Ref:	2022-071233	**Church:**	South Dulwich: St Stephen
Diocese:	Southwark	**Archdeaconry:**	Southwark
Created By:	Mr Luke Tatam (22/03/2022)	**Contact Tel.:**	
Status:	Pre-formal consultation review		

Form 3A

(Rule 5.3)

Petition for Faculty
(proceedings started pursuant to resolution of parochial church council)

To the Consistory Court of the Diocese of Southwark

In the parish of St. Stephen, South Dulwich

Church of South Dulwich: St Stephen

Petitioners:

FULL NAME*	RESIDENTIAL ADDRESS* (including postcode)	OFFICE HELD*
SANDRA CAROLINE POTTER		CHURCHWARDEN
BERNHARD SCHUNEMANN		VICAR

**Please use capital letters*

Please indicate here which of the above should be regarded as the contact address. A telephone number and email address should also be provided where possible.

SANDRA CAROLINE POTTER

Usually the minister and churchwardens should be the petitioners. Where that is not the case, please provide an explanation here (including details of the interest which it is said that a person who is not the minister or a churchwarden has in the matter).

We petition the Court for a faculty to authorise the following-

Please describe the works or other proposals for which a faculty is sought in the way recommended by the Diocesan Advisory Committee in its Notification of Advice.

SCHEDULE OF WORKS OR PROPOSALS

Replacing the internal and external lighting system using new LED fittings and a new control system with additional cabling (following existing routes), comprising: general lighting to Nave, Aisles, Chancel, Sanctuary; Service-leading and feature lighting; Entrance and porch lighting; Emergency lighting; and External lighting to porches, spire and tower, war memorial and notice-board.
All as described in the following documents:
(A) Statement of Significance and Historic England listing text; (B) two Statements of Needs; (C) emails dated 10th March 2022 from Sandra Potter and dated 16th March 2022 from Ryan Slessenger; (D) letter dated 1st September 2021 from Ian Angus; (E) 2021 Design Proposal from CES LLP; (F) Nov 2021 Post DAC Design Clarification from CES LLP; (G) Mar 2022 Post DAC Design Clarification Rev 2 from CES LLP; (H) Design Specification dated 12 August 2021 (Revision #1) from CES LLP with Appendices A – F: Luminaire Schedule, Layout Drawings, Manufacturers Datasheets, Emergency Lighting Calculation Report, External Lighting Report, and Existing Photo Pack.

Copies of the Standard Information Form and any drawings, plans, specifications, photographs or other documents showing the proposals must be provided with this petition.

A. PROFESSIONAL ADVICE
Please answer this section in every case

1. Has the architect or surveyor appointed under section 45 of the Ecclesiastical Juristiction and Care of Churches Measure 2018 been -

a. engaged in connection with the proposals? Yes ☐ No ☑

b. asked for general advice in relation to these proposals? Yes ☑ No ☐

2. If another architect or surveyor is being engaged -

a. what is his or her name and address?

b. why is he or she being instructed in relation to the proposed works?

B. CHANGES TO THE INTERIOR AND/OR EXTERIOR OF THE CHURCH
Please answer this section if applicable. Otherwise proceed to section C

3. a. If changes to the interior and/or exterior of the church are proposed, has the PCC prepared a statement of significance and a statement of needs? Yes ☑ No ☐

b. If the answer to a. is yes, please supply copies of the statements with this petition

c. If the answer to a. is no, what are the reasons for asking for permission for the proposals?

The changes are to the light fittings and cabling within the church. There will be no change to the actual fabric of the building. We initially thought we would need to rewire parts of the church. Thankfully this has proved unnecessary. We are planning to remove the very unsightly outside lights set in the garden and replace with low energy and small lamps. These plans have all been discussed at PCC meetings and a resolution passed accepting both the plans and the expenditure.

Please supply separate explanatory statement if more space is required

C. FINANCIAL INFORMATION
Please answer this section in every case

4. a. What is the estimated cost of the proposed works? £75000.00

b. Who has estimated this cost? CES Lighting and Electrical Specialists

c. Are the proposals wholly to be paid for by someone other than the parochial church council or wholly from funds which have already been given to the PCC for the purpose of the proposals?

Yes ☑ No ☐

d. If the answer to c. is no, how are the proposals to be paid for? (Please give figures in the boxes below)

From-

i. the PCC's current balance of funds that are available for the purpose £

ii. gifts/legacies £100000.00

iii. grants or fund raising - already available £

- being sought £

If you are preparing a statement of needs or providing an explanatory statement under section 3.c., please include details of any fund raising strategy there.

Ref:	2018-021823	**Church:**	South Dulwich: St Stephen
Diocese:	Southwark	**Archdeaconry:**	Southwark
Created By:	Mrs Sandra Potter (15/06/2018)	**Contact Tel.:**	0208 778 6660
Status:	Awaiting DAC processing		

Statement of Significance

The file has been uploaded separately.

1) Section 1. Brief history and description of the church building(s), contents, churchyard and setting

St Stephens Curch and Vicarage was built in 1865. The architect was Charles Barry Jr, the architect and surveyor of the Dulwicch Estate. It was built in Victorian Gothic style and was consecreated on 28 November 1868.

The Millennium Hall was built in 1999 and is attached to the south side of the church.

2) Section 2: The significance of the church (including its contents and churchyard) in terms of:

i) Its special architectural and historical interest
ii) Any significant features of artistic or archaeological interest

In 1870 Camille Pisarro, living locally, painted the church from College Road. In 1872 the artist Edward Poyntor was commissioned to produce a wall painting in the chancel repressenting "The Trial of St Stephen" and the "Martyrdom of St. Stephen" - the Poynter Fresco - a rare example of this type of work in churches in England.

3) Assessment of the impact of the proposals on the significance defined in Section 2

Our current lighting is old, high energy using and expensive to maintain.

The new lighting will enhance the various features of the church including the Poynter fresco, the High Altar and our spectacular ceiling. It will also improve the overalll lighting in the church allowing both the choir and the congregation better visibility.

We will be using high qualaity low energy equipment which will save us approximiately £346 in running costs per year with annual CO2 saving of 633 kgs.

Plan

Interior

Historic England

CHURCH OF ST STEPHEN

Listed on the National Heritage List for England.
Search over 400,000 listed places *(https://historicengland.org.uk/listing/the-list/)*

Official list entry

Heritage Category: **Listed Building**

Grade: **II**

List Entry Number: **1385417**

Date first listed: **27-Sep-1972**

Statutory Address 1: **CHURCH OF ST STEPHEN, COLLEGE ROAD**

This List entry helps identify the building designated at this address for its special architectural or historic interest.

Unless the List entry states otherwise, it includes both the structure itself and any object or structure fixed to it (whether inside or outside) as well as any object or structure within the curtilage of the building.

For these purposes, to be included within the curtilage of the building, the object or structure must have formed part of the land since before 1st July 1948.

Understanding list entries *(https://historicengland.org.uk/listing/the-list/understanding-list-entries/)*

Corrections and minor amendments
(https://historicengland.org.uk/listing/the-list/minor-amendments/)

Location

Statutory Address: **CHURCH OF ST STEPHEN, COLLEGE ROAD**

The building or site itself may lie within the boundary of more than one authority.

County: Greater London Authority

District: Southwark (London Borough)

Parish: Non Civil Parish

National Grid Reference: TQ 33662 72110

Details

SOUTHWARK

TQ3372 COLLEGE ROAD 636-1/16/230 (West side) 27/09/72 Church of St Stephen

II

Church. 1867-75. By Banks and Barry. Ragstone with ashlar dressings; slate roof. Early English style PLAN: rectangular plan with apsidal chancel facing south-east, narrower and lower than nave. Aisles with lean-to roof; tower to north-east elevation, 2nd bay from (liturgical) west end. To (liturgical) north-east and south-east, gabled porch and 1-storey extension respectively. EXTERIOR: Perpendicular tower of 4 stages with corner buttresses has blank, 3-arched arcade above moulded round-arched entrance. Single lancet on each face of 3rd stage; large louvred bell opening with moulded surround to each face of 4th stage. Broach spire. Large traceried (liturgical) west window. Groups of 3 lancets with trefoil tracery between stepped buttresses to aisles; gabled clerestory. INTERIOR: painting of the trial and stoning of St Stephen by Sir E Poynter, 1872. Stained-glass windows by Kempe and (to west end) by M Forsyth, 1952.

Listing NGR: TQ3366272110

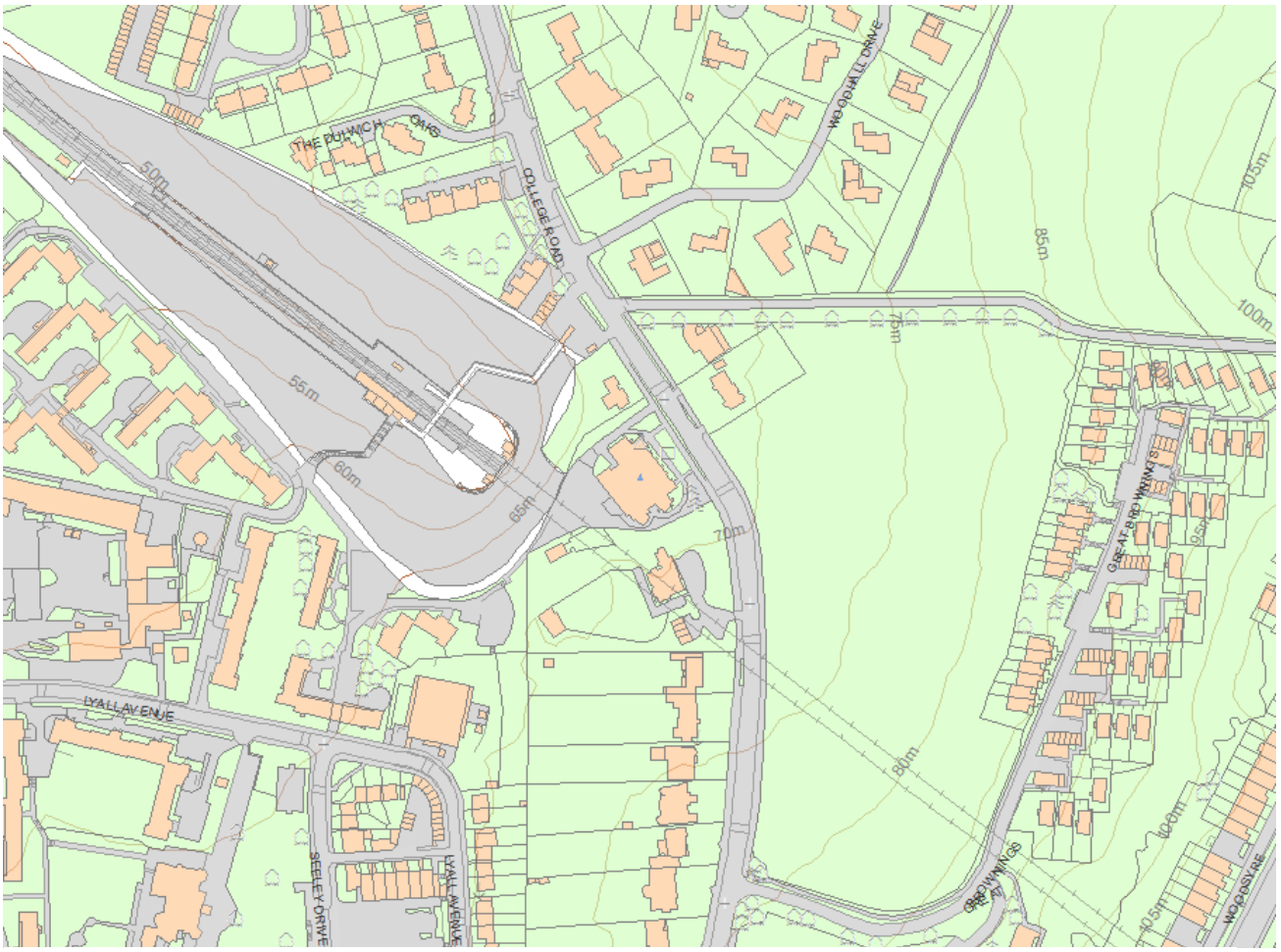
Legacy

The contents of this record have been generated from a legacy data system.
Legacy System number: 470814

Legacy System: LBS

Legal

This building is listed under the Planning (Listed Buildings and Conservation Areas) Act 1990 as amended for its special architectural or historic interest.



Map

This map is for quick reference purposes only and may not be to scale. This copy shows the entry on 08-Dec-2021 at 18:15:39.

End of official list entry

← Previous - **Overview**

→ Next - **Comments and Photos**

Ref:	2018-021823	**Church:**	South Dulwich: St Stephen
Diocese:	Southwark	**Archdeaconry:**	Southwark
Created By:	Mrs Sandra Potter (15/06/2018)	**Contact Tel.:**	0208 778 6660
Status:	Awaiting DAC processing		

Statement of Needs

General information

There are 4000 people in the parish boundary. The averrage attendance in church is 200 people per week with a mixed congretation.

There is a weekly Sunday school. The church hall is home to a number of groups including a Montessori Nursery of 40 children, a Perform drama group of 35-40 children.

There are two or three Sunday services in the church as well as a Wednesday 0945 service. It is also used for weddings, baptisms, funerals, concerts, school services and various meetings and lectures.

What is needed?

We need to replace outdated lighting and reduce our electrical costs / CO2 emissions.

The proposal

We are proposing to relight the church in a sympathic and efficient manner.

Why?

We were lucky enough to be left some money which has enabled us to light the church efficiently and to enhance the beauty of the building. We have been thinking about this for some time, it was mentioned in the latest quinqenial but did not have the funds until now.

Justification

General benefit to all our users will be better vision and enhanced beauty. There is no harm at all.

Statement of needs

General Information.

There are 4000 people in the parish boundary. The average attendance in church is 200 people per week with a mixed congregation.
There is a weekly Sunday school. The church hall is home to a number of groups including a Montessori Nursery of 40 children, a Perform drama group of 35-40 children.
There are two or three Sunday services in the church as well as a Wednesday 0945 service. It is also used for weddings, baptisms, funerals, concerts, school services and various meetings and lectures.

What is needed
We need to replace outdated lighting and reduce our electrical costs / CO2 emissions as mentioned in the 2017 quinquennial.

The proposal
We want to relight the church in a sympathetic and efficient manner without making any significant changes to the existing lighting system.

Our brief to CES was an upgrade of lighting with enhancements rather than a re-design. CES was asked to upgrade the current fittings to make them more economical, reduce expensive and difficult maintenance and to reduce our carbon footprint.

We discussed the historical view of pendants but there was no desire from the PCC-elected committee to reinstate them as it was felt that the clean look of spots emphasised the beauty of the church fabric. It was felt that pendants break up the look of the church and interfere with the liturgy. Also, as there was no appetite for major change, we did not want to incur the extra expenses that would have been inevitable if we wanted to re-instate pendants or any other major change. The current plan will enhance the architectural highlights of our church such as the angels, the Poynter fresco and the ceiling.

We did not do a concept feasibility study because we are using much of the existing wiring. Nor did we ever give a direct written brief to CES because we had a long verbal discussion between them and our committee which thrashed out the details of what we wanted and needed. They then produced plans which you have seen, and we accepted their suggestions. CES has used the CIBSE recommendations (as per the Church of England guidance) for the level of light within the church. If the DAC would prefer us to increase our budget to allow for powder-coated luminaires, then we would be willing to acquiesce to that request.

Our exterior lights are old, using an obsolete high wattage floodlight scheme which creates glare and lots of spill light. CES are reducing the quantity of fittings, reducing the wattage of the fittings and providing a more attractive, environmentally friendly scene. We plan to only light the spire from outside, which we feel is a beacon of Christianity to the passing world, but otherwise use the internal lighting to spill out which will have the effect of a welcoming and used building to passers-by.

As you will have seen from the file, Ian Angus, our architect has been consulted during the process and attended one of our meetings to go through the scheme which he admires and approves.

Luke Tatam

From: sandra potter <sc.potter@hotmail.com>
Sent: 10 March 2022 16:27
To: Luke Tatam
Cc: Bernhard Schunemann; Jonathan Sedgwick; Ryan; David
Subject: RE: South Dulwich, St Stephen - church lighting

Dear Luke,

Further to your email yesterday, both the standing committee and the PCC have discussed at length the need for exterior lighting with a particular view to the environment as you will see from the below excerpts. The church stands on the pathway from College Road (and its station) to the Kingswood Estate and as such, we feel it is important for the safety of pedestrians to have some level of lighting as they cross the otherwise very dark car park. The church stands above Sydenham Hill rail station and can be seen from most of the estate so we were very keen to light the spire in a rather gentle way as a reminder to people of God's presence.

Excerpt from minutes of the 23rd September 2021 PCC meeting.
Premises: Following the discussion at the July PCC meeting, the Standing Committee had decided that there should be exterior lighting of the spire only, with further illumination outside provided by the interior lighting. In response to questions, Sandra confirmed there would also be lights over the two doors, and for the rear of the church.

Minutes from the Standing Committee on the 9th September

Final proposals and costings for the lighting project had been circulated to the committee, along with the supportive advice of the church architect. The PCC had asked the Standing Committee to settle the design for external lighting, taking account of the views expressed. Sandra said that the proposals would involve uplighting of the spire only, with other external visibility provided by the interior lighting (which will be on a timer). There would be a lantern light over the porches, and sensor-triggered lighting for the driveway and car park. After discussion about aspects of the design and costings, the committee agreed the exterior lighting proposals. As the PCC had delegated final decisions to the committee, the final decision was for the committee

Excerpts from the July PCC meeting

In discussion, PCC members expressed concern about the sustainability of extensive exterior lighting, although any new system would use low energy bulbs. On the other hand, some members argued that the top of the spire was visible from various points at a distance, and it was important that it continued to be visible at night. In addition, exterior lighting is important for health and safety reasons, so people approaching and passing the church at night are actually, and feel, safe, both in terms of trips and falls, and possible attack. The Vicar proposed that the specific design of a modest level of exterior lighting, focusing on health and safety, should be discussed and agreed by the Standing Committee.

I hope this allays your concerns about the thought that has been put into the project and our feeling that the levels are about right. The only outside light that is not for security is on the spire. The rest will be flowing out from the church.

We will indeed look at the energy consumption, and I will discuss this with CES (copied in to this email). I have asked them for the technical details you requested which I should be able to forward to you next week.

Thank you for the suggestion of the “green energy tariff”. I don’t believe we are on one at the moment but are checking with our electricity supplier and will make the change over.

The hall solar panels generate some electricity for us, both the hall and the church and any spare goes to the National Grid. It is a win/win situation in that we use less power from the Grid and provide some input to it as well for which we get paid.

As a church, we are very aware of our responsibilities and do everything we can to minimise our footprint. For example, we are in the beginning stages of joining the Eco Church community; our boiler is new and has as low an impact as possible, we are careful with lights and heating.

Please let me know if you have any further questions.

Kind regards
Sandra Potter

0208 778 6660
07850 297 681

From: Ryan <ryan@cesllp.co.uk>
Sent: 16 March 2022 12:29
To: sandra potter <sc.potter@hotmail.com>
Subject: Lighting - DAC response

Dear Sandra

I have added pages 2-5 to offer more information to the DAC in response to their latest email and report.
The drawings and specification do contain general information on the wiring and lighting positions.
The attached document goes further to help communicate these aspects in more detail.
I do hope this satisfies the DAC and compliments your email response to them last week.
Page 5 is a calculation report showing that the replacement LED units reduces the energy consumption outside by approx. 50%/

It might also be helpful to explain that your inspecting architect attended the detail meeting and was content with lighting positions and wiring routes.

Do let me know if you would like any more assistance.

Kindest regards

Ryan Slessenger | Senior Partner
0208 835 2816 |
E: ryan@cesllp.co.uk
W: ces-lighting.co.uk

CES
LIGHTING & ELECTRICAL
SPECIALISTS

CARDEN & GODFREY

Architects

33 Clerkenwell Close, London EC1R 0AU. Telephone 020 7490 0300 Facsimile 020 7490 0004
e-mail: mail@cardenandgodfrey.co.uk website: www.cardenandgodfrey.co.uk

1st September 2021

Mrs. Sandra Potter
Churchwarden
St. Stephen's Church
South Dulwich

Dear Sandra,

St. Stephen's Church: Proposed New Lighting

This commentary is based on the drawings and specifications by mssrs. CES Ltd, issued as the definitive scheme for new lighting following the site meeting, presentation by CES and subsequent discussion held at St. Stephen's on the 22nd July 2021. I note that the drawings have been amended to reflect the conclusive outcome from that discussion.

At the outset I can say that I am fully supportive of the proposals for new lighting inside and outside the church, for which I can make specific commentary as follows:

1. The complete renewal of high-level fittings lamped with LED's makes long-term economical sense and follows the recommendations in my Q.I. Reports to bring together all middle and high-level lamps into one generation of long-life fittings, and thereby to time the changing of the lamps to coincide with Periodic Electrical Tests every five or ten years.

   Here the great benefit is that the lamps will be changed by the electricians, from access equipment brought in specifically for their operation.

2. Although envisaging the replacement of all the high-level fittings, the cabling of the lighting circuits is generally sound, and with discrete routes. The cabling will be retained, including where in conduit, and will be augmented by the proposed DALI cable, to add flexibility and potential for future expansion, without re-wiring.

   The DALI cable also adds flexibility to the specific location of fittings, enabling the precise positioning of new lights and track to respond subtly to adjacent architectural features.

3. The proposal will divide the new spotlights into more zones than before, and therefore has the benefit of encouraging energy-saving, by lighting only those parts of the church being used at any one time.

4. Similarly, the external lighting has been redesigned as a discrete scheme centered on the tower and spire, to reduce the sources of light pollution, and, as a transition to LED's, to save power and increase lamp-life.

5. Lighting controls will economically use existing cabling and be via two dimmer plates situated in the church by the sound control box and in the sacristy on the north wall.

6. The one circuit based on a movement sensor, at the north entrance door, will operate the timed and limited 'Visitor scene', also intended to reduce waste of power and increase lamp life.

7. It is to be particularly welcomed that an independent emergency lighting system is to be installed as part of this scheme, based specifically and discretely on the aisle routes to the signed exit doors.

8. It is worth noting the CES specification Section 1.4, 'Environmental Impact', that compares wattage and running costs. In terms of the corresponding relative CO2 emissions, there are considerable estimated reductions calculated between the existing and proposed new lighting installations.

In conclusion, and as Inspecting Architect to St. Stephen's, I am pleased to support the CES proposals for new lighting of the church,

Yours Sincerely,

Ian Angus

CES
LIGHTING & ELECTRICAL
SPECIALISTS

St Stephen's Church
South Dulwich
Design Proposal

CES|2021|7186

Phone: 020 8835 2816 | Email: office@cesllp.co.uk | Web: www.ces-lighting.co.uk

CONTENTS

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About CES

Who we are

CES LLP is a family run business who have specialised in the design and installation of lighting for Historic and Ecclesiastical buildings for over 25 years.

The Partners are keen to maintain the business within the framework of a Christian ethos.

Our History

CES has evolved over three generations.

In 1948 Ronald Stanley Smith left the Navy, where he was working as an engineer, to begin his career as an electrical engineer. By the late 1960's he had started his own electrical business and was working in many of London's most prestigious buildings.
Ronald invited his son, Graham Smith, to join the family business and by the late 1980's, when Ronald retired, Graham took the reins. The company was re-branded as C.E.S. (Complete Electrical Services) in 1991.
The late 1990's saw a big shift in the company as Graham developed C.E.S. from electrical contractors to a specialist lighting design & build company. C.E.S. was fortunate to be heavily involved with the Millennium Lottery scheme to 'light-up historic buildings' working closely with English heritage.
Ryan Slessenger & Grant Ashworth, both nephews to Graham, began their apprenticeships with C.E.S. in 1995 and 1999 respectively, and with the exception of Ryan taking a 2-year period to serve as the Electrical Officer for the mission ship, the MS Logos II, they have worked their way up the company.
In 2013 Ryan and Grant were invited to become a Partners of C.E.S. and continue the development ahead of Graham's retirement. Graham retired from C.E.S. in 2015, following this Craig Smith (Graham's Son) was invited to join Ryan and Grant as the third Partner of C.E.S. Like his cousins, Craig also began as apprentice at the company.
Ryan had been developing C.E.S. from design & build into a professional design consultancy practice with Grant focusing on the specialist electrical installation services. The Partners elected to rename C.E.S. (Complete Electrical Services) to 'CES Lighting and Electrical Specialists LLP' to reflect the new company business model.
The Company today has a dedicated lighting design team with active development within the industry creating design specifications suitable for approval and tendering purposes.
The installation team led by Grant and Craig carry out all manner of electrical works and continue developing staff and apprentices to work in this specialist sector.

What we offer

CES offer specialist lighting design for internal and external projects. Alongside the design team is a dedicated electrical installation team who offer high-quality installations of our designs. CES have a wealth of experience dealing with the approval bodies. e.g. Local Authorities, DAC, HCC, Historic England and so on.

Our Team

The design team are involved with their local churches and not only have the necessary skill set to illuminate historic architecture professionally but also an understanding of the day-to-day life of a church.

We are very passionate about what we do and how best to achieve customer satisfaction. We have been extremely fortunate over the years to have been involved with many wonderful buildings.

Our Aim

Our aim is to serve you and in so doing to ensure that any new lighting system will be effective, good value for money, with minimal maintenance and low running costs and fulfilling your desire to emphasise the building's unique features, not only for services but also a consideration for a multitude of associated events.

We always strive to develop a good and close working relationship with the Client, Architect and any external Consultant. Our company's primary focus is always attention to detail on every project and we take great pride in carrying out the work to the highest possible professional standards. Your complete satisfaction is important to us, not only for the duration of the work but the on-going maintenance and any electrical works needed.

We design our lighting systems for simplistic operation with high flexibility as we understand that the Cathedral is used for a wide variety of services/events with many different congregations and audiences.

Portfolio

1. Rochester Cathedral – Late stages of design process
2. St Andrew and St Cuthman, Steyning Parish Church (11th Century) – Final stages of installation
3. Precious Blood – Borough
4. St Martin of Tours – Epsom
5. St Matthias – Stoke Newington
6. Southwark Cathedral Retrochoir
7. St Giles in the Fields (18th Century Church Tower)
8. Rotherhithe – 400yr Anniversary of the Mayflower (Various buildings of historical importance)
9. Freemasons' Hall - United Grand Lodge of England (LED conversion + Emergency Exit Lighting)
10. St Martin of Ludgate - London

CES has also worked with many other Churches and Historic buildings throughout London and the South-East

Churches to visit.

London Based

St James Church – Sussex Gardens

St Matthias Stoke Newington

St Marks Clerkenwell

South Based

St Martin of Tours Epsom

St Wilfrid's Haywards Heath

Holy Trinity Cuckfield

St Andrews Ferring

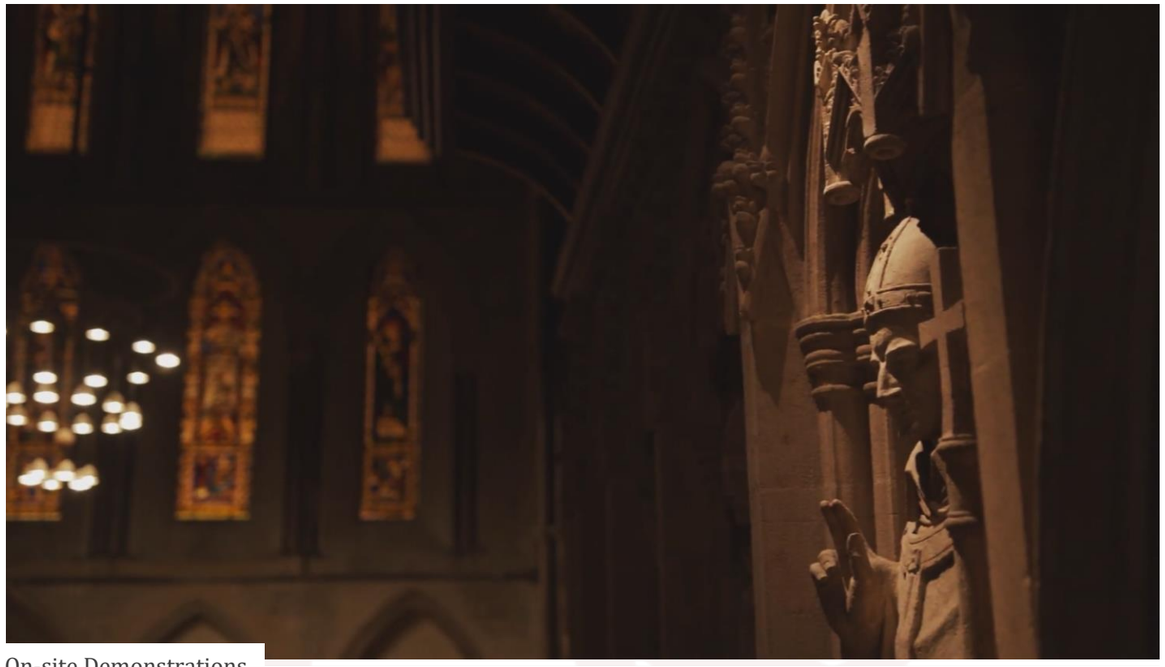
Phone: 020 8835 2816 | Email: office@cesllp.co.uk | Web: www.ces-lighting.co.uk

ROCHESTER CATHEDRAL

CES were invited to design a new internal and external lighting system for Rochester Cathedral. CES has guided the design process through from Historical reports and early concepts to refined proposals. Several onsite meetings, demonstrations, and presentations have been carried out to ensure that the design encompasses the current uses of the Cathedral along with provision for the future.

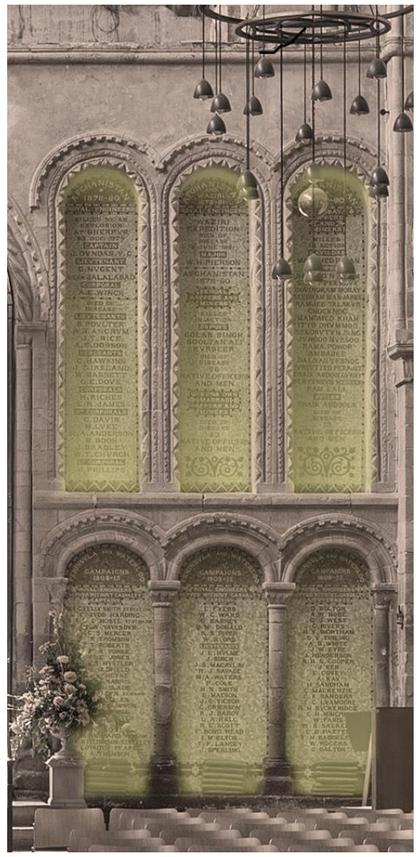
Every aspect of the lighting has been considered from cable routes to fixing methods, luminaire positions to control points, along with all other aspects of a lighting design all with consultation form the inspecting architect. Due to the current world events lighting demonstrations have been filmed so that all concerned parties may see the effects of the proposed lighting.

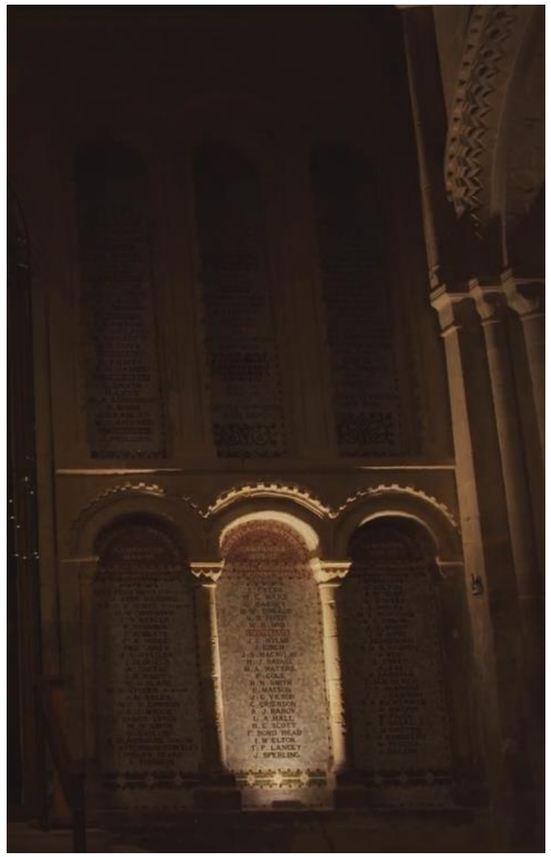
The design is in its final stages and set to be sent out to the approval bodies this summer.



On-site Demonstrations

3D Modelling





Concept illustrations followed by on-site demonstrations.

