

Custom Residential Chandelier

Carlson Residence

Residential Renovation
Lincoln Park Dining Room
Chicago, Illinois



Custom Suspended Chroma Installation

Carlson Residence

Project: Carlson Residence

Completed: 2019

Location: Lincoln Park - Chicago, Illinois

Specifier: Fredman Design Group *(Final Photos Credit: Chris Bowden)*

Project Overview

My Role - Project Manager

The homeowner was inspired by a light chandelier they experienced while dining at Maple + Ash, a new popular restaurant in Chicago. The goal was to have a similar chandelier, of two lit strands, over their main dining tables - in time for a home tour gala in the Lincoln Park neighborhood.

The project had a fair amount of challenges from the start, from lack of initial information, clarity on design intent, and budgeting mishaps/constraints. Overall, this project was a success but had a steep learning curve which was a challenge I was up for. I collected the information and project outcomes to create an educational presentation for both the LightArt sales team and for the other project managers.

The result was a happy homeowner, a beautiful and unique light fixture, and new skills learned as well as exercised existing ones. This fixture came to be one of my favorites I created, with a futuristic and geometric feel, balanced by the soft and dimmable glow it provides.



Custom Residential Chandelier

Obstacles

When I first received the last minute request for a next day turn around on a quote for this custom light fixture. The information I received was the photo pictured right, that the project was residential, and that the budget was \$10,000.

It was a challenge from the start, having little information, not much time to research, prepare a design solution and a quote. So I began researching and showed the photo to a LightArt design developer who always had a pulse on the latest lighting trends.

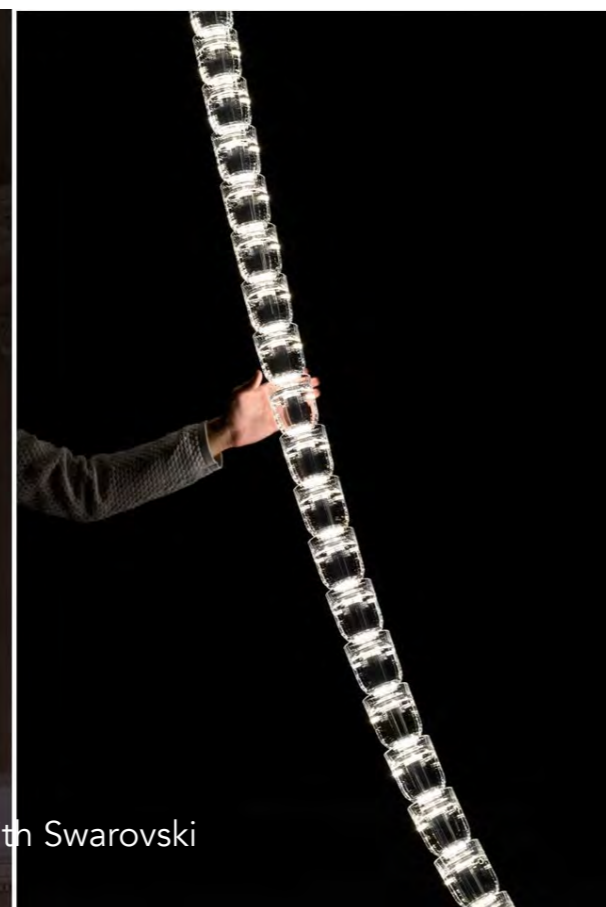
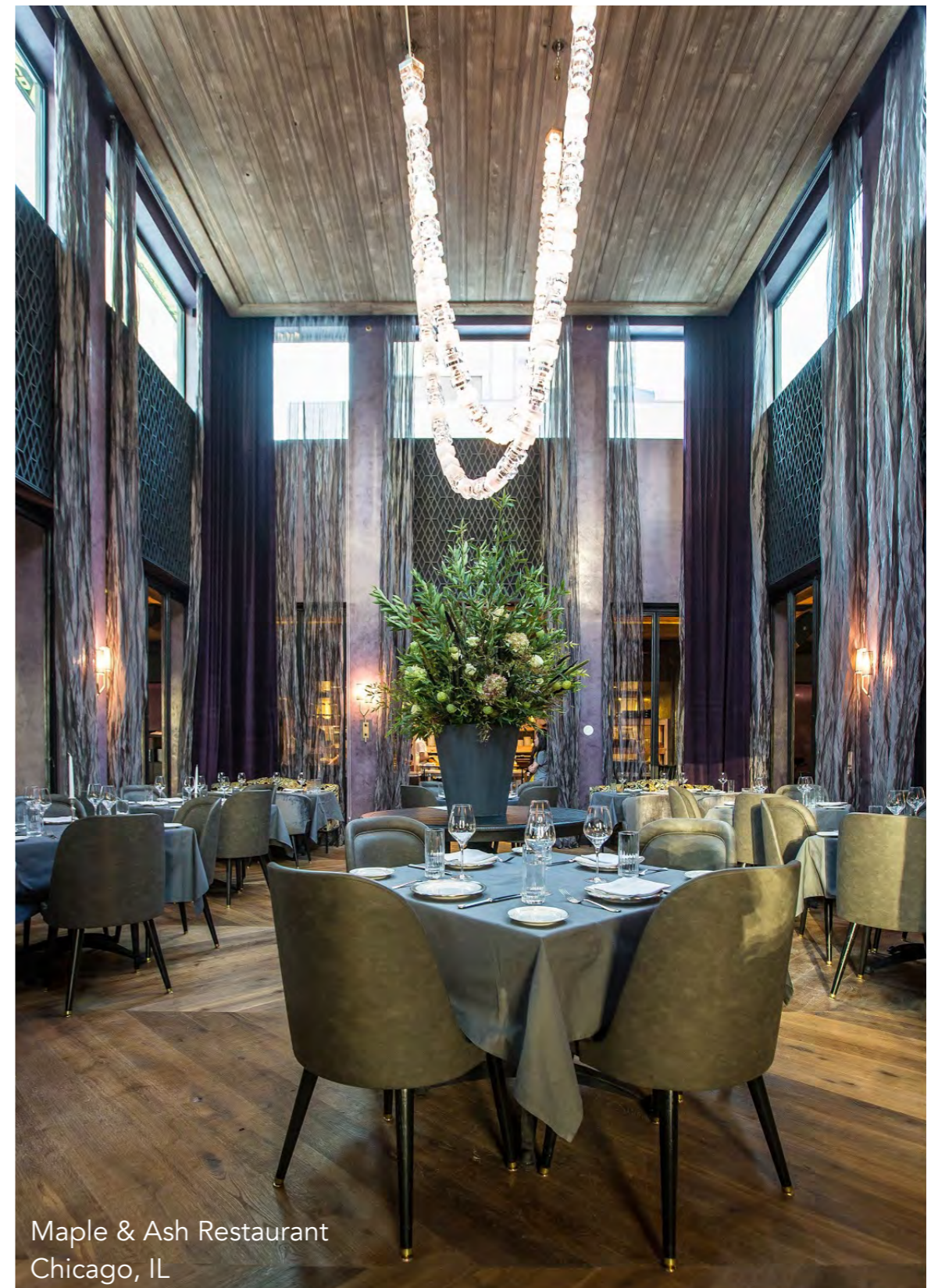
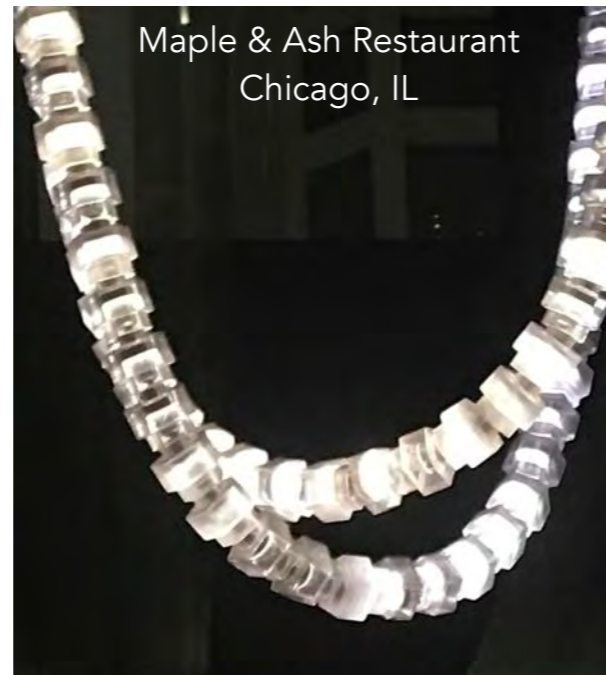


Custom Residential Chandelier

Project Process Details

What I discovered was that the fixture was inspired by the Bouroullec Brothers Swarovski chandelier and had been recreated for \$40k by a Chicago designer for the Maple + Ash restaurant.

It became clear to me that I needed to create a very clever solution using inexpensive materials and efficient manufacturing/fabrication processes.



Custom Residential Chandelier

Obstacles

Below the initial quote - the LightArt sales rep was notorious for not providing enough information for quoting projects upfront, not working as a team, and demanding for next day turn around on budgets. This was a learning lesson for me to push back and create compromise in the future, as I ended up sacrificing sleep, not fully thinking through all of the details and under quoting the project. In the end, I did find alternative design solutions and invested more of my own time to make sure this project did not end up with a negative profit margin and created a positive by presenting the overall project to the studio team as an educational tool.

BUDGETARY QUOTE

CARLSON DINING ROOM

PID # 309982

DATE PREPARED: (VALID 30 DAYS)

08/01/2018

CUSTOM BEAD CHANDELIER

Custom bead-like chandelier for Carlson dining room. (2) Strands of Chroma squares, strung like beads along LED rope lighting, to be a chandelier in the dining space. Pricing is based upon standard canopies - remote mounted drivers within 20ft of the fixture for the smaller canopies. Custom canopies will add an estimated \$3,000 - \$6,000 to overall pricing. Estimated weight = 150 lbs (approx. 40 lbs at each ceiling connection point).

Unit Price: \$8,500

Quantity: (2) strands, (84) total chroma strung square beads

Dimensions: 7'6" L x 5'0" W x 3'0" H

Lead-time: 10 weeks

Design Fee: \$1,000 *included in unit price above, in which LightArt provides layout and design, full-sized floor template for lasering up and locating ceiling mount installation points.

MATERIALS

Material: Chroma (cut into 3" x 3" squares, with center hole for LED's)

Gauge: 2" thick

Front Finish: Vellum

Back Finish: Renewable Matte

LIGHTING

- White LED's, UL labeled, color temp TBD, 120v, dimmability (TBD).

HARDWARE

- (4) Canopies, powdercoated metal - color, size and style TBD.

- Option to remote mount drivers - must be within 20ft of fixture to avoid voltage drop - upcharge of \$200 to remote mount (not included in pricing shown).

CRATING & SHIPPING

Crate Price: \$400

Shipping: \$700

Project Total: \$ 9,600

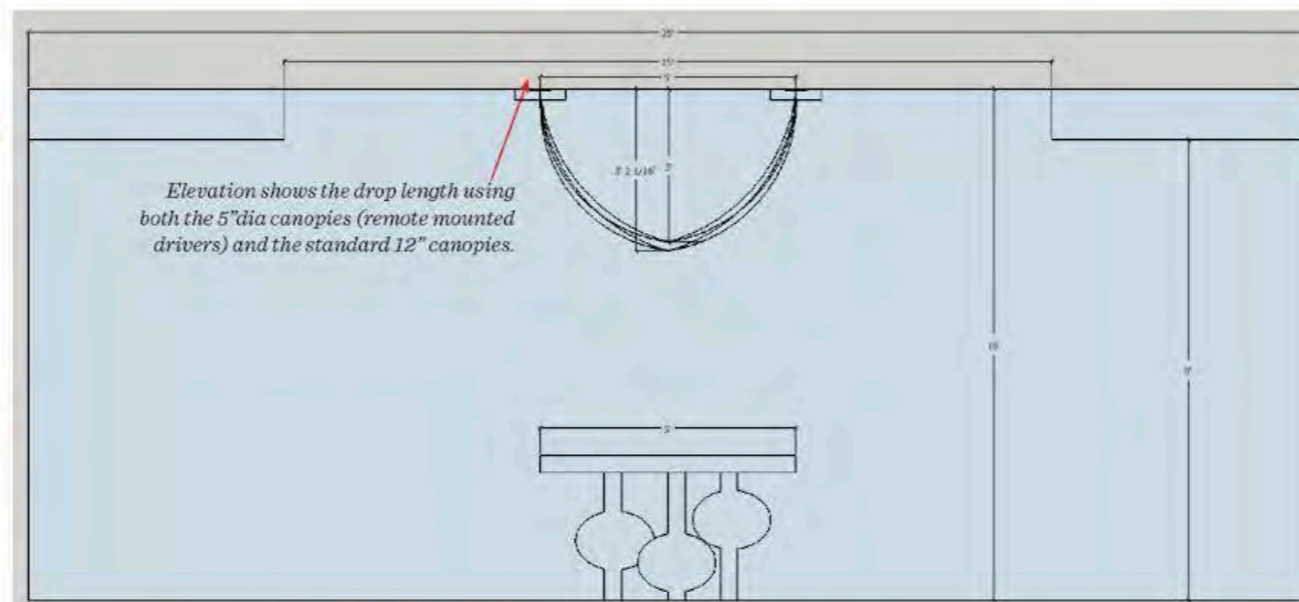
Use of an incandescent bulb will negate the warranty and damage our product

