



PRODUCT DESCRIPTION

Recessed adjustable metal halide MR16 luminaire with 3 1/4" square lensed aperture, angle-cut die cast reflector and precision geared hot-aiming. Low profile non-IC housing is for use in non-insulated areas, or where insulation is spaced at least 3" from housing. Supplied with vertically adjustable mounting brackets that accept 1/2" conduit, "C" channel bar hangers, linear bar hangers or telescoping Real Nail bar hangers.

PRODUCT SPECIFICATIONS

Reflector Die cast, angle-cut, parabolic reflector maintains low glare and tight corners • Available in haze, black haze, wheat haze, or white finishes.

Trims Style Die cast Self Flanged and Flush Mount reflectors utilize precision wound double torsion springs for tight, secure fit to ceiling • Flange is same finish as reflector unless optional painted white flange is specified • For flush mount installations in drywall ceilings use the FMSQ4 flush mount adapter • For flush mount installations in wood, stone, or tile ceilings the FMSQ4-SC*** must be used (specify ceiling thickness and adapter finish).

Lens Lampholder accommodates up to two (2) 2" captive accessory lenses.

Socket GX10 twist lock socket with quick disconnect for simplified maintenance.

Lamp One 20W or 39W CMH MR16 lamp.

Adjustability Acu-Aim™ precision geared hot-aiming achieves 370° rotation, 45° tilt • Optimized center lamp beam optics translates lamp forward as it is aimed off nadir, insuring maximum light and low brightness • Black aiming mechanism with shield prevents visibility into fixture and preserves dark aperture • Shield hinges out of way to facilitate maintenance.

Ballast High Power Factor, electronic solid state ballast with less than 10% THD • Features transient and short circuit protection • Available in 120V or 277V.

Codes/Labels UL and cUL listed for through branch wiring, wet locations • Product thermally protected • Union made.

Mounting Bracket Rough-in section equipped with vertically adjustable mounting brackets that accept 1/2" conduit, "C" channels (HB-26 or HB-50), linear flat bars (LB-27) or 26" telescoping Real Nail bar hangers (HB-1).

Junction Box Rated for 8 No. 12 AWG 90° C through branch circuit conductors and includes (5) 1/2", (1) 3/4", and (4) Non-metallic sheathed cable knock-outs • Push-In electrical connectors for field connections.

Housing/Mounting Frame Black steel plaster frame and housing painted for visually dark interior • V-Notch in plaster frame aids fixture alignment during installation • Patent Pending Tru-Line™ Adjustment Mechanism featuring +/- 1/2" translation and +/- 45° aperture rotation aids fixture alignment after installation, prior to drywall.

Ceiling Thickness 1/2" - 7/8" ceiling standard • For thicker ceilings, order CTA4SQ-125 (7/8"-1 1/4"), CTA4SQ-163 (1 1/4"-1 5/8") or CTA4SQ-200 (1 5/8" - 2") • CTA4SQ not required for wood, stone, or tile flush mount applications.

RECESSED ADJUSTABLE

3-1/4" LENSED ANGLE-CUT

Non-IC Rated, 20W, 39W CMH MR16

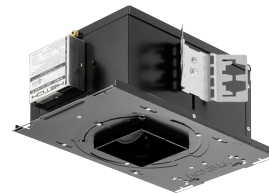
TC943MSQ, 431SQ TRIM

Project: _____

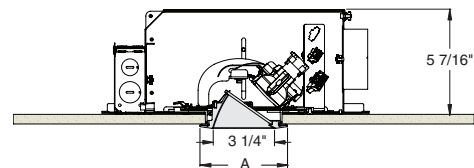
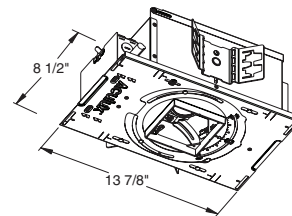
Fixture Type: _____

Location: _____

Contact/Phone: _____



DIMENSIONS



4 1/8" CEILING CUTOUT
(REFER TO INSTRUCTION SHEET FOR
FLUSH MOUNT CEILING CUTOUT)

| | A |
|--------------|--------|
| Self Flanged | 4 1/2" |
| Flush Mount | 3 5/8" |

