



Request for Consultant Proposals

Light Pollution and Energy Efficiency

Issued by Efficiency Forward, Inc.:

December 16, 2022

Questions Due Before:

January 5, 2023

Proposals Due:

January 27, 2023



Efficiency Forward/DesignLights Consortium® Background

Efficiency Forward (EF)/the DesignLights Consortium (DLC) is a non-profit organization improving energy efficiency, lighting quality, and the human experience in the built environment. We collaborate with utilities, energy efficiency programs, manufacturers, lighting designers, building owners, and government entities to create rigorous criteria for lighting performance that keeps up with the pace of technology. Together, we're creating solutions for a better future with better lighting.

About this Project

The purpose of this project is to address the energy efficiency case for minimizing light pollution. The DLC is currently accepting applications and building a Qualified Product List (QPL) for products that comply with the [LUNA V1.0 Technical Requirements](#). The LUNA requirements build upon the SSL V5.1 requirements and include additional prescriptive requirements for uplight control, light source color, shielding, and controllability in order to minimize light pollution. The technical requirements also include efficacy allowances for pole/arm-mounted luminaires and bollards to accommodate product design features (such as installed shields) that limit light trespass and light pollution. Bollards have an efficacy allowance of 25%. Pole/arm-mounted roadway and decorative luminaires with internal or external house-side and/or front-side shields have an efficacy allowance of 20%, and those with internal or external cul-de-sac shields have an allowance of 35%. Efficacy allowance details and rationale can be found in the [LUNA Technical Requirements](#), pages 30-34. The DLC desires to conduct an exploratory analysis using application examples and retrofit scenarios to analyze the impacts on annual energy costs and savings for LUNA qualified luminaires compared to non-LUNA luminaires.

Target Audience

The target audience for this work includes end-user local government decision makers, such as municipal sustainability directors, urban planners, and procurement officials.

Key Question

The key question to answer in this work is as follows: for local government stakeholders, what are the impacts on annual energy use, energy costs, and ROI if a town desires to use a retrofit solution that is both energy efficient and minimizes light pollution, rather than focusing on energy efficiency alone?

Project Objectives

1. Create energy efficiency stories for LUNA design solutions using real-world use cases.
2. Quantify the impact of efficacy differences stemming from LUNA allowances on annual end-use energy costs, savings, and ROI.



Services to Be Performed

Your proposal is expected to cover the following services:

1. Outdoor lighting design for the primary application scenarios listed in Table 1, and an additional option for adding the large public parking lot use case. Also includes identification of use case site plans, either using existing DLC resources, DOE models, or Awardee recommendations. Design solutions shall comply with all relevant IES Standards and Recommended Practices, such as, but not limited to, RP-8-21, RP-43-22, LP-2-20, and LP-11-20. Geographical location of scenarios to be finalized with the DLC.
2. Luminaire and control strategy selection – all scenarios shown in Table 1. These include a baseline 'existing' condition, a scenario where energy efficiency is the primary criterion, and a scenario where minimizing light pollution is of equal importance to energy efficiency. The DLC will work with the Awardee to confirm that luminaire selections are LUNA-eligible when needed. The DLC will approve luminaire selections and control strategy recommendations.
3. Lighting calculations and simulations for each use case and scenario.
4. Life cycle cost analysis, ROI, and annual energy and energy cost savings comparisons for each use case and scenario.
5. Analysis of the results.
6. Final report and final presentation summarizing the rationale, methodology, results, and conclusions.

Application Use Cases

The scope includes conducting comparative application analyses for the outdoor end-use applications shown in Table 1. AGI32 lighting calculation and simulation software, or an approved alternate, shall be used for comparing and visualizing the differences in performance between the scenarios. If feasible, the DLC would like to quantify light pollution contributions for each scenario. Bidder should include comments on this in their proposal.

Design criteria will be established for each scenario that represents the hypothetical owner's project requirements in keeping with common practices. Owner project requirements include complying with all applicable IESNA guidelines and recommended practices, complying with energy code requirements (90.1-2019), and complying with the light pollution requirements in LEED and WELL, if feasible.