Lighting components are UL Labeled

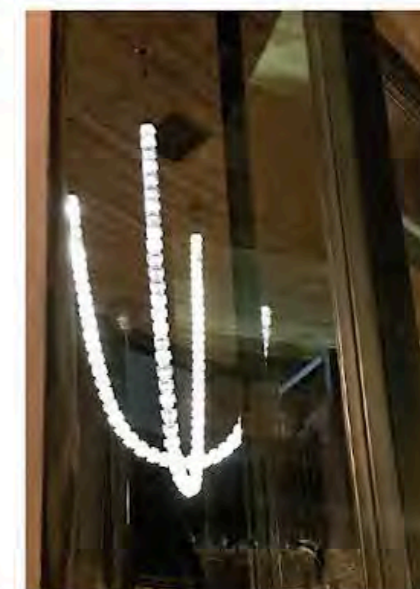
Price does not include sales tax. State Sales Tax will be billed if 3-Form LightArt does not receive a valid Resale/Tax Exempt Certificate

Changes in quantity and/or material will affect the unit price of this product

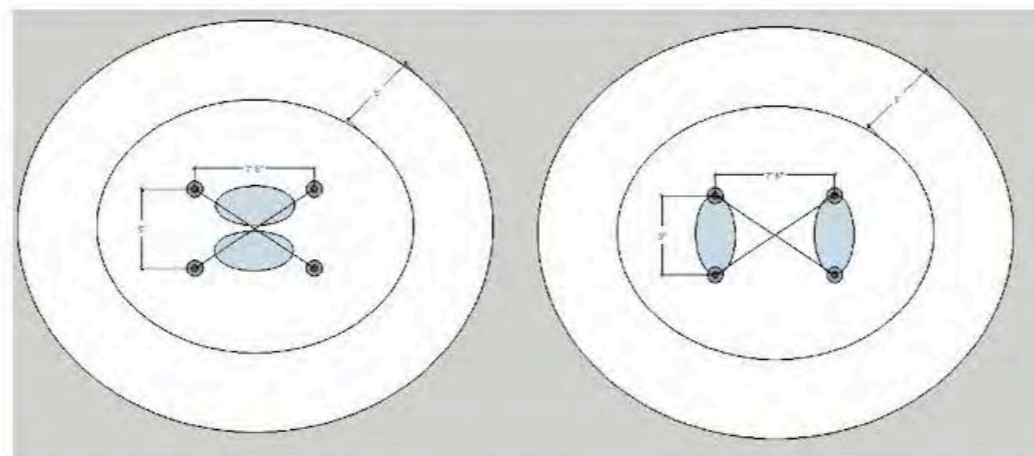
This document is prepared for budgetary purposes only. It does not represent a binding quote or an agreement for services. Pricing is valid for 30 days.



Max drop of chandelier 3ft to allow for headspace if tables are moved



Concept chandelier inspiration image



PLAN VIEW - Different table configurations with the chandelier.



Material - Clear chroma with Renewable Matte finish

Custom Residential Chandelier

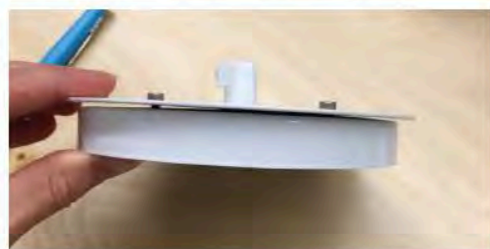
BUDGETARY QUOTE CARLSON DINING ROOM

PID # 309982

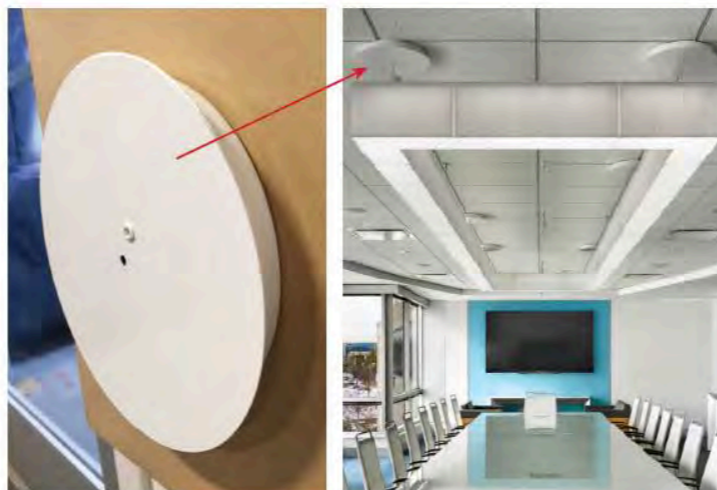
DATE PREPARED: (VALID 30 DAYS)

08/01/2018

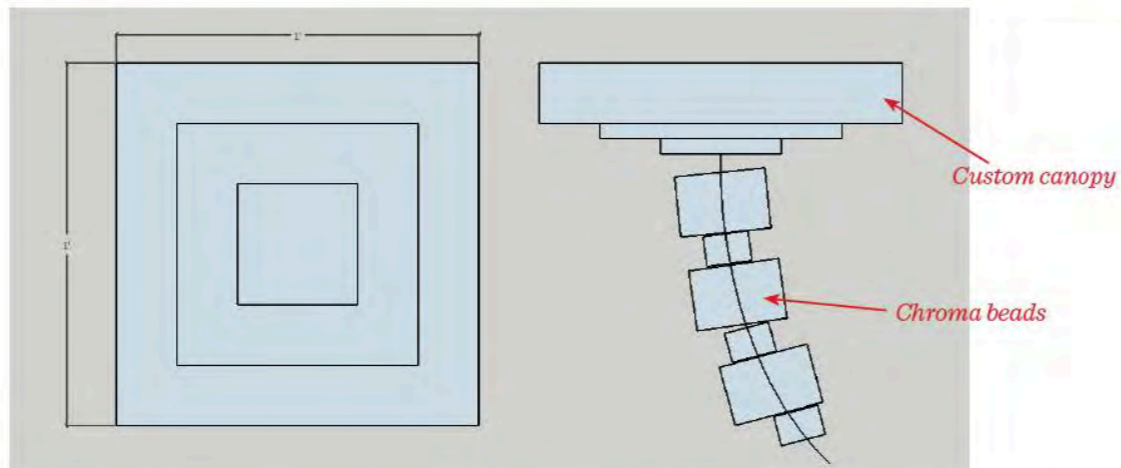
CANOPY OPTIONS



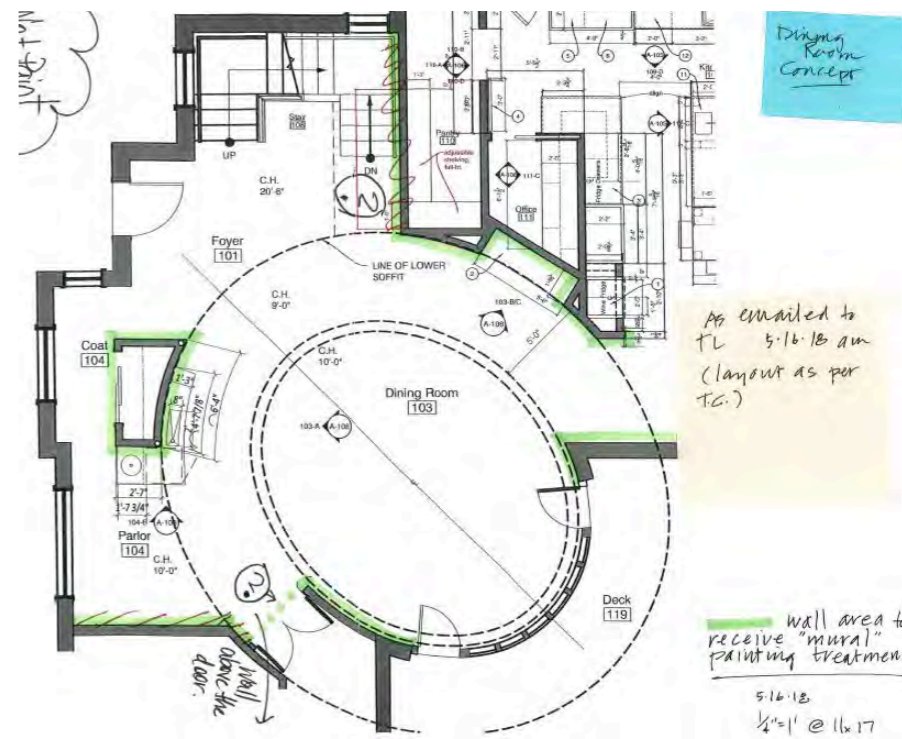
Example of 5" dia canopy, depth and face size



Example of standard non-recessed 12" dia canopy



Example of more decorative custom canopies that could be created to either house drivers + similar to the 12" dia standard canopy - OR - utilize remote mounted drivers and similar to the 5" dia canopy (seen above).



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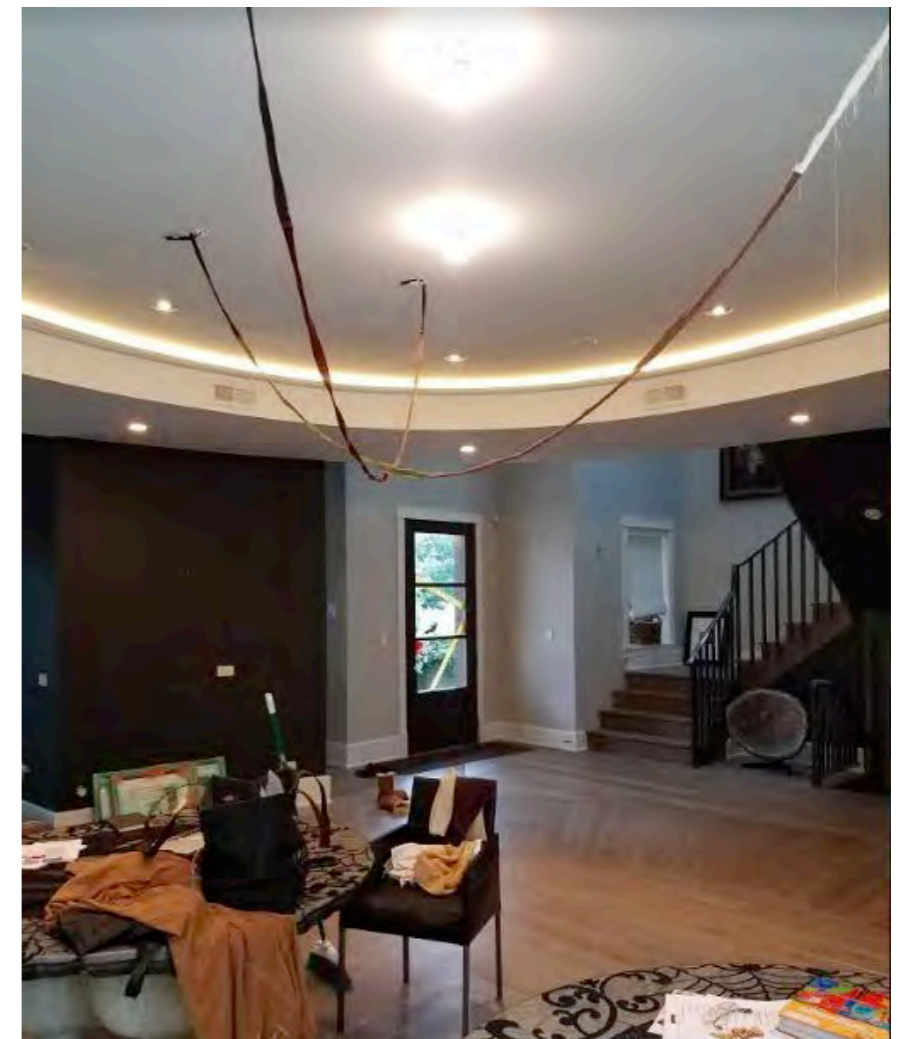
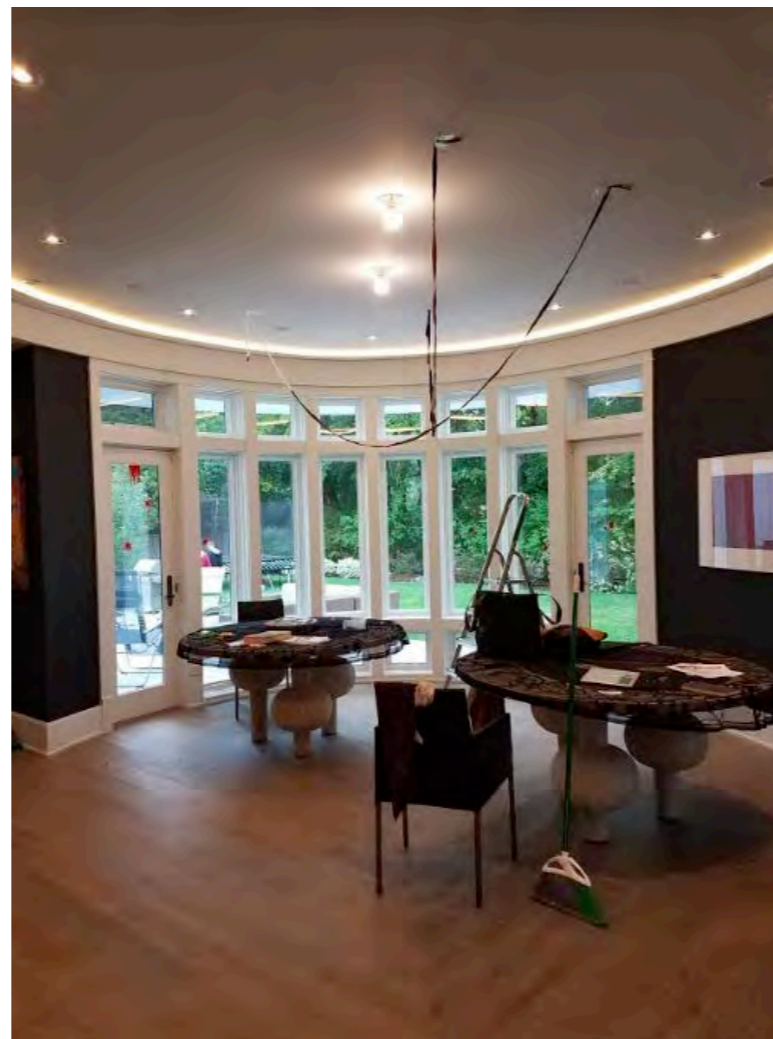
Custom Residential Chandelier

