WIREMOLD

legrand®

Chan-L-Wire®
Pro Series Lighting System

Lighting Distribution System Offers Maximum Flexibility

The Chan-L-Wire Pro Series Lighting Distribution System offers maximum flexibility while saving up to 40% in labor installation costs. The system supports and powers all types of lighting, small appliances or small power loads in open ceilings utilizing galvanized steel channel and 277/480V or 120/208V cables. Quick Tap® connectors with or without cord-ends and loops displace the cable insulation and support the lighting fixtures. The flexibility of the Chan-L-Wire System also allows fixtures to be moved or added in the future, therefore, reducing the high costs associated with last minute design changes, building renovations and fixture maintenance.

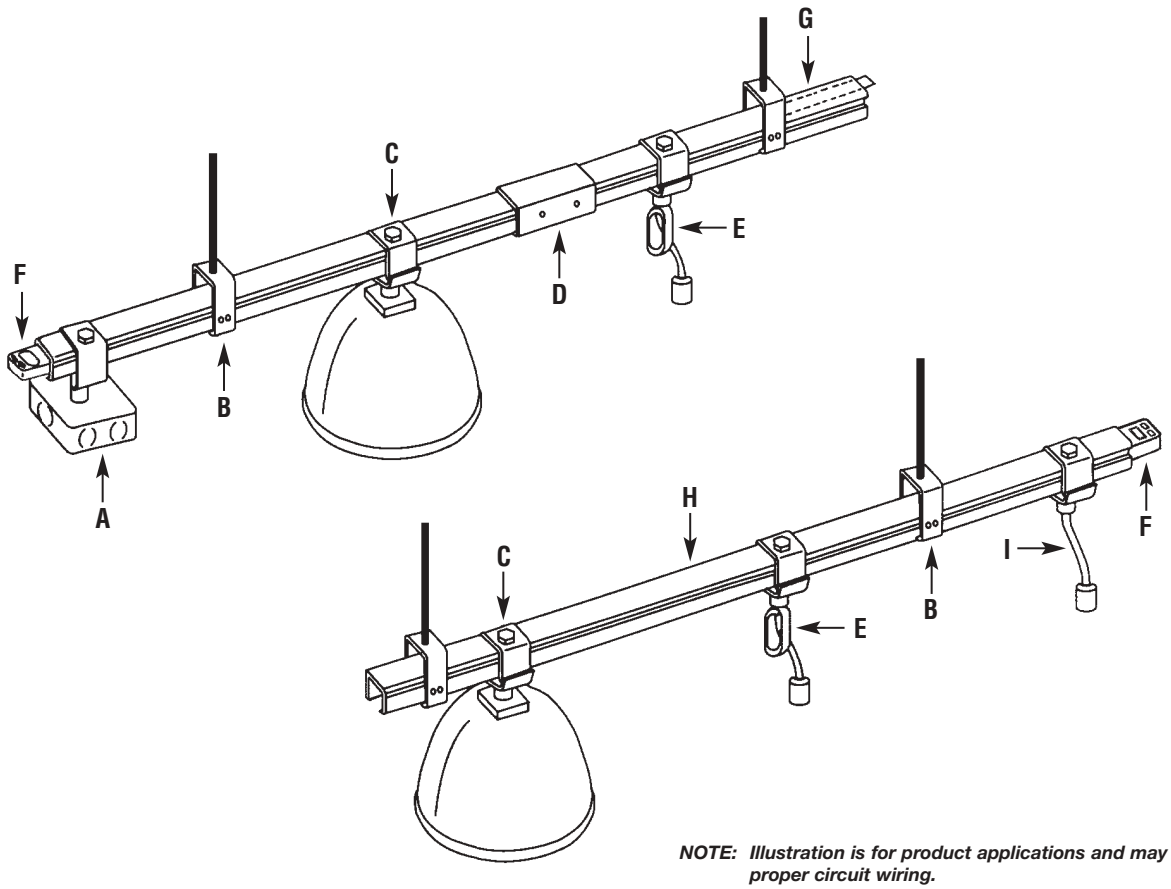
The examples listed within this manual are meant to apply the Chan-L-Wire solution to many of today's most common lighting applications. However, many more applications are possible using Chan-L-Wire components. If information is required on a particular application which is not listed, a local Wiremold / Legrand representative should be contacted for assistance.

