University of South Carolina

UofSC Advising Renovation for Close Side 3rd Floor Restrooms

3rd Floor, Close-Hipp Building
1705 College St, Columbia, South Carolina
State Project Number: FP00000364

January 28, 2021

ADDENDUM NO. 2

This addendum forms a part of the Contract documents and modifies the original Bidding Documents and any previous Addenda as noted below. Acknowledge receipt of this Addendum in the space provided in the Bid Form. Failure to do so may subject Bidder to disqualification.

MODIFICATIONS TO PREVIOUS ADDENDA:

None

MODIFICATIONS TO PROJECT MANUAL:

1. Reference Section 093000 – Ceramic Tile: **DELETE** Section 093000, dated 01/04/2021 in its entirety. **ADD** Section 093000, revised 01/28/2021, attached to this addendum.
   Explanation: This adds a method of floor tile installation to match the existing 1.5" mud bed.

MODIFICATIONS TO DRAWINGS:

ARCHITECTURAL DRAWINGS:

None

ELECTRICAL DRAWINGS:

None

MECHANICAL DRAWINGS:

None

PLUMBING DRAWINGS:

None

REQUESTED PRODUCT APPROVALS:

1. Additional Acceptable Manufacturers: The following is a list of lighting manufacturers that are approved for this project provided they can comply with the specifications and are of equal or greater quality, function, and perform like the specified products. (Note: inclusion to the list of acceptable manufacturers does not eliminate the necessity to comply with the specifications. Non-compliant products will be rejected regardless of manufacturer being listed.):
   a. Type A & AE
      i. **Lithonia 2BLT2 series** – See attached lighting schedule from James G. Murphy Co, dated 01/26/21.
      ii. **Hubbell LCAT22 series** – See attached lighting schedule from CAL+D, dated 01/26/2021.
   b. Type V
      i. **Electrical Mirror NOV2 series** – See attached lighting schedule from James G. Murphy Co, dated 01/26/2021.

QUESTIONS FROM CONTRACTORS:

1. Question: The restroom floor tile is set on a mud bed that is about 1.5". The specs call for the new tile to be thin set. This will create issues with plumbing elevations. How will this be addressed in the performance of the work?
   a. Answer: See specification section 093000 – Ceramic Tile, revised 01/28/2021, attached to this addendum. Part 3.7A provides further instruction for floor tile installation.

2. Question: In the top of the blueprints page it says that the joint compound has tested positive for asbestos and that all demo to be coordinated by the owner in a separate scope of work and contract. I interpret that as USC (owner) will be taking care of the abatement?
    a. ***Answer: The sheetrock compound is positive for asbestos. USC will handle the costs of any abatement work related to demolition involving asbestos-containing materials. Bidders should not include any hazardous material abatement costs in their bid.***
3. Question: M301 Mechanical Spec. is calling for a Testing and Balances report. We are just replacing flexible duct and diffusers
    a. ***Answer: Testing and Balancing is required for this project as described on sheet M301.***
4. Question: Do proposed subcontractors need to be listed on Form SE-330?
    a. ***Answer: Bidders are not required to list subcontractors on Form SE-330, however, all subcontractors must be properly licensed.***

END OF ADDENDUM NO. 2

SECTION 093000 - CERAMIC TILE – Revised 1/28/2021

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

A. This Section includes the following:
   A. Porcelain tile.
   B. Crack-suppression membrane for thin-set tile installations.

B. Related Sections include the following:
   A. Division 7 Section "Joint Sealants" for sealing of expansion, contraction, control, and isolation joints in tile surfaces.

1.3 DEFINITIONS

A. Module Size: Actual tile size (minor facial dimension as measured per ASTM C 499) plus joint width indicated.

B. Facial Dimension: Actual tile size (minor facial dimension as measured per ASTM C 499).

C. Facial Dimension: Nominal tile size as defined in ANSI A137.1.

1.4 PERFORMANCE REQUIREMENTS

A. Static Coefficient of Friction: For tile installed on walkway surfaces, provide products with the following values as determined by testing identical products per ASTM C 1028:
   A. Level Surfaces: Minimum 0.6.

1.5 SUBMITTALS

A. Product Data: For each type of product indicated.

B. Shop Drawings: Show locations of each type of tile and tile pattern. Show widths, details, and locations of expansion, contraction, control, and isolation joints in tile substrates and finished tile surfaces.

C. Samples for Verification:

A. Full-size units of each type and composition of tile and for each color and finish required.
B. Assembled samples with grouted joints for each type and composition of tile and for each color and finish required, at least 12 inches (300 mm) square and mounted on rigid panel. Use grout of type and in color or colors approved for completed work.
C. Full-size units of each type of trim and accessory for each color and finish required.
D. Stone thresholds in 6-inch (150-mm) lengths.

D. Master Grade Certificates: For each shipment, type, and composition of tile, signed by tile manufacturer and Installer.

E. Product Certificates: For each type of product, signed by product manufacturer.

F. Qualification Data: For Installer.

G. Material Test Reports: For each tile-setting and -grouting product.

1.6 QUALITY ASSURANCE

A. Source Limitations for Tile: Obtain all tile from one source or producer.
A. Obtain tile from same production run and of consistent quality in appearance and physical properties for each contiguous area.

B. Source Limitations for Setting and Grouting Materials: Obtain ingredients of a uniform quality for each mortar, adhesive, and grout component from a single manufacturer and each aggregate from one source or producer.

C. Source Limitations for Other Products: Obtain each of the following products specified in this Section through one source from a single manufacturer for each product:
A. Stone thresholds.
B. Joint sealants.

D. Mockups: Build mockups to verify selections made under sample Submittals and to demonstrate aesthetic effects and qualities of materials and execution.
A. Build mockup of each type of floor tile installation.
B. Build mockup of each type of wall tile installation.
C. Approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.

1.7 DELIVERY, STORAGE, AND HANDLING

A. Deliver and store packaged materials in original containers with seals unbroken and labels intact until time of use. Comply with requirement in ANSI A137.1 for labeling sealed tile packages.

B. Store tile and cementitious materials on elevated platforms, under cover, and in a dry location.

C. Store aggregates where grading and other required characteristics can be maintained and contamination avoided.

D. Store liquid latexes and emulsion adhesives in unopened containers and protected from freezing.

E. Handle tile that has temporary protective coating on exposed surfaces to prevent coated surfaces from contacting backs or edges of other units. If coating does contact bonding surfaces of tile, remove coating from bonding surfaces before setting tile.

1.8 PROJECT CONDITIONS

A. Environmental Limitations: Do not install tile until construction in spaces is complete and ambient temperature and humidity conditions are maintained at the levels indicated in referenced standards and manufacturer's written instructions.

1.9 EXTRA MATERIALS

A. Furnish extra materials described below that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.
   A. Tile and Trim Units: Furnish quantity of full-size units equal to 3 percent of amount installed, for each type, composition, color, pattern, and size indicated.

PART 2 - PRODUCTS

2.1 PRODUCTS, GENERAL

A. ANSI Ceramic Tile Standard: Provide tile that complies with ANSI A137.1, "Specifications for Ceramic Tile," for types, compositions, and other characteristics indicated.
   A. Provide tile complying with Standard grade requirements, unless otherwise indicated.
   B. For facial dimensions of tile, comply with requirements relating to tile sizes specified in Part 1 "Definitions" Article.

B. ANSI Standards for Tile Installation Materials: Provide materials complying with ANSI standards referenced in "Setting and Grouting Materials" Article.

C. Factory Blending: For tile exhibiting color variations within ranges selected during Sample submittals, blend tile in factory and package so tile units taken from one package show same range in colors as those taken from other packages and match approved Samples.

D. Factory-Applied Temporary Protective Coating: Where indicated under tile type, protect exposed surfaces of tile against adherence of mortar and grout by precoating with continuous film of petroleum paraffin wax, applied hot. Do not coat unexposed tile surfaces.

2.2 TILE PRODUCTS

A. Floor Tile:
   A. See Finish Schedule

B. Wall Tile:
   A. See Finish Schedule

2.3 THRESHOLDS

A. General: provide profiles indicated or required to provide transition between adjacent floor finishes.
   A. See Finish Schedule

2.4 CRACK-SUPPRESSION MEMBRANES FOR THIN-SET TILE INSTALLATIONS

A. General: Manufacturer's standard product that complies with ANSI A118.10, selected from the following.

B. Corrugated Polyethylene: Corrugated polyethylene with dovetail-shaped corrugations and with anchoring webbing on the underside; 3/16-inch (4-mm) nominal thickness.
   A. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following:
      a. Schluter Systems L.P.; DITRA.

2.5 SETTING AND GROUTING MATERIALS

A. Available Manufacturers:
   A. Bonsal, W. R., Company.
   B. Bostik.
   C. DAP, Inc.
   D. Jamo Inc.
   E. LATICRETE International Inc.
   F. MAPEI Corporation.
   G. Summitville Tiles, Inc.
   H. TEC Specialty Products Inc.

B. Latex-Portland Cement Mortar (Thin Set): ANSI A118.4, consisting of the following:
   A. Prepackaged dry-mortar mix combined with acrylic resin or styrene-butadiene-rubber liquid-latex additive.

a. For wall applications, provide nonsagging mortar that complies with Paragraph F-4.6.1 in addition to the other requirements in ANSI A118.4.

C. Polymer-Modified Tile Grout: ANSI A118.7, color as indicated.
A. Polymer Type: Either ethylene vinyl acetate, in dry, redispersible form, prepackaged with other dry ingredients, or acrylic resin or styrene-butadiene rubber in liquid-latex form for addition to prepackaged dry-grout mix.
a. Unsanded grout mixture for joints 1/8 inch (3.2 mm) and narrower.

2.6 ELASTOMERIC SEALANTS

A. General: Provide manufacturer's standard chemically curing, elastomeric sealants of base polymer and characteristics indicated that comply with applicable requirements in Division 7 Section "Joint Sealants."
A. Use sealants that have a VOC content of 250 g/L or less when calculated according to 40 CFR 59, Subpart D (EPA Method 24).

B. Colors: Provide colors of exposed sealants to match colors of grout in tile adjoining sealed joints, unless otherwise indicated.

C. One-Part, Mildew-Resistant Silicone Sealant: ASTM C 920; Type S; Grade NS; Class 25; Uses NT, G, A, and, as applicable to nonporous joint substrates indicated, O; formulated with fungicide, intended for sealing interior ceramic tile joints and other nonporous substrates that are subject to in-service exposures of high humidity and extreme temperatures.
A. Available Products:
a. Dow Corning Corporation; Dow Corning 786.
b. GE Silicones; Sanitary 1700.
c. Pecora Corporation; Pecora 898 Sanitary Silicone Sealant.
d. Tremco, Inc.; Tremsil 600 White.

2.7 MISCELLANEOUS MATERIALS

A. Trowelable Underlayments and Patching Compounds: Latex-modified, portland cement-based formulation provided or approved by manufacturer of tile-setting materials for installations indicated.

B. Metal Edge Strips: Angle or L-shape, height to match tile and setting-bed thickness, metal, designed specifically for flooring applications; half-hard brass exposed-edge material.

C. Temporary Protective Coating: Either product indicated below that is formulated to protect exposed surfaces of tile against adherence of mortar and grout; compatible with tile, mortar, and grout products; and easily removable after grouting is completed without damaging grout or tile.
A. Petroleum paraffin wax, fully refined and odorless, containing at least 0.5 percent oil with a melting point of 120 to 140 deg F (49 to 60 deg C) per ASTM D 87.

B. Grout release in form of manufacturer's standard proprietary liquid coating that is specially formulated and recommended for use as temporary protective coating for tile.

D. Tile Cleaner: A neutral cleaner capable of removing soil and residue without harming tile and grout surfaces, specifically approved for materials and installations indicated by tile and grout manufacturers.

E. Grout Sealer: Manufacturer's standard product for sealing grout joints that does not change color or appearance of grout.
   A. Available Products:
      a. Bonsal, W. R., Company; Grout Sealer.
      b. Bostik; CeramaSeal Grout Sealer.
      c. C-Cure; Penetrating Sealer 978.
      d. MAPEI Corporation; KER 004, Keraseal Penetrating Sealer for Unglazed Grout and Tile.
      e. Summitville Tiles, Inc.; SL-15, Invisible Seal Penetrating Grout and Tile Sealer.
      f. TEC Specialty Products Inc.; TA-256 Penetrating Silicone Grout Sealer.

2.8 MIXING MORTARS AND GROUT

A. Mix mortars and grouts to comply with referenced standards and mortar and grout manufacturers' written instructions.

B. Add materials, water, and additives in accurate proportions.

C. Obtain and use type of mixing equipment, mixer speeds, mixing containers, mixing time, and other procedures to produce mortars and grouts of uniform quality with optimum performance characteristics for installations indicated.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates, areas, and conditions where tile will be installed, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of installed tile.
   A. Verify that substrates for setting tile are firm; dry; clean; free of oil, waxy films, and curing compounds; and within flatness tolerances required by referenced ANSI A108 Series of tile installation standards for installations indicated.
   B. Verify that installation of grounds, anchors, recessed frames, electrical and mechanical units of work, and similar items located in or behind tile has been completed before installing tile.
   C. Verify that joints and cracks in tile substrates are coordinated with tile joint locations; if not coordinated, adjust joint locations in consultation with Architect.

B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

A. Remove coatings, including curing compounds and other substances that contain soap, wax, oil, or silicone, that are incompatible with tile-setting materials.

B. Provide concrete substrates for tile floors installed with adhesives or thin-set mortar that comply with flatness tolerances specified in referenced ANSI A108 Series of tile installation standards.
   A. Fill cracks, holes, and depressions with trowelable leveling and patching compound according to tile-setting material manufacturer's written instructions. Use product specifically recommended by tile-setting material manufacturer.
   B. Remove protrusions, bumps, and ridges by sanding or grinding.

C. Blending: For tile exhibiting color variations within ranges selected during Sample submittals, verify that tile has been factory blended and packaged so tile units taken from one package show same range of colors as those taken from other packages and match approved Samples. If not factory blended, either return to manufacturer or blend tiles at Project site before installing.

D. Field-Applied Temporary Protective Coating: Where indicated under tile type or needed to prevent grout from staining or adhering to exposed tile surfaces, precoat them with continuous film of temporary protective coating, taking care not to coat unexposed tile surfaces.

3.3 INSTALLATION, GENERAL

A. ANSI Tile Installation Standards: Comply with parts of ANSI A108 Series "Specifications for Installation of Ceramic Tile" that apply to types of setting and grouting materials and to methods indicated in ceramic tile installation schedules.

B. TCA Installation Guidelines: TCA's "Handbook for Ceramic Tile Installation." Comply with TCA installation methods indicated in ceramic tile installation schedules.

C. Extend tile work into recesses and under or behind equipment and fixtures to form complete covering without interruptions, unless otherwise indicated. Terminate work neatly at obstructions, edges, and corners without disrupting pattern or joint alignments.

D. Accurately form intersections and returns. Perform cutting and drilling of tile without marring visible surfaces. Carefully grind cut edges of tile abutting trim, finish, or built-in items for straight aligned joints. Fit tile closely to electrical outlets, piping, fixtures, and other penetrations so plates, collars, or covers overlap tile.

E. Jointing Pattern: Lay tile in grid pattern, unless otherwise indicated. Align joints when adjoining tiles on floor, base, walls, and trim are same size. Lay out tile work and

center tile fields in both directions in each space or on each wall area. Adjust to minimize tile cutting. Provide uniform joint widths, unless otherwise indicated.

A. For tile mounted in sheets, make joints between tile sheets same width as joints within tile sheets so joints between sheets are not apparent in finished work.

F. Expansion Joints: Locate expansion joints and other sealant-filled joints, including control, contraction, and isolation joints, where indicated during installation of setting materials, mortar beds, and tile. Do not saw-cut joints after installing tiles.

A. Locate joints in tile surfaces directly above joints in concrete substrates.

B. Prepare joints and apply sealants to comply with requirements in Division 7 Section "Joint Sealants."

G. Grout tile to comply with requirements of the following tile installation standards:

A. For ceramic tile grouts (sand-portland cement; dry-set, commercial portland cement; and latex-portland cement grouts), comply with ANSI A108.10.

3.4 CRACK-SUPPRESSION MEMBRANE INSTALLATION

A. Install crack-suppression membrane to comply with manufacturer's written instructions to produce membrane of uniform thickness bonded securely to substrate.

3.5 TILE INSTALLATION

A. General: Install tile to comply with requirements in the Tile Installation Schedule, including those referencing TCA installation methods and ANSI A108 Series of tile installation standards.

A. For installations indicated below, follow procedures in ANSI A108 Series tile installation standards for providing 95 percent mortar coverage.

a. Installations composed of tiles 8 by 8 inches (200 by 200 mm) or larger.

B. Joint Widths: Install tile on floors with the following joint widths:

A. Ceramic Mosaic Tile: 1/16 inch (1.6 mm).

C. Stone Thresholds: Install stone thresholds at locations indicated; set in same type of setting bed as abutting field tile, unless otherwise indicated.

A. Set thresholds in latex-portland cement mortar for locations where mortar bed would otherwise be exposed above adjacent nontile floor finish.

D. Grout Sealer: Apply grout sealer to grout joints according to grout-sealer manufacturer's written instructions. As soon as grout sealer has penetrated grout joints, remove excess sealer and sealer that has gotten on tile faces by wiping with soft cloth.

3.6 CLEANING AND PROTECTING

A. Cleaning: On completion of placement and grouting, clean all ceramic tile surfaces so they are free of foreign matter.

A. Remove latex-portland cement grout residue from tile as soon as possible.
B. Clean grout smears and haze from tile according to tile and grout manufacturer's written instructions, but no sooner than 10 days after installation. Use only cleaners recommended by tile and grout manufacturers and only after determining that cleaners are safe to use by testing on samples of tile and other surfaces to be cleaned. Protect metal surfaces and plumbing fixtures from effects of cleaning. Flush surfaces with clean water before and after cleaning.
C. Remove temporary protective coating by method recommended by coating manufacturer that is acceptable to tile and grout manufacturer. Trap and remove coating to prevent it from clogging drains.

B. When recommended by tile manufacturer, apply coat of neutral protective cleaner to completed tile walls and floors. Protect installed tile work with kraft paper or other heavy covering during construction period to prevent staining, damage, and wear.

C. Prohibit foot and wheel traffic from tiled floors for at least seven days after grouting is completed.

D. Before final inspection, remove protective coverings and rinse neutral cleaner from tile surfaces.

3.7 TILE INSTALLATION SCHEDULE

A. Floor Tile installation, Interior floor: TCNA F112 and ANSI A108.1C to match existing conditions, verify in field: Cement mortar bed (thickset) bonded to concrete.
   A. Ceramic Tile Type: porcelain tile
   B. Bond Coat for Cured-Bed Method: Standard dry-set mortar.
   C. Grout: Polymer-modified unsanded grout.

B. Tile Installation W202 or W244: Thin-set mortar; TCA W202 or TCA W244.
   A. Tile Type: porcelain tile.
   B. Thin-Set Mortar: Latex-portland cement mortar.
   C. Grout: Polymer-modified unsanded grout.

END OF SECTION 0930000

Date: Jan 26, 2021

James G. Murphy Co., Inc.
PO Box 568
Greenville SC 29602
Phone: (864) 271-4470
Fax: (864) 271-4956

Job Name
USC CLOSE HIPP 3RD FLOOR BATHROOMS
321-60159
COLUMBIA SC

Bid Date
Feb 3, 2021

Submittal Date
Jan 26, 2021

Engineer:
BELKA ENGINEERING ASSOC-22

Jan 26, 2021

MELISSA TURBEVILLE
JAMES G. MURPHY CO., INC.
PO BOX 568
GREENVILLE SC 29602-0568

RE: USC CLOSE HIPP 3RD FLOOR BATHROOMS
COLUMBIA SC

Dear MELISSA

Type	MFG	Part	
A	LITHONIA-FLUORESCENT DIVISIO	2BLT2 33L ADP EZ1 LP835	APPROVED
AE	LITHONIA-FLUORESCENT DIVISIO	2BLT2 33L ADP EZ1 LP835	APPROVED
V	ELECTRIC MIRROR	NOV2-24.00X36.00-L7CSHD-30K	APPROVED

LITHONIA LIGHTING®

Catalog Number	
Notes	
Type	

BLT Series LED

2BLT2

2' x 2'
LED

FEATURES & SPECIFICATIONS

INTENDED USE — The BLT Best-in-Value Low Profile LED luminaire features a popular center basket design that offers a clean, versatile style and volumetric distribution. High efficacy LED light engines deliver energy savings and low maintenance compared to traditional sources. An extensive selection of configurations and options make the BLT the perfect choice for many lighting applications including schools, offices and other commercial spaces, retail, hospitals and healthcare facilities. The low profile BLT design (2-3/8") also makes it an excellent choice for renovation projects.

