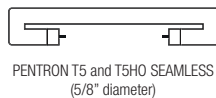


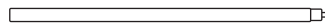
FLUORESCENT LAMPS

The bulb shape and size of a fluorescent lamp are expressed by means of a code consisting of the letter "T" (which designates that the bulb is "tubular" in shape) followed by a number that expresses the diameter in eighths of an inch. Diameters range from T5 at $\frac{5}{8}$ " diameter to T17 ($2\frac{1}{4}$ inch). In nominal overall length, linear fluorescent lamps range from 6 to 96 inches. The nominal length is measured from back of lamp holder to back of lamp holder. For example, the actual overall length of the 40-watt rapid start T12 lamp with a nominal length of 48 inches is $47\frac{3}{4}$ inches. The nominal length given for PENTRON® linear lamps is the closest familiar nominal length. CURVALUME® U-shaped fluorescent lamps are available as OCTRON® T8 lamps with leg spacings of $1\frac{1}{2}$ inches and 6 inches and as rapid start T12 lamps with 6 spacings of 6 inches. The leg spacing is measured from the center of one leg to the center of the other leg. The overall length of the CURVALUME lamps is measured from the face of the bases to the outside of the glass bend. Circline lamps, which are circular in shape, are available in PENTRON T5 lamps with outside diameters of 8.85 and 11.77 inches.



PENTRON T5 and T5HO SEAMLESS
(5/8" diameter)

PREHEAT, RAPID START



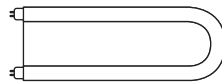
Preheat T5 Miniature Bipin (5/8" diameter)
PENTRON T5 Miniature Bipin (5/8" diameter)



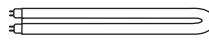
OCTRON T8 Medium Bipin (1" diameter)
Rapid Start or Instant Start operation



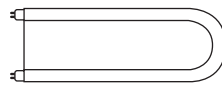
T12 Medium Bipin (1-1/2" diameter)



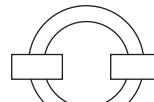
U-Shaped T12
(1-1/2" diameter)
6" leg spacing



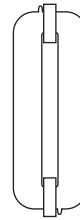
OCTRON T8 U-Shaped
with 1 5/8" leg spacing
(1" diameter)



OCTRON T8 U-Shaped
with 6" leg spacing
(1" diameter)



ICETRON®



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HIGH OUTPUT AND VERY HIGH OUTPUT



OCTRON T8 Recessed Double Contact (1" diameter)



T12 Recessed Double Contact (1-1/2" diameter)

INSTANT START



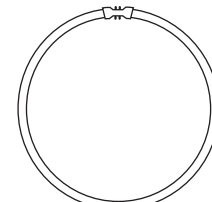
T6 Single Pin (3/4" diameter)



T8 Single Pin (1" diameter)
OCTRON T8 Single Pin (1" diameter)



T12 Single Pin (1-1/2" diameter)



PENTRON CIRCLINE 4-Pin T5
(8.85" & 11.77"
outside diameters)

BASES

For linear Preheat and Rapid Start Lamps, four electrical contacts are required, two at each end of the lamp. This is accomplished in the standard line of lamps by the use of a miniature bipin base for T5 lamps and a medium bipin for T8 and T12 lamps. The OCTRON® T8 medium bipin lamps may also be operated as instant start lamps with the proper wiring and ballasts. When operating OCTRON bipin lamps with instant start ballasts, the two contacts in the lamp holder are shorted together and connected to the single circuit in the ballast. In Circline lamps, the cathodes are connected to a 4-pin base located between the junction of the two ends of the lamp. High Output (HO) and Very High Output (VHO) lamps have recessed double contact (RDC) type bases. Slimline Instant Start lamps require only two electrical contacts, one on each lamp end and have single pin bases.

