



Print Form

Sole Source Justification (Reference Article 6, Procurement Source Selection Methods and Contract Awards, § 1-10-56 SOLE SOURCE PROCUREMENT)

Vendor: Fonroche Lighting America E-Verify Number: 1565390

Commodity: Solar Lighting Materials

Estimated annual expenditure for the above commodity or service: \$ 405,104

Initial all entries below that apply to the proposed purchase. Attach a memorandum containing complete justification and support documentation as directed in initialed entry. (More than one entry will apply to most sole source products/services requested).

- X 1. SOLE SOURCE REQUEST IS FOR THE ORIGINAL MANUFACTURER OR PROVIDER, THERE ARE NO REGIONAL DISTRIBUTORS. (Attach the manufacturer's written certification that no regional distributors exist. Item no. 4 also must be completed.)
2. SOLE SOURCE REQUEST IS FOR ONLY THE AUGUSTA GEORGIA AREA DISTRIBUTOR OF THE ORIGINAL MANUFACTURER OR PROVIDER. (Attach the manufacturer's — not the distributor's — written certification that identifies all regional distributors. Item no. 4 also must be completed.)
3. THE PARTS/EQUIPMENT ARE NOT INTERCHANGEABLE WITH SIMILAR PARTS OF ANOTHER MANUFACTURER. (Explain in separate memorandum.)
- X 4. THIS IS THE ONLY KNOWN ITEM OR SERVICE THAT WILL MEET THE SPECIALIZED NEEDS OF THIS DEPARTMENT OR PERFORM THE INTENDED FUNCTION. (Attach memorandum with details of specialized function or application.)
- X 5. THE PARTS/EQUIPMENT ARE REQUIRED FROM THIS SOURCE TO PERMIT STANDARDIZATION. (Attach memorandum describing basis for standardization request.)
6. NONE OF THE ABOVE APPLY. A DETAILED EXPLANATION AND JUSTIFICATION FOR THIS SOLE SOURCE REQUEST IS CONTAINED IN ATTACHED MEMORANDUM.

The undersigned requests that competitive procurement be waived and that the vendor identified as the supplier of the service or material described in this sole source justification be authorized as a sole source for the service or material.

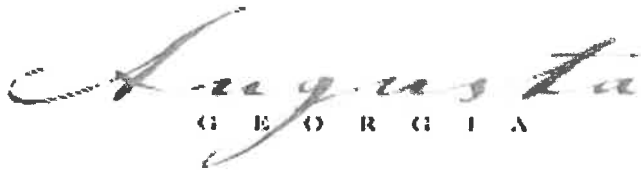
Name: Hameed Malik Department: AE&ESD Date: 5/15/24

Department Head Signature: [Signature] Date: 5/20/2024

Approval Authority: [Signature] Date: 5/28/24

Administrator Approval: (required – not required) _____ Date: _____

COMMENTS:




ENGINEERING DEPARTMENT

Hameed Malik, PE, Ph.D, Director
John Ussery, PE, Assistant Director of Traffic

MEMORANDUM

TO: Geri Sams – Procurement Director

FROM:  Hameed Malik, PE, Ph. D, Director Augusta Engineering Department

DATE: May 15, 2024

SUBJECT: Purchase Solar Street Lighting Materials for Wrightsboro Rd

The Augusta Engineering Department is requesting the use of the sole source procurement process to acquire solar lighting materials to install along Wrightsboro Rd from Fonroche Lighting America.

Fonroche Lighting is the only product in this category that includes the necessary technology for Augusta to consider switching from traditional street lighting to solar powered street lighting. This product was demonstrated and reviewed in person in real life applications by AED staff. Fonroche is one of the few solar lighting companies that has longevity in this space. Their product incorporates proprietary technology such as solar panel and battery integration, use of NiMH batteries, and LoRa communications.

This sole source procurement will allow the Augusta Engineering Department to purchase the solar street lighting materials provided by Fonroche Lighting America in the amount of \$405,104.

JU/SR

cc: File



FONROCHE

lighting AMERICA

Fonroche Lighting America
4900 David Strickland Rd.
Forest Hill, TX 76119
(817) 516-2056

Opportunity Owner	Michael Montenaro	Quote Number	00082956
Payment Terms	50% deposit, 50% Net 30 from Ship Date-contingent on credit approval	Quote Name	G7454-AugustaGA-WrightsboroRd-RevC
Shipping Terms	Prices are FOB Origin	Quote Date	4/5/2024
		Quote Expiration Date	7/5/2024
		Est. Lead Time	12-14 Weeks

Notes to the customer: Panels require clear, unshaded solar access to the South.

Ship To Name: Augusta, GA
Ship To: United States

Beware of Fraud: Any advance payment request will only be made on the basis of a proforma invoice sent by Fonroche Lighting America.
Shipping estimated; final cost determined on day of shipping and added to invoice.

Fonroche Model Number	Fonroche Product Description	Price System	Quantity	Amount
[T54-CK16B-4K-T3] [P310F-4P]HW-MC Fixture Color: BK POLE: 25Ft. Round Tapered Pole-Direct Burial-1-6FT Arm -Arm Color: Black -Pole Color: BK	SmartLight Assembly with 1248Wh-24V NiMH Battery , special extreme temperature (from -40 °F to +158 °F), 310W solar module with Top of Pole assembly and Intelligent management/control system. Provisioned for Single Fixture configuration. Single Essential (Formerly CK16B) Fixture 4K Color Temp.-Type 3 Fixture Color: BK - . Power Assembly color is black. Mount: High wind and enhanced marine coating. 25Ft. Round Tapered Pole-Direct Burial-1-6FT Arm -Arm Color: Black -Pole Color is BK 5 Year Warranty All Night Lighting 365 Days a Year - Full Battery Replacement Assumes No Shading Assumes little or no snow 10 Degrees Tilt 100% =38 Watts worst case conditions.T-PM: 5 hrs. @100% T-N (Balance of night) @80% T-AM: 1 hrs. @100%	USD 4,357	76.00	USD 331,132
[T54-CK16B-4K-T4] [P160F-2P]HW-MC Fixture Color: BK POLE: 14Ft. Round Tapered Pole-Direct Burial-1-4FT Arm -Arm Color: Black -Pole Color: BK	SmartLight Assembly with 624Wh-24V NiMH Battery , special extreme temperature (from -40 °F to +158 °F), 1 x 160W solar module with Top of Pole assembly and Intelligent management/control system. Provisioned for Single Fixture configuration. Single Essential (Formerly CK16B) Fixture 4K Color Temp.-Type 4 Fixture Color: BK - . Power Assembly color is black. Mount: High wind and enhanced marine coating. 14Ft. Round Tapered Pole-Direct Burial-1-4FT Arm -Arm Color: Black -Pole Color is BK 5 Year Warranty All Night Lighting 365 Days a Year - Full Battery Replacement Assumes No Shading Assumes little or no snow 10 Degrees Tilt 100% =19 Watts worst case conditions.T-PM: 5 hrs. @100% T-N (Balance of night) @80% T-AM: 1 hrs. @100%	USD 2,882	16.00	USD 46,112
GATEWAY	Fonroche Connect Gateway - Requires 3G/4G	USD 5,320	1.00	USD 5,320

Total Line Items	USD 382,564
Shipping and Handling	USD 22,540
Quote Total	USD 405,104



FONROCHE
lighting AMERICA

Fonroche Lighting America
4900 David Strickland Rd.
Forest Hill, TX 76119
(817) 516-2056

This quotation is subject to the following terms and conditions

Seller's Terms and Conditions of Sale in effect on the date of this order shall apply to this quote and are hereby incorporated by reference.
Seller's Terms and Conditions of Sale may be viewed at <https://www.fonrochesolarlighting.com/about-us/terms/>.

