SECTION 26 51 19

ARCHITECTURAL LED LUMINAIRES - INTERIOR

Display hidden notes to specifier. (Don't know how? [Click Here](https://www.arcat.com/sd/display_hidden_notes.shtml))

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\*\* NOTE TO SPECIFIER \*\* ETC, Inc.; lighting and rigging products.
This section is based on the products of ETC, Inc., which is located at:
3031 Pleasant View Rd. P. O. Box 620979
Middleton, WI 53562-0979
Tel: 608-831-4116
Fax: 608-836-1736
Email: [request info (mail@etcconnect.com)](https://admin.arcat.com/users.pl?action=UserEmail&company=ETC,+Inc.&coid=43555&rep=&fax=608-836-1736&message=RE:%20Spec%20Question%20(16519etc):%20%20&mf=)
Web: <https://www.etcconnect.com>
 [ [Click Here](https://www.arcat.com/arcatcos/cos43/arc43555.html) ] for additional information.
Christmas Eve 2020 marked ETC's 45th anniversary, and there's no denying we've come a long way. Now a global leader in the manufacturing of lighting and rigging technology, ETC employs over 1,200 people in 16 corporate offices around the world. ETC is proud of its industry reputation for unmatched technical and customer service, 24/7/365. And with a family of over 300 authorized service centers throughout the world, staffed by hundreds of certified technicians, customers are never far from an ETC resource with a face and a name.
We develop professional tools and make them accessible to everyone. Our products can be found in small and large venues worldwide, such as theatres, churches, restaurants, hotels, schools, television studios, casinos, theme parks, and opera houses.

1. GENERAL
	1. SECTION INCLUDES

\*\* NOTE TO SPECIFIER \*\* Delete items below not required for project.

* + 1. LED lighting fixtures and control systems
			1. Downlights. (ArcSystem Series)
			2. Retrofit lamps. (ArcSystem Series)
			3. Drivers. (ArcLamp, ArcSystem Series)
			4. Transmitter. (ArcMesh, ArcSystem Series)
			5. Lamps. (ArcSystem Pro)
				1. Single cell.
				2. Multi cell.
			6. Zoom optics LED lights (FPZ Irideon) (WLZ Irideon)
	1. RELATED SECTIONS

\*\* NOTE TO SPECIFIER \*\* Delete any sections below not relevant to this project; add others as required.

* + 1. Section 26 27 16 - Electrical Cabinets and Enclosures.
		2. Section 26 09 43 - Network Lighting Controls.
		3. Section 41 67 19 - Plant Safety Equipment. Building integrator shall provide integration of the lighting control system with Building Automation Systems.
	1. SUBMITTALS
		1. Submit under provisions of Section 01 30 00.
		2. Product Data:
			1. Manufacturer's data sheets on each product to be used.
			2. Preparation instructions and recommendations.
			3. Storage and handling requirements and recommendations.
			4. Typical installation methods.

\*\* NOTE TO SPECIFIER \*\* Delete if not applicable to product type.

* + 1. Verification Samples: Two representative units of each type, size, pattern, and color.
		2. Shop Drawings: Include details of materials, construction, and finish. Include relationship with adjacent construction.
	1. QUALITY ASSURANCE
		1. Manufacturer Qualifications: Company specializing in manufacturing products specified in this section with a minimum five years documented experience.
		2. Installer Qualifications: Company specializing in performing Work of this section with minimum two years documented experience with projects of similar scope and complexity.
		3. Source Limitations: Provide each type of product from a single manufacturing source to ensure uniformity.

\*\* NOTE TO SPECIFIER \*\* Include mock-up if the project size or quality warrant the expense. The following is one example of how a mock-up on might be specified. When deciding on the extent of the mock-up, consider all the major different types of work on the project.

* + 1. Mock-Up: Construct a mock-up with actual materials in sufficient time for Architect's review and to not delay construction progress. Locate mock-up as acceptable to Architect and provide temporary foundations and support.
			1. Intent of mock-up is to demonstrate quality of workmanship and visual appearance.
			2. If mock-up is not acceptable, rebuild mock-up until satisfactory results are achieved.
			3. Retain mock-up during construction as a standard for comparison with completed work.
			4. Do not alter or remove mock-up until work is completed or removal is authorized.
	1. PRE-INSTALLATION CONFERENCE
		1. Convene a conference approximately two weeks before scheduled commencement of the Work. Attendees shall include Architect, Contractor and trades involved. Agenda shall include schedule, responsibilities, critical path items and approvals.
	2. DELIVERY, STORAGE, AND HANDLING
		1. Store and handle in strict compliance with manufacturer's written instructions and recommendations.
		2. Protect from damage due to weather, excessive temperature, and construction operations.
	3. PROJECT CONDITIONS
		1. Maintain environmental conditions (temperature, humidity, and ventilation) within limits recommended by manufacturer for optimum results. Do not install products under environmental conditions outside manufacturer's recommended limits.
	4. WARRANTY
		1. Manufacturer's standard limited warranty unless indicated otherwise.
1. PRODUCTS
	1. MANUFACTURERS
		1. Acceptable Manufacturer: ETC, Inc., which is located at: 3031 Pleasant View Rd. P. O. Box 620979; Middleton, WI 53562-0979; Tel: 608-831-4116; Fax: 608-836-1736; Email: [request info (mail@etcconnect.com)](https://admin.arcat.com/users.pl?action=UserEmail&company=ETC,+Inc.&coid=43555&rep=&fax=608-836-1736&message=RE:%20Spec%20Question%20(16519etc):%20%20&mf=); Web: <https://www.etcconnect.com>

\*\* NOTE TO SPECIFIER \*\* Delete one of the following two paragraphs; coordinate with requirements of Division 1 section on product options and substitutions.

* + 1. Substitutions: Not permitted.
		2. Requests for substitutions will be considered in accordance with provisions of Section 01 60 00.
	1. PERFORMANCE AND DESIGN REQUIREMENTS
		1. Product Range: The ArcSystem LED architectural lighting system as manufactured by ETC, Inc., or approved equal.
			1. High Efficacy LED Luminaires: Recessed, surface mount, and pendant mount solutions.
				1. Convection cooled with no fans or moving parts.
				2. Luminaires conforming to UL1598 or UL2108.
				3. Emergency luminaires of the same style and form factor conforming to UL924.
				4. Listed with a third party laboratory.
				5. Include an option including the following on-board configurable features:

Configurable DMX control address. 4 channels per luminaire.

Configurable minimum light level to 1 percent granularity.

Configurable maximum light level to 1 percent granularity.

* + - 1. Proprietary drivers, hardware, and software.
			2. Controllers:
				1. Standard wired DMX input from a third party controller conforming to DMX 512-A (ANSI E1.11-2008).
			3. High Performance LED Emitters:
				1. CRI: Greater than 90.
				2. Color Temperature Options: 2700, 3000, 3500, 4000, and 5000 K.

Fade to Warm: 2700 and 3000 K.

* + - 1. Dimming Performance: Smooth to blackout.
			2. Warranty: Five years full luminaire coverage. Ten years LED failure coverage.

\*\* NOTE TO SPECIFIER \*\* Delete article not required.

* 1. LED DOWNLIGHTS - ARCSYSTEM SERIES
		1. Product: Navis 100. Model ARCN100 Series as manufactured by ETC, Inc., or approved equal. Controlled via an external, proprietary driver from the ETC F-Drive range of products.
			1. Standards Compliance:
				1. UL 8750, Light Emitting Diode (LED) Equipment For Use In Lighting Products.
				2. UL C22.2 No. 250.13, Light Emitting Diode (LED) Equipment For Lighting Applications.
				3. UL 1598/CSA C22.2 No. 250.0, Luminaires.
				4. UL 2108, Low Voltage Lighting Systems.
				5. Plenum Rated to UL 2043.
				6. CE compliant.