SINGLE PIN



Single Pin for
T6 Slimline



Single Pin for T8 Slimline
& OCTRON®



Single Pin for
T12 Slimline

BIPIN



Miniature Bipin for T5
Preheat & PENTRON®



Medium Bipin for T8
Preheat & OCTRON



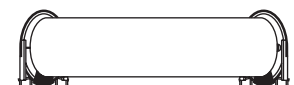
Medium Bipin for T12



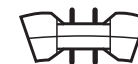
Recessed Double Contact
for OCTRON T8 HO



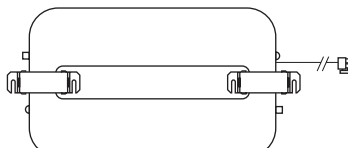
Recessed Double Contact
for T12 HO & VHO



ICETRON® Mounting Brackets






4-pin for
PENTRON Circline



OCTRON T8 & T12 Rapid Start CURVALUME

HOW TO READ PRODUCT INFORMATION – FLUORESCENT

| Nominal Wattage | Bulb Shape | Nominal Length (in) | MOL (in) | Base | Product Number | Ordering Abbreviation | Pkg Qty | Life @ 3hrs/ start IS | Life @ 12hrs/ start IS | Life @ 3hrs/ start PRS | Life @ 12hrs/ start PRS | CCT | CRI | Approx. Lumens Initial (Mean) at 25°C/77°F | Notes |
|-----------------|------------|---------------------|----------|-----------|----------------|-------------------------|---------|-----------------------|------------------------|------------------------|-------------------------|------|-----|--|---|
| 28 | T8 | 48 | 47.78 | Med Bipin | 22483 | F028/835/XPPLUS/SS/EC03 | 30 | 24000 | 46000 | 46000 | 52000 | 3500 | 85 | 2675 (2515) |  12,13,17,19 |
| | | | | | 22484 | F028/841/XPPLUS/SS/EC03 | 30 | 24000 | 46000 | 46000 | 52000 | 4100 | 85 | 2675 (2515) |  12,13,17,19 |
| | | | | | 22485 | F028/850/XPPLUS/SS/EC03 | 30 | 24000 | 46000 | 46000 | 52000 | 5000 | 81 | 2675 (2515) |  12,13,17,19 |

Nominal Wattage Named wattage on reference ballast. Actual wattage depends on ballast.

Bulb Describes the shape of the bulb followed by the diameter at its widest point. The diameter value is expressed in eighths of an inch. Ex. T = Tubular, 8 = $\frac{8}{8}$ inch = 1 inch. Please see page 80 for bulb illustrations.

Base Please see page 80 for base illustrations.

Nominal Length The nominal length of linear fluorescent lamps is typically measured from back of lampholder to back of lampholder. PENTRON® linear lamp, CURVALUME® and Circline lamps are exceptions. The nominal length given for PENTRON linear lamps is the closest familiar nominal length. CURVALUME lamps are measured from the face of the bases to the outside of the glass bend. The measurement for Circline lamps is the outside diameter. Values are in inches.

MOL Maximum overall length. The length of the lamp measured in inches.

Symbols & Footnotes Most symbols and footnotes that apply to a specific product will appear in this space. The explanations of the symbols and footnotes are at the end of the fluorescent section.

Ordering Abbreviation A text description of the lamp. Please see below for several examples and explanations of some of the codes.

CCT Correlated Color Temperature. The degree of “whiteness” of the light. Expressed in Kelvins (K). Please see page 114 for more information.

CRI Color Rendering Index. A numbering system for rating the relative color rendering quality of a light source compared to a standard.

Initial & Mean Lumens Initial lumens are measured when the lamp has been operating for 100 hours. Mean lumens are typically measured at 40% of the rated life of the lamp. Fluorescent lamp lumens are typically measured at 25°C (77°F). The lamp lumens are measured at both 25°C (77°F) and 35°C (95°F) for PENTRON® linear lamps.

HOW TO READ ORDERING ABBREVIATIONS

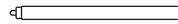
| F032/835XP/EC0 | F34CW/SS | FP54/830/H0/EC0 | F96T12/CW/SS/UPC |
|--------------------------|---------------------------------------|-------------------------|--|
| F Fluorescent | F Fluorescent | F Fluorescent | F Fluorescent |
| 0 OCTRON® | 34 Nominal lamp wattage | P PENTRON® | 96 96" nominal length |
| 32 Nominal lamp wattage | CW Cool White Deluxe Phosphor | 54 Nominal lamp wattage | T Tubular Shape Bulb |
| 8 85 CRI | SS SUPERSAVER® – reduced wattage lamp | 8 85 CRI | 12 Bulb diameter; $\frac{1}{2}$ inch = $1\frac{1}{2}$ inches |
| 35 3500K CCT | | 30 3000K CCT | CW Cool White Deluxe phosphor |
| XP® EXTENDED PERFORMANCE | | HO High Output | SS SUPERSAVER – reduced wattage lamp |
| ECO® ECOLOGIC® – | | ECO® ECOLOGIC® – | UPC UPC Label |
| TCLP passing lamp | | TCLP passing lamp | |

LAMP DISPOSAL LABELING

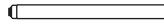
The following information appears on the packages of fluorescent lamps.