CONSTRUCTION — Prior to fabrication, BLT components are coated with a proprietary paint blend and die-formed for dimensional consistency.

The reflector is finished with a high reflective matte white powder paint for improved aesthetics and increased light diffusion.

End plates contain easy-to-position integral T-bar clips for securely attaching the luminaire to the T-grid. For additional T-grid security, optional screw on T-bar clips are available.

Diffusers are extruded from impact modified acrylic for increased durability.

LED boards and drivers are accessible from the plenum.

OPTICS — Volumetric illumination is achieved by creating an optimal mix of light to walls, partitions and vertical and horizontal work surfaces – rendering the interior space, objects and occupants in a more balanced, complimentary luminous environment. High performance extruded acrylic diffusers conceal LEDs and efficiently deliver light in a volumetric distribution. Four diffuser choices available - curved and square designs with linear prisms or a smooth frosted finish.

ELECTRICAL — Long-life LEDs, coupled with high-efficiency drivers, provide superior quantity and quality of illumination for extended service life. 80% LED lumen maintenance at 60,000 hours (L80/60,000). Color Variation within 3-step MacAdam ellipse (3SDCM).

Non-Configurable BLT: Generic 0-10 volt dimming driver. Dims to 10%

Configurable BLT: available in High Efficiency (HE) versions for applications where a lower wattage (over the standard product) is required. The High Efficiency versions deliver >130 LPW and can be specified via the Lumen Package designations in the Ordering Information below.

eldoLED driver options deliver choice of dimming range, and choices for control, while assuring flicker-free, low-current inrush, 89% efficiency and low EMI.

Optional integrated nLight®controls make each luminaire addressable - allowing them to digitally communicate with other nLight enabled controls such as dimmers, switches, occupancy sensors and photocontrols. Connection to nLight is simple. It can be accomplished with integrated nLight AIR wireless RIO, RES7 sensors, or through standard Cat-5 cabling. nLight offers unique plug-and-play convenience as devices and luminaires automatically discover each other and self-commission. nLight AIR is commissioned easily through an intuitive model app.

Lumen Management: Unique lumen management system (option N80) provides on board intelligence that actively manages the LED light source so that constant lumen output is maintained over the system life, preventing the energy waste created by the traditional practice of over-lighting.

Step-level dimming option allows system to be switched to 50% power for compliance with common energy codes while maintaining fixture appearance.

Driver disconnect provided where required to comply with US and Canadian codes.

SENSOR— Integrated sensor (individual control): Sensor Switch MSD7ADCX ((Passive infrared (PIR)) or MSDPDT7ADCX ((PIR/Microphonics Dual Tech (PDT)) integrated occupancy sensor/automatic dimming photocell allows the luminaire to power off when the space is unoccupied or enough ambient light is entering the space. See page 4 for more details on the integrated sensor.

Integrated Sensor (nLight Wired Networking): This sensor is nLight-enabled, meaning it has the ability to communicate over an nLight network. When wired, using CAT-5 cabling, with other nLight-enabled sensors, power packs, or WallPods, an nLight control zone is created. Once linked to a Gateway, directly or via a Bridge, the zone becomes capable of remote status monitoring and control via SensorView software. See page 4 for the nLight sensor options.

Integrated Smart Sensor (nLight Air Wireless Platform): The RES7 sensor is nLight AIR enabled, meaning it has the ability to communicate over the wireless nLight control platform. It is available with an automatic dimming photocell, and either a digital PIR or a microphonics (PDT) dual technology occupancy sensor. It pairs to other luminaires and wall switches through our mobile app, CL*AIR*ITY, which allows for simple sensor adjustment. See page 4 for more details on the Integrated Smart Sensor.

INSTALLATION — The BLT's low profile design of only 2-3/8" provides increased installation flexibility especially in restrictive plenum applications. The BLT fits into standard 15/16" and narrow 9/16" T-grid ceiling systems.

Suitable for damp location.

For recessed mounting in hard ceiling applications, Drywall Grid Adapters (DGA) are available as an accessory. See Accessories section.

LISTINGS — CSA Certified to meet U.S. and Canadian standards. IC rated.

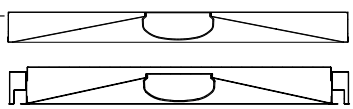
DesignLights Consortium® (DLC) Premium qualified product. Not all versions of this product may be DLC Premium qualified. Please check the DLC Qualified Products List at www.designlights.org/QPL to confirm which versions are qualified.

WARRANTY — 5-year limited warranty. Complete warranty terms located at: www.acuitybrands.com/resources/terms-and-conditions

NOTE: Actual performance may differ as a result of end-user environment and application.
All values are design or typical values, measured under laboratory conditions at 25 °C.
Specifications subject to change without notice.

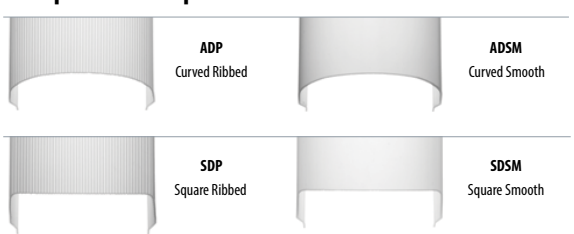
Specifications

Length: 23-3/4 (60.3)
Width: 23-3/4 (60.3)
Depth: 2-3/8 (6.0)
Depth with Air supply/return: 2-3/4 (6.9)



All dimensions are inches (centimeters) unless otherwise specified.

Multiple Diffuser Options



ADP Curved Ribbed
ADSM Curved Smooth
SDP Square Ribbed
SDSM Square Smooth

A+ Capable Luminaire

This item is an A+ capable luminaire, which has been designed and tested to provide consistent color appearance and out-of-the-box control compatibility with simple commissioning.

- All configurations of this luminaire meet the Acuity Brands' specification for chromatic consistency
- This luminaire is part of an A+ Certified solution for nLight® control networks when ordered with drivers marked by a shaded background*
- This luminaire is part of an A+ Certified solution for nLight control networks, providing advanced control functionality at the luminaire level, when selection includes driver and control options marked by a shaded background*

To learn more about A+, visit www.acuitybrands.com/aplus.

*See ordering tree for details

2BLT Volumetric Recessed Lighting 2'x2'

A+ Capable options indicated by this color background.

ORDERING INFORMATION Lead times will vary depending on options selected. Consult with your sales representative.

Example: 2BLT2 33L ADP EZ1 LP835

2BLT2

Series	Air function	Lumens[2]		Diffuser	Voltage	Driver	Color temperature
2BLT2 2X2 BLT	(blank) Static	**Standard efficiency[3,4] (>125 LPW)**	**High efficiency[5,6] (>130 LPW)**	ADP Curved, linear prisms	(blank) MVOLT	EZ1 eldoLED dims to 1% (0-10 volt dimming)	LP830 82CRI, 3000 K
	A Air supply/ return[1]	20L 2000	20LHE 2000	ADSM Curved, smooth	120 120V	GZ1 Dims to 1% (0-10V dimming)[8]	LP835 82CRI, 3500 K
		33L 3300	33LHE 3300	SDP Square, linear prisms	277 277V	GZ10 Dims to 10% (0-10V dimming)[8]	LP840 82CRI, 4000 K
		40L 4000	40LHE 4000	SDSM Square, smooth	347 347V[7]	SLD Step-level dimming[9]	LP850 82CRI, 5000 K
		48L 4800	48LHE 4800	**Includes trim rings to match sensored version**			LP930 90CRI, 3000K
				ADPT Curved, linear prisms			LP935 90CRI, 3500K
				ADSMT Curved, smooth			LP940 90CRI, 4000K
				SDPT Square, linear prisms			LP950 90CRI, 5000K
				SDSMT Square, smooth			

nLight Interface

nLight Wired

(blank)	no nLight ® interface
N80	nLight with 80% lumen management
N80EMG	nLight with 80% lumen management For use with generator supply EM power[10]
N100	nLight without lumen management
N100EMG	nLight without lumen management For use with generator supply EM power[10]

nLight Wireless

(blank)	no nLight ® interface
NLTAIR2	nLight AIR Generation 2 enabled[11]

Control[12]

nLight Wired

(blank)	No sensor control
NES7	nLight™ nES 7 PIR integral occupancy sensor[13]
NESPDT7	nLight™ nES PDT 7 dual technology integral occupancy control[13]
NES7ADCX	nLight™ nES 7 ADCX PIR integral occupancy sensor with automatic dimming photocell[13]
NESPDT7ADCX	nLight™ nES PDT 7 dual technology integral occupancy sensor with automatic dimming photocell[13]

nLight Wireless

RES7	nLight AIR PIR integral occupancy sensor with automatic dimming photocell for Networking Capabilities
RES7PDT	nLight AIR microphonics dual technology occupancy sensor with automatic dimming photocell
RIO	nLight AIR radio module without sensor

Individual Control

MSD7ADCX	PIR integral occupancy sensor with automatic dimming control photocell[14]
MSDPDT7ADCX	PDT integral occupancy sensor with automatic dimming control photocell[14]

Standy Mode

NOC	NOC Occupancy sensor disabled[15]

Options

EL7L	700 lumen battery pack (Noncompliant with CA T20)[16]
EL14L	1400 lumen battery pack (Noncompliant with CA T20)[16]
EL14LSD	1400 lumen battery pack with self-diagnostic testing feature (Noncompliant with CA T20)[16,17]
E10WLCP	EM Self-Diagnostic battery pack, 10W Constant Power, Certified in CA Title 20 MAEDBS[16]
CP	Chicago plenum[18]
BGTD	Bodine Generator Transfer Device[19]
PWS1836	6' pre-wire, 3/8" diameter, 18 gauge, 1 circuit
PWS1846	6' pre-wire, 3/8" diameter, 18 gauge, 2 circuit
PWS1846 PWSLV	Two cables: one 6' pre-wire, 3/8" diameter, 18 gauge, 2 circuits; one 6' pre-wire, 3/8" diameter, 18 gauge, purple and gray[20]
PWS1856LV	6' pre-wire, 3/8" diameter, 18 gauge, 1 circuit w/low voltage purple and grey wires[20]
GLR	Fast-blowing fuse[21]
GMF	Slow-blowing fuse[21]
NPLT	Narrow pallet
RRL_	RELOC®-ready luminaire[22]
LATC	Earthquake clip
DWAM	Anti-Microbial paint
JP32	Job packaging
IP5X	Gasketed diffuser compartment to meet IP5X rating[23]

Non-Configurable BLT

Stock/MTO	Catalog Description *	UPC	Lumens	Wattage	LPW	Color Temperature	Voltage	Pallet Qty
Stock	2BLT2 33L ADP LP835	00190887529708	3332	26	127	3500K/82 CRI	120-277	56
	2BLT2 33L ADP LP840	00190887529739	3385	26	129	4000K/82CRI	120-277	56
	2BLT2 33L ADP EL14L LP835	00190887529890	3332	26	127	3500K/82CRI	120-277	56
	2BLT2 33L ADP EL14L LP840	00190887529937	3385	26	129	4000K/82CRI	120-277	56
MTO	2BLT2 33L ADP 347 LP835		3332	26	127	3500K/82 CRI	347	56
	2BLT2 33L ADP 347 LP840		3385	26	129	4000K/82CRI	347	56

*Generic 0-10V Dimming to 10%.

Notes and Accessories next page

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2BLT Volumetric Recessed Lighting 2'x2'

Notes
1 Consult factory for airflow data.
2 Approximate lumen output.
3 All versions may not achieve 125+ LPW. Refer to photometry on www.acuitybrands.com.
4 Air supply/return option, 90 CRI, and versions with integral sensor trim rings may not achieve 125 LPW.
5 All versions may not achieve 130+ LPW. Refer to photometry on www.acuitybrands.com.
6 Air supply/return option, 90 CRI, and versions with integral sensor trim rings may not achieve 130 LPW.
7 Not available with SLD EL7L, or EL14L options.
8 GZ1 and GZ10 not available with any Control or Sensor options
9 Not available with N80, N80EMG, N100, N100EMG, NLTAIR2, or occupancy control.
10 nLight EMG option requires a connection to existing nLight network. Power is provided from a separate N80 or N100 enabled fixture.
11 Must order with RES7, RES7PDT or Rio module. Must order with EZ1 driver.
12 Must specify diffuser with trim rings. See sensor options on page 4.
13 Requires N80, N80EMG, N100, or N100EMG. Must order with EZ1 driver.
14 Only available with EZ1 driver option. 0-10v dimming wires not accessible via access plate.
15 Can only be ordered in conjunction with EZ1, NLTAIR2, RES7/RES7PDT. Occupancy sensor disabled at factory but can be re-enabled upon commissioning.
16 When using pre-wire option, use PWS1846 or PWS1846 PWSLV.
17 For more information, please see the PSSD2 specification sheet.
18 Not available with N80, N80EMG, N100, or N100EMG.
19 Must specify voltage. Requires BSE labeling, voltage specific. Consult factory for options.
20 Not available with nLight wired/wireless network or individual controls.
21 Must specify voltage, 120 or 277, with GLR and GFM fusing.
22 For ordering logic consult RRL 2013.
23 Not available with air supply/return or Wired Networking (NES_) and Individual Control (MSD_) sensors.

Accessories: *Order as separate catalog number.*

DGA22	Drywall grid adapter for 2x2 recessed fixture
2X2SMKSHP PAF	Surface Mount Troffer Kit Post Paint

nLight® Wired Control Accessories:
Order as separate catalog number. Visit www.acuitybrands.com/products/controls/nlight.

WallPod stations	Model number	Occupancy sensors	Model number
On/Off	nPODM [color]	Small motion 360°, ceiling (PIR / dual tech)	nCM 9 RJB / nCM PDT 9 RJB
On/Off & raise/lower	nPODM DX [color]	Large motion 360°, ceiling (PIR / dual tech)	nCM10 RJB / nCM PDT 10 RJB
Graphic touchscreen	nPOD GFX [color]	Wall switch with raise/lower	nWSX PDT LV DX [color]
Photocell controls	**Model number**	**Cat-5 cable (plenum rated)**	**Model number**
Full range dimming	nCM ADCX RJB	10' cable	CAT5 10FT J1
		30' cable	CAT5 30FT J1

nLight® AIR Control Accessories:
Order as separate catalog number. Visit www.acuitybrands.com/products/controls/nlightair.

Wall switches	Model number
On/Off single pole	rPODB [color] G2
On/Off two pole	rPODB 2P [color] G2
On/Off & raise/lower single pole	rPODB DX [color] G2
On/Off & raise/lower two pole	rPODB 2P DX [color] G2
On/Off & raise/lower single pole	rPODBZ DX WH G2

rCMS[1] — Example: RCMS PDT 10 AR G2

Series / Detection	Power Supply[1]	Occupancy Detection	Lens (Required)	Operating Mode	Generation
RCMS nLight AIR occupancy and daylight sensor	[blank] Power Supply ordered separately PS 150 Standard 150 mA Power Supply	[blank] PIR Detection PDT Dual Tech PIR/ Microphonics	10 Large Motion/ Extended Range 360° 9 Small Motion/ Extended Range 360° 6 High Bay 360° Lens	[BLANK] None AR Auxiliary Relay	G2 Generation 2 compatibility

Replacement Parts: *Order as separate catalog number.*

*247WJV	2DBLT24 ADP LENS ASSEMBLY	2 ft. replacement lens
*249P2P	2DBLT24 SDP LENS ASSEMBLY	2 ft. replacement lens
*249P2W	2DBLT24 ADSM LENS ASSEMBLY	2 ft. replacement lens
*249P32	2DBLT24 SDSM LENS ASSEMBLY	2 ft. replacement lens
*237LT1	2DBLT24 ADPT LENS ASSEMBLY	2 ft. replacement lens
*237LT3	2DBLT24 SDPT LENS ASSEMBLY	2 ft. replacement lens
*237LT5	2DBLT24 ADSMT LENS ASSEMBLY	2 ft. replacement lens
*237LT7	2DBLT24 SDSMT LENS ASSEMBLY	2 ft. replacement lens
*237LT9	2DBLT24 ADPT SENSOR LENS ASSEMBLY	2 ft. replacement lens
*237M4Y	2DBLT24 SDPT SENSOR LENS ASSEMBLY	2 ft. replacement lens
*237M57	2DBLT24 ADSMT SENSOR LENS ASSEMBLY	2 ft. replacement lens
*237M5H	2DBLT24 SDSMT SENSOR LENS ASSEMBLY	2 ft. replacement lens

Notes
1 RCMS requires low voltage power from either RPP20 DS 24V G2 or PS150.

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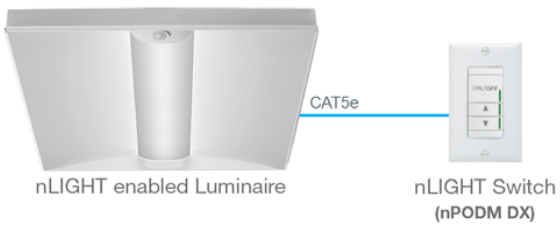
2BLT Volumetric Recessed Lighting 2'x2'

Sensor Options					
Option	Automatic Dimming Photocell	Occupancy Sensing		nLight Wired Networking	nLight AIR Networking
		PIR	PDT		
MSD7ADCX	X	X			
MSDPDT7ADCX	X		X		
NES7		X		X	
NES7ADCX	X	X		X	
NESPDT7			X	X	
NESPDT7ADCX	X		X	X	
RES7	X	X			X
RESPDT7	X	X	X		X

Basic nLight Zone



Integrated Sensor with Individual Control

The MSD7ADCX PIR occupancy sensor/automatic dimming photocell is ideal for areas without obstructions and where daylight harvesting may be desired. Suggested applications include, but not limited to, hallways, corridors, storage rooms, and breakrooms or other areas where people are typically moving.

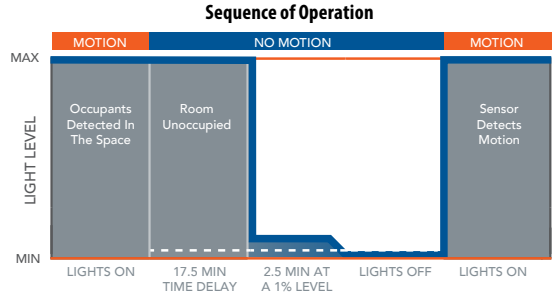
The MSDPDT7ADCX PIR/Microphonics Dual Tech occupancy sensor/automatic dimming photocell is ideal for areas with obstructions and where daylight harvesting is desired. Suggested applications include, but not limited to, open offices, private offices, classrooms, public restrooms, and conference rooms.

nLight Wired Networking

The nES 7 is ideal for small rooms without obstructions or areas with primarily walking motion. Ideal areas include hallways, corridors, storage rooms, and breakrooms. Additionally, the NES7ADCX includes an integrated photocell, which enables daylight harvesting controls.

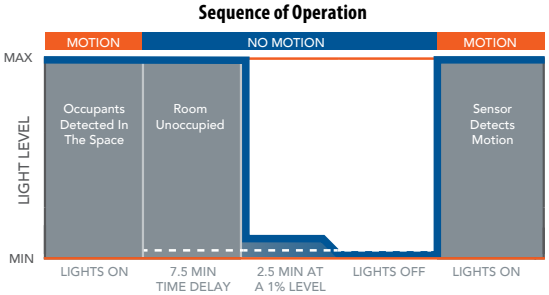
For areas like restrooms, private offices, open offices, conference rooms or any space with obstructions, the nES PDT 7 dual technology sensor is recommended. The nES PDT 7 utilizes both PIR (passive infrared) and Microphonics technologies to detect occupancy. Additionally, the NESPDT7ADCX includes an integrated photocell, which enables daylight harvesting controls which is ideal for areas where windows are present.

Sequence of Operation



*The presetting on the automatic dimming photocell is 5fc.

Sequence of Operation



*The presetting on the automatic dimming photocell is 5fc.