Pricing is based on Fonroche Lighting America's Standard Terms & Conditions and any additional terms stipulated herein. It is the Representative's responsibility to convey these terms to the customer. Without prior written approval from Fonroche Lighting America's Sales Director, any deviation from these terms may constitute a change in this pricing at the time of order. In the event that Fonroche Lighting America is unable to recoup the difference in pricing from the end customer, it may deduct the difference from the representative's commission.



Fonroche Lighting America
4900 David Strickland Rd
Forest Hill, TX 76119
339-225-4530
FonrocheSolarLighting.com

January 30, 2024

To whom it may concern:

Please find attached with this cover letter, technical data supporting Fonroche Lighting manufacturing of solar street lighting products, which are completely unique from any other, Worldwide

This product is purchased directly by institutions from Fonroche Lighting America, at the address listed above.

There are many types of battery technologies. In the attached document, you will find supporting technical data supporting Nickel Metal Hydride (NiMH) as superior in durability, cycle life, storage, transportation, and safety to other battery types. The attached technical document outlines how NiMH requires advanced engineering into battery management systems, and technical knowledge, which no other company has invested the significant resources into bringing NiMH technology into the solar lighting marketplace.

Fonroche has built the largest, solar lighting specific test laboratory in the World. Fonroche is the only manufacturer doing in-depth solar lighting battery life duration tests, analyzing depth of discharge, current rate, and temperature. These extensive tests are necessary to quantify battery durability and longevity in different conditions.

Fonroche is the only manufacturer completing in-depth validation on all the following sub-components: solar panel performance, mechanical design, transportation, telecommunication.

Fonroche is the only manufacturer using LoRa telecommunications in solar lighting, with 110,000 individual lights connected, all sending 7 million messages per day, allowing for continuous real time feedback and improvements in all climates, while having customer facing portal infrastructure monitoring.

Technical details supporting these topics and more are enclosed in the attached technical file.

If you desire additional information, please do not hesitate to contact me at 316-554-4180 at any time. Thank you for your interest in our systems.

Respectfully,

Hocine Benaoum

CEO, Fonroche Lighting America

IS THE NEW STANDARD

APPLICATION DESIGN

Wrightsboro Road Augusta, GA



Route 37 - Cranston, RI

Project Number:	<u>G7454</u>
Date:	4/4/2024
Written by:	Michael ZERMANI
Version :	C



The global leader in solar lighting

Fonroche Lighting America is proud to be part of Fonroche Lighting, the global leader in off-grid solar street lighting. The deep resources and broader scope of an established market leader lets us take solar lighting even further, from the State Treasury in Salem, Oregon to the West African Republic of Senegal. Over 150,000 Fonroche SmartLight systems have been deployed worldwide.

With five offices in the USA and installations across the country, Fonroche is never far away. Some solution providers enter the solar lighting market—then move on. We're a reliable partner that sticks around. You get the responsive support and smart answers that you need now—and the confidence that we'll be here for you far in the future. And we can take on projects of any size, from local to national. That's why so many municipalities, military and federal facilities, tribes, commercial properties, and developers trust us to deliver the full promise of solar lighting.



Olton City Park – Olton, TX



The **3** key benefits for your project

- OFF-GRID

100% solar, not connected to the utility grid. No outages.
365 nights of light a year – guaranteed.

- POWERFUL

Powerful illumination, on a par with grid-connected systems.

- COST-EFFICIENT

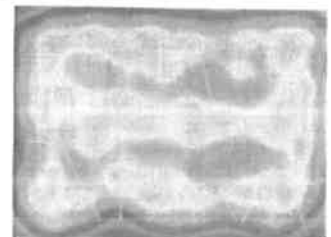
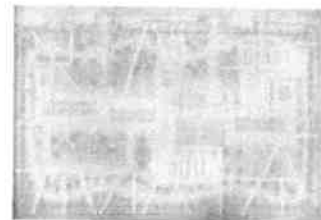
No maintenance for the first 10 years.
Rapid installation. No operating costs.

Feasibility of your solar lighting project

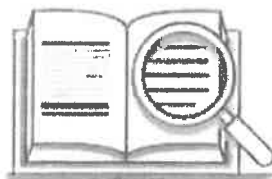
To guarantee powerful, cost-effective off-grid lighting, Fonroche operates its own **design offices**.

We assess the feasibility of each project in four stages:

1. First, we define your **lighting requirements**.
2. Next, we analyze the last 10 years of **local weather data** to determine how much energy our PV panels will generate.
3. On this basis, we **calculate** what size and how many products we need to install.
4. Finally, our sales team draws up a **cost estimate**.



1 Project = 1 Study



1



10-Year Analysis of local weather data

We use the **PVsyst** software suite and **Meteonorm** historical time series irradiation data to calculate the real-world operating conditions — orientation and tilt angle of the panel, shadow, etc. — and external parameters, such as direct and diffuse irradiation, temperature and the solar calendar.

2



Simulation of product(s) over a typical year

Our teams have developed a solar sizing software application, which we use to determine which products will best meet your needs. We then simulate how these products operate over a typical year, based on the average conditions for the last decade.

3



Sizing the project to your needs

We use a set of Key criteria to optimally specify your project:

- Average battery charge level over the year
- Minimum charge level
- Comparative analysis of energy generated by the panel vs. energy used by the system
- Worst-case scenario (lowest irradiation, longest night)

4



Results

Based on our experience, we propose the optimal solution in terms of lighting performance and cost effectiveness.

Autonomy of

365

nights of lighting /year

Analyzing your lighting project

Your Project location



Augusta, GA

USA

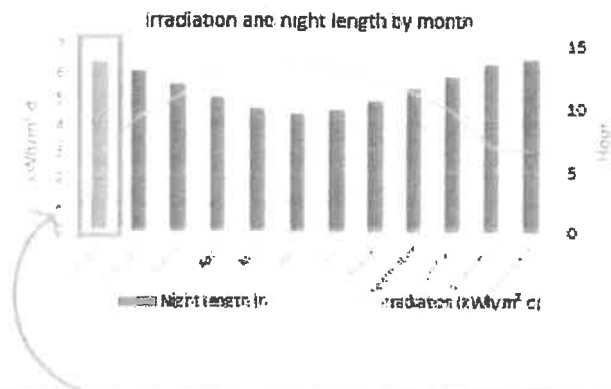
GPS COORDINATES

Latitude: 33.4735

Longitude: -82.0105

Your Solar Potential

We have analyzed the weather data for the last 10 years at your project location so that we can guarantee constant lighting every night of the year.



Average annual irradiation : 4.93kWh/m².d

Sizing takes account of the month with the lowest irradiation and the longest night.

