

From: Scala, Mary Joy
Sent: Thursday, October 27, 2016 3:23 PM
To: 'William (Bill) L. Owens, AIA'
Cc: cvillefirstumc@gmail.com
Subject: BAR Actions - 101 E jefferson Street - October 18, 2016

October 27, 2016

William L Owens, AIA
1645 Redwing Lane
Charlottesville, VA 22911

RE: Certificate of Appropriateness Application
BAR 16-10-03
101 East Jefferson Street
Tax Parcel 330190000
First United Methodist Church, Owner/William L. Owens, AIA, Applicant
Steeple Lighting

Dear Applicant,

The above referenced project was discussed before a meeting of the City of Charlottesville Board of Architectural Review (BAR) on October 18, 2016. The following action was taken:

Knott moved to approve the application as submitted. Mohr seconded. The motion passes 8-0.

This certificate of appropriateness shall expire in 18 months (April 18, 2018), unless within that time period you have either: been issued a building permit for construction of the improvements if one is required, or if no building permit is required, commenced the project. The expiration date may differ if the COA is associated with a valid site plan. You may request an extension of the certificate of appropriateness *before this approval expires* for one additional year for reasonable cause.

If you have any questions, please contact me at 434-970-3130 or scala@charlottesville.org.

Sincerely yours,

Mary Joy Scala, AICP
Preservation and Design Planner

Mary Joy Scala, AICP
Preservation and Design Planner
City of Charlottesville
Department of Neighborhood Development Services
City Hall – 610 East Market Street
P.O. Box 911
Charlottesville, VA 22902
Ph 434.970.3130 FAX 434.970.3359
scala@charlottesville.org

**CITY OF CHARLOTTESVILLE
BOARD OF ARCHITECTURAL REVIEW
STAFF REPORT
October 18, 2016**



Certificate of Appropriateness Application

BAR 16-10-03

101 East Jefferson Street

Tax Parcel 330190000

First United Methodist Church, Owner/William L. Owens, AIA, Applicant

Steeple Lighting

Background

First United Methodist Church at 101 East Jefferson Street was built in 1923-1924. It is a Colonial Revival church with a monumental portico and four Doric columns. The detached tower and steeple is unusual. The landmark survey is attached.

February 17, 2004 – The applicant attended the BAR meeting for a preliminary discussion. The BAR supported grating as its first choice. If the applicant decided upon fence, the BAR requested to see the design.

April 20, 2004 – The BAR approved the addition of a five foot high, wrought iron fence parallel to the East property line to protect the public from a large window well.

March 15, 2011 – The BAR approved (7-0) the application as submitted with the condition that (a) the door be replaced, not modified, and the existing doors are saved/stored on site, and (b) the glass in the new door is simply clear glass, not beveled glass.

June 21, 2011 – The BAR approved (6-0) as submitted a new bathroom addition.

Application

The applicant proposes to add lighting to the exterior of the steeple, on each of the two levels with balustrades, and the cross at the top of the spire. A continuous linear LED tape will be mounted on each base, and directed to wash the vertical architectural features, softly illuminate the cornices, and backlight the balustrades. The two faces of the cross will be illuminated. The entire lighting system is adjustable, on dimmer and timer controls.

The church would like to have the lighting installed while the scaffolding is in place to repair and repaint the steeple built in 1924.

Criteria, Standards and Guidelines

Review Criteria Generally

*Sec. 34-284(b) of the City Code states that,
In considering a particular application the BAR shall approve the application unless it finds:*

- (1) That the proposal does not meet specific standards set forth within this division or applicable provisions of the Design Guidelines established by the board pursuant to Sec.34-288(6); and*
- (2) The proposal is incompatible with the historic, cultural or architectural character of the district in which the property is located or the protected property that is the subject of the application.*

Pertinent Standards for Review of Construction and Alterations include:

- (1) Whether the material, texture, color, height, scale, mass and placement of the proposed addition, modification or construction are visually and architecturally compatible with the site and the applicable design control district;*
- (2) The harmony of the proposed change in terms of overall proportion and the size and placement of entrances, windows, awnings, exterior stairs and signs;*
- (3) The Secretary of the Interior Standards for Rehabilitation set forth within the Code of Federal Regulations (36 C.F.R. §67.7(b)), as may be relevant;*
 - 1. A property shall be used for its historic purpose or be placed in a new use that requires minimal change to the defining characteristics of the building and its site and environment.*
 - 2. The historic character of a property shall be retained and preserved. The removal of historic materials or alteration of features and spaces that characterize a property shall be avoided.*
 - 3. Each property shall be recognized as a physical record of its time, place, and use. Changes that create a false sense of historical development, such as adding conjectural features or architectural elements from other buildings, shall not be undertaken.*
 - 4. Most properties change over time; those changes that have acquired historic significance in their own right shall be retained and preserved.*
 - 5. Distinctive features, finishes, and construction techniques or examples of craftsmanship that characterize a historic property shall be preserved.*
 - 6. Deteriorated historic features shall be repaired rather than replaced. Where the severity of deterioration requires replacement of a distinctive feature, the new feature shall match the old in design, color, texture, and other visual qualities and, where possible, materials. Replacement of missing features shall be substantiated by documentary, physical, or pictorial evidence.*
 - 7. Chemical or physical treatments, such as sandblasting, that cause damage to historic materials shall not be used. The surface cleaning of structures, if appropriate, shall be undertaken using the gentlest means possible.*
 - 8. Significant archeological resources affected by a project shall be protected and preserved. If such resources must be disturbed, mitigation measures shall be undertaken.*
 - 9. New additions, exterior alterations, or related new construction shall not destroy historic materials that characterize the property. The new work shall be differentiated from the old and shall be compatible with the massing, size, scale, and architectural features to protect the historic integrity of the property and its environment.*
 - 10. New additions and adjacent or related new construction shall be undertaken in such a manner that if removed in the future, the essential form and integrity of the historic property and its environment would be unimpaired.*
- (4) The effect of the proposed change on the historic district neighborhood;*
- (5) The impact of the proposed change on other protected features on the property, such as gardens, landscaping, fences, walls and walks;*
- (6) Whether the proposed method of construction, renovation or restoration could have an adverse impact on the structure or site, or adjacent buildings or structures;*
- (8) Any applicable provisions of the City's Design Guidelines.*