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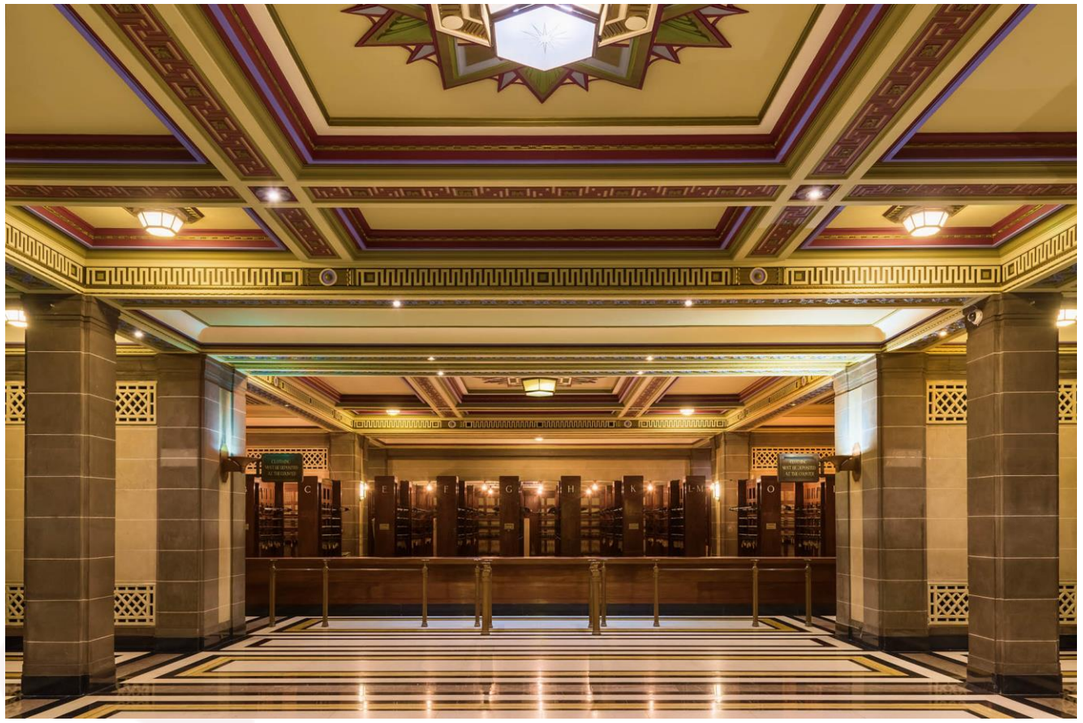
Southwark Cathedral Retro Choir

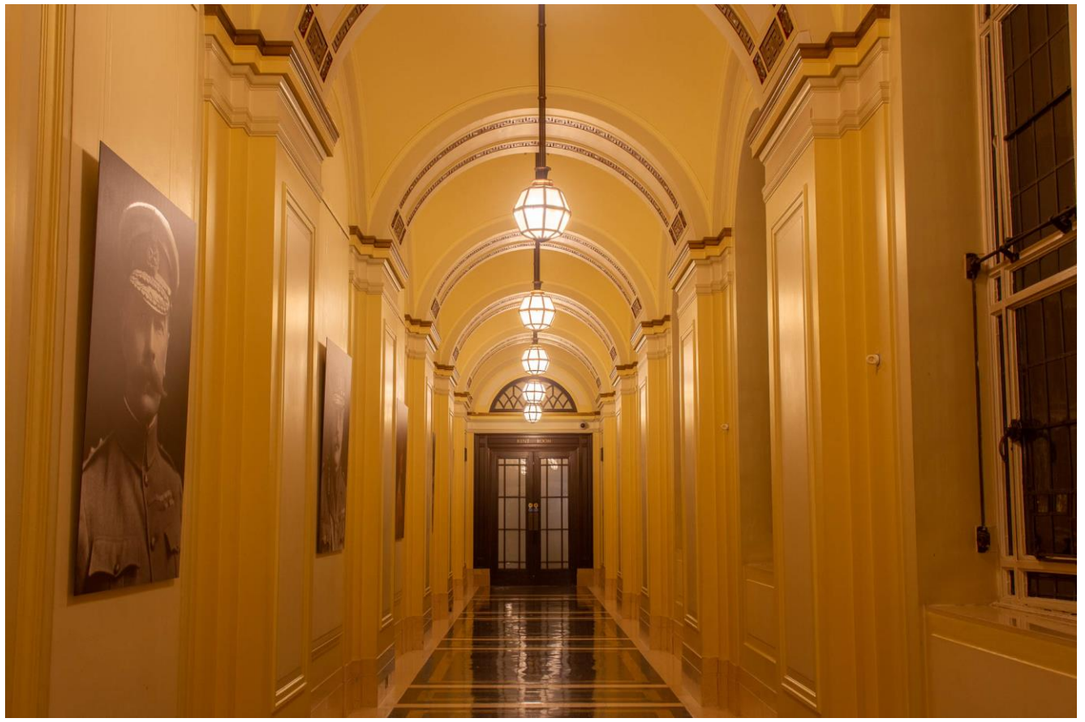
CES were invited to design and install the lighting to the Southwark Cathedral Retro Choir. CES were invited back in 2019 to design the new LED for the Consistory Court Chair

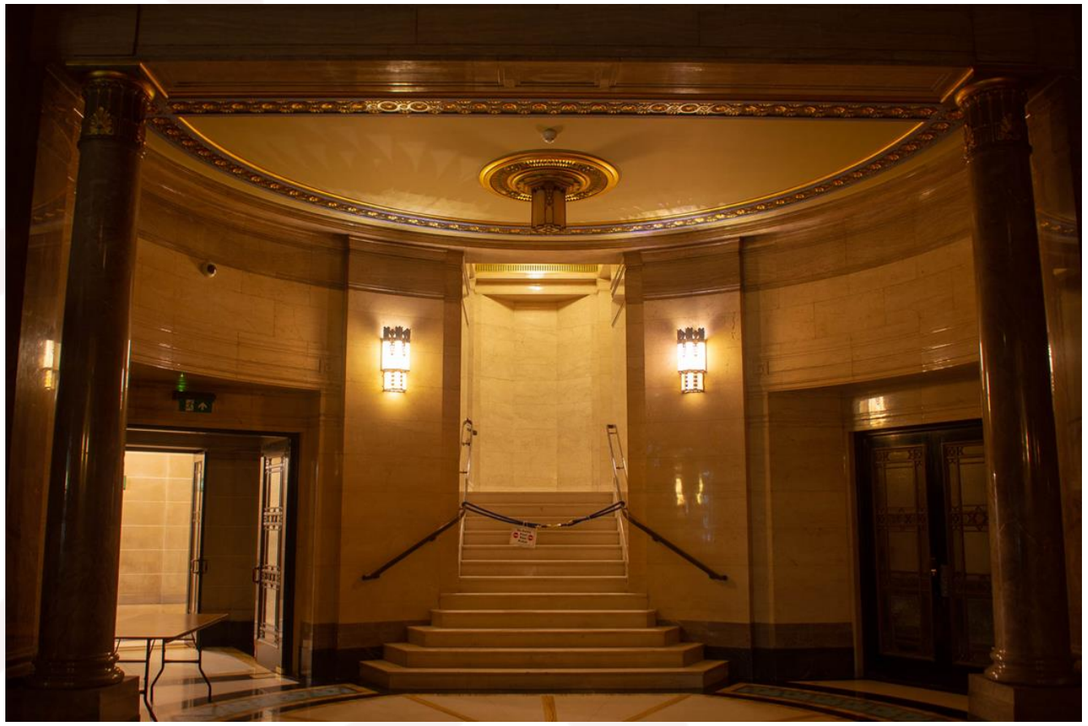
Phone: 020 8835 2816 | Email: office@cesllp.co.uk | Web: www.ces-lighting.co.uk

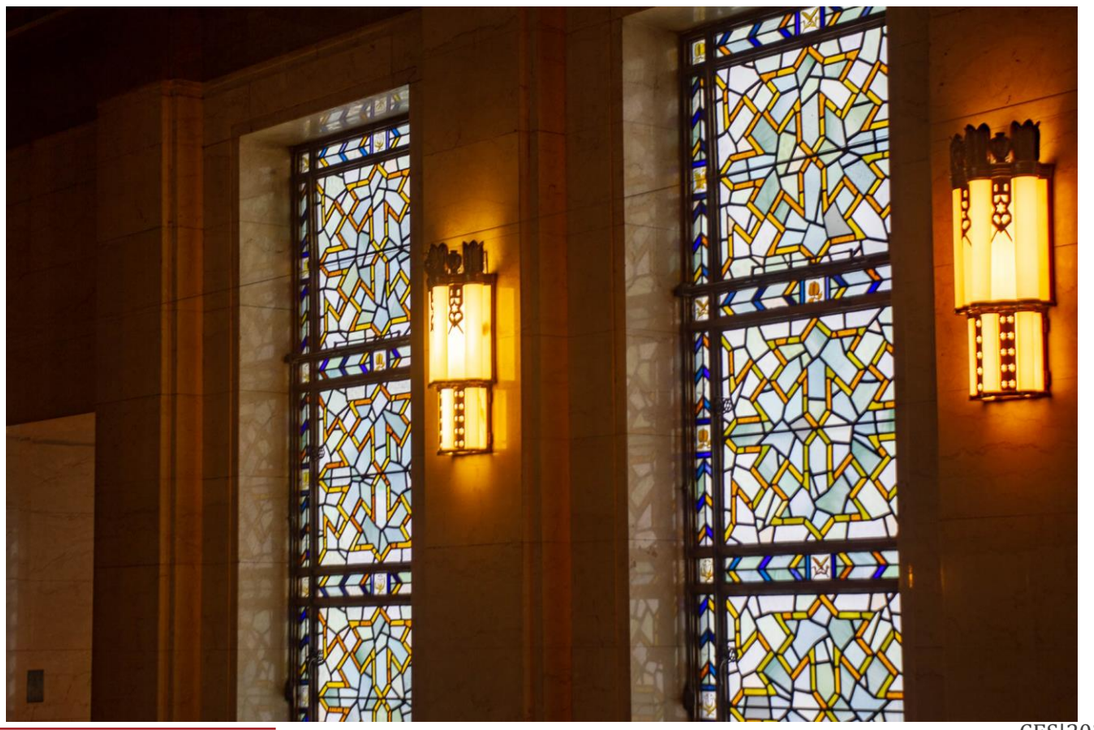
United Grand Lodge of England

CES were invited to Design a new emergency lighting scheme at the Free Masons Grand Lodge in London. The existing fittings were a part of the buildings listing and therefore had to be carefully restored and updated to LED with emergency operation.









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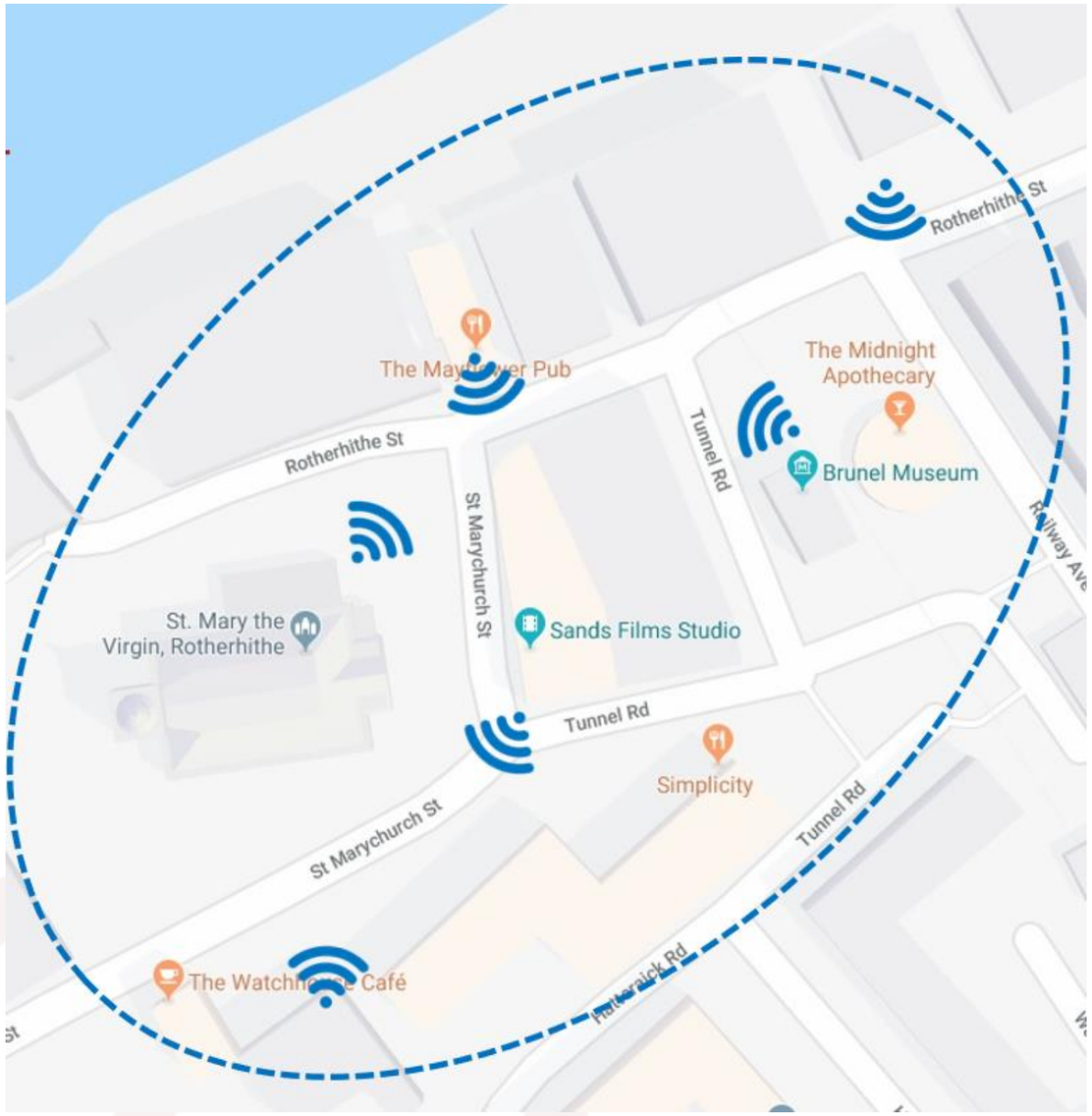
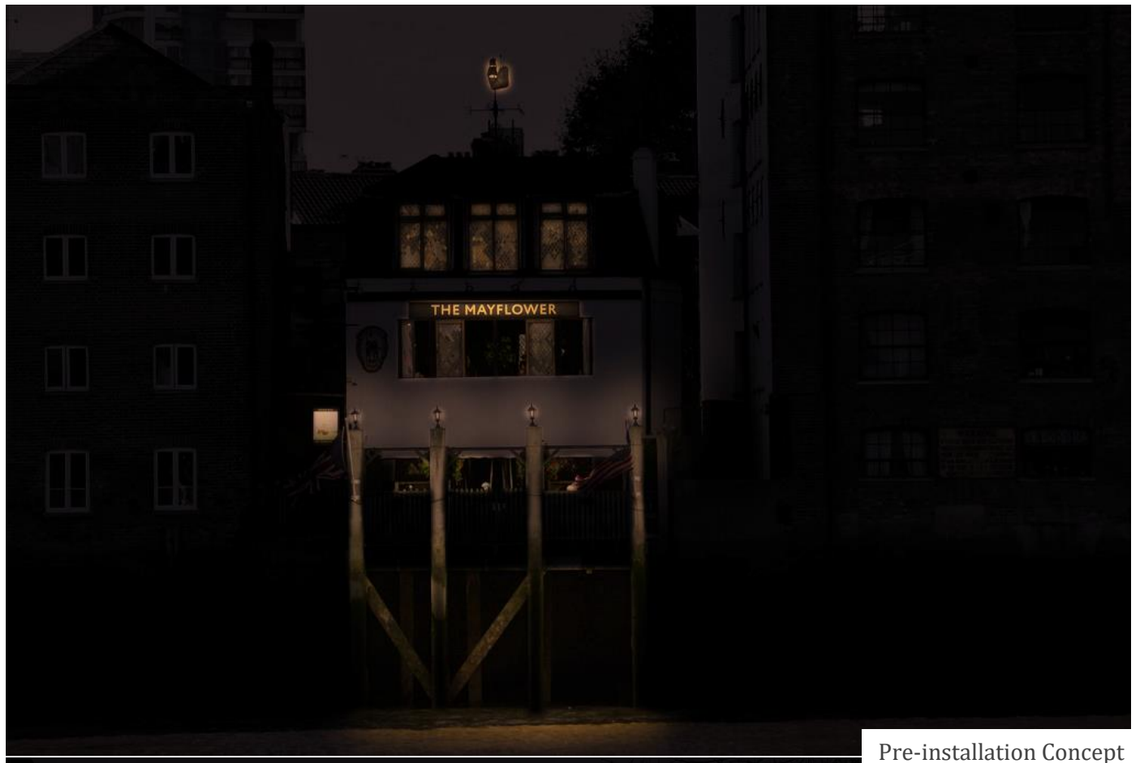
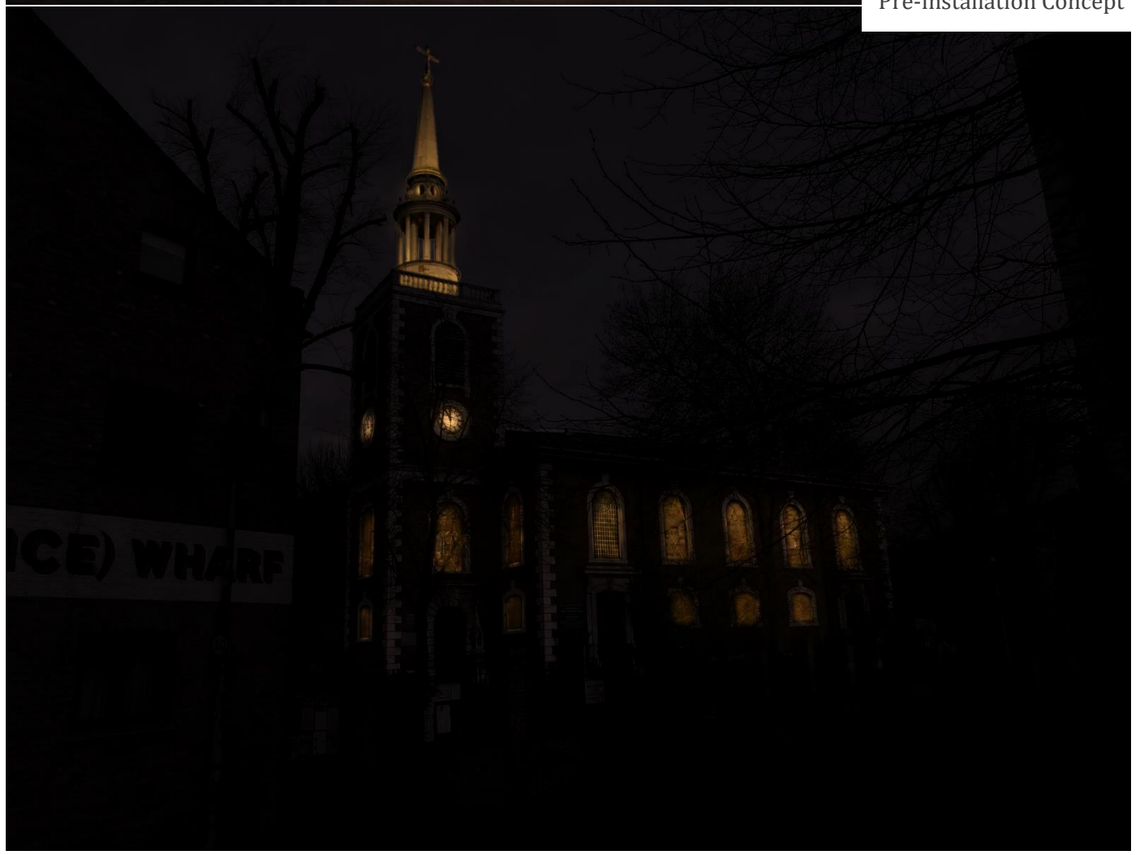
Rotherhithe – The Mayflower

Rotherhithe is celebrating the 400th anniversary of the Mayflower's voyage over to the America's from this historic area in London. In light of the celebrations CES have been invited to design permanent architectural lighting for several historically significant building within the area. The design is currently in the funding process following several COVID related delays.





Pre-installation Concept



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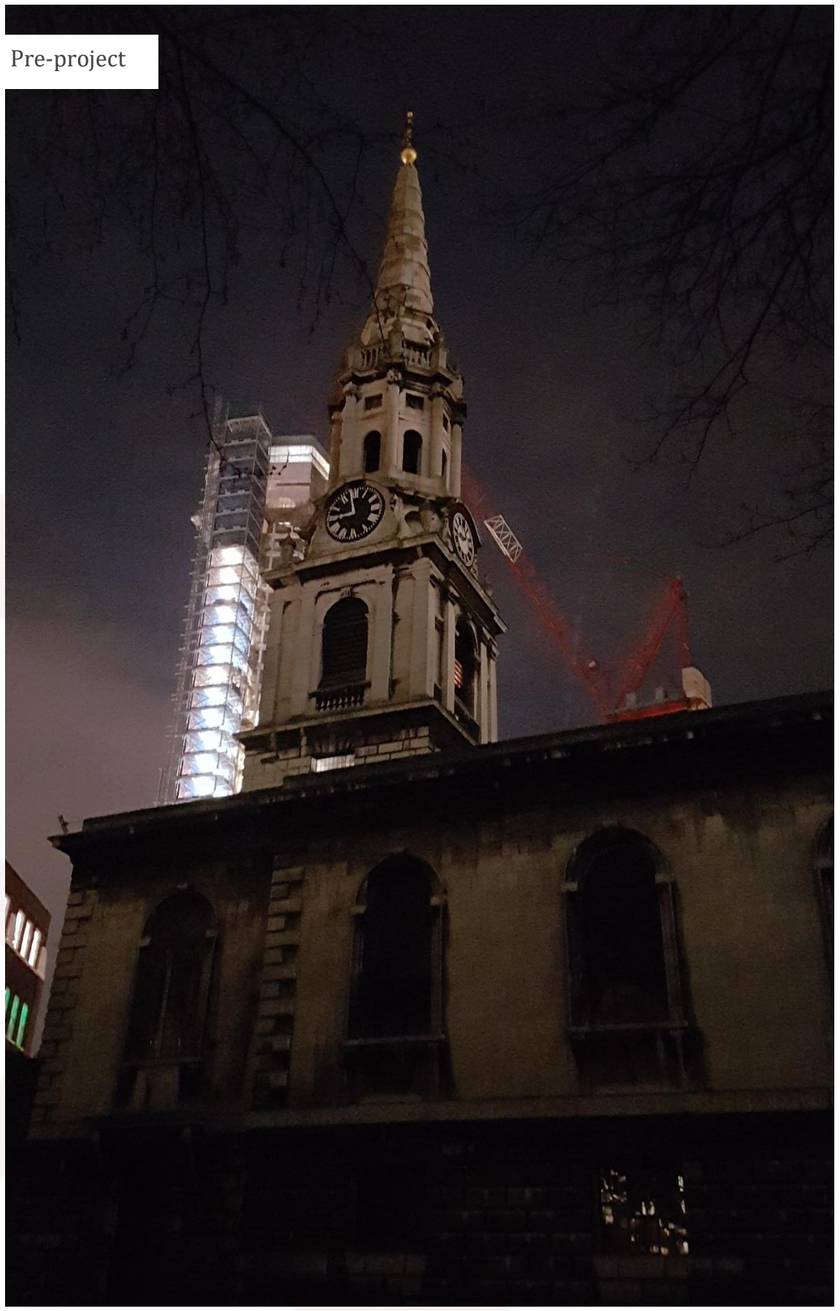
St Giles in the Fields

St Giles in the fields, as the name suggests was once situated in the quiet agricultural area surrounding London. As the City grew up around the Church it became overshadowed, CES were approached in order to re-invigorate the lighting of the tower and bring it back as a striking monument within the nights sky.

Pre-project



Post-project

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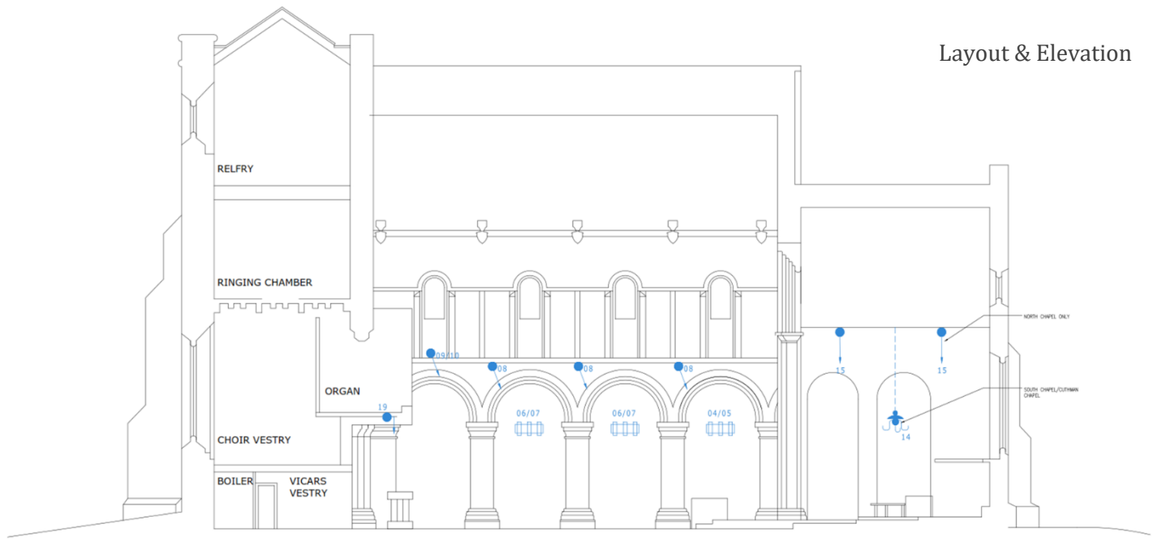
St Andrew and St Cuthman, Steyning Parish Church

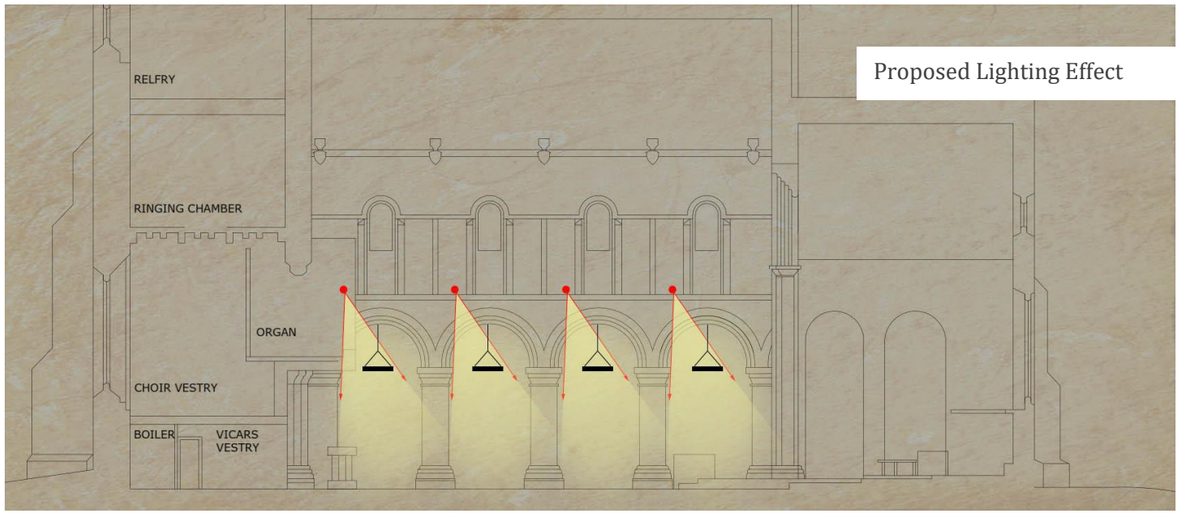
This 11th Century church is considered as one of the most valuable historic places of worship in the Chichester Diocese. CES were invited to design the new lighting and wiring scheme for this significant building. The design process took place over a two-year period with many presentations and demonstration evenings to illustrate lighting techniques. This project is currently being installed ready for Easter 2021.

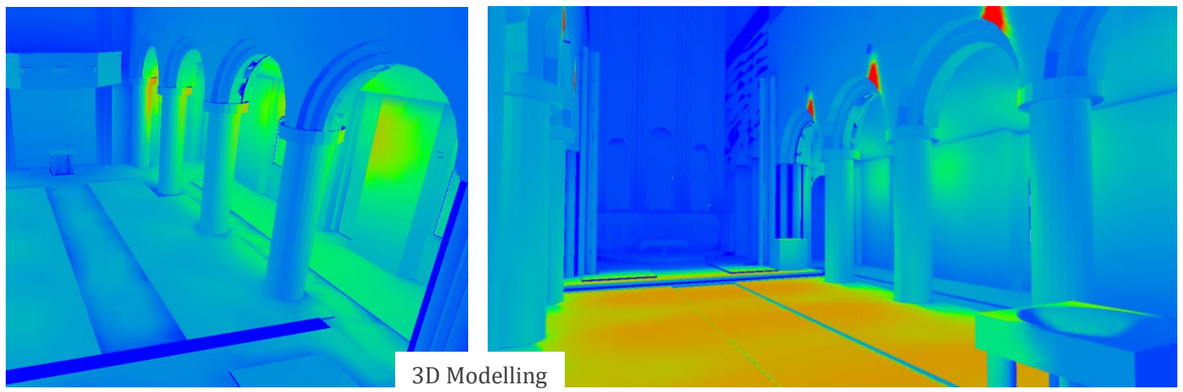
Demonstration and Presentation

Layout & Elevation



Proposed Lighting Effect





3D Modelling

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Project Specifics

Brief

CES has been approached alongside other architectural Lighting designers to address the need for new lighting within St Stephen's Church South Dulwich.

All new lighting will be of the latest energy efficient and reliable technologies. The current system relies on spotlighting which has been requested to be replaced, however it is known that Pendants were once present within the Church. During the design process CES will do research into the history of the Church to find out about the historic forms of light and why these were used. This can help us to prepare a few well considered concepts for new lighting forms within the present-day St Stephens.

It is possible that certain elements of the electrical system could be retained. Therefore, it is the intension of CES, during the design process, to outline what should be retained and what should be replaced and the implications there of. (Flexibility limitations; augmentation required etc...) – The existing control system is a MODE Tiger with 36 channels, the manufacturer offers an upgrade to this unit allowing for LED integration. CES will advise the best course of action during the design process.

CES will guide St Stephens through the design process so that the Church has a unified, holistic lighting system suitable for the current needs and future provision for the Church. We are fortunate to have great experience in creating documentation suitable for DAC / Faculty applications, we will also provide full support through this process.

Our design process is intended to be a personal process. During this process there will be several site meetings that offer opportunities for feedback and discussion. A part of these meetings will be dedicated to guide cost and budgets as well as physical fitting demonstrations to 'proof' concepts.

Accommodations

- CES are willing to work alongside and in support of any existing electricians or to use our own trained staff.
- CES are willing to phase the design or installation to best suit the clients. CES will provide unambiguous breakdowns with clear segregation of each phase.
- CES will provide regular updates on the design progress which will include interactive 3D models, photomanipulation presentations and drawings.

Design Values

- Any new system must be simple to operate for any user.
- The new system must offer the flexibility required for the varied uses of St Stephens Church.
- The importance and inclusion of natural light within St Stephens
- Creativity leading to a well-crafted unique lighting design.
- CES is a small, personal family run business, therefore will offer a dedicated design team and site supervisor throughout and for the years to come.
- CES always ensures minimal impact on the fabric both physically and architecturally as of upmost importance.
- All lighting must use LED technology.
- All lighting must have appropriate glare mitigation accessories.
- All lighting must be dimmable to suit the protocol of the dimming solution.
- All lighting must have a suitable colour temperature and all fittings must match one another.
- All luminaries will be of architecturally sympathetic design.
- A limited number of manufacturers will be used for uniformity and simplified future maintenance.

Wiring

The current wiring is known to be bare MICC cable and around 25 year in age. MICC can last up to 50+ years when in ideal conditions, therefore CES will carry out a comprehensive test on the existing cables to determine their current condition and its life expectancy. This testing process will allow us to determine if the existing wiring is fit for re-use or needing to be replaced.

Small power and sockets can be included within the scope of this project should the Church require auditions.

Our aim is to minimise the impact of any new wiring requirements.

We would aim to achieve this by considering the following:

- The use of the latest technologies to reduce the physical number of wires required for a lighting system.
- All new wiring must be of suitable type for the application and manipulated to accommodate the contours of the surface and architectural features it is mounted on.
- All new wiring must be dressed into corners and painted to match the surroundings.
- No fixings into stone or brick, all fixings must be made into mortar.
- The removal of all redundant cabling and retained cable to be left as neat and tidy as possible.

Controls

Controls must be simple to operate but include the necessary flexibility for the given Services & Events.

The controls would be developed together during the design process to ensure that the system meets the Church's requirements. Similar to your existing system our intension would be to provide a labelled physical control plate that offers 8 pre-set lighting scenes. With a single press of 1 button the lighting will transition from its current state to the selected scene.

- Controls must be simple to operate – one button operation of all lighting.
- Controls must be unified – So one does not have to run around the Church switching lights on.
- Lighting must be operational from physical button control plates.
- Adequate training is to be provided to the Church so that on-site programming can be achieved.
- Controls must be flexible for the variety of services and events that take place within the Church.

Further Functionality

Added functions can be incorporated into the lighting control system. For example, motion sensors for visitors. These will activate a "visitors" scene that will time out after 20 minutes. This can be used to switch on lighting for those opening up the Church, allowing them to see to get to the main controls or alternatively it can be used as a welcoming tool, turning lights on as a person walks into the church during the day for prayer.

Coloured lighting can be incorporated if the Church so desire and has a need for this kind of lighting. Our general stance on coloured lighting is "less is more".

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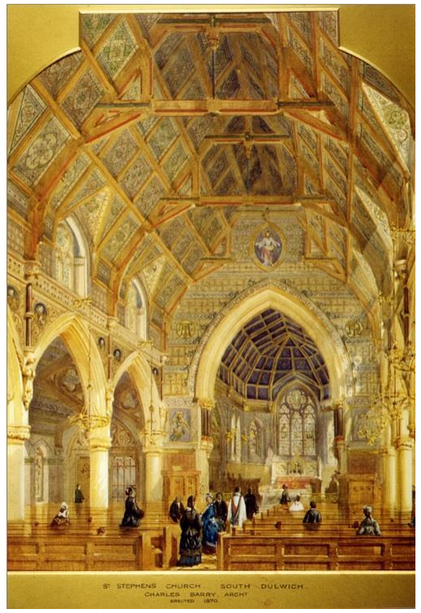
Initial Design Considerations

General Ambient Lighting

The existing general lighting to the Church is provided by high-level spotlighting, it is assumed that this be the preferred method for future lighting, however, as part of the design process, we would review the general lighting options and provide viable concepts for considerations alongside a presentation containing photo manipulations lighting diagrams and project examples.

It is known, thanks to a painting by Charles Barry, that Pendants were once suspended over the Arcade within St Stephen.



Proposed Zoning for General Lighting Areas:

- West Nave
- Centre Nave
- East Nave
- N Aisle
- S Aisle
- Chancel
- Chancel Aisle
- Lady chapel
- Sanctuary
- West-end N. Aisle
- West-end S. Aisle
- South Aisle east end

Architectural LED Spotlighting

Should spotlighting be the desired route for the main lighting with St Stephen then the luminaires specified will be of high quality at an affordable budget. CES have done much research into the market to ensure that we are able to specify affordable LED products that offer long warranties, good reliability, high quality light output and a range of accessories.

Any LED Spotlight will look to have a low visual impact. This can be achieved by:

Position: Positioned out of general line of site and over the shoulder for those seated within the Nave

Colour: Fittings can be RAL coloured to blend into the surrounding fabric

Anti-glare: Each fitting should be fitted with an anti-glare louvre so to ensure that the off-angle view of the light source is reduced.