For weight and measurement information, please visit www.sylvania.com



T8 Single Pin (1" diameter)



T8 Recessed Double Contact (1" diameter)

OCTRON® 800 XV® 8-Foot SUPERSAVER® ECOLOGIC® Lamps

| Nominal Wattage | Bulb Shape | Nom. Length (in) | MOL (in) | Base | Product Number | Ordering Abbreviation | Pkg Qty | Average Rated Life @ 3hrs/start IS (hrs) | Average Rated Life @ 12hrs/start IS (hrs) | CCT (K) | CRI | Lumens Initial (Mean) at 25°C/77°F | Notes |
|-----------------|------------|------------------|----------|------------|----------------|------------------------|---------|--|---|---------|-----|------------------------------------|---------------|
| 50 | T8 | 96 | 94.00 | Single Pin | 21426 | F096/50W/835/XV/SS/ECO | 24 | 24000 | 36000 | 3500 | 83 | 5100 (4795) | 3,5, 12,13,17 |
| | | | | | 21425 | F096/50W/841/XV/SS/ECO | 24 | 24000 | 36000 | 4100 | 83 | 5100 (4795) | 3,5, 12,13,17 |
| 54 | T8 | 96 | 94.00 | Single Pin | 21423 | F096/54W/835/XV/SS/ECO | 24 | 24000 | 36000 | 3500 | 83 | 5400 (5075) | 3,5, 12,13,17 |
| | | | | | 21424 | F096/54W/841/XV/SS/ECO | 24 | 24000 | 36000 | 4100 | 83 | 5400 (5075) | 3,5, 12,13,17 |

OCTRON 800 8-Foot ECOLOGIC Lamps

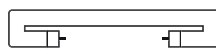
| Nominal Wattage | Bulb Shape | Nom. Length (in) | MOL (in) | Base | Product Number | Ordering Abbreviation | Pkg Qty | Average Rated Life @ 3hrs/start IS (hrs) | Average Rated Life @ 12hrs/start IS (hrs) | CCT (K) | CRI | Lumens Initial (Mean) at 25°C/77°F | Notes |
|-----------------|------------|------------------|----------|------------|----------------|-----------------------|---------|--|---|---------|-----|------------------------------------|------------|
| 59 | T8 | 96 | 94.00 | Single Pin | 22147 | F096/830/ECO | 24 | 18000 | 24000 | 3000 | 82 | 5900 (5430) | 3,12,13,17 |
| | | | | | 22148 | F096/835/ECO | 24 | 18000 | 24000 | 3500 | 82 | 5900 (5430) | 3,12,13,17 |
| | | | | | 22149 | F096/841/ECO | 24 | 18000 | 24000 | 4100 | 82 | 5900 (5430) | 3,12,13,17 |
| | | | | | 22173 | F096/850/ECO | 24 | 18000 | 24000 | 5000 | 80 | 5900 (5430) | 3,12,13,17 |

OCTRON 800 8-Foot HO ECOLOGIC Lamps

| Nominal Wattage | Bulb Shape | Nom. Length (in) | MOL (in) | Base | Product Number | Ordering Abbreviation | Pkg Qty | Average Rated Life @ 3hrs/start IS (hrs) | Average Rated Life @ 12hrs/start IS (hrs) | CCT (K) | CRI | Lumens Initial (Mean) at 25°C/77°F | Notes |
|-----------------|------------|------------------|----------|----------------------|----------------|-----------------------|---------|--|---|---------|-----|------------------------------------|---------------|
| 86 | T8 | 96 | 93.91 | Recessed Dbl Contact | 22204 | F096/735/HO/ECO | 24 | 18000 | 27000 | 3500 | 78 | 8000 (7520) | 3,12,13,17,36 |
| | | | | | 22206 | F096/835/HO/ECO | 24 | 18000 | 27000 | 3500 | 85 | 8200 (7710) | 3,12,13,17,36 |
| | | | | | 22205 | F096/741/HO/ECO | 24 | 18000 | 27000 | 4100 | 78 | 8000 (7520) | 3,12,13,17,36 |
| | | | | | 22207 | F096/841/HO/ECO | 24 | 18000 | 27000 | 4100 | 85 | 8200 (7710) | 3,12,13,17,36 |