Pertinent Guidelines for Site Design and Elements

D. LIGHTING

Charlottesville's residential areas have few examples of private site lighting. Most houses, including those used for commercial purposes, have attractive, often historically styled fixtures located on the house at various entry points. In the commercial areas, there is a wide variety of site lighting including large utilitarian lighting, floodlights and lights mounted on buildings. Charlottesville has a "Dark Sky" ordinance that requires full cutoff for lamps that emit 3,000 or more lumens. Within an ADC District, the BAR can impose limitations on lighting levels relative to the surrounding context.

- 1) In residential areas, use fixtures that are understated and compatible with the residential quality of the surrounding area and the building while providing subdued illumination.
- 2) Choose light levels that provide for adequate safety yet do not overly emphasize the site or building. Often, existing porch lights are sufficient.
- 3) In commercial areas, avoid lights that create a glare. High intensity commercial lighting fixtures must provide full cutoff.
- 4) Do not use numerous "crime" lights or bright floodlights to illuminate a building or site when surrounding lighting is subdued.
- 5) **In the downtown and along West Main Street, consider special lighting of key landmarks and facades to provide a focal point in evening hours.**
- 6) Encourage merchants to leave their display window lights on in the evening to provide extra illumination at the sidewalk level.
- 7) Consider motion-activated lighting for security.

Discussion and Recommendations

The lighting guidelines support the consideration of lighting key landmarks and facades. In staff opinion, the proposal meets the guidelines and has been carefully designed.

Suggested Motion

Having considered the standards set forth within the City Code, including City Design Guidelines for Site Design and Elements, I move to find that the proposed church steeple lighting satisfies the BAR's criteria and is compatible with this property and other properties in this district, and that the BAR approves the application as submitted.

LANDMARK



SURVEY

IDENTIFICATION

Street Address: 101 East Jefferson Street
Map and Parcel: 33-190
Census Tract & Block: 1-107
Present Owner: First Methodist Church
Address: 101 East Jefferson Street
Present Use: Church
Original Owner: First Methodist Church
Original Use: Church

BASE DATA

Historic Name: First Methodist Church
Date/Period: 1923-24
Style: Colonial Revival
Height to Cornice: 31
Height in Stories: 2
Present Zoning: B-1
Land Area (sq. ft.): 89 x 115
Assessed Value (land + imp.): 25,880 + 230,730 = 265,610

ARCHITECTURAL DESCRIPTION

Colonial Revival Church with a monumental portico of four doric columns, entablature with triglyphs, and a broad pediment. One of the most unusual features of this church is its detached tower and steeple. The source for this arrangement is clearly Wren's church type, which he developed after the Great Fire of 1666. Other impressive features of this design include the flight of entrance steps which spill out well beyond the flanking terraces which are themselves inspired by those found on the Lawn of the University. The interior is painted to resemble ashlar masonry and is fitted with typical panelled woodwork. The architect for this church was Joseph Hudnut.

HISTORICAL DESCRIPTION

The First Methodist Church bought the lot from R. S. J. Sterling in January of 1922. The \$20,000 purchase price included a residence appraised at \$2,200, which was removed to make room for the present structure. This site is the third to be occupied by the First Methodist Church. The earliest, built 1834-35, was situated on a lot bounded by Water, First, and South Streets. The second, begun in 1859, was finished in 1867, and was located on the corner of West Second and Water Streets.

GRAPHICS



CONDITIONS

Good

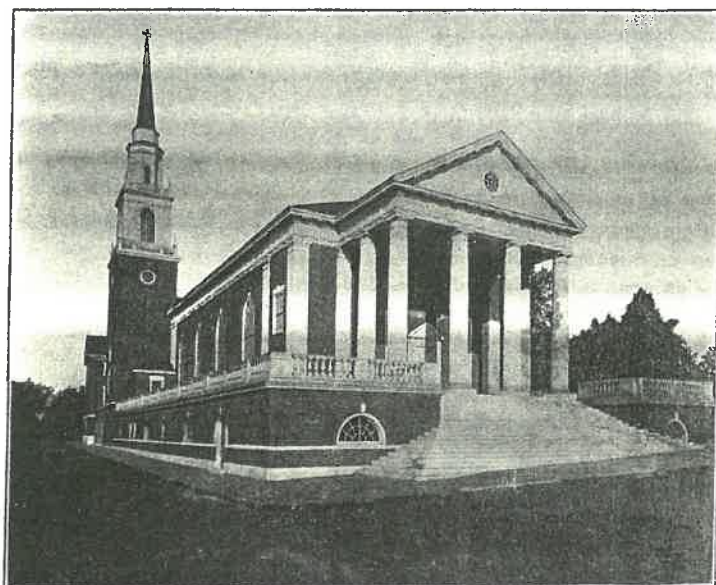
SOURCES

Alexander's Recollections, 1963 editions.
City Records

A CENTURY OF METHODISM
IN CHARLOTTESVILLE
VIRGINIA

By
A. L. BENNETT

A BRIEF ACCOUNT OF SOME OF THE MEN AND
EVENTS CONNECTED WITH THE FIRST METH-
ODIST EPISCOPAL CHURCH, SOUTH, OF
CHARLOTTESVILLE, VIRGINIA



FIRST METHODIST EPISCOPAL CHURCH, SOUTH, CHARLOTTESVILLE, VA.