Obstacles

Since the LightArt sales rep had passed this project along to her assistant, we figured it would be best to get the information we needed if she could meet with the specifying designers at the homeowners house. Everyone agreed and the designer said they would bring chains to hang from the ceiling as a mock up to figure out how low they wanted the chandelier to hang and ultimately how long each of the chains should be. This would allow me to then accurately plan, design and order materials.

However, when everyone arrived on site the designer had forgotten to get or bring chains for the exercise to obtain the information we needed. Luckily my LightArt teammate had some scrap pieces of fabric and tape in her car, from which they were able to fashion some mock up lengths.

Thankfully, I was able to gain the information I needed, in order to move onto next steps in the project and work on narrowing the scope.



Custom Residential Chandelier

Below

The design specifier continued to change their mind on the details and what they did and didn't want. This led to multiple design solutions having to be created because they wanted "chunkier beads", then they wanted a more faceted look. It was definitely a challenge, learning opportunity and exercise to my rendering CAD skills.

MOCK UP QUOTE
CARLSON RESIDENCE
PID # 309937



Concept image:

- Bead and joiner tube, matte finish to diffuse light.
- LED's and stainless steel cable will run through the center, such as a necklace, beads on a strand.
- Bead - 3"dia x 2"H in hexagon shape
- Joiner tube - 1"dia x 2"H

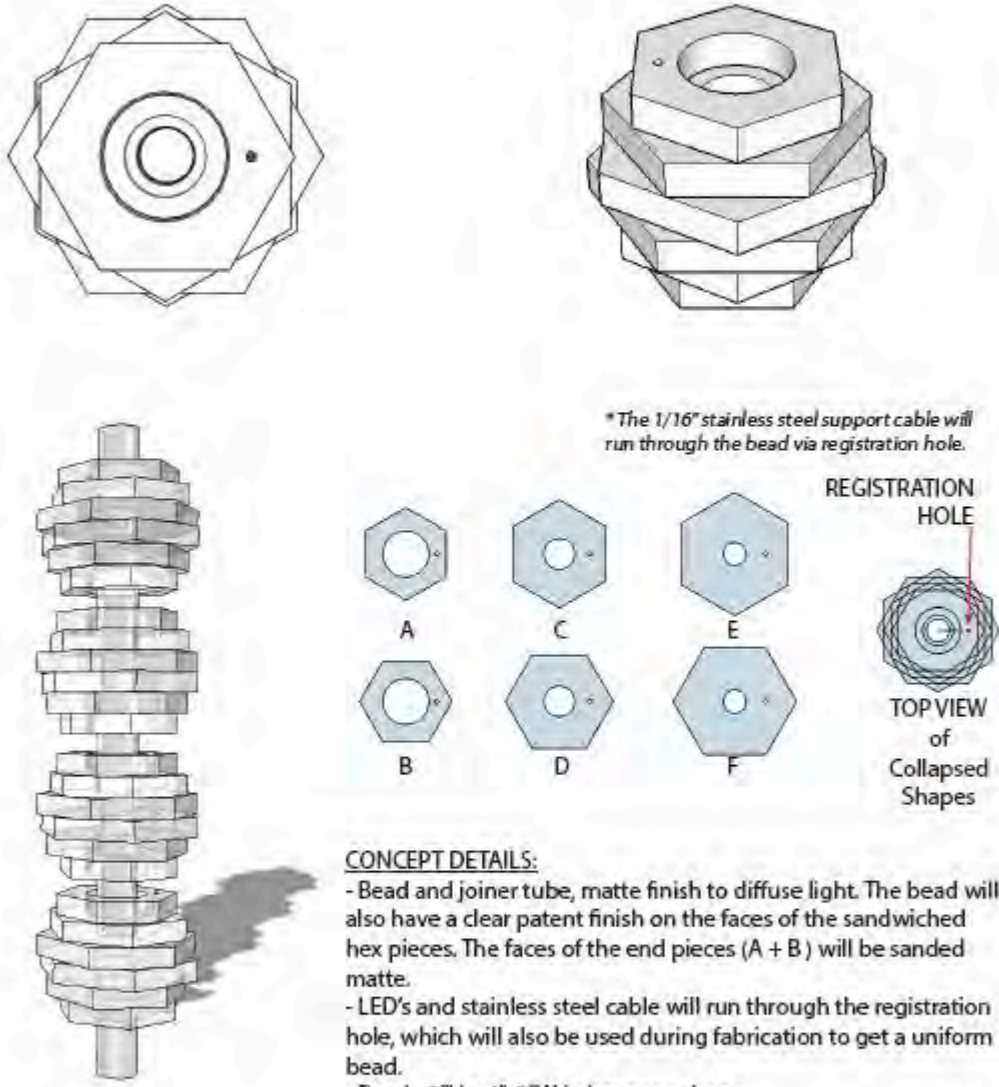
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MOCK UP QUOTE
CARLSON RESIDENCE
PID # 309937



*The 1/16" stainless steel support cable will run through the bead via registration hole.

REGISTRATION HOLE

TOP VIEW of Collapsed Shapes

CONCEPT DETAILS:

- Bead and joiner tube, matte finish to diffuse light. The bead will also have a clear patent finish on the faces of the sandwiched hex pieces. The faces of the end pieces (A + B) will be sanded matte.
- LED's and stainless steel cable will run through the registration hole, which will also be used during fabrication to get a uniform bead.
- Bead - 3"H x 4"-3"W in hexagon shape
- Joiner tube - 1"dia x 2"H (joiner tube and graduated interior of bead enables to strand to bend like the bones of a spine).

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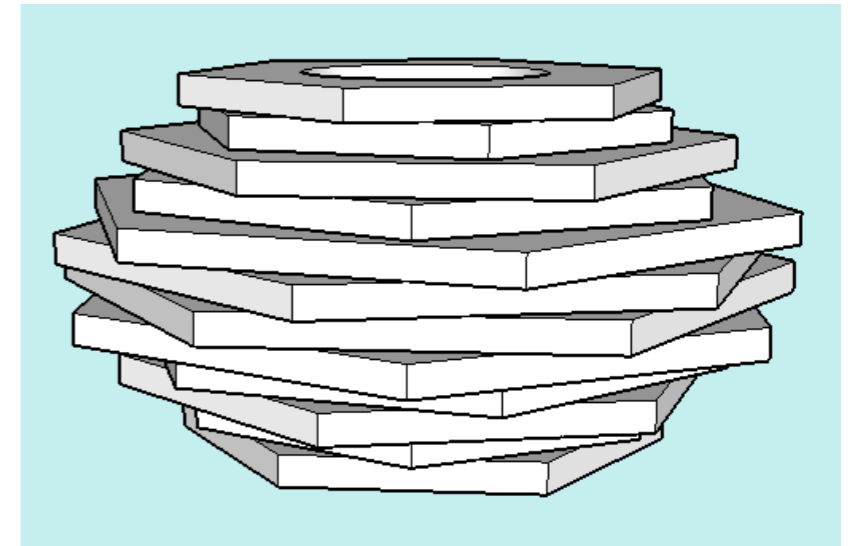
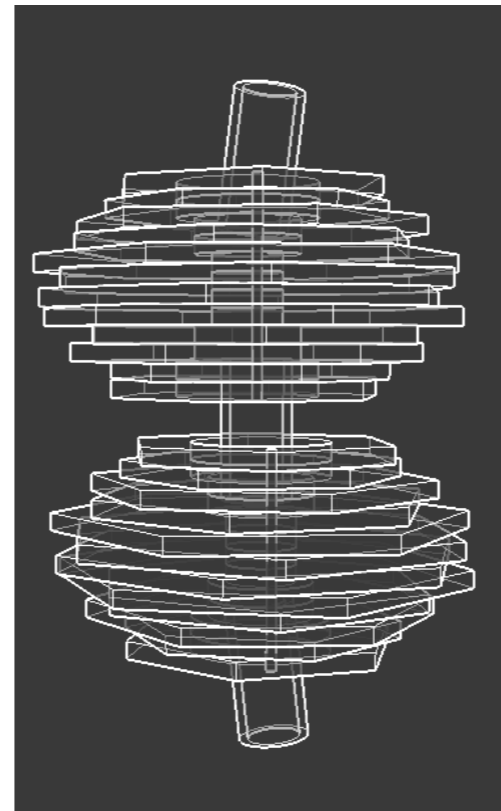
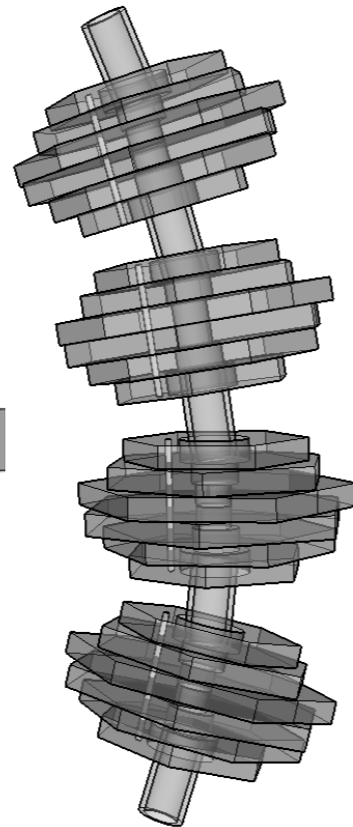
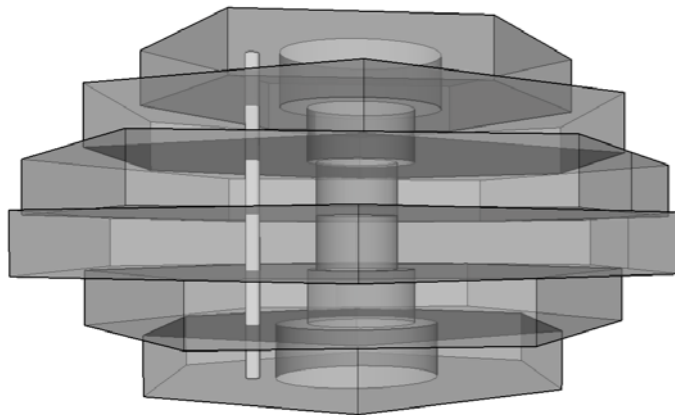
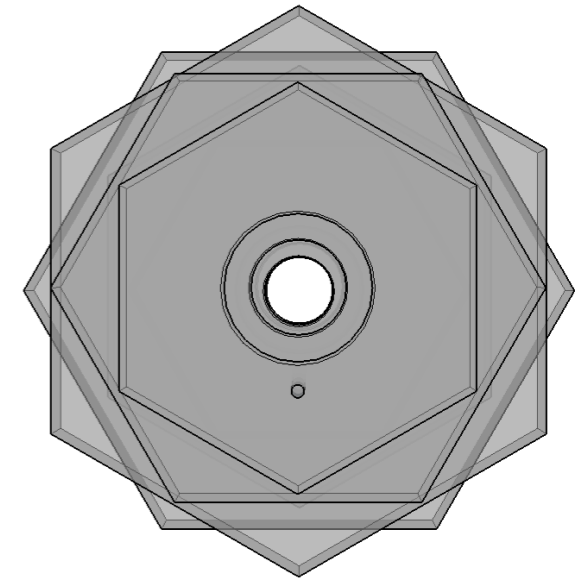
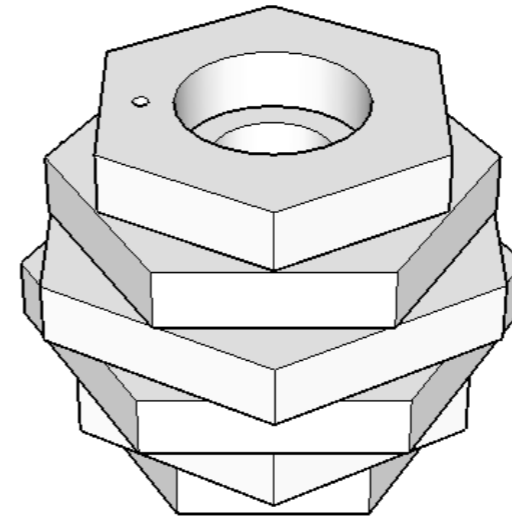
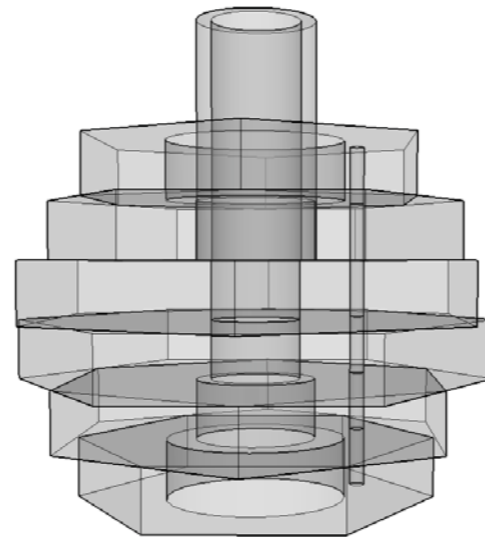
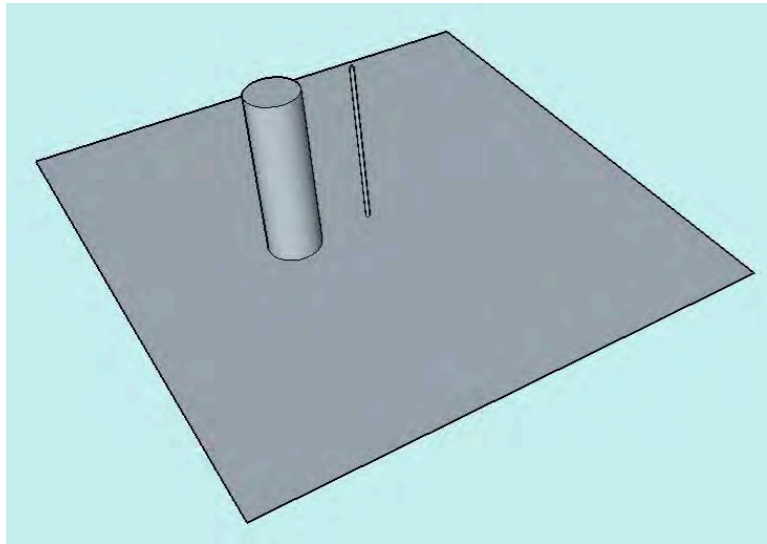
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Custom Residential Chandelier