Universal Quick Tap with a fixture hanger.

Features

- **Completely prewired components.**
- **Installation labor savings.**
- **Galvanized steel channel.**
- **Compatible with all types of light fixtures.**
- **Fixtures can be positioned or relocated anywhere along the channel.**
- **Unlimited system flexibility.**
- **Unique 5-wire flat cables each with a continuous ground conductor identified by a green stripe.**
- **Separate cables rated for 277/480V, 347/600V and 120/208V 3-phase, 5-wire service.**
- **All flat cable conductors are #10 gauge stranded wire.**
- **Feed taps rated for 30 Amp @ 277/480V, 347/600V and 120/208V with 3/4" [19.1mm] hub.**
- **20 Amp, 5-wire 277/480V, 347/600V and 120/208V Quick Tap connectors and fixture hangers with 1/2" or 3/4" [12.7mm or 19.1mm] hub.**
- **15 Amp, 277V, 347V and 120V cord-ended Quick Tap and locking-type receptacle with/ without loop.**
- **20 Amp, 3-wire 120V Quick Tap fan tap connector with mounting box.**
- **cULus Listed.**

Chan-L-Wire Pro Series System Layout



NOTE: Illustration is for product applications and may not represent proper circuit wiring.

A – T30	Feed Tap (Junction Box By Others)
B – CLWH	Channel Hanger (Threaded Rod By Others)
C – T277/T120	Quick Tap Series Taps & Fixture Hangers (1/2” or 3/4" [12.7mm or 19.1mm] Hub)
D – CLWC	Channel Coupling
E – TCE277/TCE125	Quick Tap Series Cord-Ended Tap & Locking-Type Receptacle With Closed Loop
F – CLWECPR	End Cap/Cable Puller
G – CLWFC120/277	Flat Cable
H – CLWS	Channel
I – TC277/TC125	Quick Tap Series Cord-Ended Tap & Locking-Type Receptacle

Chan-L-Wire Pro Series Installation Procedures

Step 1. Put up the channel.

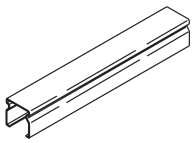
Step 2. Feed the cable.

Step 3. Mount the tap.

Step 4. Hang fixture and energize. It’s that easy.

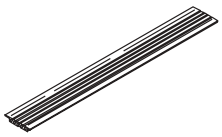
Chan-L-Wire Pro Series System Components

BASIC SYSTEM COMPONENTS – Required for each project



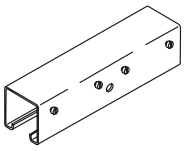
CHANNEL

- Supports cable and fixture or fan taps
- 16 gauge galvanized steel
- Roll formed with integral bead to support flat cable
- Available in 10 & 20 [3m & 6.1m] foot lengths



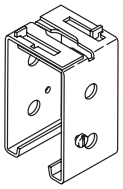
CABLE

- Delivers up to 30 Amp service
- Provides 3-phase, 5-wire service (3 phase, 1 Neutral, 1 Ground) enclosed in U.L. Listed PVC insulating material
- Supplies power to fixtures via Quick Taps
- Separate cables rated for 120/208V and 277/480V, 347/600V at 75˚ Centigrade
- Easy pull through flat cable with continuous ground conductor (identified by a green stripe)
- Capable of withstanding U.L. ground fault current testing of 10,000 Amps
- 10 gauge stranded wire conductors reduce the effects of harmonics and increase heat dissipation in unbalanced load conditions
- Phase conductors marked with Phase A, B, or C on the conductor
- Available in 200 foot or 1000 foot [61m or 305m] reels



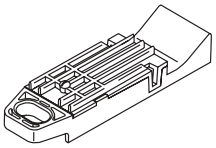
CHANNEL COUPLING

- Couples two lengths of channel
- Galvanized steel



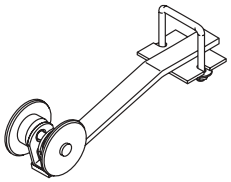
CHANNEL HANGER

- Suspends channel
- Support with 3/8" [9.5mm] threaded rod (supplied by others)
- Galvanized steel