\*\* NOTE TO SPECIFIER \*\* For Navis 100 white and FTW variants only when used in conjunction with F-Drive W1E Emergency LED driver. Delete if not required.

* + - * 1. UL 924, Emergency Lighting and Power Equipment.
				2. CSA C22.2 No. 141-15, Emergency Lighting Equipment.
				3. Lloyds Registry Type Approved.
			1. Construction: Die cast aluminum heatsink and front ring assembly, free of burrs and pits. Finish: Smooth matte, indoor powder coat paint.
				1. Accessories and Painted Parts: Color-matched to specified color.
				2. Non-Painted Parts: Available in matching or complimentary colors.
				3. Exceptions to color-matching shall be noted prior to custom paint approval.

\*\* NOTE TO SPECIFIER \*\* Delete color options not required. Can supply custom colors as specified.

* + - * 1. Color: Primed.
				2. Color: Black.
				3. Color: White.
				4. Color: As determined by the Architect.
				5. Color: \_\_\_\_\_\_\_\_.
			1. Luminaire:
				1. Rating: IP20. Suitable for indoor use in dry locations.
				2. Factory fitted interchangeable TIR Optic:

\*\* NOTE TO SPECIFIER \*\* Delete factory beam angle options not required.

Factory Beam Angle: 15 degrees.

Factory Beam Angle: 25 degrees.

Factory Beam Angle: 40 degrees.

Factory Beam Angle: 60 degrees.

* + - * 1. Recessed RJ45 Connectors: Two, in and out For unit connection to external F-Drive LED driver and down-stream Navis 100 luminaires.

Four Navis 100 luminaires may be 'daisy-chained' using the connectors and 23 AWG category type cable. Individual luminaire control is possible when using an external F-Drive LED driver.

* + - * 1. Finished Ceiling Installation: Three, 2 mm hex wind-down ceiling clamps.

Ceiling Thickness: 0.02 to 0.78 inches (0.5 to 20 mm).

Hole Cut Diameter: 4.75 inches (120 mm).

* + - * 1. Recessed Magnets: Three. Located on front ring to accommodate securement of appropriate Navis 100 trim ring or accessory including:

Vibration tested to MIL-STD-167-1A.

\*\* NOTE TO SPECIFIER \*\* Delete options not required.

Standard trim plate.

Curve trim plate.

Pinhole trim plate.

Off-Set Slot trim plate.

Wall-wash accessory.

* + - * 1. Integral Accessory Tabs: Allow securement of secondary optical accessories.

\*\* NOTE TO SPECIFIER \*\* Delete options not required.

Clear glass lens.

Frosted lens.

Linear lens.

Solite lens.

Hex Louver glare control.

Finishing ring.

* + - * 1. Rotation and Tilt: Lockable using a T10 Torx screw on room side of unit.
				2. Rotation: 360 degrees. Tilt: 30 degrees; dependent on accessory choices.

Does not break ceiling plane with leading edge of luminaire when tilted at 30 degrees even when two secondary optical accessories are attached.

* + - 1. Base Unit External Dimensions (HxWxD): 3.86 x 5 x 5 inch (98 x 127 x 127 mm). Weight: 1.38 lbs (0.63 kg).
			2. Mounting Accessories: Luminaires may be installed into these accessory kits.
				1. Pendant Style: CRS metal cylinder with companion stem and canopy kit transforms the Navis 100 to a pendant style luminaire.
				2. Surface Cylinder Style: CRS metal cylinder with pre-drilled holes for mounting to electric junction box transforms the Navis 100 to a surface luminaire.
			3. Luminaire, LED: Fixed White. Rating: 70 percent output (L70) after 55,000 hrs.
				1. Utilize a single COB LED emitter offered in 6 variants:

Greater than 90 CRI 2700 K.

Greater than 90 CRI 3000 K.

Greater than 90 CRI 3500 K.

Greater than 90 CRI 4000 K.

Greater than 80 CRI 5000 K.

Greater than 90 CRI 3000 K Fade-To-Warm; dims to 1800 K.

* + - * 1. When using a 60 degree optic, luminaires have these minimum total outputs.

2700 K: 1,320 lumens. 1,175 field lumens.

3000 K: 1,410 lumens. 1,250 field lumens.

3500 K: 1,470 lumens. 1,305 field lumens.

4000 K: 1,525 lumens. 1,355 field lumens.

5000 K: 1,770 lumens. 1,575 field lumens.

3000 K FTW: 915 lumens. 815 field lumens.

\*\* NOTE TO SPECIFIER \*\* Delete luminaire options not required.

* + - 1. Luminaire, LED: Fade-To-Warm. Rating: 70 percent output (L70) after 60,000 hrs.
				1. Utilize a single COB LED emitter offered in 6 variants:

Greater than 90 CRI 2700 K.

Greater than 90 CRI 3000 K.

Greater than 90 CRI 3500 K.

Greater than 90 CRI 4000 K.

Greater than 80 CRI 5000 K.

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3500 K: 1,470 lumens. 1,305 field lumens.

4000 K: 1,525 lumens. 1,355 field lumens.

5000 K: 1,770 lumens. 1,575 field lumens.

3000 K FTW: 915 lumens. 815 field lumens.

* + - 1. Luminaire, RGBW: 16 emitter Red, Green, Blue and, 3000K White array.
				1. Features:

Calibrated array.

Thermal droop compensation.

Active power budgeting.

Over-temperature protection.

Controls:

Direct IRGBW control; five-channel footprint.

Calibrated IRGB control; four-channel footprint.

* + - * 1. All four RGBW LED styles are rated for an average of 70 percent output; L70 after 54,000 hours of use.
				2. The luminaire, when using a 60-degree optic and color mixed to a 3000 K CCT when in the calibrated IRGB mode, shall have a minimum total output of

3000 K: 915 lumens; 815 field lumens.

* + - 1. Electrical: Luminaire requires use of separate F-Drive series LED driver.
				1. Fixed White: ETC F-Drive R12 CC-150 output card or W1 CC driver.

Typical Wattage: 22 W. Constant Current Drive Current: 600 mA

* + - * 1. Fade-To-Warm: ETC F-Drive R12 FTW-150 output card or W1 FTW driver.

Typical Wattage: 16 W. Constant Current Drive Current: 450mA

* + - * 1. RGBW: ETC F-Drive R12 Chroma output card or W1 Chroma driver.

Typical Wattage: 22 W. Constant Current drive current: 460 mA.

\*\* NOTE TO SPECIFIER \*\* For the Navis 100 Fixed White (WC) and Fade to Warm (FTWC) luminaires.

* + - 1. Local Driver: Model SK100, Sidekick 100.Runs on any line-dimmed AC power source. An easy to use dimmable driver solution. Provides stepless dimming throughout complete intensity range 0 to 100 percent. Retrofit: To bring Navis into an existing installation New Installation: Supplements a larger Navis install with F-Drive remote drivers.
				1. Standards Compliance:

cETLus: Listed.

Conforms to UL 8750 and CSA C22.2 No. 250.13.

CE Compliant.

UKCA Compliant.

Suitable for use in air handling systems by NEC 300.22(C)(3).

* + - * 1. Control:

Protocols: Dimming controlled via AC line dimming on primary power circuit.