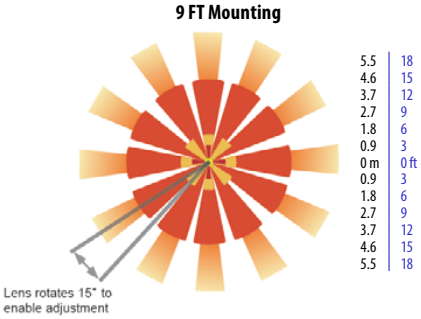
Sensor Coverage Pattern
Mini 360° Lens

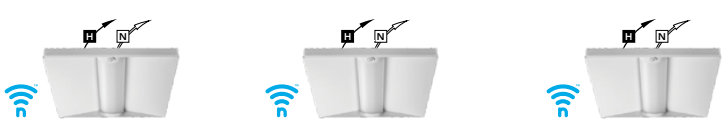
- Recommended for walking motion detection from mounting heights between 8 ft (2.44 m) and 20 ft (6.10 m)
- Initial detection of walking motion along sensor axes at distances of 2x the mounting height up to 15 ft (4.57 m) and
- 1.75x up to 20 ft (6.10 m).
- Provides 12 ft (3.66 m) radial detection of small motion when mounted at 9 ft (2.74 m)
- Initial detection will occur earlier when walking across sensor's field of view than when walking directly at sensor

nLight AIR Wireless

nLight AIR is the ideal solution for retrofit or new construction spaces where adding additional wiring can be labor intensive and nLight AIR is available with or without an integral sensor. The integrated RES7 or RES7PDT smart sensors are part of each luminaire in the nLight AIR network, which can be grouped to control multiple luminaires. The granularity of control with the digital PIR occupancy detection and daylight sensing makes a great solution for any application.

9 FT Mounting





Simple as 1,2,3

1. Install the nLight® AIR fixtures with embedded smart sensor
2. Install the wireless battery-powered wall switch
3. With CLAIRITY app, pair the fixtures with the wall switch and if desired, customize the sensor settings for the desired outcome

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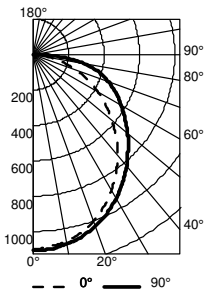
2BLT Volumetric Recessed Lighting 2'x2'

PHOTOMETRICS

2BLT2 33L ADP LP835, 3332 delivered lumens, test no. ISF36900P19, tested in accordance to IESNA LM-79



CP Summary

	0°	90
0°	1103	1103
5°	1090	1104
15°	1042	1064
25°	946	989
35°	817	881
45°	664	757
55°	500	634
65°	340	517
75°	177	383
85°	40	164
90	1	14

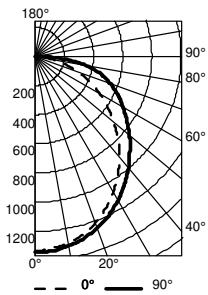
Coefficients of Utilization

RCR	pf 20% pc 80% pw 70%	50%	30%	pf 20% pc 70% pw 50%	30%	10%	pf 20% pc 50% pw 50%	30%	10%
0	119	119	119	116	116	116	111	111	111
1	108	102	97	100	96	92	96	92	89
2	97	88	81	86	80	74	83	77	72
3	88	77	69	76	68	61	72	66	60
4	81	68	59	67	58	52	64	57	51
5	74	61	51	60	51	44	57	50	44
6	68	55	45	54	45	39	52	44	38
7	63	50	40	49	40	34	47	39	34
8	59	45	36	44	36	30	43	36	30
9	55	41	33	41	33	27	40	32	27
10	52	38	30	38	30	25	37	30	25

Zonal Lumen Summary

Zone	Lumens	% Lamp	% Fixture
0° - 30°	853	25.6	25.6
0° - 40°	1390	41.7	41.7
0° - 60°	2466	74.0	74.0
0° - 90°	3330	100.0	100.0
90° - 120°	2	0.0	0.0
90° - 130°	2	0.0	0.0
90° - 150°	2	0.0	0.0
90° - 180°	2	0.0	0.0
0° - 180°	3332	100.0	100.0

2BLT2 40L ADP LP835, 4041 delivered lumens, test no. ISF36900P35, tested in accordance to IESNA LM-79



CP Summary

	0°	90
0°	1338	1338
5°	1322	1339
15°	1263	1291
25°	1148	1199
35°	991	1069
45°	805	918
55°	607	769
65°	412	627
75°	214	465
85°	48	199
90	1	17

Coefficients of Utilization

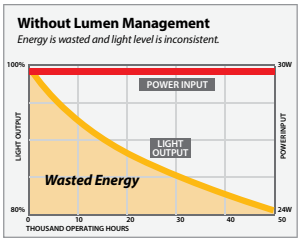
RCR	pf 20% pc 80% pw 70%	50%	30%	pf 20% pc 70% pw 50%	30%	10%	pf 20% pc 50% pw 50%	30%	10%
0	119	119	119	116	116	116	111	111	111
1	108	102	97	100	96	92	96	92	89
2	97	88	81	86	80	74	83	77	72
3	88	77	69	76	68	61	72	66	60
4	81	68	59	67	58	52	64	57	51
5	74	61	51	60	51	44	57	50	44
6	68	55	45	54	45	39	52	44	38
7	63	50	40	49	40	34	47	39	34
8	59	45	36	44	36	30	43	36	30
9	55	41	33	41	33	27	40	32	27
10	52	38	30	38	30	25	37	30	25

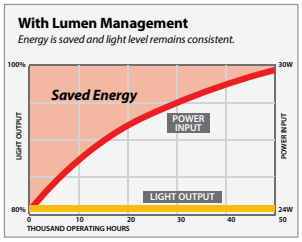
Zonal Lumen Summary

Zone	Lumens	% Lamp	% Fixture
0° - 30°	1035	25.6	25.6
0° - 40°	1686	41.7	41.7
0° - 60°	2991	74.0	74.0
0° - 90°	4039	100.0	100.0
90° - 120°	2	0.0	0.0
90° - 130°	2	0.0	0.0
90° - 150°	2	0.0	0.0
90° - 180°	2	0.0	0.0
0° - 180°	4041	100.0	100.0

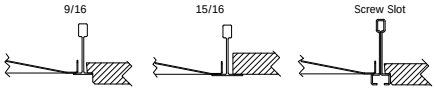
Constant Lumen Management

Enabled by the embedded nLight control, the BLT actively tracks its run-time and manages its light source such that constant lumen output is maintained over the system life. Referred to as lumen management, this feature eliminates the energy waste created by the traditional practice of over-lighting.





MOUNTING DATA	
Ceiling Type	**Appropriate Trim Type**
Exposed grid tee (1' and 9/16")	G
Concealed grid tee	G
Plaster or plasterboard	G*



*DGA accessory available to provide ceiling trim flange and fixture support for plaster or plasterboard ceiling. Recommended rough-in dimensions for DGA installation is 24-3/4" x 24-3/4" (Tolerance is +1/8", -0").

How to Estimate Delivered Lumens in Emergency Mode

Use the formula below to estimate the delivered lumens in emergency mode

Delivered Lumens = 1.25 x P x LPW

P = Ouput power of emergency driver. P = 10W for E10WLCP option.

LPW = Lumen per watt rating of the luminaire. This information is available on the ABL luminaire spec sheet. LPW = Lumen per watt rating of the luminaire. LPW information available in Performance Data section.

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2BLT Volumetric Recessed Lighting 2'x2'

Performance Data					
Model Number	**Lumens**	**LPW**	**Watts**	**DLC Listing**	**DLC ID**
2BLT2 20L ADP EZ1 (GZ1, GZ10) LP840 [All Options]	2065.45	124.06	16.64	Premium	PM92196A
2BLT2 20L ADP EZ1 (GZ10) LP835 [All Options]	2033	126.58	16.06	Premium	P6445UVD
2BLT2 20L ADP GZ1 LP835 [All Options]	2033	122.11	16.64	standard	PLNK6MX8
2BLT2 20L ADPT EZ1 (GZ10) LP840 [All Options]	2037.91	126.89	16.06	Premium	PYX15QEQ
2BLT2 20L ADPT GZ1 LP835 [All Options]	2005.89	120.49	16.64	standard	P40HQGLB
2BLT2 20L ADPT GZ1 LP840 [All Options]	2037.91	122.41	16.64	standard	PB3HB9AK
2BLT2 33L ADP EZ1 (GZ1, GZ10) LP835 [All Options]	3332	124.92	26.67	Premium	PHSXHE8F
2BLT2 33L ADP EZ1 (GZ1, GZ10) LP840 [All Options]	3385.19	126.91	26.67	Premium	PD18CKQ8
2BLT2 33L ADPT EZ1 (GZ1, GZ10) LP840 [All Options]	3340.05	125.22	26.67	Premium	PF98CZ2H
2BLT2 33L ADPT EZ1 (GZ10) LP835 [All Options]	3287.57	125.14	26.27	Premium	PTKZR9WQ
2BLT2 33L ADPT GZ1 LP835 [All Options]	3287.57	123.25	26.67	standard	PTN5023N
2BLT2 40L ADP EZ1 (GZ1, GZ10) LP835 [All Options]	4041	127.35	31.73	Premium	P1XWW9GV
2BLT2 40L ADP EZ1 (GZ1, GZ10) LP840 [All Options]	4105.51	129.38	31.73	Premium	PHCQ2CQF
2BLT2 40L ADPT EZ1 (GZ1, GZ10) LP835 [All Options]	3987.12	125.65	31.73	Premium	PW6RMMJ4
2BLT2 40L ADPT EZ1 (GZ1, GZ10) LP840 [All Options]	4050.77	127.65	31.73	Premium	P5YYDAA8
2BLT2 48L ADP EZ1 (GZ1, GZ10) LP835 [All Options]	4800	109.9	43.67	standard	PJRH1R1G
2BLT2 48L ADP EZ1 (GZ1, GZ10) LP840 [All Options]	4876.63	111.66	43.67	standard	P8G93YOK
2BLT2 48L ADPT EZ1 (GZ1, GZ10) LP835 [All Options]	4736	108.44	43.67	standard	PITU3V6X
2BLT2 48L ADPT EZ1 (GZ1, GZ10) LP840 [All Options]	4811.61	110.17	43.67	standard	P5X2XU76

DLC information is subject to change, for the most up-to-date information please refer to www.dlc.org. Above listings do not cover 347v or SLD.

HE Performance Data					
Model Number	**Lumens**	**LPW**	**Watts**	**DLC Listing**	**DLC ID**
2BLT2 20LHE ADP EZ1 (GZ1, GZ10) LP835 [All Options]	1948	130.59	14.91	Premium	PUQCZNQI
2BLT2 20LHE ADP EZ1 (GZ1, GZ10) LP840 [All Options]	1979.1	132.67	14.91	Premium	PJCZRW21
2BLT2 20LHE ADPT EZ1 (GZ1, GZ10) LP840 [All Options]	1952.71	130.9	14.91	Premium	PLC4RF4L
2BLT2 33LHE ADP EZ1 (GZ1, GZ10) LP835 [All Options]	3392	137.3	24.7	Premium	PXXZN9PH
2BLT2 33LHE ADP EZ1 (GZ1, GZ10) LP840 [All Options]	3446.15	139.5	24.7	Premium	PKPJYYRF
2BLT2 33LHE ADPT EZ1 (GZ1, GZ10) LP835 [All Options]	3346.77	135.47	24.7	Premium	PZC8BZSS
2BLT2 33LHE ADPT EZ1 (GZ1, GZ10) LP840 [All Options]	3400.2	137.64	24.7	Premium	PM5G8AFU
2BLT2 40LHE ADP EZ1 (GZ1, GZ10) LP835 [All Options]	4118	133.71	30.79	Premium	PJ55XFFP
2BLT2 40LHE ADP EZ1 (GZ1, GZ10) LP840 [All Options]	4183.74	135.85	30.79	Premium	PEGFHPZD
2BLT2 40LHE ADPT EZ1 (GZ1, GZ10) LP835 [All Options]	4063.09	131.93	30.79	Premium	P8E16E9B
2BLT2 40LHE ADPT EZ1 (GZ1, GZ10) LP840 [All Options]	4127.96	134.04	30.79	Premium	PFRSSSVG
2BLT2 48LHE ADP EZ1 (GZ1, GZ10) LP835 [All Options]	4845	128	37.85	Premium	P558XUZP
2BLT2 48LHE ADP EZ1 (GZ1, GZ10) LP840 [All Options]	4922.35	130.04	37.85	Premium	P1863H56
2BLT2 48LHE ADPT EZ1 (GZ1, GZ10) LP835 [All Options]	4780.4	126.29	37.85	Premium	PHPTG5M8
2BLT2 48LHE ADPT EZ1 (GZ1, GZ10) LP840 [All Options]	4856.71	128.31	37.85	Premium	PBKN954Z

DLC information is subject to change, for the most up-to-date information please refer to www.dlc.org. Above listings do not cover 347v or SLD.

COMMERCIAL INDOOR: One Lithonia Way Conyers, GA 30012 Phone: 800-705-SERV (7378) www.lithonia.com © 2015-2019 Acuity Brands Lighting, Inc. All rights reserved. Rev. 07/01/19

LITHONIA LIGHTING®

Catalog Number	
Notes	
Type	

BLT Series LED

2BLT2

2' x 2'
LED

FEATURES & SPECIFICATIONS

INTENDED USE — The BLT Best-in-Value Low Profile LED luminaire features a popular center basket design that offers a clean, versatile style and volumetric distribution. High efficacy LED light engines deliver energy savings and low maintenance compared to traditional sources. An extensive selection of configurations and options make the BLT the perfect choice for many lighting applications including schools, offices and other commercial spaces, retail, hospitals and healthcare facilities. The low profile BLT design (2-3/8") also makes it an excellent choice for renovation projects.

CONSTRUCTION — Prior to fabrication, BLT components are coated with a proprietary paint blend and die-formed for dimensional consistency.

The reflector is finished with a high reflective matte white powder paint for improved aesthetics and increased light diffusion.

End plates contain easy-to-position integral T-bar clips for securely attaching the luminaire to the T-grid. For additional T-grid security, optional screw on T-bar clips are available.

Diffusers are extruded from impact modified acrylic for increased durability.

LED boards and drivers are accessible from the plenum.

OPTICS — Volumetric illumination is achieved by creating an optimal mix of light to walls, partitions and vertical and horizontal work surfaces – rendering the interior space, objects and occupants in a more balanced, complimentary luminous environment. High performance extruded acrylic diffusers conceal LEDs and efficiently deliver light in a volumetric distribution. Four diffuser choices available - curved and square designs with linear prisms or a smooth frosted finish.

ELECTRICAL — Long-life LEDs, coupled with high-efficiency drivers, provide superior quantity and quality of illumination for extended service life. 80% LED lumen maintenance at 60,000 hours (L80/60,000). Color Variation within 3-step MacAdam ellipse (3SDCM).

Non-Configurable BLT: Generic 0-10 volt dimming driver. Dims to 10%

Configurable BLT: available in High Efficiency (HE) versions for applications where a lower wattage (over the standard product) is required. The High Efficiency versions deliver >130 LPW and can be specified via the Lumen Package designations in the Ordering Information below.

eldoLED driver options deliver choice of dimming range, and choices for control, while assuring flicker-free, low-current inrush, 89% efficiency and low EMI.

Optional integrated nLight®controls make each luminaire addressable - allowing them to digitally communicate with other nLight enabled controls such as dimmers, switches, occupancy sensors and photocontrols. Connection to nLight is simple. It can be accomplished with integrated nLight AIR wireless RIO, RES7 sensors, or through standard Cat-5 cabling. nLight offers unique plug-and-play convenience as devices and luminaires automatically discover each other and self-commission. nLight AIR is commissioned easily through an intuitive model app.

Lumen Management: Unique lumen management system (option N80) provides on board intelligence that actively manages the LED light source so that constant lumen output is maintained over the system life, preventing the energy waste created by the traditional practice of over-lighting.

Step-level dimming option allows system to be switched to 50% power for compliance with common energy codes while maintaining fixture appearance.

Driver disconnect provided where required to comply with US and Canadian codes.

SENSOR— Integrated sensor (individual control): Sensor Switch MSD7ADCX ((Passive infrared (PIR)) or MSDPDT7ADCX ((PIR/Microphonics Dual Tech (PDT)) integrated occupancy sensor/automatic dimming photocell allows the luminaire to power off when the space is unoccupied or enough ambient light is entering the space. See page 4 for more details on the integrated sensor.

Integrated Sensor (nLight Wired Networking): This sensor is nLight-enabled, meaning it has the ability to communicate over an nLight network. When wired, using CAT-5 cabling, with other nLight-enabled sensors, power packs, or WallPods, an nLight control zone is created. Once linked to a Gateway, directly or via a Bridge, the zone becomes capable of remote status monitoring and control via SensorView software. See page 4 for the nLight sensor options.

Integrated Smart Sensor (nLight Air Wireless Platform): The RES7 sensor is nLight AIR enabled, meaning it has the ability to communicate over the wireless nLight control platform. It is available with an automatic dimming photocell, and either a digital PIR or a microphonics (PDT) dual technology occupancy sensor. It pairs to other luminaires and wall switches through our mobile app, CL*AIR*ITY, which allows for simple sensor adjustment. See page 4 for more details on the Integrated Smart Sensor.

INSTALLATION — The BLT's low profile design of only 2-3/8" provides increased installation flexibility especially in restrictive plenum applications. The BLT fits into standard 15/16" and narrow 9/16" T-grid ceiling systems.

Suitable for damp location.

For recessed mounting in hard ceiling applications, Drywall Grid Adapters (DGA) are available as an accessory. See Accessories section.

LISTINGS — CSA Certified to meet U.S. and Canadian standards. IC rated.

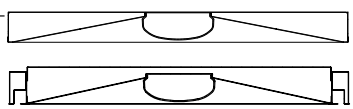
DesignLights Consortium® (DLC) Premium qualified product. Not all versions of this product may be DLC Premium qualified. Please check the DLC Qualified Products List at www.designlights.org/QPL to confirm which versions are qualified.

WARRANTY — 5-year limited warranty. Complete warranty terms located at: www.acuitybrands.com/resources/terms-and-conditions

NOTE: Actual performance may differ as a result of end-user environment and application.
All values are design or typical values, measured under laboratory conditions at 25 °C.
Specifications subject to change without notice.

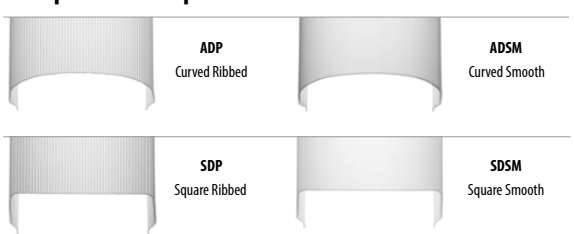
Specifications

Length: 23-3/4 (60.3)
Width: 23-3/4 (60.3)
Depth: 2-3/8 (6.0)
Depth with Air supply/return: 2-3/4 (6.9)



All dimensions are inches (centimeters) unless otherwise specified.

Multiple Diffuser Options



ADP Curved Ribbed
ADSM Curved Smooth
SDP Square Ribbed
SDSM Square Smooth

A+ Capable Luminaire

This item is an A+ capable luminaire, which has been designed and tested to provide consistent color appearance and out-of-the-box control compatibility with simple commissioning.

- All configurations of this luminaire meet the Acuity Brands' specification for chromatic consistency
- This luminaire is part of an A+ Certified solution for nLight® control networks when ordered with drivers marked by a shaded background*
- This luminaire is part of an A+ Certified solution for nLight control networks, providing advanced control functionality at the luminaire level, when selection includes driver and control options marked by a shaded background*

To learn more about A+, visit www.acuitybrands.com/aplus.

*See ordering tree for details

2BLT Volumetric Recessed Lighting 2'x2'

A+ Capable options indicated by this color background.

ORDERING INFORMATION Lead times will vary depending on options selected. Consult with your sales representative.