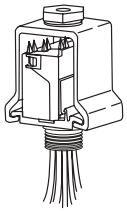
END CAP/PULLER

- Attaches cable to a pull rope for ease of installation
- Remains in place for cable termination at both ends of run
- Packaged in pairs (need one for each end of run or one pair per run)



CABLE PULL-IN GUIDE

- Guides cable into channel during pulling
- Typically need one for small jobs and two or more for large projects

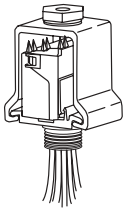


Feed Tap

- Use one per run to provide connection of “home run” to electrical load
- Rated for 30 Amp service
- Separate taps rated for 120/208V, 277/480V and 347/600V
- Five #10 AWG pigtails 9" [229mm] long
- 3/4" [19.1mm] hub with locknut to allow for attachment of industry standard junction box (provided by others)

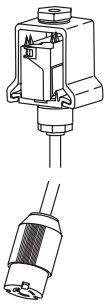
Chan-L-Wire Pro Series System Components

FIXTURE INSTALLATION COMPONENTS – Method varies based on individual project requirements



UNIVERSAL QUICK TAP® WITH FIXTURE HANGER

- Introduces power to lighting fixture by means of five #12 THHN wire leads 9", 18" or 36" [229mm, 457mm, or 914mm] standard
- Phase can be selected in the field
- Contacts appropriate phase, neutral and ground of cable to provide 20 Amp service
- Separate taps rated for 120/208V, 277/480V and 347/600V
- Can be mounted to fixture at floor level
- Available with 1/2" or 3/4" [12.7mm or 19.1mm] NPT hub
- May be moved for fixture maintenance or fixture layout redesign
- Need one per fixture

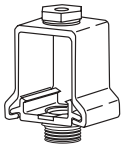


CORD-ENDED QUICK TAP® WITH LOCKING-TYPE RECEPTACLE

- Connects cordset equipped lighting fixtures
- Tap prewired to 9" [229mm] 14/3 cordset with locking-type NEMA L7-15R or NEMA L5-15R connector (Cordset lengths longer than standard 9" [229mm] available on made-to-order basis)
- Separate taps rated for 120V, 277V and 347V
- Contacts appropriate phase, neutral and ground of cable to provide 15 Amp service
- Need one per fixture

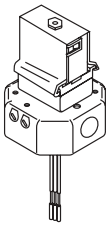
CORD ENDED QUICK TAP® WITH LOCKING-TYPE RECEPTACLE AND CLOSED LOOP

- Connects cordset equipped lighting fixtures
- Tap prewired to 9" [229mm] 14/3 cordset with locking-type NEMA L7-15R or NEMA L5-15R connector
- Separate taps rated for 120V, 277V and 347V
- Contacts appropriate phase, neutral and ground of cable to provide 15 Amp service
- Includes a closed loop
- Need one per fixture



FIXTURE HANGER

- Supports the end of fluorescent fixture opposite the fixture tap
- Available with 1/2" or 3/4" [12.7mm or 19.1mm] hub



QUICK TAP® FAN TAP WITH MOUNTING BOX

- Introduces AC power to fan by means of three #12 THHN wire leads 9" [229mm] standard
- Contacts appropriate phase, neutral and ground of cable to provide 20 Amp service
- Rated for 120V
- Includes mounting box
- May be moved for fan maintenance or layout redesign
- Need one per fan

Chan-L-Wire Pro Series System Ordering Information

CABLE

CATALOG NO.	DESCRIPTION	PKG. QTY.
CLWFC277	1000' [305m] Reel, 277/480V	1000 ft.
CLWFC277-200	200' [61m] Reel, 277/480V	200 ft.
CLWFC120	1000' [305m] Reel, 120/208V	1000 ft.
CLWFC120-200	200' [61m] Reel, 120/208V	200 ft.

CHANNEL

CATALOG NO.	DESCRIPTION	PKG. QTY.
CLWS-10	10' [3.05m] Length	20 ft.
CLWS-20	20' [6.1m] Length	40 ft.