Dimming Resolution: Dimming to 0.01m percent.

Smoothing: None.

Local Control: None.

* + - * 1. Electrical:

Voltage Input: 100 to 277 VAC 50/60 Hz.

Power Factor: Greater than 0.9.

Output Connector: Custom RJ45 connects directly to Navis 100.

Inrush: 3 A at 120 V (first half-cycle).

Inrush: 5 A at 240 V (first half-cycle).

Dimmer Compatibility: Forward and reverse phase dimming, dimming performance depends on mains dimmer used.

Output: White: 600 mA. FTW: 450 mA.

Output Wattage: White: 28 W. FTW: 20 W.

Output Connector: White: RJ45 plug. FTW: RJ45 plug.

Max Input Current at 100 VAC: White: 0.30 A. FTW: 0.30 A.

Max Input Wattage: White: 30 W. FTW: 30 W.

Thermal:

Ambient Operating Temperature: 32 to 105 degrees F (0 to 40 degrees C).

Fan (Controllable): Convection cooled, no fans.

BTUs/hour: 120 V: 102. 240 V: 102.

* + - * 1. Physical:

Materials: Plenum-rated enclosure.

Color: Black.

Mounting Options: Mounts directly to Navis 100 luminaire via RJ45 connection and three point screw attachment.

Cable:

UL: Pre-wired six foot (6 ft) flexcon (3/8 in).

CE: Pre-wired two meter (2 m) LSZH cable.

IP Rating: IP-20; dry location.

Humidity: 5 to 95 percent non-condensing.

Weight: 1.4 lbs (0.63 kg).

* + - * 1. Warranty: 5 years.
	1. LED RETROFIT LAMPS - ARCSYSTEM ARCLAMP SERIES
		1. Product: ArcSystem ArcLamp LED luminaire by ETC, Inc. A low voltage product controlled by an external, proprietary driver from the ArcSystem ArcLamp range of products.
			1. Regulatory and Standards Compliance:
				1. ArcLamp Non-Emergency Drivers: Listed under UL category code FKSZ and ULc category code FKSZ7.
				2. ArcLamp Emergency Drivers: Listed under UL category code FTBR and ULc category code FTBR7.
				3. ArcLamp Luminaires: UL Recognized for normal and emergency systems under UL category code OOLV2 and ULc category code OOLV8 in Canada.
				4. ArcLamp System; Luminaire and Driver Together: Listed for use as a "Light Emitting Diode retrofit kit" under UL category code IFAR and ULc category code IFAR7.
				5. The Class 2 LED retrofit ArcLamp System is permitted for installation using existing Class 1 wiring when following NFPA 70 National Electric Code 725.130A Exception 2.
				6. Class 2 and Class 3 circuits are permitted to be reclassified and installed as Class 1 circuits if the Class 2 and Class 3 markings required in 725.124 are eliminated and entire circuit is installed using wiring methods and materials in accordance with Part II, Class 1 circuits.
			2. Construction: Ceramic base with glass envelope containing a 3 fork LED array.
				1. Luminaire Base Style: E12, E14, E26, E27, B15, B22
				2. Luminaire Style: Candle. Both clear and frosted variants
				3. Luminaire Style: Small globe glass envelope. Both clear and frosted variants
			3. Electrical: Luminaire contains 6 LED arrays. Total Power Consumption: 4.4 W.
				1. Operate Voltage: Constant 24 VDC. Current: 180 mA maximum.
				2. Volt Drop Compensation Technology: Allows normal product operation with 3 VDC, (12.5 percent) voltage drop between driver and ArcLamp.
				3. Smoothing Technology: Ensures lamps fade smoothly and uniformly.
			4. LEDs:
				1. ArcLamp Fixed White luminaire LED characteristics:

Six fixed white emitters of either 2700K or 3000K depending on Model choice

Greater than 90 CRI minimum performance at 2700K and 3000K CCT.

Rated for average of 70 percent output after 35,000 hours of use; L70.

Expected average power consumption of less than 4.4 W.

Expected output of 275 lumens at both 2700 and 3000 K.

* + - * 1. ArcLamp Fade-To-Warm luminaire LED characteristics:

Six white and six amber LED emitters. Luminaire will dynamically bias the amber emitters at low dimming levels producing a warmer color temperature.

Greater than 90 CRI minimum performance at 2700 K.

Rated for average of 70 percent output after 35,000 hours of use (L70).

Expected average power consumption of less than 4.4 W.

Minimum output of 275 lumens at 2700 K.

* + - 1. Driver: ArcLamp luminaire requires use of a separate remote ArcLamp Driver.
	1. LUMINAIRES ARCSYSTEM PRO

\*\* NOTE TO SPECIFIER \*\* Delete paragraphs not required.

* + 1. Single Cell Luminaires:

\*\* NOTE TO SPECIFIER \*\* Delete product options not required. Also delete color temperature, optical, and driver options not required.

* + - 1. Product: Pro One-Cell by ETC, Inc. A single-cell solution suited for recessed or surface-mount installations in areas requiring short- to medium-throw illumination.
				1. Model ARCP1.

Fixed recessed directional focusing

Max total lumens: 2,459 (5000 K 50 degrees).

Lumens per watt: 103 (5000 K 50 degrees).

Colors used: Fixed white.

Color Temperature: 2700 K.

Color Temperature: 2700 K. Fade-to-Warm.

Color Temperature: 3000 K.

Color Temperature: 3000 K. Fade-to-Warm.

Color Temperature: 3500 K.

Color Temperature: 4000 K.

Color Temperature: 5000 K.

Optical: Beam Angle Range: 15.

Optical: Beam Angle Range: 30.

Optical: Beam Angle Range: 50.

Optical: Beam Angle Range: 60.

Driver: D1 series.

Inrush: 20 A at 120 VAC

Current Draw: 0.20 A at 120 VAC

DC Drive Current: .6 A at 48 VDC

Cable length from driver to luminaire: 49 feet 2 inches (15 m) max.

Max Wattage (including driver): 20 W

Driver: D4 CC series.

Inrush: 15 A at 120 VAC

Current Draw: 0.95 A at 120 VAC (includes 4 ARCP1 or ARCP1S)

DC Drive Current: .6 A at 48 VDC

Maximum cable length from driver to luminaire: 49 feet 2 inches (15 m)

Max Wattage (including driver): 115 W

Driver: F- Drive Remote driver series.

Thermal: Operating Temperature: 32 to 104 degrees F.

Fan (Controllable): N/Al convection cooled.

BTUs per hour: 68.

* + - 1. Product: Pro One-Cell Small by ETC, Inc. A single-cell solution suited for recessed installations in areas requiring short-throw illumination.
				1. Model ARCP1S.

Max total lumens: 2,202 (5000 K 50 degrees).

Lumens per watt: 110 (5000 K 50 degrees).

Colors used: Fixed white.

Color Temperature: 2700 K.

Color Temperature: 2700 K. Fade-to-Warm.

Color Temperature: 3000 K.

Color Temperature: 3000 K. Fade-to-Warm.

Color Temperature: 3500 K.

Color Temperature: 4000 K.

Color Temperature: 5000 K.

Optical: Beam Angle Range: 19.

Optical: Beam Angle Range: 24.

Optical: Beam Angle Range: 37.

Optical: Beam Angle Range: 60.

Driver: D1 series.

Inrush: 20 A at 120 VAC

Current Draw: 0.20 A at 120 VAC

DC Drive Current: .6 A at 48 VDC

Cable length from driver to luminaire: 49 feet 2 inches (15 m) max.