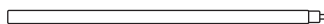
FLUORESCENT LAMPS

The bulb shape and size of a fluorescent lamp are expressed by means of a code consisting of the letter "T" (which designates that the bulb is "tubular" in shape) followed by a number that expresses the diameter in eighths of an inch. Diameters range from T5 at $\frac{5}{8}$ " diameter to T17 ($2\frac{1}{4}$ inch). In nominal overall length, linear fluorescent lamps range from 6 to 96 inches. The nominal length is measured from back of lamp holder to back of lamp holder. For example, the actual overall length of the 40-watt rapid start T12 lamp with a nominal length of 48 inches is $47\frac{3}{4}$ inches. The nominal length given for PENTRON® linear lamps is the closest familiar nominal length. CURVALUME® U-shaped fluorescent lamps are available as OCTRON® T8 lamps with leg spacings of $1\frac{1}{2}$ inches and 6 inches and as rapid start T12 lamps with 6 spacings of 6 inches. The leg spacing is measured from the center of one leg to the center of the other leg. The overall length of the CURVALUME lamps is measured from the face of the bases to the outside of the glass bend. Circline lamps, which are circular in shape, are available in PENTRON T5 lamps with outside diameters of 8.85 and 11.77 inches.



PENTRON T5 and T5HO SEAMLESS
($\frac{5}{8}$ " diameter)

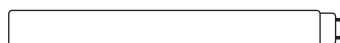
PREHEAT, RAPID START



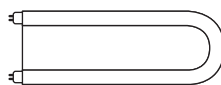
Preheat T5 Miniature Bipin ($\frac{5}{8}$ " diameter)
PENTRON T5 Miniature Bipin ($\frac{5}{8}$ " diameter)



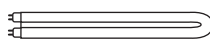
OCTRON T8 Medium Bipin (1" diameter)
Rapid Start or Instant Start operation



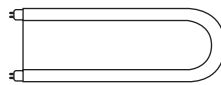
T12 Medium Bipin (1-1/2" diameter)



U-Shaped T12
(1-1/2" diameter)
6" leg spacing



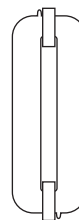
OCTRON T8 U-Shaped
with 1 5/8" leg spacing
(1" diameter)



OCTRON T8 U-Shaped
with 6" leg spacing
(1" diameter)



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HIGH OUTPUT AND VERY HIGH OUTPUT



OCTRON T8 Recessed Double Contact (1" diameter)



T12 Recessed Double Contact (1-1/2" diameter)

INSTANT START



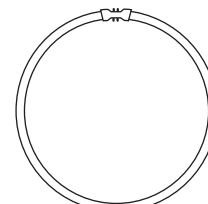
T6 Single Pin ($\frac{3}{4}$ " diameter)



T8 Single Pin (1" diameter)
OCTRON T8 Single Pin (1" diameter)



T12 Single Pin (1-1/2" diameter)



PENTRON CIRCLINE 4-Pin T5
(8.85" & 11.77"
outside diameters)

BASES

For linear Preheat and Rapid Start Lamps, four electrical contacts are required, two at each end of the lamp. This is accomplished in the standard line of lamps by the use of a miniature bipin base for T5 lamps and a medium bipin for T8 and T12 lamps. The OCTRON® T8 medium bipin lamps may also be operated as instant start lamps with the proper wiring and ballasts. When operating OCTRON bipin lamps with instant start ballasts, the two contacts in the lamp holder are shorted together and connected to the single circuit in the ballast. In Circline lamps, the cathodes are connected to a 4-pin base located between the junction of the two ends of the lamp. High Output (HO) and Very High Output (VHO) lamps have recessed double contact (RDC) type bases. Slimline Instant Start lamps require only two electrical contacts, one on each lamp end and have single pin bases.

