



The following documentation is an electronically-submitted vendor response to an advertised solicitation from the *West Virginia Purchasing Bulletin* within the Vendor Self-Service portal at [wvOASIS.gov](http://wvOASIS.gov). As part of the State of West Virginia's procurement process, and to maintain the transparency of the bid-opening process, this documentation submitted online is publicly posted by the West Virginia Purchasing Division at [WVPurchasing.gov](http://WVPurchasing.gov) with any other vendor responses to this solicitation submitted to the Purchasing Division in hard copy format.

Header 5

List View

**General Information** | Contact | Default Values | Discount | Document Information

<b>Procurement Folder:</b> 453736	<b>SO Doc Code:</b> CRFQ
<b>Procurement Type:</b> Central Purchase Order	<b>SO Dept:</b> 0211
<b>Vendor ID:</b> <input type="text" value="000000218999"/> 	<b>SO Doc ID:</b> GSD1800000021
<b>Legal Name:</b> TRI STATE INDUSTRIAL SUPPLY INC	<b>Published Date:</b> 6/7/18
<b>Alias/DBA:</b>	<b>Close Date:</b> 6/12/18
<b>Total Bid:</b> \$118,069.00	<b>Close Time:</b> 13:30
<b>Response Date:</b> <input type="text" value="06/12/2018"/> 	<b>Status:</b> Closed

[Apply Default Values to Commodity Lines](#) | [View Procurement Folder](#)



Purchasing Division  
 2019 Washington Street East  
 Post Office Box 50130  
 Charleston, WV 25305-0130

State of West Virginia  
 Solicitation Response

**Proc Folder :** 453736  
**Solicitation Description :** Addendum 1 - LED Light Fixtures and Accessories  
**Proc Type :** Central Purchase Order

Date issued	Solicitation Closes	Solicitation Response	Version
	2018-06-12 13:30:00	SR 0211 ESR06121800000005851	1

<b>VENDOR</b>
000000218999 TRI STATE INDUSTRIAL SUPPLY INC

**Solicitation Number:** CRFQ 0211 GSD1800000021

**Total Bid :** \$118,069.00      **Response Date:** 2018-06-12      **Response Time:** 12:23:49

**Comments:** Attached is a quote of equals for the Holophane items requested. I have provided specs on each line. Should you have any questions, feel free to reach out.  
Thank you for the opportunity.

**FOR INFORMATION CONTACT THE BUYER**  
 Linda B Harper  
 (304) 558-0468  
 linda.b.harper@wv.gov

<b>Signature on File</b>	<b>FEIN #</b>	<b>DATE</b>
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All offers subject to all terms and conditions contained in this solicitation

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Ln Total Or Contract Amount
1	Light emitting diode LED fixture	1380.00000	EA	\$66.350000	\$91,563.00

Comm Code	Manufacturer	Specification	Model #
39111544			

**Extended Description :** HOLOPHANE /ACUITY TROFFER LIGHT FIXTURE LED  
Part No. HVT 2x4 DOP 3900LM 35K MVOLT MIN10 80CRI ZT JP10, or equal

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Ln Total Or Contract Amount
2	Light emitting diode LED fixture	35.00000	EA	\$243.600000	\$8,526.00

Comm Code	Manufacturer	Specification	Model #
39111544			

**Extended Description :** HOLOPHANE/ ACUITY TROFFER LIGHT FIXTURE LED- EMERGENCY w/ BATTERY  
Part No. HVT 2x4 DOP 3900LM 35K MVOLT MIN10 80CRI ZT BR JP10, or equal

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Ln Total Or Contract Amount
3	Light emitting diode LED fixture	65.00000	EA	\$57.000000	\$3,705.00

Comm Code	Manufacturer	Specification	Model #
39111544			

**Extended Description :** HOLOPHANE/ACUITY TROFFER LIGHT FIXTURE LED  
Part No. HVT 2x2 DOP 3900LM 35K MVOLT MIN10 80CRI ZT JP 10, or equal

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Ln Total Or Contract Amount
4	Interior lighting fixtures and accessories	350.00000	EA	\$4.250000	\$1,487.50

Comm Code	Manufacturer	Specification	Model #
39111500			

**Extended Description :** HOLOPHANE FIXTURE EARTH QUAKE STABILITY CLIPS  
Part No. 2x4 EC EARTHQUAKE CLIPS (PACKAGE OF 4), or equal

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Ln Total Or Contract Amount
5	Interior lighting fixtures and accessories	150.00000	EA	\$85.250000	\$12,787.50

Comm Code	Manufacturer	Specification	Model #
39111500			

<b>Extended Description :</b>	HOLOPHANE / ACUITY dimming and OCUPANCY SENSOR WALL SWITCH Part No. WSX PDT D WH (120/277V) with matching wall plate included, or equal
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# QUOTATION

T-SISI  
 4970 E Teays Valley Road  
 Scott Depot, WV 25560  
 USA  
 606-329-2659



Order Number	
1299900	
Order Date	Page
6/12/2018 10:21:43	1 of 1

Quote Expires On 7/12/2018

**Bill To:**  
 CASH SALE, T-SISI CHARLESTON  
 4970 F TEAYS VALLEY ROAD  
 SCOTT DEPOT, WV 25560

**Ship To:**  
 CASH SALE, T-SISI CHARLESTON  
 4970 F TEAYS VALLEY ROAD  
 SCOTT DEPOT, WV 25560

**Customer ID:** 12804

PO Number	Ship Route	Taker
WV STATE BLDG 32 34 LED LTG FIX		MIKE.JORDAN

Quantities					Item ID Item Description	Pricing UOM Unit Size	Unit Price	Extended Price
Ordered	Allocated	Remaining	UOM Unit Size	Disp.				
1,380	0	1,380	EA	1.0	WILL LT-24-L40/835-AF-DIM-UNV LED TROFF 2X4 4000 LUMEN 835 CRI	EA 1.0	66.350000	91,563.00
35	0	35	EA	1.0	WILL LT-24-L40/835-AF-EM/10W-DIM-UNV LED TROFF 2X4 4000 LUMEN 835 CRI 10W EM	EA 1.0	243.600000	8,526.00
65	0	65	EA	1.0	WILL LT-22-L39/835-AF-DIM-UNV LED TROFF 2X2 3900 LUMEN 835 CRI	EA 1.0	57.000000	3,705.00
350	0	350	EA	1.0	WIL EQCLIPS EARTH QUAKE CLIPS (4 PER FIXTURE)	EA 1.0	4.250000	1,487.50
150	0	150	EA	1.0	WATT DW-311- DIMMER	EA 1.0	85.250000	12,787.50