RAL Coloured LED Spotlights
St Mary's Church, Bromley

Architectural LED Spotlight examples
and Honeycomb anti-glare accessory

CES Project examples.

The Church of the Most Precious Blood, Borough, London

Architectural LED Spotlights located on the East Side of the Engaged beams.

Smaller sized luminaires and optimised positioning will minimise view of fittings when seated facing East.

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Service Leading Lighting

The Service Leading areas should be illuminated above the ambient lighting levels to draw attention to these positions. The lighting must provide front illumination to the position for the benefit of those in the congregation, especially whom need to lip read. Lighting must also be provided to the top of the position to assist in the visibility of reading materials. This also has the added benefit of acting as a “key light” when live streaming a service.

Each Service leading zone shall be illuminated by Architectural LED Spotlights with narrower beam-angles to correctly highlight each zone. The luminaires should be located above the general line of site to reduce glare to those leading and preaching. As with the general lighting each luminaire will be fitted with an anti-glare louvre best suited to its application.

Service Leading Zones

The service leading zones should cater for all the regular activities of the Church and used in conjunction to create a wide variety lighting options and flexibility.

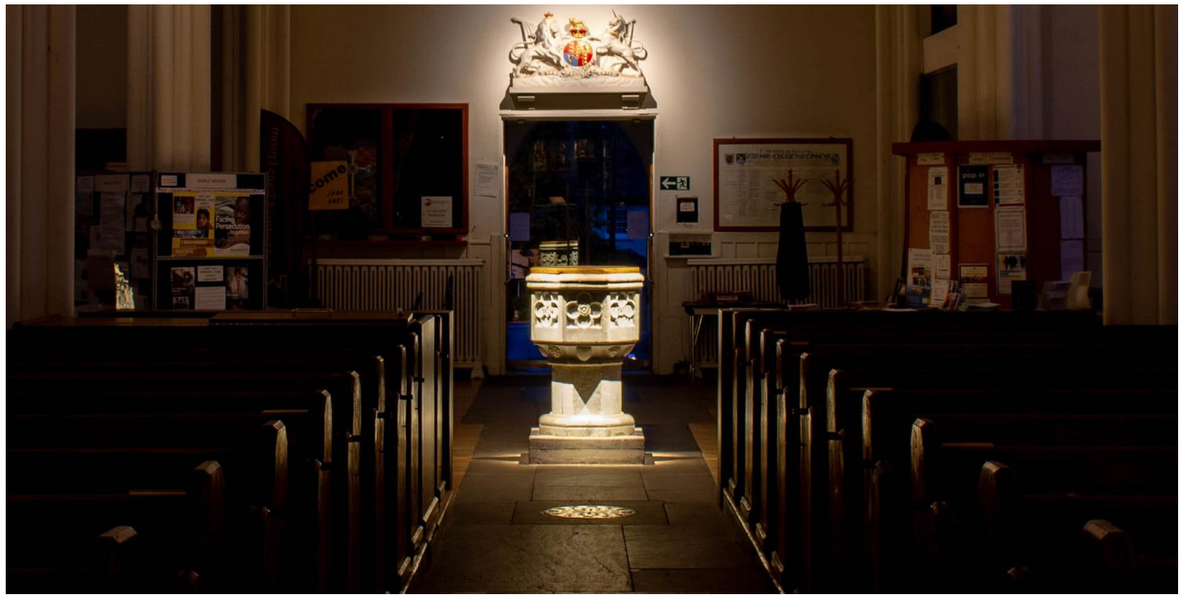
The Service leading zones we have identified are:

- Dais General
- Dais Step
- Dais Altar
- Lectern
- Pulpit
- High Altar
- Font
- Lady Chapel Altar
- Choir (West Nave)

Service Leading Photo manipulation

CES Project examples.

St Martin of Tours, Epsom – Illustrating a highlighted Font.



St John's Church, Meopham – Illustrating a well illuminated Dais (Spotlighting is utilised in conjunction with the Dai Pendants)

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Feature Lighting

The illumination of unique features and architectural examples in the Church is what can set the lighting system apart from a generic system. Bringing in the features can add character and intimacy for particular services or events.

Each of the proposed zones would be addressed independently within the lighting design to properly capture them using the most appropriate lighting methods.

Feature Zones

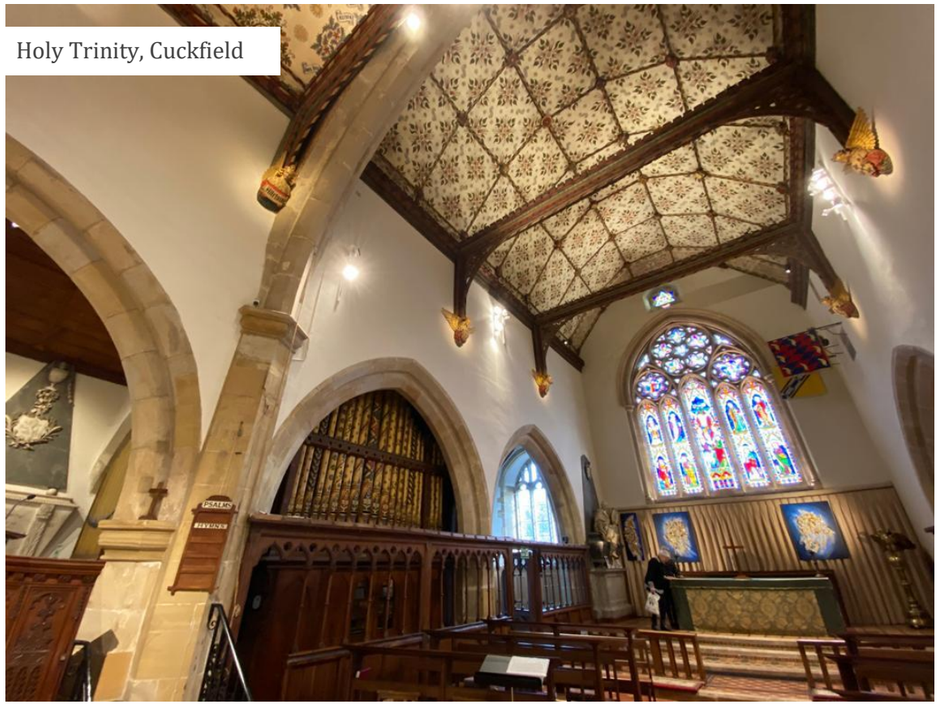
The Currently identifies Feature Zones are as follows:

- Nave Angel Corbels
- Clerestory Reveals
- Nave roof
- West Organ
- Aisle walls (stations)
- Cherubim east nave above chancel arch
- Plaque in West Nave (north side)
- Reredos and Angel figurines
- East window tracery and mullions
- Chancel Roof
- Fresco in Chancel
- Angle Corbels in Chancel
- Organ Pipes in Chancel

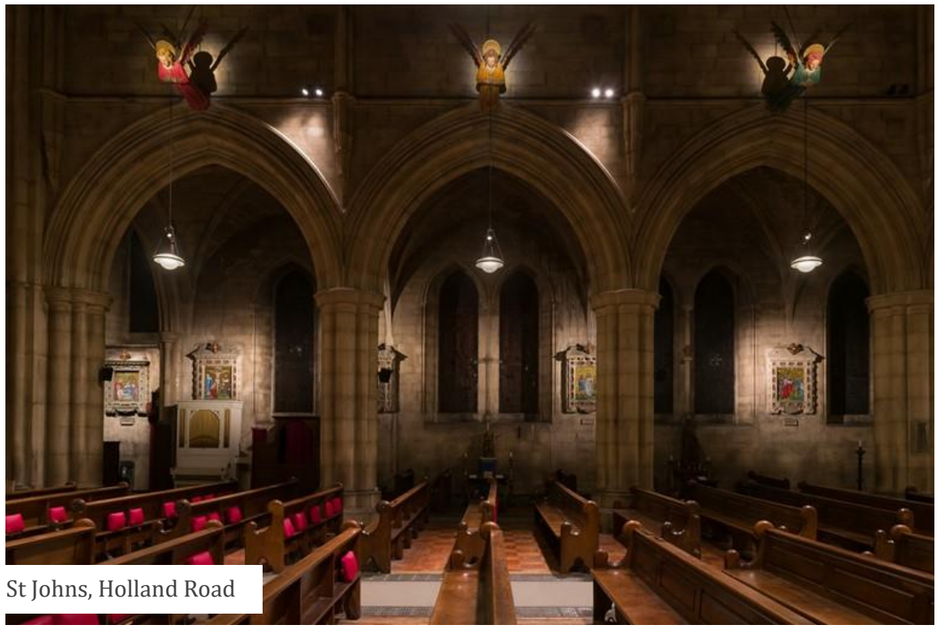
The following pages will provide examples for a selection of these areas. During the design phase on site demonstrations will be carried out to exhibit the intended lighting effects along with photo manipulations and 3D modelling.

CES Project examples.

Angles Corbels (Chancel & Nave)



Holy Trinity, Cuckfield



St Johns, Holland Road

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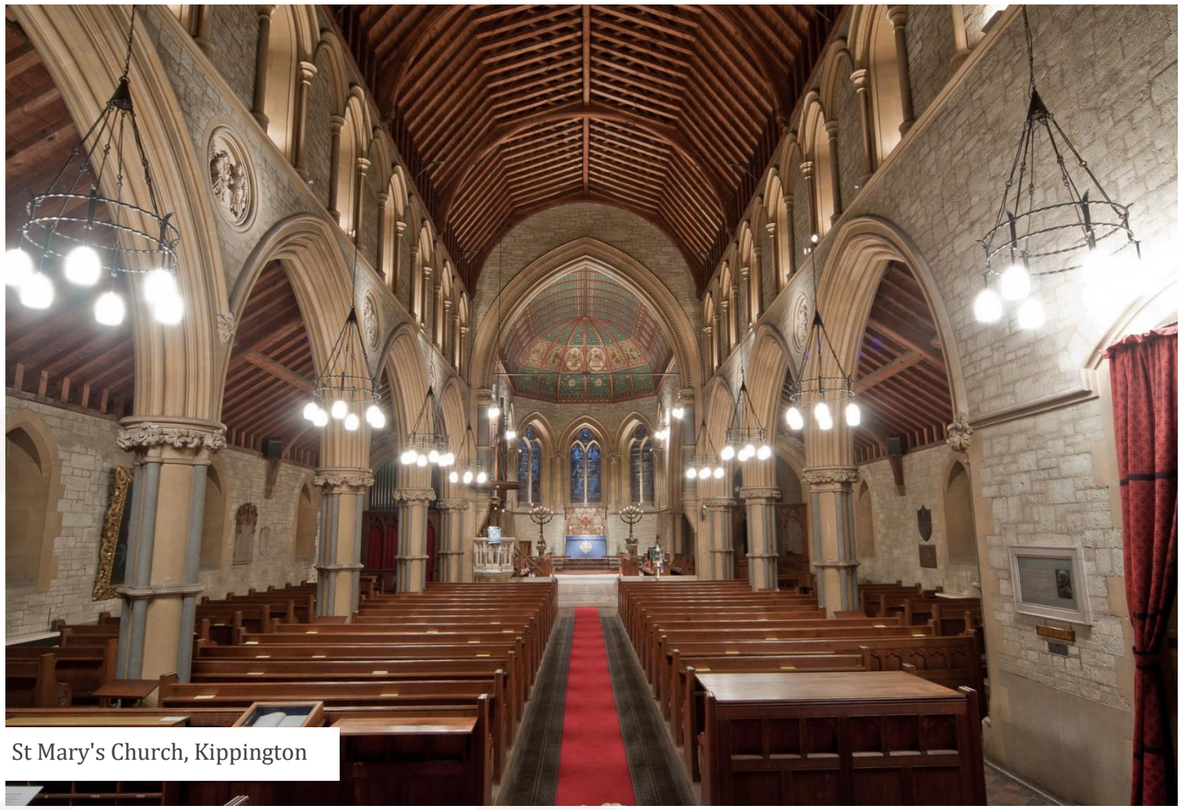
CES Project examples.

Clerestory Reveals

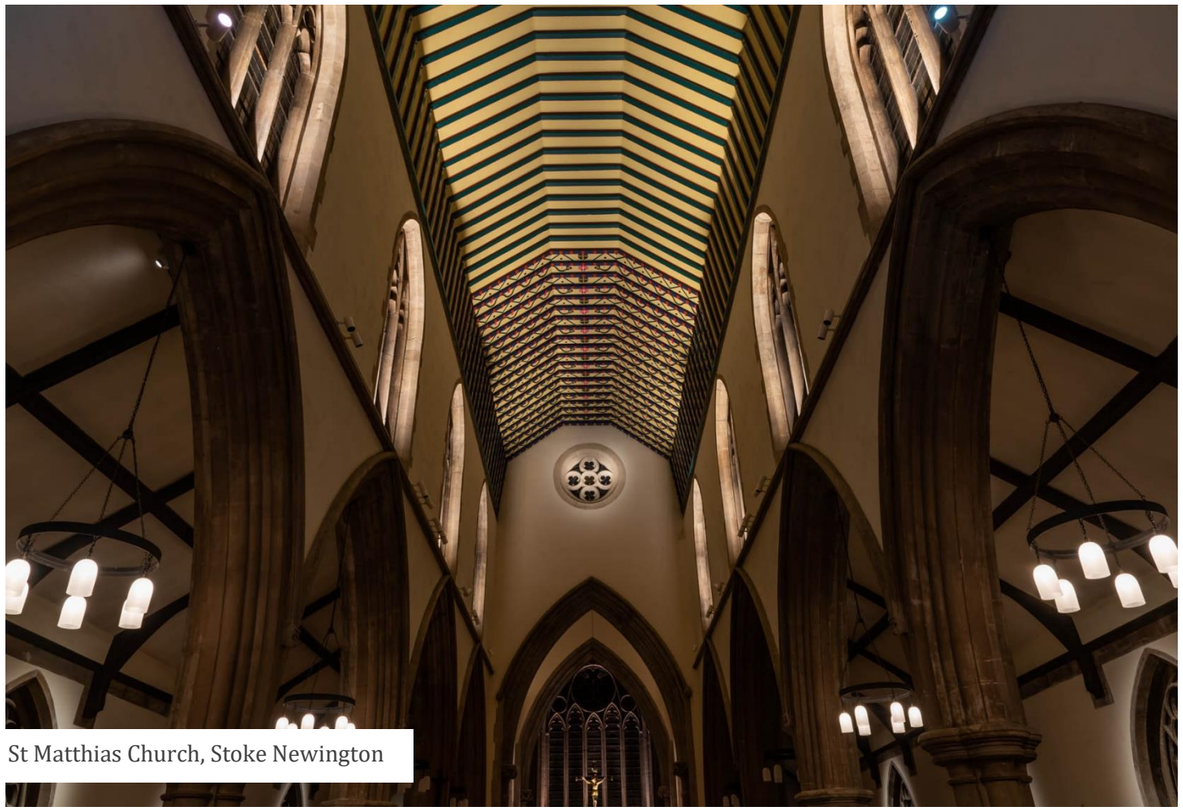
We propose linear LED profile located to each of the lower Clerestory Reveals. These fittings should have a linear distribution to illuminate the window reveal only and not spill into the roof.

Nave Roof

Similarly, to the Clerestory reveals, to capture the Nave roof we propose Linear LED Profile, however these luminaires will be positioned to light the opposing roof section thus avoiding shadowing from the Perlin beams and creating an even consistency to appreciate the detailed painting.



St Mary's Church, Kippington



St Matthias Church, Stoke Newington

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CES Project examples.

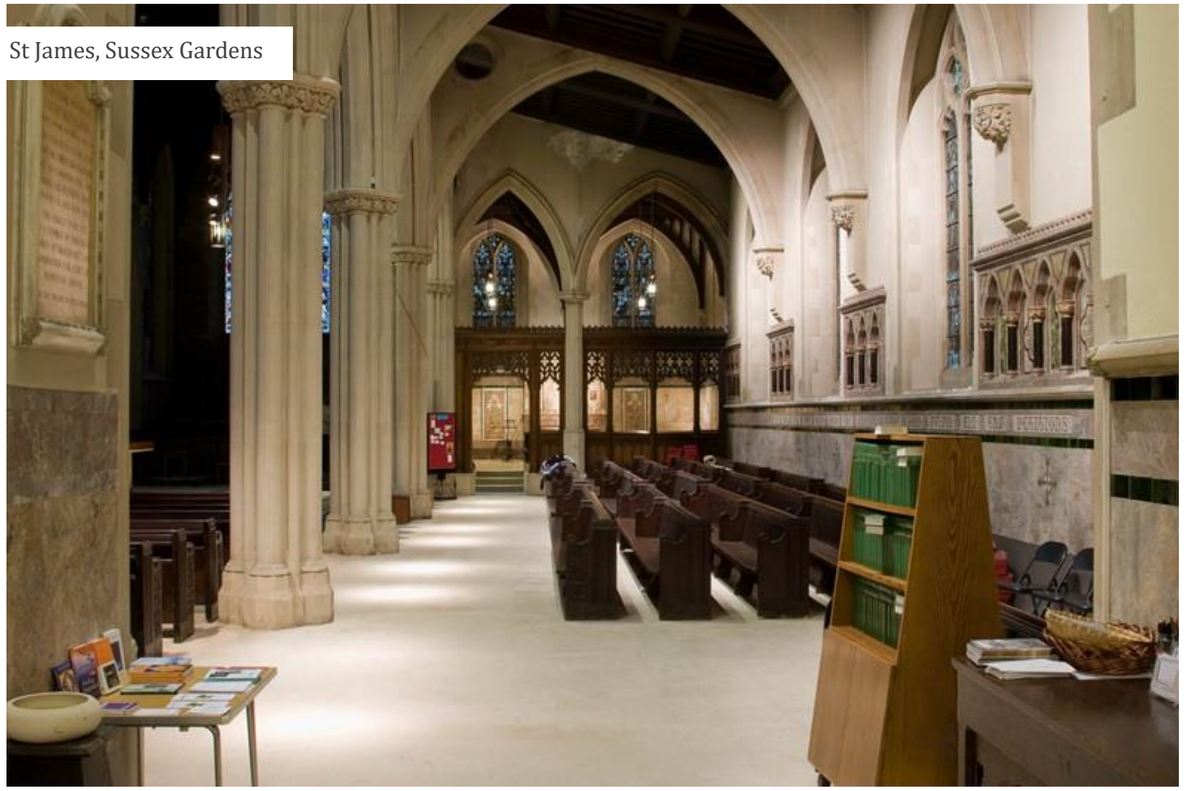
Aisle Façade

We propose that luminaires are located using the Apex position to the East of each of the beams. From this position a good level of ambient downlighting ahould be achieved, however it is also important to illumaint ethe façade of the Church.

By lightenning the façade of the Church the space is braodened and appears more highly illuminated overall. A bright system with dark walls can feel dull.

This being said we would not want to blast the walls with light, instead we propose that sections of the façade are illumainted to create dynamics and contrast. Generally for this purpose we would illumainte the window reveals, stations or any hung wall art or banners.

St James, Sussex Gardens



St Joseph's, New Malden

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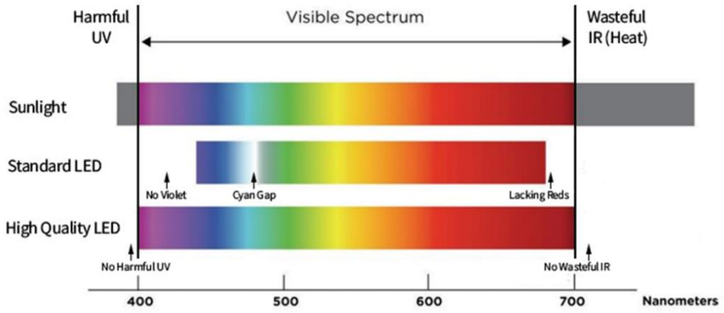
CES Project examples.

Chancel Fresco

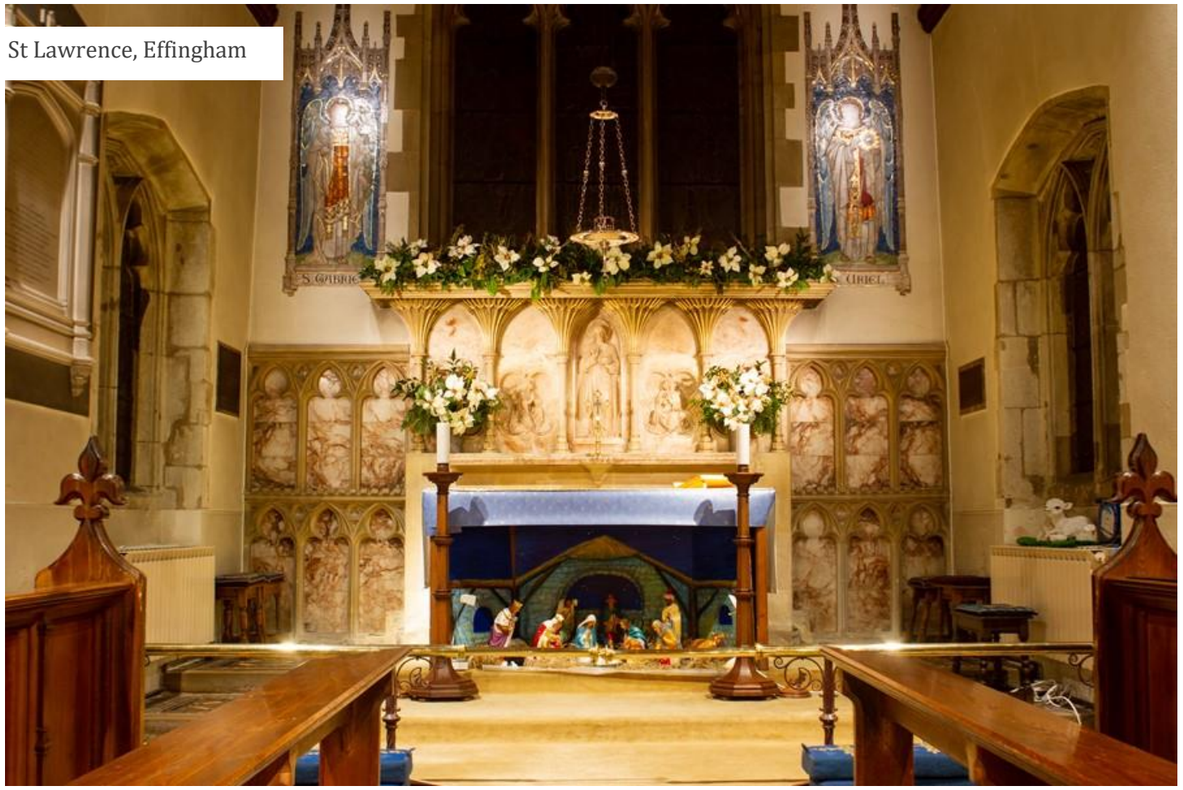
We propose special attension is given to the Fresco both in how it is illumianted but also the technologies that illuminate it.

Paint is suseptible to damage fro mlight over time, sunlight and traditional sources of light can dratically deminish colours, especially red tones, until the painting has been completely bleeched. Therefore it is essential that the correct light sources are used. High quality LED lighting produces far less of these damaging radiations – please see diagram below.



Correctly specified LED products that play to the human eyes reactions to colour can enhance paintings such as the fresco at St Stephens making it appear more vivid and restoring some of the vibrancy that has been lost over time.

St Lawrence, Effingham

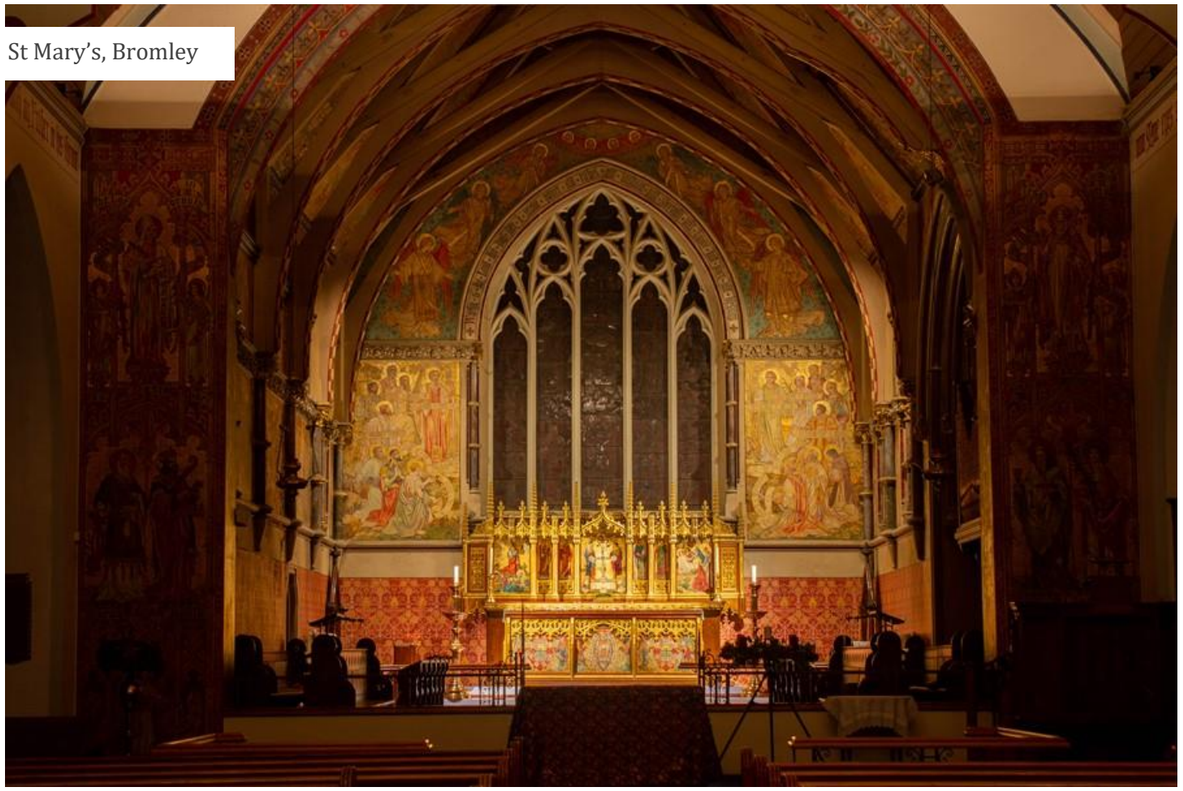


High Altar & Reredos

The Reredos, Altar and Angel figurines all at the East o the Church shall be illumianted well. This is to allow the area to be used for serivce leading and communion but also to act as a backdrop whne the service is being lead from the Dais.

We have a couple of examples for Altar and Reredos illumintation to the right.

St Mary's, Bromley



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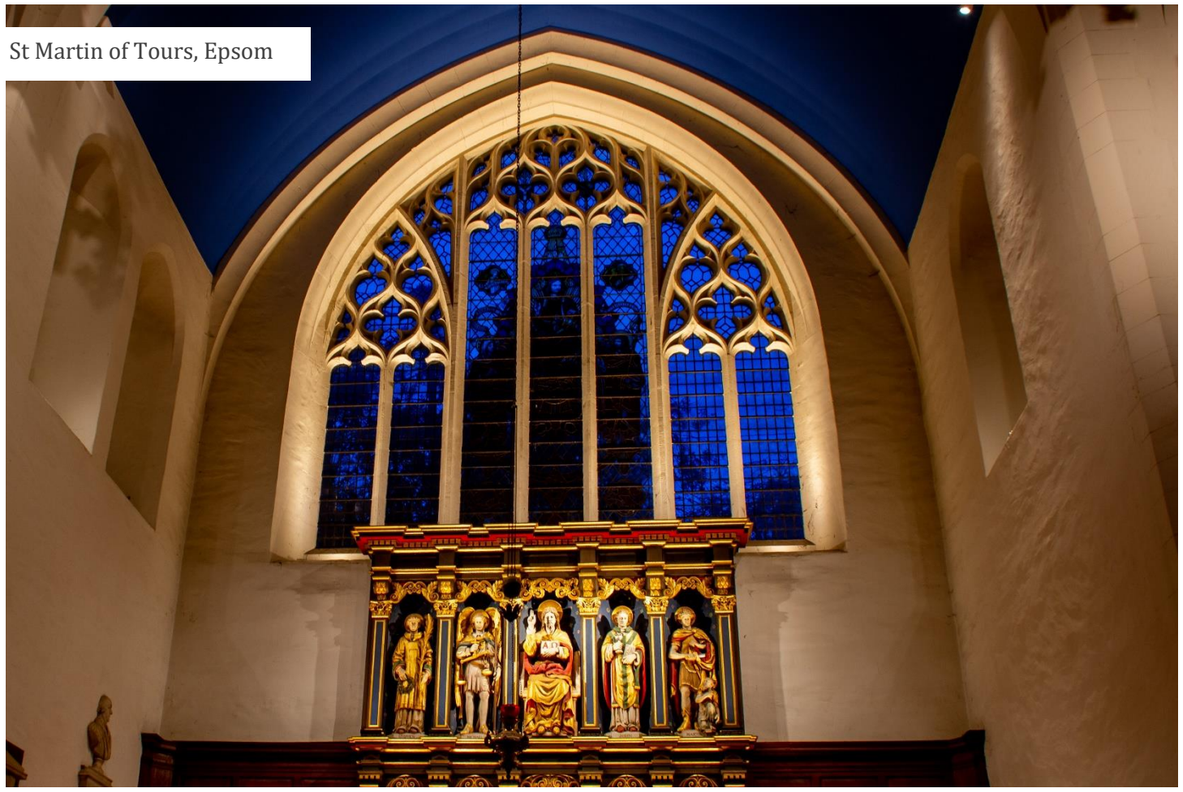
CES Project examples.

East Window Tracery

To enhance the East window we propose small LED lumianires be located behind the reredos schreen to illumainte the East window Mullions and Tracery.

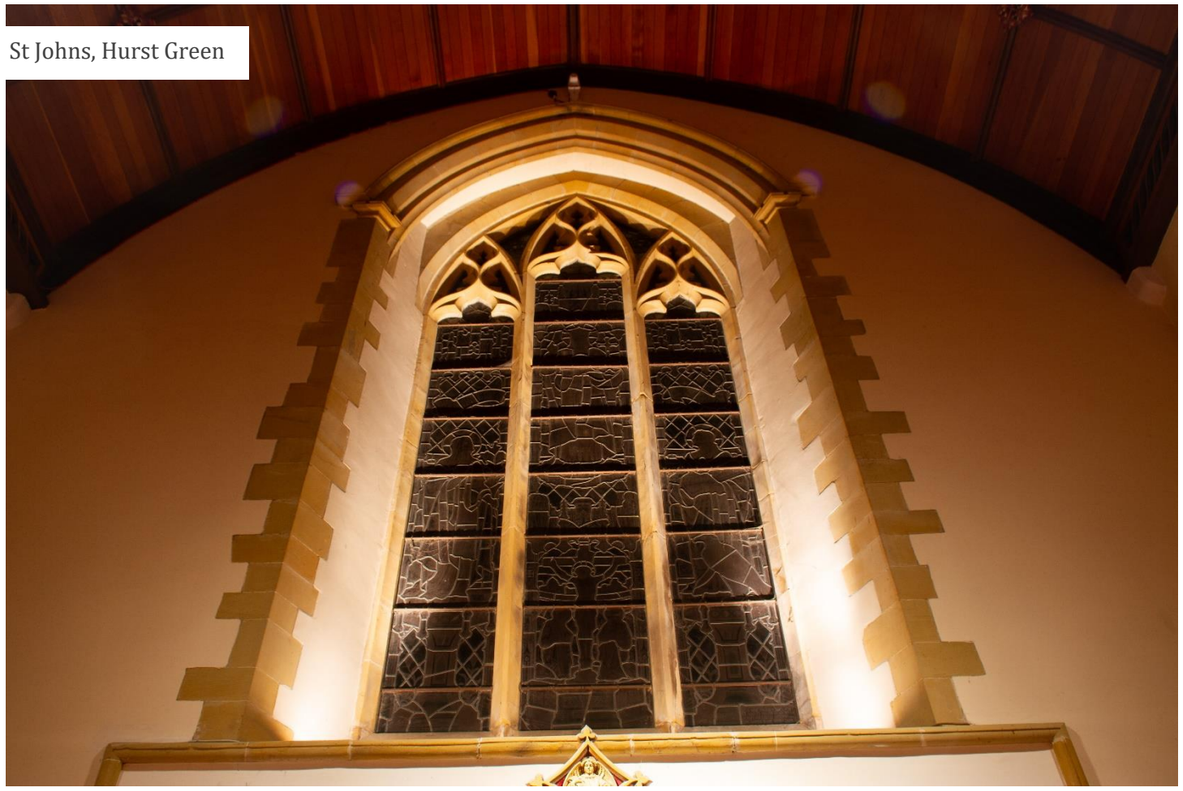
These small lumianres will have narrow beam angles to grase the stone emphasisign the contours and creating a dynamic lighitng effect.

St Martin of Tours, Epsom



All Saints Ockham

St Johns, Hurst Green



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External Lighting

Extenral lighting is to be covered within the design. On-site demonstrations will be carried out to ‘proof’ lighting effects and illustrate what the final outcomes might be.