Example: 2BLT2 33L ADP EZ1 LP835

2BLT2

Series	Air function	Lumens[2]		Diffuser	Voltage	Driver	Color temperature
2BLT2 2X2 BLT	(blank) Static	**Standard efficiency[3,4] (>125 LPW)**	**High efficiency[5,6] (>130 LPW)**	ADP Curved, linear prisms	(blank) MVOLT	EZ1 eldoLED dims to 1% (0-10 volt dimming)	LP830 82CRI, 3000 K
	A Air supply/ return[1]	20L 2000	20LHE 2000	ADSM Curved, smooth	120 120V	GZ1 Dims to 1% (0-10V dimming)[8]	LP835 82CRI, 3500 K
		33L 3300	33LHE 3300	SDP Square, linear prisms	277 277V	GZ10 Dims to 10% (0-10V dimming)[8]	LP840 82CRI, 4000 K
		40L 4000	40LHE 4000	SDSM Square, smooth	347 347V[7]	SLD Step-level dimming[9]	LP850 82CRI, 5000 K
		48L 4800	48LHE 4800	**Includes trim rings to match sensored version**			LP930 90CRI, 3000K
				ADPT Curved, linear prisms			LP935 90CRI, 3500K
				ADSMT Curved, smooth			LP940 90CRI, 4000K
				SDPT Square, linear prisms			LP950 90CRI, 5000K
				SDSMT Square, smooth			

nLight Interface

nLight Wired

(blank)	no nLight ® interface
N80	nLight with 80% lumen management
N80EMG	nLight with 80% lumen management For use with generator supply EM power[10]
N100	nLight without lumen management
N100EMG	nLight without lumen management For use with generator supply EM power[10]

nLight Wireless

(blank)	no nLight ® interface
NLTAIR2	nLight AIR Generation 2 enabled[11]

Control[12]

nLight Wired

(blank)	No sensor control
NES7	nLight™ nES 7 PIR integral occupancy sensor[13]
NESPDT7	nLight™ nES PDT 7 dual technology integral occupancy control[13]
NES7ADCX	nLight™ nES 7 ADCX PIR integral occupancy sensor with automatic dimming photocell[13]
NESPDT7ADCX	nLight™ nES PDT 7 dual technology integral occupancy sensor with automatic dimming photocell[13]

nLight Wireless

RES7	nLight AIR PIR integral occupancy sensor with automatic dimming photocell for Networking Capabilities
RES7PDT	nLight AIR microphonics dual technology occupancy sensor with automatic dimming photocell
RIO	nLight AIR radio module without sensor

Individual Control

MSD7ADCX	PIR integral occupancy sensor with automatic dimming control photocell[14]
MSDPDT7ADCX	PDT integral occupancy sensor with automatic dimming control photocell[14]

Standy Mode

NOC	NOC Occupancy sensor disabled[15]

Options

EL7L	700 lumen battery pack (Noncompliant with CA T20)[16]
EL14L	1400 lumen battery pack (Noncompliant with CA T20)[16]
EL14LSD	1400 lumen battery pack with self-diagnostic testing feature (Noncompliant with CA T20)[16,17]
E10WLCP	EM Self-Diagnostic battery pack, 10W Constant Power, Certified in CA Title 20 MAEDBS[16]
CP	Chicago plenum[18]
BGTD	Bodine Generator Transfer Device[19]
PWS1836	6' pre-wire, 3/8" diameter, 18 gauge, 1 circuit
PWS1846	6' pre-wire, 3/8" diameter, 18 gauge, 2 circuit
PWS1846 PWSLV	Two cables: one 6' pre-wire, 3/8" diameter, 18 gauge, 2 circuits; one 6' pre-wire, 3/8" diameter, 18 gauge, purple and gray[20]
PWS1856LV	6' pre-wire, 3/8" diameter, 18 gauge, 1 circuit w/low voltage purple and grey wires[20]
GLR	Fast-blowing fuse[21]
GMF	Slow-blowing fuse[21]
NPLT	Narrow pallet
RRL_	RELOC®-ready luminaire[22]
LATC	Earthquake clip
DWAM	Anti-Microbial paint
JP32	Job packaging
IP5X	Gasketed diffuser compartment to meet IP5X rating[23]

Non-Configurable BLT

Stock/MTO	Catalog Description *	UPC	Lumens	Wattage	LPW	Color Temperature	Voltage	Pallet Qty
Stock	2BLT2 33L ADP LP835	00190887529708	3332	26	127	3500K/82 CRI	120-277	56
	2BLT2 33L ADP LP840	00190887529739	3385	26	129	4000K/82CRI	120-277	56
	2BLT2 33L ADP EL14L LP835	00190887529890	3332	26	127	3500K/82CRI	120-277	56
	2BLT2 33L ADP EL14L LP840	00190887529937	3385	26	129	4000K/82CRI	120-277	56
MTO	2BLT2 33L ADP 347 LP835		3332	26	127	3500K/82 CRI	347	56
	2BLT2 33L ADP 347 LP840		3385	26	129	4000K/82CRI	347	56

*Generic 0-10V Dimming to 10%.

Notes and Accessories next page

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2BLT Volumetric Recessed Lighting 2'x2'

Notes
1 Consult factory for airflow data.
2 Approximate lumen output.
3 All versions may not achieve 125+ LPW. Refer to photometry on www.acuitybrands.com.
4 Air supply/return option, 90 CRI, and versions with integral sensor trim rings may not achieve 125 LPW.
5 All versions may not achieve 130+ LPW. Refer to photometry on www.acuitybrands.com.
6 Air supply/return option, 90 CRI, and versions with integral sensor trim rings may not achieve 130 LPW.
7 Not available with SLD EL7L, or EL14L options.
8 GZ1 and GZ10 not available with any Control or Sensor options
9 Not available with N80, N80EMG, N100, N100EMG, NLTAIR2, or occupancy control.
10 nLight EMG option requires a connection to existing nLight network. Power is provided from a separate N80 or N100 enabled fixture.
11 Must order with RES7, RES7PDT or Rio module. Must order with EZ1 driver.
12 Must specify diffuser with trim rings. See sensor options on page 4.
13 Requires N80, N80EMG, N100, or N100EMG. Must order with EZ1 driver.
14 Only available with EZ1 driver option. 0-10v dimming wires not accessible via access plate.
15 Can only be ordered in conjunction with EZ1, NLTAIR2, RES7/RES7PDT. Occupancy sensor disabled at factory but can be re-enabled upon commissioning.
16 When using pre-wire option, use PWS1846 or PWS1846 PWSLV.
17 For more information, please see the PSSD2 specification sheet.
18 Not available with N80, N80EMG, N100, or N100EMG.
19 Must specify voltage. Requires BSE labeling, voltage specific. Consult factory for options.
20 Not available with nLight wired/wireless network or individual controls.
21 Must specify voltage, 120 or 277, with GLR and GFM fusing.
22 For ordering logic consult RRL 2013.
23 Not available with air supply/return or Wired Networking (NES_) and Individual Control (MSD_) sensors.

Accessories: *Order as separate catalog number.*

DGA22	Drywall grid adapter for 2x2 recessed fixture
2X2SMKSHP PAF	Surface Mount Troffer Kit Post Paint

nLight® Wired Control Accessories:
Order as separate catalog number. Visit www.acuitybrands.com/products/controls/nlight.

WallPod stations	Model number	Occupancy sensors	Model number
On/Off	nPODM [color]	Small motion 360°, ceiling (PIR / dual tech)	nCM 9 RJB / nCM PDT 9 RJB
On/Off & raise/lower	nPODM DX [color]	Large motion 360°, ceiling (PIR / dual tech)	nCM10 RJB / nCM PDT 10 RJB
Graphic touchscreen	nPOD GFX [color]	Wall switch with raise/lower	nWSX PDT LV DX [color]
Photocell controls	**Model number**	**Cat-5 cable (plenum rated)**	**Model number**
Full range dimming	nCM ADCX RJB	10' cable	CAT5 10FT J1
		30' cable	CAT5 30FT J1

nLight® AIR Control Accessories:
Order as separate catalog number. Visit www.acuitybrands.com/products/controls/nlightair.

Wall switches	Model number
On/Off single pole	rPODB [color] G2
On/Off two pole	rPODB 2P [color] G2
On/Off & raise/lower single pole	rPODB DX [color] G2
On/Off & raise/lower two pole	rPODB 2P DX [color] G2
On/Off & raise/lower single pole	rPODBZ DX WH G2

rCMS[1] — Example: RCMS PDT 10 AR G2

Series / Detection	Power Supply[1]	Occupancy Detection	Lens (Required)	Operating Mode	Generation
RCMS nLight AIR occupancy and daylight sensor	[blank] Power Supply ordered separately	[blank] PIR Detection	10 Large Motion/ Extended Range 360°	[BLANK] None	G2 Generation 2 compatibility
	PS 150 Standard 150 mA Power Supply	PDT Dual Tech PIR/ Microphonics	9 Small Motion/ Extended Range 360°	AR Auxiliary Relay	
			6 High Bay 360° Lens		

Replacement Parts: *Order as separate catalog number.*

*247WJV	2DBLT24 ADP LENS ASSEMBLY	2 ft. replacement lens
*249P2P	2DBLT24 SDP LENS ASSEMBLY	2 ft. replacement lens
*249P2W	2DBLT24 ADSM LENS ASSEMBLY	2 ft. replacement lens
*249P32	2DBLT24 SDSM LENS ASSEMBLY	2 ft. replacement lens
*237LT1	2DBLT24 ADPT LENS ASSEMBLY	2 ft. replacement lens
*237LT3	2DBLT24 SDPT LENS ASSEMBLY	2 ft. replacement lens
*237LT5	2DBLT24 ADSMT LENS ASSEMBLY	2 ft. replacement lens
*237LT7	2DBLT24 SDSMT LENS ASSEMBLY	2 ft. replacement lens
*237LT9	2DBLT24 ADPT SENSOR LENS ASSEMBLY	2 ft. replacement lens
*237M4Y	2DBLT24 SDPT SENSOR LENS ASSEMBLY	2 ft. replacement lens
*237M57	2DBLT24 ADSMT SENSOR LENS ASSEMBLY	2 ft. replacement lens
*237M5H	2DBLT24 SDSMT SENSOR LENS ASSEMBLY	2 ft. replacement lens

Notes
1 RCMS requires low voltage power from either RPP20 DS 24V G2 or PS150.

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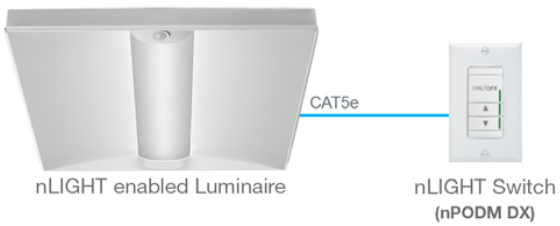
2BLT Volumetric Recessed Lighting 2'x2'

Sensor Options					
Option	Automatic Dimming Photocell	Occupancy Sensing		nLight Wired Networking	nLight AIR Networking
		PIR	PDT		
MSD7ADCX	X	X			
MSDPDT7ADCX	X		X		
NES7		X		X	
NES7ADCX	X	X		X	
NESPDT7			X	X	
NESPDT7ADCX	X		X	X	
RES7	X	X			X
RESPDT7	X	X	X		X

Basic nLight Zone



Integrated Sensor with Individual Control

The MSD7ADCX PIR occupancy sensor/automatic dimming photocell is ideal for areas without obstructions and where daylight harvesting may be desired. Suggested applications include, but not limited to, hallways, corridors, storage rooms, and breakrooms or other areas where people are typically moving.

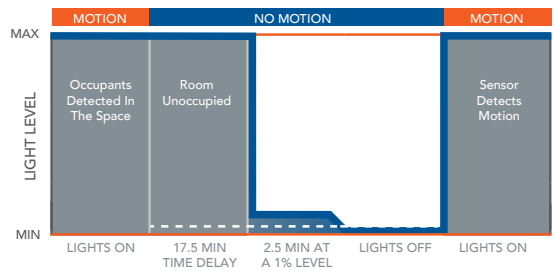
The MSDPDT7ADCX PIR/Microphonics Dual Tech occupancy sensor/automatic dimming photocell is ideal for areas with obstructions and where daylight harvesting is desired. Suggested applications include, but not limited to, open offices, private offices, classrooms, public restrooms, and conference rooms.

nLight Wired Networking

The nES 7 is ideal for small rooms without obstructions or areas with primarily walking motion. Ideal areas include hallways, corridors, storage rooms, and breakrooms. Additionally, the NES7ADCX includes an integrated photocell, which enables daylight harvesting controls.

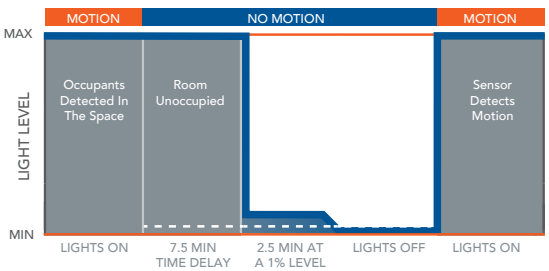
For areas like restrooms, private offices, open offices, conference rooms or any space with obstructions, the nES PDT 7 dual technology sensor is recommended. The nES PDT 7 utilizes both PIR (passive infrared) and Microphonics technologies to detect occupancy. Additionally, the NESPDT7ADCX includes an integrated photocell, which enables daylight harvesting controls which is ideal for areas where windows are present.

Sequence of Operation



*The presetting on the automatic dimming photocell is 5fc.

Sequence of Operation



*The presetting on the automatic dimming photocell is 5fc.

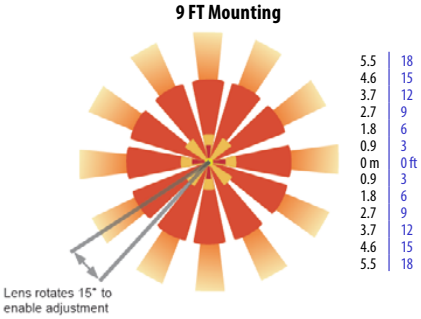
Sensor Coverage Pattern
Mini 360° Lens

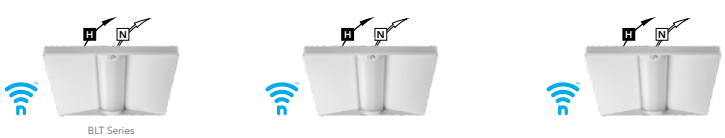
- Recommended for walking motion detection from mounting heights between 8 ft (2.44 m) and 20 ft (6.10 m)
- Initial detection of walking motion along sensor axes at distances of 2x the mounting height up to 15 ft (4.57 m) and
- 1.75x up to 20 ft (6.10 m).
- Provides 12 ft (3.66 m) radial detection of small motion when mounted at 9 ft (2.74 m)
- Initial detection will occur earlier when walking across sensor's field of view than when walking directly at sensor

nLight AIR Wireless

nLight AIR is the ideal solution for retrofit or new construction spaces where adding additional wiring can be labor intensive and nLight AIR is available with or without an integral sensor. The integrated RES7 or RES7PDT smart sensors are part of each luminaire in the nLight AIR network, which can be grouped to control multiple luminaires. The granularity of control with the digital PIR occupancy detection and daylight sensing makes a great solution for any application.

9 FT Mounting





Simple as 1,2,3

1. Install the nLight® AIR fixtures with embedded smart sensor
2. Install the wireless battery-powered wall switch
3. With CLAIRITY app, pair the fixtures with the wall switch and if desired, customize the sensor settings for the desired outcome

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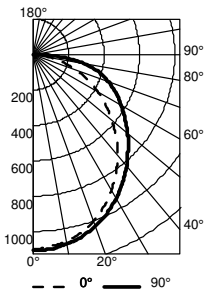
2BLT Volumetric Recessed Lighting 2'x2'

PHOTOMETRICS

2BLT2 33L ADP LP835, 3332 delivered lumens, test no. ISF36900P19, tested in accordance to IESNA LM-79



CP Summary

	0°	90
0°	1103	1103
5°	1090	1104
15°	1042	1064
25°	946	989
35°	817	881
45°	664	757
55°	500	634
65°	340	517
75°	177	383
85°	40	164
90	1	14

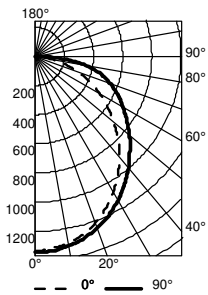
Coefficients of Utilization

RCR	pf pc pw 20% 70% 70%	80% 50% 30%	70% 50% 30%	50% 10%	50% 30% 10%
0		119	119	119	116	116	116	111	111	111
1		108	102	97	100	96	92	96	92	89
2		97	88	81	86	80	74	83	77	72
3		88	77	69	76	68	61	72	66	60
4		81	68	59	67	58	52	64	57	51
5		74	61	51	60	51	44	57	50	44
6		68	55	45	54	45	39	52	44	38
7		63	50	40	49	40	34	47	39	34
8		59	45	36	44	36	30	43	36	30
9		55	41	33	41	33	27	40	32	27
10		52	38	30	38	30	25	37	30	25

Zonal Lumen Summary

Zone	Lumens	% Lamp	% Fixture
0° - 30°	853	25.6	25.6
0° - 40°	1390	41.7	41.7
0° - 60°	2466	74.0	74.0
0° - 90°	3330	100.0	100.0
90° - 120°	2	0.0	0.0
90° - 130°	2	0.0	0.0
90° - 150°	2	0.0	0.0
90° - 180°	2	0.0	0.0
0° - 180°	3332	100.0	100.0

2BLT2 40L ADP LP835, 4041 delivered lumens, test no. ISF36900P35, tested in accordance to IESNA LM-79



CP Summary

	0°	90
0°	1338	1338
5°	1322	1339
15°	1263	1291
25°	1148	1199
35°	991	1069
45°	805	918
55°	607	769
65°	412	627
75°	214	465
85°	48	199
90	1	17

Coefficients of Utilization

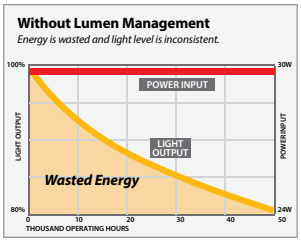
RCR	pf pc pw 20% 70% 70%	80% 50% 30%	70% 50% 30%	50% 10%	50% 30% 10%
0		119	119	119	116	116	116	111	111	111
1		108	102	97	100	96	92	96	92	89
2		97	88	81	86	80	74	83	77	72
3		88	77	69	76	68	61	72	66	60
4		81	68	59	67	58	52	64	57	51
5		74	61	51	60	51	44	57	50	44
6		68	55	45	54	45	39	52	44	38
7		63	50	40	49	40	34	47	39	34
8		59	45	36	44	36	30	43	36	30
9		55	41	33	41	33	27	40	32	27
10		52	38	30	38	30	25	37	30	25

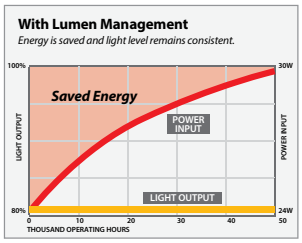
Zonal Lumen Summary

Zone	Lumens	% Lamp	% Fixture
0° - 30°	1035	25.6	25.6
0° - 40°	1686	41.7	41.7
0° - 60°	2991	74.0	74.0
0° - 90°	4039	100.0	100.0
90° - 120°	2	0.0	0.0
90° - 130°	2	0.0	0.0
90° - 150°	2	0.0	0.0
90° - 180°	2	0.0	0.0
0° - 180°	4041	100.0	100.0

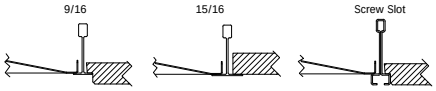
Constant Lumen Management

Enabled by the embedded nLight control, the BLT actively tracks its run-time and manages its light source such that constant lumen output is maintained over the system life. Referred to as lumen management, this feature eliminates the energy waste created by the traditional practice of over-lighting.





MOUNTING DATA	
Ceiling Type	**Appropriate Trim Type**
Exposed grid tee (1' and 9/16")	G
Concealed grid tee	G
Plaster or plasterboard	G*



*DGA accessory available to provide ceiling trim flange and fixture support for plaster or plasterboard ceiling. Recommended rough-in dimensions for DGA installation is 24-3/4" x 24-3/4" (Tolerance is +1/8", -0").

How to Estimate Delivered Lumens in Emergency Mode
Use the formula below to estimate the delivered lumens in emergency mode
Delivered Lumens = 1.25 x P x LPW
P = Ouput power of emergency driver. P = 10W for E10WLCP option.
LPW = Lumen per watt rating of the luminaire. This information is available on the ABL luminaire spec sheet. LPW = Lumen per watt rating of the luminaire. LPW information available in Performance Data section.