Table 1. End-use Application Scenarios – Proposed Applications and Scenarios¹

Primary Application	Base Case Condition (Ignores Light Pollution)	Retrofit Scenario 1 (Ignores Light Pollution)	Retrofit Scenario 2 (LUNA)	
K-12 school building	Lighting Zone	LZ2 – light commercial business/mixed use residential		
	Source	4000K Metal Halide	4000K LED	3000K LED
	Parking lot	Shoebox	Shoebox (U2 +)	LUNA shoebox (U1 max) HSS used in luminaires on the perimeter
	Walkway	Pedestrian decorative	Decorative (U3/U4)	2.A. LUNA decorative (U2 max) ² 2.B. LUNA bollard (U1 max) ²
	Wallpacks	Non-cutoff	Semi-cutoff (U2 +)	LUNA wallpack (U1 max)
Town main street	Lighting Zone	LZ2 – light commercial business/mixed use residential		
	Source	2200K HPS	4000K LED	3000K LED
	Luminaire	Cobrahead	Acorn Decorative (U3 +)	LUNA acorn decorative (U2 max)

Notes:

1. DLC and awardee shall finalize all base cases and retrofit scenarios together. Location for all use cases must be finalized with the DLC.
2. Retrofit Scenario 2 for the K-12 school application has two options for lighting the walkway. Final decision to be determined with Awardee.

Calculations

The analyses shall include all the common and typical analyses conducted for a client. Examples are listed below. This is not an exhaustive list, and the DLC requests that proposals include a complete list of standards to be used, calculations that will be performed, and results that will be reported.

- **Illuminance:** Horizontal and vertical illuminance. Averages, maximum, minimum, max/min and uniformity ratios.
- **Luminaire classification system and BUG:** Provide total lumens and % of total in each solid angle defined in the LCS. Also include BUG values.
- **Energy:** Calculate energy metrics such as LPD; annual energy use; annual energy cost; and energy savings compared to the baseline, ROI, and system life cycle costs. Bidder to provide a list of all calculated energy metrics. Also include available utility incentives and energy rates.



Project Milestone Schedule

The major project milestones are listed below. All project milestones to be finalized with the Awardee.

Project kickoff	February 15, 2023
Design development for all use cases and signoff for base case plans, luminaire selection, and control recommendations	February 2023
Design solutions, calculations, and analyses completed	March 2023
Results presentation	April 2023
Summary report completed	April 2023

Budget

This is a time and materials project with budget determined by task. The estimated total project cost is \$25,000.

Contact and Communications

All communications between bidders and EF are to be directed to Stephen White, Chief Operating officer, at swhite@designlights.org.

Bidders' Questions and Responses

Bidders may submit questions on this RFP via email. All questions submitted prior to January 5, 2023 will be answered to the best of our ability.

RFP Submittal Deadline and Format

Bidders are required to submit their proposal by January 27, 2023 via email to Stephen White, Chief Operating officer, at swhite@designlights.org.

- The proposals should be submitted in both Microsoft Word and PDF format.
- Confirmation of receipt will be sent to those who submit proposals on time.
- Late submittals will be rejected.
- Bidders are *not* required to submit print copies of their proposals.
- The transmittal letter contained in the proposal package must have an electronic signature and must be signed by a person who is authorized to bind the proposing firm.

EF reserves the right to reject as non-responsive any proposals that do not contain the information requested in this RFP. EF is not liable for any costs incurred by any person or firm responding to this RFP or participating in best and final interviews.



Milestone Schedule

To allow adequate time for proposal submission and evaluation, the schedule below will be followed:

RFP Issued	December 16, 2022
Questions and responses	January 5, 2023
Proposals due	January 27, 2023
Anticipated notification to successful bidder	February 7, 2023
Anticipated contract start date	February 15, 2023

Minimum Qualifications

A single firm or a team of firms under a single primary contractor may submit bids. Key staff members must have demonstrated expertise in energy efficiency programs for non-residential lighting and energy efficiency objectives. Changes in proposed key staff members may not be made during the execution of the work without written approval of EF.