Total Lines: 5

**SUB-TOTAL:** 118,069.00  
**TAX:** 0.00  
**AMOUNT DUE:** **118,069.00**  
 U.S. Dollars

# LED TROFFER

LT

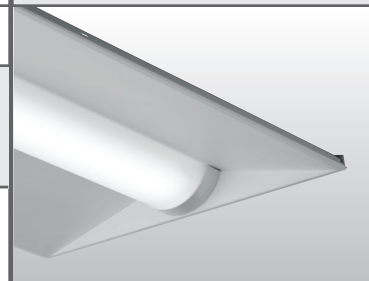
LED

CATALOG #:	TYPE:
PROJECT:	NOTES:

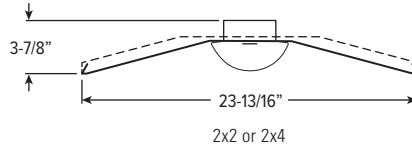
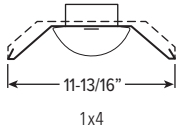
EXAMPLE

**LT - 2 4 - L52/835 - AF - OPTIONS - DIM - UNV**

SERIES    NOM. NOM.    LUMEN    CRI &    SHIELDING    OPTIONS/    DRIVER    VOLTAGE  
W.    L.    PACKAGE    CCT       ACCESSORIES            



## CROSS SECTIONS



## ORDERING INFORMATION

### SERIES

**LT** LED Troffer

### NOMINAL WIDTH

**1** 1' (4' length only)  
**2** 2'

### NOMINAL LENGTH

**2** 2' (2' width only)  
**4** 4'

### LED PACKAGE

EXAMPLE: L52/835				
LUMEN PACKAGE	NOMINAL LUMENS	MINIMUM CRI & CCT	WATTAGE	
<b>1x4</b>				
L28	2,800	<b>827</b> = 82 CRI, 2700K <b>830</b> = 82 CRI, 3000K <b>835</b> = 82 CRI, 3500K <b>840</b> = 82 CRI, 4000K <b>850</b> = 82 CRI, 5000K	21	
L47	4,700		34	
L63	6,300		49	
<b>2x2</b>				
L27	2,700		21	
L39	3,900		33	
L49	4,900		38	
<b>2x4</b>				
L40	4,000		32	
L52	5,200		37	
L64	6,400		49	
L82	8,200		64	

Nominal lumen output based on 3500 CCT. Actual lumens may vary +/-5%, see fixture performance data. Additional LED lumen packages available, see options.

### SHIELDING

**AF** Frosted acrylic

### OPTIONS

For flexible whip options, see [Technical Info](#).

**EM/10W** 10-watt emergency battery (120-277V only)

**EQCLIPS** Earthquake clips (4 per fixture; LT is compatible with Williams earthquake clips only)

**OCC\_\_** Integral occupancy sensor and power pack:  
**OCCLV OSF10-IUW-PP-UNV**

**(L\_\_)** Additional lower lumen packages available. Specify in increments of 100 nominal lumens. Option must be specified with next higher lumen package.

**Example:** 5,800 nominal lumens = LT-24-L64/840-(L58)

**CP** Chicago Plenum (CCEA)

### ACCESSORIES

See Technical Info for [Drywall Kit](#) and [Cord Location](#) details. See page 3 for Surface Mount details.

**LT-14-SMK-W** Surface mount kit for LT, 1'x4', white

**LT-22-SMK-W** Surface mount kit for LT, 2'x2', white

**LT-24-SMK-W** Surface mount kit for LT, 2'x4', white

**DFK-1248W** Drywall kit, 12" x 48", white

**DFK-2424W** Drywall kit, 24" x 24", white

**DFK-2448W** Drywall kit, 24" x 48", white

### DRIVER

Additional dimming drivers available, see [Technical Info](#).

**DRV** Driver prewired for non-dimming applications

**DIM** 10% dimming driver prewired for 0-10V low voltage applications

### VOLTAGE

**120** 120V

**277** 277V

**UNV** 120-277V

**347** 347V (not available with EM batteries)

## FEATURES

- ▶ Efficacies up to 140 lm/W
- ▶ Shallow housing depth
- ▶ Diffuse lens provides smooth illumination
- ▶ Proudly made in the USA



**FIXTURE PERFORMANCE DATA**

LED PACKAGE	DELIVERED LUMENS	WATTAGE	EFFICACY (lm/W)
<b>1x4</b>			
L28	2814	21.4	131.6
L47	4677	33.7	138.7
L63	6261	48.5	129.1
<b>2x2</b>			
L27	2722	21.3	127.8
L39	3934	33.1	118.7
L49	4869	38.1	127.7
<b>2x4</b>			
L40	3972	32.0	124.1
L52	5202	37.2	140.0
L64	6396	48.5	131.9
L82	8214	64.3	127.7

- Photometrics tested in accordance with IESNA LM-79. Results shown are based on 25°C ambient temperature.
- Wattage shown is average for 120V through 277V input.
- Results based on 3500K, 80 CRI, actual lumens may vary +/-5%
- Use multiplier table to calculate additional options.

**SPECIFICATIONS**

**Housing/Reflector** – Precision die-formed 22-gauge C.R.S.

**Shielding** – Frosted acrylic.

**Finish** – Highly reflective non-glare matte white polyester powder coat bonded to phosphate-free, multi-stage pretreated metal. All parts painted after fabrication to facilitate installation, increase efficiency, and inhibit corrosion.

**Electrical** – High quality mid-power LED boards. L70 >50,000 hours.

**Mounting** – NEMA Type “G”. Surface mount and drywall kit accessories available, ordered separately.

**Listings** –

- cCSAus certified as luminaire suitable for dry or damp locations.
- DesignLights Consortium Premium qualified product. Not all versions of this product may be DLC Premium qualified, see the DLC Qualified Products List at [www.designlights.org/QPL](http://www.designlights.org/QPL).
- City of Chicago Environmental Air approved when specified with CP option.