Max Wattage (including driver): 20 W

Driver: D4 CC series.

Inrush: 15 A at 120 VAC

Current Draw: 0.95 A at 120 VAC (includes 4 ARCP1 or ARCP1S)

DC Drive Current: .6 A at 48 VDC

Cable length from driver to luminaire: 49 feet 2 inches (15 m) max.

Max Wattage (including driver): 115 W

Driver: F- Drive Remote driver series.

Thermal: Operating Temperature: 32 to 104 degrees F.

Fan (Controllable): Convection cooled.

BTUs per hour: 68.

* + - 1. Product: Pro One-Cell Micro by ETC, Inc. A single-cell solution suited for recessed installations in areas requiring short- to medium-throw illumination.
				1. Model ARCP1M.

Max total lumens: 632 (3000 K 37 degrees).

Lumens per watt: 52.

Colors used: Fixed white.

Color Temperature: 2700 K.

Color Temperature: 3000 K.

Color Temperature: 3500 K.

Color Temperature: 4000 K.

Optical: Beam Angle Range: 19.

Optical: Beam Angle Range: 24.

Optical: Beam Angle Range: 37.

Optical: Beam Angle Range: 60.

Drivers: D2 series.

Inrush: 20 A at 120 VAC

Current Draw: 0.17 A at 120 VAC

DC Drive Current: .4 A at 48 VDC

Cable length from driver to luminaire: 49 feet 2 inches (15 m) max.

Max Wattage (including driver): 20 W

Drivers: F- Drive Remote driver series.

Thermal: Operating Temperature: 32 to 104 degrees F.

Fan (Controllable): Convection cooled.

BTUs per hour: 41.

* + - 1. Product: Pro One-Cell High Output by ETC, Inc. A single-cell solution suited for recessed installations in areas requiring short- to medium-throw illumination.
				1. Model ARCP1H.

Max total lumens: 9965 (3000 K 24 degrees).

Lumens per watt: 99.

Colors used: Fixed white.

Color Temperature: 2700 K.

Color Temperature: 3000 K.

Optical: Beam Angle Range: 24.

Optical: Beam Angle Range: 37.

Optical: Beam Angle Range: 50.

Drivers: D1 series.

Inrush: 20 A at 120 VAC

Current Draw: 0.20 A at 120 VAC

DC Drive Current: .6 A at 48 VDC

Cable length from driver to luminaire: 49 feet 2 inches (15 m) max.

Max Wattage (including driver): 20 W

Drivers: D1HO series

Inrush: 65 A (first half-cycle) at 120 VAC

Current Draw (including driver): 0.83 A at 120 VAC

DC Drive Current: 2.3 A at 48 VDC.

Cable Length from Driver to Luminaire: 3 ft 3 inches (1 m).max.

Wattage (max inc. driver) 100 W

Drivers: D2 series.

Inrush: 20 A at 120 VAC

Current Draw: 0.17 A at 120 VAC

DC Drive Current: .4 A at 48 VDC

Cable length from driver to luminaire: 49 feet 2 inches (15 m) max

Max Wattage (including driver): 20 W

Drivers: D4 CC series.

Inrush: 15 A at 120 VAC

Current Draw: 0.95 A at 120 VAC (includes 4 ARCP1 or ARCP1S)

DC Drive Current: .6 A at 48 VDC

Cable length from driver to luminaire: 49 feet 2 inches (15 m) max.

Max Wattage (including driver): 115 W

Thermal: Operating Temperature: 32 to 104 degrees F.

Fan (Controllable): N/Al convection cooled.

BTUs per hour: 341.

Minimum Luminaire Installation Spacing:

Center to Center of adjacent luminaires: 241 inches (610 mm).

Top of luminaire to overhead building member: 3 inches (76 mm).

Luminaire center to side building member: 12 inches (305 mm).

* + - 1. Standards Compliance:
				1. cETLus Listed.
				2. Conforms to ANSI/UL STD.2108.
				3. Certified to CSA STD. C22.2 No: 250.
				4. CE compliant.
				5. EAC compliant.
				6. UKCA compliant.

\*\* NOTE TO SPECIFIER \*\* Recessed fixtures conform to the following. Delete if not required.:

* + - * 1. ANSI/ UL STD. 2043.
			1. Source: L70 rating; hours to 70 percent output. 50,000 hours.
			2. Optical: CRI: Greater than 90. TM-30-18 Data:
			3. Control: Via Separate Driver.
				1. Input method: DMX-512 via RJ45 connector.
				2. Protocol: DMX,
				3. Protocol: RDM.
				4. Modes (Footprint): 1-channel.
				5. RDM Configuration: Yes. With RDM driver option.
				6. Local Control: No.
			4. Physical:
				1. Materials: Die-cast aluminum and cold-rolled steel.
				2. Adjustable recessed directional focusing up to 45 degree maximum tilt angle

\*\* NOTE TO SPECIFIER \*\* Delete color options not required.

* + - * 1. Color: Black.
				2. Color: White.
				3. Color: \_\_\_\_\_\_\_\_.

\*\* NOTE TO SPECIFIER \*\* Delete mounting option not required.

* + - * 1. Mounting: Recessed spring clips for 0.12 to 0.94 inches (3 to 24 mm) thick ceilings.
				2. Mounting: Yoke.
				3. IP Rating: 20. Dry locations only.

\*\* NOTE TO SPECIFIER \*\* Delete accessories options not required.

* + - * 1. Accessories:

Recessed Ceiling Lamp mounting bracket.

Extension Cable: 3.28 ft (1 m).

Extension Cable: 6.56 ft (2 m).

Extension Cable: 9.84 ft (3 m).

Extension Cable: 19.68 ft (6 m).

Extension Cable: 32.8 ft (10 m).

* + 1. Multi Cell Lamps:

\*\* NOTE TO SPECIFIER \*\* Delete product and model options not required.

* + - 1. Product: Pro Two-Cell, by ETC, Inc. for medium-throw LED illumination. Fits in locations where hanging space is limited. Equipped with a yoke for focusing flexibility.
				1. Model ARCP2.
				2. Model ARCPE2.
				3. Source:

L70 rating (hours to 70 percent output): 50,000 hours.

Max total lumens: 4,539 (5000 K 37 degrees)

Lumens per watt: 97

* + - * 1. Electrical:

Voltage Range: 100-240 VAC IEC. Emergency Range: 100-125 VAC.

Input Method:

\*\* NOTE TO SPECIFIER \*\* Delete luminaire option not required.

Luminaire: Standard 100-240 VAC IEC luminaire: IEC Connector.

Luminaire: Emergency luminaire:

Wiring compartment. Two 1/2 inch knockouts for field wiring.

Two line-voltage inputs:

Normal power / emergency power.

Normal power sense input.

Inrush: 20 A Max at 120 V (25 C).

Wattage (max / standby): 50 W / Less than 3 W.

Current Draw: 0.42 A at 120 V.

* + - * 1. Thermal:

Ambient operating temperature: 32 to 104 degrees F.

Convection cooled with no fans.

BTUs/hour: 171.

* + - * 1. Mounting: Yoke.
			1. Product: Pro Four-Cell, by ETC, Inc. For medium- to long-throw LED illumination for locations where hanging space is limited. Equipped with a yoke for focusing flexibility.
				1. Model ARCP4L.
				2. Model ARCPE4L
				3. Model ARCP4R.
				4. Model ARCPE4R.
				5. Source:

L70 rating (hours to 70 percent output): 50,000 hours.

Max total lumens 9,152 (3000 K 50 degrees).