Your Lighting Application



Roadway

Compliance with public lighting standards

Your project has been designed in compliance with:

- AASHTO standard



Our technical proposal



SMARTLIGHT SYSTEM CONFIGURATION – 25' Pole



Non pro-rated

Project-Specific System Specifications

PHOTOVOLTAIC MODULE

PV panel power rating	310 Wp
PV panel tilt angle	10°



POWER 365: SMART STORAGE AND MANAGEMENT

Battery capacity (Must be NiMH)	1248 Wh
------------------------------------	---------



LED LIGHT UNIT

Lighting power	40 W nominal
LED light unit specification	4000K - 187 Lm/w



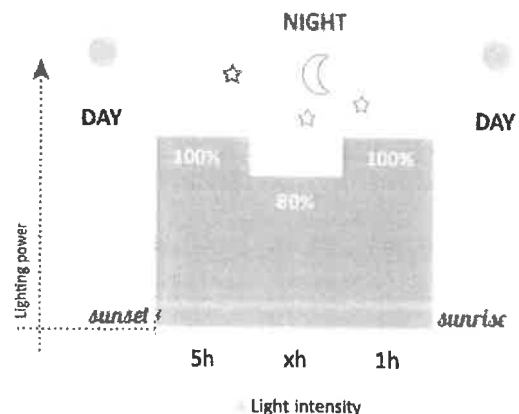
POLE & CROSSPIECE

Pole height	25'
Protective treatment	Powder Coated

POWER 365



Chosen lighting profile for your project



SMARTLIGHT SYSTEM CONFIGURATION – 14' Pole



Non pro-rated

Project-Specific System Specifications

PHOTOVOLTAIC MODULE

PV panel power rating 160 Wp

PV panel tilt angle 10°



POWER 365: SMART STORAGE AND MANAGEMENT

Battery capacity (Must be NiMH) 624 Wh



LED LIGHT UNIT

Lighting power 20 W nominal

LED light unit specification 4000K - 180 Lm/w



POLE & CROSSPIECE

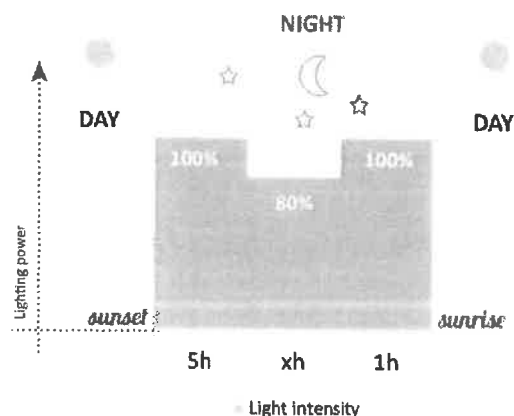
Pole height 14'

Protective treatment Powder Coated

POWER 365



Chosen lighting profile for your project



Photometric survey results



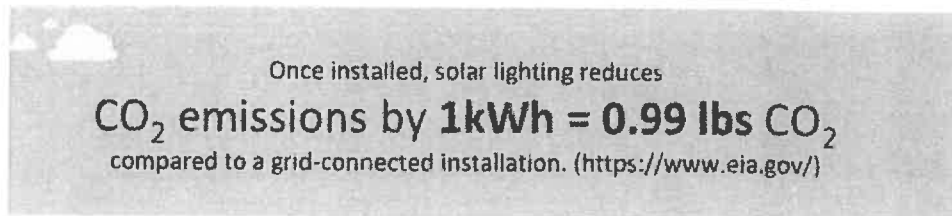
Zone	Average lighting level (fc)	Minimum	Uniformity (Avg/Min)	Spacing	Quantity
Wrightsboro Road – 25' pole	0.68	0.1	6.80	200' straight line typical	76
Wrightsboro Road – 14' pole	0.14	0.0	NA	200' straight line typical	16
TOTAL					92

Design targets: 200' spacing. Respace poles as little of possible in cases of obstructions. 25' poles on both sides of the road where allowed. 14' poles on one side of the road otherwise.

Eco-friendly lighting

Choose Fonroche — and we will reduce your environmental footprint.

A standard streetlight consumes in average 80 W during 4200 h per year which represents $0.08 \times 4200 \times$ number of solar streetlight = X kWh of energy saving.



Recycling our components

Long product service life and component recyclability are key aspects of Fonroche Lighting's environmental commitments. Our solar streetlights are over 90% recyclable.

Unlike lead-acid batteries, **NiMH batteries** do not contain any toxic chemicals. They are 98% recyclable — the nickel is extracted and used to make various materials, mostly stainless steel.

The **solar panels** have an extremely long service life. Even after 25 years, they will still be producing at least 80% of their initial peak power. So they can continue to be used. Alternatively, about 96% of their component materials can be recycled to make new panels.

PHOTOMETRIC STUDY

**Note: these results are only valid if the Smartlight PV panel is at an azimuth angle of zero degrees and is completely free of shadow.*

***These results are subject to change due to technological or regulatory advances. This technical report is valid for 60 days from the date you receive it.*

Wrightsboro Road - West



FONROCHE
lighting AMERICA

Lighting Plan Rev C
Project Number: G7454

By: Michael Zermani
michael.zermani@fonroche.us
Date: 4/4/2024

4900 David Strickland Road
Forest Hill, TX 76119
Phone Number: (339) 225 4530
www.fonrochesolarlighting.com



Luminaire Schedule

Symbol	Qty	Label	Arrangement	Total Lamp Lumens
	54	T3-CK16B-4000K-38W	SINGLE	7106

Wrightsboro Road - West

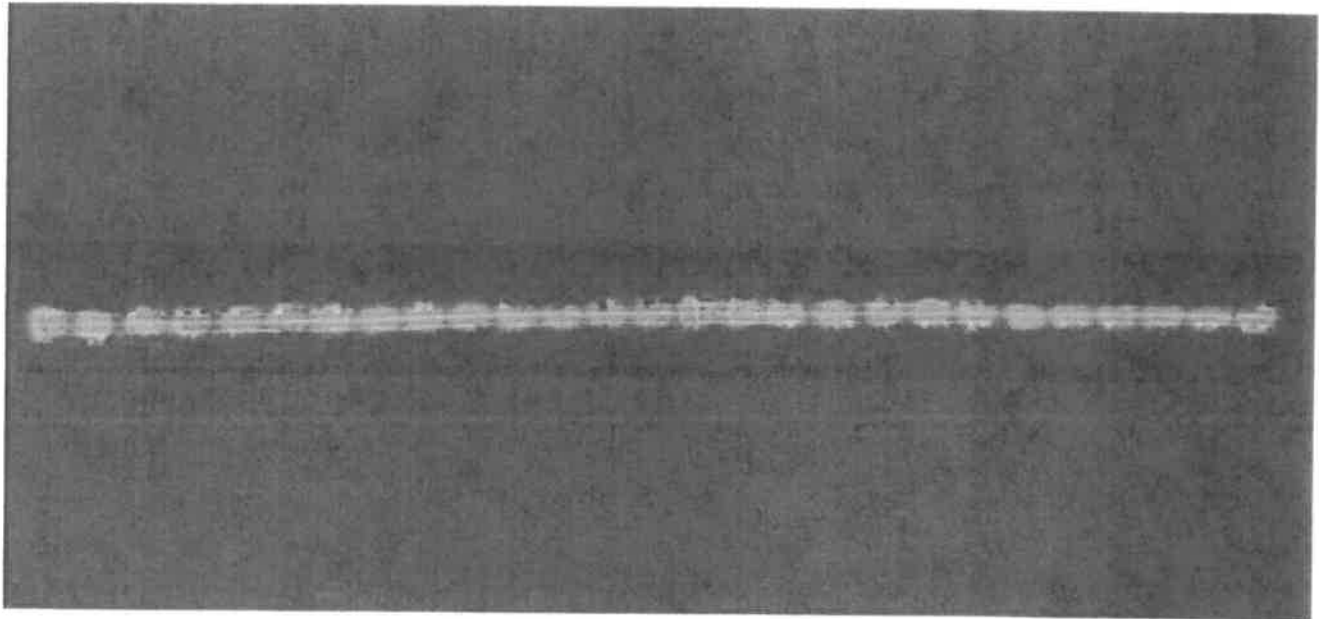
Lighting Plan Rev C
Project Number: G7454