A Short History Prepared for the Centennial Celebration
November 11-14, 1934.

Published by
FIRST METHODIST EPISCOPAL CHURCH, SOUTH
CHARLOTTESVILLE, VIRGINIA
1 9 3 4



Board of Architectural Review (BAR)
Certificate of Appropriateness

Please Return To: City of Charlottesville
Department of Neighborhood Development Services
P.O. Box 911, City Hall
Charlottesville, Virginia 22902
Telephone (434) 970-3130 Email scala@charlottesville.org

RECEIVED

SEP 27 2016

NEIGHBORHOOD DEVELOPMENT SERVICES

Please submit ten (10) hard copies and one (1) digital copy of application form and all attachments.
Please include application fee as follows: New construction project \$375; Demolition of a contributing structure \$375;
Appeal of BAR decision \$125; Additions and other projects requiring BAR approval \$125; Administrative approval \$100.
Make checks payable to the City of Charlottesville.
The BAR meets the third Tuesday of the month.
Deadline for submittals is Tuesday 3 weeks prior to next BAR meeting by 3:30 p.m.

Owner Name FIRST UNITED METHODIST CHURCH Applicant Name WILLIAM L. OWENS, AIA
Project Name/Description STEEPLE LIGHTING Parcel Number 330190000
Project Property Address 101 EAST JEFFERSON STREET

Applicant Information

Address: 1045 REDWING LANE
CHARLOTTESVILLE, VA 22911
Email: POWENS@WLOARCHITECT.COM
Phone: (W) 974-1620 (C) 242-0183

Signature of Applicant

I hereby attest that the information I have provided is, to the best of my knowledge, correct.

Signature: [Handwritten Signature] Date: 9/26/16

Property Owner Information (if not applicant)

Address: 101 EAST JEFFERSON ST.
CHARLOTTESVILLE, VA 22902
Email: CVILLEFIRSTUMC@GMAIL.COM
Phone: (W) 290-6993 (C) [blank]

Print Name: WILLIAM L. OWENS Date: 9/26/16

Property Owner Permission (if not applicant)

I have read this application and hereby give my consent to its submission.

Signature: [Handwritten Signature] Date: 9/26/16

Do you intend to apply for Federal or State Tax Credits for this project? No

Print Name: [Handwritten Name] Date: 9/26/16

Description of Proposed Work (attach separate narrative if necessary): STEEPLE LIGHTING - SEE ATTACHED NARRATIVE

List All Attachments (see reverse side for submittal requirements):

For Office Use Only
Received by: [Handwritten Signature]
Fee paid: \$125.00 Cash/Ck. # 1205
Date Received: 9/27/2016
Revised 2016
Approved/Disapproved by:
Date:
Conditions of approval:

P16-0151

First United Methodist Church

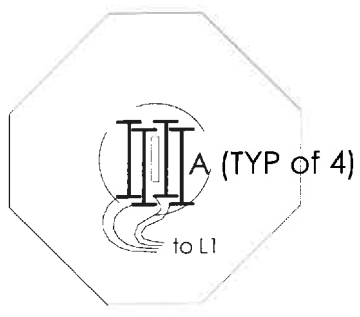
Steeple Lighting

Charlottesville, VA

LIGHTING SCHEDULE VERSION 3 4 OCTOBER 2016

TYPE	ITEM	MFG	ITEM NUMBER	LAMP QTY	LAMP	LOAD WATTS/ VOLTS	JUNCTION BOX TYPE	FINISH	NOTES	QTY
	WAGO connectors									50.00