**Warranty** – 5-year limited warranty, see [hew.com/warranty](http://hew.com/warranty).

**IMPORTANT:**

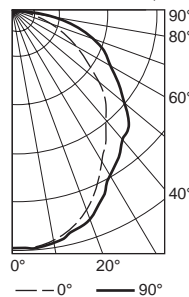
Electrostatic sensitive unit. Observe precautions when handling.

**MULTIPLIER TABLE**

COLOR TEMPERATURE	
CCT/CRI	CONVERSION FACTOR
2700K/80CRI	0.97
3000K/80CRI	0.99
3500K/80CRI	1.00
4000K/80CRI	1.03
5000K/80CRI	1.06

**PHOTOMETRY**

**LT-24-L52/835-AF-DIM-UNV** Total Luminaire Output: 5202 lumens; 37 Watts  
Efficacy: 141 lm/W | 82 CRI; 3043K CCT | IES Spacing Criteria: End: 1.1, Across: 1.2, Diagonal: 1.2

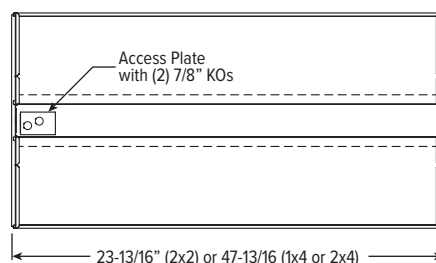


Vertical Angle	Horizontal Angle			Zonal Lumens
	0°	45°	90°	
0	1851	1851	1851	
5	1843	1844	1846	175
15	1745	1761	1779	499
25	1544	1589	1636	730
35	1276	1359	1440	848
45	1055	1193	1315	902
55	741	902	1044	802
65	480	667	817	647
75	241	429	544	438
85	70	174	159	161
90	0	0	0	

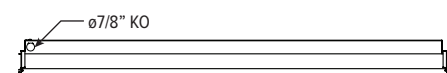
LUMEN SUMMARY	Zone	Lumens	% Fixture
	0 - 30	1404	27
	0 - 40	2252	43
	0 - 60	3955	76
	0 - 90	5202	100
	0 - 180	5202	100

**FIXTURE DETAILS**

**BACK VIEW**

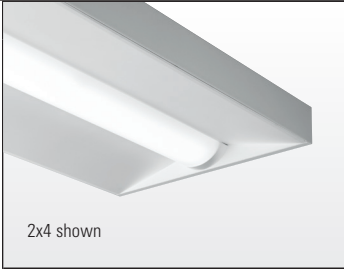


**SIDE VIEW**

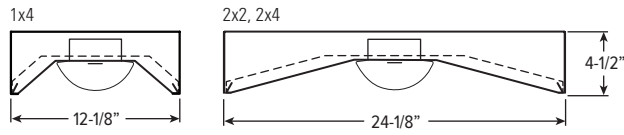




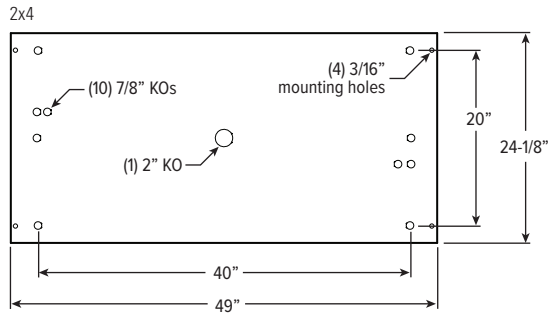
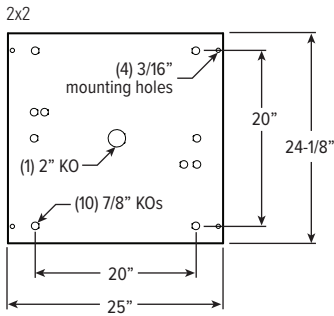
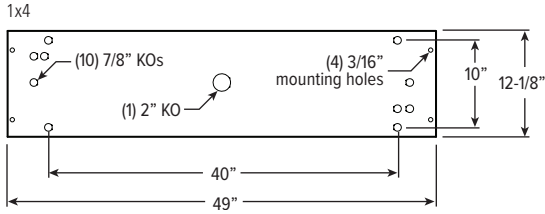
**SURFACE MOUNT KIT** (Shipped Separately)



**CROSS SECTIONS**



**BACKVIEWS**



# LED TROFFER

**LT**

**LED**

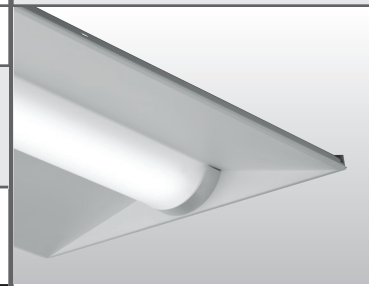
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PROJECT: \_\_\_\_\_ NOTES: \_\_\_\_\_

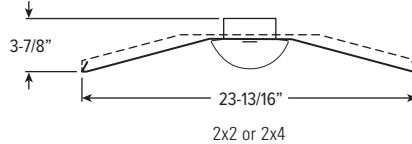
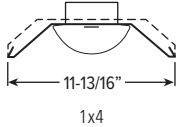
EXAMPLE

**LT - 2 4 - L52/835 - AF - OPTIONS - DIM - UNV**

SERIES    NOM. W.    NOM. L.    LUMEN PACKAGE    CRI & CCT    SHIELDING    OPTIONS/ACCESSORIES    DRIVER    VOLTAGE



## CROSS SECTIONS



## ORDERING INFORMATION

### SERIES

**LT** LED Troffer

### NOMINAL WIDTH

**1** 1' (4' length only)  
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### NOMINAL LENGTH

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### LED PACKAGE

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L28	2,800	827 = 82 CRI, 2700K 830 = 82 CRI, 3000K 835 = 82 CRI, 3500K 840 = 82 CRI, 4000K 850 = 82 CRI, 5000K	21	
L47	4,700		34	
L63	6,300		49	
<b>2x2</b>				
L27	2,700		21	
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L82	8,200	64		

Nominal lumen output based on 3500 CCT. Actual lumens may vary +/-5%, see fixture performance data. Additional LED lumen packages available, see options.

