer working to the standard and fitted without the housing leaving the wall — and without EGG Lighting being involved at all.

The product was specified again a year later

The same remanufactured product was specified again for a second Trust Housing scheme and appears on a procurement schedule dated 27 September 2024. Specified a second time a year later, it had stopped being a rebuild and started being a product.

The percentages were only available because every position was assessed

The finding that carries from this scheme to another is not the percentages. It is that they existed at all — and they existed because every position was assessed separately before anything was specified. Remanufacture was right for most of the bulkheads and wrong for the battens, the downlights and the wall fittings. No survey that returns one answer for a whole building can tell a landlord which is which.

> *We cannot say how much of a scheme's lighting is worth keeping until we have looked at it. A supplier who can say before looking is describing their product range rather than the building.*

A lighting level is a judgement rather than a fact. Communal lighting in a sheltered scheme is set for residents whose sight varies widely, and a level that satisfies a survey may not satisfy the building once people are living under it. Specifying control gear whose settings can be changed afterwards, rather than gear that has to be right on the day, is what keeps that judgement recoverable.

The survey also earns its keep twice. For a landlord with a carbon figure to publish and an estate whose lighting has never been catalogued, one exercise produces both: the embodied carbon difference, position by position, and the asset register that emergency lighting and periodic inspection duties rest on.

WHERE THESE NUMBERS COME FROM

Every figure in this document sits on a dated project record.

FIGURE	WHAT IT RESTS ON	STATUS
About 20 kgCO2e lower per fitting than new	The two assessments below: 19.9 and 20.1	Self-assessed, May 2023
RM058-NO: 52.2 to 32.3 kgCO2e	TM65:2020 workbook, RM058-NO; mid-level, 1.3 buffer	Self-assessed
RM058-EM: 66.8 to 46.7 kgCO2e	TM65:2020 workbook, RM058-EM; mid-level, 1.3 buffer	Self-assessed
RM058-NO: 62% reused by weight	RM058-NO workbook bill of materials; weights measured	Measured
RM058-EM: 54% reused by weight	RM058-EM workbook bill of materials; weights measured	Measured
Below 30 W; power factor above 85%	Approved remanufacturing specification, 18 May 2023	Specified; verified on every unit
4000 K and 3,200 lm, both within 5%	As above; spectrometer test	Specified; type-tested
Survey of every position, 13 pages	Lighting survey record, 13 September 2023	Primary record
47 Minor Works Certificates	Project handover file, Minor Works Certificates folder — 40 internal, seven external	Certificates issued
Emergency lighting certified 11 November 2024 to BS 5266-1:2016, BS EN 1838:2013 and BS EN 50172:2004, with the BS 5266-1 compliance checklist completed	Emergency Lighting Completion Certificate 107-ML1-11112024RH, project handover file	Certificate issued to the client. Standards as at the date of certification
Circuit 5L1 completed 29 October 2024; Zs 0.52 ohms; insulation resistance above 200 megohms; BS 7671:2018+A2:2022	Minor Works Certificate for circuit 5L1, project handover file	Certificate issued to the client
Works described as Remanufactured LED Upgrade	Same certificate, description of the minor works	Client-issued statutory record
Microwave sensor, DIP switch, one per fitting, behaviour as specified	Approved remanufacturing specification, 18 May 2023; procurement schedule, 26 September 2024	Specified and purchased
Installation completed October 2024	Project handover summary	Client-issued record

WHAT IS NOT CLAIMED HERE

No energy saving, cost saving or payback figure is quoted for this scheme. An operational calculation exists on file but could not be verified to this site, and it is excluded rather than adjusted. No lighting level, maintenance or TM66 result is quoted, because none was verified after installation. The embodied carbon figures are a self-assessment and are not third-party verified.

Start with a survey of one building

We assess whether remanufacture is the right answer, and where it is, we can undertake the work. EGG Lighting has remanufactured fittings at scale — 2,116 at a 150,000 sq ft headquarters in Aberdeen. What a specific programme needs is settled job by job: tell us what you have, and we will tell you what we can do with it.

The first step is a survey of one building, at no cost and no obligation. It produces an asset record you keep, whether or not anything is bought afterwards.

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