1 Fixture and Controls Schematics
NOT TO SCALE



Level L1 + Spire

EXTERIOR LIGHTING DESIGN
FOR
FUMC Steeple
CHARLOTTESVILLE, VIRGINIA

MANHATTAN ASSOCIATES, INC.
100 EAST 41ST STREET
NEW YORK, NY 10018

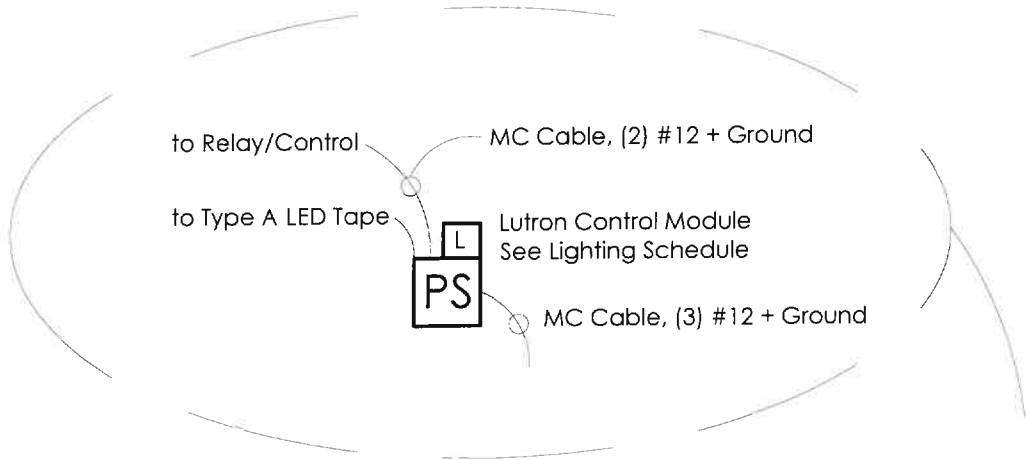
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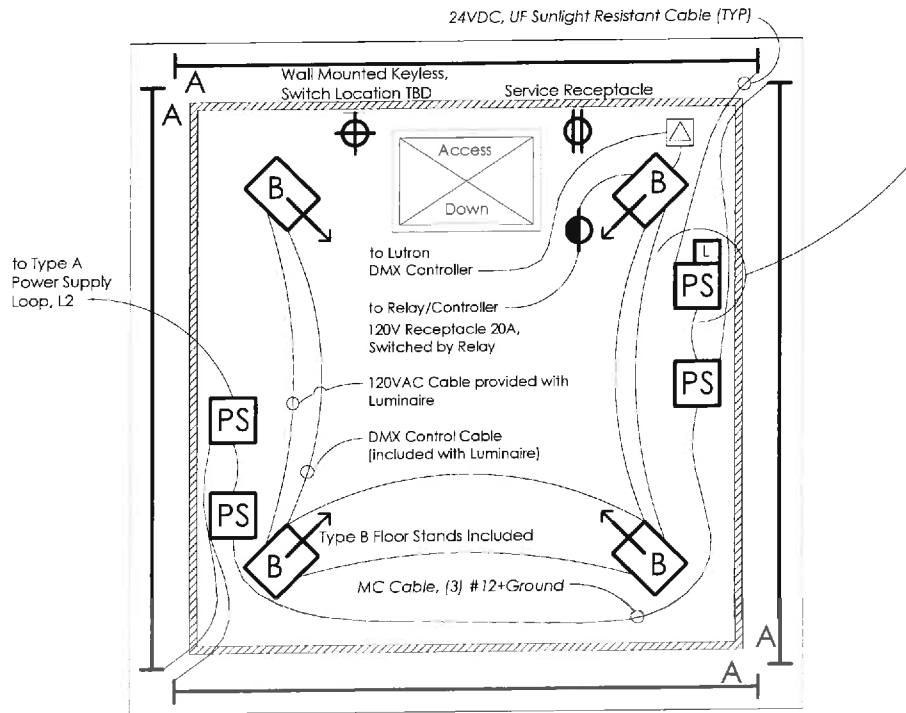
Steeple Lighting

4 October 2016

1 Fixture and Controls Schematics



First Type A Power Supply and Control Detail

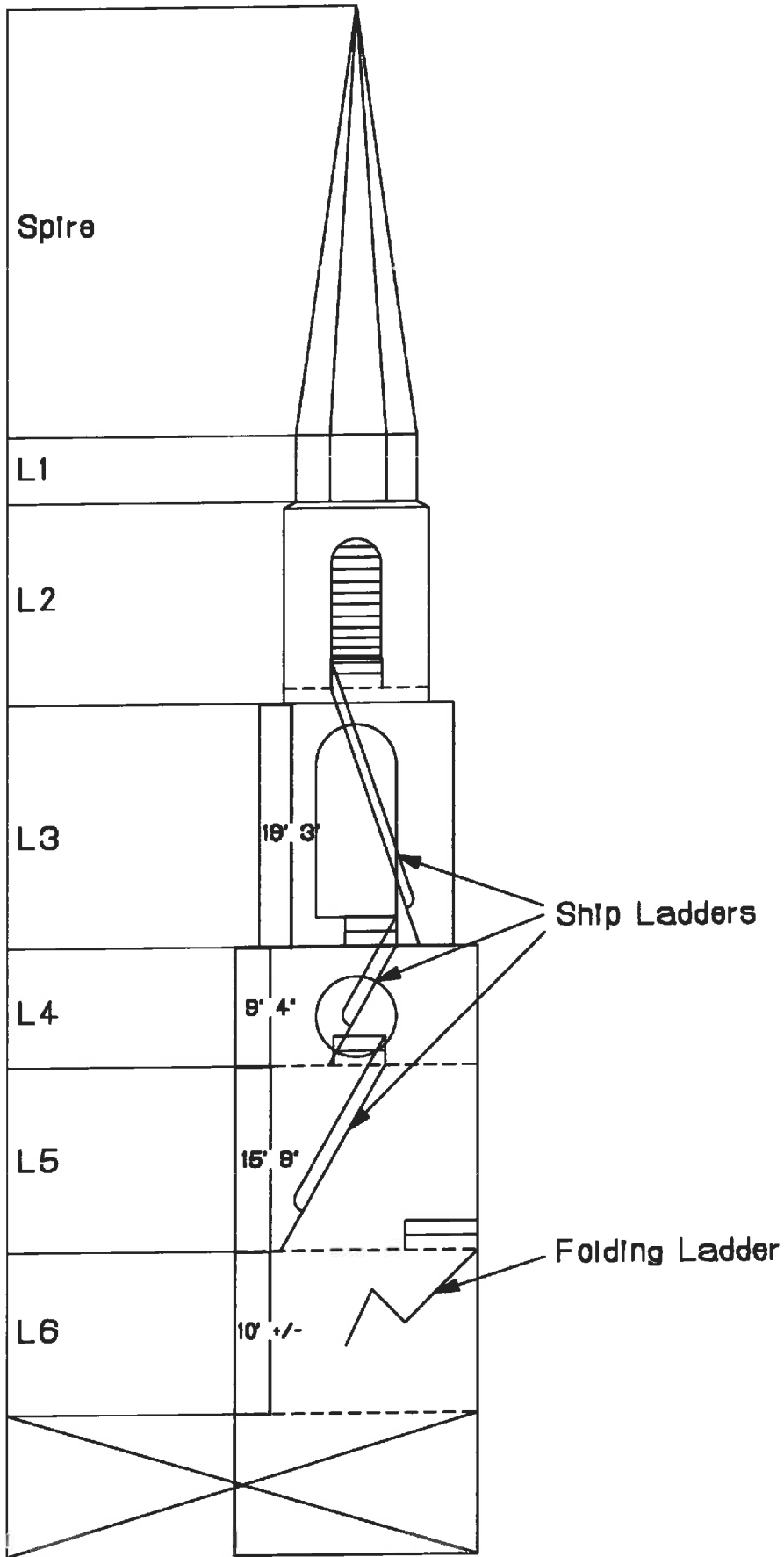


Level L3

Notes:

- 1 Control Timer, DMX Controller and Lighting Contactor/Ice Cube Relay to be located in L5. Exact location TBD.
- 2 Type A LED to be located as far from the face of the wall (close to ballustrade as possible) install all track level in both directions

FUMC Level & Ladder Layout R1.0



Assembly Information (Continued)

10. The minimum bending radius is 0.78 in. The module may be bent over a smaller radius but only in regions of the circuit board containing no electronic components. Such bends should be made only once and fixed in position to avoid cyclic fatigue.
11. The thermal expansion coefficient along the length of the module is $17 \times 10^{-6} \text{cm/cm/K}$. When installing in environments with large variations in temperature (e.g. outdoor applications) and operating length of more than 2m, the use of metallic mounting surfaces is necessary. Otherwise it is advisable to use an additional thicker adhesive tape to absorb the stress of any mismatch in expansion coefficients.
12. Parallel connection is highly recommended as safe electrical mode. Serial connection is not recommended. Unbalanced voltage drop can cause hazardous overload and damage the LED module.
13. The maximum length of a coherently operable unit is one full reel. By two-pole feed in the middle or from both ends the length can be doubled.
14. When mounting on metallic or otherwise conductive surfaces, there needs to be electrical isolation at soldering points between module and mounting surface.

Warranty

OSRAM LED products are covered by our LED Module, OPTOTRONIC[®] Power Supply or Control Warranty.
The LINEARlight FLEX[®] Protect is covered under warranty as long as the temperature at the T_c point does not exceed 75°C; exceeding this temperature will void all warranties.
For additional information or to download the warranty registration form, refer to the latest version of the warranty available in the Literature section of www.osram-america.com/LED

Module Warranty: 3 years
System Warranty: 5 years

OSRAM

Americas Headquarters

OSRAM SYLVANIA Inc.

200 Ballardvale Street

Wilmington, MA 01887 USA

Phone 1-800-LIGHTBULB (1-800-544-4828)

www.osram-america.com

OSRAM, OPTOTRONIC, LED CREATING TOMORROW and LINEARlight FLEX are registered trademarks of OSRAM GmbH.
Specifications subject to change without notice.

© 2016 OSRAM



mark schuyler LIGHTING DESIGN

946 Grady Ave Ste 27
 Charlottesville, VA 22903
 (434) 295-7252
 (434) 295-3535 f
 ms@schuylight.com

First United Methodist Church

Steeple Lighting
 Charlottesville, VA

LIGHTING SCHEDULE VERSION 3 4 OCTOBER 2016

TYPE	ITEM	MFG	ITEM NUMBER	LAMP QTY	LAMP	LOAD WATTS/ VOLTS	JUNCTION BOX TYPE	FINISH	NOTES	QTY
A <linear striplight, LED>										
	LED linear tape	Sylvania Lighting	LF06P2-W4F-830-P [Item No. 72596]	NA	emitters included	5.7W/ linear foot/ 24vdc	NA	NA	Mounting means and angle TBD. 382 lms/ linear ft. 16.7 linear feet.	9.00
	power supply	Lutron Electronics Company, Inc.	L3D0-96W24V-U	NA	NA	NA	NA	NA	Maximun 16.7ft feet per driver.	8.00
	power supply, 96W	Lutron Electronics Company, Inc.	L3DA4U1UKL-CV240	NA	NA	40W / 24VDC	NA	NA	Maximun 5 feet per driver.	1.00
	input connector	Sylvania Lighting	LF / 2PIN / IP67 / LP [included with 72596]	NA	NA	NA	NA	NA	Included in order.	4.00
	optional flexible mounting bracket	Sylvania Lighting	LF / CLIP-FIXTURE	NA	NA	NA	NA	NA		50.00

First United Methodist Church

Steeple Lighting

Charlottesville, VA

LIGHTING SCHEDULE VERSION 3 4 OCTOBER 2016

TYPE	ITEM	MFG	ITEM NUMBER	LAMP QTY	LAMP	LOAD WATTS/ VOLTS	JUNCTION BOX TYPE	FINISH	NOTES	QTY
	slim mounting track	Sylvania Lighting	LAC-T/ STS/ 7FT [Item No. 72356]	NA	NA	NA	NA	NA	Length = 83" .	25.00
	clear cover	Sylvania Lighting	LAC-T/ SLS-COV/ C/ 7FT [Item No. 72360]	NA	NA	NA	NA	NA		25.00
DS < dimmer / switch >	dimmer for 24vdc LED driver	Lutron Electronics Company, Inc.	RMJ-ECO32-DV-B	NA	NA	see datasheet	see datasheet	white	Use with PICO remote wireless.	1.00
P < dimmer / switch control point >	wireless remote, three button	Lutron Electronics Company, Inc.	PJN-3BRL-WH	NA	NA	NA	NA	white	Requires Lutron wallbox adapter PICO-WBX-ADAPT.	1.00
	wireless remote wallplate adapter	Lutron Electronics Company, Inc.	PICO-WBX-ADAPT	NA	NA	NA	NA	NA		1.00
	UF Cable, Sunlight resistant									1.00