RECESSED ADJUSTABLE

3-1/4" LENSED ANGLE-CUT

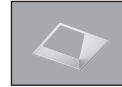
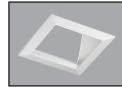
Non-IC Rated, 20W, 39W CMH MR16

TC943MSQ, 431SQ TRIM**Ordering Information** Housing, trim and accessories each ordered separatelyExample: **TC943MSQ-MR16-20E1**

| Housing | Wattage | Voltage | Options |
|---------------|------------------|--------------------|-------------------|
| TC943MSQ-MR16 | 20 20W 39 39W | E1 120V E2 277V | CP Chicago Plenum |

Example: **431SQW-SF**

| Trim/Description |
|------------------|
| |



| Self Flanged ¹ | Flush Mount ² | Description |
|---------------------------|--------------------------|----------------------|
| 431SQBHZ-SF | 431SQBHZ-FM | Black Haze Reflector |
| 431SQHZ-SF | 431SQHZ-FM | Clear Reflector |
| 431SQW-SF | 431SQW-FM | White Reflector |
| 431SQWHZ-SF | 431SQWHZ-FM | Wheat Haze Reflector |

¹For self flanged reflector with optional white painted flange, replace "-SF" suffix with "-SFWH".

²Flush Mount trims must be used with Flush Mount Adapter, ordered separately.

Product specifications subject to change without notice.

Flush Mount Adapters

| FMASQ4 | Drywall Ceiling Adapter |
|------------------------|--|
| FMASQ4-SC100-WH | Wood, Stone, Tile, 1/2"-1" Thick Ceiling, Adapter, White |
| FMASQ4-SC100-BL | Wood, Stone, Tile, 1/2"-1" Thick Ceiling, Adapter, Black |
| FMASQ4-SC138-WH | Wood, Stone, Tile, 1"-1 3/8" Thick Ceiling, Adapter, White |
| FMASQ4-SC138-BL | Wood, Stone, Tile, 1"-1 3/8" Thick Ceiling, Adapter, Black |
| FMASQ4-SC175-WH | Wood, Stone, Tile, 1 3/8"-1 3/4" Thick Ceiling, Adapter, White |
| FMASQ4-SC175-BL | Wood, Stone, Tile, 1 3/8"-1 3/4" Thick Ceiling, Adapter, Black |

Optical Accessories

| Cat. # | Description | Cat. # | Description |
|--------------|----------------------------|----------------|-------------------------------|
| T741 | Med. Pink Color Filter | T7405 | Yellow Dichroic Lens |
| T742 | Warm Red Color Filter | T7406 | Magenta Dichroic Lens |
| T743 | Daylight Blue Color Filter | T7411 | Blue Green Dichroic Lens |
| T744 | Med. Blue Color Filter | T7416 | Daylight Blue Correction Lens |
| T745 | Med. Amber Color Filter | T7420 | Diffuse Spread Lens |
| T746 | Med. Green Color Filter | T7422 | UV Filter Lens |
| T7401 | Red Dichroic Lens | T7477 | Prismatic Lens |
| T7403 | Med. Green Dichroic Lens | T7478 | Linear Spread Lens |
| T7404 | Med. Blue Dichroic Lens | T7459BL | Hexcell Louver |

Misc. Accessories

| | |
|-------------------|-------------------------------|
| CTA45Q-125 | 1 1/4" Thick Ceiling Adapter |
| CTA45Q-163 | 1 5/8" Thick Ceiling Adapter |
| CTA45Q-200 | 2" Thick Ceiling Adapter |
| HB-1 | (2) Real Nail 3 Bar Hangers |
| HB-26 | (2) 26" C-Channel Bar Hangers |
| HB-50 | (2) 50" C-Channel Bar Hangers |
| LB-27 | (2) 27" Linear Bar Hangers |

To order, specify catalog number.