Below

The numerous renderings I created and presented in trying to appease and gain approval from the designers. While coming up with design solutions, it was imperative to be thinking about how it would be manufactured, so that I kept the costs down and did not tank the profit margin on the job.



Custom Residential Chandelier

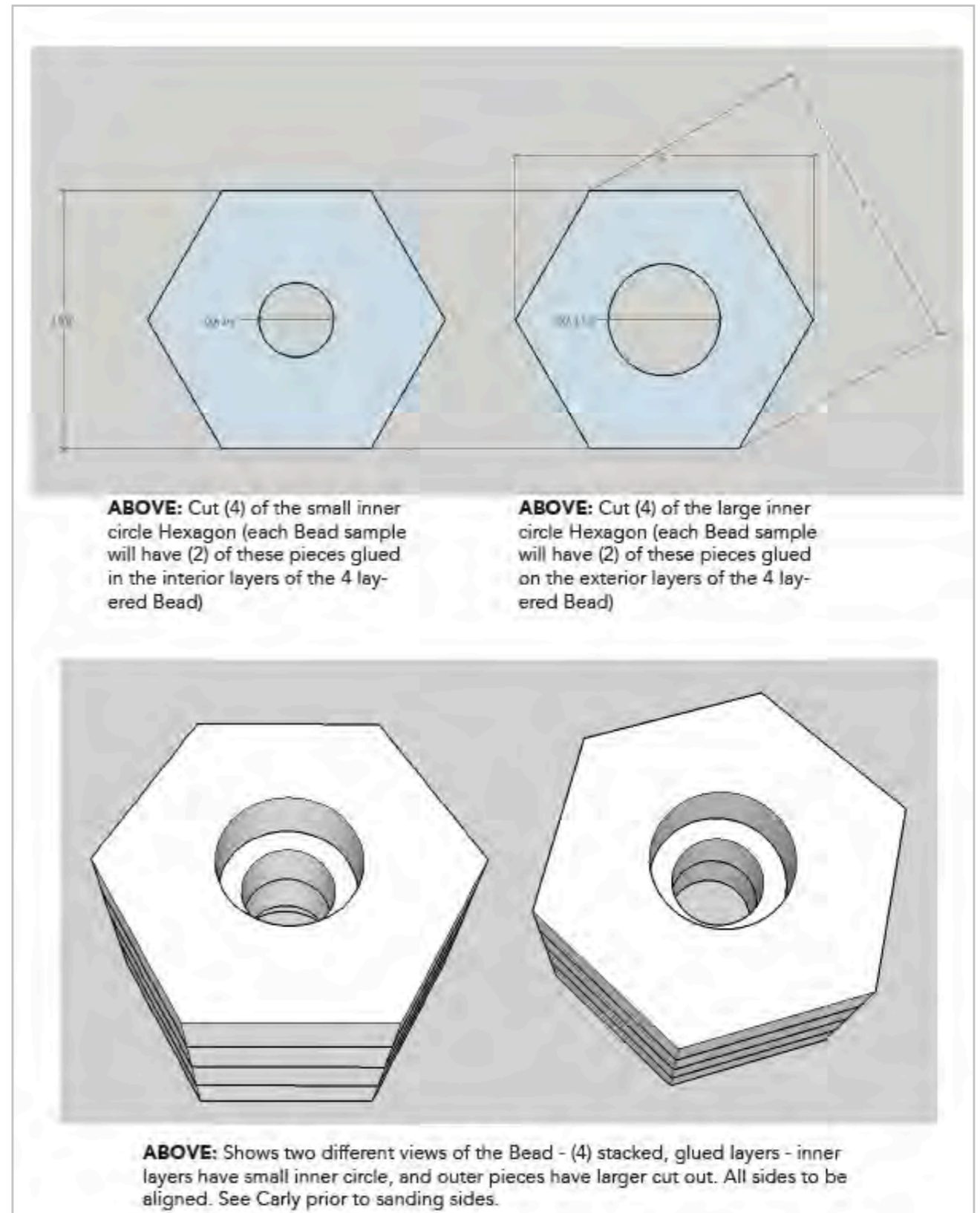
Project Process Details

Photo 1. The final combination of all the types of cut combinations of pieces needed for the final fixture. A variation of small and large beads, small and large interior holes, as well as the specifically designed end beads that would allow the cable to have a stopper, so that the beads could achieve the asymmetric look on the cable the specifier was seeking.

Photo 2. The designers had wanted a "thicker" bead, to be 3"-4" in height, I explained that material at that thickness in a sheet good was not available and would not cut on the machine. So gluing was the only option for creating a sample to fit their specifications. I created the visual aid to inform my CAD team to create the cut files + for fabrication to make what the specifier was seeking.



1.

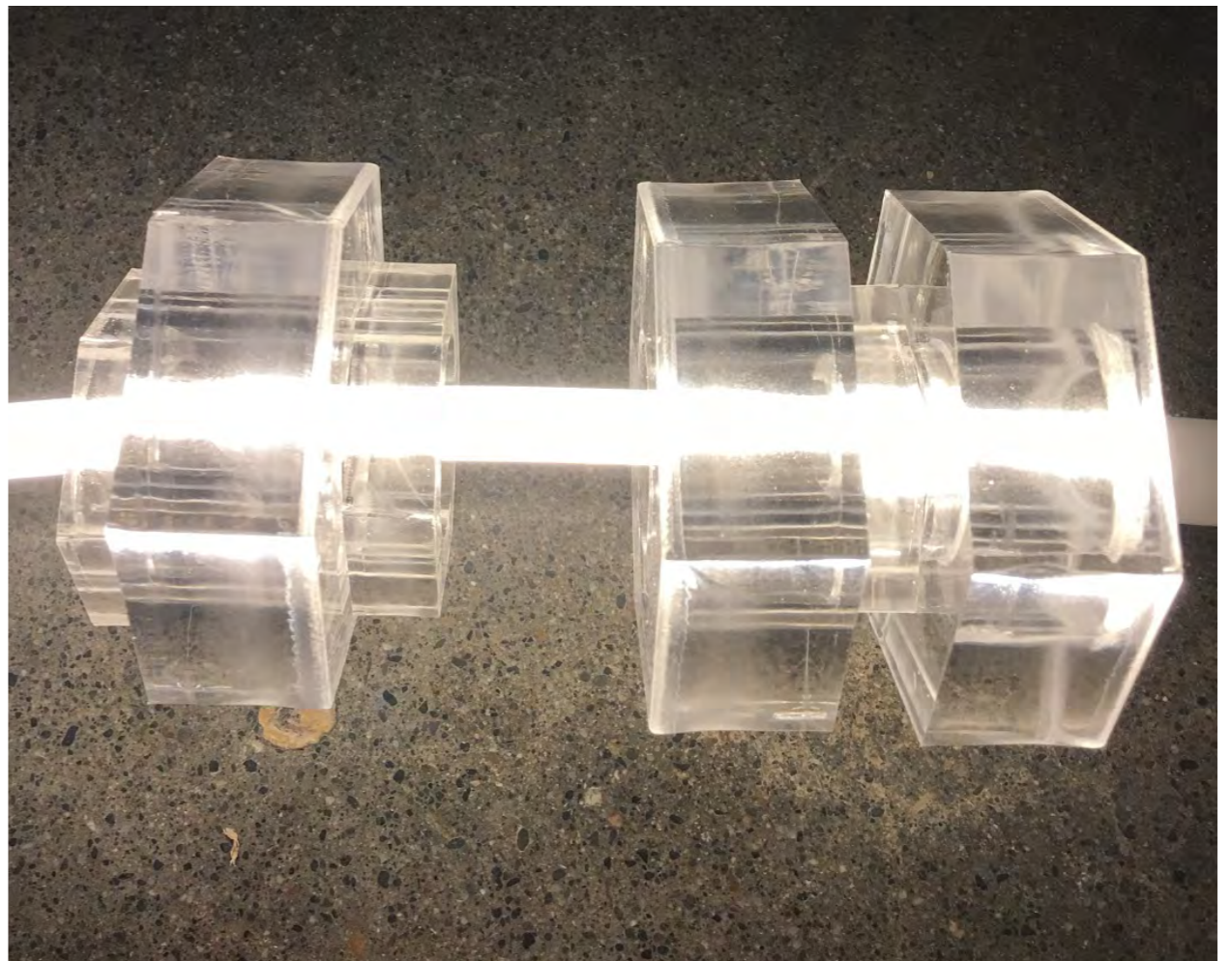
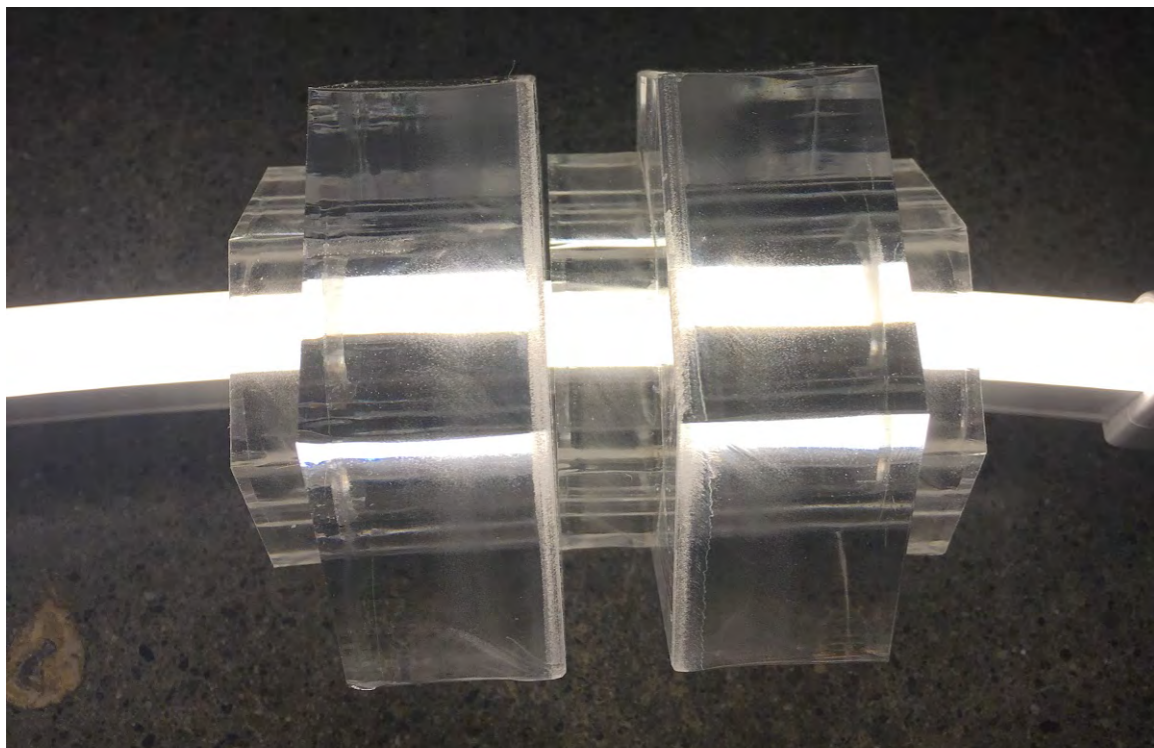
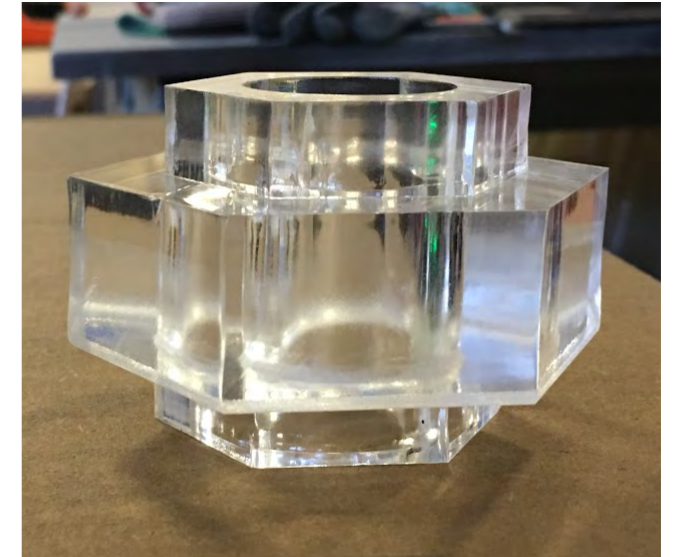