Specification Data

Catalog #	Type
Project	
Comments	
Prepared by	

Ordering Information

Item Number	Ordering Abbreviation	Family	Module Length (feet)	No. of LEDs	Power (W)	Input Voltage (V _{DC})	Current Draw (Amps)	Color Temperature	Lumens (lm)	Lumens per foot	Watts per foot	LPW
72615	LF06A-W3F-830-P	Advanced	32.8	495	50	24	2	3000K	3500	107	1.5	70
72616	LF06A-W3F-840-P	Advanced	32.8	495	50	24	2	4000K	3900	119	1.5	78
72596	LF06P2-W4F-830-P	POWER FLEX	16.7	120	96	24	4	3000K	6375	382	5.7	66
72597	LF06P2-W4F-840-P	POWER FLEX	16.7	120	96	24	4	4000K	7140	428	5.7	74

Note: All lumen and wattage values are typical values.

Ordering Guide

LF	06	A	-	W	3F	-	8	30	-	P
Family LINEARlight FLEX	Number of LEDs in Smallest Electrical Unit	Type A = Advanced		W=White	LED Generation		CRI >80	Color Temperature 30 = 3000K		Protect

Power Supply Information

	OT20 (51804)	OT50 (51598)	OT75 (51514)	OT96 (51520, 51522, 51626)	OT240* (51627)
Advanced	36c = 11.82'	86c = 28.3'	129c = 42.2' (1.3r)	166c = 54.2' (1.7r)	138c = 45.1' (1.4r)
POWER FLEX (3000K, 4000K)	6c = 3.0'	11c = 5.6'	22c = 11.1'	29c = 14.6'	24c = 12.0'

* Shown lengths are per channel. OT240 is 3-channel power supply with 80W per channel.

Minimum and Maximum Ratings

Parameter	Values POWER FLEX Protect	Values Advanced Protect
Operating temperature at T _c point	-20 to +50°C (-4 to 122°F)	-20 to +70°C (-4 to 158°F)
Storage temperature	-40 to +100°C (-40 to 212°F)	-40 to +100°C (-40 to 212°F)
Voltage range	23 - 25V _{DC}	23 - 25V _{DC}
Reverse voltage	25V _{DC}	25V _{DC}
Maximum Reverse Voltage	-15 V _{DC}	

- Notes:
- Exceeding maximum ratings for operating and storage temperature will reduce expected lifetime or destroy the LED module.
 - Exceeding maximum ratings for operating voltage will cause hazardous overload and will likely destroy the LED module.
 - The temperature of the LED module must be measured at the T_c point according to EN60598-1 in a thermally constant status with a temperature sensor or a temperature sensitive label. For example location of T_c point, see drawing on next page.

Accessories



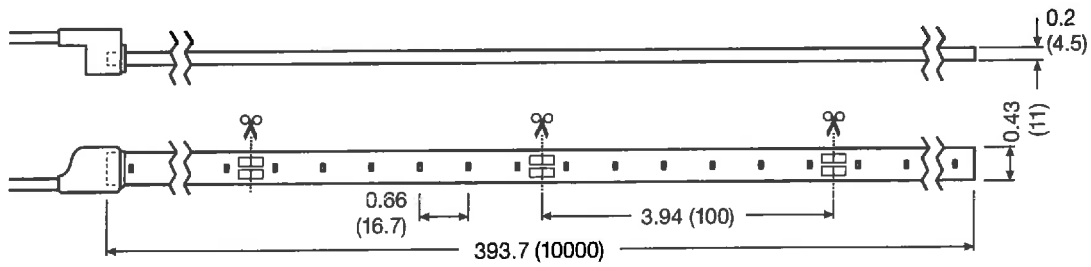
Item Number	Ordering Abbreviation	Description	Length (inches)	Case Qty.	Order Qty.
Protect Accessories					
72667	LF/ENDCAP/IP67/LP	Used to seal Protect product end when cut	-	100	10
72668	LF/2CONN/IP67/LP	Board to board connector	7	50	5
72669*	LF/2PIN/IP67/LP	Input connector	20	50	5
72363	LF-CLIP-FIXTURE	Optional flexible mounting bracket	-	500	50
Track Accessories					
72356	LAC-T/STS/7FT	6.9' aluminium track	83	40	1
72357	LAC-M/STS/CLIP	Optional mounting bracket for track	1.1	280	35
72360	LAC-T/STS-COV/C/7FT	6.9' clear cover for track	83	40	1
72358	LAC-T/STS-COV/D/7FT	6.9' diffused cover for track	83	40	1
72359	LAC-S/STS/ENDCAP	End cap used only with 72358	0.8	160	20

*Every Protect module reel comes with one pre-wired input connector and install guide.