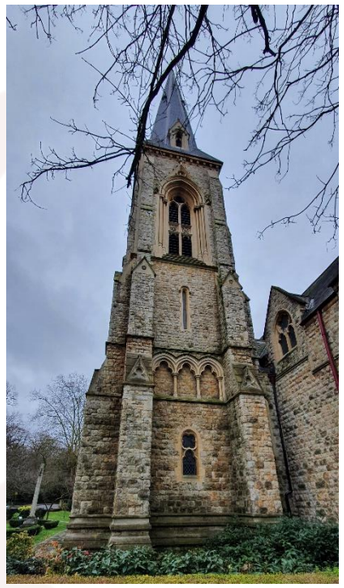
Intensions:

- To illumainte the Spire from all sides
- To illumainte the Tower from the 3 available sides
- To soft wash the Road-facing façade
- The Clerestroy windows to illumiante during dark hours
- Monument illumiantion
- Porch Lantern

Soft wash to the Façade from the

Lighting to the Monument

Internal Clerestory lights to be active during dark hours to shine through the windows. – See Shalford

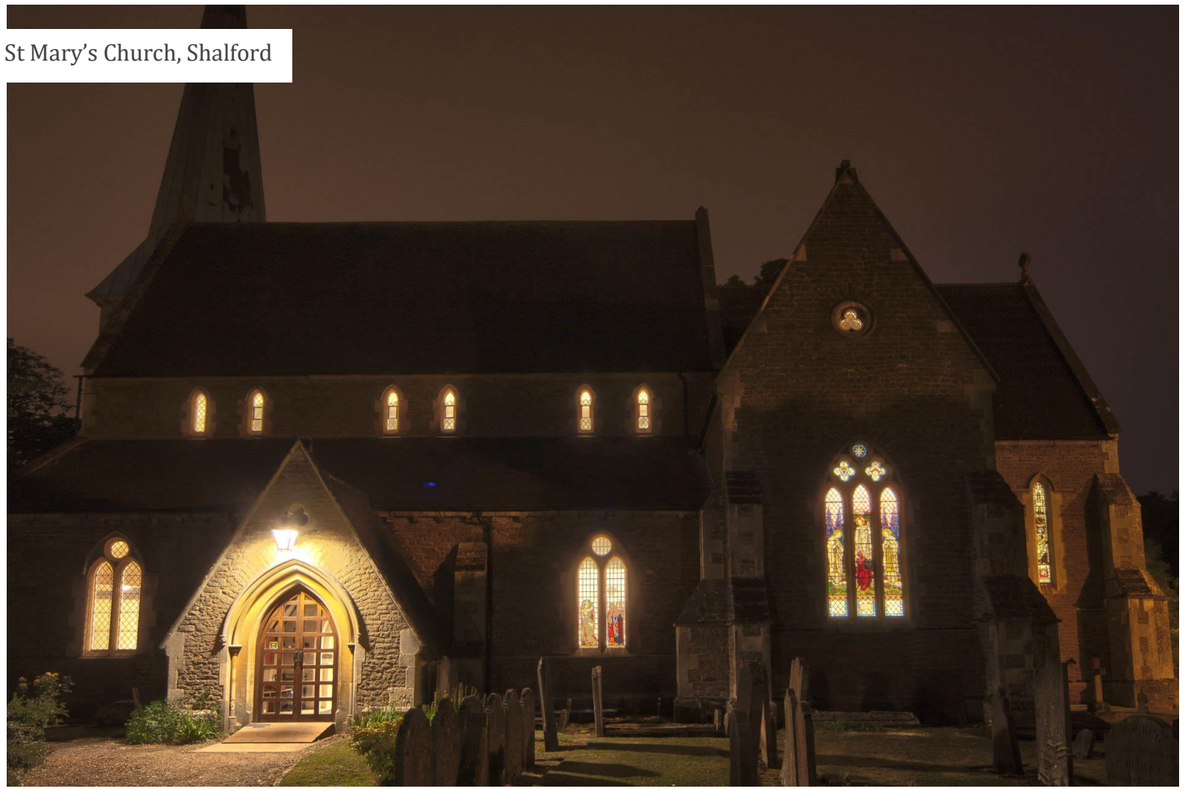


New LED floodlights to illuminate the Spire and Tower.
Fittings and design to comply to recommended guidance on reduction of light pollution.

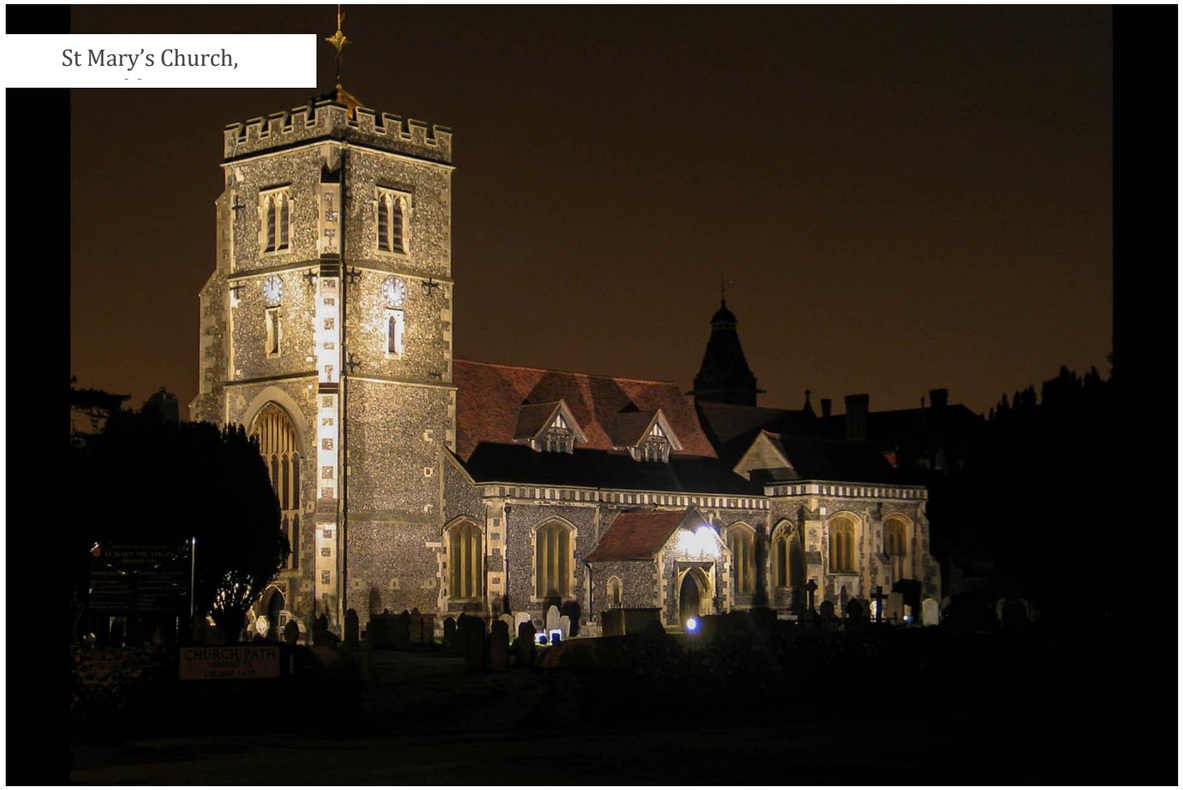
Fittings positions TBC

Fittings located on the ground shall require concrete mounting pads and protective cages.

St Mary’s Church, Shalford



St Mary’s Church,



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Design Fees

A lighting design requires great care and attention to detail and therefore we recommend a comprehensive design process to develop a specification which can then be taken out for competitive pricing and relevant approvals. Guide costs will be provided during the design process to ensure that the finished design fits within the predetermined budget set by the Church.

Our design process is intended to offer a bespoke personal service with plenty of opportunity for review and feedback

Site meeting #1: Brief / Site Survey £ 295.00

Initial site survey to confirm the scope of the project in light of this proposal; receive feedback from the client, discuss the budget, timeframe, take measurements / layout drawings and any further information CES require to progress the design.

Site meeting #1: Conditioning Test Report on existing wiring £

Initial site survey to confirm the scope of the project in light of this proposal; receive feedback from the client, discuss the budget, timeframe, take measurements / layout drawings and any further information CES require to progress the design.

Site meeting #2: Conceptual Design Presentation (Optional) £

Visualisation of 3d model & exploration of various concepts to illuminate the church.

Site Presentation of Conceptual Design using Screen & Projector.

Site Meeting #3 Developed Design Presentation & Demos £

In preparation for this meeting CES will progress the design to the 'developed design' stage (Draft Design). CES are to present the 'Developed Design' to the members of the working party for comment and feedback. There will be a time for CES and the client to ask any questions. At this site meeting sample luminaires shall be demonstrated to illustrate several of the lighting effects included within the Design.

CES will take some time at the end of the meeting to walk around the Church making final notes.

Documents to expect at the 'Developed Design' Stage:

- Layout Drawings | Luminaire Schedule | Data Sheets

Site Meeting #4 Technical Design Review (Stage 4) £

Following site meeting #3 CES will amend all the details and finish the design. This final iteration of the design will be presented informally to the working party of the Church for review and comment. Time will be allowed for any client questions. Following the meeting CES will make any amendments and issue the finals design in digital form.

Technical Design Documentation to be issued:

- Finalised Layout Drawings
- Finalised Luminaire Schedule
- Written Specification
- Data Sheets
- Tender Documentation

Design Process

Client Instruction:

Following the issue of this proposal the client instructs CES to begin the design work based on the information and fees presented in this document.

Design Process:

Once instructed, CES will begin the design and meetings will be held as outlined.

Completed Design Submission:

Following the final on-site meeting CES will amend the design if required and submit a completed digital copy. Only at this point will CES invoice for the design works*.

Post Design:

The Client is free to use the design documentation for faculty, local authority, church council or other approvals necessary to enable permission to be granted for the lighting scheme.

Once permission has been obtained the client can go out for competitive tender – CES are happy to be one of the tendering parties if formally invited to do so.

The Client has the authority to instruct as much or as little of the works as desired.

Any contractor selected should complete the installation works as per the design. CES are not responsible should any changes be made during the installation. CES are happy to speak with the selected contractor to answer any questions before or during the project – Meeting fees may apply.

Additional Charges

Demonstration evening with presentation for a church committee/members	£
Client requested meetings in additional to those proposed above:	£
Additional documentation (Priced per hour)	£
(assistance in fund applications, church presentations, energy consumption data, etc…)	
Previous CES Design Review & Update	£

(LED technology changes every few months, CES to review and update design to the latest technology where appropriate)

***All prices net values and subject to VAT at the current rate. ***

**CES reserve the right to invoice for the works completed at any time*

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Contact Details

We hope this proposal meets your requirements. It would be a pleasure to work with you in lighting the Church, not only for its architectural significance but also to support its active ministry within the Heart of our country.

Please do contact us at any time if you would like any further information on the lighting concepts for the Church:

RYAN SLESSENGER | SENIOR PARTNER & DESIGNER

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Terms and Conditions

DEFINITIONS:
'THE COMPANY' IS CES LIGHTING & ELECTRICAL SPECIALISTS LLP. 'THE CLIENT' MEANS THE PARTY, OR ANY PERSON ACTING ON THEIR BEHALF, WITH WHOM THE COMPANY ENTERS INTO A CONTRACT.

1. All charges & fees for consultancy services carried out by the Company are subject to VAT at the prevalent rate ruling at the time of invoice.
2. All guide costs are based on expected or agreed design time and reasonable reviews of the design proposals.
3. Where there is a change of brief the Company will inform the Client in advance of any extra costs likely to be incurred.
4. For invoiced work the Company must receive full payment not later than 30 days after the date of Invoice.
5. Once a client has agreed to the Company's Terms and Conditions, CES will invoice on the completion of the design documentation.
6. The Company reserves the right to invoice for any disbursements for part works carried out including third party costs incurred on a project should the contract be cancelled or delayed/put on hold by the Client for a period of four weeks or more.
7. In good faith, the Company would hold the any supplied data and correspondence for a period of up to twelve months. Resumption of works on the project would be completed according to the original schedule of costs so long as the project specification remained unaltered.
8. Specified equipment within the design is subject to manufactures changes either to product or costs. CES to review product selection under these circumstances.
9. All creative work produced and devised during a project or projects, such as designs, drawings, digital software files and related correspondence remain the property – physically, intellectually and in copyright, of the Company until full payment has been made on the Client's account and all project costs have been cleared.
10. As part of larger projects which involve third parties commissioned directly by the client, the Company will not be held responsible in any way for services not carried out/managed directly or indirectly by the Company.
11. Where a design is installed by a third party the Company shall not be liable for the installation where it has not been installed strictly in accordance with the design principles, specifications, drawings and schedules issued and good working practices.
12. In the event of any bona fide dispute or difference arising between the parties in connection with the contract (excluding any dispute relating to non-payment of the Charges, for whatever reason), the parties shall attempt to resolve such dispute or difference in good faith or by mediation. It is the responsibility of the Client to inform the Company immediately of any issue that may lead to a dispute (including but not limited to quality, service, cost, deadlines). Without such information no disputes will be entertained.
13. CES Terms and Conditions may be changed at any time without prior notice to its clients. Notification will be sent to all clients at the time of any Terms and Conditions alterations.
14. The Company shall be under no liability if it should be unable to carry out any provision of the contract for any reason beyond its control including (without limiting the foregoing), Act of God, Legislation, War, Act of Terrorism, Fire, Flood, Drought, Failure of Power Supply, Lock out, Strike by employees in contemplation of furtherance of dispute or inability to procure materials required for the performance of the contract. During the continuance of such a contingency the Customer may, by written notice, elect to terminate the contract and pay for work done and materials used, but subject thereto, shall otherwise accept delivery when available.
15. The Client is deemed to agree in full to the Company's Trading Terms and Conditions by commissioning our services.

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St Stephens Church
Dulwich

Post DAC Design Clarification

PHONE: 020 8835 2816 | EMAIL: OFFICE@CES-ENGINEERS.CO.UK | WEB: WWW.CHURCH-LIGHTING.CO.UK

Product Selection

Discreet

New luminaires much smaller in diameter than the existing fittings

Existing fittings are mounted in front of the decorated ceiling panels, new luminaires are brought down to the vertical beam to minimise impact.

All new luminaires with exception of those intended for illuminating the west end and Font will be located on the **east side** of the vertical beams **facing east**.

All new luminaires are **minimal size** for the required output for their application

All new luminaires will have appropriate **Anti-glare** accessories, the existing fittings do not have anti-glare.

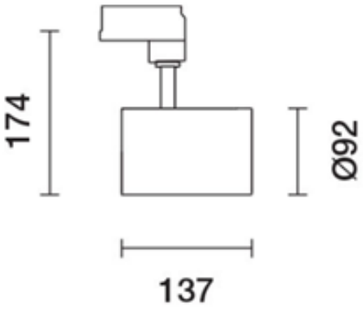
All fittings will be painted to best suit the fabric of the Church to which they are mounted.

Maintenance

Where multiple fittings are located together at high level a **Track system** has been specified to allow for simplified removal for maintenance.

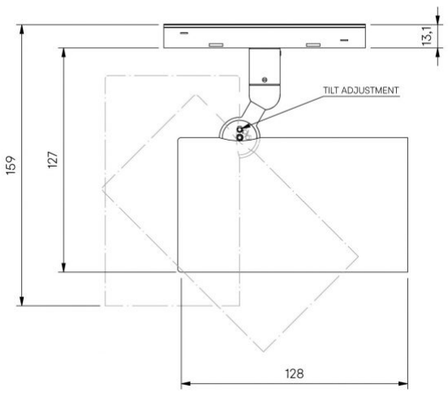
All fittings come with an industry leading **5-year warranty** from trusted architectural lighting manufactures.

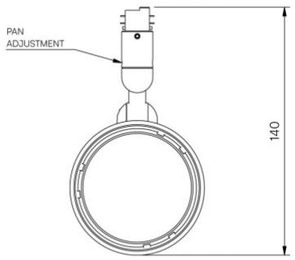
Two Primary Fitting examples



Fittings + Track in Matte Black + Honeycomb

Fittings in RAL + Honeycomb



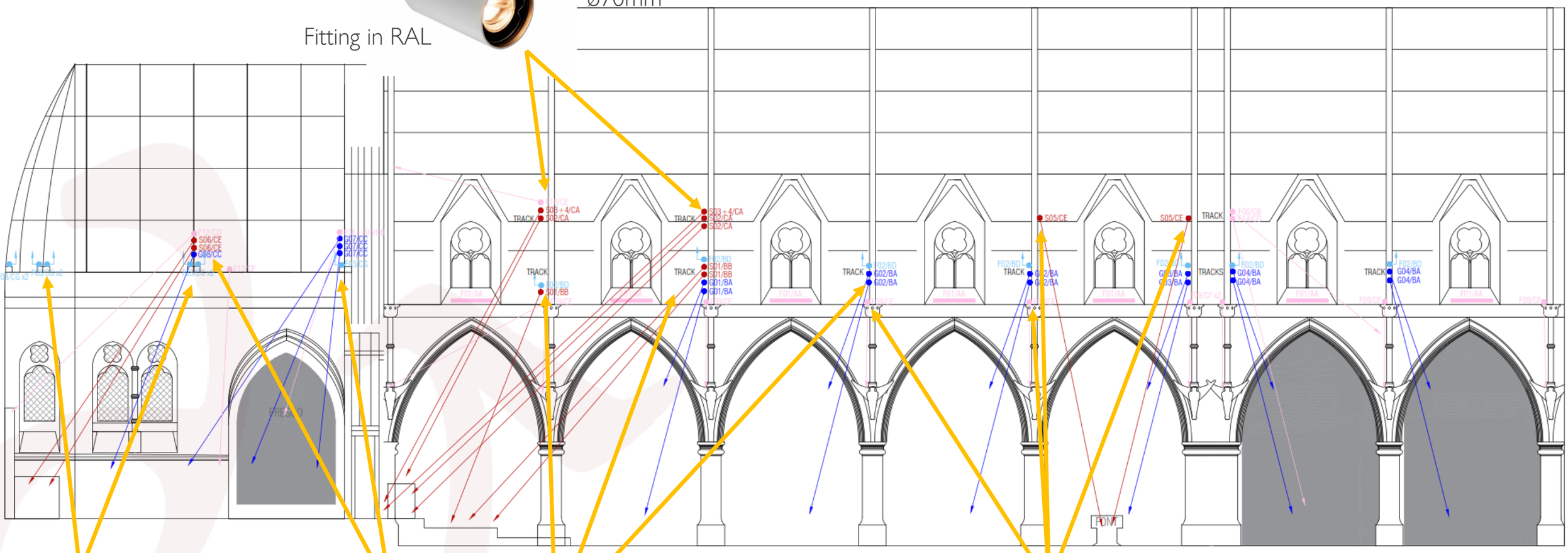


Position Detail

Mike Stoane Track fittings throughout the Nave where multiple are together

ø70mm

Fitting in RAL



Mike Stoane miniature Spotlight for Chancel Apse Uplighting

ø34mm

Fitting in Black

iGuzzini Track fittings

ø92mm

Fitting in RAL

Mike Stoane surface mounted fittings within Nave where single fittings are isolated to reduce visual impact

ø70mm

Position Visualisation

Current Lighting

Position Visualisation

Proposed Lighting

Position Visualisation

Current Lighting

Proposed Lighting

New Aisle luminaires have a smaller diameter

New luminaires in black finish as recommended by architect

All new luminaires located on the East side of the Aisle beams at high level. Existing lighting has fittings facing west.

New luminaires to have anti-glare accessories

Position Visualisation

Current Lighting

Proposed Lighting

Due to software limitation the light spill to roof the panelling does not represent the intended design

Current fittings create a visual barrier to the painted roof

New luminaires smaller in diameter than the existing.

New luminaires will be RAL coloured to match the Church fabric

New luminaires will be track mounted to the unpainted wooden beams

New luminaires to have appropriate anti-glare accessories – Honeycomb for main lighting, half-cut snoot for up-lighters

New miniature luminaires will be mounted to the tops of each corbels to provide up-lighting (mounted into unpainted wood sections using small brackets)

New luminaires located on the wall plate to provided dedicated high CRI lighting to the Fresco.

Proposed dedicated Feature/Service Leading Illuminated areas

East Window Illumination

Chancel Angels

Chancel Fresco

Chancel Roof

Chancel Organ Pipes

Nave Roof

Nave Angle Corbels

High-level Nave Painting

Pulpit Cross

Bradford Memorial

Choir Carving

West-end (Choir) Organ Pipes

Dais Front

Dais Top

Dais Altar

Pulpit Front

Pulpit Top

Lectern Front

Lectern Top

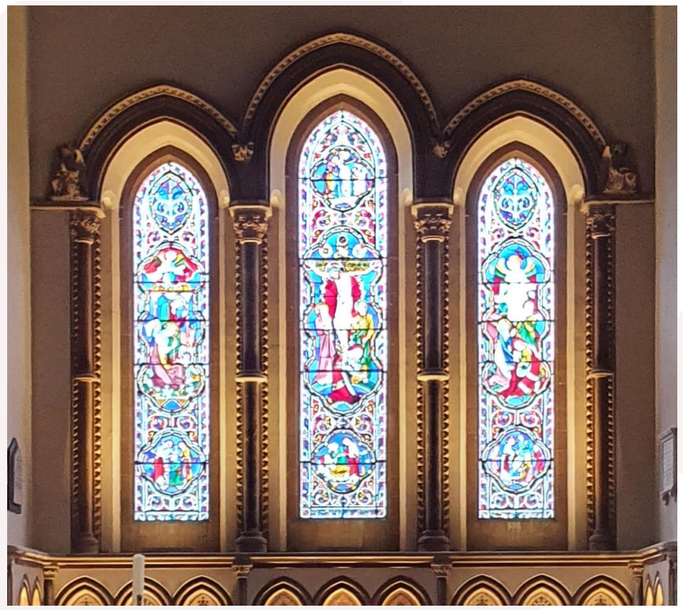
Font

High Altar + Reredos

North Aisle Altar

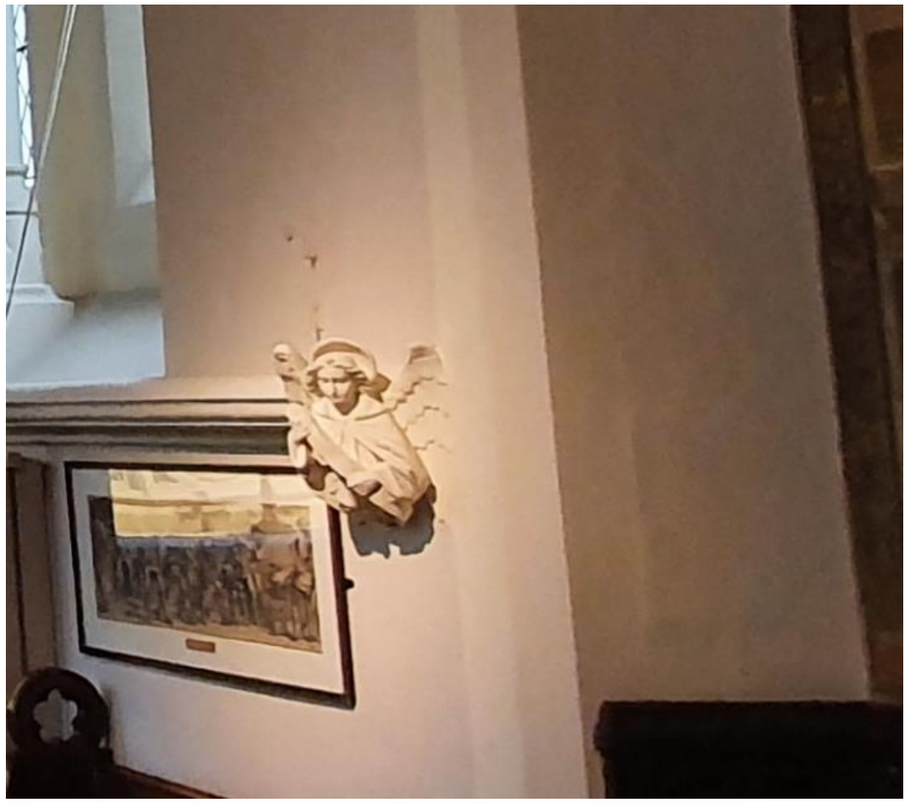
Feature Lighting Details

Chancel East Window



Chancel East Window example from Steyning Parish

Chancel Angels



Notes:

Angels to play a part in the external visibility of the Church as they are seen through the Chancel windows.

Angels Example from Holy Trinity Cuckfield

Feature Lighting Details

Chancel Up-lighting

Notes:

Miniature fittings, Criss-crossed to evenly illuminate the artwork. High CRI to emphasise colour

Painted ceiling example from Holy Trinity Eltham

Chancel Angels

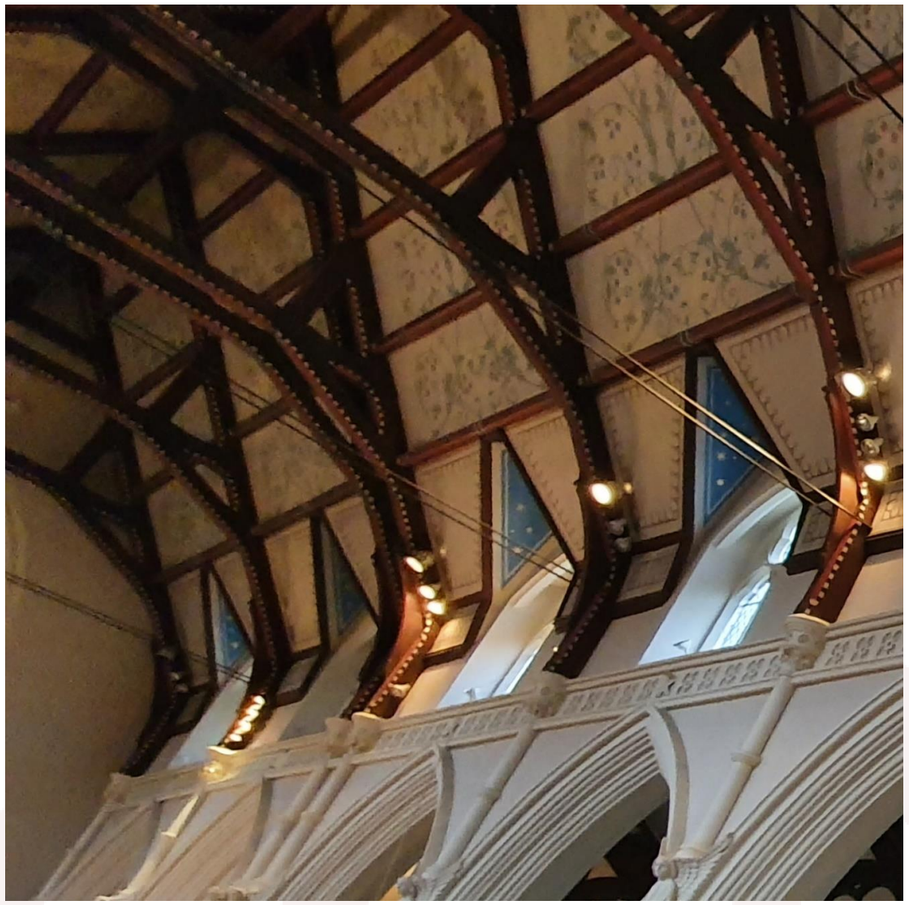
Notes:

Nothing can be installed locally to the fresco. Luminaire position to be demonstrated to client and architect before installation.

Careful selection of the LED fixture so that we minimise impact from UV and IR on the painting. The luminaire proposed is designed for this type of application and also includes high CRI for accurate colour representation.

Feature Lighting Details

Nave Windows and Up-lighting



Notes:

Flat linear fitting on the window sill to accentuate inner reveal and spill to blue roof section above.

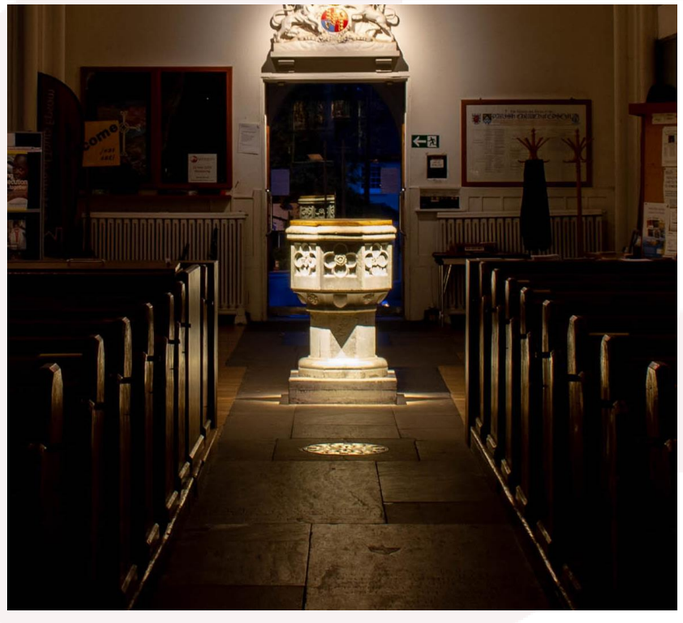
Spotlights located on the Nave tracks to provided dedicated lighting to the Nave ceiling in a criss-cross fashion to provide even illumination and highlight the ceiling paintwork.

This provides 2 up-lighting methods that can work together (balanced) to enhance this wonderful church roof.

Example from St Matthias Church, Stoke Newington

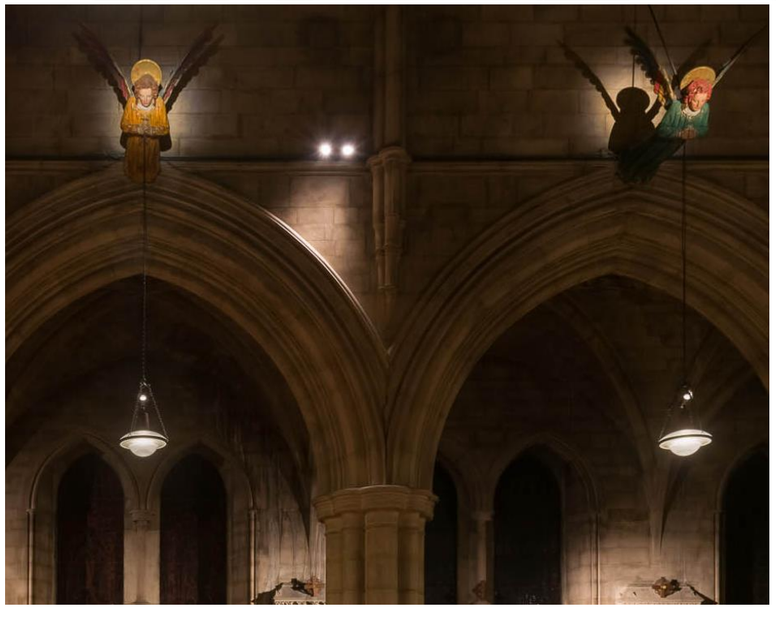
Feature Lighting Details

Font



Font Example from St Martin of Tours, Epsom

Nave Angels



Angel example from St Johns Church, Holland Road

Lighting Control

The system will include a visitor sensor to turn the lighting on for those visiting or opening up the Church. The visitors scene will be activated for a 20 minute period (this can be altered if required) and reduce energy consumption of the system.

During this design process the Church considered their impact from the external lighting on the local environment and therefore the internal lighting will play a part in the external presence of the Church. Some of the feature lights that are visible through the Chancel windows (e.g. Chancel Angels) will be automated so that during the darker hours they are illumined until a specified time so that they can be viewed through the Chancel windows.

This is also true for some of the internal lighting so that the Church appears “alive” and “welcoming”.

The Church will be provided with training so that they are able to adjust the lighting levels as required.

Contact Us

We do hope this proposal meets your requirements. It would be a pleasure to work with you in lighting the Church, not only for its architectural significance but also to support its active ministry within the local community.

Please do contact us at any time if you would like any further information on the lighting concepts for the Church:

RYAN SLESSENGER | SENIOR PARTNER & DESIGNER

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St Stephens Church
Dulwich

Post DAC Design Clarification Document Rev 2

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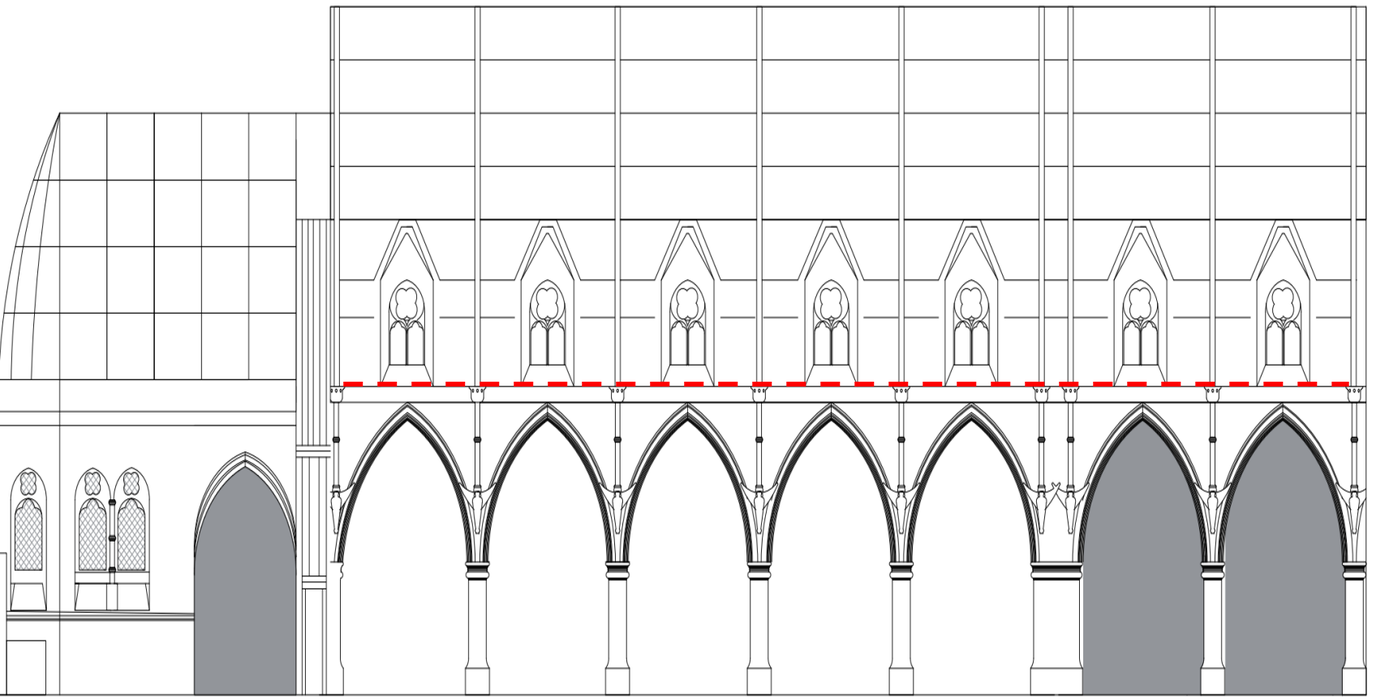
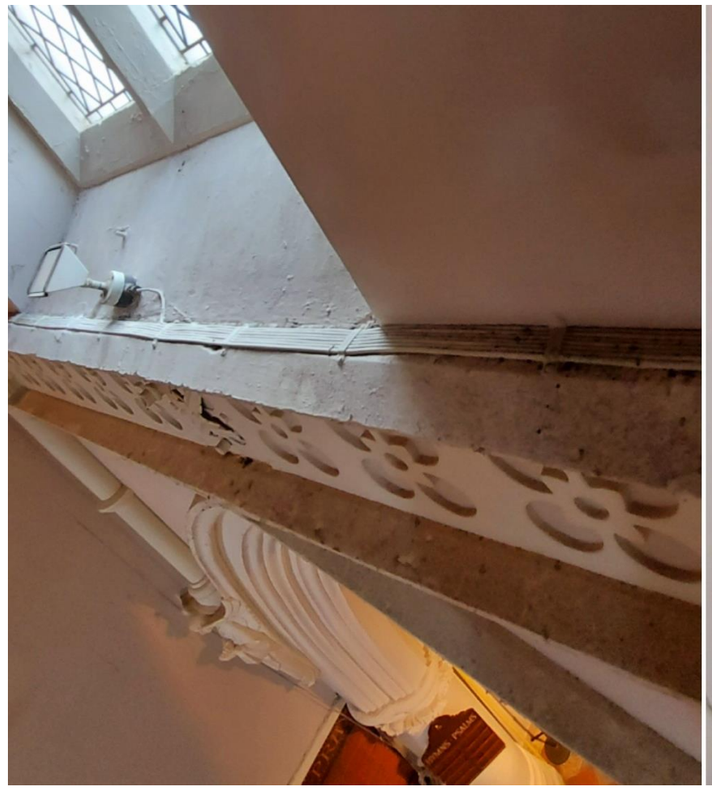
Wiring Detail - Nave





Existing wiring that enters Nave at high level is in good condition and will be utilised. At this point, new wiring will be connected and extended along the Nave cornice to each window and truss beam. The wiring routes will be exactly the same as existing (see image above).