### SHIELDING

**AF** Frosted acrylic

### OPTIONS

For flexible whip options, see [Technical Info](#).

**EM/10W** 10-watt emergency battery (120-277V only)

**EQCLIPS** Earthquake clips (4 per fixture; LT is compatible with Williams earthquake clips only)

**OCC\_\_** Integral occupancy sensor and power pack: **OCCLV OSF10-IUW-PP-UNV**

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**Example:** 5,800 nominal lumens = LT-24-L64/840-(L58)

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### ACCESSORIES

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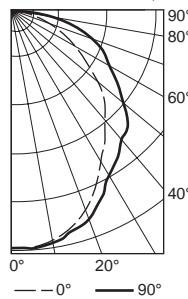
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5000K/80CRI	1.06

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LUMEN SUMMARY	Zone	Lumens	% Fixture
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**SPECIFICATIONS**

**Housing/Reflector** – Precision die-formed 22-gauge C.R.S.

**Shielding** – Frosted acrylic.

**Finish** – Highly reflective non-glare matte white polyester powder coat bonded to phosphate-free, multi-stage pretreated metal. All parts painted after fabrication to facilitate installation, increase efficiency, and inhibit corrosion.

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**Mounting** – NEMA Type “G”. Surface mount and drywall kit accessories available, ordered separately.

**Listings** –

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- City of Chicago Environmental Air approved when specified with CP option.

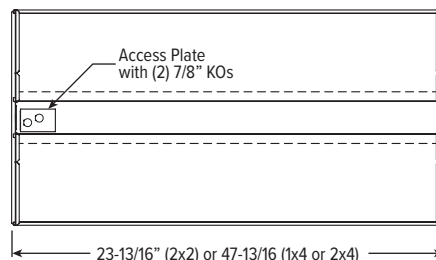
**Warranty** – 5-year limited warranty, see [hew.com/warranty](http://hew.com/warranty).

**IMPORTANT:**

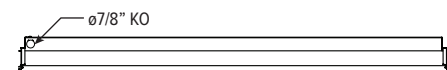
Electrostatic sensitive unit. Observe precautions when handling.

**FIXTURE DETAILS**

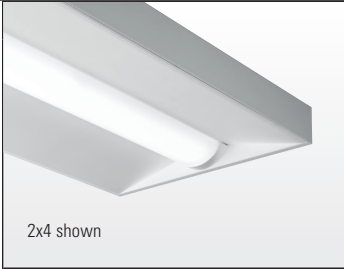
**BACK VIEW**



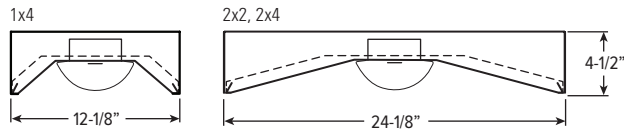
**SIDE VIEW**



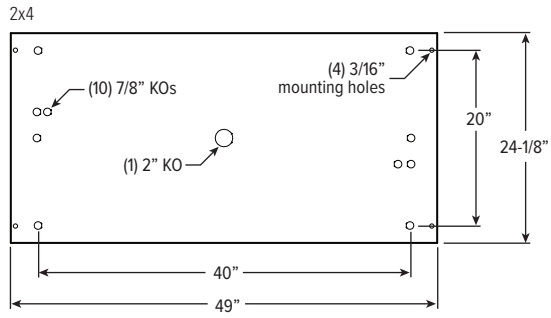
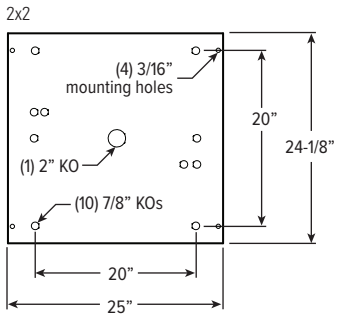
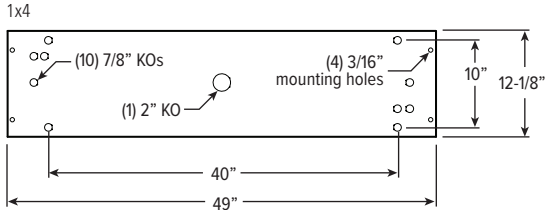
**SURFACE MOUNT KIT** (Shipped Separately)



**CROSS SECTIONS**



**BACKVIEWS**



# LED TROFFER

LT

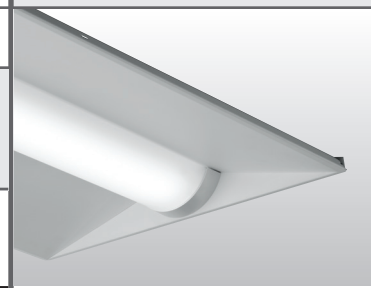
LED

CATALOG #:	TYPE:
PROJECT:	NOTES:

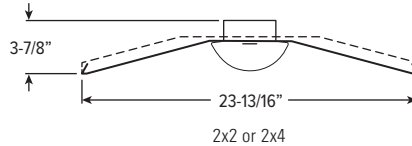
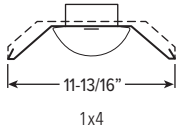
EXAMPLE

**LT - 2 4 - L52/835 - AF - OPTIONS - DIM - UNV**

SERIES    NOM. W.    NOM. L.    LUMEN PACKAGE    CRI & CCT    SHIELDING    OPTIONS/ACCESSORIES    DRIVER    VOLTAGE



## CROSS SECTIONS



## ORDERING INFORMATION

### SERIES

**LT** LED Troffer

### NOMINAL WIDTH

**1** 1' (4' length only)  
**2** 2'

### NOMINAL LENGTH

**2** 2' (2' width only)  
**4** 4'

### LED PACKAGE

EXAMPLE: L52/835				
LUMEN PACKAGE	NOMINAL LUMENS	MINIMUM CRI & CCT	WATTAGE	
<b>1x4</b>				
L28	2,800	<b>827</b> = 82 CRI, 2700K <b>830</b> = 82 CRI, 3000K <b>835</b> = 82 CRI, 3500K <b>840</b> = 82 CRI, 4000K <b>850</b> = 82 CRI, 5000K	21	
L47	4,700		34	
L63	6,300		49	
<b>2x2</b>				
L27	2,700		21	
L39	3,900		33	
L49	4,900		38	
<b>2x4</b>				
L40	4,000		32	
L52	5,200		37	
L64	6,400		49	
L82	8,200		64	

Nominal lumen output based on 3500 CCT. Actual lumens may vary +/-5%, see fixture performance data. Additional LED lumen packages available, see options.