Modifications to the RFP

EF may modify the RFP prior to the proposal submission deadline by the issuance of an addendum.

Post-proposal Negotiation and Awarding of Contracts

EF reserves the right to negotiate both price and non-price factors during any post-proposal negotiations with a finalist. EF has no obligation to enter into an agreement with any respondent to this RFP and may terminate or modify this RFP at any time without liability or obligation to any respondent.

Acceptance of Terms and Conditions

EF will utilize its standard Consulting Agreement to contract for the services outlined in this RFP.

All proposals submitted to EF pursuant to this RFP shall become the exclusive property of EF and may be used for any reasonable purpose by EF.

Response Guidelines and Requirements

Proposals should provide straightforward and concise descriptions of the bidder's ability to satisfy the requirements of this RFP. Omissions, inaccuracies, or misstatements will be sufficient cause for rejection of a proposal. Proposals not submitted as indicated may be rejected.

EF is looking for proposals demonstrating creativity, expertise, and experience in how bidders approach the work scope – not necessarily a detailed final approach. Once the consultant is selected, an initial task will be to review the scope and deliverables with EF and finalize a Scope of Services.

Bidders are requested to provide a concise yet complete description of the bidder's approach and capabilities for satisfying the required services outlined in this RFP. Excessive length is discouraged. In



addition, bidders are encouraged to proactively present additional information and responses that have not been specifically requested herein to help demonstrate understanding of this project's objectives and needs as well as the bidder's creativity, experience, and/or expertise.

Proposals must include the following:

- Proposal cover
- Signed cover/transmittal letter
- Table of contents
- Executive summary
- Work scope and schedule
- Staffing and subcontracting plan
- Qualifications and experience
- Budget and billing rates
- Exceptions to contract terms (if needed)
- Conflicts of interest (if needed)
- Appendix – resumes of key staff

The proposal cover must indicate the RFP name, the proposal date, bidder's name, and list of subcontractors. The transmittal letter must also state that the person signing the letter is authorized to commit the bidding organization to the proposed work scope, budget, and rates; that the information in the proposal is accurate; and that the proposal is valid for 90 days from the date of submittal.

Supplier Diversity

It is the policy of Efficiency Forward Inc. DBA DesignLights Consortium (DLC) to ensure full and equitable economic opportunities to all persons and businesses that compete for business with the DLC. To that end, the DLC's supplier diversity efforts are a key criteria in bid scoring.

Suppliers representing that they are diverse should be certified as such from a recognized certifying state and/or federal authority. For this purpose, the categories of diverse businesses include: Minority (MBE: African-American, Hispanic, Native American, Asian, Indian/Pacific), Women (WBE), Veterans (VBE-including Service Disabled), and Disadvantaged Business Enterprises (DBE/SDB). Such suppliers may be formed as a sole proprietorship, partnership, limited liability company (LLC), joint venture, or corporation.

Evaluation of Proposals

EF will base the evaluation of proposals on the scoring matrix below. As noted above, the qualifications of key staff assigned to lead this project and the amount of time they commit to the project will be weighed heavily.



RFP Evaluation Criteria/Scoring Matrix
Part A: General Approach <ul style="list-style-type: none">• Proposal quality – comprehension and clarity regarding meeting project objectives and quality of proposed approach for meeting those objectives• Thoroughness and practicality of approach• Creativity of approach
Part B: Management Approach <ul style="list-style-type: none">• Dedicated resources• Demonstrated management competence of key staff• Approach to use and management of subcontractors (if applicable)
Part C: Qualifications and Experience <ul style="list-style-type: none">• Demonstrated competence and experience of key staff and firm(s)• References
Part D: Supplier Diversity <ul style="list-style-type: none">• Demonstrated certification with MBE, WBE, VBE, DBE program
Part E: Cost <ul style="list-style-type: none">• Hourly rates and Total Project Cost