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2BLT Volumetric Recessed Lighting 2'x2'

Performance Data					
Model Number	**Lumens**	**LPW**	**Watts**	**DLC Listing**	**DLC ID**
2BLT2 20L ADP EZ1 (GZ1, GZ10) LP840 [All Options]	2065.45	124.06	16.64	Premium	PM92196A
2BLT2 20L ADP EZ1 (GZ10) LP835 [All Options]	2033	126.58	16.06	Premium	P6445UVD
2BLT2 20L ADP GZ1 LP835 [All Options]	2033	122.11	16.64	standard	PLNK6MX8
2BLT2 20L ADPT EZ1 (GZ10) LP840 [All Options]	2037.91	126.89	16.06	Premium	PYX15QEQ
2BLT2 20L ADPT GZ1 LP835 [All Options]	2005.89	120.49	16.64	standard	P40HQGLB
2BLT2 20L ADPT GZ1 LP840 [All Options]	2037.91	122.41	16.64	standard	PB3HB9AK
2BLT2 33L ADP EZ1 (GZ1, GZ10) LP835 [All Options]	3332	124.92	26.67	Premium	PHSXHE8F
2BLT2 33L ADP EZ1 (GZ1, GZ10) LP840 [All Options]	3385.19	126.91	26.67	Premium	PD18CKQ8
2BLT2 33L ADPT EZ1 (GZ1, GZ10) LP840 [All Options]	3340.05	125.22	26.67	Premium	PF98CZ2H
2BLT2 33L ADPT EZ1 (GZ10) LP835 [All Options]	3287.57	125.14	26.27	Premium	PTKZR9WQ
2BLT2 33L ADPT GZ1 LP835 [All Options]	3287.57	123.25	26.67	standard	PTN5023N
2BLT2 40L ADP EZ1 (GZ1, GZ10) LP835 [All Options]	4041	127.35	31.73	Premium	P1XWW9GV
2BLT2 40L ADP EZ1 (GZ1, GZ10) LP840 [All Options]	4105.51	129.38	31.73	Premium	PHCQ2CQF
2BLT2 40L ADPT EZ1 (GZ1, GZ10) LP835 [All Options]	3987.12	125.65	31.73	Premium	PW6RMMJ4
2BLT2 40L ADPT EZ1 (GZ1, GZ10) LP840 [All Options]	4050.77	127.65	31.73	Premium	P5YYDAA8
2BLT2 48L ADP EZ1 (GZ1, GZ10) LP835 [All Options]	4800	109.9	43.67	standard	PJRH1R1G
2BLT2 48L ADP EZ1 (GZ1, GZ10) LP840 [All Options]	4876.63	111.66	43.67	standard	P8G93YOK
2BLT2 48L ADPT EZ1 (GZ1, GZ10) LP835 [All Options]	4736	108.44	43.67	standard	PITU3V6X
2BLT2 48L ADPT EZ1 (GZ1, GZ10) LP840 [All Options]	4811.61	110.17	43.67	standard	P5X2XU76

DLC information is subject to change, for the most up-to-date information please refer to www.dlc.org. Above listings do not cover 347v or SLD.

HE Performance Data					
Model Number	**Lumens**	**LPW**	**Watts**	**DLC Listing**	**DLC ID**
2BLT2 20LHE ADP EZ1 (GZ1, GZ10) LP835 [All Options]	1948	130.59	14.91	Premium	PUQCZNQI
2BLT2 20LHE ADP EZ1 (GZ1, GZ10) LP840 [All Options]	1979.1	132.67	14.91	Premium	PJCZRW21
2BLT2 20LHE ADPT EZ1 (GZ1, GZ10) LP840 [All Options]	1952.71	130.9	14.91	Premium	PLC4RF4L
2BLT2 33LHE ADP EZ1 (GZ1, GZ10) LP835 [All Options]	3392	137.3	24.7	Premium	PXXZN9PH
2BLT2 33LHE ADP EZ1 (GZ1, GZ10) LP840 [All Options]	3446.15	139.5	24.7	Premium	PKPJYYRF
2BLT2 33LHE ADPT EZ1 (GZ1, GZ10) LP835 [All Options]	3346.77	135.47	24.7	Premium	PZC8BZSS
2BLT2 33LHE ADPT EZ1 (GZ1, GZ10) LP840 [All Options]	3400.2	137.64	24.7	Premium	PM5G8AFU
2BLT2 40LHE ADP EZ1 (GZ1, GZ10) LP835 [All Options]	4118	133.71	30.79	Premium	PJ55XFFP
2BLT2 40LHE ADP EZ1 (GZ1, GZ10) LP840 [All Options]	4183.74	135.85	30.79	Premium	PEGFHPZD
2BLT2 40LHE ADPT EZ1 (GZ1, GZ10) LP835 [All Options]	4063.09	131.93	30.79	Premium	P8E16E9B
2BLT2 40LHE ADPT EZ1 (GZ1, GZ10) LP840 [All Options]	4127.96	134.04	30.79	Premium	PFRSSSVG
2BLT2 48LHE ADP EZ1 (GZ1, GZ10) LP835 [All Options]	4845	128	37.85	Premium	P558XUZP
2BLT2 48LHE ADP EZ1 (GZ1, GZ10) LP840 [All Options]	4922.35	130.04	37.85	Premium	P1863H56
2BLT2 48LHE ADPT EZ1 (GZ1, GZ10) LP835 [All Options]	4780.4	126.29	37.85	Premium	PHPTG5M8
2BLT2 48LHE ADPT EZ1 (GZ1, GZ10) LP840 [All Options]	4856.71	128.31	37.85	Premium	PBKN954Z

DLC information is subject to change, for the most up-to-date information please refer to www.dlc.org. Above listings do not cover 347v or SLD.

COMMERCIAL INDOOR: One Lithonia Way Conyers, GA 30012 Phone: 800-705-SERV (7378) www.lithonia.com © 2015-2019 Acuity Brands Lighting, Inc. All rights reserved. Rev. 07/01/19

Novo™ Lighted Mirror
Product Specifications

ELECTRIC MIRROR®

PRODUCT DESCRIPTION
A singularly smart and modern alternative to bathroom sconces, Novo™ pairs incredible natural-looking illumination with ultra-soft wall glow, forming a harmonious combination of task and ambiance lighting.

SPECIFICATION STATEMENT
Solution shall consist of a lighted mirror with forward-facing task lighting as well as left and right side wall-glow ambient lighting. Mirror shall have corrosion-resistant glass and have uniform light output in frosted areas, using replaceable LEDs with a greater than or equal to 90 CRI (color rendering index). Product will be made in USA and have a 7-year limited warranty.

THE ELECTRIC MIRROR ADVANTAGE
- ☑ Global mirror technology leader for over 20 years
- ☑ More installations than all competitors combined
- ☑ Realistic warranty you can believe in and trust
- ☑ Lowest total cost of ownership
- ☑ U.S. based customer service support
- ☑ 125,000 square foot American manufacturing facility

FEATURES AND BENEFITS
- Copper-free, corrosion-resistant DuraMirror™ glass
- Forward-facing task lighting
- Left and right side wall-glow ambient lighting
- Environmentally sustainable
- Energy efficient
- Fast lead times
- Easy installation
- Title 24 compliance available
- ADA Compliant
- 7-year limited warranty
- Covered by one or more patents
- Proudly made in the USA

AVAILABLE OPTIONS
- Keen™ SmartDim™ Technology[1]
- Vive™ SmartSound™ Technology[1, 2]
- Seamless™ SmartTime™ Technology[1, 2]
- Night Light[1, 2]
- Defogger[1]
- Forward-phase dimming
- Diamond Clear™ DuraMirror™ glass[2]
- 2,700K CCT[2]
- Custom mirror sizes[2]

LIGHTING SPECIFICATIONS
- Natural-looking LED light color
- Replaceable LEDs
- CRI: 90+
- CCT: 3,000 Kelvin
- 695 lumens per foot
- Calculated L_{70} 52,000-hour LED lifespan
- Maximum 100 lumens per watt efficacy

SAFETY SPECIFICATIONS
- Entire assembly meets UL/cUL standards
- International certifications
- Safety-backed mirror

[1] See technology specification sheets for more information.
[2] Minimum order quantity required.

ELECTRIC MIRROR®

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Novo™ Lighted Mirror
Product Specifications

ELECTRIC MIRROR®

INSTALLATION SPECIFICATIONS

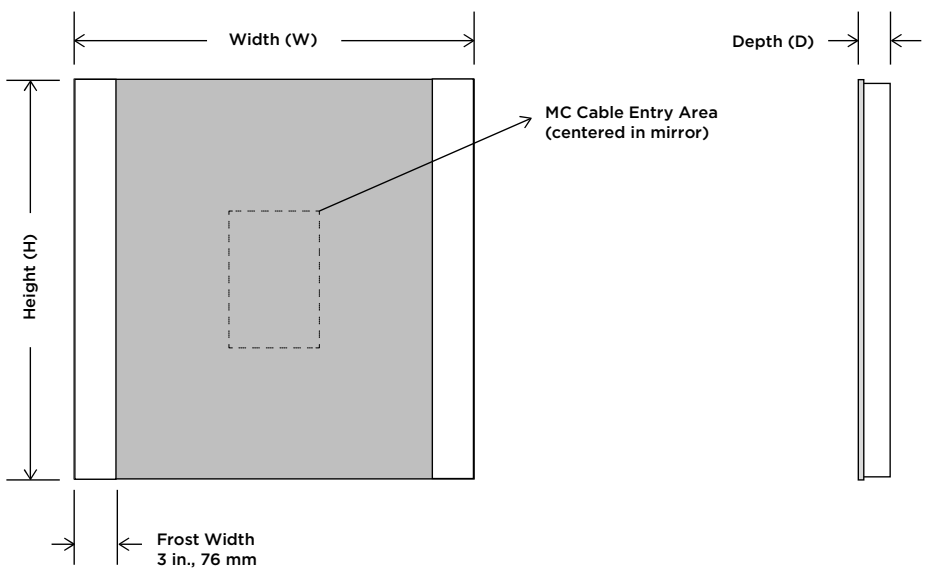
- 120V-240V hardwire electrical connection; provide 36" whip; junction box not required
- Chassis should be mounted to wall studs; mounting holes are provided
- Fixture should be controlled by an on/off switch
- Installation wiring may be different on mirrors equipped with additional options

MODELS

Base Model*	Dimensions	Power Requirements
NOV2-24.00x36.00-L7CSHD-30K	24"W x 36"H x 1.75"D (610mm x 914mm x 44mm)	120/240 VAC, 52W
NOV2-36.00x36.00-L7CSHD-30K	36"W x 36"H x 1.75"D (914mm x 914mm x 44mm)	120/240 VAC, 52W
NOV2-48.00x36.00-L7CSHD-30K	48"W x 36"H x 1.75"D (1219mm x 914mm x 44mm)	120/240 VAC, 52W
NOV2-60.00x36.00-L7CSHD-30K	60"W x 36"H x 1.75"D (1524mm x 914mm x 44mm)	120/240 VAC, 52W

*Base model number shown only. To specify additional options, contact Electric Mirror at sales@electricmirror.com.

DIMENSIONAL DRAWING *(Not to scale. Frost and border widths may vary depending on mirror size.)*



ELECTRIC MIRROR®

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Carolina Architectural Lighting and Design

Date: Jan 26, 2021

CAL+D
1237 Gadsden Street
Columbia SC 29201
Phone: (803) 271-2818
Fax:

Job Name
UofSC Close Hipp - Restroom Renovation
COL21-55190
Columbia SC

Bid Date
Jan 26, 2021

Submittal Date
Jan 26, 2021

Architect:
Studio 2LR
2428 Main Street
Columbia SC 29201

Engineer:
Belka Engineering Associates
2519-B Platt Springs Road
West Columbia SC 29169

Date: Jan 26, 2021

Carolina Architectural Lighting and Design

Transmittal

CAL+D
1237 Gadsden Street
Columbia SC 29201
Phone: (803) 271-2818
From: Nic Potvin

Project **UofSC Close Hipp - Restroom Renovation**
Quote# COL21-55190
Location Columbia SC
Contact:

ATTACHED WE ARE SENDING YOU 1 COPY OF THE FOLLOWING ITEM:

- ☐ Drawings
- ☐ Prints
- ☐ Plans
- ☐ Specifications
- ☐ Information
- ☐ Submittals

Other:

THESE ARE TRANSMITTED FOR:

- ☐ Prior Approval
- ☐ Approval
- ☐ Approval as Submitted
- ☐ Approval as Noted
- ☐ Resubmittal for Approval
- ☐ Corrections
- ☐ Your Use
- ☐ Review and Comment
- ☐ Record

Bids due on:
Other:

Type	MFG	Part	
A	Columbia	LCAT22-35LWG-EDU	APPROVED
AE	Columbia	LCAT22-35LWG-EDU	APPROVED
~~V~~	~~Prima Lighting Corp.~~	~~M104-A-24"-36"-30K-D2-80CRI~~	NOT APPROVED

Carolina Architectural Lighting and Design

www.cald-lighting.com

Jan 26, 2021

RE: UofSC Close Hipp - Restroom Renovation
Columbia SC

Type	MFG	Part
A	Columbia	LCAT22-35LWG-EDU
AE	Columbia	LCAT22-35LWG-EDU
V	Prima Lighting Corp.	M104-A-24"-36"-30K-D2-80CRI

Columbia LIGHTING

DATE: | LOCATION:

TYPE: | PROJECT:

CATALOG #:

LCAT22

2' × 2' LED CONTEMPORARY ARCHITECTURAL TROFFER

FEATURES

- High efficiency acrylic center lens features linear prisms for high performance without pixelation
- Appropriate for offices, schools, medical, and public spaces
- High performance reflector with matte white paint standard
- HE lumen packages available
- LED modules and electrical accessible from below
- Optional architecturally styled integration of daylight and occupancy sensor(s)
- QR code traceability
- Compatible with Dual-Lite inverters

Built to UL 924 Standards

Chicago Plenum

See Certification Specifications

RELATED PRODUCTS

LCAT12 LCAT14 LCAT24

Grid, recessed section

CONTROL TECHNOLOGY

SpectraSync NX DISTRIBUTED INTELLIGENCE SPECTRASAFE

SPECIFICATIONS

CONSTRUCTION

- Luminaire housing, reflectors and end caps are die-formed code-gauge cold-rolled steel
- High transmission extruded acrylic enclosed lens features linear prisms with custom frost for high efficacy without pixelation
- All reflective surfaces are finished after fabrication with unique formula high-reflectivity matte white paint for soft, uniform indirect illumination

OPTICS

- Removable lens for easy access to LED module and electrical components

INSTALLATION

- An access plate is furnished with each luminaire for fast wiring access without the necessity to open the fixture or wireway
- Luminaire fits recessed exposed Grid ceilings (G); four integral NEC compliant T-bar clips are standard
- Can be placed in Slot Grid (SG) style ceiling with regress ⅜" above ceiling plane
- A Flange Kit (FK) accessory is available for recessed hard ceiling applications
- Surface Mount (SM) option allows placement below ceiling plane
- Cable Mount (CM) option allows suspension below ceiling plane

ELECTRICAL

- 60,000 hour LEDs at L80 for reduced maintenance

ELECTRICAL (CONTINUED)

- 83 CRI standard or optional 90 CRI for color sensitive applications

CONTROLS

- Optional SpectraSync™ offers two modes of Tunable White solutions and integrates seamlessly into a variety of control systems
- NX Distributed Intelligence™ provides options for standalone and networked integrated sensor with wired or wireless connectivity for NX system deployments

TECHNOLOGY

- SpectraSAFE™ is a scalable, cloud-enabled and lighting-based wireless video security solution for interior commercial and industrial applications

CERTIFICATIONS

- IC label is standard for recessed products. Note that IC label is void if product is installed on site with a combination of both battery pack plus through wiring or for air return fixtures
- All luminaires are built to UL1598 and 2108 standards, and bear appropriate cCSAus labels
- CSA certified to UL 924 standards with battery pack or DTS (Dimming Bypass Module) options
- Damp Location label standard
- Adheres to LM79, LM80, and TM21 industry standards

CERTIFICATIONS (CONTINUED)

- DLC® (DesignLights Consortium) Qualified, with some Premium Qualified configurations. Please refer to the DLC website for specific product qualifications at www.designlights.org
- NX is available in U.S., Canada and Mexico. For other locations consult factory
- The DTS, Dimming Bypass Module, is for emergency circuit control loads including sensors and wireless systems CSA certified to UL 924. See page 8 for wiring diagram. Link to Dimming Bypass Module Specification sheet
- This product qualifies as a "designated country construction material" per FAR 52.225-11 Buy American-Construction Materials under Trade Agreements effective 04/03/2020. See Buy American Solutions

WARRANTY

- 5 year warranty
- See HLI Standard Warranty for additional information

KEY DATA	
Lumen Range	1313–4863
Wattage Range	13–40
Efficacy Range (LPW)	93–139
Reported Life (Hours)	L80/60,000

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HUBBELL Lighting

Columbia LIGHTING

LCAT22

2' × 2' LED CONTEMPORARY ARCHITECTURAL TROFFER

DATE: LOCATION:

TYPE: PROJECT:

CATALOG #:

ORDERING GUIDE

Example: LCAT22–35MLG–ESDU

CATALOG #

LCAT22 –

Model	CRI	Color Temp	Delivered Lumens[3]	Ceiling Type	Shielding	Air Function	Driver
LCAT22 2' x 2' LED Contemporary Architectural Troffer	**Blank** >80 **9** >90[1]	**30** 3000K **35** 3500K **40** 4000K **50** 5000K **2750T** 2700K–5000K SpectraSync™ Tunable White[2] **2765T** 2700K–6500K SpectraSync™ Tunable White[2]	**VW** 1313–1785 **VWHE** 1530–1743 **MW** 1714–2334 **MWHE** 2010–2289 **LW** 2263–3063 **ML** 2778–3781 **MLHE** 3293–3751 **HL** 3012–4099 **HLHE** 3616–3769 **VL** 3767–4863 **VLHE** 4257–4649	**G** Grid Lay-in[4] **SM** Surface Mount[5,12] **CM** Cable Suspended Mount[5,6]	**Blank** Curve **R** Rectangular	**Blank** Static **A** Air Return Side Slots	**E** Fixed Output **ED** 0–10V Dimming **ED1** 0–10V 1% Dimming **EDD** 0–10V Dim-to-Dark **ESD** Step Dimming[7,9,13] **LUTH** Hi-lume 1% EcoSystem LED driver with Soft-on, Fade-to-Black dimming technology[7,9,13] **LUT5** 5-Series EcoSystem LED driver[7,9,13] **DALIP** DALI Power Bus[9,16]

–

Voltage	Options	Control Options
U 120–277V **347** 347V[14]	**ELL14** Emergency Battery Pack Installed, 1400 Lumens[8,9] **ELL14ST** Emergency Battery Pack, 1400 Lumens, Self Test[8,9] **ELL14H2** Emergency Battery Pack, 2-Hour Run Time[8,9] **DTS** Dimming Bypass Module[9,10] **C388** 3-wire Flex[15] **C488** 4-wire Flex[15] **C588** 5-wire Flex[15] **GLR** Fast Blow Fuse **EOR** End of Row (SM and CM only. Provides end wiring access for continuous row mounting.)[5] **INT** Intermediate (SM and CM only. Provides ends with wiring access for continuous row mounting.)[5] **CP** Chicago Plenum **SAF** SpectraSAFE™ Integrated Surveillance Lighting System[11]	**NX Standalone** **NXS** NX, PIR BT Occupancy/Daylight Sensor, Slide Mount[13,14] **NX Networked – Wired** **NXE** NX, Dual SmartPORTs[13,14] **NXES** NX, PIR BT Occupancy/Daylight Sensor, Slide Mount, Dual SmartPORTs[13,14] **NX Networked – Wireless** **NXSW** NX Wireless, PIR BT Occupancy/Daylight Sensor[12,13,14] **NXWE** NX Wireless Enabled[12,13,14] **NX Networked – Wired/Wireless Hybrid** **NXSWD** NX Wireless, PIR BT Occupancy/Daylight Sensor, Dual SmartPORTs[13,14] **NXWD** NX Wireless, Dual SmartPORTs[13,14] **Third-Party Control Options** **ODPG** Occupancy and Daylight Sensors w/ Grouping, Philips SNS200[9,16,20] **LV** Lutron Vive Attached FCJS POWPAK Fixture Control (RF only for 0–10V drivers)[9,17,18,19,20] **LVR** Lutron Vive Integral Fixture Control DFCSJ-OEM-RF (RF only)[9,16,18,20] **LVS** Lutron Vive Integral Fixture Control DFCSJ-OEM-OCC (RF with daylight and occupancy sensing)[9,16,18,20] **ZRE** ControlScope® compatible[9,20,21]

Accessories

- ☐ **FK22** 2' × 2' Single Flange Kit (Shipped separately)
- ☐ **CM48Y2SC3F-KIT** 48" Cable Mount Kit for 2' wide Cable Mount fixtures, 3-wire

Notes:

1 Not available with HE lumen output
2 Available with ED driver and 80 CRI only. Not available with HE or VL lumen outputs
3 High efficacy versions designated with "HE"
4 For drywall, order G with Flange Kit Accessory
5 Not available with Air Return (A) air function
6 Order hanger accessories separately
7 Limitations apply based on lumen packages (see Product Exceptions & Details)
8 For compatibility with Dual-Lite LiteGear® inverters, contact Hubbell Lighting Representative
9 Not available in 347V
10 For emergency circuit control loads including sensors and wireless systems CSA certified to UL 924. Only available with 0–10V drivers. Universal voltage only. See page 8 for wiring diagram
11 SpectraSync+NX+SAF can not be configured. Only available with NXE, NXWE or NXWD. Not available in 347V

NX In-Fixture Control Options:

12 NXSW, NXWE, NXSWD and NXWD cannot be used with surface mount versions
13 NX is not available with ESD, LUTH, LUT5 or DALIP driver options
14 NX combined with Spectrasync is not available in 347V
15 For NX control and Flex Wire together, consult factory

Third-Party Control Options

16 LVS, LVR and ODPG only available with DALIP driver option
17 Only available with ED driver option
18 VIVE is a trademark of Lutron Electronics Co., Inc
19 Installations controlled solely by the Lutron Pico controller require accessing the LV (Lutron FCJS) module for commissioning after the circuit has been energized
20 Not available with SpectraSync (2750T or 2765T)
21 Registered trademark of Daintree Networks, used by permission

For questions about configuration options, contact Hubbell Representative

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HUBBELL Lighting

Columbia LIGHTING

LCAT22

2' × 2' LED CONTEMPORARY ARCHITECTURAL TROFFER

DATE: LOCATION:

TYPE: PROJECT:

CATALOG #:

PRODUCT EXCEPTIONS & DETAILS

Driver options listed below are available for the outputs as shown.

