



# RECESSED DOWNLIGHT

3-1/4" LENSED TRIM

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

**TC943MSQ, 432SQ TRIM**

## PRODUCT DESCRIPTION

Recessed metal halide MR16 downlight luminaire with 3/4" square aperture die cast reflector and tempered glass to protect lamp against water. 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** Lensed, Die cast, parabolic reflector maintains low glare and tight corners • Available in haze, black haze, wheat haze, or white finishes.

**Trims Style** 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.

**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.

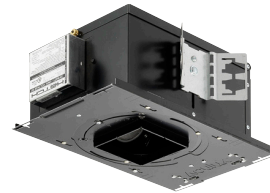
**Ceiling Thickness** 1/2" – 7/8" ceiling standard • For thicker ceilings, order CTA4SQ-125 (7/8"-1 1/4"), CTA4SQ-163 (1 1/4"-1 5/8") or CTA4SQ-200 (1 5/8" – 2") • CTA4SQ not required for wood, stone, or tile flush mount applications.

Project: \_\_\_\_\_

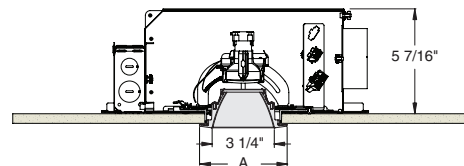
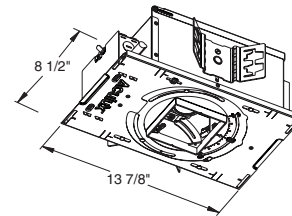
Fixture Type: \_\_\_\_\_

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"

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### Ordering Information

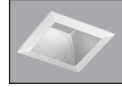
Housing, trim and accessories each ordered separately

Example: **TC943MSQ-MR16-20E1**

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

Example: **432SQW-SF**

Trim/Description



Self Flanged <sup>1</sup>	Flush Mount <sup>2</sup>	Description
<b>432SQBHZ-SF</b>	<b>432SQBHZ-FM</b>	Black Haze Reflector
<b>432SQHZ-SF</b>	<b>432SQHZ-FM</b>	Clear Reflector
<b>432SQW-SF</b>	<b>432SQW-FM</b>	White Reflector
<b>432SQWHZ-SF</b>	<b>432SQWHZ-FM</b>	Wheat Haze Reflector

<sup>1</sup>For self flanged reflector with optional white painted flange, replace "SF" suffix with "SFWH".

<sup>2</sup>Flush Mount trims must be used with Flush Mount Adapter, ordered separately.

Product specifications subject to change without notice.

### Flush Mount Adapters

FMASQ4	Description
<b>FMASQ4-SC100-WH</b>	Wood, Stone, Tile, 1/2"-1" Thick Ceiling, Adapter, White
<b>FMASQ4-SC100-BL</b>	Wood, Stone, Tile, 1/2"-1" Thick Ceiling, Adapter, Black
<b>FMASQ4-SC138-WH</b>	Wood, Stone, Tile, 1"-1 3/8" Thick Ceiling, Adapter, White
<b>FMASQ4-SC138-BL</b>	Wood, Stone, Tile, 1"-1 3/8" Thick Ceiling, Adapter, Black
<b>FMASQ4-SC175-WH</b>	Wood, Stone, Tile, 1 3/8"-1 3/4" Thick Ceiling, Adapter, White
<b>FMASQ4-SC175-BL</b>	Wood, Stone, Tile, 1 3/8"-1 3/4" Thick Ceiling, Adapter, Black

### Optical Accessories

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

### Misc. Accessories

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

To order, specify catalog number.



**PHOTOMETRIC REPORT**

Catalog Number: TC943MSQ (432SQHZ-SF)

Test Number: P101100705

Total Luminaire Efficiency: 74.1%

Luminaire Spacing Criteria: 0.43

Luminaire: Haze finish, square lensed shower light trim

Lamps: One CMH39MR16/930/FL, rated at 2200 total lumens.

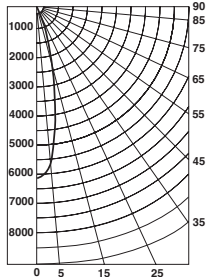
**Initial Footcandles**

Distance to Illuminated Plane (Feet)	Footcandles Beam Center	Footcandles Beam Edge	Beam Diameter
6'	168.4	78.8	2.6'
7'	123.7	57.9	3.0'
8'	94.7	44.3	3.4'
9'	74.9	35.0	3.8'
10'	60.6	28.4	4.3'
11'	50.1	23.4	4.7'
12'	42.1	19.7	5.1'
13'	35.9	16.8	5.5'
14'	30.9	14.5	6.0'
15'	26.9	12.6	6.4'

**AVERAGE INITIAL FOOTCANDLES**

Reflectances: 80% Ceiling, 50% Walls, 20% Floors

Luminaire Spacing	Room Cavity Ratio		
	RCR1	RCR3	RCR5
4' x 4'	114	103	95
5' x 5'	73	66	61
6' x 6'	51	46	42
7' x 7'	41	37	34
8' x 8'	32	29	27
9' x 9'	25	22	21
10' x 10'	18	17	15
12' x 12'	13	11	11



**Candlepower Distribution (Candelas)**

Angle	Candela	Lumens
0°	6064	
5°	5524	527
15°	2251	638
25°	629	291
35°	163	102
45°	72	56
55°	9	8
65°	5	4
75°	2	2
85°	0	0