By: Michael Zermani
michael.zermani@fonroche.us
Date: 4/4/2024



FONROCHE
lighting AMERICA

4900 David Strickland Road
Forest Hill, TX 76119
Phone Number: (339) 225 4530
www.fonrochesolarlighting.com



Wrightsboro Road - West

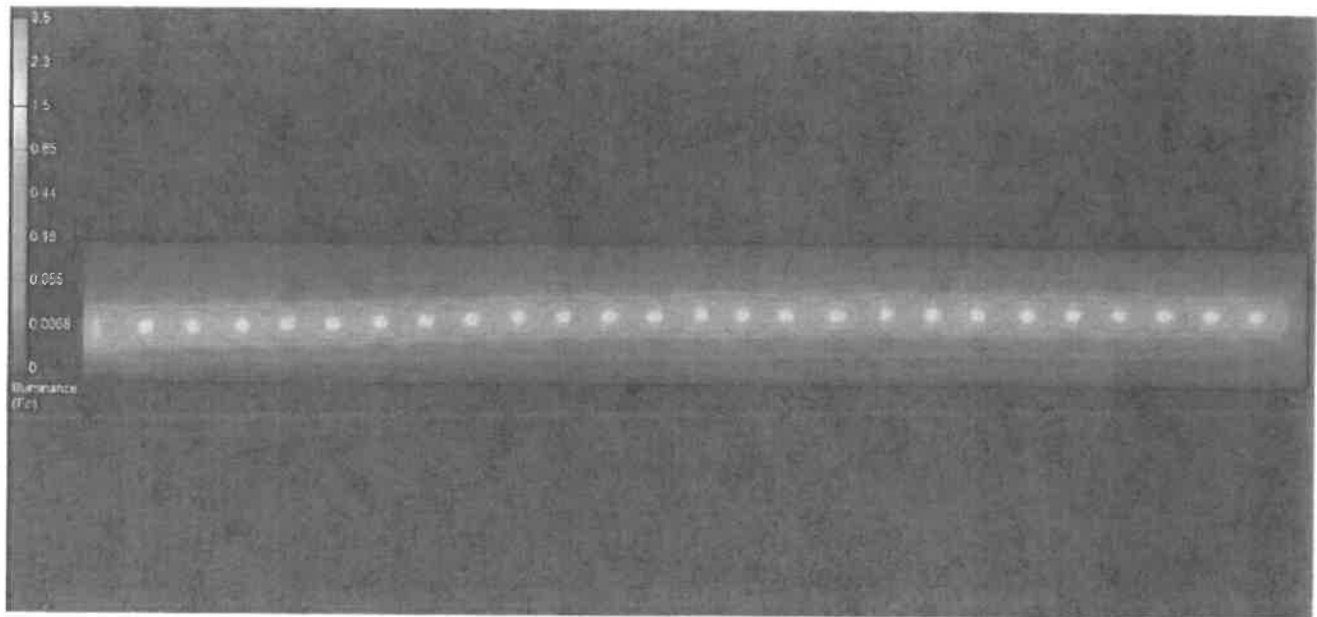
Lighting Plan Rev C
Project Number: G7454

By: Michael Zermani
michael.zermani@fonroche.us
Date: 4/4/2024



FONROCHE
lighting AMERICA

4900 David Strickland Road
Forest Hill, TX 76119
Phone Number: (339) 225 4530
www.fonrochesolarlighting.com



Wrightsboro Road - East



FONROCHE
LIGHTING AMERICA

Lighting Plan Rev A

Project Number: G7454

By: Michael Zermani
michael.zermani@fonroche.us
Date: 4/4/2024

4900 David Strickland Road
Forest Hill, TX 76119
Phone Number: (339) 225 4530
www.fonrochesolarlighting.com



Luminaire Schedule

Symbol	Qty	Label	Arrangement	Total Lamp Lumens
	22	T3-CK16B-4000K-38W	SINGLE	7106
	16	T4-CK16B-4000K-19W	SINGLE	3420

Wrightsboro Road - East

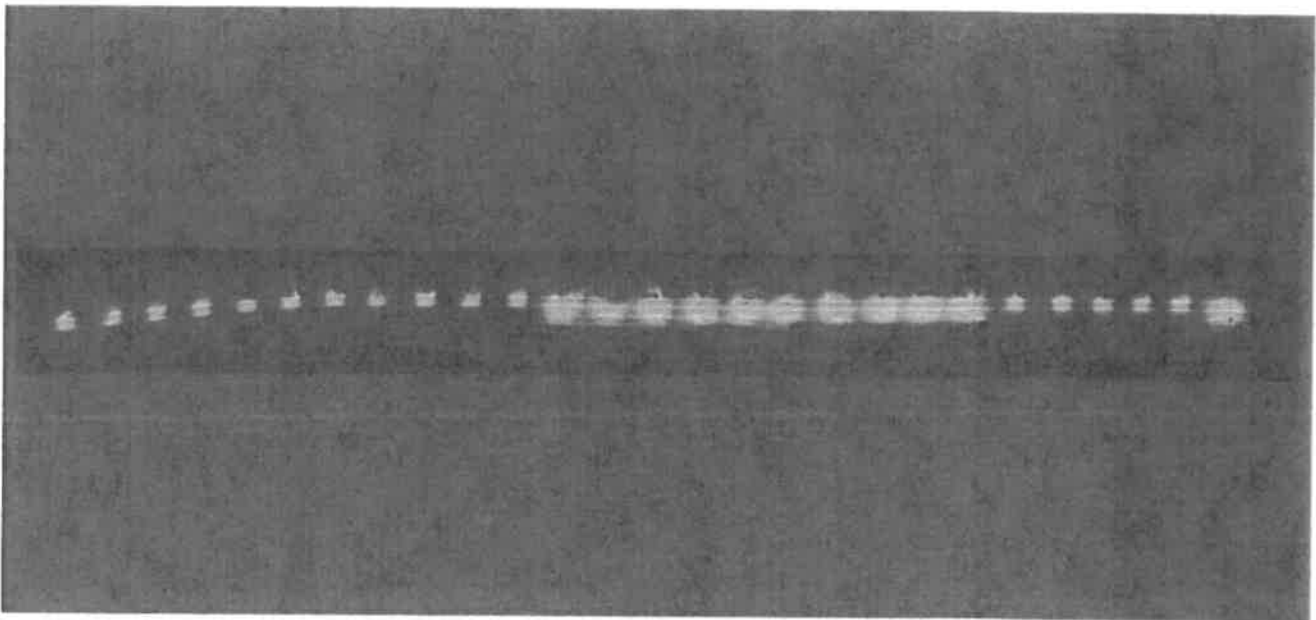
Lighting Plan Rev A
Project Number: G7454