DRIVER AVAILABILITY TABLE											
	VW	VWHE	MW	MWHE	LW	ML	MLHE	HL	HLHE	VL	VLHE
E	X	X	X	X	X	X	X	X	X	X	X
ED	X	X	X	X	X	X	X	X	X	X	X
ED1	X	X	X	X	X	X	X	X	X	X	X
EDD			X		X	X		X			
ESD					X	X		X		X	
LUT5			X		X	X					
LUTH			X		X	X					
DALIP					X	X	X	X	X	X	X
347	X		X		X	X		X		X	

CONTROLS

NX Distributed Intelligence™ Lighting Controls:

Supports both indoor and outdoor applications in a variety of deployment options- wired, wireless, hybrid.
Integrates with and enables a wide array of luminaires including those with SpectraSync™ Color Tuning Technology.

NX DISTRIBUTED INTELLIGENCE™

NX INTEGRATED CONTROLS REFERENCE								
NX Option	Sensor	Networkable	Scheduling	Occupancy	Daylight Harvesting	0–10V Dimming	On/off Control	Bluetooth® App Programming
NX Standalone								
NXS	NXSMP-SMI	No	Yes	Yes	Yes	Yes	Yes	Yes
NX Networked – Wired								
NXE	N/A	Yes	Yes	No	No	Yes	Yes	Requires NXBTC/R[1]
NXES	NXSMP-SMI	Yes	Yes	Yes	Yes	Yes	Yes	Yes
NX Networked – Wireless								
NXSW	NXSMP-SMI	Yes	Yes	Yes	Yes	Yes	Yes	Yes
NXWE	N/A	Yes	Yes	No	No	Yes	Yes	No[2]
NX Networked – Wired/Wireless								
NXSWD	NXSMP-SMI	Yes	Yes	Yes	Yes	Yes	Yes	Yes
NXWD	N/A	Yes	Yes	No	No	Yes	Yes	Requires NXBTC/R[1,2]

1 NXBTC/R needs to be plugged into an available NX SmartPORT™ on the fixture network
2 To program NXWE option, need to consult factory. If connected to an area controller, programming can be done from that

Philips EasySense Controls ODPG Sensor:

- Occupancy sensing, daylight harvesting, task tuning and grouping in one device
- Standalone control or grouping to wireless switches[1]
- Uses Philips field apps for on site commissioning[2,3]
- Ability to create scenes for various room configurations
- Cost-effective solution for energy-savings and code-compliancy strategies
- DLC® Qualified: Listed on the QPL for Networked Lighting Controls. Please refer to the DLC website for specific product qualifications at www.designlights.org

1 Wireless switches only compatible with ODPG Philips EasySense
2 See link to Philips commssioning
3 Requires android device or IR dongle. See links for phone compatiblity and IR dongle

Wireless Switch Accessories[1]

☐ PESR-WH EasySense compatible wireless single rocker switch, white

☐ PEDR-WH EasySense compatible wireless dual rocker switch, white

NX Design & Application Guide
NX Brochure
Philips SNAP200
EasySense Design Guide

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HUBBELL Lighting

Columbia LIGHTING

LCAT22

2' × 2' LED CONTEMPORARY ARCHITECTURAL TROFFER

DATE: | LOCATION:

TYPE: | PROJECT:

CATALOG #:

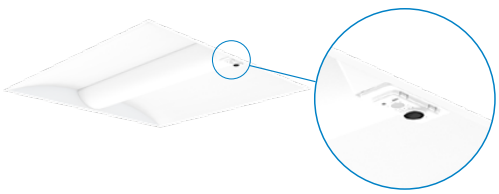
CONTROLS (CONTINUED)

SpectraSAFE™ Integrated Surveillance Lighting System

SPECTRASAFE

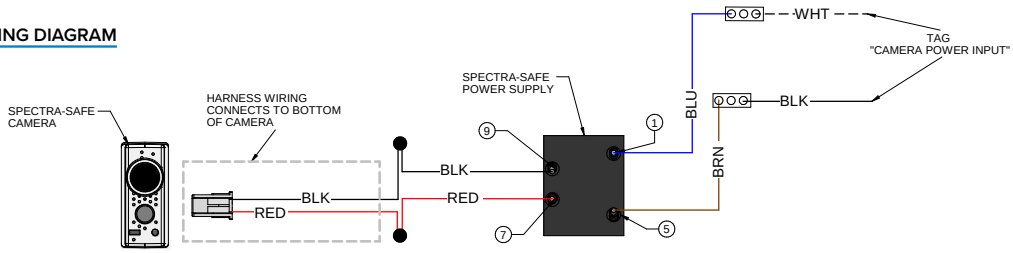
Technical Features
- High resolution 1080p full HD camera
- 2.8mm lens / 140° field of view
- IR emitter for low / no-light conditions
- Multiple wiring configurations available
- Supports 2-way audio communication
- Supports 2.4GHz WPA-PSK/WPA2-PSK Wi-Fi
- Data encrypted using AES 256 standard
- Low power consumption (2-5W)
- Transmissions secured using Open TLS / SSL

Software & Support
- Free Android, iOS and web-based app
- Versatile and supports multiple applications
- Multi-tenant web-based camera application
- Phone and in-app chat technical support
- Scalable cloud services and video storage
- Supported by a 5-year warranty



SPECTRASAFE WIRING DIAGRAM

Power Supply Pin Connections	
Pin#	Single
1	VAC in (N)
5	VAC in (L)
7	+Vout
9	-Vout



SpectraSync™ Color Tuning Technology:

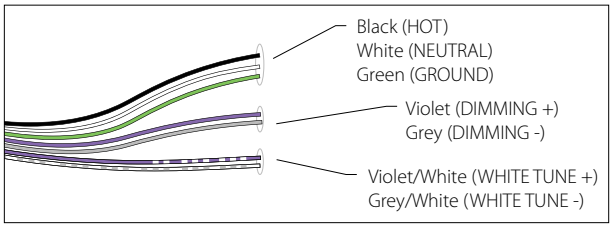
Control your space based on the needs of the application, specific activities throughout the day and preferences of the occupants with distinct SpectraSync™ Color Tuning Technologies.

SpectraSync Color Tuning Technology

SPECTRASYNC COLOR TUNING TECHNOLOGY		
Mode	Kelvin Range	Description
Tunable White	2700K–5000K 2700K–6500K	Offers users the ability to tailor CCT to their personal preference, enhancing task visibility, material and colors or the aesthetics of the space

SpectraSync Tunable White

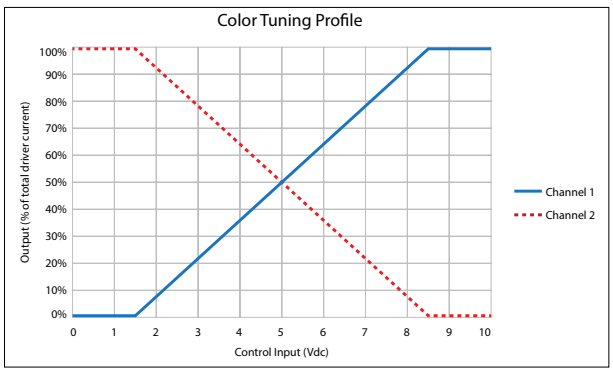
Available in two options: 2750T (2700K–5000K) or 2765T (2700K–6500K). Requires two 0–10V controllers, one for intensity and one for CCT. Minimum 5% dimming.



SpectraSync Tunable White luminaires are provided with two 0–10V circuits. The violet and grey circuit is for wiring to any qualified 0–10V controller for dimming. The violet/white and grey/white circuit is for wiring to any qualified 0–10V controller for Tunable White CCT control.

Controller Manufacturer Data

SpectraSync Tunable White was designed to be used with sinking style dimmers (provided by others) and is compatible with:
- Hubbell Control Solutions (HCS): NX Distributed Intelligence™ Room Controllers (NXRC) and In-fixture Controllers (NXFM)
- Lutron: DVTV, DVSTV, and NFTV dimmers
- Wattstopper: ADF120277 and CD4BL (Titan) dimmers



To enable scheduling and for use with NX wall control preset stations please refer to Hubbell Control Solutions NX SpectraSync technical sheet.

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LCAT22

2' × 2' LED CONTEMPORARY ARCHITECTURAL TROFFER

DELIVERED LUMENS, SPECTRASYNC™

SpectraSync™ Color Tuning Technology

Shielding	Lumen Output	Watts	2700		3000		3500		4000		5000		6500	
			Lumens	LPW	Lumens	LPW	Lumens	LPW	Lumens	LPW	Lumens	LPW	Lumens	LPW
Curve	VW	14	1500	110	1567	115	1595	117	1616	119	1669	123	1644	121
	MW	18	1961	109	2049	114	2086	116	2113	117	2182	121	2149	119
	LW	23	2582	114	2698	119	2747	122	2782	123	2873	127	2830	125
	ML	29	3177	111	3320	116	3380	118	3423	119	3536	123	3483	121
	HL	32	3444	108	3599	113	3664	115	3711	117	3833	121	3775	119
Rectangle	VW	13	1479	110	1545	115	1573	117	1593	119	1645	123	1621	121
	MW	18	1930	109	2017	114	2053	116	2080	117	2148	121	2116	120
	LW	23	2547	113	2661	118	2709	120	2743	121	2834	125	2791	124
	ML	29	3127	109	3267	114	3326	116	3368	117	3479	121	3427	119
	HL	32	3391	107	3543	112	3607	114	3653	116	3773	119	3717	118

DELIVERED LUMENS

Product Availability 80 CRI				
Lumen Package	Shielding	Lumens	Input Watts	LPW
LCAT22-30VW	Curve	1567	14	115
LCAT22-30VWx-R	Rectangle	1545	13	115
LCAT22-30VWHE	Curve	1530	13	121
LCAT22-35VW	Curve	1614	14	119
LCAT22-35VWx-R	Rectangle	1597	13	119
LCAT22-35VWHE	Curve	1576	13	125
LCAT22-40VW	Curve	1639	14	121
LCAT22-40VWx-R	Rectangle	1623	13	121
LCAT22-40VWHE	Curve	1600	13	127
LCAT22-50VW	Curve	1785	14	131
LCAT22-50VWx-R	Rectangle	1666	13	124
LCAT22-50VWHE	Curve	1743	13	138
LCAT22-30MW	Curve	2049	18	114
LCAT22-30MWx-R	Rectangle	2017	18	114
LCAT22-30MWHE	Curve	2010	17	122
LCAT22-35MW	Curve	2110	18	117
LCAT22-35MWx-R	Rectangle	2085	18	118
LCAT22-35MWHE	Curve	2070	17	125
LCAT22-40MW	Curve	2143	18	119
LCAT22-40MWx-R	Rectangle	2118	18	120
LCAT22-40MWHE	Curve	2102	17	127
LCAT22-50MW	Curve	2334	18	130
LCAT22-50MWx-R	Rectangle	2174	18	123
LCAT22-50MWHE	Curve	2289	17	139
LCAT22-30LW	Curve	2689	23	119
LCAT22-30LWx-R	Rectangle	2661	23	118
LCAT22-35LW	Curve	2770	23	123
LCAT22-35LWx-R	Rectangle	2752	23	122
LCAT22-40LW	Curve	2813	23	124
LCAT22-40LWx-R	Rectangle	2795	23	124
LCAT22-50LW	Curve	3063	23	136
LCAT22-50LWx-R	Rectangle	2870	23	127

Product Availability 90 CRI				
Lumen Package	Shielding	Lumens	Input Watts	LPW
LCAT22-930VW	Curve	1342	13	100
LCAT22-930VWx-R	Rectangle	1313	13	98
–	–	–	–	–
LCAT22-935VW	Curve	1371	13	102
LCAT22-935VWx-R	Rectangle	1341	13	100
–	–	–	–	–
LCAT22-940VW	Curve	1400	13	104
LCAT22-940VWx-R	Rectangle	1370	13	102
–	–	–	–	–
LCAT22-950VW	Curve	1492	13	111
LCAT22-950VWx-R	Rectangle	1459	13	109
–	–	–	–	–
LCAT22-930MW	Curve	1744	17.7	99
LCAT22-930MWx-R	Rectangle	1714	17.7	97
–	–	–	–	–
LCAT22-935MW	Curve	1781	18	101
LCAT22-935MWx-R	Rectangle	1750	18	99
–	–	–	–	–
LCAT22-940MW	Curve	1819	18	103
LCAT22-940MWx-R	Rectangle	1788	18	101
–	–	–	–	–
LCAT22-950MW	Curve	1938	18	109
LCAT22-950MWx-R	Rectangle	1905	18	108
–	–	–	–	–
LCAT22-930LW	Curve	2286	23	101
LCAT22-930LWx-R	Rectangle	2263	23	100
LCAT22-935LW	Curve	2339	23	103
LCAT22-935LWx-R	Rectangle	2311	23	102
LCAT22-940LW	Curve	2393	23	106
LCAT22-940LWx-R	Rectangle	2361	23	104
LCAT22-950LW	Curve	2527	23	112
LCAT22-950LWx-R	Rectangle	2515	23	111

(Tables continue on next page.)

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DELIVERED LUMENS, CONT'D

Product Availability 80 CRI				
Lumen Package	Shielding	Lumens	Input Watts	LPW
LCAT22-30ML	Curve	3320	29	116
LCAT22-30MLx-R	Rectangle	3267	29	114
LCAT22-30MLHE	Curve	3293	28	119
LCAT22-35ML	Curve	3420	29	119
LCAT22-35MLx-R	Rectangle	3378	29	118
LCAT22-35MLHE	Curve	3392	28	123
LCAT22-40ML	Curve	3473	29	121
LCAT22-40MLx-R	Rectangle	3431	29	120
LCAT22-40MLHE	Curve	3442	28	125
LCAT22-50ML	Curve	3781	29	132
LCAT22-50MLx-R	Rectangle	3522	29	123
LCAT22-50MLHE	Curve	3751	28	136
LCAT22-30HL	Curve	3599	32	113
LCAT22-30HLx-R	Rectangle	3543	32	112
LCAT22-30HLHE	Curve	3497	28	126
LCAT22-35HL	Curve	3707	32	117
LCAT22-35HLx-R	Rectangle	3664	32	116
LCAT22-35HLHE	Curve	3616	28	130
LCAT22-40HL	Curve	3764	32	118
LCAT22-40HLx-R	Rectangle	3721	32	118
LCAT22-40HLHE	Curve	3671	28	132
LCAT22-50HL	Curve	4099	32	129
LCAT22-50HLx-R	Rectangle	3820	32	121
LCAT22-50HLHE	Curve	3769	28	136
LCAT22-30VL	Curve	4270	39	111
LCAT22-30VLx-R	Rectangle	4432	40	110
LCAT22-30VLHE	Curve	4257	35	123
LCAT22-35VL	Curve	4398	39	114
LCAT22-35VLx-R	Rectangle	4583	40	113
LCAT22-35VLHE	Curve	4401	35	127
LCAT22-40VL	Curve	4466	39	116
LCAT22-40VLx-R	Rectangle	4655	40	115
LCAT22-40VLHE	Curve	4470	35	129
LCAT22-50VL	Curve	4863	39	126
LCAT22-50VLx-R	Rectangle	4779	40	118
LCAT22-50VLHE	Curve	4649	35	134

Product Availability 90 CRI				
Lumen Package	Shielding	Lumens	Input Watts	LPW
LCAT22-930ML	Curve	2821	29	98
LCAT22-930MLx-R	Rectangle	2778	29	97
–	–	–	–	–
LCAT22-935ML	Curve	2888	29	101
LCAT22-935MLx-R	Rectangle	2836	29	99
–	–	–	–	–
LCAT22-940ML	Curve	2954	29	103
LCAT22-940MLx-R	Rectangle	2897	29	101
–	–	–	–	–
LCAT22-950ML	Curve	3121	29	109
LCAT22-950MLx-R	Rectangle	3086	29	108
–	–	–	–	–
LCAT22-930HL	Curve	3123	32	98
LCAT22-930HLx-R	Rectangle	3012	32	95
–	–	–	–	–
LCAT22-935HL	Curve	3190	32	100
LCAT22-935HLx-R	Rectangle	3076	32	97
–	–	–	–	–
LCAT22-940HL	Curve	3259	32	102
LCAT22-940HLx-R	Rectangle	3142	32	99
–	–	–	–	–
LCAT22-950HL	Curve	3471	32	109
LCAT22-950HLx-R	Rectangle	3347	32	106
–	–	–	–	–
LCAT22-930VL	Curve	4289	39	110
LCAT22-930VLx-R	Rectangle	3767	40	93
–	–	–	–	–
LCAT22-935VL	Curve	4381	39	113
LCAT22-935VLx-R	Rectangle	3848	40	95
–	–	–	–	–
LCAT22-940VL	Curve	4476	39	115
LCAT22-940VLx-R	Rectangle	3930	40	97
–	–	–	–	–
LCAT22-950VL	Curve	4767	39	123
LCAT22-950VLx-R	Rectangle	4187	40	104
–	–	–	–	–

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LCAT22

2' × 2' LED CONTEMPORARY ARCHITECTURAL TROFFER

DATE: | LOCATION:

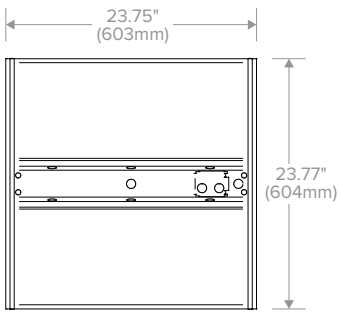
TYPE: | PROJECT:

CATALOG #:

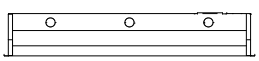
DIMENSIONS

GRID

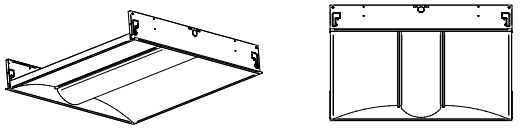
Grid, recessed section



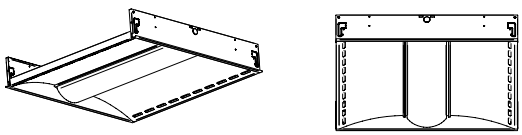
Grid, back of housing



GRID, STATIC

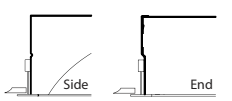


GRID, AIR RETURN



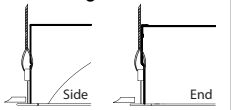
CEILING COMPATIBILITY

Type G



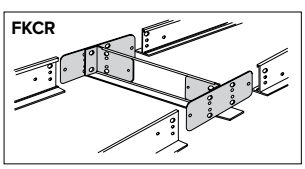
For lay-in installation in exposed grid ceilings. Maximum tee widths of 1" and maximum tee heights of 2" allowed.

FK22 Flange Kit



For hard ceiling applications, order FK22 flange kit. Flange kit wires directly into concealed ceiling opening for a clean, finished appearance.

FKCR

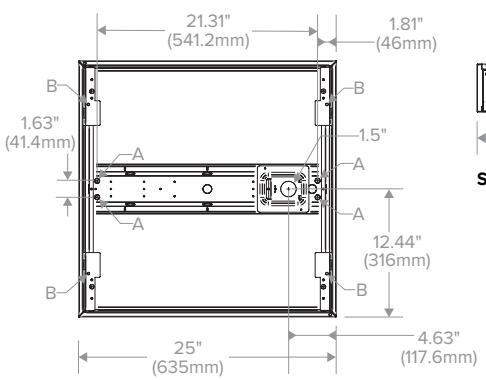


For flanged fixtures in row configurations, the FKCR adapter bracket kit is required in addition to the FK22 kit. Order one less FKCR than the total number of fixtures in row. (Example: Row of two, order (2) FK22 & (1) FKCR)

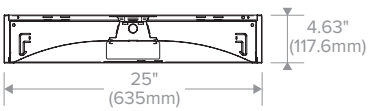
Row cut out dimensions using FK22s & FKCR adapters: Width 24⅜", Length [24" × (# in row)] + ⅜". Example: (24" × 2) + ⅜" = 48⅜"

Flange kit cut out dimension for single unit only: 24⅜" × 24⅜"

SURFACE MOUNT OR CABLE MOUNT, STATIC ONLY



Surface Mount (SM) and Cable Mount (CM), back of housing



Surface section (SM)

Surface Mount:
Order SM ceiling type. Mounting collar required for surface mounting. (4) Mounting knock-outs, 3⁄8", provided in center channel as indicated at left, marked A.