Assembly Diagram

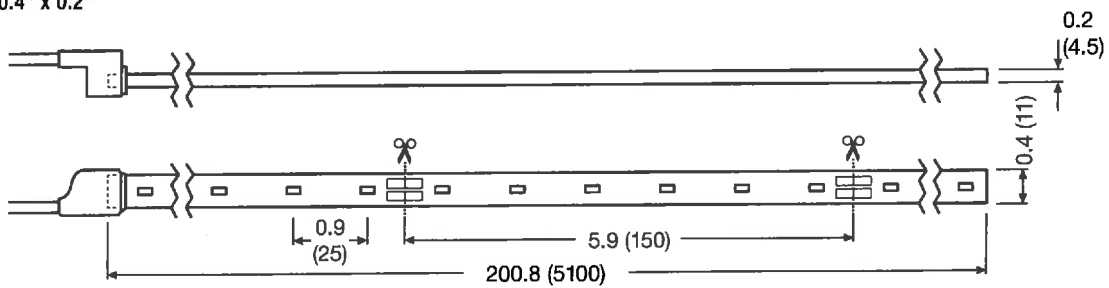
1. Advanced Version

Size of entire module (L x W x H)
393.7" x 0.43" x 0.2"



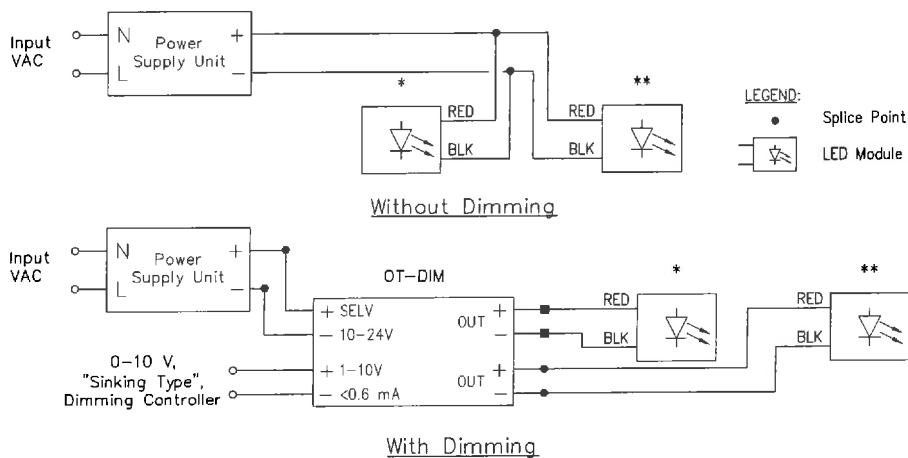
2. POWER FLEX Version

Size of entire module (L x W x H)
200.8" x 0.4" x 0.2"



Dimensions: in (mm)

Wiring Diagram



The maximum operable length on a single feed is 1 full reel.

Remaining load must be connected on subsequent power feeds.

Reference the "Power Supply Information" section of this PIB for module load per power supply requirements.

To help reduce the effects of any potential voltage drop, if possible, it is best to locate the power supply near the middle of the run.

Safety Information

WARNING: ONLY QUALIFIED PERSONNEL SHOULD PERFORM INSTALLATION. TO AVOID ELECTRICAL SHOCK OR COMPONENT DAMAGE, DISCONNECT POWER BEFORE ATTEMPTING INSTALLATION OF THE POWER SUPPLIES AND/OR MODULES.

Failure to install the power supplies and/or LED modules in accordance with the National Electric Code (NEC), all applicable Federal, State and local electric codes as well as the specific Underwriters Laboratories (UL) safety standards for the installation, location and application may cause serious personal injury, death, property damage and/or product malfunction.

1. The LED module itself and all its components shall not be subjected to mechanical stress and assembly must not damage or destroy conducting paths on the circuit board.
2. Observe correct electrical polarity, incorrect polarity may destroy the module. (Depending on the product, incorrect polarity may lead to emission of red or no light.)
3. Ensure the power supply is of adequate power to operate the total load.
4. Electrostatic Discharge (ESD) precautions shall be incorporated when handling or installing the module. (For more information, reference document # LED093 ESD Protection for LED Systems.)
5. Installation of LED modules shall be made with regard to all applicable electrical and safety standards. Only qualified personnel should be allowed to perform installations.
6. Modules may be hot to the touch. Use caution when handling.
7. Damage by corrosion and improper heat sinking will not be honored as a materials defect claim. It is the user's responsibility to ensure adequate heat sink and protection against corrosive agents such as moisture, condensation and other harmful elements.
8. Avoid looking directly into the light beam as the high brightness may damage eyes.
9. The module, as manufactured, has no conformal coating and therefore offers no inherent protection against corrosion. The ability to customize the length of the module by cutting at specifically marked points is a key feature of the product and hence the reason for no factory installed conformal coating. For these reasons, it is recommended that the user complete all module modification first (cutting, wiring) and then apply a conformal coating in the final stages of installation.

Assembly Information

1. The LINEARlight FLEX® POWER FLEX Protect must be mounted on an appropriate metal heat sink.
2. The Smallest Electrical Unit can be removed by cutting with scissors before or after the designated solder pad.
3. The module may also be cut at points X1 or X2 (reference "Assembly Diagram" for locations). The following must be observed when making cuts at these locations:
 - a. Observe the correct orientation of the module: The power feed must come from the side indicated in the technical drawing.
 - b. The module must not be cut before the first two LEDs, which have the Tc Point in between them. This part would emit no light.
 - c. To operate the desired subunits, the termination LF-2TERM must be applied. Disengage the terminations locking mechanism, slide it over the open contacts and press the locking mechanism back in place.
4. The mounting of the module is facilitated by means of the double-sided adhesive on the back-surface of the module. Care must be taken to provide a clean and dry mounting surface, free of oils or silicone coatings as well as dirt particles. The mounting substrate must have sufficient structural integrity. Take care to completely remove the adhesive backing. Once the module is appropriately positioned, press on the module with about 20N/cm² (refer to application techniques of 3M adhesive transfer tapes).
5. Solder connections should only be performed on designated solder pads (marked "24V +/-"). During soldering, do not exceed the maximum soldering time of 10 seconds and the maximum soldering temperature of 260°C.
6. Connecting soldered wires to an un-mounted module: Solder pads must not be pre-tinned. However, the wires must be pre-tinned at a max. 4 sec. at 300°C. Allow solder points to completely cool down before performing the next soldering. Prevent shear, or peel forces.
7. Connecting soldered wires to a module mounted on a heat sink: Pre-tin solder pads and wires and solder for max. 3 sec. at 350°C. Allow solder points to completely cool down before performing the next soldering. Prevent shear, or peel forces.
8. For applications involving exposure to humidity and dust, the module must be protected by a fixture, or housing with a suitable protection class.
9. The module can be protected against condensation by treatment with an appropriate circuit board grade conformal coating. The conformal coating should have the following features:
 - a. Optical transparency
 - b. UV – resistance
 - c. Thermal expansion matching the thermal expansion of the module 15-30 x 10⁻⁶cm/cm/K
 - d. Low permeability of steam for all climate conditions
 - e. Resistance against corrosive environment