By: Michael Zermani
michael.zermani@fonroche.us
Date: 4/4/2024



FONROCHE
Lighting AMERICA

4900 David Strickland Road
Forest Hill, TX 76119
Phone Number: (339) 225 4530
www.fonrochesolarlighting.com



Wrightsboro Road - East

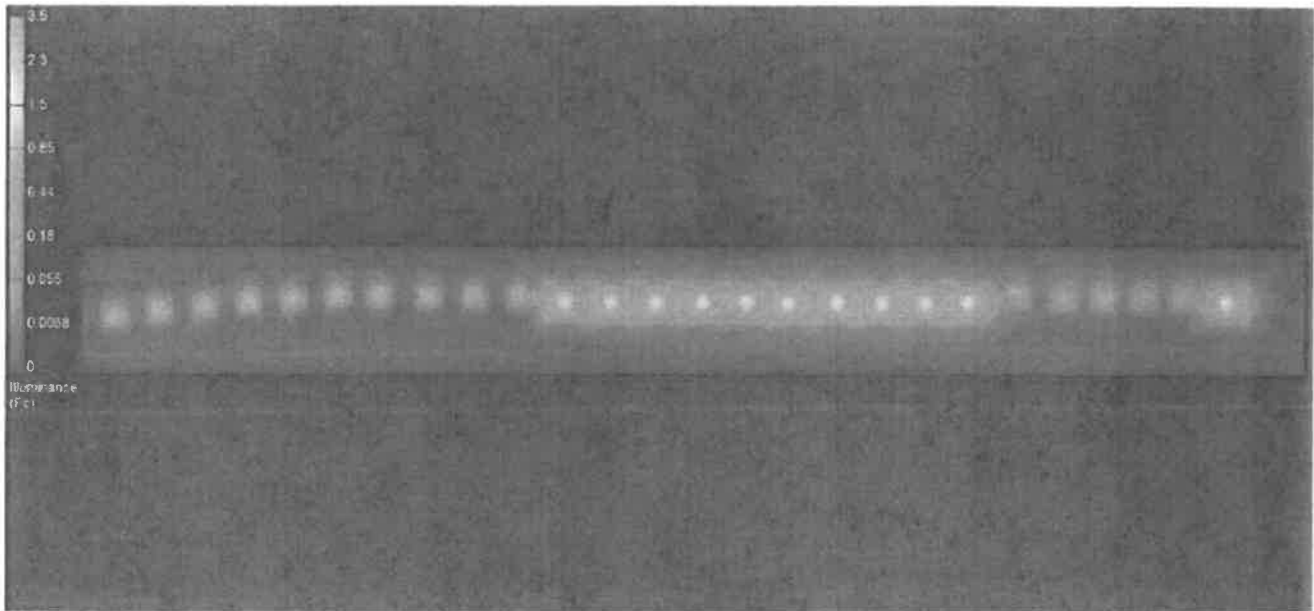
Lighting Plan Rev A
Project Number: G7454

By: Michael Zermani
michael.zermani@fonroche.us
Date: 4/4/2024



FONROCHE
Lighting AMERICA

4900 David Strickland Road
Forest Hill, TX 76119
Phone Number: (339) 225 4530
www.fonrochesolarlighting.com



Wrightsboro Road - 38W - 2 sides

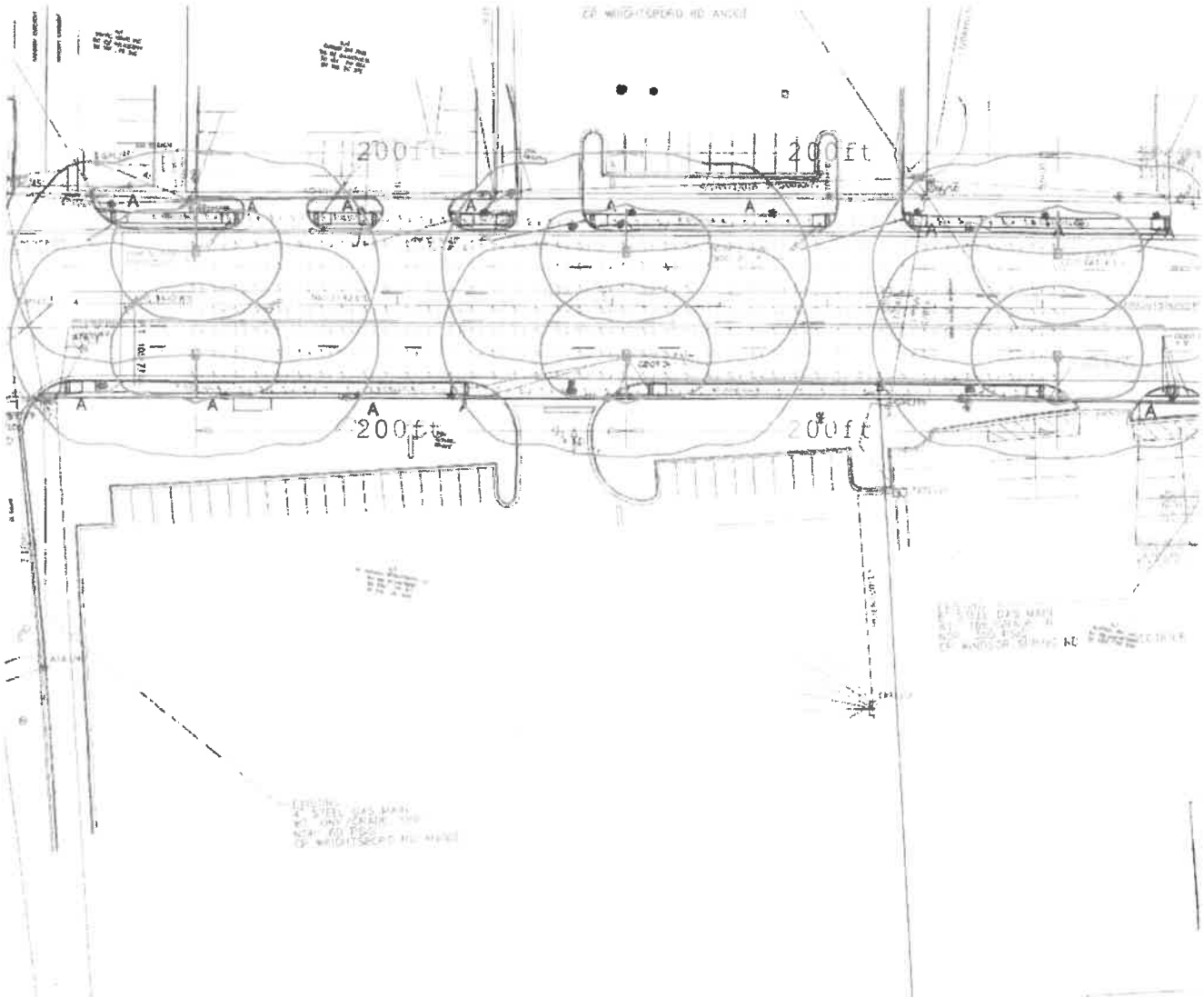


FONROCHE
Lighting AMERICA

4900 David Strickland Road
Forest Hill, TX 76119
Phone Number: (339) 225 4530
www.fonrochesolarlighting.com

Lighting Plan Rev C
Project Number: G7454

By: Michael Zermani
michael.zermani@fonroche.us
Date: 4/4/2024



Luminaire Schedule

Symbol	Qty
	6

Label
T3-CK16B-4000K-38W

Arrangement
SINGLE

Total Lamp Lumens
7106

Calculation Summary

Label	CalcType	Units	Avg	Max	Min	Avg/Min	Max/Min
N Sidewalk	Illuminance	Fc	0.38	0.7	0.1	3.80	7.00
Road	Illuminance	Fc	0.68	1.7	0.1	6.80	17.00
S Sidewalk	Illuminance	Fc	0.37	0.7	0.1	3.70	7.00