COUPLING

CATALOG NO.	DESCRIPTION	PKG. QTY.
CLWC	Coupling	1

CHANNEL HANGER

CATALOG NO.	DESCRIPTION	PKG. QTY.
CLWH	Hanger	1

END CAP/CABLE PULLER

CATALOG NO.	DESCRIPTION	PKG. QTY.
CLWECPR	End Cap/Puller	1 Pair

CABLE PULL-IN GUIDE

CATALOG NO.	DESCRIPTION	PKG. QTY.
615CLWA	Guide	1

UNIVERSAL QUICK TAPS® WITH FIXTURE HANGERS (20 Amp Rated)

CATALOG NO.	PHASE	DESCRIPTION	PKG. QTY.
T277ABC75	A,B or C	3/4" [19.1mm] Hub, 9" [229mm] Leads, 277/480V	1
T120ABC75	A,B or C	3/4" [19.1mm] Hub, 9" [229mm] Leads, 120/208V	1
T277ABC75-18	A,B or C	3/4" [19.1mm] Hub, 18" [457mm] Leads, 277/480V	1
T120ABC75-18	A,B or C	3/4" [19.1mm] Hub, 18" [457mm] Leads, 120/208V	1
T277ABC75-36	A,B or C	3/4" [19.1mm] Hub, 36" [914mm] Leads, 277/480V	1
T120ABC75-36	A,B or C	3/4" [19.1mm] Hub, 36" [914mm] Leads, 120/208V	1
T277ABC50	A,B or C	1/2" [12.7mm] Hub, 9" [229mm] Leads, 277/480V	1
T120ABC50	A,B or C	1/2" [12.7mm] Hub, 9" [229mm] Leads, 120/208V	1
T277ABC50-18	A,B or C	1/2" [12.7mm] Hub, 18" [457mm] Leads, 277/480V	1
T120ABC50-18	A,B or C	1/2" [12.7mm] Hub, 18" [457mm] Leads, 120/208V	1
T277ABC50-36	A,B or C	1/2" [12.7mm] Hub, 36" [914mm] Leads, 277/480V	1
T120ABC50-36	A,B or C	1/2" [12.7mm] Hub, 36" [914mm] Leads, 120/208V	1

NOTE: *120V Taps can be used for 208V applications.*
277V Taps can be used for 480V applications.

FIXTURE HANGERS

CATALOG NO.	DESCRIPTION	PKG. QTY.
CLWFH75	3/4" [19.1mm]	1
CLWFH50	1/2" [12.7mm]	1

FEED TAPS

CATALOG NO.	DESCRIPTION	PKG. QTY.
T30-277	277/480V, 30 Amp Rated	1
T30-120	120/208V, 30 Amp Rated	1

CORD-ENDED QUICK TAPS® WITH LOCKING-TYPE RECEPTACLE (15 Amp Rated)

CATALOG NO.	PHASE	DESCRIPTION	PKG. QTY.
TC277A	A	9" [229mm] Cordset, 277V	1
TC277B	B	9" [229mm] Cordset, 277V	1
TC277C	C	9" [229mm] Cordset, 277V	1
TC125A	A	9" [229mm] Cordset, 120V	1
TC125B	B	9" [229mm] Cordset, 120V	1
TC125C	C	9" [229mm] Cordset, 120V	1

NOTE: ***Cordset lengths longer than the standard 9 inches [229mm] are available on a made-to-order basis.***

CORD-ENDED QUICK TAPS WITH LOCKING-TYPE RECEPTACLE & CLOSED LOOP (15 Amp Rated)

CATALOG NO.	PHASE	DESCRIPTION	PKG. QTY.
TCE277A	A	9" [229mm] Cordset, 277V	1
TCE277B	B	9" [229mm] Cordset, 277V	1
TCE277C	C	9" [229mm] Cordset, 277V	1
TCE125A	A	9" [229mm] Cordset, 120V	1
TCE125B	B	9" [229mm] Cordset, 120V	1
TCE125C	C	9" [229mm] Cordset, 120V	1

QUICK TAP FAN TAPS WITH MOUNTING BOX (20 Amp Rated)

CATALOG NO.	PHASE	DESCRIPTION	PKG. QTY.
TF120A	A	9" [229mm] Leads, 120V	1
TF120B	B	9" [229mm] Leads, 120V	1
TF120C	C	9" [229mm] Leads, 120V	1