SINGLE PIN



Single Pin for
T6 Slimline



Single Pin for T8 Slimline
& OCTRON®



Single Pin for
T12 Slimline

BIPIN



Miniature Bipin for T5
Preheat & PENTRON®



Medium Bipin for T8
Preheat & OCTRON



Medium Bipin for T12



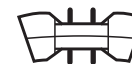
Recessed Double Contact
for OCTRON T8 HO



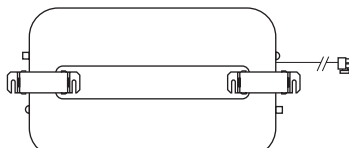
Recessed Double Contact
for T12 HO & VHO



ICETRON® Mounting Brackets






4-pin for
PENTRON Circline



OCTRON T8 & T12 Rapid Start CURVALUME

HOW TO READ PRODUCT INFORMATION – FLUORESCENT

| Nominal Wattage | Bulb Shape | Nominal Length (in) | MOL (in) | Base | Product Number | Ordering Abbreviation | Pkg Qty | Life @ 3hrs/ start IS | Life @ 12hrs/ start IS | Life @ 3hrs/ start PRS | Life @ 12hrs/ start PRS | CCT | CRI | Approx. Lumens Initial (Mean) at 25°C/77°F | Notes |
|-----------------|------------|---------------------|----------|-----------|----------------|-------------------------|---------|-----------------------|------------------------|------------------------|-------------------------|------|-----|--|---|
| 28 | T8 | 48 | 47.78 | Med Bipin | 22483 | F028/835/XPPLUS/SS/EC03 | 30 | 24000 | 46000 | 46000 | 52000 | 3500 | 85 | 2675 (2515) |  12,13,17,19 |
| | | | | | 22484 | F028/841/XPPLUS/SS/EC03 | 30 | 24000 | 46000 | 46000 | 52000 | 4100 | 85 | 2675 (2515) |  12,13,17,19 |
| | | | | | 22485 | F028/850/XPPLUS/SS/EC03 | 30 | 24000 | 46000 | 46000 | 52000 | 5000 | 81 | 2675 (2515) |  12,13,17,19 |

Nominal Wattage Named wattage on reference ballast. Actual wattage depends on ballast.

Bulb Describes the shape of the bulb followed by the diameter at its widest point. The diameter value is expressed in eighths of an inch. Ex. T = Tubular, 8 = $\frac{8}{8}$ inch = 1 inch. Please see page 80 for bulb illustrations.

Base Please see page 80 for base illustrations.

Nominal Length The nominal length of linear fluorescent lamps is typically measured from back of lampholder to back of lampholder. PENTRON® linear lamp, CURVALUME® and Circline lamps are exceptions. The nominal length given for PENTRON linear lamps is the closest familiar nominal length. CURVALUME lamps are measured from the face of the bases to the outside of the glass bend. The measurement for Circline lamps is the outside diameter. Values are in inches.

MOL Maximum overall length. The length of the lamp measured in inches.

Symbols & Footnotes Most symbols and footnotes that apply to a specific product will appear in this space. The explanations of the symbols and footnotes are at the end of the fluorescent section.

Ordering Abbreviation A text description of the lamp. Please see below for several examples and explanations of some of the codes.

CCT Correlated Color Temperature. The degree of “whiteness” of the light. Expressed in Kelvins (K). Please see page 114 for more information.

CRI Color Rendering Index. A numbering system for rating the relative color rendering quality of a light source compared to a standard.

Initial & Mean Lumens Initial lumens are measured when the lamp has been operating for 100 hours. Mean lumens are typically measured at 40% of the rated life of the lamp. Fluorescent lamp lumens are typically measured at 25°C (77°F). The lamp lumens are measured at both 25°C (77°F) and 35°C (95°F) for PENTRON® linear lamps.

HOW TO READ ORDERING ABBREVIATIONS

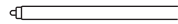
| F032/835XP/EC0 | F34CWX/SS | FP54/830/HO/EC0 | F96T12/CWX/SS/UPC |
|--------------------------|---------------------------------------|-------------------------|--|
| F Fluorescent | F Fluorescent | F Fluorescent | F Fluorescent |
| 0 OCTRON® | 34 Nominal lamp wattage | P PENTRON® | 96 96" nominal length |
| 32 Nominal lamp wattage | CWX Cool White Deluxe Phosphor | 54 Nominal lamp wattage | T Tubular Shape Bulb |
| 8 85 CRI | SS SUPERSAVER® – reduced wattage lamp | 8 85 CRI | 12 Bulb diameter; $\frac{1}{2}$ inch = $1\frac{1}{2}$ inches |
| 35 3500K CCT | | 30 3000K CCT | CWX Cool White Deluxe phosphor |
| XP® EXTENDED PERFORMANCE | | HO High Output | SS SUPERSAVER – reduced wattage lamp |
| ECO® ECOLOGIC® – | | ECO® ECOLOGIC® – | UPC UPC Label |
| TCLP passing lamp | | TCLP passing lamp | |

LAMP DISPOSAL LABELING

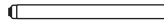
The following information appears on the packages of fluorescent lamps.