Wrightsboro Road - 38W - 2 sides

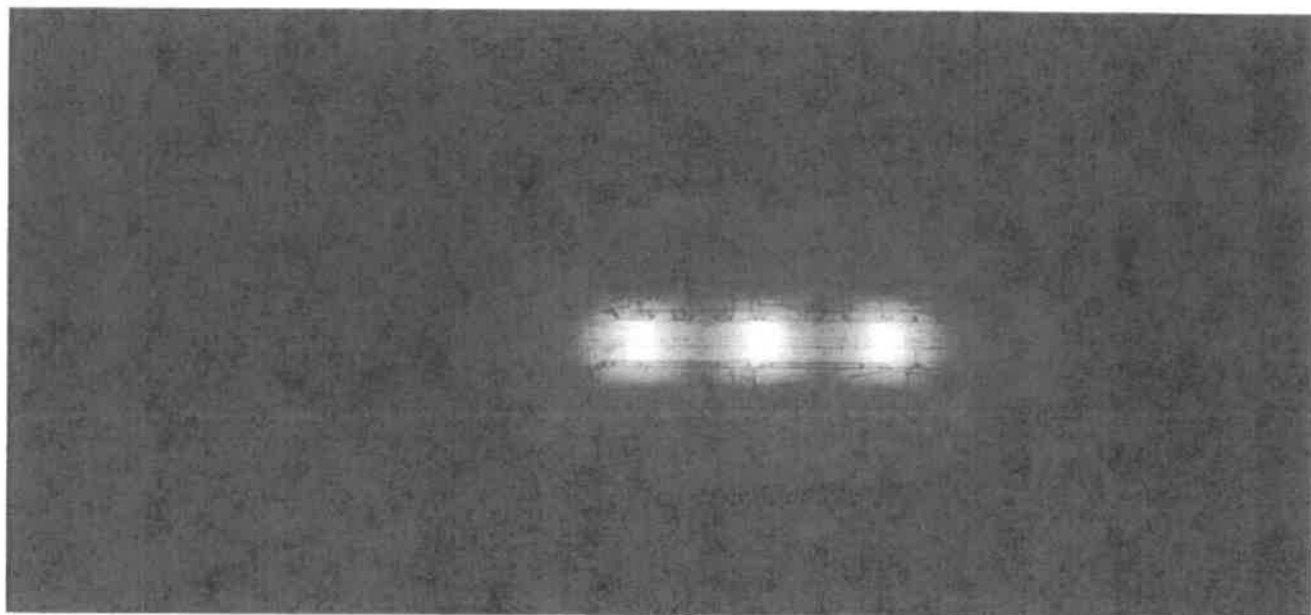


FONROCHE
lighting AMERICA

Lighting Plan Rev C
Project Number: G7454

By: Michael Zermani
michael.zermani@fonroche.us
Date: 4/4/2024

4900 David Strickland Road
Forest Hill, TX 76119
Phone Number: (339) 225 4530
www.fonrochesolarlighting.com



Wrightsboro Road - 38W - 2 sides

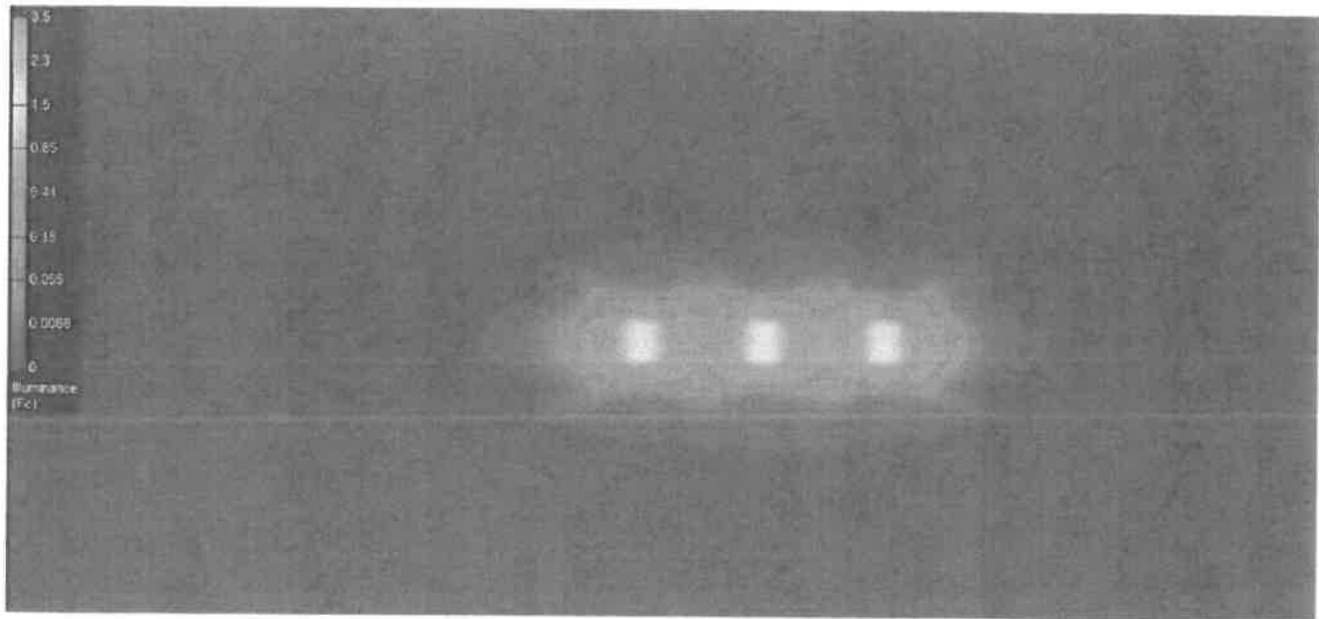
Lighting Plan Rev C
Project Number: G7454