Lumens per watt 91.

* + - * 1. Electrical:

Voltage Range: 100-240 VAC IEC. Emergency Range: 100-125 VAC.

Input Method:

\*\* NOTE TO SPECIFIER \*\* Delete luminaire option not required.

Luminaire: Standard 100-240 VAC IEC. IEC Connector.

Luminaire: Emergency. Two, hardwired, three-conductor, 18 AWG 185 cm (72in), NEMA 5-15 15 A 125 V Plug.

Inrush: 65 A at 120 V (first half-cycle).

Wattage (max / standby): 100 W / Less than 3 W.

Current draw: 0.84 A at 120 V.

Power factor: Greater than 0.9.

* + - * 1. Thermal:

Ambient operating temperature: 32 to 104 degrees F

Convection cooled with no fans

BTUs/hour: 341.

\*\* NOTE TO SPECIFIER \*\* Delete mounting options not required.

* + - * 1. Mounting: Yoke

\*\* NOTE TO SPECIFIER \*\* The next two paragraphs apply to ARCP4R and ARCPE4R.

* + - * 1. Mounting: Half-inch threaded captive nut.
				2. Mounting: M10 threaded captive nut.
			1. Product: Pro Four-Cell, by ETC, Inc. For medium- to long-throw LED illumination for locations where hanging space is limited. Equipped with a yoke for focusing flexibility.
				1. Model ARCP4S.
				2. Model ARCPE4S.
				3. Source:

L70 rating (hours to 70 percent output): 50,000 hours.

Max field lumens: 8445 (3000 K 50 degrees).

Lumens per watt: 84.

* + - * 1. Electrical:

Voltage Range: 100-240 VAC IEC. Emergency Range: 100-125 VAC.

Input Method:

\*\* NOTE TO SPECIFIER \*\* Delete luminaire option not required.

Luminaire: Standard 100-240 VAC IEC. IEC Connector.

Luminaire: Emergency.

Wiring compartment with two half-inch knockouts for field wiring.

Two line-voltage inputs:

Normal power / emergency power.

Normal power sense input.

Inrush: 65 A at 120 V (first half-cycle).

Wattage (max / standby): 100 W / Less than 3 W.

Current draw: 0.84 A at 120 V.

Power factor: Greater than 0.9.

* + - * 1. Thermal:

Ambient operating temperature: 32 to 104 degrees F.

Convection cooled with no fans.

BTUs/hour: 341.

* + - * 1. Mounting: Yoke
			1. Product: Pro Four-Cell Pendant, by ETC, Inc. For medium- to long-throw pendant style applications. Combines with a stem and canopy kit available in a variety of lengths.
				1. Model ARCP4P.
				2. Model ARCPE4P.
				3. Source:

L70 rating (hours to 70 percent output): 50,000 hours.

Max total lumens 9,152 (3000 K 50 degrees).

Lumens per watt 91.

* + - * 1. Electrical:

Voltage Range: 100-240 VAC IEC. Emergency Range: 100-125 VAC.

Voltage Range: 100- 277 VAC hardwired.

\*\* NOTE TO SPECIFIER \*\* Delete input method not required.

Input Method:

\*\* NOTE TO SPECIFIER \*\* Delete luminaire option not required.

Luminaire: Standard 100-240 VAC IEC: IEC Connector.

Luminaire: Emergency:

Wiring compartment with two half-inch knockouts for field wiring.

Two line-voltage inputs:

Normal power / emergency power.

Normal power sense input.

Input Method: Hard-wired terminals in canopy.

Inrush: 15 A at 120 V (first half-cycle). 15 A at 240 V (first half-cycle).

Wattage (max / standby): 100 W / Less than 1 W.

Current draw: 0.84 A at 120 V. 0.46 A at 240 V.

Power factor: Greater than 0.9.

* + - * 1. Thermal:

Ambient operating temperature: 32 to 104 degrees F.

Convection cooled with no fans

BTUs/hour: 341.

\*\* NOTE TO SPECIFIER \*\* Delete mounting options not required.

* + - * 1. Mounting: Yoke.
				2. Mounting: Stem and Canopy. Fits to 4 inch Square contractor backbox.

Max ceiling angle: 34 degrees.

Additional stern and canopy kit required for installation

* + - 1. Product: Pro Eight-Cell, by ETC, Inc. For medium- to long-throw LED illumination for locations where hanging space is limited. Equipped with a yoke for focusing flexibility.
				1. Model ARCP8
				2. Model ARCPE8
				3. Source:

L70 rating (hours to 70 percent output): 50,000 hours.

Max field lumens: 17,190 (5000 K 37 degrees).

Lumens per watt: 93.

* + - * 1. Electrical:

Voltage Range: 100-240 VAC IEC. Emergency Range: 100-125 VAC.

Voltage Range: 100- 277 VAC hardwired.

Input Method:

\*\* NOTE TO SPECIFIER \*\* Delete luminaire option not required.

Luminaire: Standard 100-240 VAC IEC. IEC Connector.

Luminaire: Emergency.

Wiring compartment with two half-inch knockouts for field wiring.

Two line-voltage inputs:

Normal power / emergency power.

Normal power sense input.

Inrush: 55 A at 120 V (first half-cycle).

Wattage (typical / standby): 200 W / Less than 3 W.

Current draw: 1.67 A at 120 V.

Power factor: Greater than 0.9.

* + - * 1. Thermal:

Ambient operating temperature: 32 to 104 degrees F.

Convection cooled with no fans

BTUs/hour: 682.

* + - * 1. Mounting: Yoke.

\*\* NOTE TO SPECIFIER \*\* Delete standards compliance options not required.

* + - 1. Standards Compliance: All Versions:
				1. cETLus Listed.
				2. CE, EAC, and UKCA Compliant.
			2. Standards Compliance: Standard.
				1. Conforms to ANSI/UL STD.1598.
				2. Certified to CSA STD. C22.2 No: 250.
			3. Standards Compliance: Emergency version.
				1. Conforms to ANSI/UL STD.924.
				2. Certified to CSA STD. C22.2 No: 141.
			4. Colors Used: White.

\*\* NOTE TO SPECIFIER \*\* Delete color temperature range options not required.

* + - 1. Color Temperature Range: 2700 K.
			2. Color Temperature Range: 2700 K. Fade-to-warm.
			3. Color Temperature Range: 3000 K.
			4. Color Temperature Range: 3000 K. Fade-to-warm.
			5. Color Temperature Range: 3500 K.
			6. Color Temperature Range: 4000 K.
			7. Color Temperature Range: 5000 K,

\*\* NOTE TO SPECIFIER \*\* Delete beam angle range options not required.

* + - 1. Optical: Beam Angle Range: 19.
			2. Optical: Beam Angle Range: 24.
			3. Optical: Beam Angle Range: 37.
			4. Optical: Beam Angle Range: 60.
			5. Optical: CRI: Greater than 90.
			6. Control:
				1. Input Method: DMX-512 via RJ45 etherCON connector.

\*\* NOTE TO SPECIFIER \*\* Delete protocol and mode options not required.

* + - * 1. Protocol: DMX.
				2. Protocol: RDM. RDM configuration.
				3. Mode (Footprint): 1-channel.
				4. Modes(Footprint): 2-channel.
				5. Modes(Footprint): 4-channel.
				6. Local Control: No.
			1. Physical:
				1. Materials: Die-cast aluminum and cold-rolled steel.

\*\* NOTE TO SPECIFIER \*\* Delete color options not required.