### SHIELDING

**AF** Frosted acrylic

### OPTIONS

For flexible whip options, see [Technical Info](#).

**EM/10W** 10-watt emergency battery (120-277V only)

**EQCLIPS** Earthquake clips (4 per fixture; LT is compatible with Williams earthquake clips only)

**OCC\_\_** Integral occupancy sensor and power pack:  
**OCCLV OSF10-IUW-PP-UNV**

**(L\_\_)** Additional lower lumen packages available. Specify in increments of 100 nominal lumens. Option must be specified with next higher lumen package.

**Example:** 5,800 nominal lumens = LT-24-L64/840-(L58)

**CP** Chicago Plenum (CCEA)

### ACCESSORIES

See Technical Info for [Drywall Kit](#) and [Cord Location](#) details. See page 3 for Surface Mount details.

**LT-14-SMK-W** Surface mount kit for LT, 1'x4', white

**LT-22-SMK-W** Surface mount kit for LT, 2'x2', white

**LT-24-SMK-W** Surface mount kit for LT, 2'x4', white

**DFK-1248W** Drywall kit, 12" x 48", white

**DFK-2424W** Drywall kit, 24" x 24", white

**DFK-2448W** Drywall kit, 24" x 48", white

### DRIVER

Additional dimming drivers available, see [Technical Info](#).

**DRV** Driver prewired for non-dimming applications

**DIM** 10% dimming driver prewired for 0-10V low voltage applications

### VOLTAGE

**120** 120V

**277** 277V

**UNV** 120-277V

**347** 347V (not available with EM batteries)

## FEATURES

- ▶ Efficacies up to 140 lm/W
- ▶ Shallow housing depth
- ▶ Diffuse lens provides smooth illumination
- ▶ Proudly made in the USA



**FIXTURE PERFORMANCE DATA**

LED PACKAGE	DELIVERED LUMENS	WATTAGE	EFFICACY (lm/W)
<b>1x4</b>			
L28	2814	21.4	131.6
L47	4677	33.7	138.7
L63	6261	48.5	129.1
<b>2x2</b>			
L27	2722	21.3	127.8
L39	3934	33.1	118.7
L49	4869	38.1	127.7
<b>2x4</b>			
L40	3972	32.0	124.1
L52	5202	37.2	140.0
L64	6396	48.5	131.9
L82	8214	64.3	127.7

- Photometrics tested in accordance with IESNA LM-79. Results shown are based on 25°C ambient temperature.
- Wattage shown is average for 120V through 277V input.
- Results based on 3500K, 80 CRI, actual lumens may vary +/-5%
- Use multiplier table to calculate additional options.

**SPECIFICATIONS**

**Housing/Reflector** – Precision die-formed 22-gauge C.R.S.

**Shielding** – Frosted acrylic.

**Finish** – Highly reflective non-glare matte white polyester powder coat bonded to phosphate-free, multi-stage pretreated metal. All parts painted after fabrication to facilitate installation, increase efficiency, and inhibit corrosion.

**Electrical** – High quality mid-power LED boards. L70 >50,000 hours.

**Mounting** – NEMA Type “G”. Surface mount and drywall kit accessories available, ordered separately.

**Listings** –

- cCSAus certified as luminaire suitable for dry or damp locations.
- DesignLights Consortium Premium qualified product. Not all versions of this product may be DLC Premium qualified, see the DLC Qualified Products List at [www.designlights.org/QPL](http://www.designlights.org/QPL).
- City of Chicago Environmental Air approved when specified with CP option.

**Warranty** – 5-year limited warranty, see [hew.com/warranty](http://hew.com/warranty).

**IMPORTANT:**

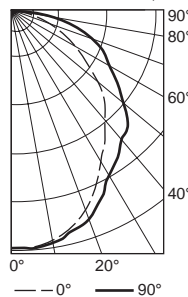
Electrostatic sensitive unit. Observe precautions when handling.

**MULTIPLIER TABLE**

COLOR TEMPERATURE	
CCT/CRI	CONVERSION FACTOR
2700K/80CRI	0.97
3000K/80CRI	0.99
3500K/80CRI	1.00
4000K/80CRI	1.03
5000K/80CRI	1.06

**PHOTOMETRY**

**LT-24-L52/835-AF-DIM-UNV** Total Luminaire Output: 5202 lumens; 37 Watts  
Efficacy: 141 lm/W | 82 CRI; 3043K CCT | IES Spacing Criteria: End: 1.1, Across: 1.2, Diagonal: 1.2

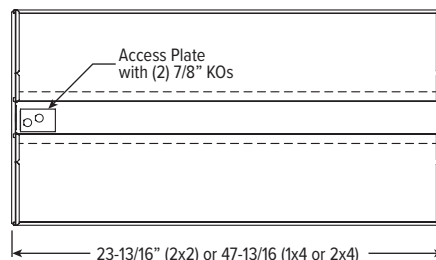


Vertical Angle	Horizontal Angle			Zonal Lumens
	0°	45°	90°	
0	1851	1851	1851	
5	1843	1844	1846	175
15	1745	1761	1779	499
25	1544	1589	1636	730
35	1276	1359	1440	848
45	1055	1193	1315	902
55	741	902	1044	802
65	480	667	817	647
75	241	429	544	438
85	70	174	159	161
90	0	0	0	

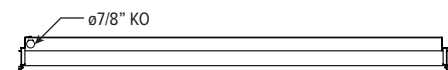
LUMEN SUMMARY	Zone	Lumens	% Fixture
	0 - 30	1404	27
	0 - 40	2252	43
	0 - 60	3955	76
	0 - 90	5202	100
	0 - 180	5202	100