By: Michael Zermani
michael.zermani@fonroche.us
Date: 4/4/2024



FONROCHE
lighting AMERICA

4900 David Strickland Road
Forest Hill, TX 76119
Phone Number: (339) 225 4530
www.fonrochesolarlighting.com



Wrightsboro Road - 19W - 1 side

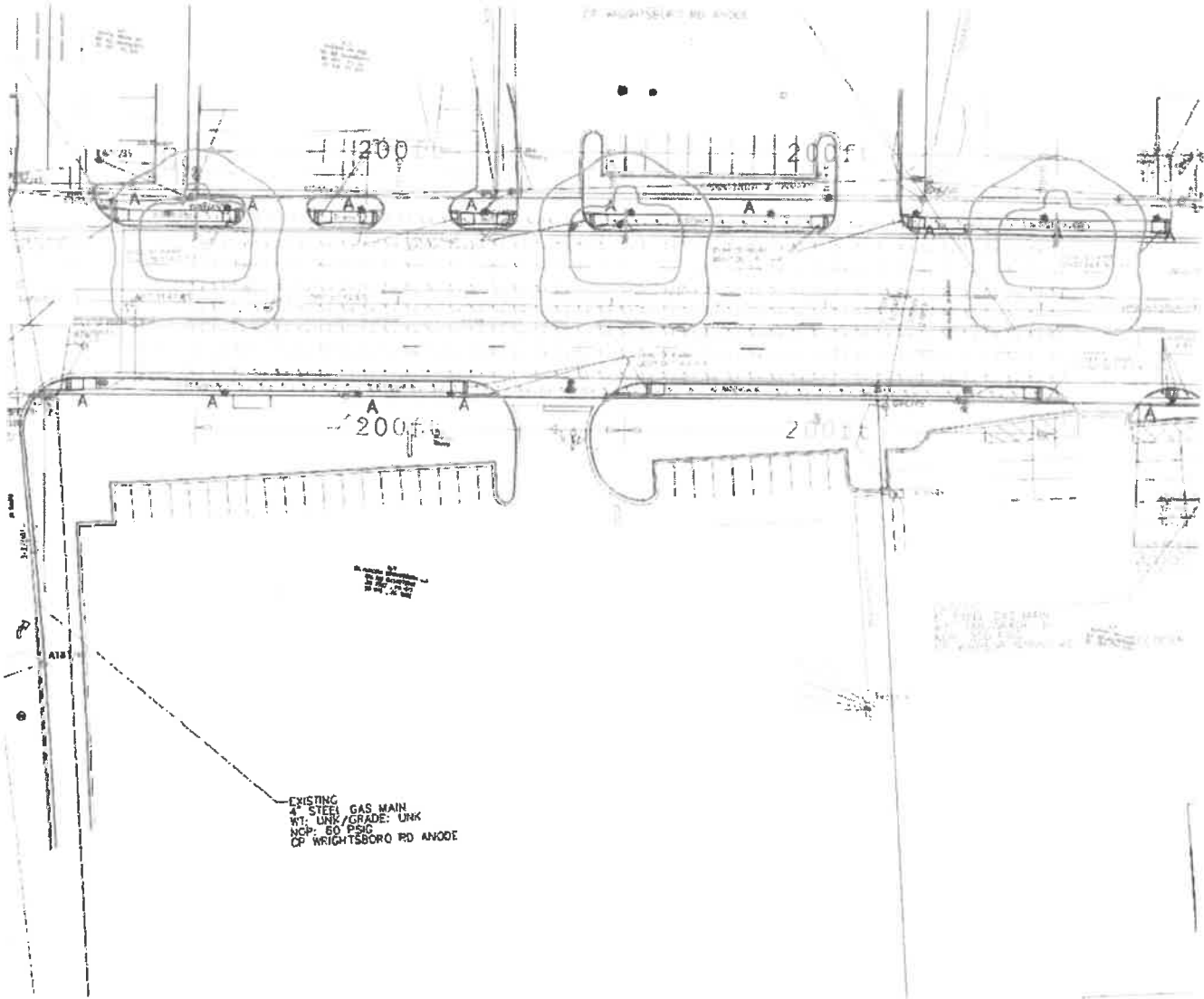


FONROCHE
LIGHTING AMERICA

Lighting Plan Rev C
Project Number: G7454

By: Michael Zermani
michael.zermani@fonroche.us
Date: 4/4/2024

4900 David Strickland Road
Forest Hill, TX 76119
Phone Number: (339) 225 4530
www.fonrochesolarlighting.com



Luminaire Schedule
Symbol Qty
3

Label
T4-CK16B-4000K-19W

Arrangement
SINGLE

Total Lamp Lumens
3420

Calculation Summary

Label
N Sidewalk
Road
S Sidewalk

CalcType
Illuminance
Illuminance
Illuminance

Units
Fc
Fc
Fc

Avg	Max	Min	Avg/Min	Max/Min
0.31	1.4	0.0	N.A.	N.A.
0.14	2.1	0.0	N.A.	N.A.
0.00	0.0	0.0	N.A.	N.A.