Existing fixings to also be utilised.
Fixings for the cable and spotlights will be by stainless screws and into plain wooden sections of the beam (not decorative wooden sections).

Wiring Detail - Aisle

Existing wiring that enters Aisle at high level is in good condition and will be utilised. At this point, new wiring will be connected and extended along the Aisle horizontal beam at the apex of the roof following the existing wiring route.

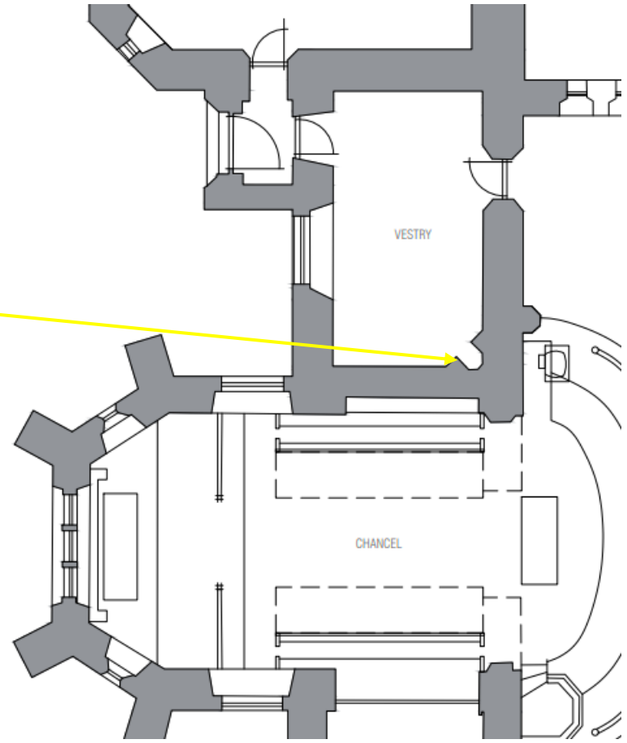
Existing fixings to also be utilised.
Fixings for the cable and spotlights will be by stainless screws and into plain wooden sections of the beam (not decorative wooden sections).

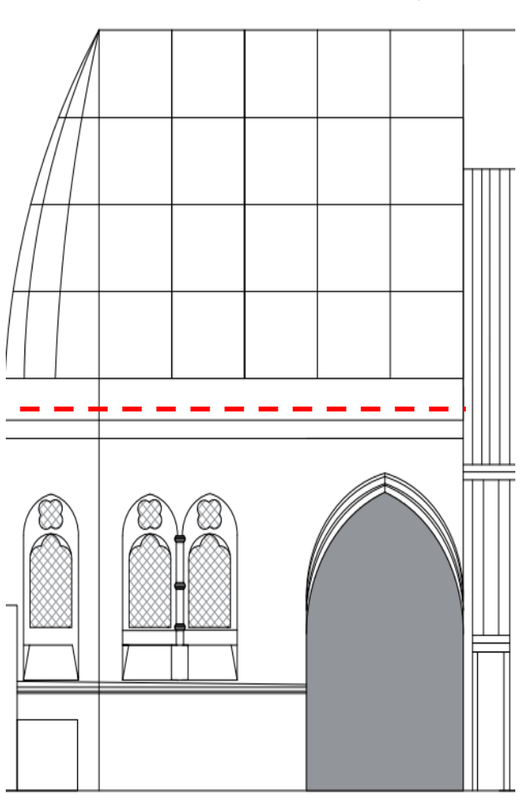
Wiring Detail - Chancel

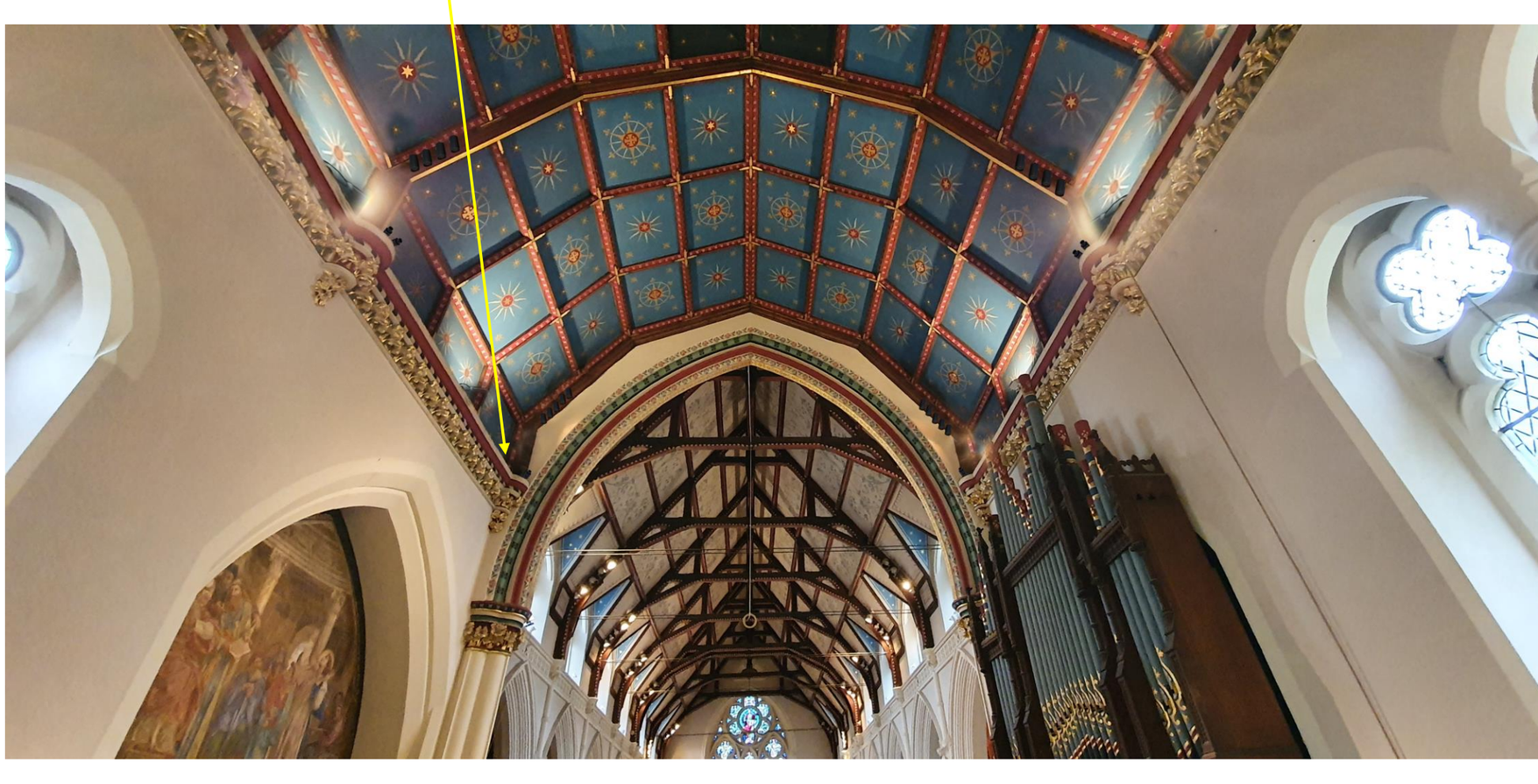
The existing wiring enters the Chancel roof at high level through an existing hole. This cable is then run within the Vestry which sits behind the Chancel wall. This existing cable will be removed and a new cable will replace following the same route and using the same hole. The cable will then run along the top of the wall plate following the existing wiring route.

Small connection boxes will be unseen from ground level and placed on top of the wall plate.

Existing fixings to also be utilised.
Fixings for the cable and spotlights will be by stainless screws and into plain wooden sections of the beam (not decorative wooden sections).







Exterior Lighting

ESTIMATED RUNNING COSTS & CO2 EMISSIONS
Calculations based on all proposed lighting on at dusk and off at 11pm PM averaged out over the year.

Calculations based on an average of 4:20 running per evening throughout the year. Calculations account for all lighting being set to 100%

The UK Government reports that 0.256kg of CO^2 is produced per kWh of electricity used.

All calculations are estimations based on the best knowledge at the time of creation.

			Running Cost Calculation	Value
Existing Lighting (Estimate)	Total Wattage		Hours use per week	30 (h)
Total Wattage (W)	660		Estimated elec. cost	0.14p (per kWh)
Proposed Lighting (Estimate)	Total Wattage		Existing Total Cost per Week	£ 2.77
Total Wattage (W)	340		Proposed Total Cost per Week	£ 1.43
			Total Running Cost Saving Per Year	£ 69.68
			CO2 Emissions Calculation	
			CO^2 produced per kWh	0.256 kg
			Estimated Current Use Per Week	5.07 kg
			Estimated Proposed Use Per Week	2.61 kg
			Estimated Annual CO^2 Saving	127.92 kg

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SPECIFICATION DOCUMENT

CLIENT ADDRESS
St Stephen's Church
College Road
Dulwich
London SE21 7HW

PROJECT DETAILS

Design Practice: CES LLP
Project Number: 7186
Date: 12/08/2021

INDEX

1.1 | APPENDICES

A. LUMINAIRE SCHEDULE

B. LUMINAIRE DRAWINGS

DRAWING NO.	SIZE	TITLE	Latest Revision
7186-L01	A1	Proposed Lighting Layout	Rev. 2
7186-E01	A1	Proposed Lighting Elevation	Rev. 2

C. MANUFACTURERS DATASHEETS

a) Light Projects
b) iGuzzini
c) Mike Stoane Lighting
d) Philip Payne
e) Basis Lighting

D. EMERGENCY LIGHTING CALCULATION REPORT

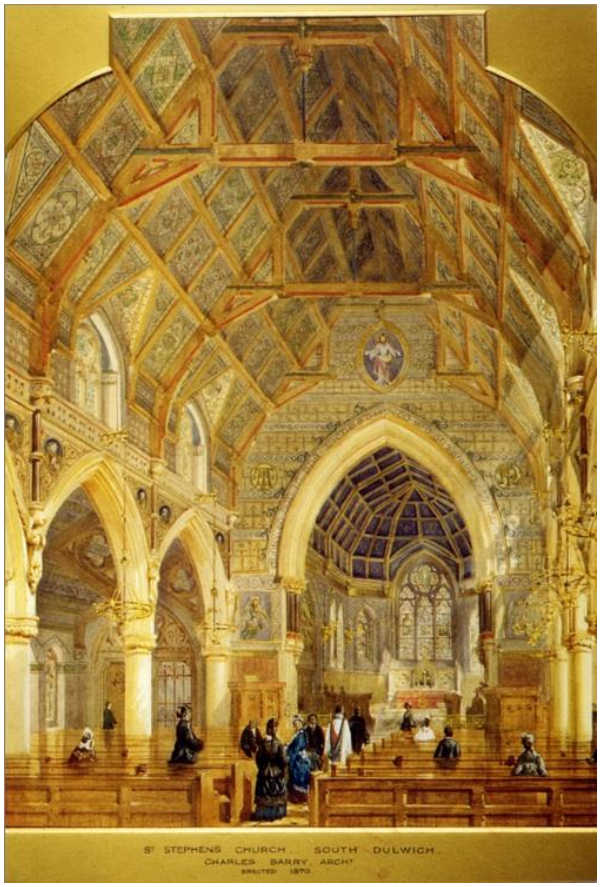
E. EXTERNAL LIGHTING REPORT

F. EXISTING PHOTO PACK

1.2 | PROJECT BRIEF

THE CHURCH HISTORICAL CONTEXT

St Stephens, a grade II listed building, was consecrated in 1868 and built in the Gothic Victorian style by Architect Charles Barry - junior. The Church was built in response to a large population boom in the south of London following the construction of Crystal palace and the arrival of the railway. (Painting to the right by Charles Barry of the completed Church)



Famously the Church (spire) was painted by famous French impressionist Camile Pissarro during a visit to London in 1870. (See image to the bottom of this page). This painting shows the Church from what is now college road with Crystal Palace in the distance behind the trees.

The Church was badly damaged in 1944 but was fortunately saved in spite of major repair woks in need of completion. In the following decades, the once flamboyant paintwork was covered up. However, recent efforts for the church's centenary have led to areas of this paintwork being restored.

The area is still busy today with commuters and local residents. The Church has always been at the heart of the community playing an important role, hosting music events and other community activities.

LIGHTING REQUIREMENTS

The lighting requirements have been outlined in the client brief and statement of need.

The current lighting system is life expired and creates a great deal of high-level maintenance that is not desirable. Various elements of the church lighting have been changed in recent years; however, this has led to an inconsistency of lighting with some areas being LED and others not. Any new project would look to unify the lighting into a holistic and logical scheme that simplifies ongoing maintenance requirements.

The lighting no longer caters for the uses of the Church and the clients would like to increase the flexibility of the system whist maintaining simple controls.

The new lighting system would look to reduce energy consumption when compared to traditional lighting and reduce the requirements for maintenance.

The architectural features of the Church will be emphasised with the new lighting system with high quality luminaires to illuminate the fresco and other painting and paintwork as to not create unintended damage.

ELECTRICAL REQUIREMENTS

All electrical equipment is to be retained and reused within this lighting project.

The feeds to the main lighting are to be retained, however, the present channels drastically limit the potential for flexibility in St Stephens. Therefore, an additional DALI cable is to be run throughout the church in order to provide this greater flexibility and provision for future adjustment.

This cable is to follow existing routes from the dimming system.

FEASIBILITY AND CONCEPTS

A number of concepts were considered and discussed with the client at the beginning of the design process. This included the re-implementation of a historic type. Research was carried out and historic paintings found of the original Pendants designed by Charles Barry. However, after discussion, the church decided that due to the current and recent use of the church, that a spotlighting system was the best route forward. Therefore, CES was instructed to design an architectural LED spotlighting scheme for St Stephens.

1.3 | SCOPE OF WORKS

SCOPE OF WORKS LIST

- Preparation of any Prelims, working drawings, HSE and CDM
- Survey of Existing electrical installation with electrical conditioning report
- Supply of all equipment required to fulfil the specification.
- Installation of new electrical circuits, repairs, and augmentation as required to fulfil the specification.
- Installation of new lighting fixtures and control gear including fixing brackets, mounts and protections as required to fulfil the specification.
- The removal of all redundant electrical equipment and wiring
- The rectification of any remedial works identified by the electrical conditioning report.
- Testing and commissioning of the new system
- The Focussing of the new lighting system out of hours and under the supervision of the lighting designer.
- The issue of a comprehensive Operations and Maintenance Manual with all correct 'As Installed' drawings suitable for ongoing maintenance of the system.

EXECUTIVE SUMMARY

- The Lighting will be controlled from a MODE dimming system with 2 control plates and one movement sensor
- Movement sensor to activate a visitor's scene at the first point of entry to the Church (utilising the existing control cable)
- An 18-button control plate will be located by the sound desk (utilising the existing control cable)
- A 10-button plate will be located in the Vestry (utilising the existing control cable)
- All general lighting, service leading lighting and features lighting is to be produced by architectural LED Spotlighting located in discreet positions. Each luminaire will be specified to suit its application.
- The Spotlighting system will allow for a breakdown of the lighting into various zones to enable great flexibility for the functions of the Church.
- The External lighting of the Church is to be replaced with an LED system. The layout drawings identify where fittings are located and which pads are to be retained.
- The internal lighting system is to utilise a built-in timer to the "off" scene to allow particular lights to function in conjunction with the external lighting.
- A common-sense emergency lighting system is to be implemented to satisfy the Church risk assessment.

1.4 | ENVIRONMENTAL IMPACT

ESTIMATED RUNNING COSTS & CO^2 EMISSIONS

Internal

Existing Lighting (Estimate)	Total Wattage
Total Wattage (W)	15,000.00

Proposed Lighting (Estimate)	Total Wattage
Total Wattage (W)	1,986.1

Running Cost Calculation	Value
Hours use per week	12 (h)
Estimated elec. cost	0.14p (per kWh)
Existing Total Cost per Week	£ 25.20
Proposed Total Cost per Week	£ 3.34
Total Running Cost Saving Per Year	£1,136.72

CO2 Emissions Calculation	
CO^2 produced per kWh	0.256 kg
Estimated Current Use Per Week	46.08 kg
Estimated Proposed Use Per Week	6.10 kg
Estimated Annual CO^2 Saving	2,078.96 kg

External

Existing Lighting (Estimate)	Total Wattage
Total Wattage (W)	1,600.00

Proposed Lighting (Estimate)	Total Wattage
Total Wattage (W)	240.8

Running Cost Calculation	Value
Hours use per week (Average over the year dusk until 11pm)	35 (h)
Estimated elec. cost	0.14p (per kWh)
Existing Total Cost per Week	£ 7.84
Proposed Total Cost per Week	£ 1.18
Total Running Cost Saving Per Year	£ 346.32

CO2 Emissions Calculation	
CO^2 produced per kWh	0.256 kg
Estimated Current Use Per Week	14.34 kg
Estimated Proposed Use Per Week	2.16 kg
Estimated Annual CO^2 Saving	633.36 kg

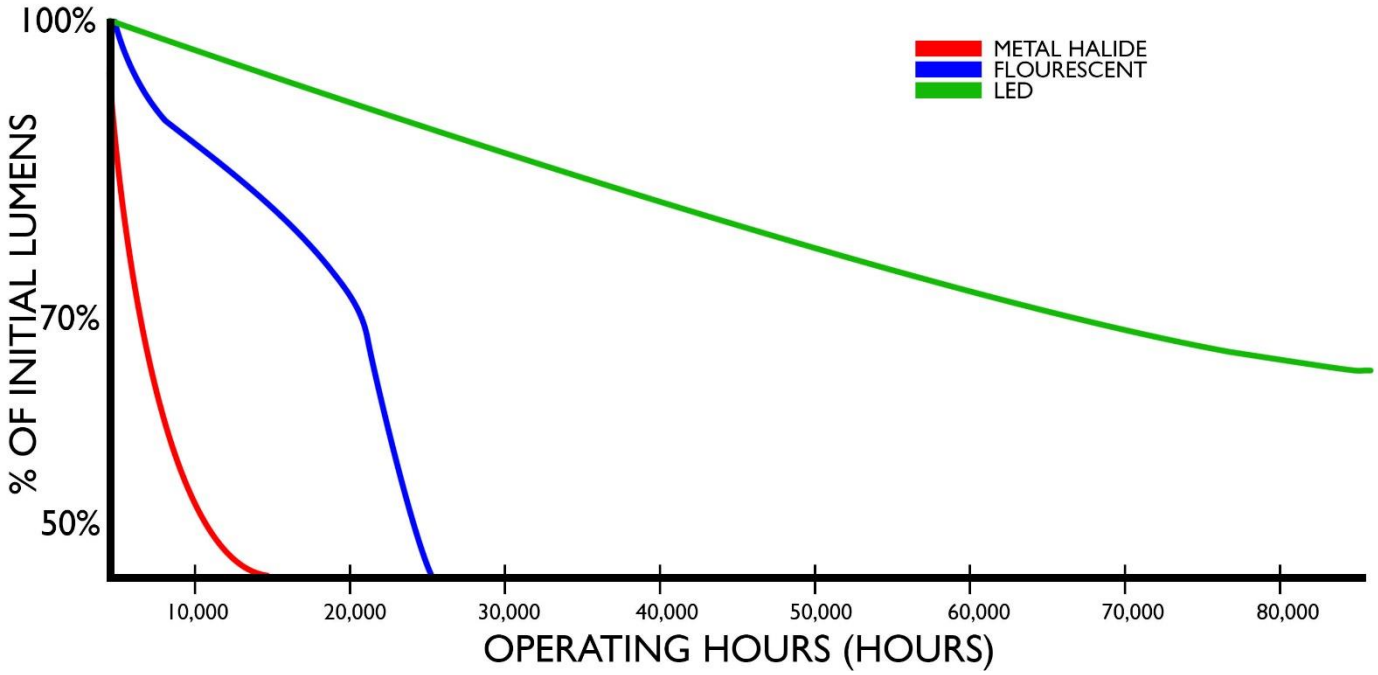
Existing wattages based on visual inspection and is an estimation of the total wattage.
The UK Government reports that 0.256kg of CO^2 is produced per kWh of electricity used.
All calculations are estimations based on the best knowledge at the time of creation.

MAINTENANCE REDUCTION

Failure Rate
General Assumptions:

Technology	Anticipated Life Span
LED	50,000+ hrs
Metal Halide	15,000 hrs
Fluorescent	8,000 hrs
Compact Fluorescent	6,000 hrs
Mercury Vapour	12,000 hrs
High Pressure Sodium	10,000 hrs
Halogen	3,000 hrs
Incandescent	1,000 hrs

Below is a Graph to show LEDs compared with traditional lighting technologies.



1.5 | GOOD PRACTICE & GUIDES

RECOMMENDATION & GOOD PRACTICE GUIDES

- BS7671:2018 - Requirements for Electrical Installations. IET Wiring Regulations
- BS 5266 Emergency lighting – Part 1: Code of practice for the emergency lighting of premises.
- ChurchCare – Guidance Note: Electrical Wiring Installations in Churches
- ChurchCare – Guidance Note: Lighting
- Church of England: Lighting Guidance for Cathedrals and Large Major Churches 2020
- LG9: Lighting Guide 9 – CIBSE
- LG13: Lighting Guide 13 – Lighting for Places of Worship - CIBSE
- Factories Act 1961
- Electricity at Work Regulations 1989
- Building Conservation Trust - Conservation Principles for Wiring Lighting Systems
- Historic England Guide to external lighting
- UK Waste Electrical and Electronic Equipment (WEEE) Regulations
- Environmental Protection Act 1990
- Clean Neighbourhoods and Environment Act 2005
- Guide on the limitation of the effects of obtrusive light from outdoor lighting installations CIE 150:2003
- Guidance Notes for the reduction of Light Pollution ILE 2005

RECOMMENDATIONS FOR OBTRUSIVE LIGHT

Table 1: Environmental lighting zone classification

ZONE	SURROUNDING	LIGHTING ENVIRONMENT	EXAMPLES
E1	Natural	Intrinsically Dark	National Parks or Protected Sites
E2	Rural	Low District Brightness	Industrial or Residential Rural Areas
E3	Suburban	Medium District Brightness	Industrial or Residential Suburbs
E4	Urban	High District Brightness	Town Centres & Commercial Areas

Table 2: Maximum Vertical illuminance to reach adjacent properties. (Light Trespass into windows)

LIGHT TECHNICAL PARAMETER	APPLICATION CONDITIONS	ENVIRONMENTAL ZONES			
		E1	E2	E3	E4
Illuminance in Vertical Plane (Ev)	Pre-curfew	2 lux	5 lux	10 lux	25 lux
	Post-curfew	0 lux	1 lux	2 lux	5 lux

Table 3: Maximum intensity of luminaires directed toward residents.

LIGHT TECHNICAL PARAMETER	APPLICATION CONDITIONS	ENVIRONMENTAL ZONES			
		E1	E2	E3	E4
Luminous Intensity emitted by luminaires (*I*)	Pre-curfew	2,500 cd	7,500 cd	10,000 cd	25,000 cd
	Post-curfew	0 cd	500 cd	1,000 cd	2,500 cd

Table 4: Recommendations for the limitation of sky glow (ULR Upward Light Ratio)

ZONE	ULR (%)	REQUIREMENT EXAMPLE
E1	0	Observatories – National or International recognition
E2	0 – 5	Academic Studies
E3	0 – 15	Amateur Observations
E4	0 – 25	Casual Sky Viewing

Table 5: Maximum Value of Surface Illuminance

LIGHT TECHNICAL PARAMETER	APPLICATION CONDITIONS	ENVIRONMENTAL ZONES			
		E1	E2	E3	E4
Building Façade Luminance	Average surface illuminance and reflectance factor divided by π	0 cd/m^2	5 cd/m^2	10 cd/m^2	25 cd/m^2

1.6 | INVESTIGATIONS

PROXIMITY

It is assumed from the details provided that the project is not notifiable to Airfields, Airports, Aviation flight paths, Coastal navigation beacons, inland waterways navigation beacons.

It is also assumed that the site is not a protected site by any of the following bodies:

1. SSSI .... Site of Specific Scientific Interest.
2. SAC .... Special Area of Conservation.
3. SPA ... Specially Protected Area.
4. RAMSAR Site ... Protection of Wetlands on International Importance.

SITE LOCALITY

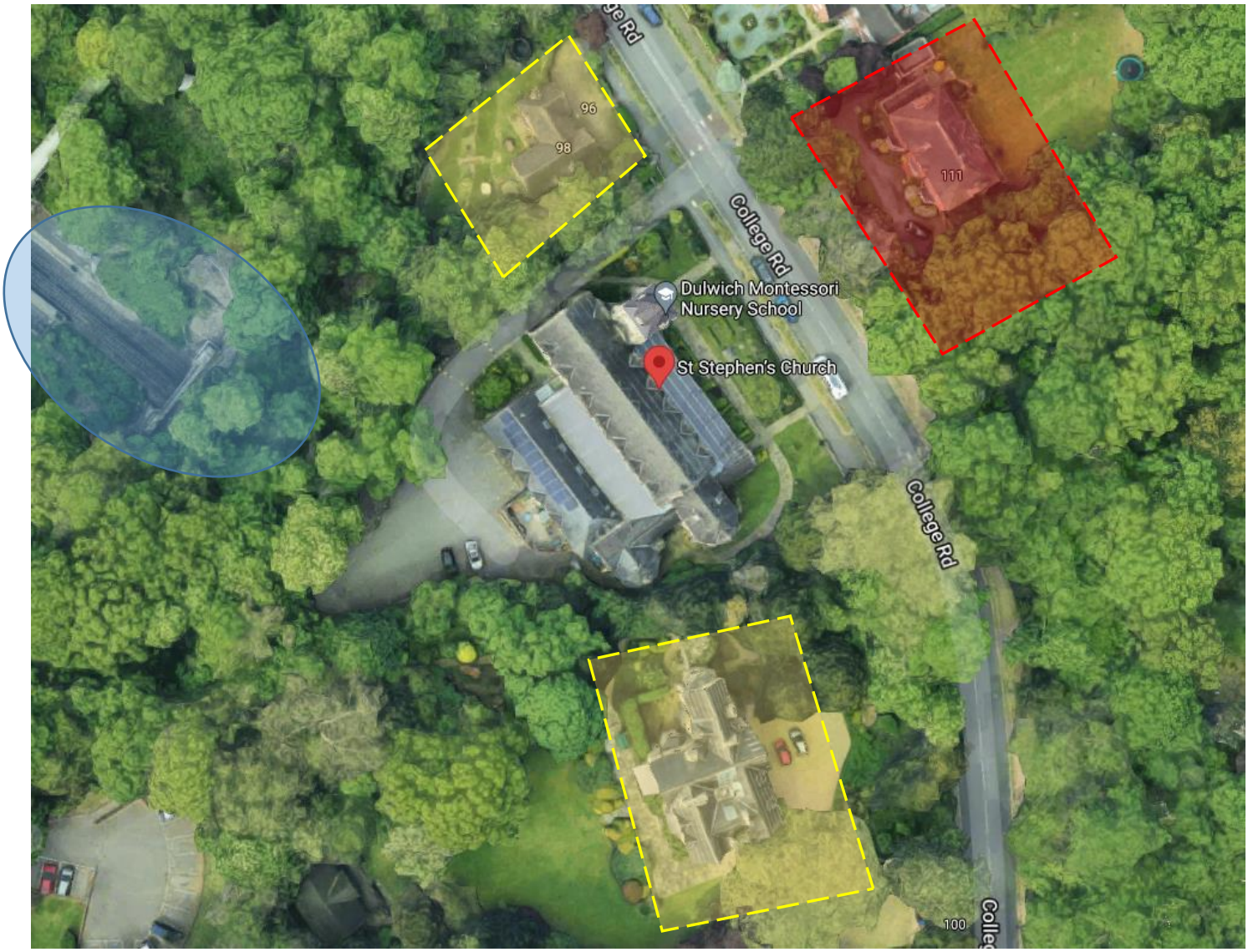
The area is Suburban in nature being within the built-up area of Dulwich. The site is in close proximity to Sydenham Hill station and has a great amount of foot fall from commuters travelling to London.

SITE SCREENING

The Church has fairly ample natural screening on 3 of the 4 sides leaving only the east façade toward College road. The Houses are generously spaced on College road thus minimising direct impact from new Church Lighting.

PRINCIPLE VIEWPOINTS

Red: Vicarage – main property with direct view of the Church
Yellow: Neighbouring Properties
Blue: Station/Trainline



DISTRICT BRIGHTNESS

It is assumed that the area has a moderate level of ambient lighting from the combination of streetlights, house lighting, external garden (decorative and amenity) lighting and vehicle lighting.

1.7 | GENERAL INFORMATION

Contract

CT MWD (2016) with contractor's design [CDP] applying to the design of the electrical infrastructure and installation.

CES LLP will act as the Lighting Designer through the project.

It is the responsibility of the Contractor to rectify all faults and defects free of charge to the Client for a period of 12 months from the Practical Completion date other than defects occurring as a result of abuse or maltreatment by others.

The Contractor is to understand the full requirements of the lighting design and be happy with all aspects prior to tender return submission.

Insurance

The contractor will be required to provide evidence of all appropriate insurances at a suitable level including Public Liability, Professional Indemnity and Employers Liability insurance.

Site Visits

It is a specific contractual requirement that the Contractor shall have inspected the site at the time of tendering and shall have fully informed himself as to all matters, difficulties etc., concerning the execution of the Works thereon and which may not be referred to in the Specification.

Attitude & Responsibilities

All parties are to strive for client satisfaction and the success of the project as of paramount importance. All materials and products used to be of high quality as expected and in-keeping with the latest British Standards.

Design effectiveness is the responsibility of the Lighting Designer.

Installation and ALL supplied products are the responsibility of the Contractor.

Site Supervisor

The Contractor will appoint a proficient site manager at the beginning of the project who will be responsible for the day to day running of the site. The site manager should always be available. If it is the case they are not to be on site for an extended period, then a temporary site manager must be assigned. The site manager is to keep all relevant documentation and records throughout the duration of the project.

Architects & Clients Documentation

The Contractor must have fully read, understood, and accepted the associated documentation issued by the Client & Architect in reference to the Lighting Design Project. Any variations between the Architects contract documents & this specification, the Contractor is to take the Architects documents as primary.

CDM

The contractor will also have design responsibility under CDM as Electrical Design Engineers. The contractor should advise if the project will be notifiable under the CDM regulations.

Health and Safety aspects of the works:

The works should comply with the Health and Safety at Work Act and the HSE Approved Codes of Practice - Management of Health and Safety at Work and Managing construction for Health and Safety.

The contractor's attention is drawn to the following points which should be included for consideration with regard to minimising risks to health and safety of the installing operatives, maintenance operatives, occupants and other building users.

An Asbestos survey is required prior to the start of the project. The Contractor can use any pre-existing reports available, if no such report is available then the contractor is responsible for ensuring the Client carry this out prior to the works.

Risk assessments and site rules should include mitigation methods against the spread of COVID-19 for all persons on or around the site. Working bubbles or groups should be out in place to allow works to continue should a positive test be identified during the project.

All government guidelines against the spread of COVID-19 should be adhered to.

Behaviour

The Contractor's employees are to behave in a manner suitable and in keeping with a place of Christian Worship. This includes but is not limited to smoking or vaping anywhere on site, behaviour that could be considered lude or rude and there must not be any broadcasting of music. Personal audio devices are also not permitted as these can pose a health and safety risk.

The Client reserves the right to request the removal of any person(s) from site. This shall not be without due notice and reasonable cause.

General Standards

All work and materials used within the works shall comply with all relevant British Standards and Codes of Practice. Only the highest standard of work will be accepted, and the Contractor's attention is drawn to producing an end product of the highest standard.

- The current edition of BS7671. The Institute of Electrical Engineers' Regulations for Electrical Installations.
- National Joint Utilities Group Publication No. 1, 2 and No. 6.
- All relevant British Standards and Codes of Practice.
- CIBSE Guides including Testing and Commissioning.
- CIBSE Codes of Practice.
- Construction (Design and Management) Regulations 2015.
- The Building Regulations.
- BS EN 62305 Protection against Lightning.
- BS 5266 Emergency Lighting Code of Practice.

Electrical Design & Wiring

The Contractor is responsible for the electrical cable & circuitry design.

All wiring routes must follow existing. Any alternative route must be described to the inspecting Architect and require written approval before works are to commence.

All Electrical design should be in accordance with BS7671:2018, The Electricity at Work Regulations 1989, The CDM Regulations 2015, Building Regulations, and all other relevant and applicable legislation / best practice guides.

The contractor is responsible to ensure that cable carrying capacities, determination of phasing and volt drop calculations all comply with BS7871 to the latest edition.

The electrical contractor shall, at all times, show the highest level of care and respect for this grade II listed church, when carrying out the electrical installation.