Cable Mount:
Order CM ceiling type. Use CM48Y2SC3F-KIT 48" Cable Mount Kit for 2' wide CM trim fixtures. Mounting holes are provided in diagonal straps shown at left, marked B.

* For Cable Mount a 2" x 3" access plate with (4) **⅞"** KOs provided in place of Mounting Collar shown.

NOTE: All dimensions are in inches; dimensions and specifications are subject to change without notice. Please consult factory or check sample for verification.

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LCAT22

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PHOTOMETRY

LCAT22-35LWG-EU

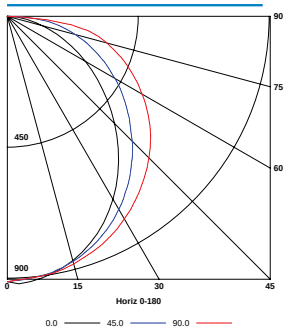
LUMINAIRE DATA

Test No.	**16540**
Description	**2' x 2' LED architectural troffer with frosted linear prismed lens**
Delivered Lumens	**2769**
Watts	**22.60**
Efficacy	**123**
Mounting	**Recessed**
Spacing Criterion	**0° = 1.19 90° = 1.31**

ZONAL LUMEN SUMMARY

Zone	Lumens	% Luminaire
0–30	705	25.5
0–40	1154	41.7
0–60	2056	74.3
0–90	2769	100
0–180	2769	100

POLAR GRAPH



LCAT22-35MLG-EU

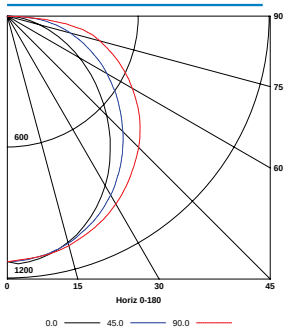
LUMINAIRE DATA

Test No.	**16543**
Description	**2' x 2' LED architectural troffer with frosted linear prismed lens**
Delivered Lumens	**3420**
Watts	**28.70**
Efficacy	**119**
Mounting	**Recessed**
Spacing Criterion	**0° = 1.19 90° = 1.31**

ZONAL LUMEN SUMMARY

Zone	Lumens	% Luminaire
0–30	871	25.5
0–40	1424	41.7
0–60	2539	74.2
0–90	3420	100
0–180	3420	100

POLAR GRAPH



LCAT22-35HLG-EU

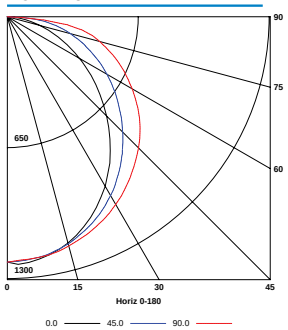
LUMINAIRE DATA

Test No.	**16546**
Description	**2' x 2' LED architectural troffer with frosted linear prismed lens**
Delivered Lumens	**3707**
Watts	**31.80**
Efficacy	**117**
Mounting	**Recessed**
Spacing Criterion	**0° = 1.19 90° = 1.31**

ZONAL LUMEN SUMMARY

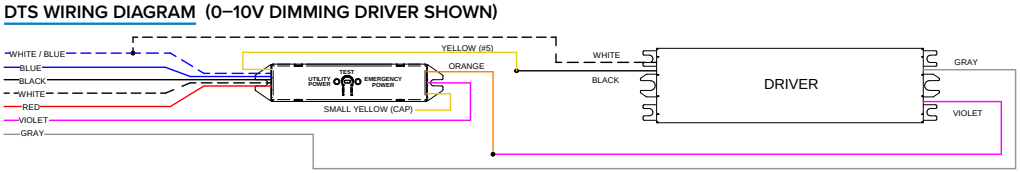
Zone	Lumens	% Luminaire
0–30	943	25.4
0–40	1543	41.6
0–60	2751	74.2
0–90	3707	100
0–180	3707	100

POLAR GRAPH



ADDITIONAL INFORMATION

DTS WIRING DIAGRAM (0–10V DIMMING DRIVER SHOWN)



WHITE/BLUE	Emergency Neutral
BLUE	Emergency Line
BLACK	Utility Line (Unswitched Hot)
WHITE	Utility Neutral
RED	Switched Hot
VIOLET	Dimming
GRAY	Dimming

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LCAT22

2' × 2' LED CONTEMPORARY ARCHITECTURAL TROFFER

FEATURES

- High efficiency acrylic center lens features linear prisms for high performance without pixelation
- Appropriate for offices, schools, medical, and public spaces
- High performance reflector with matte white paint standard
- HE lumen packages available
- LED modules and electrical accessible from below
- Optional architecturally styled integration of daylight and occupancy sensor(s)
- QR code traceability
- Compatible with Dual-Lite inverters

Built to UL 924 Standards

Chicago Plenum

See Certification Specifications

RELATED PRODUCTS

LCAT12 LCAT14 LCAT24

Grid, recessed section

CONTROL TECHNOLOGY

SpectraSync NX DISTRIBUTED INTELLIGENCE SPECTRASAFE

SPECIFICATIONS

CONSTRUCTION

- Luminaire housing, reflectors and end caps are die-formed code-gauge cold-rolled steel
- High transmission extruded acrylic enclosed lens features linear prisms with custom frost for high efficacy without pixelation
- All reflective surfaces are finished after fabrication with unique formula high-reflectivity matte white paint for soft, uniform indirect illumination

OPTICS

- Removable lens for easy access to LED module and electrical components

INSTALLATION

- An access plate is furnished with each luminaire for fast wiring access without the necessity to open the fixture or wireway
- Luminaire fits recessed exposed Grid ceilings (G); four integral NEC compliant T-bar clips are standard
- Can be placed in Slot Grid (SG) style ceiling with regress ⅜" above ceiling plane
- A Flange Kit (FK) accessory is available for recessed hard ceiling applications
- Surface Mount (SM) option allows placement below ceiling plane
- Cable Mount (CM) option allows suspension below ceiling plane

ELECTRICAL

- 60,000 hour LEDs at L80 for reduced maintenance

ELECTRICAL (CONTINUED)

- 83 CRI standard or optional 90 CRI for color sensitive applications

CONTROLS

- Optional SpectraSync™ offers two modes of Tunable White solutions and integrates seamlessly into a variety of control systems
- NX Distributed Intelligence™ provides options for standalone and networked integrated sensor with wired or wireless connectivity for NX system deployments

TECHNOLOGY

- SpectraSAFE™ is a scalable, cloud-enabled and lighting-based wireless video security solution for interior commercial and industrial applications

CERTIFICATIONS

- IC label is standard for recessed products. Note that IC label is void if product is installed on site with a combination of both battery pack plus through wiring or for air return fixtures
- All luminaires are built to UL1598 and 2108 standards, and bear appropriate cCSAus labels
- CSA certified to UL 924 standards with battery pack or DTS (Dimming Bypass Module) options
- Damp Location label standard
- Adheres to LM79, LM80, and TM21 industry standards

CERTIFICATIONS (CONTINUED)

- DLC® (DesignLights Consortium) Qualified, with some Premium Qualified configurations. Please refer to the DLC website for specific product qualifications at www.designlights.org
- NX is available in U.S., Canada and Mexico. For other locations consult factory
- The DTS, Dimming Bypass Module, is for emergency circuit control loads including sensors and wireless systems CSA certified to UL 924. See page 8 for wiring diagram. Link to Dimming Bypass Module Specification sheet
- This product qualifies as a "designated country construction material" per FAR 52.225-11 Buy American-Construction Materials under Trade Agreements effective 04/03/2020. See Buy American Solutions

WARRANTY

- 5 year warranty
- See HLI Standard Warranty for additional information

KEY DATA	
Lumen Range	1313–4863
Wattage Range	13–40
Efficacy Range (LPW)	93–139
Reported Life (Hours)	L80/60,000

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LCAT22

2' × 2' LED CONTEMPORARY ARCHITECTURAL TROFFER

DATE: LOCATION:

TYPE: PROJECT:

CATALOG #:

ORDERING GUIDE

Example: LCAT22–35MLG–ESDU

CATALOG #

LCAT22 –

Model	CRI	Color Temp	Delivered Lumens[3]	Ceiling Type	Shielding	Air Function	Driver
LCAT22 2' x 2' LED Contemporary Architectural Troffer	**Blank** >80 **9** >90[1]	**30** 3000K **35** 3500K **40** 4000K **50** 5000K **2750T** 2700K–5000K SpectraSync™ Tunable White[2] **2765T** 2700K–6500K SpectraSync™ Tunable White[2]	**VW** 1313–1785 **VWHE** 1530–1743 **MW** 1714–2334 **MWHE** 2010–2289 **LW** 2263–3063 **ML** 2778–3781 **MLHE** 3293–3751 **HL** 3012–4099 **HLHE** 3616–3769 **VL** 3767–4863 **VLHE** 4257–4649	**G** Grid Lay-in[4] **SM** Surface Mount[5,12] **CM** Cable Suspended Mount[5,6]	**Blank** Curve **R** Rectangular	**Blank** Static **A** Air Return Side Slots	**E** Fixed Output **ED** 0–10V Dimming **ED1** 0–10V 1% Dimming **EDD** 0–10V Dim-to-Dark **ESD** Step Dimming[7,9,13] **LUTH** Hi-lume 1% EcoSystem LED driver with Soft-on, Fade-to-Black dimming technology[7,9,13] **LUT5** 5-Series EcoSystem LED driver[7,9,13] **DALIP** DALI Power Bus[9,16]

–

Voltage	Options	Control Options
U 120–277V **347** 347V[14]	**ELL14** Emergency Battery Pack Installed, 1400 Lumens[8,9] **ELL14ST** Emergency Battery Pack, 1400 Lumens, Self Test[8,9] **ELL14H2** Emergency Battery Pack, 2-Hour Run Time[8,9] **DTS** Dimming Bypass Module[9,10] **C388** 3-wire Flex[15] **C488** 4-wire Flex[15] **C588** 5-wire Flex[15] **GLR** Fast Blow Fuse **EOR** End of Row (SM and CM only. Provides end wiring access for continuous row mounting.)[5] **INT** Intermediate (SM and CM only. Provides ends with wiring access for continuous row mounting.)[5] **CP** Chicago Plenum **SAF** SpectraSAFE™ Integrated Surveillance Lighting System[11]	**NX Standalone** **NXS** NX, PIR BT Occupancy/Daylight Sensor, Slide Mount[13,14] **NX Networked – Wired** **NXE** NX, Dual SmartPORTs[13,14] **NXES** NX, PIR BT Occupancy/Daylight Sensor, Slide Mount, Dual SmartPORTs[13,14] **NX Networked – Wireless** **NXSW** NX Wireless, PIR BT Occupancy/Daylight Sensor[12,13,14] **NXWE** NX Wireless Enabled[12,13,14] **NX Networked – Wired/Wireless Hybrid** **NXSWD** NX Wireless, PIR BT Occupancy/Daylight Sensor, Dual SmartPORTs[13,14] **NXWD** NX Wireless, Dual SmartPORTs[13,14] **Third-Party Control Options** **ODPG** Occupancy and Daylight Sensors w/ Grouping, Philips SNS200[9,16,20] **LV** Lutron Vive Attached FCJS POWPAK Fixture Control (RF only for 0–10V drivers)[9,17,18,19,20] **LVR** Lutron Vive Integral Fixture Control DFCSJ-OEM-RF (RF only)[9,16,18,20] **LVS** Lutron Vive Integral Fixture Control DFCSJ-OEM-OCC (RF with daylight and occupancy sensing)[9,16,18,20] **ZRE** ControlScope® compatible[9,20,21]

Accessories

- ☐ **FK22** 2' × 2' Single Flange Kit (Shipped separately)
- ☐ **CM48Y2SC3F-KIT** 48" Cable Mount Kit for 2' wide Cable Mount fixtures, 3-wire

Notes:

1 Not available with HE lumen output
2 Available with ED driver and 80 CRI only. Not available with HE or VL lumen outputs
3 High efficacy versions designated with "HE"
4 For drywall, order G with Flange Kit Accessory
5 Not available with Air Return (A) air function
6 Order hanger accessories separately
7 Limitations apply based on lumen packages (see Product Exceptions & Details)
8 For compatibility with Dual-Lite LiteGear® inverters, contact Hubbell Lighting Representative
9 Not available in 347V
10 For emergency circuit control loads including sensors and wireless systems CSA certified to UL 924. Only available with 0–10V drivers. Universal voltage only. See page 8 for wiring diagram
11 SpectraSync+NX+SAF can not be configured. Only available with NXE, NXWE or NXWD. Not available in 347V

NX In-Fixture Control Options:

12 NXSW, NXWE, NXSWD and NXWD cannot be used with surface mount versions
13 NX is not available with ESD, LUTH, LUT5 or DALIP driver options
14 NX combined with Spectrasync is not available in 347V
15 For NX control and Flex Wire together, consult factory

Third-Party Control Options

16 LVS, LVR and ODPG only available with DALIP driver option
17 Only available with ED driver option
18 VIVE is a trademark of Lutron Electronics Co., Inc
19 Installations controlled solely by the Lutron Pico controller require accessing the LV (Lutron FCJS) module for commissioning after the circuit has been energized
20 Not available with SpectraSync (2750T or 2765T)
21 Registered trademark of Daintree Networks, used by permission

For questions about configuration options, contact Hubbell Representative

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2' × 2' LED CONTEMPORARY ARCHITECTURAL TROFFER

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CATALOG #:

PRODUCT EXCEPTIONS & DETAILS

Driver options listed below are available for the outputs as shown.

DRIVER AVAILABILITY TABLE											
	VW	VWHE	MW	MWHE	LW	ML	MLHE	HL	HLHE	VL	VLHE
E	X	X	X	X	X	X	X	X	X	X	X
ED	X	X	X	X	X	X	X	X	X	X	X
ED1	X	X	X	X	X	X	X	X	X	X	X
EDD			X		X	X		X			
ESD					X	X		X		X	
LUT5			X		X	X					
LUTH			X		X	X					
DALIP					X	X	X	X	X	X	X
347	X		X		X	X		X		X	

CONTROLS

NX Distributed Intelligence™ Lighting Controls:

Supports both indoor and outdoor applications in a variety of deployment options- wired, wireless, hybrid.
Integrates with and enables a wide array of luminaires including those with SpectraSync™ Color Tuning Technology.

NX DISTRIBUTED INTELLIGENCE™

NX INTEGRATED CONTROLS REFERENCE								
NX Option	Sensor	Networkable	Scheduling	Occupancy	Daylight Harvesting	0–10V Dimming	On/off Control	Bluetooth® App Programming
NX Standalone								
NXS	NXSMP-SMI	No	Yes	Yes	Yes	Yes	Yes	Yes
NX Networked – Wired								
NXE	N/A	Yes	Yes	No	No	Yes	Yes	Requires NXBTC/R[1]
NXES	NXSMP-SMI	Yes	Yes	Yes	Yes	Yes	Yes	Yes
NX Networked – Wireless								
NXSW	NXSMP-SMI	Yes	Yes	Yes	Yes	Yes	Yes	Yes
NXWE	N/A	Yes	Yes	No	No	Yes	Yes	No[2]
NX Networked – Wired/Wireless								
NXSWD	NXSMP-SMI	Yes	Yes	Yes	Yes	Yes	Yes	Yes
NXWD	N/A	Yes	Yes	No	No	Yes	Yes	Requires NXBTC/R[1,2]

1 NXBTC/R needs to be plugged into an available NX SmartPORT™ on the fixture network
2 To program NXWE option, need to consult factory. If connected to an area controller, programming can be done from that

Philips EasySense Controls ODPG Sensor:

- Occupancy sensing, daylight harvesting, task tuning and grouping in one device
- Standalone control or grouping to wireless switches[1]
- Uses Philips field apps for on site commissioning[2,3]
- Ability to create scenes for various room configurations
- Cost-effective solution for energy-savings and code-compliancy strategies
- DLC® Qualified: Listed on the QPL for Networked Lighting Controls. Please refer to the DLC website for specific product qualifications at www.designlights.org

1 Wireless switches only compatible with ODPG Philips EasySense
2 See link to Philips commssioning
3 Requires android device or IR dongle. See links for phone compatiblity and IR dongle

Wireless Switch Accessories[1]

☐ PESR-WH EasySense compatible wireless single rocker switch, white

☐ PEDR-WH EasySense compatible wireless dual rocker switch, white

NX Design & Application Guide
NX Brochure
Philips SNAP200
EasySense Design Guide

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2' × 2' LED CONTEMPORARY ARCHITECTURAL TROFFER

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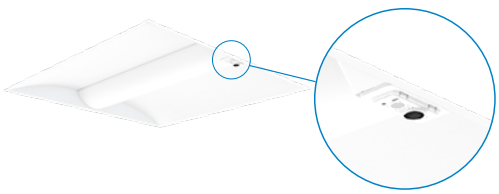
CONTROLS (CONTINUED)

SpectraSAFE™ Integrated Surveillance Lighting System

SPECTRASAFE

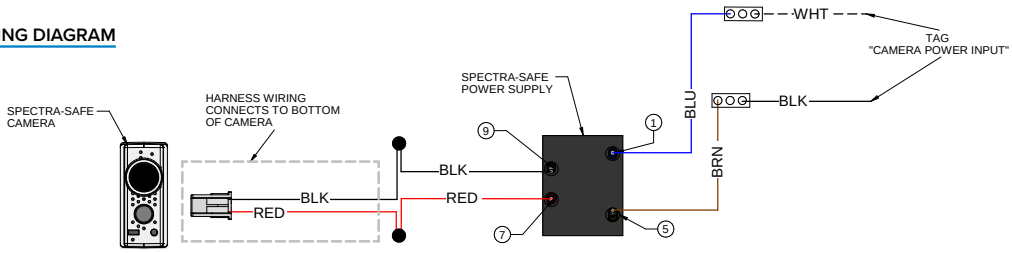
Technical Features
- High resolution 1080p full HD camera
- 2.8mm lens / 140° field of view
- IR emitter for low / no-light conditions
- Multiple wiring configurations available
- Supports 2-way audio communication
- Supports 2.4GHz WPA-PSK/WPA2-PSK Wi-Fi
- Data encrypted using AES 256 standard
- Low power consumption (2-5W)
- Transmissions secured using Open TLS / SSL

Software & Support
- Free Android, iOS and web-based app
- Versatile and supports multiple applications
- Multi-tenant web-based camera application
- Phone and in-app chat technical support
- Scalable cloud services and video storage
- Supported by a 5-year warranty



SPECTRASAFE WIRING DIAGRAM

Power Supply Pin Connections	
Pin#	Single
1	VAC in (N)
5	VAC in (L)
7	+Vout
9	-Vout



SpectraSync™ Color Tuning Technology:

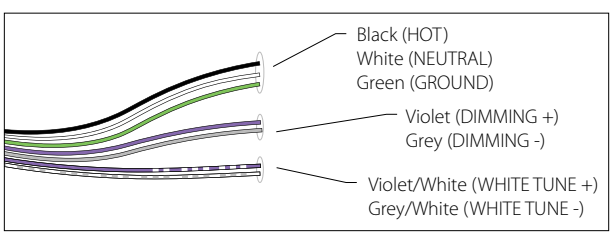
Control your space based on the needs of the application, specific activities throughout the day and preferences of the occupants with distinct SpectraSync™ Color Tuning Technologies.

SpectraSync Color Tuning Technology

SPECTRASYNC COLOR TUNING TECHNOLOGY		
Mode	Kelvin Range	Description
Tunable White	2700K–5000K 2700K–6500K	Offers users the ability to tailor CCT to their personal preference, enhancing task visibility, material and colors or the aesthetics of the space

SpectraSync Tunable White

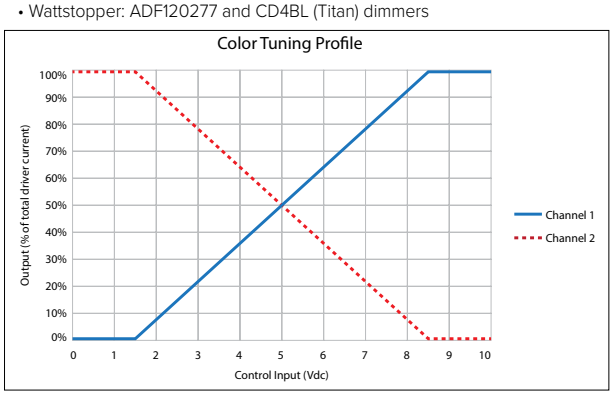
Available in two options: 2750T (2700K–5000K) or 2765T (2700K–6500K). Requires two 0–10V controllers, one for intensity and one for CCT. Minimum 5% dimming.