**FIXTURE DETAILS**

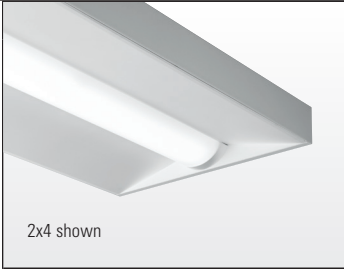
**BACK VIEW**



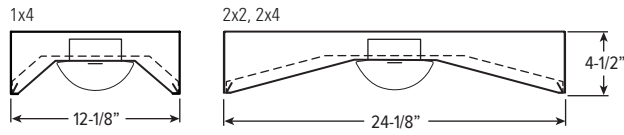
**SIDE VIEW**



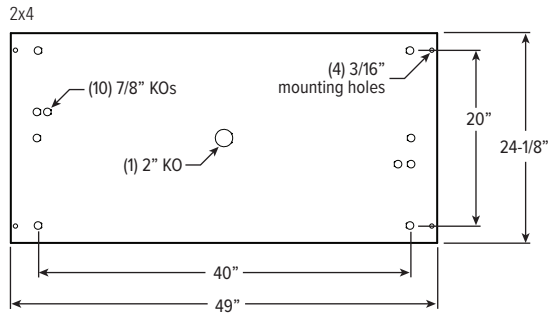
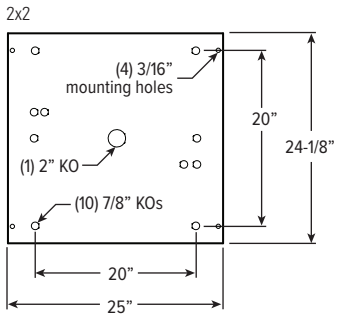
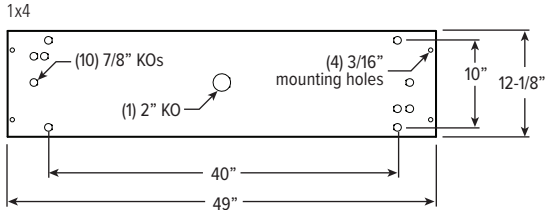
**SURFACE MOUNT KIT** (Shipped Separately)



**CROSS SECTIONS**



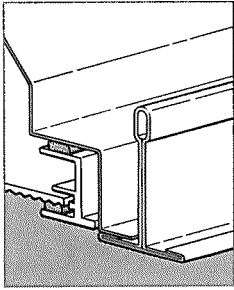
**BACKVIEWS**



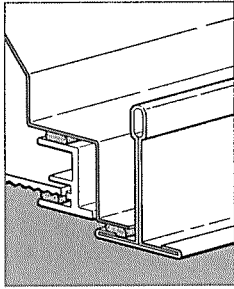
## Ceiling Compatibility

### GASKETING OPTIONS

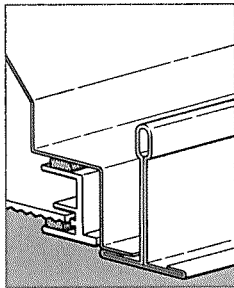
Fixtures must be equipped with flat aluminum door frame for gasketing options.



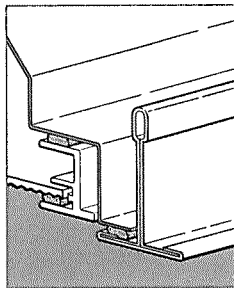
**DG**  
**Double Gasketing** – Open-cell foam gasketing is factory-installed continuously between door frame and luminaire housing and between door frame and lens.



**TG**  
**Triple Gasketing** – Open-cell foam gasketing is factory-installed continuously between door frame and luminaire housing, between door frame and lens, and on bottom perimeter of unit (adjacent to T-bar). NEMA Type "F" units feature gasketing attached to top surface of flange trim (adjacent to ceiling surface).

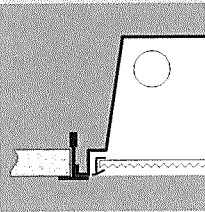


**DG/CCF**  
**Double Gasketing** – Closed-cell PVC gasketing is factory-installed continuously between door frame and luminaire housing and between door frame and lens.

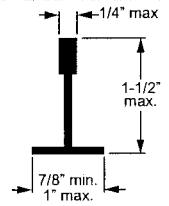


**TG/CCF**  
**Triple Gasketing** – Closed-cell PVC gasketing is factory-installed continuously between door frame and luminaire housing, between door frame and lens, and on bottom perimeter of unit (adjacent to T-bar). NEMA Type "F" units feature gasketing attached to top surface of flange trim (adjacent to ceiling surface).

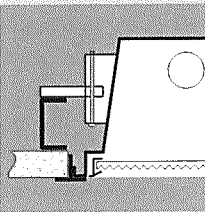
### NEMA TYPE "G"



All Williams grid fixtures (NEMA Type "G") are designed to fit securely into a standard NEMA Type "G", 1" nominal T-bar system. Center the fixture in the opening and use earthquake clips or integral T-bar clips to secure the fixture to the ceiling structure.

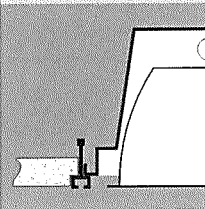


### NEMA TYPE "F" (Flange installation)

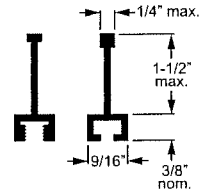


NEMA Type "F" fixtures ship with the side trims, end trims, and swing-out brackets assembled to the fixture. See specification sheets for exact dimensions of swing-out bracket vertical adjustment and ceiling cut-out.

### NEMA STYLE "SS" SCREW SLOT GRID (Williams' SG)



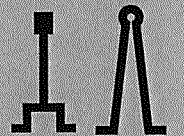
Williams' NEMA Type "SS" troffers are designed to position the bottom of the louver door frame flush with the ceiling tile. Center the fixture in the opening and use earthquake clips (standard when SG is specified) to secure the fixture to the ceiling structure. Available on specific styles of parabolic louvers and recessed architectural only.