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RECESSED ADJUSTABLE

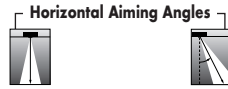
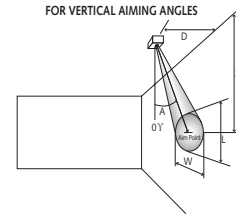
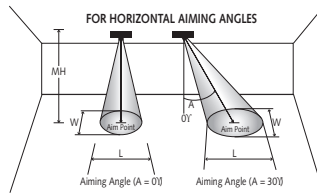
3-1/4" LENSED ANGLE-CUT



Non-IC Rated, 20W, 39W CMH MR16

TC943MSQ, 431SQ TRIM

CBCP • Centerbeam candlepower
FC • Footcandles at beam center (aim point)

In vertical aiming applications, aim point (X) is determined by dividing distance from the wall (D) by the tangent of the desired aim angle (A) (0.5774 for 30°, 1.0 for 45°).



| Lamp | Beam Type | Beam Spread° | Rated Life | CBCP | 0° | | | 30° | | | 30° | | | 45° | | | | | | |
|---|-----------|--------------|------------|-------|----|------|------|-----|------|------|-----|----|------|------|------|-----|-----|------|-----|-----|
| | | | | | MH | FC | L | W | FC | L | W | D | FC | X | L | W | FC | X | L | W |
| 20W MR16 Ceramic Metal Halide  | SP | 12° | 12000 | 9000 | 10 | 90 | 2.1 | 2.1 | 58 | 2.8 | 2.4 | 4 | 70 | 6.9 | 3.5 | 1.7 | 199 | 4.0 | 1.7 | 1.2 |
| | | | | | 12 | 63 | 2.5 | 2.5 | 41 | 3.4 | 2.9 | 6 | 31 | 10.4 | 5.2 | 2.5 | 88 | 6.0 | 2.6 | 1.8 |
| | | | | | 14 | 46 | 2.9 | 2.9 | 30 | 3.9 | 3.4 | 8 | 18 | 13.9 | 7.0 | 3.4 | 50 | 8.0 | 3.4 | 2.4 |
| | | | | | 16 | 35 | 3.4 | 3.4 | 23 | 4.5 | 3.9 | 10 | 11 | 17.3 | 8.7 | 4.2 | 32 | 10.0 | 4.3 | 3.0 |
| | | | | | 18 | 28 | 3.8 | 3.8 | 18 | 5.1 | 4.4 | 12 | 8 | 20.8 | 10.4 | 5.0 | 22 | 12.0 | 5.1 | 3.6 |
| | FL | 25° | 12000 | 2900 | 8 | 45 | 3.5 | 3.5 | 29 | 4.8 | 4.1 | 2 | 91 | 3.5 | 4.2 | 1.8 | 256 | 2.0 | 1.9 | 1.3 |
| | | | | | 10 | 29 | 4.4 | 4.4 | 19 | 6.0 | 5.1 | 4 | 23 | 6.9 | 8.3 | 3.5 | 64 | 4.0 | 3.7 | 2.5 |
| | | | | | 12 | 20 | 5.3 | 5.3 | 13 | 7.2 | 6.1 | 6 | 10 | 10.4 | 12.5 | 5.3 | 28 | 6.0 | 5.6 | 3.8 |
| | | | | | 14 | 15 | 6.2 | 6.2 | 10 | 8.4 | 7.2 | 8 | 6 | 13.9 | 16.6 | 7.1 | 16 | 8.0 | 7.5 | 5.0 |
| | | | | | 16 | 11 | 7.1 | 7.1 | 7 | 9.6 | 8.2 | 10 | 4 | 17.3 | 20.8 | 8.9 | 10 | 10.0 | 9.3 | 6.3 |
| | WFL | 40° | 12000 | 1500 | 8 | 23 | 5.8 | 5.8 | 15 | 8.1 | 6.7 | 2 | 47 | 3.5 | 9.7 | 2.9 | 133 | 2.0 | 3.4 | 2.1 |
| | | | | | 10 | 15 | 7.3 | 7.3 | 10 | 10.2 | 8.4 | 3 | 21 | 5.2 | 14.5 | 4.4 | 59 | 3.0 | 5.0 | 3.1 |