**Luminance Data**

Ang in Deg	Footlamberts	Candela/M <sup>2</sup>
45	4379	15004
55	670	2296
65	457	1566
75	372	1276
85	0	0

**Zonal Lumen Summary**

Zone	Lumens	%Lamp	%Fixture
0-30°	1456	66.2	89.4
0-40°	1559	70.9	95.6
0-60°	1623	73.8	99.6
0-90°	1630	74.1	100.0
90-180°	0	0.0	0.0
0-180°	1630	74.1	100.0

**COEFFICIENTS OF UTILIZATION - % (Zonal Cavity Method)**

Effective Floor Reflectance 20%

PCC	80		70		50		30		10		0							
PW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	0			
0	88	88	88	88	86	86	86	86	82	82	82	79	79	79	76	76	76	74
1	85	83	82	80	83	82	80	79	79	78	77	76	75	74	74	73	72	71
2	82	79	77	75	80	78	76	74	75	74	72	73	72	71	71	70	69	68
3	79	75	72	70	78	74	72	70	72	70	68	71	69	67	69	68	66	65
4	76	72	69	66	75	71	68	66	70	67	65	68	66	64	67	65	64	63
5	74	69	66	63	73	68	65	63	67	64	62	66	64	62	65	63	61	61
6	71	66	63	61	70	66	63	60	65	62	60	64	61	60	63	61	59	58
7	69	64	60	58	68	63	60	58	63	60	58	62	59	57	61	59	57	56
8	67	62	58	56	66	61	58	56	61	58	56	61	57	55	59	57	55	55
9	65	60	56	54	64	59	56	54	59	56	54	58	56	54	58	55	54	53
10	63	58	55	52	62	57	54	52	57	54	52	56	54	52	56	54	52	51

**PHOTOMETRIC REPORT**

Catalog Number: TC943MSQ (432SQHZ-SF)

Test Number: P101101104

Total Luminaire Efficiency: 71.8%

Luminaire Spacing Criteria: 0.69

Luminaire: Haze finish, square lensed shower light trim

Lamps: One CMH39MR16/930/WFL, rated at 2200 total lumens.

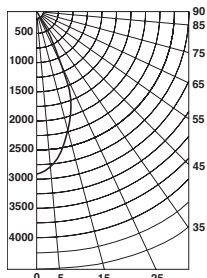
**Initial Footcandles**

Distance to Illuminated Plane (Feet)	Footcandles Beam Center	Footcandles Beam Edge	Beam Diameter
6'	81.0	31.9	5.0'
7'	59.5	23.4	5.8'
8'	45.5	17.9	6.7'
9'	36.0	14.2	7.5'
10'	29.2	11.5	8.3'
11'	24.1	9.5	9.1'
12'	20.2	8.0	10.0'
13'	17.2	6.8	10.8'
14'	14.9	5.9	11.6'
15'	13.0	5.1	12.5'

**AVERAGE INITIAL FOOTCANDLES**

Reflectances: 80% Ceiling, 50% Walls, 20% Floors

Luminaire Spacing	Room Cavity Ratio		
	RCR1	RCR3	RCR5
4' x 4'	114	103	95
5' x 5'	73	66	61
6' x 6'	51	46	42
7' x 7'	41	37	34
8' x 8'	32	29	27
9' x 9'	25	22	21
10' x 10'	18	17	15
12' x 12'	13	11	11



**Candlepower Distribution (Candelas)**

Angle	Candela	Lumens
0°	2915	
5°	2846	272
15°	2217	628
25°	1057	489
35°	203	127
45°	58	45
55°	10	9
65°	5	5
75°	3	3
85°	0	0

**Luminance Data**

Ang in Deg	Footlamberts	Candela/M <sup>2</sup>
45	3484	11935
55	776	2660
65	528	1809
75	468	1602
85	0	0

**Zonal Lumen Summary**

Zone	Lumens	%Lamp	%Fixture
0-30°	1389	63.1	88.0
0-40°	1517	68.9	96.1
0-60°	1570	71.4	99.5
0-90°	1579	71.8	100.0
90-180°	0	0.0	0.0
0-180°	1579	71.8	100.0

**COEFFICIENTS OF UTILIZATION - % (Zonal Cavity Method)**

Effective Floor Reflectance 20%

PCC	80		70		50		30		10		0							
PW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	0			
0	85	85	85	85	83	83	83	83	80	80	80	76	76	76	73	73	73	72
1	82	80	79	77	80	79	77	76	76	75	74	73	72	71	71	70	69	68
2	79	75	73	71	77	74	72	70	72	70	68	70	68	67	68	67	66	64
3	75	71	68	66	74	70	67	65	68	66	64	67	65	63	65	64	62	61
4	72	67	64	61	71	67	63	61	65	62	60	64	62	60	63	61	59	58
5	69	64	60	58	68	63	60	58	62	59	57	61	59	57	60	58	56	55
6	66	61	57	55	65	60	57	54	59	56	54	58	56	54	58	55	53	52
7	64	58	54	52	63	58	54	52	57	54	51	56	53	51	55	53	51	50
8	61	55	52	49	61	55	52	49	54	51	49	54	51	49	53	50	49	48
9	59	53	49	47	58	53	49	47	52	49	47	51	49	47	51	48	46	46
10	57	51	47	45	56	51	47	45	50	47	45	49	47	45	49	46	44	44