2.

Custom Residential Chandelier

Below

The final samples of the bead stack combinations, that would make up the final pattern in the chandelier. Also, the lit sample showing the design specifier WHY it was necessary to have the larger pieces have a sanded face, as it would obscure manufacturing scratches and help to diffuse the light through the material.



Custom Residential Chandelier

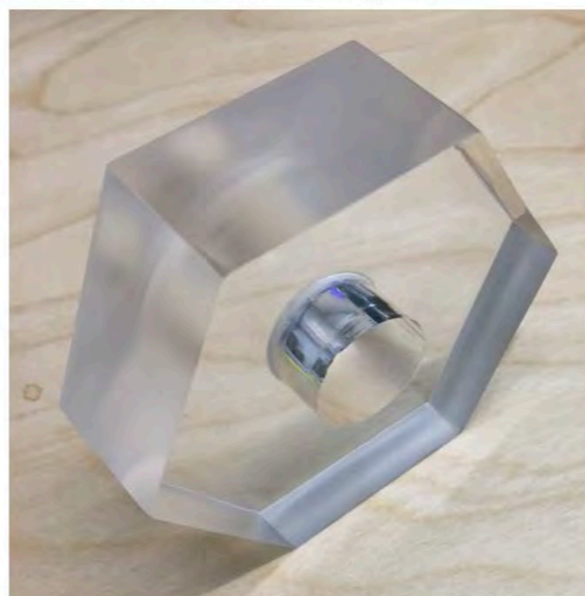
Project Process Details

Finally, I had an approved finish from the specifier, I had figured out the final quantities and pattern for the fixture, the lengths of lighting I needed and how to communicate to the LightArt fabrication team what we would be manufacturing.

This project ended up taking a lot of hands on time from fabrication, but in the end resulted in a beautiful and unique fixture. After the project shipped I was able to gain the final margin, fab hours, etc. to configure what the fixture should have been quoted at. This was a learning tool and exercise, I later presented to my team and the sales team.



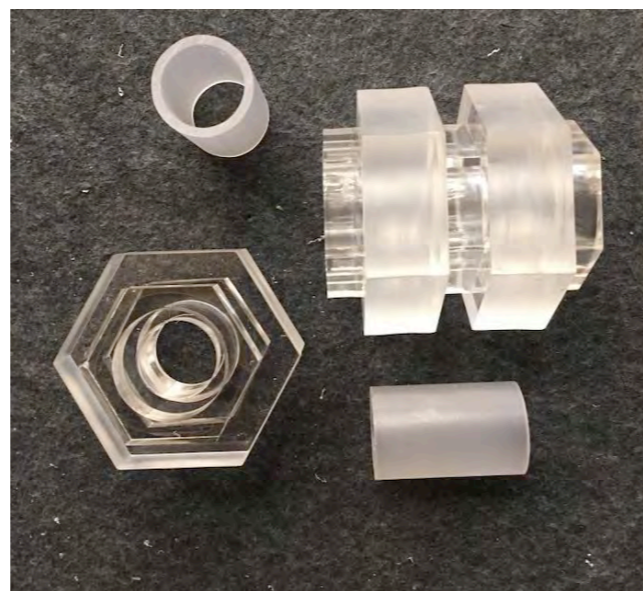
Finished Bead Images



Approved Sanded Finish



Approved Polished Finish



MATERIAL NEEDED

- (1) 10'6" tube OR (2) 5'0" tubes * cut 2" L x 1" dia frosted.
- (1/2 sheet) 1" acrylic for 3" dia beads
- (1/3 sheet) 1/2" acrylic for 2" dia beads
- (2) 9'6" lengths of new LED w/ leads.

Repeat Pattern

~ 6" total in tube connectors + 10" total in Hex Bead Combos

2 strands =
 12'3" L ~~XXXXXXXXXX~~ (-34" 10" power w/ side
 11'6" L ~~XXXXXXXXXX~~ (-25" 24" asymmetrical side
 10" power side
 15" asymmetrical side

113" L both strands

In each pattern:

- (4) connector tubes
- (6) 1/2" Hex Beads w/ lrg. interior hole
- (2) 1/2" Hex Beads w/ small interior hole
- (4) 1" Hex Beads w/ small interior hole
- (2) 1" Hex Beads w/ lrg. interior hole

~ 7 Bead Pattern Repeats.

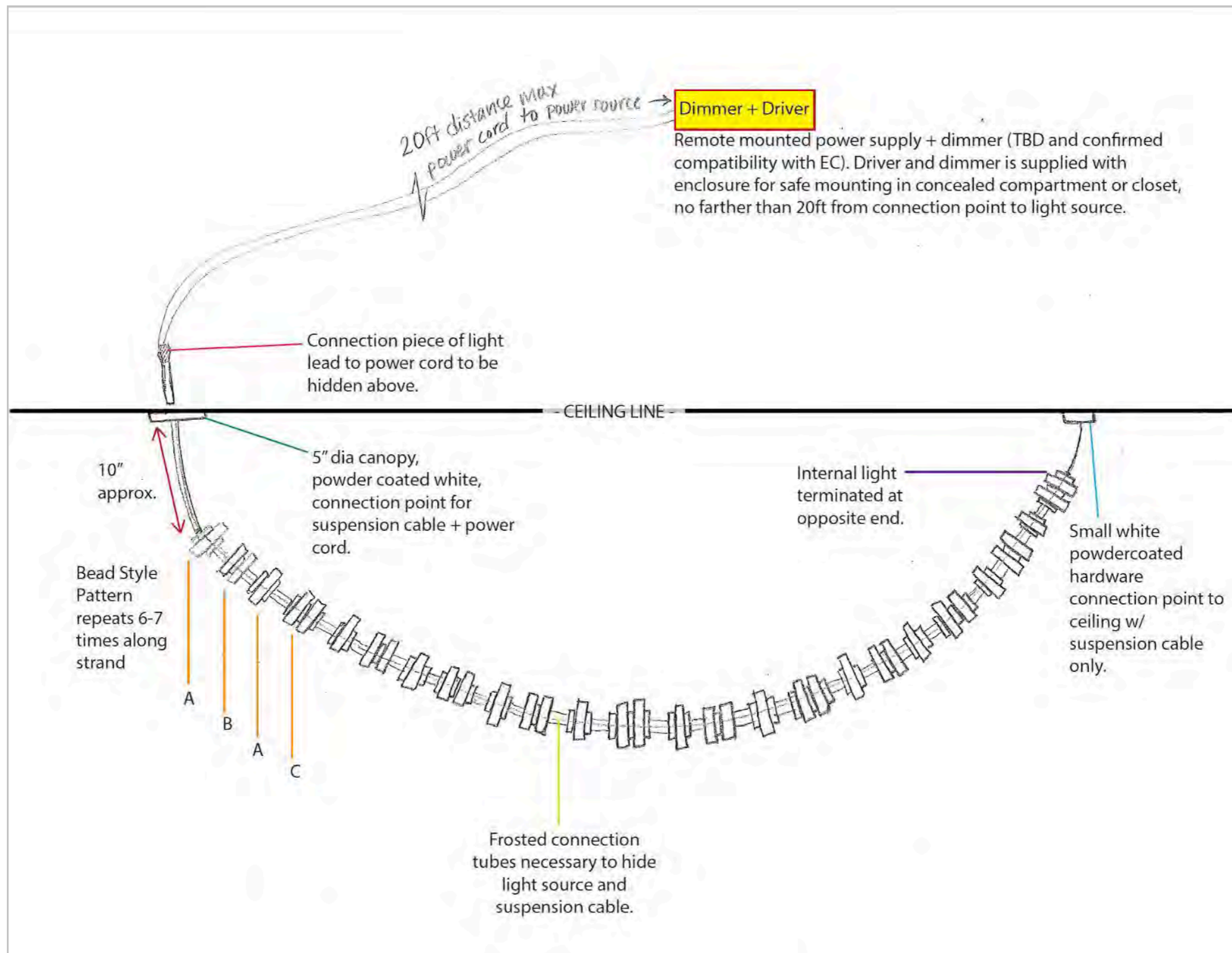
TOTAL = (8) 1/2", (6) 1", (4) tubes = (112) 1/2", (84) 1", (50) tubes
 [x7] = (56) 1/2", (42) 1", (28) tubes → x2 (strands) =



Custom Residential Chandelier

Project Process Details

To communicate with the electrical contractor and my CAD teammate, I created the drawing and details below to inform them what the fixture would look like, the parts and pieces involved and how it would function. This proved helpful in my conversations and created ease and efficiency in the install and drawing stages of the project.