SpectraSync Tunable White luminaires are provided with two 0–10V circuits. The violet and grey circuit is for wiring to any qualified 0–10V controller for dimming. The violet/white and grey/white circuit is for wiring to any qualified 0–10V controller for Tunable White CCT control.

Controller Manufacturer Data

SpectraSync Tunable White was designed to be used with sinking style dimmers (provided by others) and is compatible with:
- Hubbell Control Solutions (HCS): NX Distributed Intelligence™ Room Controllers (NXRC) and In-fixture Controllers (NXFM)
- Lutron: DVTV, DVSTV, and NFTV dimmers
- Wattstopper: ADF120277 and CD4BL (Titan) dimmers



To enable scheduling and for use with NX wall control preset stations please refer to Hubbell Control Solutions NX SpectraSync technical sheet.

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LCAT22

2' × 2' LED CONTEMPORARY ARCHITECTURAL TROFFER

DELIVERED LUMENS, SPECTRASYNC™

SpectraSync™ Color Tuning Technology

Shielding	Lumen Output	Watts	2700		3000		3500		4000		5000		6500	
			Lumens	LPW	Lumens	LPW	Lumens	LPW	Lumens	LPW	Lumens	LPW	Lumens	LPW
Curve	VW	14	1500	110	1567	115	1595	117	1616	119	1669	123	1644	121
	MW	18	1961	109	2049	114	2086	116	2113	117	2182	121	2149	119
	LW	23	2582	114	2698	119	2747	122	2782	123	2873	127	2830	125
	ML	29	3177	111	3320	116	3380	118	3423	119	3536	123	3483	121
	HL	32	3444	108	3599	113	3664	115	3711	117	3833	121	3775	119
Rectangle	VW	13	1479	110	1545	115	1573	117	1593	119	1645	123	1621	121
	MW	18	1930	109	2017	114	2053	116	2080	117	2148	121	2116	120
	LW	23	2547	113	2661	118	2709	120	2743	121	2834	125	2791	124
	ML	29	3127	109	3267	114	3326	116	3368	117	3479	121	3427	119
	HL	32	3391	107	3543	112	3607	114	3653	116	3773	119	3717	118

DELIVERED LUMENS

Product Availability 80 CRI				
Lumen Package	Shielding	Lumens	Input Watts	LPW
LCAT22-30VW	Curve	1567	14	115
LCAT22-30VWx-R	Rectangle	1545	13	115
LCAT22-30VWHE	Curve	1530	13	121
LCAT22-35VW	Curve	1614	14	119
LCAT22-35VWx-R	Rectangle	1597	13	119
LCAT22-35VWHE	Curve	1576	13	125
LCAT22-40VW	Curve	1639	14	121
LCAT22-40VWx-R	Rectangle	1623	13	121
LCAT22-40VWHE	Curve	1600	13	127
LCAT22-50VW	Curve	1785	14	131
LCAT22-50VWx-R	Rectangle	1666	13	124
LCAT22-50VWHE	Curve	1743	13	138
LCAT22-30MW	Curve	2049	18	114
LCAT22-30MWx-R	Rectangle	2017	18	114
LCAT22-30MWHE	Curve	2010	17	122
LCAT22-35MW	Curve	2110	18	117
LCAT22-35MWx-R	Rectangle	2085	18	118
LCAT22-35MWHE	Curve	2070	17	125
LCAT22-40MW	Curve	2143	18	119
LCAT22-40MWx-R	Rectangle	2118	18	120
LCAT22-40MWHE	Curve	2102	17	127
LCAT22-50MW	Curve	2334	18	130
LCAT22-50MWx-R	Rectangle	2174	18	123
LCAT22-50MWHE	Curve	2289	17	139
LCAT22-30LW	Curve	2689	23	119
LCAT22-30LWx-R	Rectangle	2661	23	118
LCAT22-35LW	Curve	2770	23	123
LCAT22-35LWx-R	Rectangle	2752	23	122
LCAT22-40LW	Curve	2813	23	124
LCAT22-40LWx-R	Rectangle	2795	23	124
LCAT22-50LW	Curve	3063	23	136
LCAT22-50LWx-R	Rectangle	2870	23	127

Product Availability 90 CRI				
Lumen Package	Shielding	Lumens	Input Watts	LPW
LCAT22-930VW	Curve	1342	13	100
LCAT22-930VWx-R	Rectangle	1313	13	98
–	–	–	–	–
LCAT22-935VW	Curve	1371	13	102
LCAT22-935VWx-R	Rectangle	1341	13	100
–	–	–	–	–
LCAT22-940VW	Curve	1400	13	104
LCAT22-940VWx-R	Rectangle	1370	13	102
–	–	–	–	–
LCAT22-950VW	Curve	1492	13	111
LCAT22-950VWx-R	Rectangle	1459	13	109
–	–	–	–	–
LCAT22-930MW	Curve	1744	17.7	99
LCAT22-930MWx-R	Rectangle	1714	17.7	97
–	–	–	–	–
LCAT22-935MW	Curve	1781	18	101
LCAT22-935MWx-R	Rectangle	1750	18	99
–	–	–	–	–
LCAT22-940MW	Curve	1819	18	103
LCAT22-940MWx-R	Rectangle	1788	18	101
–	–	–	–	–
LCAT22-950MW	Curve	1938	18	109
LCAT22-950MWx-R	Rectangle	1905	18	108
–	–	–	–	–
LCAT22-930LW	Curve	2286	23	101
LCAT22-930LWx-R	Rectangle	2263	23	100
LCAT22-935LW	Curve	2339	23	103
LCAT22-935LWx-R	Rectangle	2311	23	102
LCAT22-940LW	Curve	2393	23	106
LCAT22-940LWx-R	Rectangle	2361	23	104
LCAT22-950LW	Curve	2527	23	112
LCAT22-950LWx-R	Rectangle	2515	23	111

(Tables continue on next page.)

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2' × 2' LED CONTEMPORARY ARCHITECTURAL TROFFER

DATE: LOCATION:

TYPE: PROJECT:

CATALOG #:

DELIVERED LUMENS, CONT'D

Product Availability 80 CRI				
Lumen Package	Shielding	Lumens	Input Watts	LPW
LCAT22-30ML	Curve	3320	29	116
LCAT22-30MLx-R	Rectangle	3267	29	114
LCAT22-30MLHE	Curve	3293	28	119
LCAT22-35ML	Curve	3420	29	119
LCAT22-35MLx-R	Rectangle	3378	29	118
LCAT22-35MLHE	Curve	3392	28	123
LCAT22-40ML	Curve	3473	29	121
LCAT22-40MLx-R	Rectangle	3431	29	120
LCAT22-40MLHE	Curve	3442	28	125
LCAT22-50ML	Curve	3781	29	132
LCAT22-50MLx-R	Rectangle	3522	29	123
LCAT22-50MLHE	Curve	3751	28	136
LCAT22-30HL	Curve	3599	32	113
LCAT22-30HLx-R	Rectangle	3543	32	112
LCAT22-30HLHE	Curve	3497	28	126
LCAT22-35HL	Curve	3707	32	117
LCAT22-35HLx-R	Rectangle	3664	32	116
LCAT22-35HLHE	Curve	3616	28	130
LCAT22-40HL	Curve	3764	32	118
LCAT22-40HLx-R	Rectangle	3721	32	118
LCAT22-40HLHE	Curve	3671	28	132
LCAT22-50HL	Curve	4099	32	129
LCAT22-50HLx-R	Rectangle	3820	32	121
LCAT22-50HLHE	Curve	3769	28	136
LCAT22-30VL	Curve	4270	39	111
LCAT22-30VLx-R	Rectangle	4432	40	110
LCAT22-30VLHE	Curve	4257	35	123
LCAT22-35VL	Curve	4398	39	114
LCAT22-35VLx-R	Rectangle	4583	40	113
LCAT22-35VLHE	Curve	4401	35	127
LCAT22-40VL	Curve	4466	39	116
LCAT22-40VLx-R	Rectangle	4655	40	115
LCAT22-40VLHE	Curve	4470	35	129
LCAT22-50VL	Curve	4863	39	126
LCAT22-50VLx-R	Rectangle	4779	40	118
LCAT22-50VLHE	Curve	4649	35	134

Product Availability 90 CRI				
Lumen Package	Shielding	Lumens	Input Watts	LPW
LCAT22-930ML	Curve	2821	29	98
LCAT22-930MLx-R	Rectangle	2778	29	97
–	–	–	–	–
LCAT22-935ML	Curve	2888	29	101
LCAT22-935MLx-R	Rectangle	2836	29	99
–	–	–	–	–
LCAT22-940ML	Curve	2954	29	103
LCAT22-940MLx-R	Rectangle	2897	29	101
–	–	–	–	–
LCAT22-950ML	Curve	3121	29	109
LCAT22-950MLx-R	Rectangle	3086	29	108
–	–	–	–	–
LCAT22-930HL	Curve	3123	32	98
LCAT22-930HLx-R	Rectangle	3012	32	95
–	–	–	–	–
LCAT22-935HL	Curve	3190	32	100
LCAT22-935HLx-R	Rectangle	3076	32	97
–	–	–	–	–
LCAT22-940HL	Curve	3259	32	102
LCAT22-940HLx-R	Rectangle	3142	32	99
–	–	–	–	–
LCAT22-950HL	Curve	3471	32	109
LCAT22-950HLx-R	Rectangle	3347	32	106
–	–	–	–	–
LCAT22-930VL	Curve	4289	39	110
LCAT22-930VLx-R	Rectangle	3767	40	93
–	–	–	–	–
LCAT22-935VL	Curve	4381	39	113
LCAT22-935VLx-R	Rectangle	3848	40	95
–	–	–	–	–
LCAT22-940VL	Curve	4476	39	115
LCAT22-940VLx-R	Rectangle	3930	40	97
–	–	–	–	–
LCAT22-950VL	Curve	4767	39	123
LCAT22-950VLx-R	Rectangle	4187	40	104
–	–	–	–	–

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HUBBELL Lighting

Columbia LIGHTING

LCAT22

2' × 2' LED CONTEMPORARY ARCHITECTURAL TROFFER

DATE: LOCATION:

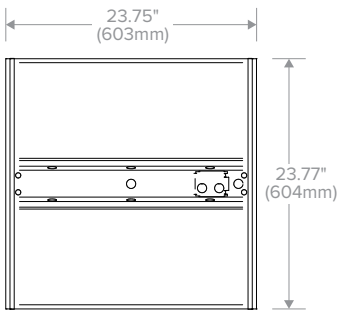
TYPE: PROJECT:

CATALOG #:

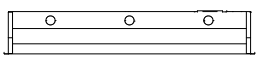
DIMENSIONS

GRID

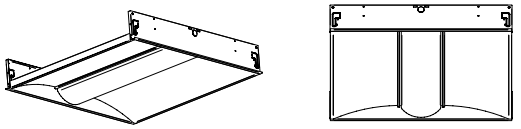
Grid, recessed section



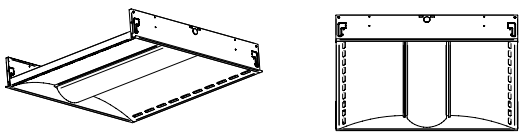
Grid, back of housing



GRID, STATIC

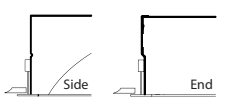


GRID, AIR RETURN



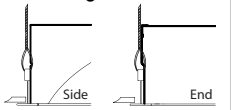
CEILING COMPATIBILITY

Type G



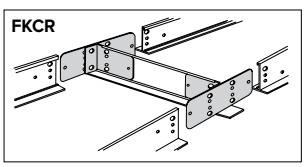
For lay-in installation in exposed grid ceilings. Maximum tee widths of 1" and maximum tee heights of 2" allowed.

FK22 Flange Kit



For hard ceiling applications, order FK22 flange kit. Flange kit wires directly into concealed ceiling opening for a clean, finished appearance.

FKCR

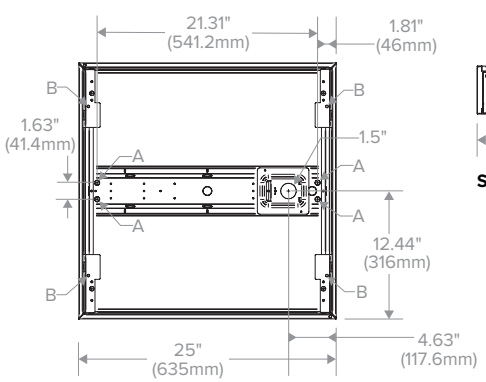


For flanged fixtures in row configurations, the FKCR adapter bracket kit is required in addition to the FK22 kit. Order one less FKCR than the total number of fixtures in row. (Example: Row of two, order (2) FK22 & (1) FKCR)

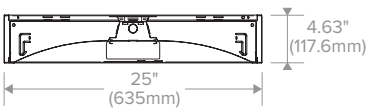
Row cut out dimensions using FK22s & FKCR adapters: Width 24⅜", Length [24" × (# in row)] + ⅜". Example: (24" × 2) + ⅜" = 48⅜"

Flange kit cut out dimension for single unit only: 24⅜" × 24⅜"

SURFACE MOUNT OR CABLE MOUNT, STATIC ONLY



Surface Mount (SM) and Cable Mount (CM), back of housing



Surface section (SM)

Surface Mount:
Order SM ceiling type. Mounting collar required for surface mounting. (4) Mounting knock-outs, 3⁄8", provided in center channel as indicated at left, marked A.

Cable Mount:
Order CM ceiling type. Use CM48Y2SC3F-KIT 48" Cable Mount Kit for 2' wide CM trim fixtures. Mounting holes are provided in diagonal straps shown at left, marked B.

* For Cable Mount a 2" x 3" access plate with (4) **⅞"** KOs provided in place of Mounting Collar shown.

NOTE: All dimensions are in inches; dimensions and specifications are subject to change without notice. Please consult factory or check sample for verification.

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HUBBELL Lighting

Columbia LIGHTING

LCAT22

2' × 2' LED CONTEMPORARY ARCHITECTURAL TROFFER

DATE: | LOCATION:

TYPE: | PROJECT:

CATALOG #:

PHOTOMETRY

LCAT22-35LWG-EU

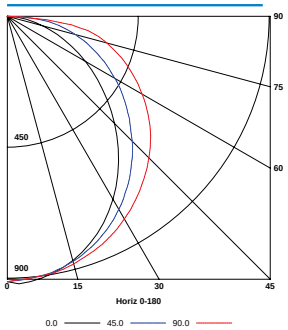
LUMINAIRE DATA

Test No.	**16540**
Description	**2' x 2' LED architectural troffer with frosted linear prismed lens**
Delivered Lumens	**2769**
Watts	**22.60**
Efficacy	**123**
Mounting	**Recessed**
Spacing Criterion	**0° = 1.19 90° = 1.31**

ZONAL LUMEN SUMMARY

Zone	Lumens	% Luminaire
0–30	705	25.5
0–40	1154	41.7
0–60	2056	74.3
0–90	2769	100
0–180	2769	100

POLAR GRAPH



LCAT22-35MLG-EU

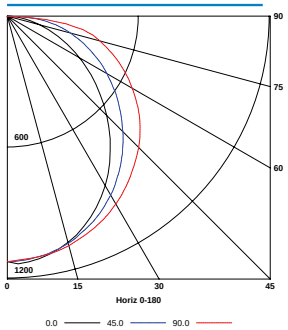
LUMINAIRE DATA

Test No.	**16543**
Description	**2' x 2' LED architectural troffer with frosted linear prismed lens**
Delivered Lumens	**3420**
Watts	**28.70**
Efficacy	**119**
Mounting	**Recessed**
Spacing Criterion	**0° = 1.19 90° = 1.31**

ZONAL LUMEN SUMMARY

Zone	Lumens	% Luminaire
0–30	871	25.5
0–40	1424	41.7
0–60	2539	74.2
0–90	3420	100
0–180	3420	100

POLAR GRAPH



LCAT22-35HLG-EU

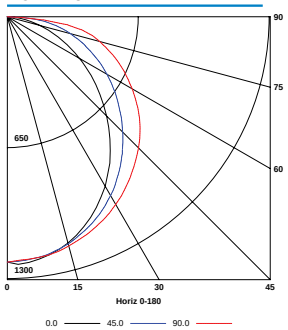
LUMINAIRE DATA

Test No.	**16546**
Description	**2' x 2' LED architectural troffer with frosted linear prismed lens**
Delivered Lumens	**3707**
Watts	**31.80**
Efficacy	**117**
Mounting	**Recessed**
Spacing Criterion	**0° = 1.19 90° = 1.31**

ZONAL LUMEN SUMMARY

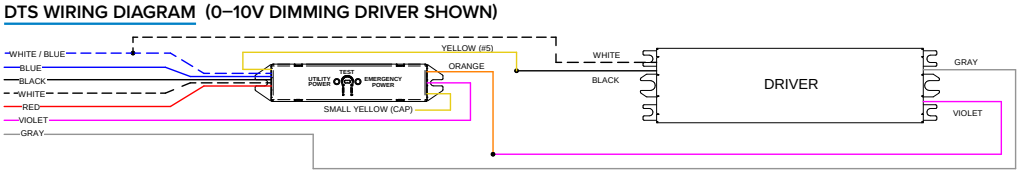
Zone	Lumens	% Luminaire
0–30	943	25.4
0–40	1543	41.6
0–60	2751	74.2
0–90	3707	100
0–180	3707	100

POLAR GRAPH



ADDITIONAL INFORMATION

DTS WIRING DIAGRAM (0–10V DIMMING DRIVER SHOWN)



WHITE/BLUE	Emergency Neutral
BLUE	Emergency Line
BLACK	Utility Line (Unswitched Hot)
WHITE	Utility Neutral
RED	Switched Hot
VIOLET	Dimming
GRAY	Dimming

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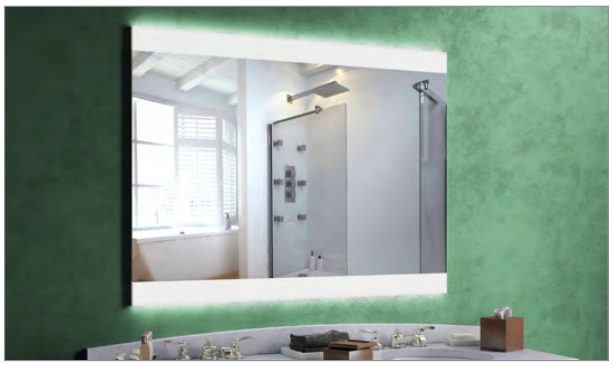
HUBBELL Lighting

Submitted by CAL+D			
Carolina Architectural Lighting and Design	**Job Name:** UofSC Close Hipp - Restroom Renovation Architect: Studio 2LR (Columbia) Engineer: Belka Engineering Associates (West Columbia)	**Catalog Number:** M104-A-24"-36"-30K-D2-80CRI Notes:	**Type:** V COL21-55190



ARKANSAS LIGHTING
STAY ILLUMINATED

Charlotte: M104 Series

Rectangular Mirror with etched bars on top and bottom

Sizes (Width x Height)	Color Temperature	CRI	Light Sources
W24" x H36"	2700K	80+	Double LED Strip (3-year warranty)
W36" x H36"	3000K	90+	Single LED Strip (3-year warranty)
W48" x H36"	3500K		T5 LED Tube (Limited Lifetime warranty)
W60" x H36"	4000K		
	6000K		
Custom-made Sizes	** Not all color temperatures currently available with LED tubes		

Feature Options:

Motion Sensor Switch	Shaver Socket
Touch Sensor Switch	Bluetooth Speaker
LED Digital Clock	Defogging System
USB Charger	Integrated Television
Magnifying Mirror	

NOT APPROVED

Features for All Mirrors:

- Fingerprint-free etched / frosted mirror areas
- Special anti-corrosion mirror treatment
- 5mm environmental copper free silver mirror
- High output LED light source rated for 50,000 hours
- Input Voltage of 110/230V, 50/60 Hz
- IP44 rating, suitable for any hotel bathroom area
- All lighted mirrors are tested and held to UL Standards
- Rust-resistant white powder-coat steel chassis
- Bubble level with each chassis for ease of installation

Part Numbers Decoded

Style Code	Variation	Width	Height	Color Temp	Light Source	CRI	Options
M104	A	48"	36"	2700K-6500K	SS-Single Strip	80CRI	
					T5-LED Tube	90CRI	
					D2-Double Strip		