Note: Since this module's connectors are "Dry Location Only" rated, they must not be used as a connection means when conformal coating becomes necessary. Soldered wires are the appropriate connection means used in conjunction with conformal coating. Any of the necessary steps 2, 3, 5, 6, & 7 must be completed before conformal coating can be applied.



FIRST UNITED METHODIST CHURCH Steeple Exterior Lighting

September 27, 2016

Description of Proposed Work

First United Methodist Church (101 East Jefferson Street) is currently undertaking a restoration project to repair and repaint its steeple built in 1924. This is an overdue maintenance project to address growing safety concerns arising from decades of peeling lead-based paint, deteriorating wood, and leaking copper roofing. No physical or color changes are planned. The 92 year old steeple is currently covered in scaffolding to a height of over 120 feet.

The church would like to take advantage of the unique opportunity the scaffolding and modern lighting technologies now present and light the exterior of the steeple. The church views this as a singular chance to give the steeple, which often appears prominently in broadcast and print media featuring Charlottesville and the downtown area, additional life beyond the daylight hours. However, the scaffolding is costing the church over \$500 per day and is scheduled to be taken down at the end of October, and therefore the lighting project, if it is to happen, must be completed by the end of the month.

The areas of the steeple to be illuminated are limited to the two levels with balustrades and the cross at the top of the spire (see attached image). Lighting will be provided by a single luminaire type, a continuous linear LED tape (see attached datasheet) mounted at the base of the balustrades and cross, one length per face. Light will be directed to wash the vertical architectural features of the steeple, softly illuminate the cornices above, and backlight the balustrades. The two faces of the cross will be similarly illuminated. The entire lighting system will be on dimmer and a timer controls to be adjustable by the church (see attached lighting design drawings).

Attachments:

- Concept image of illuminated steeple
- Exterior luminaire datasheet
- Exterior fixture schedule
- Exterior lighting design drawings (SK-L1 thru SK-L3)
- Steeple level diagram

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NEIGHBORHOOD DEVELOPMENT SERVICES



LINEARlight FLEX® Protect

Flexible Outdoor LED Modules



FUMC Steeple Lighting
A_TYPE LED TAPE
2016 09 26



Key Features & Benefits

- Flexible encapsulated circuit board with self adhesive backing allows for easy installation into straight runs or curved surfaces with a radius as tight as 1.9 in (50mm)
- IP67 rated for outdoor use, but can also be used indoors
- Modules can be field cut at designated cut points to achieve a customized fit
- Each module reel comes with a pre-installed IP67 input connector
- 120° Beam angle
- Dimmable by pulse width modulation (PWM), a method that maintains consistent color and controls lumen output
- Long life: up to 50,000 (L₇₀) minimizing maintenance frequency
- Entire reel can be powered from a single feed
- Mercury free
- No UV or IR emissions

OSRAM LINEARlight FLEX Protect LED linear modules offer a flexible white light in two families – Advanced and POWER FLEX. These modules are IP67 rated ensuring protection against dust, moisture, and condensation in outdoor operation. Both families can support sections as short as 6 LEDs with designated cut points.

At 16.7 ft, the POWER FLEX family has a lumen output of 382 to 428 per foot with an efficiency of 66-74 LPW. These modules are available in two color temperatures – 3000K and 4000K. Similarly, the 32.8 ft in the Advanced family has a lumen output of 107 to 119 per foot with an efficiency of 70-78 LPW. These modules are available in two color temperatures – 3000K and 4000K.

The LINEARlight FLEX Protect LED modules offer tremendous flexibility in luminaire design and installation locations. They are ideal for outdoor backlighting, border lighting, façade accent lighting, and path lighting in straight runs or curves. These modules are optimally paired for operation on OPTOTRONIC® 24Vdc power supplies and controls, and such systems are covered by a 5-year warranty.

Application Information

Applications

- Backlighting
- Border lighting
- Cove lighting
- Edge lighting
- Façade accent lighting
- Path and contour marking
- Recessed lighting

The LINEARlight FLEX Protect products are part of a UL2108 listed system allowing for direct install into applications. For more information on the components of this listed system please refer to the application note LED311.

Product Offering

Ordering Abbreviation	Family	Wattage	Color Temperature
LF06A-W3F-830-P	Advanced	50	3000K
LF06A-W3F-840-P	Advanced	50	4000K
LF06P2-W4F-830-P	POWER FLEX	96	3000K
LF06P2-W4F-840-P	POWER FLEX	96	4000K



Specifications and Certifications



The LINEARlight FLEX is UL8750 recognized for the US and Canada Class 2 Unit (UL File # E320662)



The LINEARlight FLEX is UL2108 listed for the US and Canada Class 2 Unit (UL File # E247649)