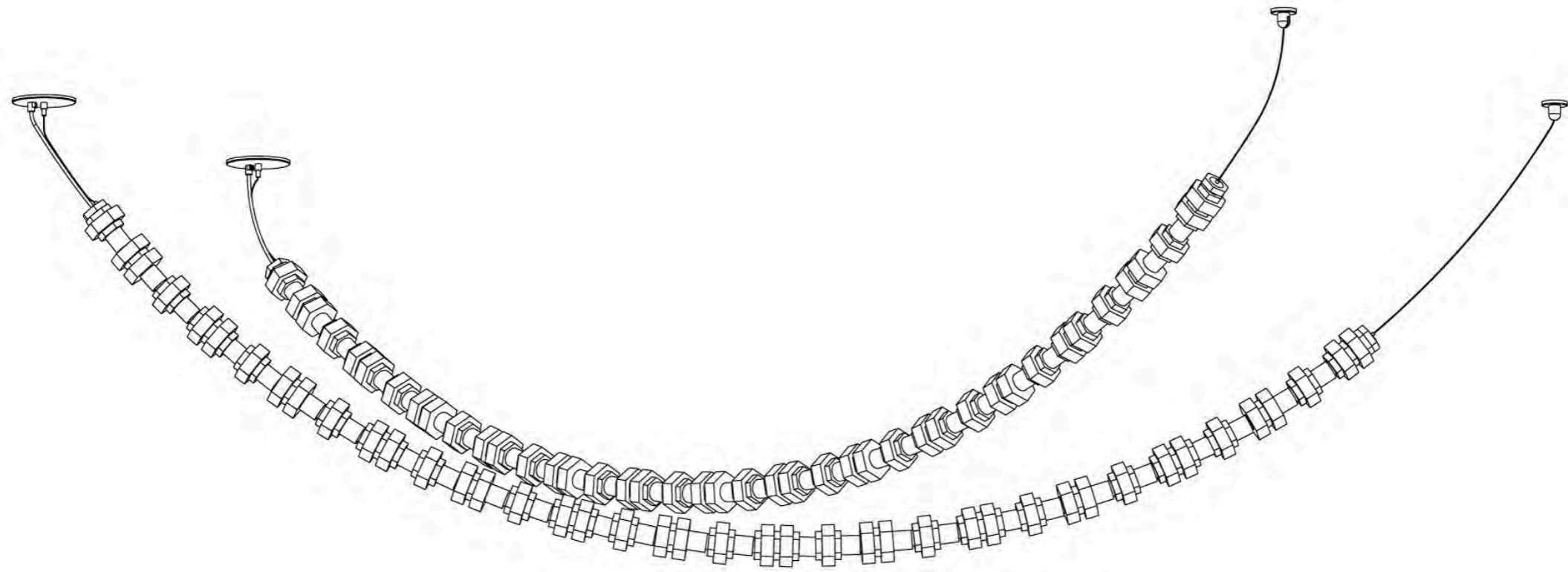


Custom Residential Chandelier

Below + Following 2 Pages

The final shop and installation drawings completed by LightArt CAD teammate. (Page 2 - install template and measurements for attachment points. Page 3 - Electrical details.)

CUSTOM HEX BEAD CHANDELIER
PROJECT: CARLSON RESIDENCE
CO-323040
QUANTITY: 1



PERSPECTIVE VIEW

PROJECT SPECIFICATION

DIMENSIONS: 9'-3" L X 6'-10-1/2" W X 3'-1-1/6" H
SHADE MATERIAL: 1/2" AND 1" CLEAR ACRYLIC
FIXTURE QUANTITY: 1
COLOR TEMP: 2700K
TOTAL WATTAGE: 84W - 42 W PER STRAND
VOLTS: 120V
DIMMING: YES

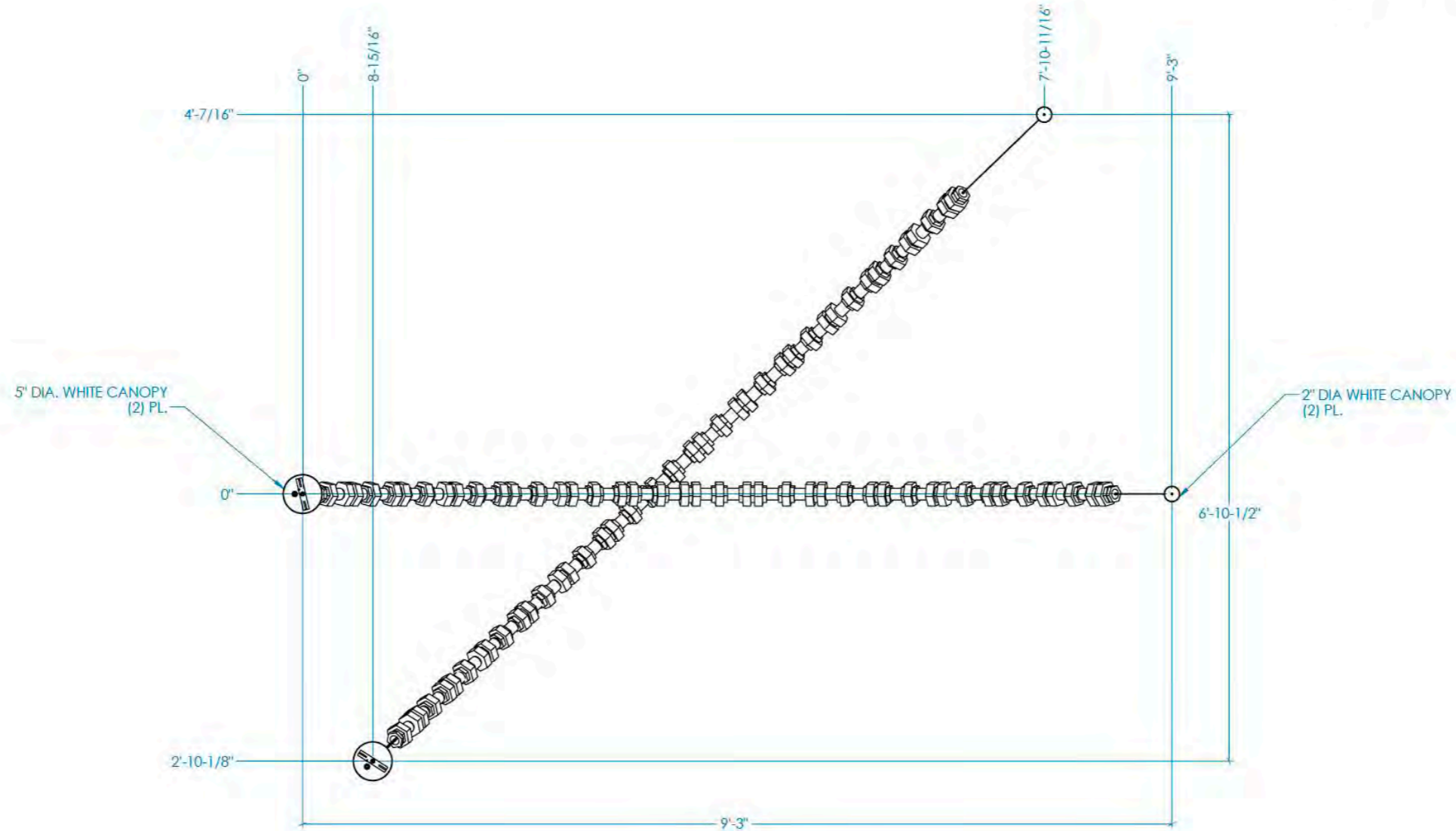
*PLEASE REFER TO INSTALLATION INSTRUCTIONS AND ADDITIONAL .DXF FILES FOR ADDITIONAL INFORMATION

PRINT NAME:		LightArt [®] A 3DFORM COMPANY	Drawn By: SKI	Date: 4/8/2019	LA 1.1
SIGNATURE:			Approved By:		
<input type="checkbox"/> APPROVED	<input type="checkbox"/> REVISE AND RESUBMIT	4770 Ohio Ave., S Suite A Seattle, Washington 98134	Submittal 1		
<input type="checkbox"/> APPROVED AS NOTED	DATE:	t: 206 524 2223 f: 206 763 0588	Submittal 2		
			Submittal 3		
			Submittal 4		

Custom Residential Chandelier

CUSTOM HEX BEAD CHANDELIER

PROJECT: CARLSON RESIDENCE
CO-323040
QUANTITY: 1



**TOP VIEW:
PICKPOINT LAYOUT**

*PLEASE REFER TO INSTALLATION INSTRUCTIONS AND ADDITIONAL .DXF FILES FOR ADDITIONAL INFORMATION

PRINT NAME:

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APPROVED REVISE AND RESUBMIT
 APPROVED AS NOTED DATE:

LightArt[®]
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4770 Ohio Ave., Suite A Seattle, Washington 98134 t: 206 524 2223 f: 206 763 0588

Drawn By: SKI

Approved By:

Drawing Issue

Submittal 1

Submittal 2

Submittal 3

Submittal 4

Date:
4/8/2019

LA 1.2

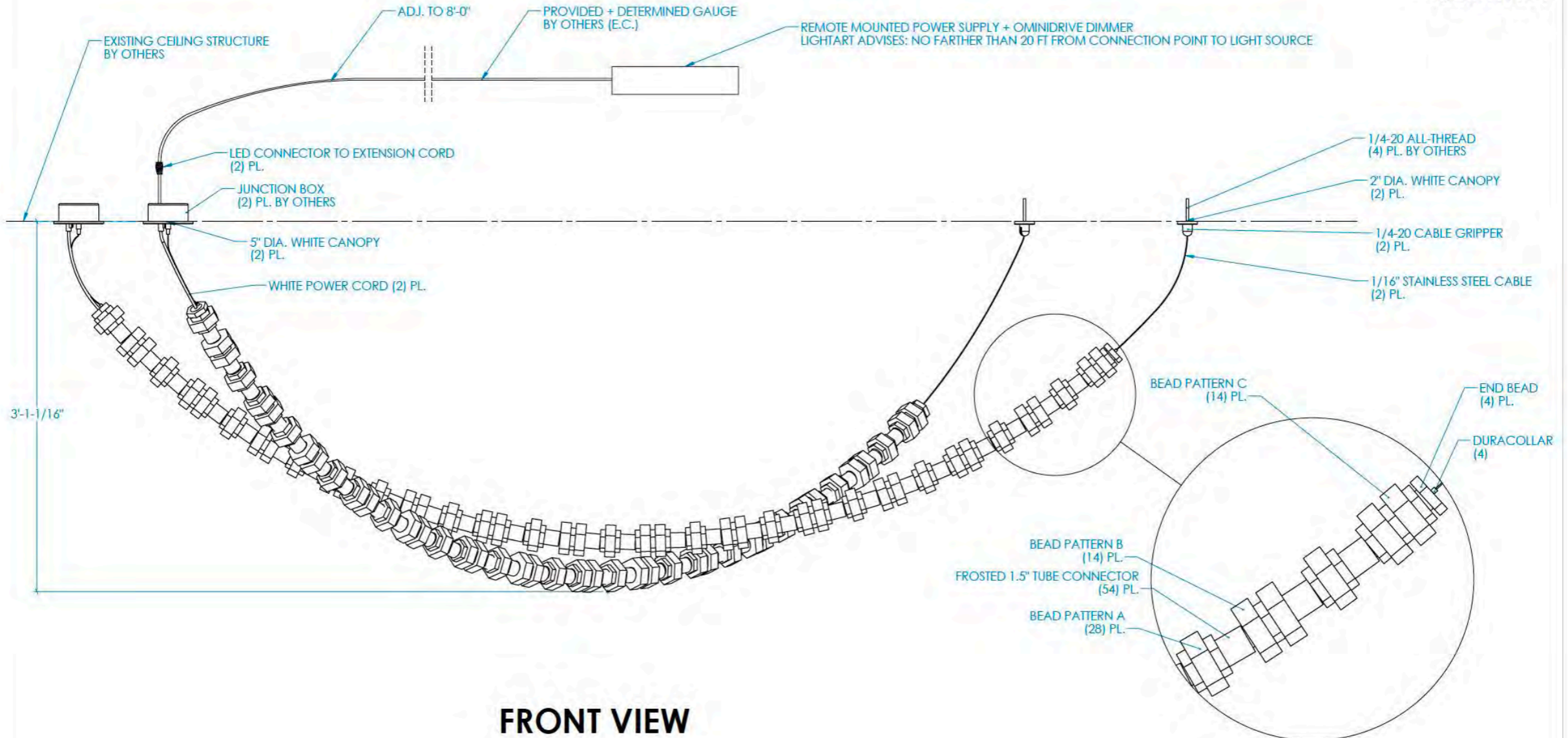
Custom Residential Chandelier

CUSTOM HEX BEAD CHANDELIER

PROJECT: CARLSON RESIDENCE

CO-323040

QUANTITY: 1



FRONT VIEW

*PLEASE REFER TO INSTALLATION INSTRUCTIONS AND ADDITIONAL .DXF FILES FOR ADDITIONAL INFORMATION

DISCLAIMER: FINAL LOCATION OF DRIVER + APPROPRIATE GAUGE WIRE TO AVOID VOLTAGE DROP TBD BY E.C. TO COORDINATE WITH LUTRON HOME CONTROL SYSTEM BARRETT'S TO FINALIZE PROGRAMMING + COMPATIBILITY OF LIGHT FIXTURE W/ CONTROLLER

PRINT NAME: _____
 SIGNATURE: _____
 APPROVED REVISE AND RESUBMIT
 APPROVED AS NOTED DATE: _____



Drawn By: SKI
 Approved By: _____
 Drawing Issue: _____
 Date: 4/8/2019
 Submittal 1: _____
 Submittal 2: _____
 Submittal 3: _____
 Submittal 4: _____