TABLE 1 – Fixture Tap & Cable Alignments

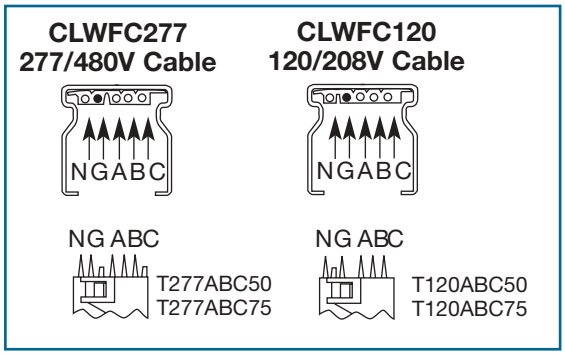
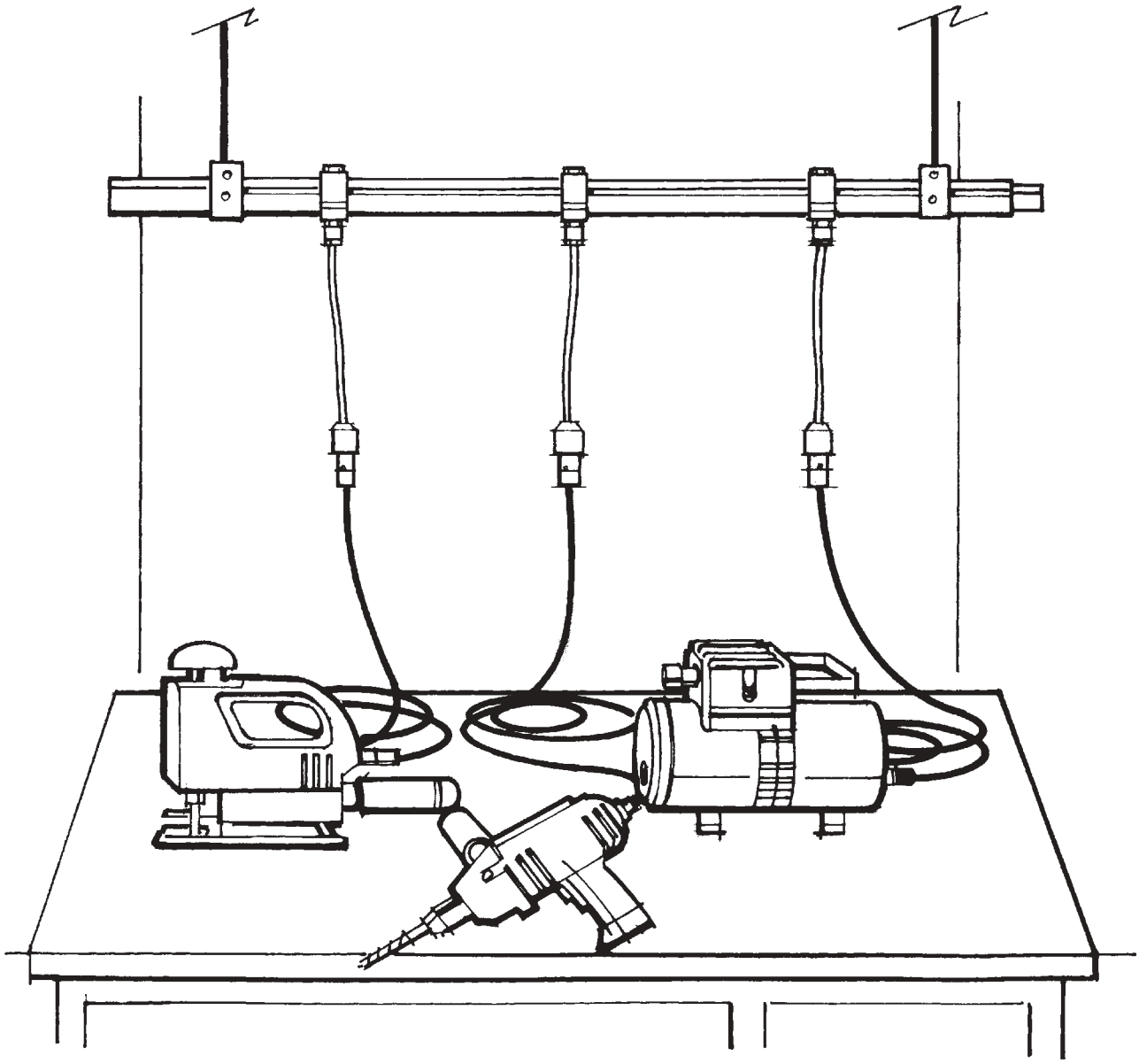