The contractor must be familiar with the Guidance note from ChurchCare 'Electrical wiring installations in churches'

Once cable routes have been approved by the Architect, the contractor cannot deviate without further approval.

Black PVC coated cable to be used on stone or wood. White PVC cable to be used if clipped to white painted background.

Cables to be painted to the background finish where visible from floor level.

Painting of cables will be required throughout the project and the cost for this is covered under a separate tender item.

Check Dimensions

The contractor is to check all dimensions on site prior to ordering of materials and notify any discrepancies between site conditions and the production information.

Labelling

The Contractor is to allow for labelling at every main connection box, each driver housing along with the distribution boards and dimmer panels.

Each label should contain the D.B reference and circuit number.

Discrepancies

The contractor is to identify any discrepancies with their submission of tender, any items identified are to be considered as included within the contract.

In the event of any discrepancies not identified prior, the drawing should take precedent.

Contractor to ensure that the supplied quotation reflects the type & qty as specified within the luminaire schedule & drawing.

Where any possible doubt exists as to the meaning of words or terms used elsewhere in this Specification, it shall be the Contractor's responsibility to ask for clarification and confirm the definition in writing.

Disruption to Services
The contractor is to allow for regular use of the building during the contract period. It is the Contractors responsibility to ensure that disruptions are kept to a minimum and that prior notice of any disruption is provided to the client before the works commence. This includes but is not limited to weekend services.

The client is to advise of any weekday services that cannot be moved or cancelled. This includes but is not limited to Funerals, Weddings, and the like. The contractor must allow for these services.

The contractor is to allow a fixed cost for adequate temporary lighting and/or power which will allow the Church to operate safely during the duration of the contract.

The client is to provide a suitable storage area for the duration of the project, however any equipment, materials or products stored remain the responsibility of the contractor until fixed to the fabric of the building.

Deliveries & Storage
The contractor is responsible for taking delivery, unloading, handling, temporary storage and protection of all plant, equipment, and materials.

Contractor Affiliation
The Contractor must be registered as an Approved Contractor under the NICEIC.

Publications and Photography
The Contractor is not permitted to use any photographs for the use of Marketing/Social Media or Online Publication without permission from the Clients and CES LLP

Setting to Work
The Contractor shall arrange for a competent Engineer to attend site for a full day, 24 hours prior to the handover of the Works to the Employer and shall on that day rectify any faults and instruct the Employer in the operation of the plant.

The Contractor shall ensure that the aforesaid Engineer is fully conversant with the whole of the installation and competent to carry out adjustments and repairs to any part of the installation as may be necessary.

Programme of Works
The Contractor shall agree a detailed programme with the Contract Administrator at the earliest possible date. The programme shall include delivery dates of all goods and materials vital to the programme. Evidence shall be provided that the Contractor has checked with his suppliers, including nominated suppliers that such goods and materials can be made available at the required time.

Continuity of work cannot be assured in any one area, and the Contractor shall account for this in his tender.

The responsibility of preparing an accurate and practicable programme and for complying with it rests entirely with the Contractor, but two copies of the programme shall be submitted to the Contract Administrator for his information as soon as it has been agreed.

The Contractor shall arrange for a qualified representative to be present at all site meetings. He shall submit to the Contract Administrator detailed progress report covering the erection of all equipment and materials included in the Contract.

Form of Warranty
The Tenderer will be expected to complete and sign the Standard Form of Warranty, in respect of the works, immediately following certification that the works are complete.

Retention
A 5% retention will be applied to all Interim Payments, 2½ % of which will be released on completion of the Project including supply of As Installed Documentation and Manuals.

1.8 | PARTICULAR SPECIFICATION

ITEMISED TENDER ITEMS

TENDER ITEM REF.	DETAIL
1.0	**Prelims** The contractor is to outline all required Preliminaries for the project and provide a fixed cost
2.0	**Supply of Light Project Luminaires + Accessories** The contractor shall provide a fixed cost for the supply only of Light Projects luminaires and control gear as outlined on the Luminaire Schedule.
3.0	**Supply of iGuzzini Internal Luminaires + Accessories (BA – BD + BH)** The contractor shall provide a fixed cost for the supply only of iGuzzini luminaires and control gear as outlined on the Luminaire Schedule. This cost should include the cost for a new post for reference BH Luminaires BE – BG are covered under a separate tender item.
4.0	**Supply of Mike Stoane Luminaires + Accessories** The contractor shall provide a fixed cost for the supply only of Mike Stoane luminaires and control gear as outlined on the Luminaire Schedule.
5.0	**Supply of Philip Payne Exit Signs + Accessories** The contractor shall provide a fixed cost for the supply the Philip Payne Exit Signs as outlined on the Luminaire Schedule.
6.0	**Supply of Basis Lighting Emergency Luminaires + Battery packs.** The contractor shall provide a fixed cost for the supply only of Basis Lighting luminaires, control gear and battery packs as outlined on the Luminaire Schedule. Battery pack is to be located at low level with the dimming system in the Vestry. The Contractor is to issue an Emergency Lighting Installation & Logbook pack on completion.
7.0	**Supply of Lamps, drivers and Accessories** The contractor shall provide a fixed cost for the supply of lamps for the external lanterns, suitable DALI drivers for the Chancel fittings that are to be utilised within the design and any accessories or brackets required to fulfil the design. The clients are to have the Vestry pendant restored for re-use at the West Entrance. The Contractor is to allow for the fabrication of a bracket should the restoration not include this item.

	Labour – To install all luminaires as described in items 2.0 – 8.0 The Contractor shall allow adequate time and costs to complete the entire installation of all luminaires described in items 2.0 – 7.0 as to the drawings and luminaire schedule. There will be no acceptance of increased costs during the contract with exception for pre-approved variations or extras. The Tenderer shall not charge additional costs except for authorised variations. All variations must be approved by the Client before works commence. Minor alterations, such as but not limited to; moving a fitting, moving cabling, shall be allowed for within initial tender costs. The positions of equipment etc., indicated on the drawings, are given for tendering purposes and the exact position will be decided during the Contract period. The Contractor's price shall include for any minor modifications that may be necessary. The Contractor shall allow for setting out and shall be responsible for the correctness of the positions, levels and dimensions of the whole of his works on site. Where detailed drawings do not form part of this Specification, the Contractor shall ensure that the setting out of plant and equipment permits it to fit into the space allocated and allows access for maintenance and replacement purposes. The contractor shall ensure that each luminaire is not obstructed in movement so that the light can directed to the designated area. Likewise, the contractor shall ensure each luminaire must be located in such a position in which the light is not obstructed by other luminaires or parts of the fabric.
8.0	All luminaires are to be located as described on the layout drawing. The contractor is to utilise the existing power wiring and run a new DALI supply to all fitting positions. All cable runs are to follow existing routes and redundant cabling removed. Cables run along the top of the string course in the Nave are to be painted to match. Any connection boxes required must be located out of site. If this is not possible then the church architect or client must be consulted. Fittings are to be track mounted or surface mounted as described on the layout drawing and luminaire schedule. All tracks are to be located on the vertical beams to allow the fittings to be positions as described on the elevation drawing. Each track must extend enough to allow for free movement of the fittings without clashing or shadow creation but must not be "oversized". Where tracks are located on North + West in the same location these tracks should be the same length for continuity. Careful attention to the installation of all surface mounted fittings to ensure that the fixing method does not impact the painted sections of the beams. The Angel Corbel lights are to be located on the opposing Corbel ledge. The West window backlighting is to be located in the opposite flowerbed in the place of an existing fitting, the groundwork costs is tendered as a provisional sum. The new luminaire should be mounted on a 1m post and have appropriate anti-glare barn door accessories to keep light away from the cars going to the car park.

9.0	**Containment, Wiring, Accessories & Cables** The contractor is to allow a fixed cost for: All containment and cable to complete the ENTIRE installation and all material such as: fixtures, protective devices and distribution, connection boxes, etc. of all luminaires described in sections 2.0 – 7.0 as to the drawings and luminaire schedule. Each DALI channel/zone is set out on the luminaire schedule and DALI drawing. The contractor is to ensure that the luminaires are connected to the correct DALI pair. Only by permission is the contractor allowed to deviate from the design specification and at no point can a DALI channel exceed that of 15 channels and 55 fittings. The Contractor will determine what mains voltage circuits supply the DALI channels being mindful not to overload the circuits. The electrical contractor shall, at all times, show the highest level of care and respect for this grade ii listed church, when carrying out the electrical installation. MICC sheathed cable is preferred wherever visible. FP200, SWA and singles in containment can be used if unseen and the wiring is not susceptible to vermin damage. Twin and Earth cable and Plastic fixing clips are never acceptable. Enclosures are always to be positioned where they are discreet and not seen from the floor level. When mounted to a wall plate or ledge they are to be set back from the edges so that they are out of view. All external enclosures should be IP66 or above rating and from a reputable manufacturer and agreed by the Lighting Designer. No Wiska or similar boxes to used. Special consideration shall be given to the correct selection and protection of cables and equipment to suit the environment in which they will operate. In particular: - Heat - High humidity - Mechanical damage - Flexibility The wiring to be carried out in a manner which is sympathetic to the historic nature of the building. Fixing to be secured in the mortar unless adequate reason for fixing into stonework and approved by Architect. Existing fixing holes should be re-used where possible and appropriate to do so. All fixings and brackets are to be non-ferrous as to ensure there is no subsequent stationing or corrosion.
10.0	**Access Equipment** The Contractor is to provide a fixed cost for appropriate access for all luminaires described in items 2.0 – 7.0 as, this is to include any access specific protections (floor protections etc…) and health & safety (Harness equipment, signage etc…) The Contractor is to state their access methods for all areas and return in writing within the Tender. All contractors must have the required PASMA qualifications for working at height.
11.0	**Protections** The Contractor is to provide a fixed cost for all necessary protections to prevent damage to the building. The Contractor is responsible for any items within the building during the contract. It is advised that any delicate items that can be moved are identified, and the client asked to put in storage before installation begins. Items moved during the contract should be done so with care and replaced when the area is completed. Any items that cannot be moved and are in a high-risk area should be covered or boxed as appropriate. All mobile access towers or scaffolding must not damage the floor. For access equipment without specialist feet or wheels hard boarding must be laid and taped. Special protections are required for the Organ, the Contractor is to arrange protections with the Architect and the church organ builder.

12.0	**Supply & Installation of Mode Lighting Dimming System and Controls.** The contractor shall provide a fixed cost for the supply & Installation of the following: Enclosure to contain the following: 1x Network processor (NPU) 1x Power supply.(PSU) 4x DALI UBC Ballasts 9x RCBO devices (For each of the lighting circuits) 1x 18-button plate(labelled 1-17 + off) 1x M-bus movement sensor Commissioning is covered under a separate tender item
13.0	**Commissioning Mode System** The Contractor shall allow for the necessary time to complete the commissioning for the dimmer system and include the cost of the dimmer companies own commissioning engineer (included in the Mode quotation). One of the commissioning days will follow after the completion of the project so that the client has time to use the system before identifying any changes required. The final commissioning day can then be planned to complete the changes necessary. CES LLP will be in attendance on each commissioning day. The contractor must provide a dedicated site engineer and any access requirements to support commissioning engineer during the commissioning period **The Mode engineer is to allow a function to enable certain channels to be active from dusk until 11pm when the "off" scene is activated. There must be the ability to add and removed channels from this function.**
14.0	**Internal Focussing** The Contractor shall allow for an 'out of hours' evening focussing session at 4-hour duration at the conclusion of the project. This must be completed when it is dark, and the Contractor is to provide the required access and labour to allow the focusing to take place under the instruction of the lighting designer. The Contractor is to allow for and arrange commissioning for all specialist equipment. (e.g., Dimming system, Emergency lighting system etc…) All Systems are to be commissioned under direction from the Lighting Designer.
15.0	**Supply of iGuzzini External Luminaires + Accessories (BE - BG)** The contractor shall provide a fixed cost for the supply only of iGuzzini luminaires and control gear as outlined on the Luminaire Schedule. This cost is to include the required new concrete pads, cages and any pole mounts required.

16.0	**External Lighting Labour – To install all luminaires as described in item 15** The Contractor shall allow adequate time and costs to complete the entire installation of all luminaires described in item 15 as to the drawings and luminaire schedule. There will be no acceptance of increased costs during the contract with exception for pre-approved variations or extras. The Tenderer shall not charge additional costs except for authorised variations. All variations must be approved by the Client before works commence. Minor alterations, such as but not limited to; moving a fitting, moving cabling, shall be allowed for within initial tender costs. The positions of equipment etc., indicated on the drawings, are given for tendering purposes and the exact position will be decided during the Contract period. The Contractor's price shall include for any minor modifications that may be necessary. The Contractor shall allow for setting out and shall be responsible for the correctness of the positions, levels and dimensions of the whole of his works on site. The contractor shall ensure that each luminaire is not obstructed in movement so that the light can directed to the designated area. Likewise, the contractor shall ensure each luminaire must be located in such a position in which the light is not obstructed by other luminaires, flora or parts of the fabric. This tender item is to include the utilisation of the existing cabling with augmentation as outlined on the layout drawing (T03 + T04). All concrete pads and cages that are to be utilised by the new lighting must be inspected for structural integrity and replaced if there are any signs of damage. All external lighting is to be controlled by photocell and automated timeclock.
17.0	**Supply & Installation of External Lighting Controls.** The contractor shall provide a fixed cost for the supply & installation of the following, - SANGAMO 16621– Analog Timeclock - Royce Thompson S300 – Photocell - 25amp Double Pole din rail contactor - Enclosure to suit the timeclock and contactor. A new local feed is required with 30mA RCD protection. A new 6A supply is to be taken to supply the timeclock and photocell. The switched supply from both of the control devices activates the 230v coil of the contactor to initiate the new external lighting. The Timeclock is to be located in the Porch – the client is to approve position before installation. The timeclock is to switch off the lighting at 11pm unless additional instruction is provided by the client. The contractor is to provide training of how to program the off time on the timeclock. The Photocell position should be South side of the porch in a discreet location avoiding shadows that may impact its effectivity. Position is to be confirmed by Client and Architect prior to installation. Contractor is responsible for ensuring that position allows for correct functionality. The South Spire luminaire which is to be located on the Hall must have independent control from the rest of the system due to its position. The control is to work in the same manner and under the same conditions.
18.0	**External Lighting Focussing** The Contractor shall allow for an 'out of hours' evening focussing session at 4-hour duration at the conclusion of the project. This must be completed when it is dark, and the Contractor is to provide the required access and labour to allow the focusing to take place under the instruction of the lighting designer.

19.0	**Supply and installation of Surge Protection devices (SPD)** The Contractor is to allow a fixed cost for the supply and installation of type 3 Surge Protection Devices to protect the dimming system. The Contractor is to discuss surge protection for the wider church with the client and quote accordingly.
20.0	**Drawings** The Contractor is to allow a fixed cost for the following drawings: Detailed installation drawings identifying all cable routes with notes for cable type, conduit, trunking, and tray positions where not shown in Appendix C. The Contractor is to provide 'As Installed' drawings at the conclusion of the project. Therefore, during the contract period the Contractor is to maintain drawings that detail any changes from the issued contract drawings.
21.0	**Disposals - Redundant Equipment and Wiring** The Contractor is to allow a fixed cost for the removal of all redundant wiring, light fittings, fixtures, drivers, brackets, distribution equipment, sockets, and switches. Any other redundant items within reason at high level should be removed with approval from the Client and Architect. Where the removal of redundant cables is intrusive or potentially damaging to the fabric it is acceptable to cut the cables back to this point subject to approval from the architect. All redundant items remain the property of the Client and should be offered to them before disposal. All redundant and waste materials should be disposed of in accordance with the local authority requirements and WEEE directive.
22.0	**Electrical Testing of the new installation – Electrical Installation Certificate.** The Contractor is to allow a fixed cost for the testing of all the entire electrical installation and fixtures/controls. Testing should be carried out in accordance with BS7671 (18th Edition), and electrical installation certification shall be issued on completion. Any concealed areas are to be tested prior to concealment and a record of each tested area should be kept on site. Test instruments shall be provided and operated by the Contractor whose personnel shall be competent and fully conversant in the use of the instruments. They shall be correctly calibrated and certified for the limits of accuracy required, and the Contractor shall provide the Engineer with evidence that the instruments have been calibrated by an approved authority not more than three months prior to being used. Should the Engineer consider the instrument to be suspect, the Contractor shall have the instrument recalibrated by an authorised standardising laboratory at his own expense.
23.0	**Existing Electrical System – Electrical Installation Conditioning Report** The Contractor is to provide a fixed cost to carry out an electrical conditioning report on all existing circuits. Any defects are to be noted and communicated to contract administrator and client. Any dangerous items (code 1) or potentially dangerous items (code 2) must be corrected within the contract period following instruction. Any further investigation items are also to be carried out on site within the contract sum – Recommendations (code 3) items will be discussed and instructed if required. A satisfactory certificate will need to be issued on completion of the contract. All remedial items should be identified with adequate time to complete the necessary works prior to contract completion.

24.0	**Operations and Maintenance Manual** The Contractor is to allow a fixed cost for the production and distribution of a comprehensive operation and maintenance Instruction manual. The Contractor shall obtain from the manufacturers of all equipment supplied under his contract and equipment supplied by others, all the instruction manuals necessary for the correct maintenance and operation of that equipment. The manual shall include a complete diagram of all internal and external electrical and other services connections with a parts list identifying all components. The Manuals shall be comprehensive and prepared in accordance with the requirements of BS 4899 and as a minimum include the following: Introduction and General Description Installation Description Equipment Schedules Commissioning and Test Certificates Health & Safety Statement and Procedures Routine Maintenance Procedures Manufacturers' Information Spares Requirements Record Drawings Warranty and Maintenance Agreements The Contractor shall submit two copies of the Operation and Maintenance Instruction Manual for all of the electrical services for review no less than eight weeks after final testing and commissioning. The copies should consist of 1 paper copy and 1 digital copy on CD or USB. A certificate of Practical Completion will not be issued until the final copies of the O&M Manual has been provided.

PROVISIONAL SUMS

All items to be discussed and agreed by the Architect / Client prior to works being carried out

P1.0	**Builders Works:** Contractor to set The Contractor is to include making good and associated builders works within the tender cost. However, a provisional sum has been allowed for the following items: - Painting of cable where appropriate and when clipped direct to fabric and visible. - Repair of old drilled holes when cables and fixtures have been removed. - Repair of any drilled holes for new cable routes. - Powder coating of any containment or fixture where specified. The Contractor is to provide a schedule of anticipated builders works prior to works commencing. The Contractor will issue a schedule of builders works at each progress meeting. The schedule will include any costs for builder's work material and labour hours for one man. The accumulation of costs will need approval from the architect or client prior to approval and inclusion on the periodic applications for payment. The expectation is that the provisional sum is ample, and savings will be passed back to the clients. If the Contractor is not agreeable with the provisional sum allowed, they must state the increase and reasoning as part of the tender return.
P2.0	**Groundworks Associated with the West Window** £3,000.00 The west window required a new cable containing power and DALI, this cable should follow the existing route if possible. If this is not possible then follow the suggested route on the layout drawing as advised by the architect. **Groundwork Method** No trenching to take place without prior consultation of the lighting designer, architect and Client. Access to the Church should not be unduly inhibited within the bounds of public safety without prior agreement from the Client. SWA cable is to be used for external runs in trenches and all trenches to be hand dug. Groundworker to remove turf and lay on plastic sheeting so that turf top can be re-laid on backfill. Groundworker to ensure that the suitable backfilling has occurred to prevent subsidence over time. Any subsidence will need to be rectified before the final release of the retention amount at the end of the defects period. Cabling to be at a depth of 500mm. If trenching cannot be at a depth of 500mm, contractor can install SWA cables closer to the surface if metal cover is placed on top and method agreed by Inspecting Architect. 'Caution – cable buried below' tape to be laid on top of the buried cable, at half fill level and just under the finished surface. No cable joints under the ground are allowed.
C1.0	**Contingency Sum: 5%** A Contingency sum of 5% is to be added to the total project sum to cover unforeseen expenses. All items must be itemised with appropriate supporting documentation for approval from the client and architect before the items are carried out.

1.9 | TENDER SUBMISSION SHEET

REFERENCES

1.
2.
3.

PRELIMS - OUTLINE

1.
2.
3.

ALLOWANCES AND LIMITATIONS

1.
2.
3.

OTHER BUILDERS' WORKS IDENTIFIED

1.
2.
3.

LABOUR RATES & MARK UP

DESCRIPTION	
Electrical Supervisor hourly rate	£
Electrician (Qualified) hourly rate	£
Electrician (Apprentice) hourly rate	£

LIST OF SUBCONTRACTORS

Contractor to name chosen sub-contractors and field of work.

1.
2.
3.

ACCESS METHOD STATEMENT

PROGRAMME

DESCRIPTION	TIME
Estimated Contract Duration Normal Hours (man weeks)	
Estimated Contract Duration Outside Normal Hours (man days)	
Equipment with long lead in time (weeks)	

TENDER VALIDITY – 3 Months

1.10| TENDER RETURN SCHEDULE

TENDER ITEM REF.	DETAIL		
1.0	Prelims	£	
2.0	Supply of Light Project Luminaires + Accessories	£	
3.0	Supply of iGuzzini Internal Luminaires + Accessories (BA – BD + BH)	£	
4.0	Supply of Mike Stoane Luminaires + Accessories	£	
5.0	Supply of Philip Payne Exit Signs + Accessories	£	
6.0	Supply of Basis Lighting Emergency Luminaires + Battery packs.	£	
7.0	Supply of Lamps, drivers and Accessories	£	
8.0	Labour – To install all luminaires as described in items 2.0 – 8.0	£	
9.0	Containment, Wiring, Accessories & Cables		
10.0	Access Equipment	£	
11.0	Protections	£	
12.0	Supply & Installation of Mode Lighting Dimming System & Controls	£	
13.0	Commissioning Mode System	£	
14.0	Internal Focussing		
15.0	Supply of iGuzzini External Luminaires + Accessories (BE - BG)	£	
16.0	External Lighting Labour – To install all luminaires as described in item 15	£	
17.0	Supply & Installation of External Lighting Controls.		
18.0	External Lighting Focussing		
19.0	Supply & installation of Surge Protection devices (SPD)	£	
20.0	Drawings	£	
21.0	Disposals - Removal of Redundant Equipment and Wiring	£	
22.0	New - Electrical Testing and Certification	£	
23.0	Existing – Electrical Testing and Conditioning report	£	
24.0	Issue of Operations and Maintenance Manual	£	
Provisional Sums			
P1.0	Builders Works:	£	TBC
P2.0	Groundworks Associated with the West Window	£	3,000.00
	Contingency Sum: 5%	£	
	TOTAL NET	£	
	TOTAL VAT	£	
	TOTAL GROSS	£	

1.11| DESIGN RISK ASSESSMENT

- Construction (Design and Management) Regulation 2015 will apply to this contract.
- The Client will fulfil his duties as the Client.
- The Tenderer will be required to fulfil his duties as Principal Contractor.
- This document includes a Designer's Risk Assessment which forms the basis of the installation for the Tender Stage Health and Safety Plan.
- The Contractor will be required to fulfil his duties under the Health and Safety legislation in force and the HSE Regulations and CDM 2015 Regulations.

TABLE 1 | SEVERITY LEVELS AND DEFINITIONS

DESCRIPTION		DEFINITION
Terminal Risk	A	Likelihood or possibility of resulting in a fatality
Severe Risk	B	Likelihood or possibility of resulting in a severe injury counting as a disability
Major Risk	C	Likelihood or possibility of resulting in a major injury requiring six weeks or more off work
Minor Risk	D	Likelihood or possibility of resulting in a minor injury requiring less than one week off work
Minimal Risk	E	Likelihood or possibility of resulting in a very minor injury requiring no more than one day off work

TABLE 2 | LIKELIHOOD AND DEFINITIONS

DESCRIPTION		DEFINITION
Probable	A	Likely to occur during the average site program
Possible	B	50% likelihood of occurring during an average program
Improbable	C	Extremely unlikely to occur during an average program

TABLE 3 | RISK RATING MATRIX

	LIKELIHOOD OF EVENT		
SEVERITY OF EVENT	Probable A	Possible B	Improbable C
Terminal Risk A	Very High	High	High
Severe Risk **B**	High	High	Medium
Major Risk **C**	High	Medium	Low
Minor Risk **D**	Medium	Low	Low
Minimal Risk **E**	Low	Low	Very Low

TABLE 4 | RISK DEFINITIONS

VERY HIGH	Situation requiring immediate plan of action
HIGH/MEDIUM	Situation to be addressed at earliest practical opportunity
LOW/VERY LOW	Situation to be considered as part of normal procedures

REF	IDENTIFICATION OF RISK PRE-CONSTRUCTION PHASE – GENERIC RISKS	PRE-CONTROL RISK ESTIMATE			CONTROL MEASURES	PRIMARY RESPONSIBILITY	RESIDUAL RISK ESTIMATE		
		S	L	R			S	L	**R**
1.01	Inadequate Client Brief	D	B	L	Principal Designer to work with Client to produce an adequate Client Brief including Health and Safety issues	Client	E	C	**VL**
1.02	Inadequate Pre-Construction Information	D	B	L	Principal Designer to work with Client to produce an adequate Pre-Construction Pack including Health and Safety issues	Client	E	C	**VL**
1.03	Inadequate co-ordination with other Designers	D	B	L	Principal Designer to Liaise with other Designers to ensure complimentary designs including Health and Safety issues and oversee all the designs	Principal Designer	E	C	**VL**
1.04	Inadequate communication with the Principal Contractor	D	B	L	Principal Designer to set up lines and means of communication with the Principal Contractor and other partiers including requests for information, documented responses as well as Health and Safety issues	Principal Designer	E	C	**VL**
1.05	Inadequate Health and Safety File	D	B	L	Principal Designer to set up the Health and Safety File covering relevant Health and Safety issues	Principal Designer	E	C	**VL**
1.06	Design Phase	C	C	L	The design has been prepared with due regard for the Client Brief, other designs, correct lighting levels and operation, safety and maintenance – no deviation from the design shall be taken without written approval of the designer	Principal Designer	C	E	**VL**
1.07	**Asbestos**	**A**	**B**	**H**	**The Client is to supply the Asbestos report to all tendering parties prior to the commencement of the works.**	**Principle Designer**	**A**	**C**	**H**

REF	IDENTIFICATION OF RISK CONSTRUCTION PHASE PLAN – GENERIC RISKS	PRE-CONTROL RISK ESTIMATE			CONTROL MEASURES	PRIMARY RESPONSIBILITY	RESIDUAL RISK ESTIMATE		
		S	L	R			S	L	**R**
2.01	General operations	C	C	L	Provision of operatives' clothing with company logo and Personal Protective Equipment (PPE) – compliance with CDM 2015 Regulations, the Health and Safety Policy and Site Rules in force – compliance with the Principal Contractors' instructions	Principal Contractor	C	E	**VL**
2.02	Working around children and vulnerable adults (occupied sites)	C	C	L	Operatives to undergo and carry current Disclosure and Barring Service (DBS) documentation checks	Principal Contractor	C	E	**VL**
2.03	Welfare	C	C	L	Operatives to comply with Company Health and Safety Plan requirements on welfare and any site provisions in force	Principal Contractor	C	E	**VL**
2.04	Slips and trips	C	A	H	Operatives to comply with Company Health and Safety Plan requirements on good site housekeeping	Principal Contractor	B	C	**L**
2.05	Lifting and carrying	C	A	H	Operatives to comply with Company Health and Safety Plan on manual lifting and carrying and the correct equipment for heavier loads	All	B	C	**L**
2.06	Working at heights	A	B	H	Operatives to comply with Company Health and Safety Plan requirements on scaffolding, towers and ladders including mechanical lifts - users and equipment to be certificated	All	C	D	**L**
2.07	Objects falling from height	B	B	H	Operatives to comply with Company Health and Safety Plan requirements. Contractor to ensure toe boards are fitted to all platforms and scaffolds – hard hats to be used by all working under or near high level working - all equipment and materials to be carefully handled at high	All	C	C	**L**

					level with secondary or safety lines if necessary, including all lifting operations - no lone working				
2.08	Working in confined spaces	A	B	H	Operatives to comply with Company Health and Safety Plan requirements on confined spaces working	All	C	D	**L**
2.09	Contaminated water	A	C	H	Operatives to be aware of the dangers of Leptospirosis and to observe basic hygiene requirements	All	D	C	**L**
2.10	Task lighting	C	B	M	Operatives to ensure adequate lighting using either existing lighting or festoon lighting supplemented with task lighting	All	E	C	**VL**
2.11	Plant and equipment	B	B	H	Operatives to comply with Company Health and Safety Plan for the use of the correct tools, plant and equipment in accordance with good working practice, all tools, plant and equipment to be certified safe to use	All	D	C	**L**
2.12	Working with electricity	A	A	VH	Operatives to comply with Company Health and Safety Plan and only qualified and certified staff to work with electrical services	All	C	C	**L**
2.13	Working in ancient and listed buildings	D	A	M	Operatives shall take all necessary care and provide a reasonable protection of existing ancient fabric and artefacts – all valuable and vulnerable items to be removed by the client before the works commence	All	E	B	**L**
2.14	Co-ordination with other services and contractors	E	B	L	Operatives to actively engage in co-ordinating their works with those of other contractors under the leadership of the Architect or Principal Contractor	Principal Contractor	E	C	**VL**
2.15	**Legacy emergency lighting batteries (VRLA)**	**D**	**B**	**L**	**Operatives are always to wear gloves when handling Sealed lead batteries. If the acid comes into contact with skin or eyes flush with large amounts of water and seek medical attention immediately. After removal hands are to be washed with soap and water to remove residual Lead.**	**Principal Contractor**	**E**	**C**	**VL**

REF	IDENTIFICATION OF RISK OPERATION /MAINTENANCE	PRE-CONTROL RISK ESTIMATE			CONTROL MEASURES	PRIMARY RESPONSIBILITY	RESIDUAL RISK ESTIMATE		
		S	L	R			S	L	**R**
3.01	Maintenance Schedules and Logs	D	A	M	Plant to be maintained in accordance with the Manufacturers' recommendations and a log kept of the services carried out		E	B	**L**
3.02	Spares	D	A	M	An adequate schedule of spares to kept – spares with long lead in deliveries to be scheduled in advance or kept on site		E	B	**L**
3.03	Specialist Contractors	D	A	M	Contracts to be paced with Specialist Contractors as required		E	B	**L**
3.04	Emergency Lighting	C	B	M	Emergency lighting tests to be carried out as required by the latest Regulations and a log kept of the inspections carried out		E	C	**VL**
3.05	Electrical Testing and Periodic Inspection Report	A	A	VH	Electrical Testing and Periodic Inspection Reports to be carried out by qualified engineers and at a frequency as required by the manufacturers or insurance companies		C	C	**L**
3.06	Lifting and carrying	C	A	H	Operatives to comply with Company Health and Safety Plan on manual lifting and carrying and the correct equipment for heavier loads		B	C	**L**
3.07	Working at heights	A	B	H	Operatives to comply with Company Health and Safety Plan requirements on scaffolding, towers and ladders including mechanical lifts - users and equipment to be certificated	Contractor	C	D	**L**
3.08	Objects falling from height	B	B	H	Operatives to comply with Company Health and Safety Plan Requirements Contractor to ensure toe boards are fitted to all platforms and scaffolds – hard hats to be used by all working under or near high level working - all equipment and materials to be carefully handled at	All	C	C	**L**

					high level with secondary or safety lines if necessary, including all lifting operations - no lone working				
3.09	Task lighting	C	B	M	Operatives to ensure adequate lighting using either existing lighting or festoon lighting supplemented with task lighting	Contractor	E	C	**VL**
3.10	Plant and equipment	B	B	H	Operatives to comply with Company Health and Safety Plan for the use of the correct tools, plant and equipment in accordance with good working practice, all tools, plant and equipment to be certified safe to use	Contractor	D	C	**L**
3.11	Working with electricity	A	A	VH	Operatives to comply with Company Health and Safety Plan and only qualified and certified staff to work with electrical services	Contractor	C	C	**L**
3.12	Working in ancient and listed buildings	D	A	M	Operatives shall take all necessary care and provide a reasonable protection of existing ancient fabric and artefacts – all valuable and vulnerable items to be removed by the client before the works commence	All	E	B	**L**
3.13									
3.14									
3.15									

1.12| CONTACT DETAILS

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1.9 END OF DOCUMENT

CES
LIGHTING & ELECTRICAL SPECIALISTS

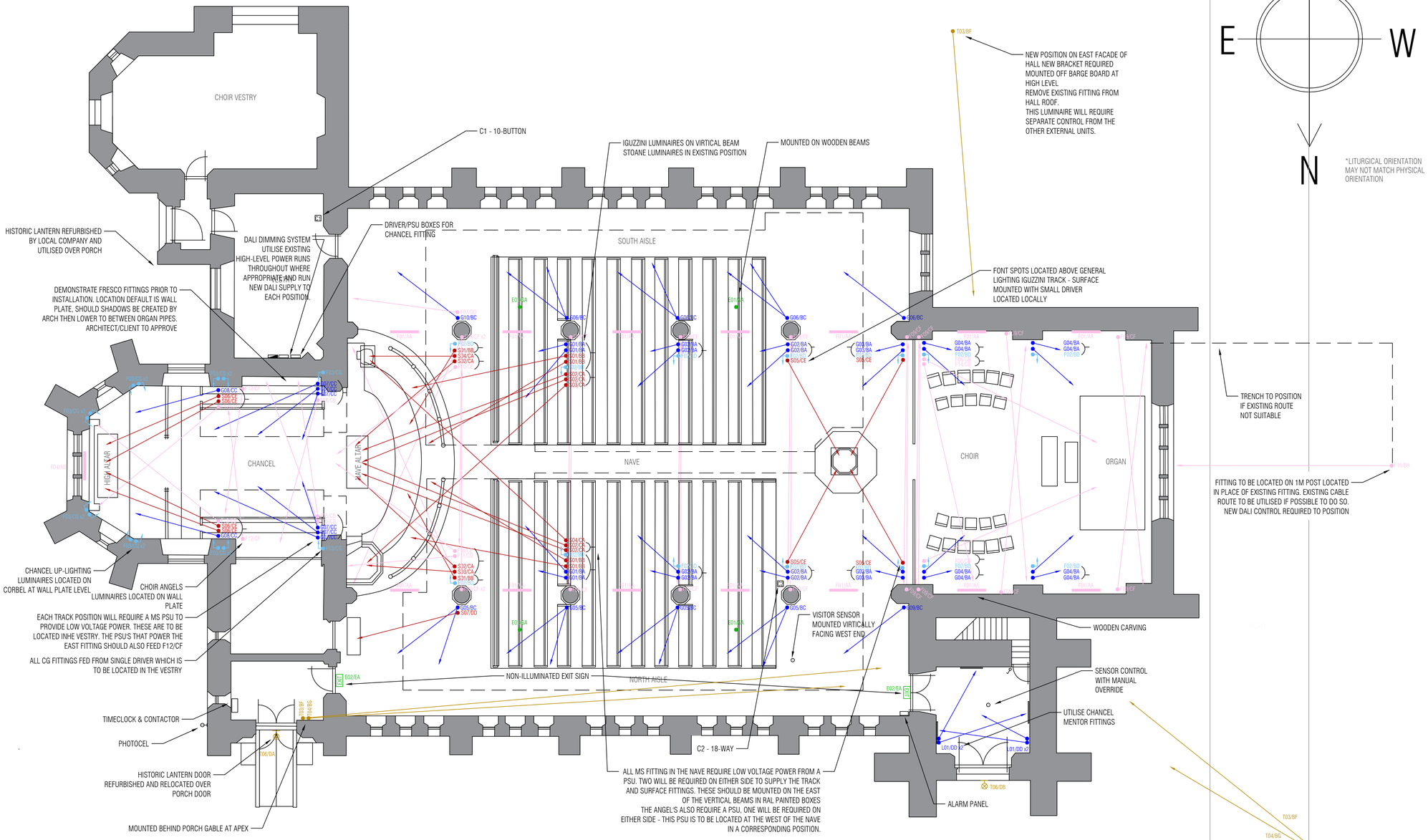
*All descriptions refer to the Liturgical orientation of the Church