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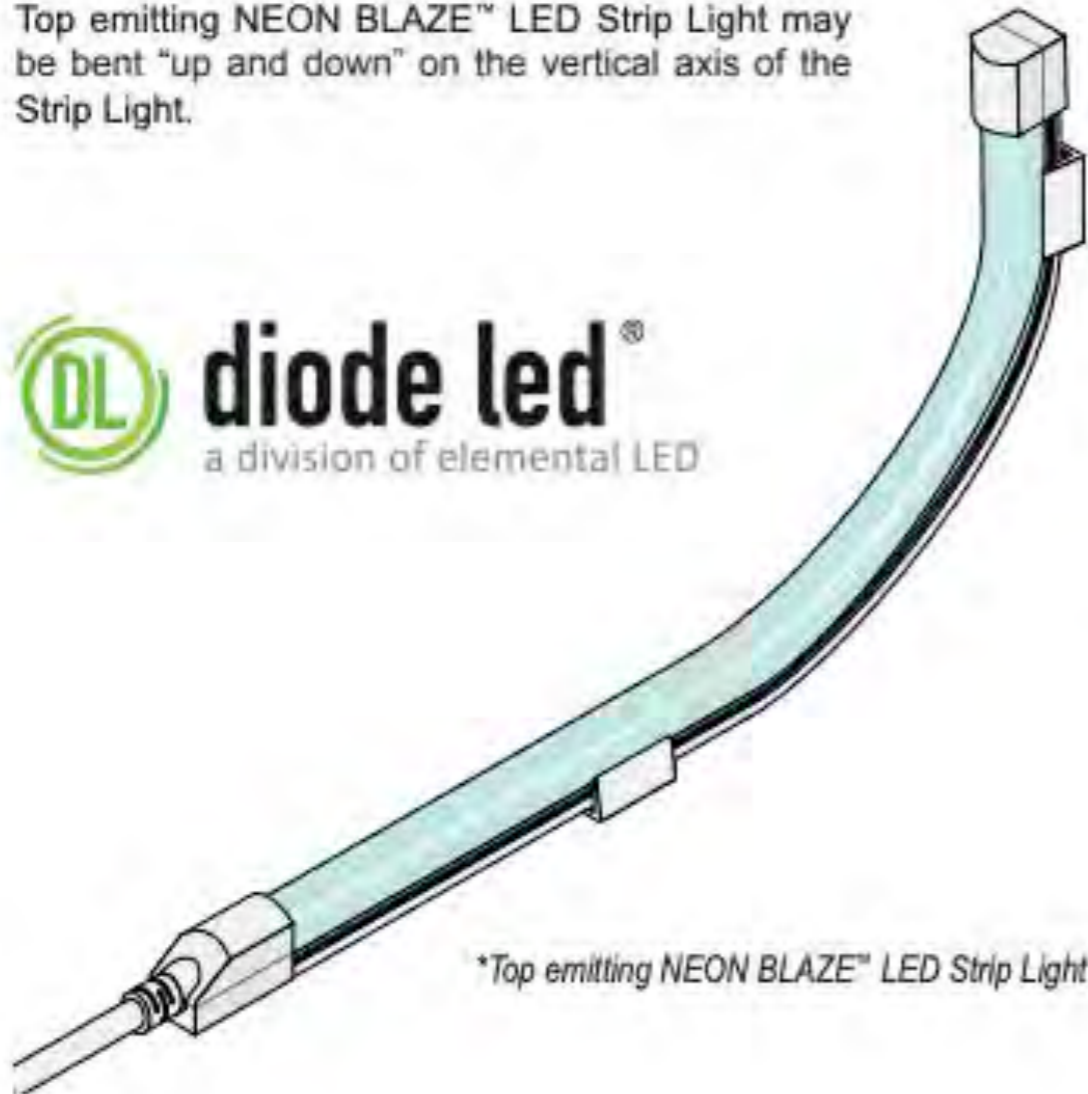
Custom Residential Chandelier

Project Process Details

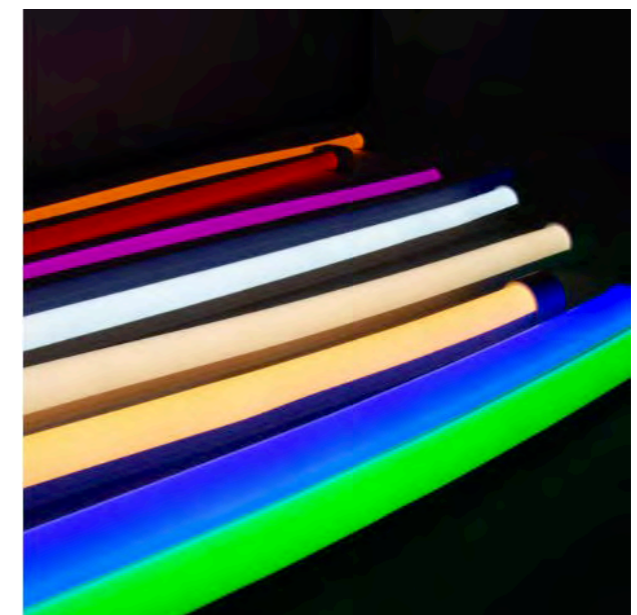
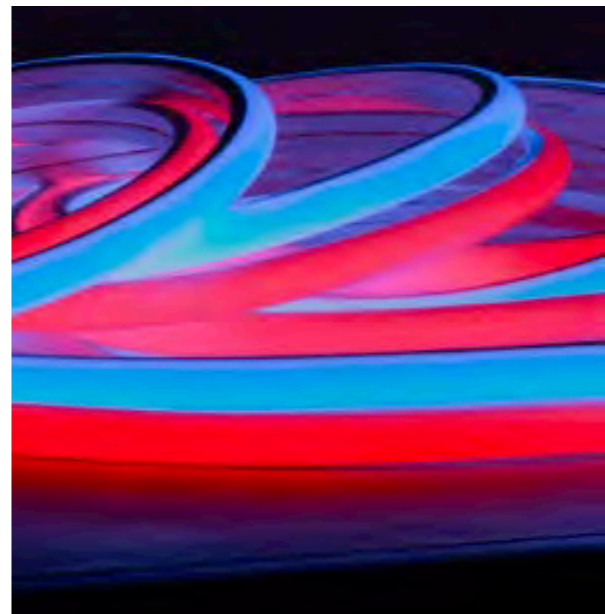
One of the coolest lighting products I have specified. I worked closely with Diode LED rep, Chris, to sample and configure the lighting solution for this project.

I was later able to give other project managers on the LightArt team a presentation on this new product and how to specify, sample and work with lighting that is outside of our standard scope.

Top emitting NEON BLAZE™ LED Strip Light may be bent "up and down" on the vertical axis of the Strip Light.



*Top emitting NEON BLAZE™ LED Strip Light



Custom Residential Chandelier

Obstacles

Since this project was unlike any standard LightArt product and did not use any of the lighting systems or products we normally used as standard solutions, I took the initiative to educate myself and find a solution that would be compatible with the homeowners smart home programmed system.

I knew I would need to be the point of contact resource for questions from the specifier, contracted electrician, and homeowner, so I needed to understand the system and technical details of the lighting products and electrical hardware.

In doing so, I had a great contact at Diode LED who walked me through the details and helped be to source the switch, driver and lighting components I needed to make this project a success. I went through the following steps and channels to make sure that I was obtaining the correct parts and pieces, quoting them correctly, and knowledgeable about how they needed to be installed.

- Verified with Chris at Diode LED the parts and pieces I needed.
- Verified with the electrical installer the location of the electrical hook up in the house and that they would need to run electrical up to the main floor.
- Verified with Barrett's tech specialist, who had installed and programmed the homeowners smart control system, that this lighting and hardware would be compatible with the solution I was proposing.
- Verified and explained to LightArt light lab manager the details needed for this project, how the light and hardware functioned and how we would configure the final build of the fixture.



diode led
SWITCHEX® Dimmer + Driver

UL LISTED FC OP LOGON ENERGY 12VDC 24VDC
SPECIFICATION SHEET

OVERVIEW
SWITCHEX simplifies LED array lighting systems by combining an in-wall LED dimmer switch and power supply into a single integrated unit. SWITCHEX mounts in a standard in-wall switch box, accepts 120V AC and converts to low voltage DC. SWITCHEX is compatible with most solid color 12V and 24VDC tape lights and fixtures.

FEATURES & BENEFITS

- First LED Driver + In-Wall Dimmer Switch in one unit.
- Simplifies LED installation by eliminating compatibility issues between driver and dimmer.
- Fits in a standard recessed electrical box.
- 100%-1% smooth dimming.
- No minimum load.
- Single Pole preset dimmer with on/off push switch.
- Adjustable voltage output dial to address voltage drop.
- Includes voltage barrier partition to install high and low voltage circuit in same switch box.
- No derating required when ganging units.
- Power failure memory: if power is interrupted, SWITCHEX will return to setting prior to interruption.
- 3x included face plates: Glossy White, Glossy Light Almond, and Glossy Dark Brown (trim plates not included).

APPROVED LED FIXTURES
SWITCHEX is compatible with Diode LED solid color 12V and 24V tape light and fixtures, including but not limited to:

AVENUE 24™	HYDROLUME™	VALENT™
BLAZE™*	HYDROLUME PLUS™	SPOTMOD™ TILE**
DOUBLE BLAZE™	SIDEWINDER™	SPOTMOD™ LINK**
FLUID VIEW™	ULTRA BLAZE™	PURALIGHT™ 2***

* Not compatible with Amber, Red, & Green tape lights
** Includes SPOTMOD TILE & LINK Series (DI-SPOT-TL** & DI-SPOT-LK**)
*** Not compatible with Yellow, Red, & Green modules

120VAC → SWITCHEX → 12 or 24VDC Array / Fixture

COLORS & FINISHES

Glossy White	Glossy Light Almond	Glossy Dark Brown	Glossy Black

Item # _____
Project _____

SPEC SHEET | SWITCHEX® | 55122216-4.0 | 1 OF 5

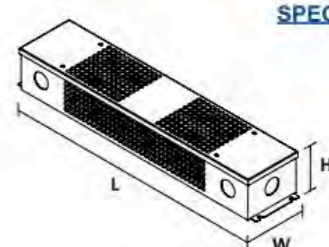
OMNIDRIVE® 2 ELECTRONIC DIMMABLE LED DRIVER

OMNIDRIVE 2 features a zero minimum load and 100-5% dimming range. Compatible with Forward Phase and Reverse Phase Dimmers. Please see Diode LED's Compatibility List at: <https://www.diodeled.com/custom/download/productFile/fileName/DI-OD2-Compatibility%20List.pdf>

Voltage & Power Output
DI - OD2 - 24V24W

SKU	L - LENGTH	W - WIDTH	H - HEIGHT
DI-OD2-24V24W	13.75 in.	3.00 in.	1.60 in.
DI-OD2-24V60W	13.75 in.	3.00 in.	1.60 in.
DI-OD2-24V96W	15.00 in.	3.10 in.	2.40 in.
DI-OD2-24V120W	15.00 in.	3.10 in.	2.40 in.
DI-OD2-24V200W	16.10 in.	3.40 in.	2.40 in.

SPEC SHEET



ETL Intertek

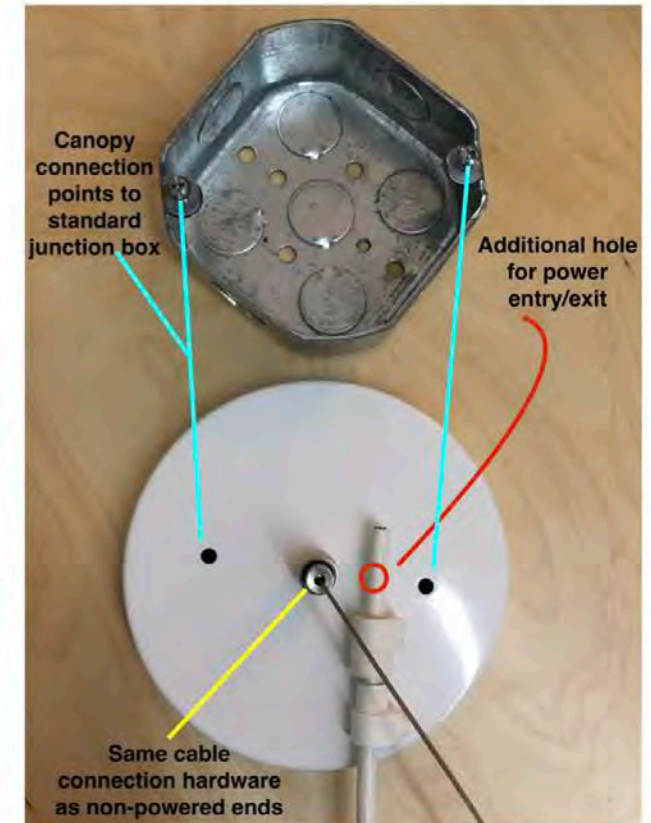
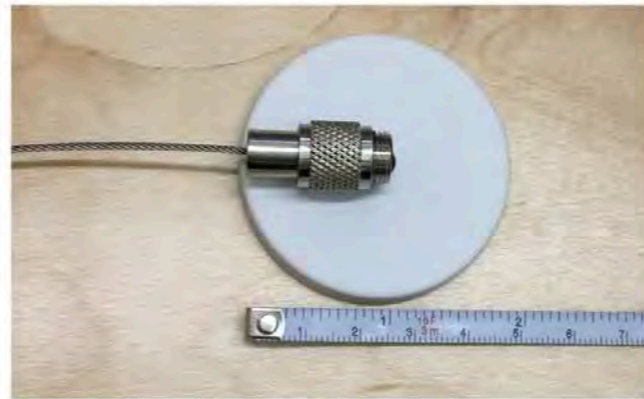
Custom Residential Chandelier