TABLE 2 – Channel Loading Conditions

Channel Span Inches	Channel Span [m]	Mid-Span Max Load (lbs.)	Deflection Inches	Deflection [mm]
60	[1.5]	100	0.13	[3.3]
72	[1.8]	84	0.19	[4.8]
84	[2.1]	72	0.26	[6.6]
96	[2.4]	63	0.33	[8.4]
108	[2.7]	56	0.42	[10.7]
120	[3.0]	45	0.50	[12.7]

NOTE: *For hanger spans up to 10 feet, fixtures or fans must be a minimum of 12 inches from centerline of coupling.*

Chan-L-Wire Pro Series – Power Drop Application



Chan-L-Wire Pro Series – Frequently Asked Questions

1. **Can CLW be used in power drop applications?**

   Yes, for light or low amperage draw applications only. Remember this is not a bus bar system. A perfect application would be on an assembly line that uses hand held power tools. It has also been used to power sewing machines in fabric assembly plants. It's great for places that relocate equipment often.

2. **How do you feed a CLW run of channel?**

   The T30-277 or T30-120 Feed Taps can be positioned anywhere along a CLW run for termination. The most common method is to mount a 4 1/16" square utility box to the Feed Tap and bring the feeder power through conduit into the box.

3. **Can you run emergency lighting and regular lighting on the same CLW run?**

   The answer really is no if you are talking about true emergency lighting or power. Article 700 of the NEC simply states that emergency power can not occupy the same raceway as normal power. Often emergency power is associated with standby power. Now, if we are talking about standby or optional standby as defined in Articles 701 & 702 the answer is, yes. One must understand the differences between emergency vs. standby. Simply put, emergency is defined as essential for safety to human life. In our case, egress lighting would be covered under emergency lighting. Standby covers non-life-supporting requirements. A good example would be lighting which has stopped during any interruption of the normal electrical supply and could create a hazard to operations.

4. **Can you have emergency lighting on one phase of the CLW run and regular lighting on another phase?**

   The answer here again is no if the circuit is true emergency lighting as covered under Article 700. However, the answer is yes if the circuits in question are covered under Articles 701 or 702. Again, refer to question number 3 above.

5. **How do you connect the same run of CLW around an obstruction?**

   The best way is to jump across two feed taps. Use two feed taps with junction boxes at the ends of the cable and channel runs. Connect between the boxes using flex conduit. This method would also be used to splice two cable lengths together on a straight run. Remember to use end caps at both ends of each of the runs.

6. **Can you use CLW in damp location areas?**

   No! The product is listed for dry location only as covered in Article 322 of the National Electrical Code.
   Example: It can't be used in a greenhouse or freezer room.

7. **Can you paint CLW and will it affect the cable?**

   CLW channel and channel couplings can be painted. The clamp assembly on the taps should not be painted. We have never experienced a failure of cable resulting from painting. However, we do not recommend painting the cable. We don't paint the product ourselves because the paint finish will not hold up during shipping.

8. **What is the maximum length run of CLW?**

   The general rule of thumb is 300 feet. After 300 feet the cable pulling resistance becomes very high and difficult to handle. There is also an electrical factor involved. One must consider the voltage drop based on length of run. As the amperage and voltage drop so will the allowable length of run. To add slightly more confusion, a balanced or unbalanced load will also affect voltage drop. This is all in accordance with Article 210-19(a) of the NEC.

9. **Can I get cord-ended fixture taps with straight-blade receptacles instead of the locking-type receptacles?**

   No. Straight-blade receptacles are not allowed by the NEC for ceiling applications.

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