* + - * 1. Color: Black.
				2. Color: White.
				3. Color: \_\_\_\_\_\_\_\_.
				4. IP Rating: 20. Dry locations only.
	1. DRIVERS - ARCLAMP, ARCSYSTEM SERIES
		1. Product: ArcLamp Drivers by ETC, Inc. For use with 24 VDC Fixed White, Fade to Warm, and Flicker ArcLamps. A retrofit installation solution in a compact, wall or rack mountable enclosure. 150, 350, and 700 options, Four independently addressable outputs per unit. Existing building load wiring can be used without any need for destructive wall or ceiling work.
			1. Standards Compliance:
				1. IP Rating: IP-20. Dry locations only.
				2. All Versions:

CE, UKCA, and EAC Compliant.

* + - * 1. Standard Version:

cULus: UL8750 and CSA C22.2 No. 250.13.

cULus: Classification Retrofit Kit to UL1598C and CSA TIL B-79A.

* + - * 1. Emergency Version:

cULus: UL924 and CSA C22.2 No. 141.

cULus: Classified Retrofit Kit, UL924 and CSA C22.2 No. 141.

* + - * 1. Wall Mount Version: For air handling systems by NEC 300.22(C)(3).

\*\* NOTE TO SPECIFIER \*\* Delete driver versions options not required. options

* + - 1. Model: 150 Convection cooled. Input Voltage: 100- 240 or 277 VAC 50/60 Hz.
				1. Combined maximum of 25 x 4.4 W rated ArcLamps.
				2. Maximum Current per Channel: 1.5 A.
				3. Maximum Power per Channel Power: 36 W.
				4. Wattage: Maximum: 115 W. Standby: 11 W.
				5. Current Draw at 120 VAC: 1.5 Amp.
				6. BTUs per Hour 120 to 240 V: 361 BTUs per hour.
				7. Six ArcLamps per channel and 1 extra ArcLamp on 1 channel; 25 total.
			2. Model: 350 Single fan force air cooled. Input Voltage: 100- 240 VAC 50/60 Hz.
				1. Combined maximum of 60 x 4.4 W rated ArcLamps.
				2. Maximum Current per Channel: 3.5 A.
				3. Maximum Power per Channel Power: 80 W.
				4. Wattage: Maximum: 264 W. Standby: 10 W.
				5. Current Draw at 120 VAC: 2.2 Amp.
				6. BTUs per Hour 120 to 240 V: 829 BTUs per hour.
				7. Fifteen ArcLamps per channel; 60 total
			3. Model: 700 Dual fan force air cooled. Input Voltage: 100- 240 VAC 50/60 Hz.
				1. Combined maximum of 60 x 4.4 W rated ArcLamps.
				2. Maximum Current per Channel: 7 A.
				3. Maximum Power per Channel Power: 160 W.
				4. Wattage: Maximum: 528 W. Standby: 15 W.
				5. Current Draw at 120 VAC: 4.4 Amp.
				6. BTUs per Hour 120 to 240 V: 1658 BTUs per hour.
				7. Thirty ArcLamps per channel; 120 total
			4. Features:
				1. Auto load balancing power supplies.
				2. Combine output channels to cater for larger circuit loads.
				3. Fanless operation (150 only)
				4. Smooth and synchronized dimming on ArcLamp Luminaires: From 100 percent to blackout.
			5. Electrical:
				1. Outputs: Four 24 VDC constant voltage, independently addressable using internal screw terminals. PPW data technology.
				2. Volt Drop Compensation: Ensures ArcLamp will work with 21 VDC at lamp.
				3. Inrush: 15 Amps at all rated voltages.
				4. Power Factor: Greater than 0.9.
			6. Construction: Galvanized steel mounting enclosure. Knockouts: 0.875 inch (22 mm) diameter on four sides. Cable inputs and outputs secure via conduit or strain relief hardware.
				1. Finish: Fine texture, high temperature black powder coat paint.

\*\* NOTE TO SPECIFIER \*\* Delete mounting options not required. Model 150 is wall mount only.

* + - 1. Mounting: Rack.
			2. Mounting: Wall. 4 screw holes in rear plate.
			3. Controls:
				1. DMX Footprint: 4 channels.
				2. Local Control: No.
				3. Input method: DMX-512 via RJ45 etherCON connector.
				4. RDM Module:

Protocol: DMX.

Protocol: RDM

RDM Configuration: Yes.

* + - 1. Operating Temperature Range: 32 to 104 degrees F (0 to 40 degrees C).
			2. Configurable using RDM via ETC Concert and other RDM compatible software.
				1. User Configurable Options:

DMX control address. Up to 4 channels.

* + 1. Product: ArcSystem Pro D4 CV Drivers. For driving a wide range of constant voltage LED loads. Includes optional emergency variants as well as ArcMesh wireless control for retrofit applications. Available in 150, 350, and 700 variants. Maximum load capabilities up to 528 W. The 150 version is wall mounted. The 350 and 700 versions include wall and rack mounting. Compatible with 24 VDC constant voltage LED loads. Available in a wired-only DMX version with RDM or ArcMesh wireless version for hassle-free installation. For use with 24 VDC luminaires. Four independently addressable outputs per unit. Existing building load wiring can be used without any need for destructive wall or ceiling work.
			1. Standards Compliance:
				1. IP Rating: IP-20. Dry locations only.
				2. Standard Version:

cULus: UL8750 and CSA C22.2 No. 250.13.

CE, UKCA, and EAC Compliant.

* + - * 1. Emergency Version:

cULus: UL924 and CSA C22.2 No. 141.

CE, UKCA, and EAC Compliant.

* + - * 1. Wall Mount Version: For air handling systems by NEC 300.22(C)(3).

\*\* NOTE TO SPECIFIER \*\* Delete model options not required.

* + - 1. Model: 150 Driver. Input Voltage: 100- 240 or 277 VAC 50/60 Hz.
				1. Wattage: Maximum: 115 W. Standby: 11 W.
				2. Current Draw at 120 VAC: 1.0 Amp.
				3. BTUs per Hour 120 to 240 V: 511 BTUs per hour.
				4. Cooling Fan: None. Convection cooled.
			2. Model: 350 Driver. Input Voltage: 100- 240 VAC 50/60 Hz.
				1. Wattage: Maximum: 264 W. Standby: 10 W.
				2. Current Draw at 120 VAC: 2.2 Amp.
				3. BTUs per Hour 120 to 240 V: 900 BTUs per hour.
				4. Cooling Fan: Controllable, integral, and thermally regulated.
			3. Model: 700 Driver. Input Voltage: 100- 240 VAC 50/60 Hz.
				1. Wattage: Maximum: 528 W. Standby: 15 W.
				2. Current Draw at 120 VAC: 4.4 Amp.
				3. BTUs per Hour 120 to 240 V: 1801 BTUs per hour.
				4. Cooling Fan: Controllable, integral, and thermally regulated.
			4. Features:
				1. Constant voltage designed for use with third party fixtures and tape light.
				2. Smooth dimming to zero.
				3. Silent operation.
			5. Electrical:
				1. Outputs: Four 24 VDC constant voltage with PWM dimming.
				2. Inrush: 15 Amps at all rated voltages.
				3. Power Factor: Greater than 0.9.
				4. Maximum Cable Length from Driver to Luminaire: 328 ft (100 m)
			6. Construction: Galvanized steel mounting enclosure.
				1. Finish: Fine texture, high temperature black powder coat paint.

\*\* NOTE TO SPECIFIER \*\* Delete mounting options not required. Model 150 is wall mount only.