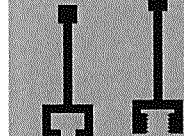
### SPECIALTY CEILING TEE



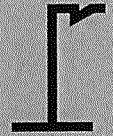
NEMA "NFG"  
Narrow-Faced Grid



NEMA "NFGS"  
Narrow-Faced Slotted Grid



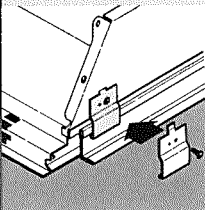
NEMA "SS"  
Screw Slot Grid



NEMA "Z"  
Z Spline

Please contact the factory before ordering troffers to be fitted with specialty T-bar systems to assure proper compatibility. Dimensions and specifications are subject to change without notice.

### EARTHQUAKE CLIPS



**EQCLIPS** Earthquake Clips – Combination earthquake and N.E.C. T-bar clip secures luminaire to T-bar and prevents T-system separation. Clips are factory-installed; four clips per fixture. Earthquake clips are provided standard when SG ceiling type is specified.



H. E. WILLIAMS, INC.

H. E. Williams, Inc. ■ Carthage, Missouri ■ [www.hew.com](http://www.hew.com) ■ 417-358-4065

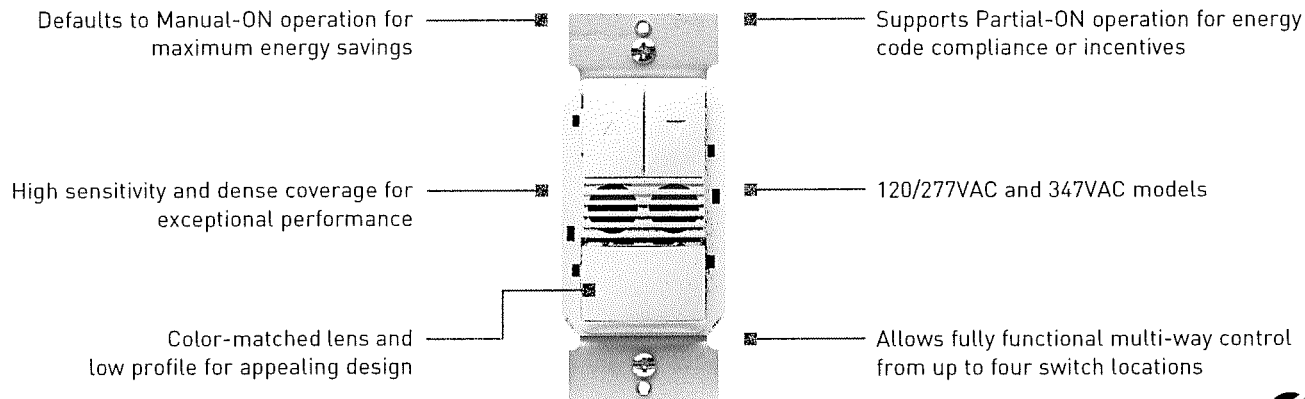
Information contained herein is subject to change without notice.

LGV31024.121516.JL



# DUAL TECHNOLOGY 0-10 VOLT DIMMING WALL SWITCH OCCUPANCY SENSOR

DW-311



## Description

The DW-311 dual technology dimming wall switch sensor can turn lights OFF and ON based on occupancy and allow the user to increase or decrease the lighting level. It combines the benefits of passive infrared (PIR) and ultrasonic occupancy detection technologies and works with 0-10 VDC dimming drivers and ballasts to control lighting loads including LEDs.

## Operation

The DW-311 installs in a single gang junction box. Factory default operation is for Manual-ON, so that users turn lights on only when needed. Once the space is vacated and the time delay elapses, lights automatically turn OFF. DIP switch settings enable a variety of control options such as Auto-ON operation, high and low trim, ramp up and fade down times, power loss mode, smart light level, walk-through and test modes. Additional DIP switch settings allow the user to choose which sensing technologies turn ON, hold ON or retrigger the lighting.

## Features

- Vandal resistant lens combines precise coverage with durability
- Presentation mode may be deactivated to allow Auto-ON operation after 15 second time delay for spaces with transient occupancy
- Optional smart light level adapts ambient light hold off threshold to meet user needs
- Selectable walk-through mode turns lights off three minutes after the room is initially occupied if no motion is detected after the first 30 seconds
- Test mode allows quick and easy verification of coverage
- Selectable audible and/or visual alerts for impending shutoff
- LED indicates occupancy detection
- Service mode allows sensor to operate as a service switch in the unlikely event of a failure
- Zero-crossing for long relay life
- No derating required for multi-gang applications
- Sensor coverage tested to NEMA Guide Publication WD 7-2000
- Compatible with decorator wall plates
- This product meets the material restrictions of RoHS

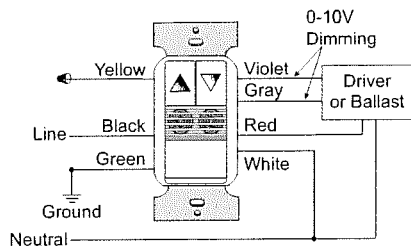
PROJECT		LOCATION/ TYPE	
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## Specifications

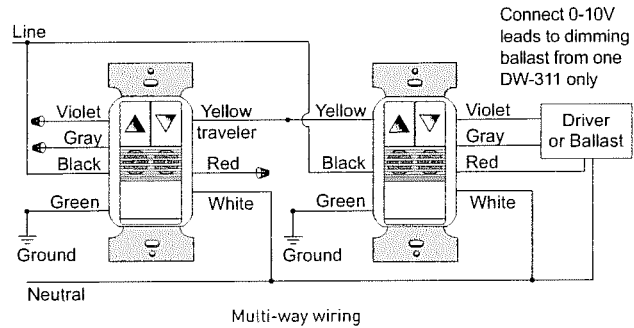
- DW-311: 120/277VAC; 50/60Hz
- DW-311-347: 347VAC; 50/60Hz
- Dimming control signal: 0-10VDC, sinks up to 50mA for control of compatible ballasts (12 if each sources 2mA); Class 1 wiring
- Time delays: 3, 5, 15 or 30 minutes, walk-through, test-mode
- Power up after power loss: On, Off or last state
- Coverage: Major motion, PIR 35' x 30', Ultrasonic 20' x 20'
- Minor motion, PIR 20' x 15', Ultrasonic 15' x 15'
- Sensitivity adjustment: PIR (high/low), Ultrasonic (fully variable)
- Dimensions (L x W x D): 2.73" x 1.75" x 1.81" (69mm x 44mm x 46mm)
- UL and cUL listed (E101196)
- Five year warranty