St Stephens Dulwich
Luminaire Schedule
Project No: 7186
Revision: #4
Design Practice: CES

Tender Breakdown	Channel No.	Luminaire Ref.	QTY	Channel Description	Fixing Position (Method)	Luminaire type	Control Group	RCBO	LOAD	Luminaire Colour	Note
General Lighting	G01	BA	4	Nave Front	Vertical Nave Beams on Small Track	EVO Track Spotlight	DALI 1	RCBO 1+2	112	Matte Black	
	G02	BA	8	Nave Centre	Vertical Nave Beams on Small Track	EVO Track Spotlight	DALI 1	RCBO 1+2	224	Matte Black	
	G03	BA	4	Nave Rear	Vertical Nave Beams on Small Track	EVO Track Spotlight	DALI 1	RCBO 1+2	112	Matte Black	
	G04	BA	8	Choir (West end)	Vertical Nave Beams on Small Track	EVO Track Spotlight	DALI 1	RCBO 1+2	224	Matte Black	Note position, see drawing
	G05	BC	8	North Aisle	Surface Mounted at Apex facing East	EVO Surface Spotlight	DALI 2	RCBO 4	304.8	Matte Black	
	G06	BC	7	South Aisle	Surface Mounted at Apex facing East	EVO Surface Spotlight	DALI 2	RCBO 3	266.7	Matte Black	
	G07	CC	6	Chancel	MS Track Mounted Vertically on Beam	Track Spotlight	DALI 3	RCBO 5	TBC	RAL	PSU for tracks located in Vestry
	G08	CC	2	Sanctuary	MS Track Mounted Vertically on Beam	Track Spotlight	DALI 3	RCBO 5	TBC	RAL	PSU for tracks located in Vestry
	G09	BC	1	Entrance (N.Aisle)	Surface Mounted on Wall	EVO Surface Spotlight	DALI 2	RCBO 4	38.1	Matte Black	
	G10	BC	1	S.Aisle Spotlight - East end	Surface Mounted at Apex facing East	EVO Surface Spotlight	DALI 2	RCBO 3	38.1	Matte Black	
Service leading	S01	BB	4	Dais (Front)	Vertical Nave Beams on Small Track	EVO Track Spotlight	DALI 1	RCBO 1+2	112	Matte Black	
	S01	BB	2	Dais (top)	Vertical Nave Beams on Small Track	EVO Track Spotlight	DALI 1	RCBO 1+2	56	Matte Black	
	S02	CA	6	Dais Altar	MS Track Mounted Vertically on Beam	Track Spotlight	DALI 4	RCBO 6	TBC	#N/A	
	S03	CA	1	Pulpit Front	MS Track Mounted Vertically on Beam	Track Spotlight	DALI 4	RCBO 6	TBC	#N/A	
	S03	CA	1	Pulpit Top	MS Track Mounted Vertically on Beam	Track Spotlight	DALI 4	RCBO 6	TBC	#N/A	
	S04	CA	1	Lectern Front	MS Track Mounted Vertically on Beam	Track Spotlight	DALI 4	RCBO 6	TBC	#N/A	
	S04	CA	1	Lectern Top	MS Track Mounted Vertically on Beam	Track Spotlight	DALI 4	RCBO 6	TBC	#N/A	
	S05	CH	4	Font	Surface Mounted Vertically on Beams	Surface Spotlight	DALI 1	RCBO 9	TBC	#N/A	Upper Section - See Layout
	S06	CE	4	High Altar & Reredos	MS Track Mounted Vertically on Beam	Track Spotlight	DALI 3	RCBO 5	TBC	#N/A	
	S07	DD	1	N.Aisle Altar	Surface Mounted at Apex facing East	10° Fitting from Chancel	DALI 2	RCBO 4	18.5	#N/A	Driver in enclosure
Feature lighting	F01	AA	14	Clerestory Windows	Clerestory Reveal	Linear LED lensed light	DALI 4	RCBO 7	201.6	#N/A	To operate from dusk to 11pm when 'off' scene active
	F02	BD	14	Nave Roof	Surface Mounted Vertically on Beams	EVO Surface Spotlight	DALI 1	RCBO 9	TBC	#N/A	
	F03	CG	14	Chancel Roof	Surface Mounted at Wall Plate	Surface Spotlight	DALI 3	RCBO 8	TBC	#N/A	Driver located in Vestry
	F04	AB	1	East Window	East Window Lower Reveal	Linear LED lensed light	DALI 3	RCBO 8	21.6	#N/A	
	F05	CB	2	Fresco	MS Track Mounted Vertically on Beam	Track Spotlight	DALI 3	RCBO 5	TBC	#N/A	Confirm position with client / lighting designer prior to installation
	F06	CB	2	Choir Organ Pipes (West End)	MS Track Mounted Vertically on Beam	Track Spotlight	DALI 4	RCBO 6	TBC	#N/A	Note position, see drawing | Red + Blue Diachronic Lenses
	F07	DD	1	Bradford Memorial	Surface Mounted at Apex facing East	10° Fitting from Chancel	DALI 2	RCBO 3	18.5	#N/A	Driver in enclosure
	F08	CB	1	Chancel Organ Pipes	MS Track Mounted Vertically on Beam	Track Spotlight	DALI 3	RCBO 8	TBC	#N/A	
	F09	CF	18	Nave Angel Corbels	Surface Mounted at Corbel	Surface Spotlight	DALI 4	RCBO 7	TBC	#N/A	
	F10	CE	2	High Level Angel Painting	MS Track Mounted Vertically on Beam	Track Spotlight	DALI 4	RCBO 6	31.8	#N/A	
	F11	CD	1	Pulpit Cross	MS Track Mounted Vertically on Beam	Track Spotlight	DALI 4	RCBO 6	TBC	#N/A	
	F12	CD	2	Chancel Angels	MS Track Mounted Vertically on Beam	Track Spotlight	DALI 3	RCBO 8	TBC	#N/A	
	F12	CF	2	Chancel Angels	Surface Mounted Vertically on Beams	Surface Spotlight	DALI 3	RCBO 8	TBC	#N/A	
	F14	CD	1	Rear Choir End Carving	MS Track Mounted Vertically on Beam	Track Spotlight	DALI 1	RCBO 9	TBC	RAL	Note position, see drawing
	F15	BH	1	West Window Backlight	Externally on New Concrete Pad	Exterior Spotlight	DALI 1	RCBO 9	132.4	Grey	New cable required, follow existing route if possible. 1m post required.
Other internal	L01	DD	4	Inner West Porch	Wall Mounted - See Layout	10° Fitting from Chancel	N/A	N/A	74	Black	3x notice board + 1x downlight | Sensor + Manual override
External lighting	~~T01~~	~~BI~~	~~Five~~	~~Lower Wall Façade~~	~~New Position Behind Flowerbeds~~	~~Exterior Spotlight~~	~~N/A~~	~~N/A~~	~~#VALUE!~~	~~Grey~~	
	T02	BE	1	Memorial	Utilise existing Pad + Cage - See Drawing	Exterior Spotlight	N/A	N/A	11.1	Grey	Utilise existing concrete pad, cage and wiring
	T03	BF	4	Spire Lights	Various - See Drawing	Exterior Spotlight	N/A	N/A	124.4	Grey	Gabel Apex for East mounted fittings over porch - South Spire to be located on bracket off Barge board
	T04	BG	3	Tower Façade	Various - See Drawing	Exterior Spotlight	N/A	N/A	93.3	Grey	Gabel Apex for East mounted fittings over porch
	T05	DB	1	West Porch	Existing Lantern - Retain	Existing Lantern	N/A	N/A	6	Black	Replace with new LED lamp
	T06	DA	1	East Porch	Central over Entrance	Refurbished Lantern	N/A	N/A	6	Black	Lantern from near Vestry restored by local company and utilised over West Porch
	T07	DC	1	Notice Board Lighting	Existing Lights	Existing Notice Board Lights	N/A	N/A	0	0	No Changes required - connect up to new external lighting controls
Dedicated Emergency	E01	GA	4	Nave + Aisle Emergency	Surface Mounted - See Drawing	Surface Emergency OA	N/A	N/A	12	Black	Battery pack to be located at low level with dimming system
	E02	EA	2	North Aisle Exit Signs	Surface Mounted - See Drawing	Non-illuminated Exit Sign	N/A	N/A	0	Penny Bronze	One over West Door + One on East Door

Luminaire Summary

Luminaire Ref.	Manufacturer	P/N	QTY	Luminaire Type	Beam Angle	Wattage (w)	Fixing type	Colour Temp.	CRI	Lumen Output	Dimming Type	Luminaire Colour	Driver Info	Emergency Type	Accessories	Description/Note
AA	Light Projects	LED 1FLux Bar	14	Linear LED lensed light	30°	14.4	Surface	2700k	>90	2850	DALI	White	Remote	-	Adjustable Clips - 4286-2903-4	4480-54871-927-1000mm | Contractor to allow for painted metal Baffle
AB	Light Projects	LED 1FLux Bar	1	Linear LED lensed light	30°	21.6	Surface	2700k	>90	950	DALI	White	Remote	-	Adjustable Clips - 4286-2903-4	4480-54872-927-1500mm
BA	iGuzzini	R307	24	EVO Track Spotlight	29°	28	Track	3000k	>90	2700	DALI	Matte Black	Integral	-	Honeycomb	
BB	iGuzzini	R306	6	EVO Track Spotlight	17°	28	Track	3000k	>90	2700	DALI	Matte Black	Integral	-	Honeycomb	
BC	iGuzzini	R350	17	EVO Surface Spotlight	38°	38.1	Surface	3000k	>80	4480	DALI	Matte Black	Integral	-	Honeycomb	
BD	iGuzzini	R283	14	EVO Surface Spotlight	29°	17	Track	2700K	>90	2025	DALI	Matte Black	Integral	-	Honeycomb	
BE	iGuzzini	EP49	1	Exterior Spotlight	12°	11.1	Surface	2700k	>80	781	On/OFF	Grey	Integral	-	BZ53 Spreader + BZ49 Frame + BZ59 Visor	
BF	iGuzzini	BG36	4	Exterior Spotlight	10°	31.1	Surface	2700k	>80	3280	On/OFF	Grey	Integral	-	BZ87 x Barn doors + BZ77 Frame	Post mount required for one unit
BG	iGuzzini	BG38	3	Exterior Spotlight	20°	31.1	Surface	2700k	>80	2920	On/OFF	Grey	Integral	-	BZ87+P124 x Barn doors + BZ80 Spreader +BZ77 Frame	Post mount required for one unit
BH	iGuzzini	ET86	1	Exterior Spotlight	28°	132.4	Surface	2700k	>80	13338	DALI	Grey	Integral	-	X503 - Snoot	
BI	iGuzzini	EH96	0	Exterior Spotlight	86°	10.9	Spike	2700k	>80	682	On/OFF	Grey	Integral		X272 Spike	
CA	Mike Stoane	ZTA 70 XOB 9mm	10	Track Spotlight	12°	15.9	LV Track	3000k	95	TBC	DALI	Matte Black	Remote	-	Honeycomb	
CB	Mike Stoane	ZTA 70 XOB 9mm	5	Track Spotlight	15.1°	15.9	LV Track	2700k	95	1078	DALI	RAL	Remote	-	Honeycomb	
CC	Mike Stoane	ZTA 70 XOB 19mm	8	Track Spotlight	24.9°	23.5	LV Track	3000k	90	TBC	DALI	RAL	Remote	-	Honeycomb	
CD	Mike Stoane	ZTA 70 Oslon	4	Track Spotlight	3.5°	4	LV Track	2700k	90	TBC	DALI	RAL	Remote	-	Honeycomb	
CE	Mike Stoane	ZTA 70 XOB 9mm	6	Track Spotlight	12°	15.9	LV Track	2700k	95	TBC	DALI	RAL	Remote	-	Honeycomb	Matte Black in Nave / Bespoke RAL in Chancel
CF	Mike Stoane	ZTA 70 Oslon	20	Surface Spotlight	3.5°	4	Surface	2700k	95	250	DALI	RAL	Remote	-	Honeycomb	Matte Black in Nave / Bespoke RAL in Chancel - Local low-voltage drivers
CG	Mike Stoane	Tadpole	14	Surface Spotlight	10° x 46°	4	Surface	2700k	95	143	DALI	RAL	Remote	-	Slash-cut Snoot	
CH	Mike Stoane	ZTA 70 XOB 9mm	4	Surface Spotlight	12°	15.9	Surface	2700k	95	TBC	DALI	Matte Black	Remote	-	Honeycomb	Local low-voltage drivers
DA	Client Supply	Historic Lantern	1	Refurbished Lantern	Wide	6	Surface	2700k	>90	650	Non Dim	Black	N/A	-	Zico Lighting 6w Lamp GLS E27	Client to refurbish historic lantern
DB	Existing Lights	Existing	1	Existing Lantern	Wide	6	Surface	2700k	>90	650	Non Dim	Black	N/A	-	Zico Lighting 6w Lamp GLS E27	
DC	Existing Lights	Existing	1	Existing Notice Board Lights												
DD	Existing Mentor / Soraa	Existing	6	10° Fitting from Chancel	10°	18.5	Surface	TBC	>95	1000	DALI	Black			Honeycomb Louvre	Utilise Chancel Spotlights - New DALI Drivers, convert to Surface mount
EA	Philip Payne	250MCRH	2	Non-illuminated Exit Sign	-	0	Surface	-	-	-	-	Penny Bronze	-	-		Non illuminated exit Sign
GA	Basis Liteplan	E513	4	Surface Emergency OA	Open Area	3	Surface	5000k	>80	TBC	-	Black	-	-	Battery Pack	Remote battery pack to be located with dimmer



Origin Arch.		Rev.	Cad Ref		
Origin Struc.		Rev.	Drawn by	JH	

Standard Notes
1. DO NOT SCALE THIS DRAWING. WORK TO DIMENSIONS GIVEN.
2. ALL DIMENSIONS TO BE VERIFIED FROM SITE MEASUREMENT.
3. DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE STATED.

LIGHTING KEY:	SMALL POWER KEY:
GENERAL LIGHTING	SINGLE GANG SWITCH
FEATURE LIGHTING	PULL CORD SWITCH
SERVICE LEADING	DOUBLE GANG SWITCH
FACADE LIGHTING	TRIPLE GANG SWITCH
UP-LIGHTING	SINGLE TWO WAY SWITCH
EMERGENCY LIGHTING	DOUBLE TWO WAY SWITCH
EXTERNAL LIGHTING	TRIPLE TWO WAY SWITCH
LOCAL SWITCHED LIGHTING	ROTARY DIMMER SWITCH
	SINGLE SOCKET
	SINGLE SOCKET FOR LAMP
	DOUBLE SOCKET
	WEATHERPROOF SOCKET
	DISTRIBUTION BOARD
	MOTION SENSOR
	WALL MOUNTED PHOTOCELL
	24 hr TIMECLOCK
	LIGHTING CONTROL POINT
	EXTRACT FAN
	HEAT OR SMOKE DETECTOR
	FIRE ALARM BELL
	FIRE ALARM STATION
	FIRE ALARM CENTRAL STATION
	STROBE
	FIRE ALARM SOUNDER

NOTES:

CLERESTORY + CHANCEL UPLIGHITNG + REREDOS + ANGELS TO BE PROGRAMMED TO TURN ON AT DUSK AND OFF AT A SET TIME E.G. 11PM (ONLY WHEN OFF SCENE IS ACTIVE)

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Website: www.ces-lighting.co.uk

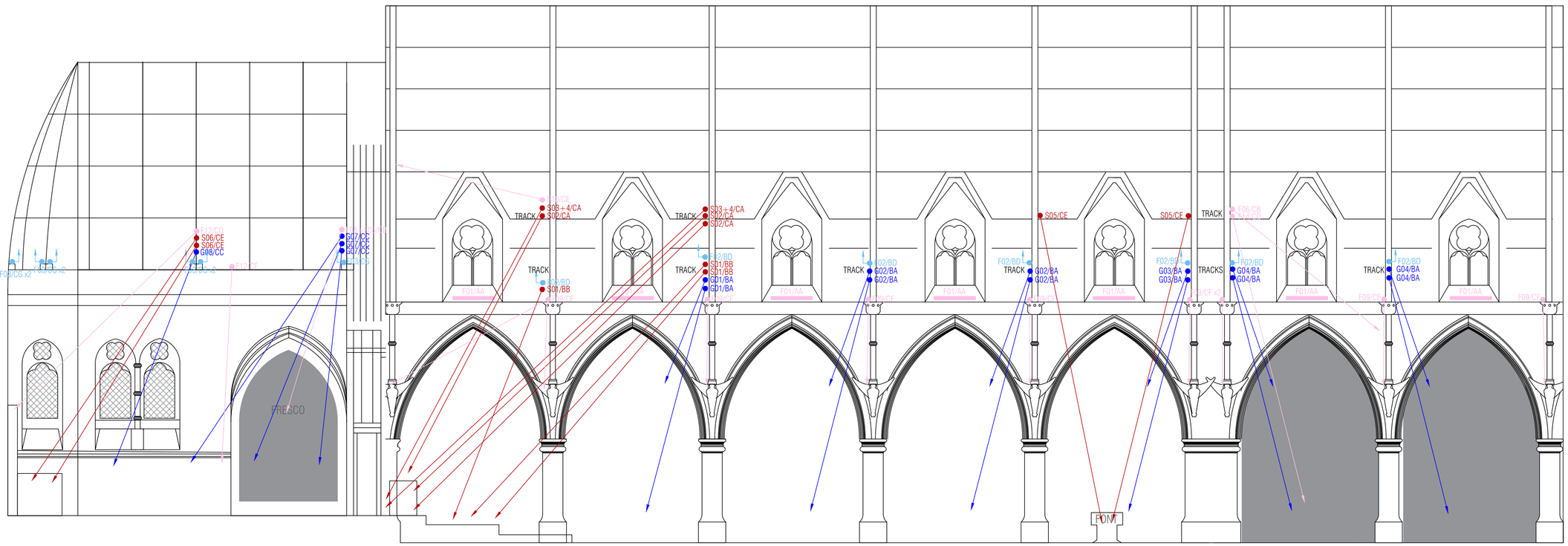
Client
ST STEPHANS CHURCH
DULWICH

Project
CES/7186

Drawing Title
LIGHTING LAYOUT

Drg No.	Revision
7186-L01	3

Scale	Date	Engineer	Checked	Drawing of
NTS@A1	APRIL'21	RS	RS	1/2



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LIGHTING KEY:

- GENERAL LIGHTING
- FEATURE LIGHTING
- SERVICE LEADING
- FACADE LIGHTING
- UP-LIGHTING
- EMERGENCY LIGHTING
- EXTERNAL LIGHTING
- LOCAL SWITCHED LIGHTING

SMALL POWER KEY:

- SINGLE GANG SWITCH
- PULL CORD SWITCH
- DOUBLE GANG SWITCH
- TRIPLE GANG SWITCH
- SINGLE TWO WAY SWITCH
- DOUBLE TWO WAY SWITCH
- TRIPLE TWO WAY SWITCH
- ROTARY DIMMER SWITCH
- SINGLE SOCKET
- SINGLE SOCKET FOR LAMP
- DOUBLE SOCKET
- WEATHERPROOF SOCKET
- DISTRIBUTION BOARD
- MOTION SENSOR
- WALL MOUNTED PHOTOCELL
- 24 hr TIMECLOCK
- LIGHTING CONTROL POINT
- EXTRACT FAN
- HEAT OR SMOKE DETECTOR
- FIRE ALARM BELL
- FIRE ALARM STATION
- FIRE ALARM CENTRAL STATION
- STROBE
- FIRE ALARM SOUNDER

NOTES:

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Website: www.ces-lighting.co.uk

Client
ST STEPHANS CHURCH
DULWICH

Project
CES/7186

Drawing Title
LIGHTING LAYOUT

Drg No.	Revision
7186-E01	3

Scale	Date	Engineer	Checked	Drawing of
NTS@A1	APRIL'21	RS	RS	2/2

CES
LIGHTING & ELECTRICAL
SPECIALISTS

MANUFACTURERS DATA SHEETS

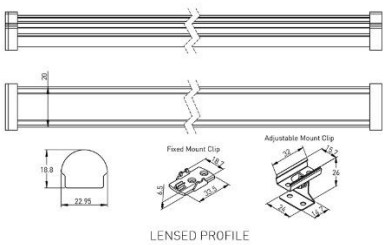
CLIENT ADDRESS
St Stephen's Church
College Road
Dulwich
London SE21 7HW

PROJECT DETAILS

Design Practice: CES LLP
Project Number: 7186
Date: 12/08/2021

LUMINAIRE DATA SHEET | LUMINAIRE REF:

AA AB



	AA	AB
Product	LED 1Flux Bar	
Wattage	14.4W	21.6W
CRI (Colour Rendering Index)	>90	
Colour Temperature	2700K +	
Beam Angle	30˚	
Dimming Type	DALI	
Luminaire Colour	White	
Fitting Type	Surface	
Accessory	Adjustable Clips – 4286–2903-4	
Lumen Output	2850lm	950lm

ADDITIONAL INFORMATION:

AA - 4480-54871-927-1000mm

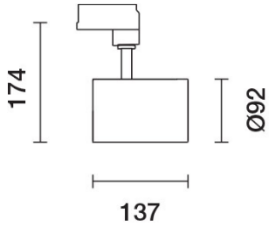
AB - 4480-54872-927-1500mm

Light Projects
23 Jacob Street
London SE1 2BG
020 7231 8282
info@lightprojects.co.uk

LUMINAIRE DATA SHEET | LUMINAIRE REF:

BA BB

Fitting in Black



	BA	BB
Code	Tecnica Evo R307	Tecnica Evo R306
Wattage	28W	
CRI (Colour Rendering Index)	>90	
Colour Temperature	3000K	
Beam Angle	29˚	15.9°
Dimming Type	DALI	
Luminaire Colour	Black	
Fitting Type	Track	
Accessory	Honeycomb	
Lumen Output	2700lm	

ADDITIONAL INFORMATION:

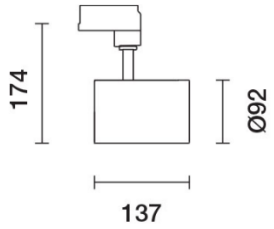
For full details of specified item see Lighting Equipment Schedule

iGuzzini illuminazione UK Limited
Astolat Business Park, Astolat Way
Off Old Portsmouth Road
Guildford
Surrey GU3 1NE
01483 468000
info@iguzzini.co.uk

LUMINAIRE DATA SHEET | LUMINAIRE REF:

BC BD

Fitting in Black
Surface fitting



	BC	BD
Code	R350	R283
Wattage	38.1W	28W
CRI (Colour Rendering Index)	>80	>90
Colour Temperature	3000K	
Beam Angle	38°	29°
Dimming Type	DALI	
Luminaire Colour	Black	
Fitting Type	Surface	
Accessory	Honeycomb	
Lumen Output	4480lm	2700lm

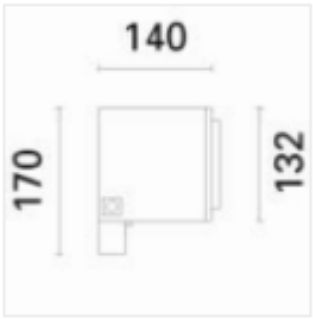
ADDITIONAL INFORMATION:

For full details of specified item see Lighting Equipment Schedule

iGuzzini illuminazione UK Limited
Astolat Business Park, Astolat Way
Off Old Portsmouth Road
Guildford
Surrey GU3 1NE
01483 468000
info@iguzzini.co.uk

LUMINAIRE DATA SHEET | LUMINAIRE REF:

BE



Code	EP49 Exterior Spotlight
Wattage	11.1W
CRI (Colour Rendering Index)	>80
Colour Temperature	2700K
Beam Angle	12°
Dimming Type	?
Luminaire Colour	Grey
Fitting Type	Surface
Accessories	BZ53 Spreader + BZ49 Frame + BZ59 Visor
Lumen Output	781lm

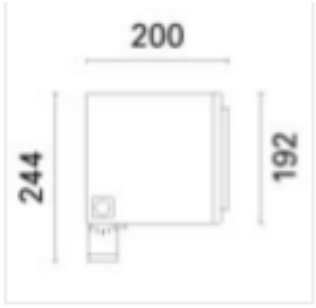
ADDITIONAL INFORMATION:

For full details of specified item see Lighting Equipment Schedule

iGuzzini illuminazione UK Limited
Astolat Business Park, Astolat Way
Off Old Portsmouth Road
Guildford
Surrey GU3 1NE
01483 468000
info@iguzzini.co.uk

LUMINAIRE DATA SHEET | LUMINAIRE REF:

BF BG



	BF	BG
Code	BG36	BG38
Wattage	31.1W	
CRI (Colour Rendering Index)	>80	
Colour Temperature	2700K	
Beam Angle	10°	12°
Dimming Type	?	
Luminaire Colour	Grey	
Fitting Type	Surface	
Accessories	See below	
Lumen Output	3280lm	2920lm

ADDITIONAL INFORMATION:

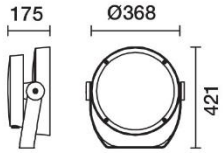
BF - BZ87 x Barn doors + BZ77 Frame

BG - BZ87+P124 x Barn doors + BZ80 Spreader +BZ77 Frame

iGuzzini illuminazione UK Limited
Astolat Business Park, Astolat Way
Off Old Portsmouth Road
Guildford
Surrey GU3 1NE
01483 468000
info@iguzzini.co.uk

LUMINAIRE DATA SHEET | LUMINAIRE REF:

BH



Code	EP91 Exterior Spotlight
Wattage	116w
CRI (Colour Rendering Index)	>80
Colour Temperature	2700K
Beam Angle	28°
Dimming Type	DALI
Luminaire Colour	Grey
Fitting Type	Post Mounted
Accessories	X503 Snoot
Lumen Output	5115.5lm

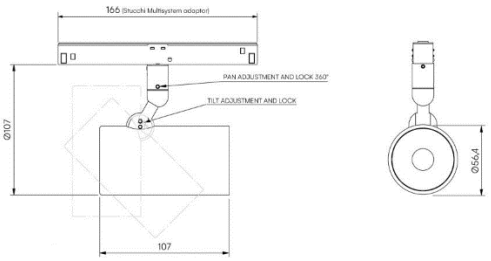
ADDITIONAL INFORMATION:

For full details of specified item see Lighting Equipment Schedule

iGuzzini illuminazione UK Limited
Astolat Business Park, Astolat Way
Off Old Portsmouth Road
Guildford
Surrey GU3 1NE
01483 468000
info@iguzzini.co.uk

LUMINAIRE DATA SHEET | LUMINAIRE REF:

CA CB
CC CE



	CA	CB	CC	CE
Code	ZTA.70.XOB Stucchi Track			
Wattage	TBC			
CRI (Colour Rendering Index)	95	95	90	90
Colour Temperature	3000K	2700K	3000K	2700K
Beam Angle	12°	15.1°	24.9°	12°
Dimming Type	DALI			
Luminaire Colour	RAL			
Fitting Type	Low Voltage Track			
Accessory	Honeycomb			
Lumen Output	TBC	TBC	TBC	TBC

ADDITIONAL INFORMATION:

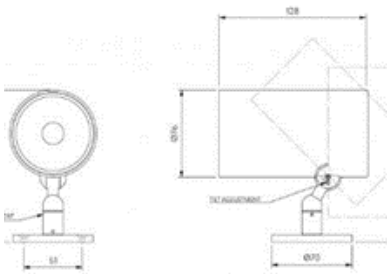
All 9mm LED chip except CC which is 19mm

MIKE **STOANE** LIGHTING

Mike Stoane Lighting
20 Dryden Road
Bilston Glen Industrial Estate
Loanhead
Midlothian EH20 9LZ
0131 4401313
sales@mikestoanelighting.com

LUMINAIRE DATA SHEET | LUMINAIRE REF:

CD CF



Code	CD	CF
	ZTA.70 Oslon	
Wattage	TBC	
CRI (Colour Rendering Index)	90	
Colour Temperature	2700K	
Beam Angle	3.5˚	
Dimming Type	DALI	
Luminaire Colour	RAL	
Fitting Type	Track	Surface
Accessory	Honeycomb	
Lumen Output	TBC	

ADDITIONAL INFORMATION:

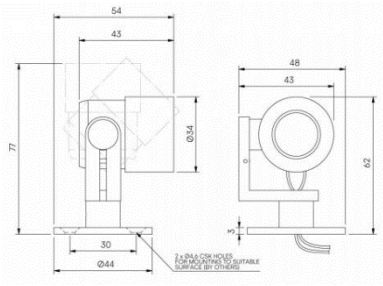
For full details of specified item see Lighting Equipment Schedule

MIKE STOANE LIGHTING

Mike Stoane Lighting
20 Dryden Road
Bilston Glen Industrial Estate
Loanhead
Midlothian EH20 9LZ
0131 4401313
sales@mikestoanelighting.com

LUMINAIRE DATA SHEET | LUMINAIRE REF:

CG

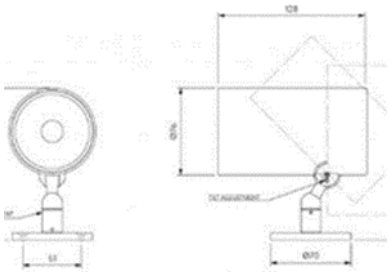
	
Code	Tadpole
Wattage	TBC
CRI (Colour Rendering Index)	95
Colour Temperature	2700K
Beam Angle	10˚ x 46°
Dimming Type	DALI
Luminaire Colour	RAL
Fitting Type	Surface
Accessory	Slash cut snoot
Lumen Output	143lm
ADDITIONAL INFORMATION: For full details of specified item see Lighting Equipment Schedule	

MIKE STOANE LIGHTING

Mike Stoane Lighting
20 Dryden Road
Bilston Glen Industrial Estate
Loanhead
Midlothian EH20 9LZ
0131 4401313
sales@mikestoanelighting.com

LUMINAIRE DATA SHEET | LUMINAIRE REF:

CG

	
Code	ZTA70 XOB 9mm
Wattage	TBC
CRI (Colour Rendering Index)	95
Colour Temperature	2700K
Beam Angle	15.9°
Dimming Type	DALI
Luminaire Colour	RAL
Fitting Type	Surface
Accessory	Honeycomb
Lumen Output	TBC
ADDITIONAL INFORMATION: For full details of specified item see Lighting Equipment Schedule	

MIKE **STOANE** LIGHTING

Mike Stoane Lighting
20 Dryden Road
Bilston Glen Industrial Estate
Loanhead
Midlothian EH20 9LZ
0131 4401313
sales@mikestoanelighting.com

LUMINAIRE DATA SHEET | LUMINAIRE REF:

DA DB

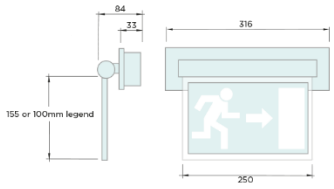
	
Code	Zico lamp fitted to existing lanterns
Wattage	6W
CRI (Colour Rendering Index)	90
Colour Temperature	2700K
Beam Angle	Wide
Dimming Type	Non
Luminaire Colour	RAL
Fitting Type	N//A
Accessory	-
Lumen Output	650lm
ADDITIONAL INFORMATION: Client is to arrange the refurbishment of the lantern for repurposing at the East Porch of the Church.	

Zico Lighting
3rd Floor
207 Regent Street
London
W1B 3HH
0207 223 3087
admin@zicolighting

LUMINAIRE DATA SHEET | LUMINAIRE REF:

EA

Frame colour in Penny Bronze



Code	250MCRH
Wattage	Non illuminated
CRI (Colour Rendering Index)	-
Colour Temperature	-
Beam Angle	-
Dimming Type	-
Luminaire Colour	Penny Bronze
Fitting Type	Surface
Emergency Type	-
Material	-

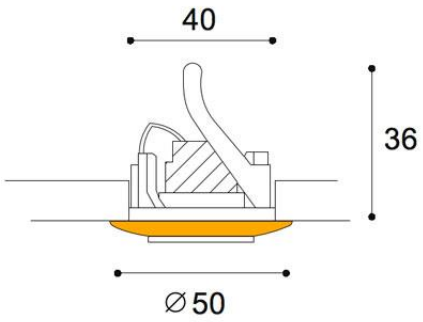
ADDITIONAL INFORMATION:

For full details of specified item see Lighting Equipment Schedule

Philip Payne Limited
Thornhill House
Thornhill Road
Solihull
Birmingham B91 2HB
01217 052384
sales@philippayne.co.uk

LUMINAIRE DATA SHEET | LUMINAIRE REF:

GA



Code	E513
Wattage	3W
CRI (Colour Rendering Index)	>80
Colour Temperature	5000K
Beam Angle	Open Area
Dimming Type	Non
Luminaire Colour	Black
Fitting Type	*Surface*
Emergency Type	Non-maintained
Lumen output	TBC

ADDITIONAL INFORMATION:

Further detail can be found on the luminaire schedule.