| 12 | | | | | 10 | 8.7 | 8.7 | 7 | 12.2 | 10.1 | 4 | 12 | 6.9 | 19.3 | 5.8 | 33 | 4.0 | 6.7 | 4.1 | |
| 14 | | | | | 8 | 10.2 | 10.2 | 5 | 14.2 | 11.8 | 5 | 8 | 8.7 | 24.2 | 7.3 | 21 | 5.0 | 8.4 | 5.1 | |
| 16 | | | | | 6 | 11.6 | 11.6 | 4 | 16.2 | 13.4 | 6 | 5 | 10.4 | ** | 8.7 | 15 | 6.0 | 10.1 | 6.2 | |
| 39W MR16 Ceramic Metal Halide  | SP | 12° | 12000 | 16000 | 10 | 160 | 2.1 | 2.1 | 104 | 2.8 | 2.4 | 4 | 125 | 6.9 | 3.5 | 1.7 | 354 | 4.0 | 1.7 | 1.2 |
| | | | | | 12 | 111 | 2.5 | 2.5 | 72 | 3.4 | 2.9 | 6 | 56 | 10.4 | 5.2 | 2.5 | 157 | 6.0 | 2.6 | 1.8 |
| | | | | | 14 | 82 | 2.9 | 2.9 | 53 | 3.9 | 3.4 | 8 | 31 | 13.9 | 7.0 | 3.4 | 88 | 8.0 | 3.4 | 2.4 |
| | | | | | 16 | 63 | 3.4 | 3.4 | 41 | 4.5 | 3.9 | 10 | 20 | 17.3 | 8.7 | 4.2 | 57 | 10.0 | 4.3 | 3.0 |
| | | | | | 18 | 49 | 3.8 | 3.8 | 32 | 5.1 | 4.4 | 12 | 14 | 20.8 | 10.4 | 5.0 | 39 | 12.0 | 5.1 | 3.6 |
| | FL | 25° | 12000 | 5500 | 8 | 86 | 3.5 | 3.5 | 56 | 4.8 | 4.1 | 2 | 172 | 3.5 | 4.2 | 1.8 | 486 | 2.0 | 1.9 | 1.3 |
| | | | | | 10 | 55 | 4.4 | 4.4 | 36 | 6.0 | 5.1 | 4 | 43 | 6.9 | 8.3 | 3.5 | 122 | 4.0 | 3.7 | 2.5 |
| | | | | | 12 | 38 | 5.3 | 5.3 | 25 | 7.2 | 6.1 | 6 | 19 | 10.4 | 12.5 | 5.3 | 54 | 6.0 | 5.6 | 3.8 |
| | | | | | 14 | 28 | 6.2 | 6.2 | 18 | 8.4 | 7.2 | 8 | 11 | 13.9 | 16.6 | 7.1 | 30 | 8.0 | 7.5 | 5.0 |
| | | | | | 16 | 21 | 7.1 | 7.1 | 14 | 9.6 | 8.2 | 10 | 7 | 17.3 | 20.8 | 8.9 | 19 | 10.0 | 9.3 | 6.3 |
| | WFL | 40° | 12000 | 3000 | 8 | 47 | 5.8 | 5.8 | 30 | 8.1 | 6.7 | 2 | 94 | 3.5 | 9.7 | 2.9 | 265 | 2.0 | 3.4 | 2.1 |
| | | | | | 10 | 30 | 7.3 | 7.3 | 19 | 10.2 | 8.4 | 3 | 42 | 5.2 | 14.5 | 4.4 | 118 | 3.0 | 5.0 | 3.1 |
| 12 | | | | | 21 | 8.7 | 8.7 | 14 | 12.2 | 10.1 | 4 | 23 | 6.9 | 19.3 | 5.8 | 66 | 4.0 | 6.7 | 4.1 | |
| 14 | | | | | 15 | 10.2 | 10.2 | 10 | 14.2 | 11.8 | 5 | 15 | 8.7 | 24.2 | 7.3 | 42 | 5.0 | 8.4 | 5.1 | |
| 16 | | | | | 12 | 11.6 | 11.6 | 8 | 16.2 | 13.4 | 6 | 10 | 10.4 | ** | 8.7 | 29 | 6.0 | 10.1 | 6.2 | |

The beam spread in degrees and the beam "L" and "W" in the following tables are computed at 50% of centerbeam candlepower and represent areas of "effective illumination."

**Due to steep aiming angle, length of beam extends beyond 25'. Each angle is measured from 0° vertical.