* + - 1. Mounting: Rack. 1U standard.
			2. Mounting: Wall. 4 screw holes in rear plate.
			3. Controls:
				1. DMX Footprint: 4 channels.
				2. Local Control: No.
				3. Input method: DMX-512 via RJ45 etherCON connector.
				4. Model: RDM. Without wireless. UI Type: None,

Protocol: DMX.

Protocol: RDM

RDM Configuration: Yes.

* + - * 1. Model: ArcMesh. Wireless. UI Type: ArcSystem PC configuration app.

Protocol: DMX.

Protocol: ArcMesh

RDM Configuration: No.

* + - 1. Operating Temperature Range: 32 to 104 degrees F (0 to 40 degrees C).
		1. Product: ArcSystem Pro D1/D1HO/D2/D4 CC Drivers by ETC, Inc. For use with ArcSystem Pro One-Cell series luminaires. The ArcSystem driver range is a convection cooled LED driver.
			1. Standards Compliance:
				1. IP Rating: IP-20. Dry locations only.
				2. FCC Compliant.
				3. All Versions: CE compliant, UKCA compliant, and EAC compliant
				4. Standard Version:

cETLus Listed

cULus: UL8750 and CSA C22.2 No. 250.13.

* + - * 1. Emergency Version:

cETLus Listed.

cULus: UL924 and CSA C22.2 No. 141.

cULus: Classified Retrofit Kit, UL924 and CSA C22.2 No. 141.

* + - 1. Features:
				1. Stepless smooth dimming to absolute zero.
				2. Silent operation.
				3. Convection cooled.
				4. Suitable for air handling/plenum use.

\*\* NOTE TO SPECIFIER \*\* Emergency version is optional. Delete if not required.

* + - * 1. Emergency Version: two line-voltage leads wired to product. Functions:

Maintained Power. Emergency state sense input.

* + - * 1. Intensity Control: Wired DMX / Wired RDM.
			1. Model ARCPD1D - D1 Standard. One channel, one luminaire.
				1. Wattage: Maximum: 205 W. Standby: Less than 0.5 W.
				2. Current Draw: 0.20 A at 120 VAC.
				3. Maximum Cable Length, Driver to Luminaire: 49 ft 2 inches (15 m).
				4. Maximum Inrush: At 120 V: 20 A. At 240 V: 11 A.
				5. BTUs per Hour: 85.
			2. Model ARCPD1HD - D1HO Standard. One channel, one luminaire.
				1. Wattage: Maximum: 100 W. Standby: Less than 3 W.
				2. Current Draw: 0.83 A at 120 VAC.
				3. Maximum Cable Length, Driver to Luminaire: 3 ft 3 inches (1 m).
				4. Maximum Inrush: At 120 V: 65 A. At 230 V: 34 A.
				5. BTUs per Hour: 341.
			3. Model ARCPD2D - D2 Standard. Two channels, two luminaires.
				1. Wattage: Maximum: 20 W. Standby: Less than 0.5 W.
				2. Current Draw: 0.17 A at 120 VAC.
				3. Maximum Cable Length, Driver to Luminaire: 49 ft 2 inches (15 m).
				4. Maximum Inrush: At 120 V: 20 A. At 230 V: 11 A.
				5. BTUs per Hour: 68.
			4. Model ARCPD4D - D4 Standard. Four channels, four luminaires.
				1. Wattage: Maximum: 115 W. Standby: Less than 0.5 W.
				2. Current Draw: 0.957 A at 120 VAC.
				3. Maximum Cable Length, Driver to Luminaire: 49 ft 2 inches (15 m).
				4. Maximum Inrush: At 120 V: 15 A. At 230 V: 8 A.
				5. BTUs per Hour: 361.
			5. Mechanical:
				1. Materials Die-cast aluminum and cold-rolled steel.
				2. Mounting: Wall.

\*\* NOTE TO SPECIFIER \*\* Delete paragraph if not required. Available for Model ARCPD1D - D1 and CE Market

* + - * 1. Quick Connect with mounting strap.

\*\* NOTE TO SPECIFIER \*\* Recessed bracket is optional for all models. Delete if not required.

* + - * 1. Recessed bracket.
			1. Electrical:
				1. Voltage Range: 100 - 277 VAC 50/60 Hz hard-wired.
				2. Input Method: Wiring compartment with two half-inch knockouts at each end for field wiring.

Model ARCPD4D or ARCPED4D: Removable plate for field drilled holes.

* 1. ZOOM OPTICS LED LIGHTS
		1. Product: FPZ Irideon LED Framing Projector with Zoom Optics by ETC, Inc. A range of color temperature options from 2700K to 5000K. Track, canopy, and portable mounting options. Zoom optics paired with three-plane shutters and a rotating barrel enable FPZ to create a sharp or soft focused light in any shape you need. When used with either glass or metal gobos, logos and designs look sharp and distinctive.
			1. Materials: Diecast A380 grade aluminum.
			2. Color: Black, white, silver, or custom.
			3. IP rating: IP20.
			4. Beam Adjustment: Tool-free.
			5. Shutters: Locking, full hard in a triplane assembly.
			6. Accessory slot for E-size holder.
			7. Thermally insulated knobs and shutter handles.
			8. Magnetically held media holder.
			9. Thermal:
				1. Ambient Operating Temperature: 32 to 104 degrees F.
				2. No fan. dB range: N/A.
				3. BTUs/hour: 68.24 typical, 81.88 maximum.
			10. Source: LED Details: Lumileds 1204HD LED.
				1. Lumens, Maximum Field: 1035. Lumen Per Watt: 46.8.
				2. L70 Rating (hours to 70 percent output): 46,000 hours.
			11. Color: White. Color Temperature: 2700K 90 CRI, 3000K 80 or 90 CRI, 4000K 80 CRI, and 5000K 80 CRI.
			12. Optical: Projector-quality, high-contrast lenses. Beam Edge: Continually adjustable hard to soft.
				1. Beam Angle Range: 25 to 50 degrees.
				2. Pattern Projection: Yes.
				3. Pattern Size: E (37.5 mm with a 25.4 mm image area).
				4. Front Magnetic Media Holder: Accommodates 2.6 inch diameter color media, diffusion, or glass with a maximum thickness of 1.75 mm.
				5. Camera Flicker Control / Hz Range: 1.2 kHz is standard. 25 kHz DMX version only set via RDM.
			13. Electrical: Wattage Typical / Standby: 20 W typical, 24 W maximum.
			14. Controls: UI Type: Rotary pots. Local Control: Yes.

\*\* NOTE TO SPECIFIER \*\* Delete model options not required.

* + - 1. Model Portable: 100-120 VAC or 230-240 VAC.
				1. Standards Compliance: Listed: cETLus. CE Compliant. Conforms to ANSI/UL STD.1574. Certified to CSA STD. C22.2 No: 9.0.

\*\* NOTE TO SPECIFIER \*\* C-clamp is not included. Delete if not required.

* + - * 1. Steel yoke.
				2. Power Cord Length: 75 inches.
				3. Control Input: DMX.

Inrush, first half-cycle: 120 V - 11 A. 240 V - 24 A. 277 V - 28 A.

Fixtures per Circuit: 45 fixtures (R20 module or similar).

Controls: RDM configuration: Yes.

* + - 1. Model F-Drive Portable: 24 VDC 450 mA via F-Drive CC Output Card or W1 CC.
				1. Standards Compliance: Listed: cETLus. CE Compliant. Conforms to ANSI/UL STD.153. Certified to CSA STD. C22.2 No: 250.4.