Basis Lighting Limited
Units 3-4
The Dove Centre
109 Bartholomew Road
London NW5 2BJ
020 7284 2040
sales@basislighting.com

	 Buttons labelled 1 – 8 on + off
Unit Code	eDIN +
Dimming Protocol	DALI
Numner of UBC's	4
Interface Type	Web App | Control Plate
Control Plate Type	ICON
Control Plate Layout	1x 10-button + 1 x 18button + 1x M-bus movement sensor
ADDITIONAL INFORMATION: For full details of specified item see Lighting Equipment Schedule	

Mode Lighting Limited
The Maltings
63 High Street
Ware
Hertfordshire
SG12 9AD
United Kingdom

Contact Technical
Tel:+44 (0) 1920 462266
email: technical@modelighting.com

MODE LIGHTING
CONTROLLING THE FUTURE OF LIGHTING

END OF DOCUMENT

Proposed Emergency Lighting

Installation : St Stephen Dulwich

Project number : 7186
Customer :
Processed by : CES Lighting and Electrical Specialists LLP
Date : 12.05.2021

Project description:
Assumptions / Approximations:

- Scale and positions based on drawings supplied.
- Where unknown, heights of buildings and objects based on estimations
- All calcualtions are for guidance purposes only

1 Luminaire data

1.1 Liteplan, LED/40/OA - 700mA (LED/40/OA - 700mA)

1.1.1 Data sheet

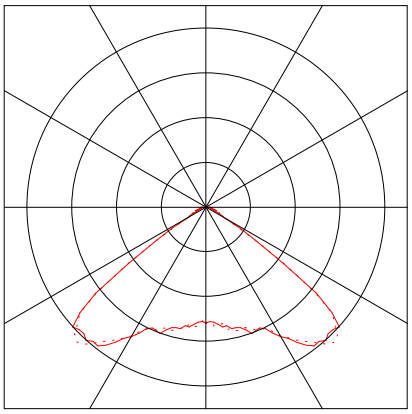
Manufacturer: Liteplan

LED/40/OA - 700mA **LED/40/OA - 700mA**

Luminaire data

Luminaire efficiency	:	100%
Luminaire efficacy	:	90 lm/W
Classification	:	A50 ↓100.0% ↑0.0%
CIE Flux Codes	:	52 95 99 100 100
UGR 4H 8H	:	30.1 / 30.0
Power	:	2.3 W
Luminous flux	:	207 lm

Dimensions : Ø50 mm x 37 mm



Equipped with

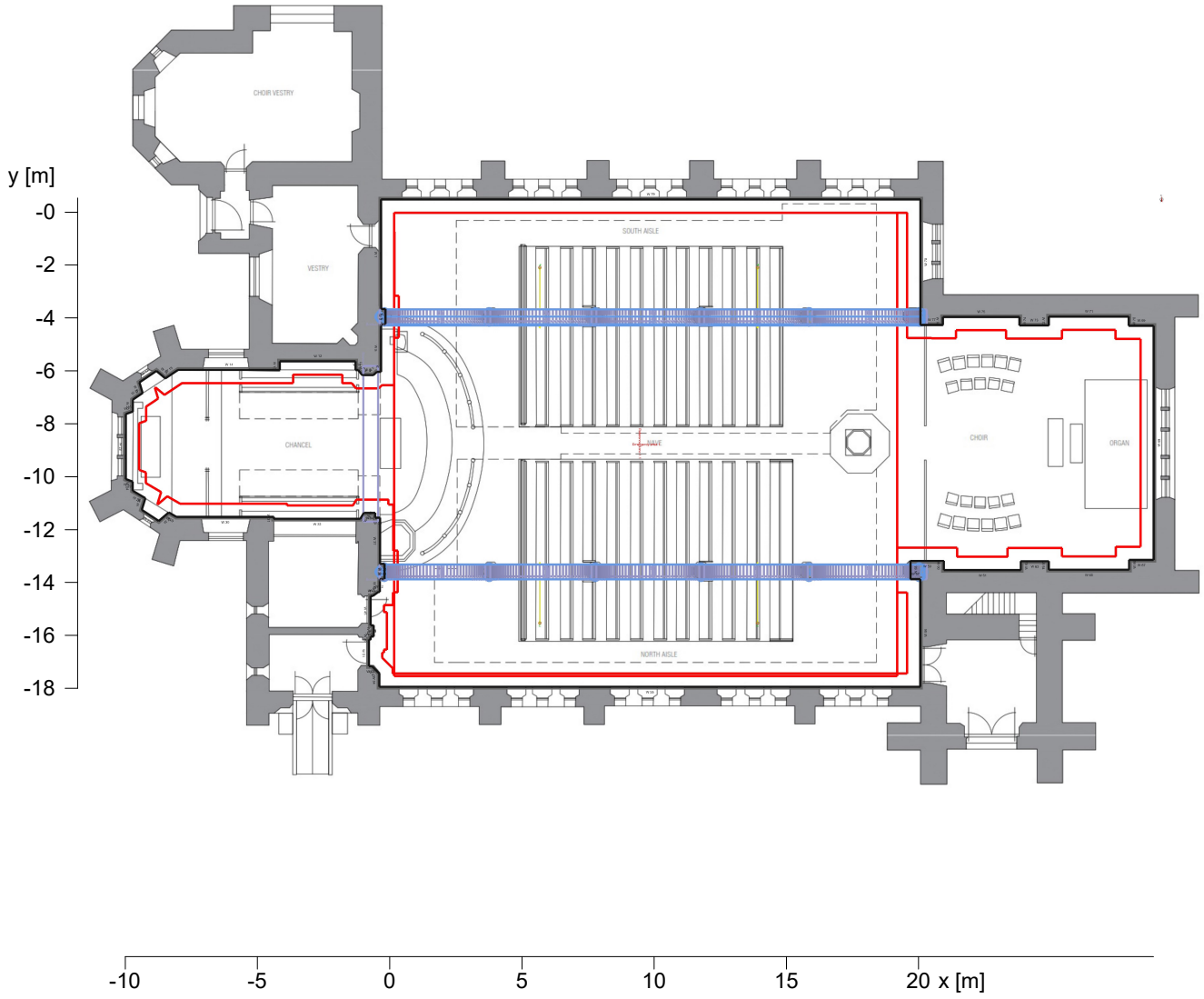
Quantity	:	1
Designation	:	LED
Colour	:	6000
Luminous flux	:	207 lm
Colour reproduction	:	70

Emergency Lighting
Light source from normal operation with reduced flux
Luminous flux : 207 lm

2 Emergency Lighting

2.1 Description, Emergency Lighting

2.1.1 Floor plan



2 Emergency Lighting

2.1 Description, Emergency Lighting

2.1.1 Floor plan

Wall	x	y	Length	Reflectance
1	11.47 m	18.07 m	4.14 m	55.9 %
2	11.63 m	18.07 m	0.16 m	55.9 %
3	11.63 m	17.50 m	0.58 m	55.9 %
4	11.47 m	17.50 m	0.17 m	55.9 %
5	11.47 m	15.70 m	1.79 m	55.9 %
6	11.31 m	15.70 m	0.16 m	55.9 %
7	11.18 m	15.58 m	0.18 m	55.9 %
8	10.76 m	15.58 m	0.42 m	55.9 %
9	10.60 m	15.77 m	0.25 m	55.9 %
10	10.50 m	15.77 m	0.10 m	55.9 %
11	10.50 m	16.10 m	0.33 m	55.9 %
12	7.64 m	16.10 m	2.86 m	55.9 %
13	7.64 m	15.78 m	0.32 m	55.9 %
14	3.80 m	15.78 m	3.84 m	55.9 %
15	3.32 m	15.46 m	0.58 m	55.9 %
16	2.98 m	15.74 m	0.44 m	55.9 %
17	2.34 m	15.30 m	0.77 m	55.9 %
18	2.46 m	14.90 m	0.42 m	55.9 %
19	2.09 m	14.65 m	0.45 m	55.9 %
20	2.09 m	14.20 m	0.45 m	55.9 %
21	1.83 m	14.11 m	0.28 m	55.9 %
22	1.83 m	11.65 m	2.45 m	55.9 %
23	2.08 m	11.56 m	0.27 m	55.9 %
24	2.08 m	11.21 m	0.35 m	55.9 %
25	2.56 m	10.93 m	0.56 m	55.9 %
26	2.43 m	10.49 m	0.46 m	55.9 %
27	3.07 m	10.07 m	0.77 m	55.9 %
28	3.45 m	10.39 m	0.50 m	55.9 %
29	3.73 m	10.23 m	0.33 m	55.9 %
30	7.42 m	10.23 m	3.68 m	55.9 %
31	7.42 m	10.15 m	0.07 m	55.9 %
32	10.68 m	10.15 m	3.27 m	55.9 %
33	10.82 m	10.38 m	0.26 m	55.9 %
34	11.24 m	10.38 m	0.43 m	55.9 %
35	11.24 m	10.19 m	0.18 m	55.9 %
36	11.43 m	10.19 m	0.19 m	55.9 %
37	11.43 m	8.45 m	1.74 m	55.9 %
38	11.60 m	8.45 m	0.17 m	55.9 %
39	11.60 m	7.87 m	0.58 m	55.9 %
40	11.42 m	7.87 m	0.18 m	55.9 %
41	11.42 m	7.39 m	0.48 m	55.9 %
42	11.37 m	7.39 m	0.05 m	55.9 %
43	11.15 m	7.24 m	0.27 m	55.9 %
44	11.07 m	7.24 m	0.08 m	55.9 %
45	11.07 m	6.13 m	1.11 m	55.9 %
46	11.19 m	6.13 m	0.12 m	55.9 %
47	11.19 m	5.71 m	0.42 m	55.9 %
48	11.07 m	5.71 m	0.12 m	55.9 %
49	11.07 m	5.59 m	0.11 m	55.9 %
50	11.01 m	5.59 m	0.06 m	55.9 %
51	11.01 m	4.59 m	1.01 m	55.9 %
52	11.12 m	4.59 m	0.11 m	55.9 %
53	11.40 m	4.30 m	0.40 m	55.9 %
54	11.40 m	3.81 m	0.50 m	55.9 %
55	31.84 m	3.81 m	20.44 m	55.9 %
56	31.84 m	7.87 m	4.07 m	55.9 %
57	31.47 m	7.87 m	0.37 m	55.9 %
58	31.47 m	8.56 m	0.69 m	55.9 %
59	32.73 m	8.56 m	1.26 m	55.9 %

2 Emergency Lighting

2.1 Description, Emergency Lighting

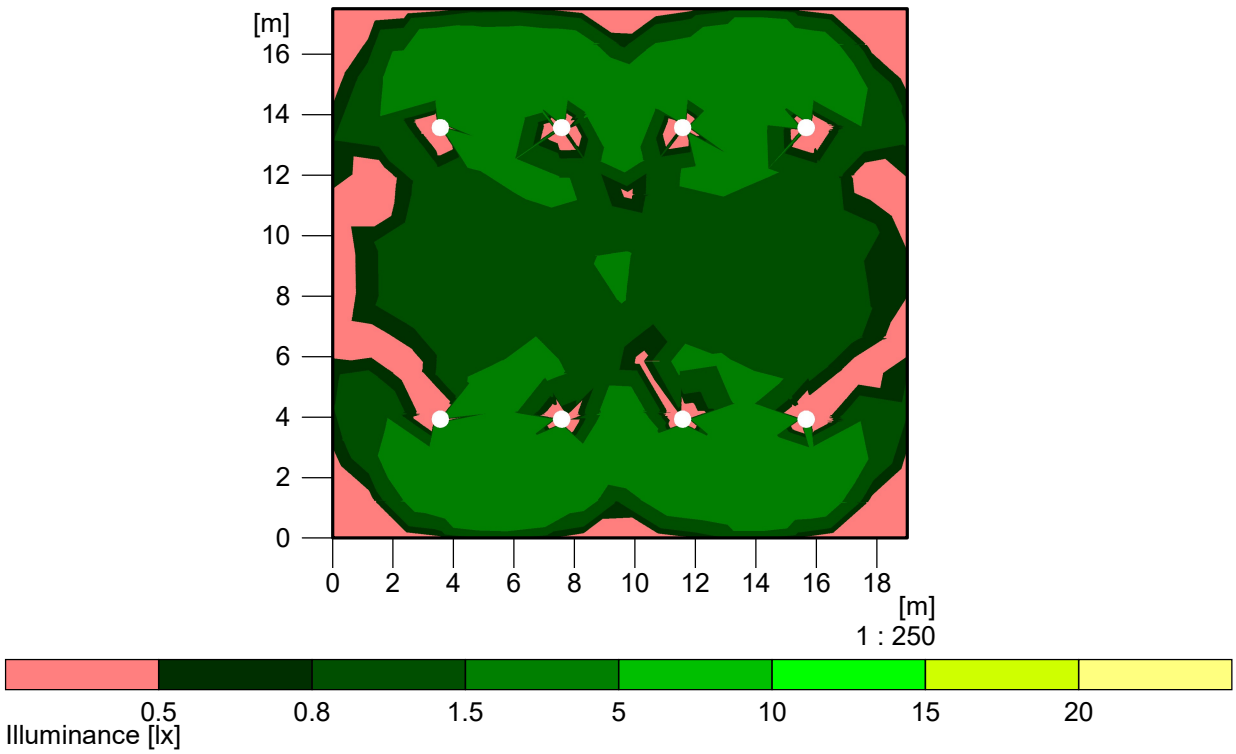
2.1.1 Floor plan

60	32.73 m	8.22 m	0.34 m	55.9 %
61	35.64 m	8.22 m	2.91 m	55.9 %
62	35.64 m	8.55 m	0.33 m	55.9 %
63	36.69 m	8.55 m	1.06 m	55.9 %
64	36.69 m	8.23 m	0.32 m	55.9 %
65	39.73 m	8.23 m	3.03 m	55.9 %
66	39.73 m	8.60 m	0.37 m	55.9 %
67	40.66 m	8.60 m	0.93 m	55.9 %
68	40.66 m	17.44 m	8.84 m	55.9 %
69	39.72 m	17.44 m	0.94 m	55.9 %
70	39.72 m	17.79 m	0.34 m	55.9 %
71	36.69 m	17.79 m	3.02 m	55.9 %
72	36.69 m	17.46 m	0.33 m	55.9 %
73	35.59 m	17.46 m	1.11 m	55.9 %
74	35.59 m	17.78 m	0.32 m	55.9 %
75	32.69 m	17.78 m	2.89 m	55.9 %
76	32.69 m	17.48 m	0.30 m	55.9 %
77	31.84 m	17.48 m	0.85 m	55.9 %
78	31.84 m	22.21 m	4.74 m	55.9 %
79	11.47 m	22.21 m	20.38 m	55.9 %
Floor				63.7 %
Ceiling				83.5 %
Room height		12.00 m		
Height of ref. plane		0.75 m		

2 Emergency Lighting

2.2 Calculation results, Emergency Lighting

2.2.1 Boundary line, Emergency area 1 (E)



Required minimum illuminance		: 0.5 lx
Minimum illuminance	Emin	: 0 lx
Maximum illuminance	Emax	: 4.1 lx
Diversity	Emin/Emax	: --- (Threshold value 1:40)
Height		: 0 m
Calculation algorithm used		: Direct component
Maintenance factor		: 0.8

2.2 Summary, Emergency Lighting

2.2.2 Result overview (emergency lighting)

Type No.\Make

		Liteplan		
1	4	Order No.	: LED/40/OA - 700mA	-- Emergency Lighting --
		Luminaire name	: LED/40/OA - 700mA	
		Equipment	: 1 x LED 2.3 W / 207 lm	

Result evaluation area

Calculation algorithm used: Direct component
Maintenance factor: 0.8

Emergency area:

No.	Default[lx]	Emin[lx]	Surface Emax[lx]	Diversity	Height
Emergency area 1					
1	0.5	0.0	4.1	---	0.00

Proposed External Lighting

Installation : St Stephen Dulwich

Project number	:	7186
Customer	:	
Processed by	:	CES Lighting and Electrical Specialists LLP
Date	:	13.05.2021

Project description:
Assumptions / Approximations:

- Scale and positions based on drawings supplied.
- Where unknown, heights of buildings and objects based on estimations
- All calcualtions are for guidance purposes only

1 Luminaire data

1.1 iGuzzini illuminazione S.p.A/Lab/04/13, iPro: Outdoor floodlight ... (BG38+BZ80_C43B)

1.1.1 Data sheet

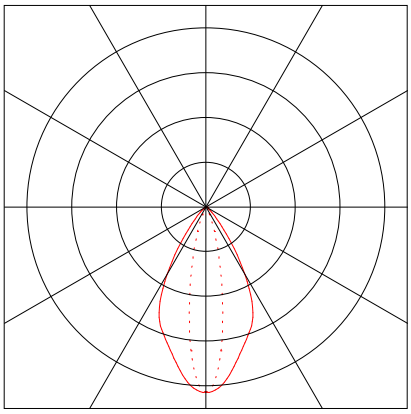
Manufacturer: iGuzzini illuminazione S.p.A/Lab/04/13

BG38+BZ80_C43B iPro: Outdoor floodlight - Warm white LED - integrated dimmable DALI power supply - Flood optic - 28W 4000lm - 3000K - Refractor for elliptical distribution - Accessory support frame - To be used for the installation of accessories

Luminaire data		
Luminaire efficiency	:	65%
Luminaire efficacy	:	83.6 lm/W
Classification	:	A70 ↓100.0% ↑0.0%
CIE Flux Codes	:	94 99 100 100 65
UGR 4H 8H	:	20.2 / <10.0
Power	:	31.1 W
Luminous flux	:	2600 lm

Equipped with		
Quantity	:	1
Designation	:	LED / 28W
Colour	:	ww/3000
Luminous flux	:	4000 lm
Colour reproduction	:	1B/80

Dimensions : 192 mm x 192 mm x 200 mm



1 Luminaire data

1.2 iGuzzini illuminazione S.p.A/Lab/Ver. 12/19, iPro OptiLens: Spotlight ... (EP49+BZ53_C63P)

1.2.1 Data sheet

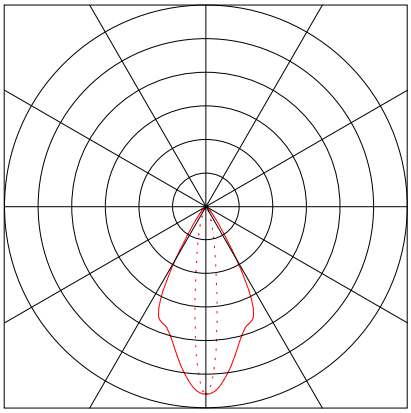
Manufacturer: iGuzzini illuminazione S.p.A/Lab/Ver. 12/19

EP49+BZ53_C63P iPro OptiLens: Spotlight with bracket - Warm White LED - On/Off - Spot optic - 9.4W 1050lm - 3000K - Refractor for elliptical distribution

Luminaire data		
Luminaire efficiency	:	62%
Luminaire efficacy	:	58.65 lm/W
Classification	:	A80 ↓100.0% ↑0.0%
CIE Flux Codes	:	96 100 100 100 62
UGR 4H 8H	:	18.9 / <10.0
Power	:	11.1 W
Luminous flux	:	651 lm

Equipped with		
Quantity	:	1
Designation	:	LED / 9.4W
Colour	:	ww/3000
Luminous flux	:	1050 lm
Colour reproduction	:	1B/80

Dimensions : 132 mm x 132 mm x 143 mm



1 Luminaire data

1.3 iGuzzini illuminazione S.p.A/Lab/Ver. 04/19, iPro: Outdoor floodlight - War... (BG36_C41B)

1.3.1 Data sheet

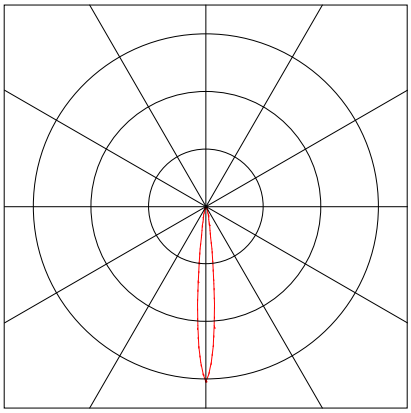
Manufacturer: iGuzzini illuminazione S.p.A/Lab/Ver. 04/19

BG36_C41B iPro: Outdoor floodlight - Warm white LED - integrated dimmable DALI power supply - Spot optic - 28W 4000lm - 3000K

Luminaire data		
Luminaire efficiency	:	82%
Luminaire efficacy	:	105.47 lm/W
Classification	:	A80 ↓100.0% ↑0.0%
CIE Flux Codes	:	97 99 100 100 82
UGR 4H 8H	:	10.5 / 10.4
Power	:	31.1 W
Luminous flux	:	3280 lm

Equipped with		
Quantity	:	1
Designation	:	LED / 28W
Colour	:	ww/3000
Luminous flux	:	4000 lm
Colour reproduction	:	1B/80

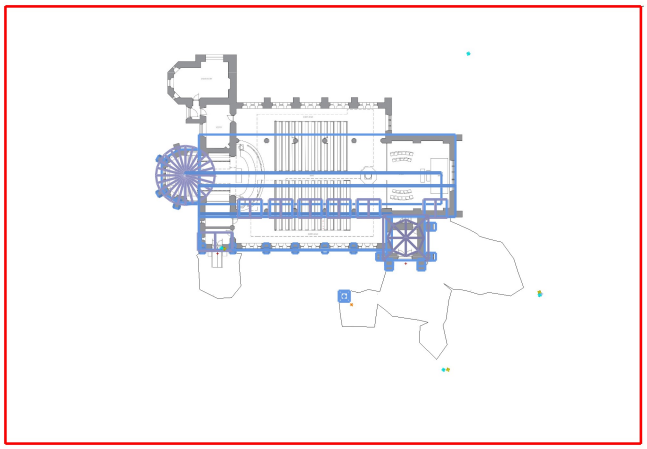
Dimensions : 192 mm x 192 mm x 200 mm

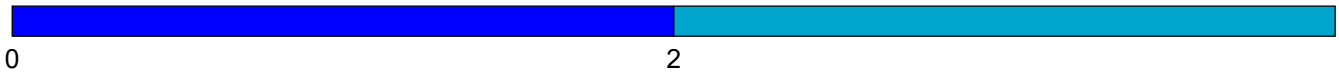


2 Exterior 1

2.1 Summary, Exterior 1

2.1.1 Result overview, Evaluation area 1





Illuminance [lx]

General

Calculation algorithm used	Average indirect fraction
Maintenance factor	0.80
Total luminous flux of all lamps	30662.00 lm
Total power	242.8 W
Total power per area (5146.75 m²)	0.05 W/m² (15.09 W/m²/100lx)

Evaluation area 1	**Reference plane 1.1**
	Horizontal
Em	0.31 lx
Emin	0 lx
Emin/Em (Uo)	---
Emin/Emax (Ud)	---
Position	0.00 m

Type No.\Make

1 3

iGuzzini illuminazione S.p.A/Lab/04/13
Order No. : BG38+BZ80_C43B
Luminaire name : iPro: Outdoor floodlight - Warm white LED - integrated dim mable DALI power sup
Equipment : 1 x LED / 28W 31.1 W / 4000 lm

2 Exterior 1

2.1 Summary, Exterior 1

2.1.1 Result overview, Evaluation area 1

iGuzzini illuminazione S.p.A/Lab/Ver. 12/19

2 1

Order No. : EP49+BZ53_C63P
Luminaire name : iPro OptiLens: Spotlight with bracket - Warm White LED - On/Off - Spot optic -
Equipment : 1 x LED / 9.4W 11.1 W / 1050 lm

Philips

3 2

Order No. : ledbulb_cla_7w_a60_e27_927_922_cl-ies.ies
Luminaire name :
Equipment : 1 x 9290023917 E27 A60 7W 7 W / 806 lm

iGuzzini illuminazione S.p.A/Lab/Ver. 04/19

4 4

Order No. : BG36_C41B
Luminaire name : iPro: Outdoor floodlight - Warm white LED - integrated dimmable DALI power sup
Equipment : 1 x LED / 28W 31.1 W / 4000 lm

2 Exterior 1

2.2 Calculation results, Exterior 1

2.2.1 Table, Reference plane 1.1 (E)

[m]	10	20	30	40	50	60	70	80 [m]
-5	0.01 0.01 0.01 0.01 0.01 0.01 0.02 0.02 0.02 0.02 0.03 0.03 0.03 0.03 0.03 0.03 0.03 0.02 0.02							
-10	0.01 (0) 0.01 0.01 0.01 0.01 0.01 0.01 0.02 0.02 0.02 0.03 0.04 0.04 0.04 0.04 0.04 0.03 0.03							
-15	(0) (0) (0) (0) (0) (0) (0) 0.01 0.01 0.02 0.03 0.05 0.1 0.09 0.04 0.05 0.05 0.05 0.04							
-20	(0) (0) (0) (0) (0) (0) (0) (0) (0) (0) 0.02 0.06 0.2 0.17 0.06 0.07 0.07 0.06 0.05							
-25	(0) (0) (0) (0) (0) 0.15 0.1 0.13 0.11 0.09 0.06							
-30	0.01 0.01 (0) (0) (0) 0.69 0.3 0.23 0.16 0.11 0.07							
-35	0.02 0.02 0.02 0.01 (0) (0) 1.94 0.9 0.37 0.2 0.12 0.08							
-40	0.03 0.04 0.07 0.13 0.12 0.41 3.57 1.33 0.39 0.44 0.79 **[4.86]** 4.26 0.75 0.22 0.14 0.09							
-45	0.03 0.05 0.08 0.15 0.36 1.08 2.47 1.02 0.6 0.77 2.03 3.34 3.91 1.74 1.94 1.47 0.1 0.16 0.1							
-50	0.03 0.04 0.07 0.12 0.22 0.41 0.58 0.46 0.41 0.59 2.46 1.29 1.98 1.34 0.57 0.36 0.23 0.16 0.12							
-55	0.03 0.04 0.06 0.09 0.14 0.19 0.24 0.26 0.29 0.36 0.48 0.6 1.09 0.76 0.37 0.26 0.17 0.12 0.09							
	0.03 0.03 0.05 0.07 0.09 0.12 0.15 0.17 0.2 0.24 0.29 0.31 0.32 0.31 0.24 0.18 0.14 0.11 0.08							
	0.02 0.03 0.04 0.05 0.07 0.09 0.1 0.12 0.14 0.16 0.18 0.2 0.2 0.19 0.16 0.13 0.11 0.08 0.07							

Illuminance [lx]

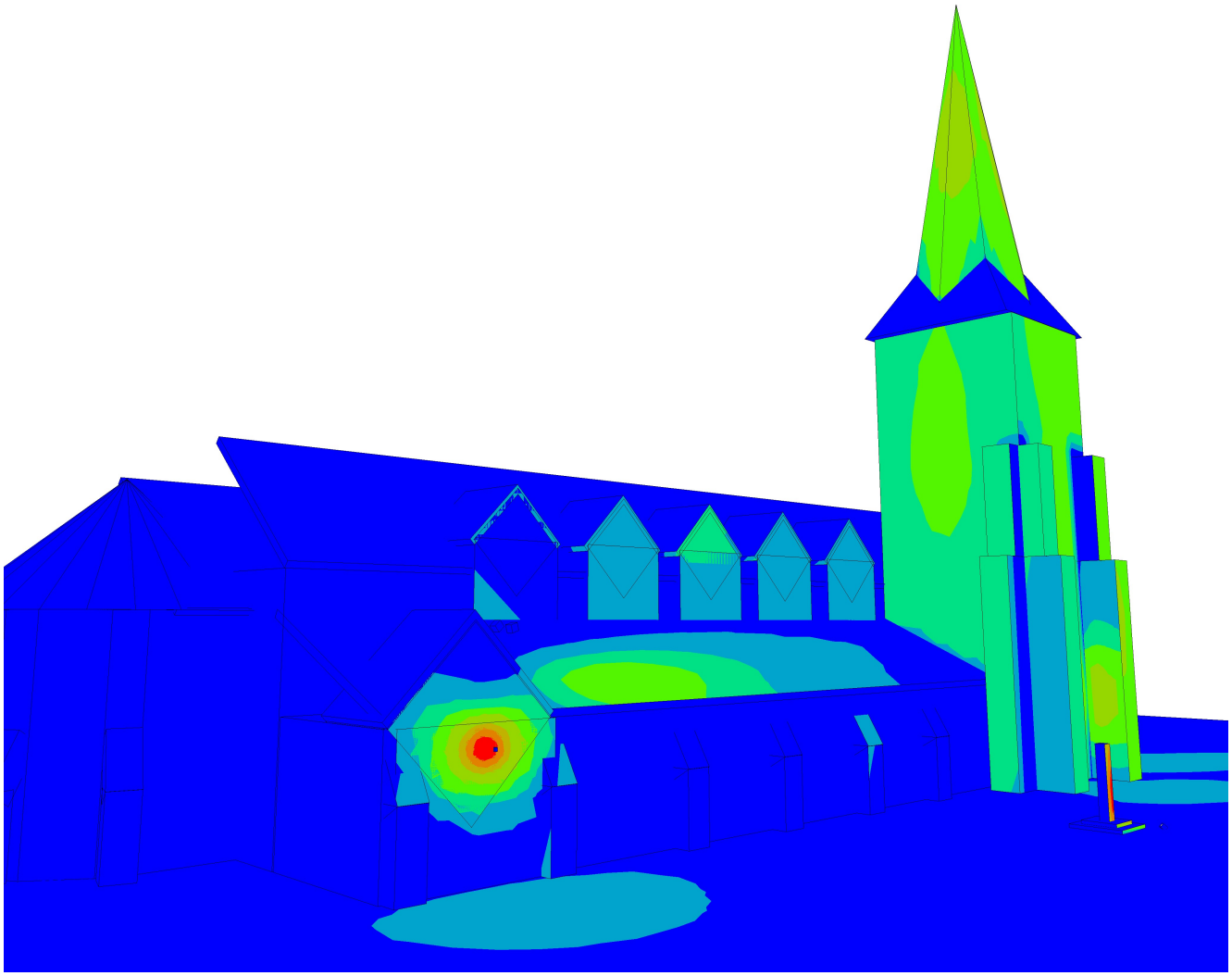
Height reference plane		: 0.00 m
Average illuminance	Em	: 0.31 lx
Minimum illuminance	Emin	: 0 lx
Maximum illuminance	Emax	: 4.86 lx
Uniformity Uo	Emin/Em	: ---
Diversity Ud	Emin/Emax	: ---

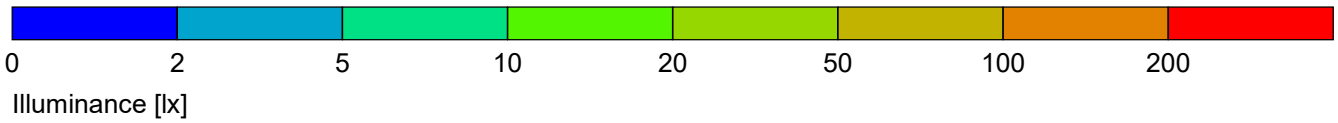
2.2 Calculation results, Exterior 1

2.2.3 3D luminance, View 2

2.2 Calculation results, Exterior 1

2.2.5 3D pseudo colours, View 2 (E)



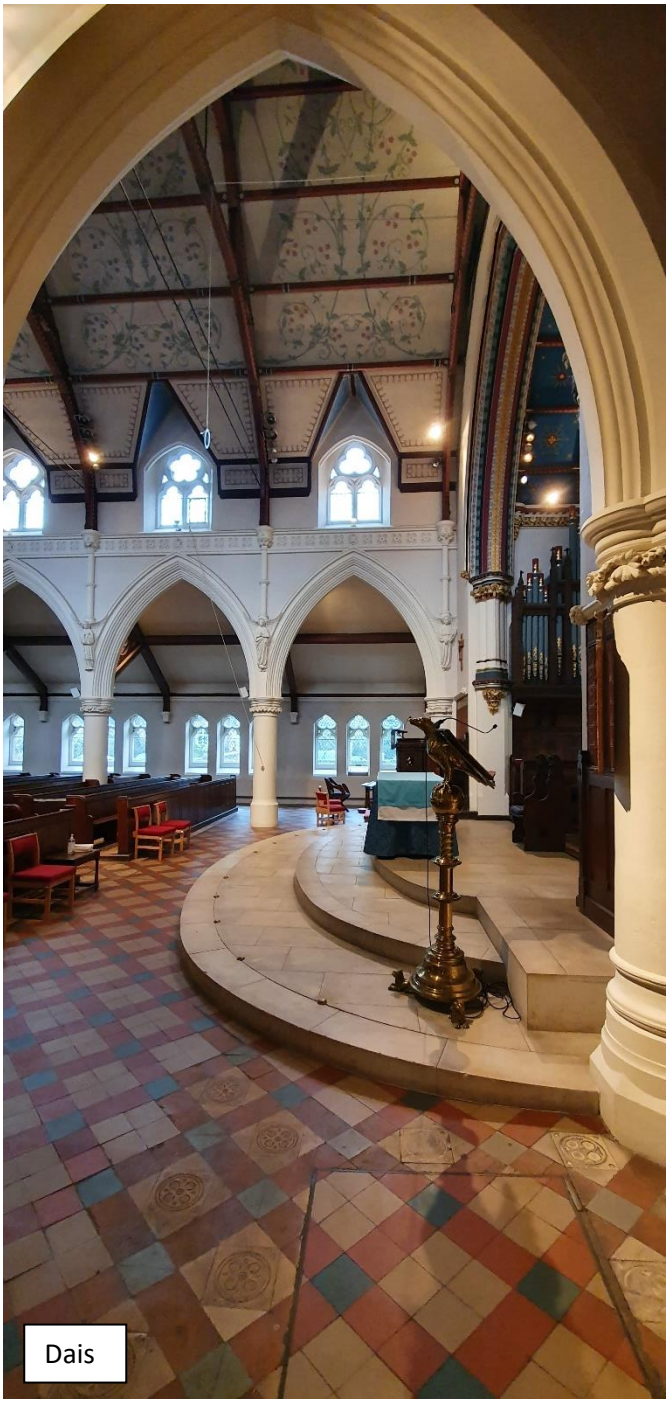


Nave Facing West (West is traditional East)

North Façade

Chancel

Chancel Fresco



Dais

East Choir

External Façade visible from Road