## Installation and Wiring

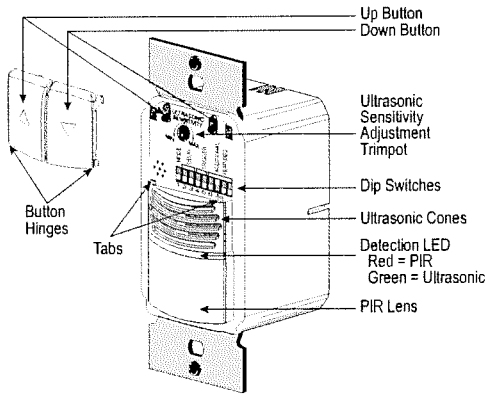
### Wiring Diagrams



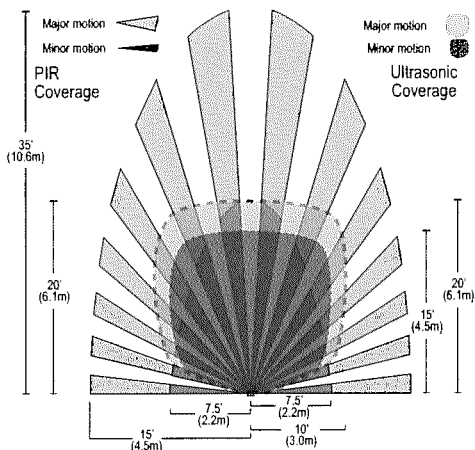
Note: Requires Class 1 wiring for 0-10V dimming.



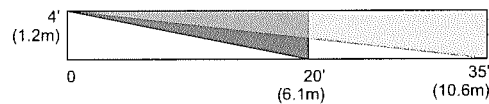
### Product Controls



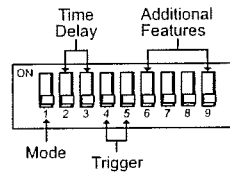
## Coverage Patterns



For best performance, Legrand recommends using this sensor in spaces no larger than 18' x 15'.



## DIP Switch Settings



Mode	1
Manual - On	↑
Auto - On	↓

↑ = ON ↓ = OFF

Time Delay	2	3
Test/3 min	↓	↓
5 minutes	↓	↑
<b>15 minutes</b>	↑	↓
30 minutes	↑	↑

Trigger Mode	Initial Occupancy		Maintain Occupancy		Pre-trigger	4	5
	Both	Either	Either	Either			
<b>Standard</b>	Both	Either	Either	Either		↓	↓
Option A	PIR	Either	Either			↓	↑
Option B	PIR	PIR	PIR			↑	↓
Option C	Both	Both	Both			↑	↑

Default Values Shown in Bold

Additional Features	6	7	8	9	Green LED # of Blinks
Exit Programming Mode	↓	↓	↓	↓	
Visual Alert	↓	↓	↓	↑	1=OFF, 2=ON
Audio Alert	↓	↓	↑	↓	1=ON, 2=OFF
Walk-Thru	↓	↓	↑	↑	1=OFF, 2=ON
PIR Sensitivity	↓	↑	↓	↓	1=100%, 2=50%
High Trim	↓	↑	↓	↑	1=10V, 2=Manual Adjustment
Low Trim	↓	↑	↑	↓	1=0V, 2=Manual Adjustment
Ramp Up Time	↓	↑	↑	↑	1=1, 2=2.5, 3=5, 4=10s
Fade Down Time	↑	↓	↓	↓	1=2.5, 2=5, 3=15, 4=30s
Light Level Adjust	↑	↓	↓	↑	1=Disable, 2=Enable, 3=Smart Light Level
Power Loss Mode	↑	↓	↑	↓	1=Keep Last State, 2=Default On, 3=Default Off
Presentation Mode	↑	↓	↑	↑	1=ON, 2=OFF
Service Mode	↑	↑	↓	↓	1=OFF, 2=ON
Preset On Level	↑	↑	↓	↑	1=Last Non-Zero Value, 2=50%, 3=75%, 4=100%
Non-Dim Mode	↑	↑	↑	↓	1=OFF, 2=ON
Reset To Default	↑	↑	↑	↑	Press and Hold UP or DOWN for 5 seconds

## Ordering Information

Catalog #	Color	Voltage	Load Rating
<input type="checkbox"/> DW-311-W	White	120VAC; 50/60Hz	@ 120VAC: 0-1000W ballast, E-ballast, LED, tungsten; 1/4hp motor
<input type="checkbox"/> DW-311-W-U	White	or	
<input type="checkbox"/> DW-311-LA	Ivory	277VAC; 50/60Hz	or
<input type="checkbox"/> DW-311-I	Ivory		@ 277VAC: 0-1200W ballast, E-ballast, LED; 1/4hp motor
<input type="checkbox"/> DW-311-I-U	Ivory		
<input type="checkbox"/> DW-311-G	Grey		
<input type="checkbox"/> DW-311-B	Black		
<input type="checkbox"/> DW-311-R	Red		
<input type="checkbox"/> DW-311-R-U	Red		
<input type="checkbox"/> DW-311-347-W	White	347VAC; 50/60Hz	0-1500W ballast, LED; 1/4hp motor
<input type="checkbox"/> DW-311-347-LA	Lt. Almond		
<input type="checkbox"/> DW-311-347-I	Ivory		
<input type="checkbox"/> DW-311-347-G	Grey		
<input type="checkbox"/> DW-311-347-B	Black		
<input type="checkbox"/> DW-311-347-R	Red		

-U = BAA/TAA compliant. Product is compliant with Buy American Act and Trade Agreement Act

Order wall plate separately.