For weight and measurement information, please visit www.sylvania.com



T8 Single Pin (1" diameter)



T8 Recessed Double Contact (1" diameter)

OCTRON® 800 XV® 8-Foot SUPERSAVER® ECOLOGIC® Lamps

| Nominal Wattage | Bulb Shape | Nom. Length (in) | MOL (in) | Base | Product Number | Ordering Abbreviation | Pkg Qty | Average Rated Life @ 3hrs/start IS (hrs) | Average Rated Life @ 12hrs/start IS (hrs) | CCT (K) | CRI | Lumens Initial (Mean) at 25°C/77°F | Notes |
|-----------------|------------|------------------|----------|------------|----------------|------------------------|---------|--|---|---------|-----|------------------------------------|---------------|
| 50 | T8 | 96 | 94.00 | Single Pin | 21426 | F096/50W/835/XV/SS/ECO | 24 | 24000 | 36000 | 3500 | 83 | 5100 (4795) | 3,5, 12,13,17 |
| | | | | | 21425 | F096/50W/841/XV/SS/ECO | 24 | 24000 | 36000 | 4100 | 83 | 5100 (4795) | 3,5, 12,13,17 |
| 54 | T8 | 96 | 94.00 | Single Pin | 21423 | F096/54W/835/XV/SS/ECO | 24 | 24000 | 36000 | 3500 | 83 | 5400 (5075) | 3,5, 12,13,17 |
| | | | | | 21424 | F096/54W/841/XV/SS/ECO | 24 | 24000 | 36000 | 4100 | 83 | 5400 (5075) | 3,5, 12,13,17 |

OCTRON 800 8-Foot ECOLOGIC Lamps

| Nominal Wattage | Bulb Shape | Nom. Length (in) | MOL (in) | Base | Product Number | Ordering Abbreviation | Pkg Qty | Average Rated Life @ 3hrs/start IS (hrs) | Average Rated Life @ 12hrs/start IS (hrs) | CCT (K) | CRI | Lumens Initial (Mean) at 25°C/77°F | Notes |
|-----------------|------------|------------------|----------|------------|----------------|-----------------------|---------|--|---|---------|-----|------------------------------------|------------|
| 59 | T8 | 96 | 94.00 | Single Pin | 22147 | F096/830/ECO | 24 | 18000 | 24000 | 3000 | 82 | 5900 (5430) | 3,12,13,17 |
| | | | | | 22148 | F096/835/ECO | 24 | 18000 | 24000 | 3500 | 82 | 5900 (5430) | 3,12,13,17 |
| | | | | | 22149 | F096/841/ECO | 24 | 18000 | 24000 | 4100 | 82 | 5900 (5430) | 3,12,13,17 |
| | | | | | 22173 | F096/850/ECO | 24 | 18000 | 24000 | 5000 | 80 | 5900 (5430) | 3,12,13,17 |

OCTRON 800 8-Foot HO ECOLOGIC Lamps

| Nominal Wattage | Bulb Shape | Nom. Length (in) | MOL (in) | Base | Product Number | Ordering Abbreviation | Pkg Qty | Average Rated Life @ 3hrs/start IS (hrs) | Average Rated Life @ 12hrs/start IS (hrs) | CCT (K) | CRI | Lumens Initial (Mean) at 25°C/77°F | Notes |
|-----------------|------------|------------------|----------|----------------------|----------------|-----------------------|---------|--|---|---------|-----|------------------------------------|---------------|
| 86 | T8 | 96 | 93.91 | Recessed Dbl Contact | 22204 | F096/735/HO/ECO | 24 | 18000 | 27000 | 3500 | 78 | 8000 (7520) | 3,12,13,17,36 |
| | | | | | 22206 | F096/835/HO/ECO | 24 | 18000 | 27000 | 3500 | 85 | 8200 (7710) | 3,12,13,17,36 |
| | | | | | 22205 | F096/741/HO/ECO | 24 | 18000 | 27000 | 4100 | 78 | 8000 (7520) | 3,12,13,17,36 |
| | | | | | 22207 | F096/841/HO/ECO | 24 | 18000 | 27000 | 4100 | 85 | 8200 (7710) | 3,12,13,17,36 |