Wrightsboro Road - 19W - 1 side

Lighting Plan Rev C

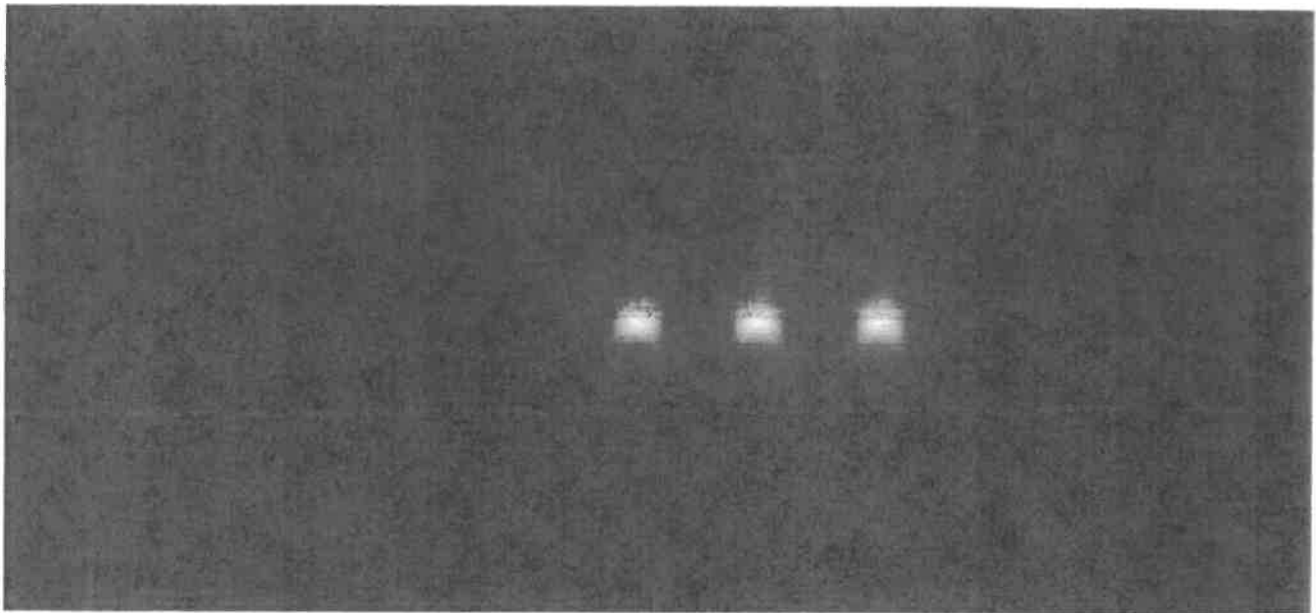
Project Number: G7454

By: Michael Zermani
michael.zermani@fonroche.us
Date: 4/4/2024



FONROCHE
Lighting AMERICA

4900 David Strickland Road
Forest Hill, TX 76119
Phone Number: (339) 225 4530
www.fonrochesolarlighting.com



Wrightsboro Road - 19W - 1 side

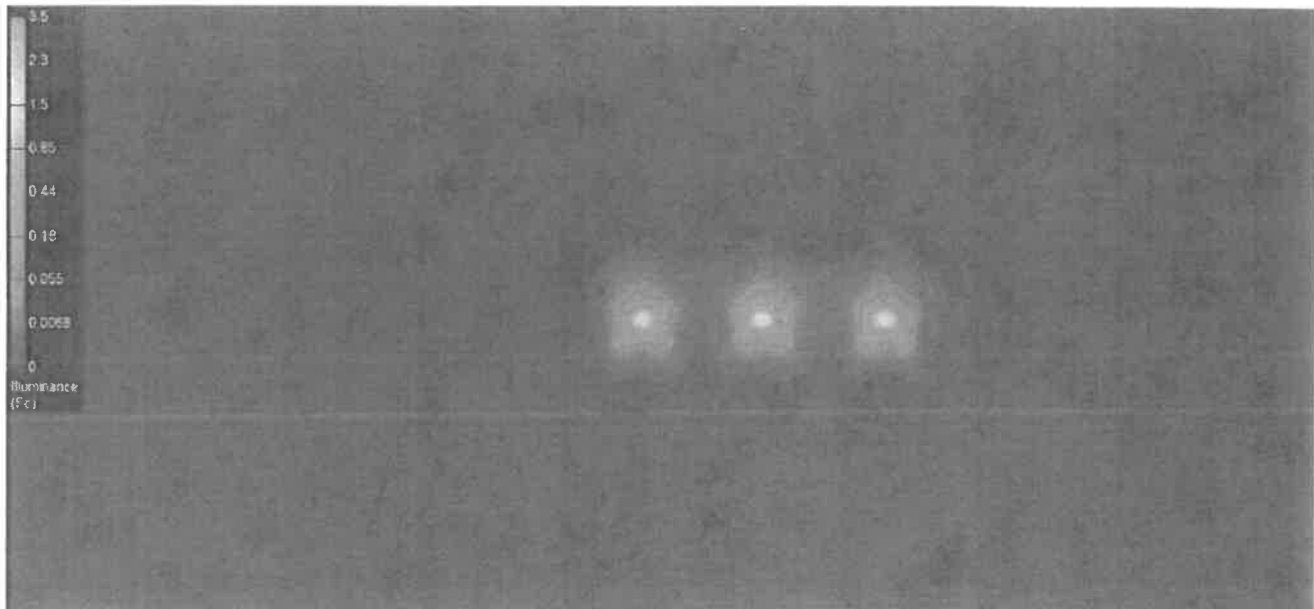


FONROCHE
lighting AMERICA

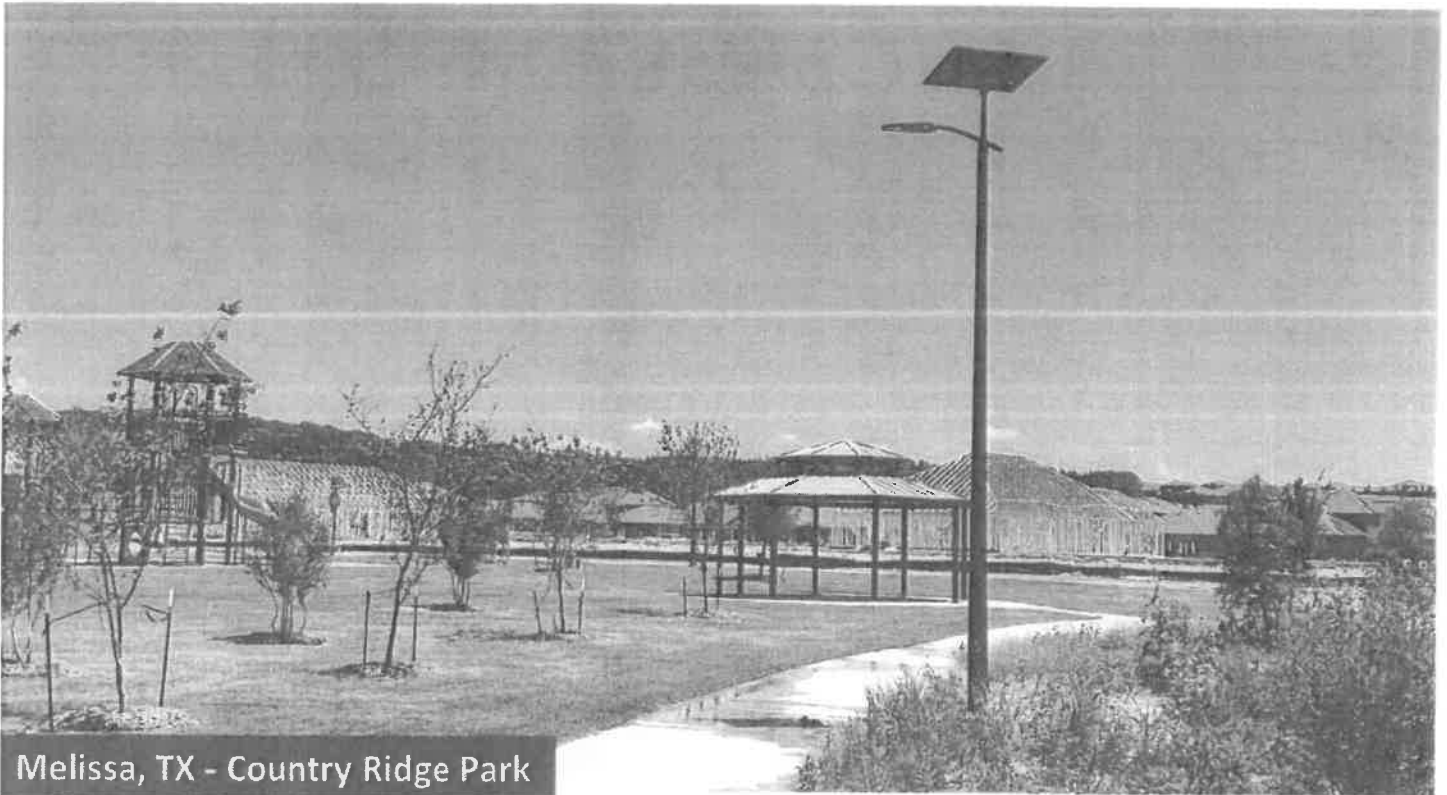
Lighting Plan Rev C
Project Number: G7454

By: Michael Zermani
michael.zermani@fonroche.us
Date: 4/4/2024

4900 David Strickland Road
Forest Hill, TX 76119
Phone Number: (339) 225 4530
www.fonrochesolarlighting.com



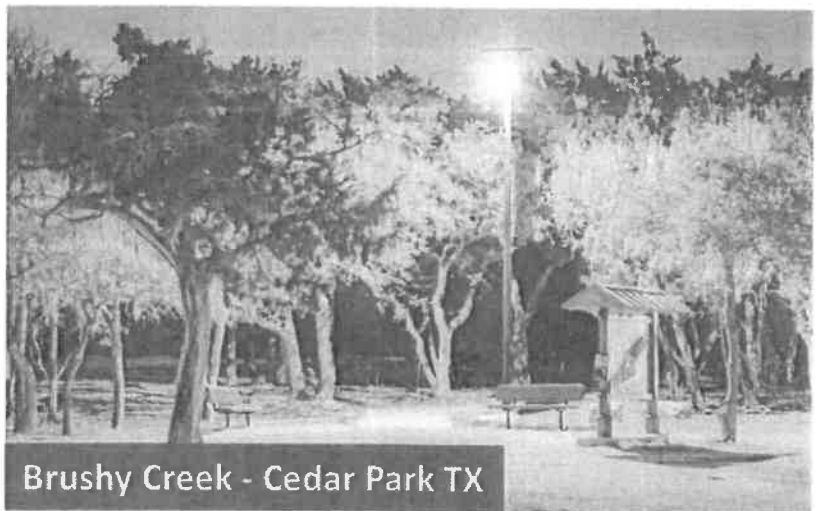
A few examples



Melissa, TX - Country Ridge Park



Fort Worth, TX



Brushy Creek - Cedar Park TX



Marana, AZ



Solar lighting

Your commitment to sustainability

Contact us

Michael Montenaro

Regional Manager

P: (339) 225-4530 x217

E: michael.montenaro@fonroche.us

FIND OUT MORE AT

www.FonrocheSolarLighting.com

FONROCHE LIGHTING AMERICA | 4900 David Strickland Road
Forest Hill, TX 76119 | USA
Telephone : 339-225-4530