Obstacles

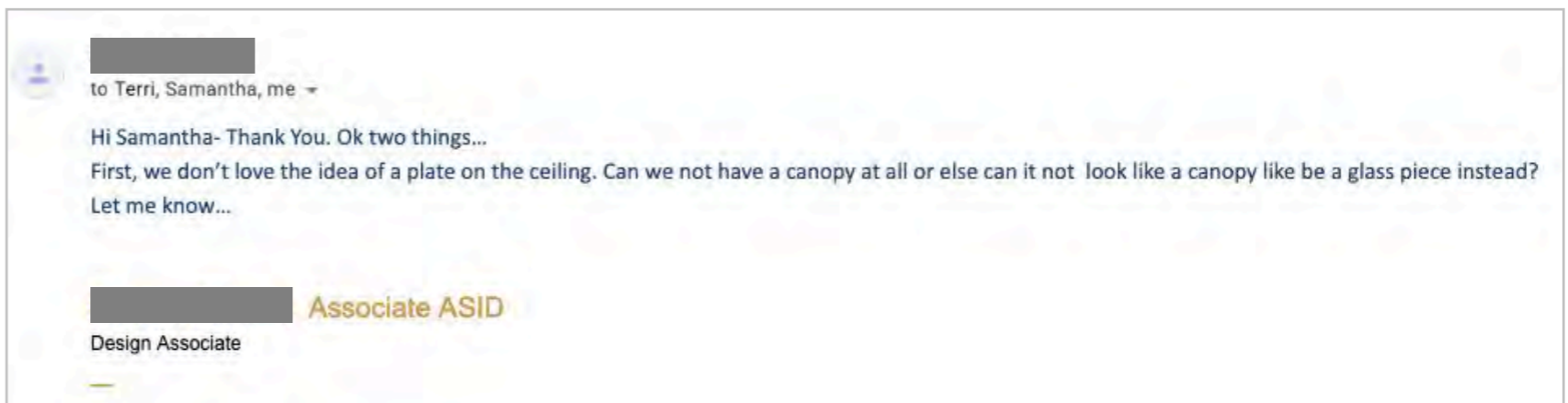
Photo 1. I created a detailed photo collage of hardware to aid in my explanation to the specifier as to why a specific size canopy needed to be used for the powered end, to connect to a junction box, and what we could offer as a small similar looking plate on the non-powered cable ceiling attachment end.

Photo 2. The specifier responded with the following feedback, with each design solution and technical detail being a challenging in gaining approval and why specific details in the project were being designed and presented as solutions. It was a learning lesson, but also could have potentially handled with more ease had the LightArt sales rep not handed off the project to their assistant.

The Hardware: Suspension + Canopy Solution



Explained to designer that a canopy had to be used at the power end but we could accommodate a smaller 2" dia plate on the non-powered end for the cable to attach to the ceiling.



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Obstacles

The specifier/designer misguided the installer on-site, resulting in the fixture being installed incorrectly. See next page for details on how the issue was resolved.



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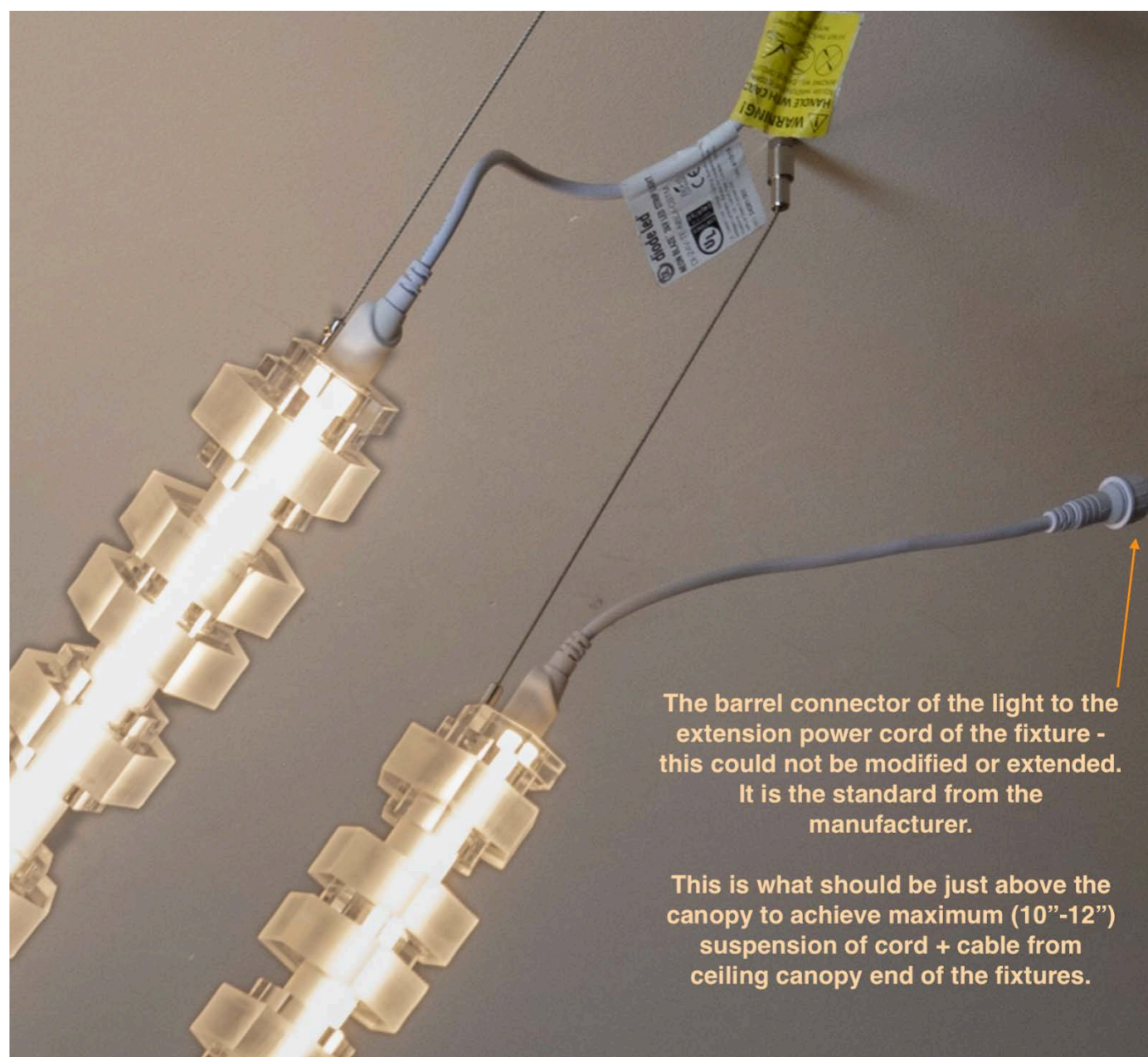
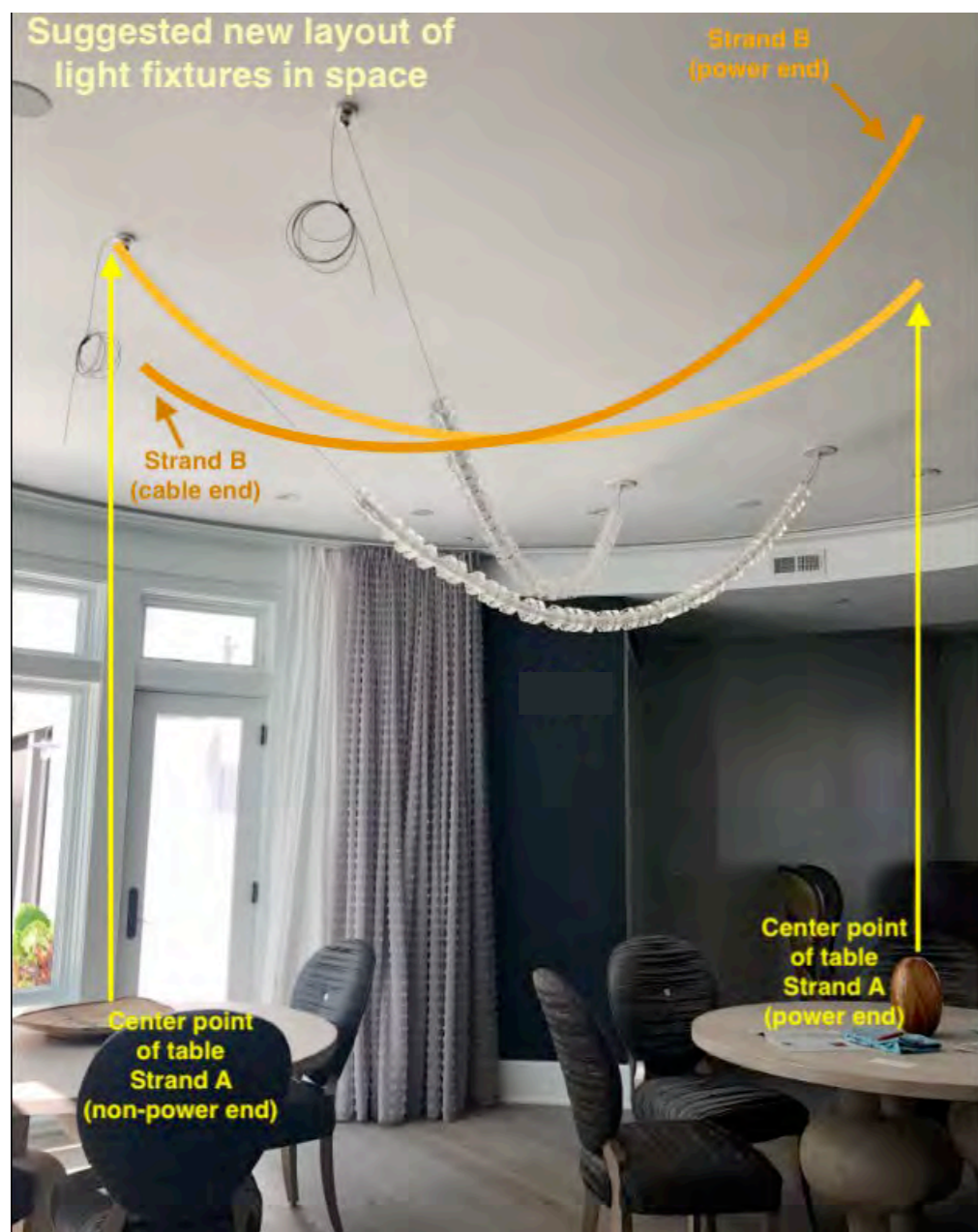
Obstacles

Unfortunately, I received a call from the homeowner and the images of the final installation, because the chandelier strands did not correctly coordinate with the space. When she provided the images, I was able to see that the installer, having been misguided by the designers, installed the fixtures incorrectly.

The layout needed to be rotated 90 degrees and the ends of the specific strands should have aligned with the center position of the

tables, centering the fixtures better between the mounting points, reducing the amount of cable that was visible on the non-powered end.

As a result, I noted these details on the images below and sent those back to the homeowner for reinstallation. She was very thankful for all the work and extra explanation, loved the fixtures, and stated that she would work directly with LightArt in the future. Reinforcing my belief in putting in extra effort in customer support, creates potential for future opportunities and builds relationships.



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Below

Final photos of the chandelier installed at the LightArt studio for finish photography, photos taken by Chris Bowden.



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Project Takeaways

- Setting expectations with the specifier and sales rep from the initial conceptualization stage of the project is likely most important step. This way everyone can work together, have a collective understanding of the process, reducing time and resources needed to complete the project stages.
- Just because someone demands that they have information next day turn around time, find a compromise so that realistic expectations are set based upon capabilities and costly quoting mistakes can be avoided.
- Over communicating using visuals - photos, drawings, and over the phone can be helpful to ensure a successful and timely project installation. Being willing to provide additional visual aid support to explain this new style of fixture (where no technical install drawing previously existed) was very helpful to the electrical installer on this job. Resulting in a beautiful end result the client was very happy with and stated they would work directly with us in the future.
- This project was a bit frustrating but ended up being one of my favorites in all the learning opportunities, challenges to overcome both in design and working with personalities. In the end, I was able to present to the entire sales team this project and emphasize the importance of the product/project management triangle.