\*\* NOTE TO SPECIFIER \*\* C-clamp is not included. Delete if not required.

* + - * 1. Steel yoke.
				2. Power input via RJ45 in and thru.
				3. Control Input: DMX via F-Drive R12 or W1 CC.
			1. Model Canopy: 120-277 VAC.
				1. Standards Compliance: Listed: cETLus. CE Compliant. Conforms to ANSI/UL STD.1598. Certified to CSA STD. C22.2 No: 250.
				2. Control Input: DMX.

Inrush (first half-cycle): 120 V - 11 A. 240 V - 24 A. 277 V - 28 A.

Fixtures per Circuit: 45 fixtures (R20 module or similar).

Controls: RDM configuration: Yes.

Included DMX Accessory: Screw-terminal DMX connector kit.

* + - 1. Model F-Drive Canopy: 24 VDC 450 mA via F-Drive CC Output Card or W1 CC.
				1. Standards Compliance: Listed: cETLus. CE Compliant. Conforms to ANSI/UL STD.2108. Certified to CSA STD. C22.2 No: 250.2.
				2. Attaches to junction box via canopy and steel yoke.
				3. Power input via RJ45 in and thru in canopy.
				4. Control Input: DMX via F-Drive R12 or W1 CC.
			2. Model One Track: 100-120 VAC or 230-240 VAC or 230-277 VAC.
				1. Standards Compliance: Listed: cETLus. Conforms to ANSI/UL STD.153. Certified to CSA STD. C22.2 No: 250.
				2. Controls: RDM configuration: Yes. DMX version only.
				3. Control Input: DMX.

Inrush (first half-cycle): 120 V - 11 A. 240 V - 24 A. 277 V - 28 A.

Fixtures per Circuit: 45 fixtures (R20 module or similar).

Controls: RDM configuration: Yes.

* + - * 1. Track Adaptor: OneTrack.
		1. Product: WLZ Irideon LED Wash Light with Zoom Optics by ETC, Inc. Provides t beam from spot to full flood. Color temperature options from 2700K to 5000K. Track, canopy, and portable mounting options. Supports barn-door and provides high-performance dimming utilizing an on-board dimmer or DMX control. Canopy versions support 0 to 10 V or DALI.
			1. Materials: Diecast A380 grade aluminum.
			2. Color: Black, white, silver, or custom.
			3. IP rating: IP20.
			4. Beam Adjustment: Tool-free.
			5. Thermally insulated knobs.
			6. Magnetically held media holder.
			7. Thermal:
				1. Ambient Operating Temperature: 32 to 104 degrees F.
				2. No fan. dB range: N/A
				3. BTUs/hour: 68.24 typical, 81.88 maximum.
			8. Source: LED Details: Lumileds 1204HD LED.
				1. Lumens, Maximum Field: 1,677. Lumen Per Watt: 75.2.
				2. L70 Rating (hours to 70 percent output): 46,000 hours.
			9. Color: White. Color Temperature: 2700K 90 CRI, 3000K 80 or 90 CRI, 4000K 80 CRI, and 5000K 80 CRI.
			10. Optical:
				1. Beam Angle Range: 9 to 78 degrees.
				2. Pattern Projection: No.
				3. Front Magnetic Media Holder: Accommodates 2.72 inch diameter color media, diffusion, or glass with a maximum thickness of 1.75 mm.
				4. Camera Flicker Control / Hz Range: 1.2 kHz is standard. 25 kHz DMX version only-set via RDM.

\*\* NOTE TO SPECIFIER \*\* Barn door is optional. Delete if not required.

* + - * 1. Barn door.
			1. Electrical: Wattage Typical / Standby: 20 W typical, 24 W maximum.
			2. Controls: UI Type: Rotary pots. Local Control: Yes.

\*\* NOTE TO SPECIFIER \*\* Delete model options not required.

* + - 1. Model Portable: 100-120 VAC 50/60 Hz.
				1. Standards Compliance: Listed: cETLus. CE Compliant. Conforms to ANSI/UL STD.1574. Certified to CSA STD. C22.2 No: 9.0.

\*\* NOTE TO SPECIFIER \*\* C-clamp is not included. Delete if not required.

* + - * 1. Steel yoke.
				2. Power Cord Length: 75 inches.
				3. Control Input: DMX.

Inrush, first half-cycle: 120 V - 11 A. 240 V - 24 A. 277 V - 28 A.

Fixtures per Circuit: 45 fixtures (R20 module or similar).

Controls: RDM configuration: Yes.

* + - 1. Model F-Drive Portable: 24 VDC 450 mA via F-Drive CC Output Card or W1 CC.
				1. Standards Compliance: Listed: cETLus. CE Compliant. Conforms to ANSI/UL STD.153. Certified to CSA STD. C22.2 No: 250.4.

\*\* NOTE TO SPECIFIER \*\* C-clamp is not included. Delete if not required.

* + - * 1. Steel yoke.
				2. Power input via RJ45 in and thru.
				3. Control Input: DMX via F-Drive R12 or W1 CC.
			1. Model Canopy: 120-277 VAC 50/60 Hz.
				1. Standards Compliance: Listed: cETLus. CE Compliant. Conforms to ANSI/UL STD.1598. Certified to CSA STD. C22.2 No: 250.
				2. Control Input: DMX.

Inrush (first half-cycle): 120 V - 11 A. 240 V - 24 A. 277 V - 28 A.

Fixtures per Circuit: 45 fixtures (R20 module or similar).

Controls: RDM configuration: Yes.

* + - 1. Model F-Drive Canopy: 24 VDC 450 mA via F-Drive CC Output Card or W1 CC.
				1. Standards Compliance: Listed: cETLus. CE Compliant. Conforms to ANSI/UL STD.2108. Certified to CSA STD. C22.2 No: 250.2.
				2. Attaches to junction box via canopy and steel yoke.
				3. Power input via RJ45 in and thru in canopy.
				4. Control Input: DMX via F-Drive R12 or W1 CC.
			2. Model One Track: 100-120 VAC or 230-240 VAC or 230-277 VAC 50/60 Hz.
				1. Standards Compliance: Listed: cETLus. Conforms to ANSI/UL STD.153. Certified to CSA STD. C22.2 No: 250.
				2. Control Input: DMX.

Inrush (first half-cycle): 120 V - 11 A. 240 V - 24 A. 277 V - 28 A.

Fixtures per Circuit: 45 fixtures (R20 module or similar).

Controls: RDM configuration: Yes.

* + - * 1. Track Adaptor: OneTrack.
1. EXECUTION
	1. EXAMINATION
		1. Do not begin installation until substrates have been properly constructed and prepared.
		2. If substrate preparation is the responsibility of another installer, notify Architect in writing of unsatisfactory preparation before proceeding.
	2. PREPARATION
		1. Clean surfaces thoroughly prior to installation.
		2. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.
	3. INSTALLATION
		1. Install in accordance with manufacturer's instructions, approved submittals, and in proper relationship with adjacent construction.
	4. FIELD QUALITY CONTROL
		1. Field Inspection: Coordinate field inspection in accordance with appropriate sections in Division 01.

\*\* NOTE TO SPECIFIER \*\* Include if manufacturer provides field quality control with onsite personnel for instruction or supervision of product installation, application, erection, or construction. Delete if not required.

* + 1. Manufacturer's Services: Coordinate manufacturer's services in accordance with appropriate sections in Division 01.
	1. CLEANING AND PROTECTION
		1. Clean products in accordance with the manufacturers recommendations.
		2. Touch-up, repair or replace damaged products before Substantial Completion.

END OF SECTION