



# RECESSED DOWNLIGHT

## 3-1/4" OPEN APERTURE

### Non-IC Rated, 75W MR16

## TC943SQ, 437SQ TRIM

### PRODUCT DESCRIPTION

Recessed MR16 downlight luminaire with 3 1/4" square aperture die cast reflector. Fixture has 50° visual cutoff to lamp and lamp image. 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, parabolic reflector maintains low glare, tight corners, and 50° lamp and lamp image cut-off • 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 FMASQ4 flush mount adapter • For flush mount installations in wood, stone, or tile ceilings the FMASQ4-SC\*\*\* must be used (specify ceiling thickness and adapter finish).

**Lens** Lampholder accommodates up to three (3) 2" captive accessory lenses • Supplied with stippled clear uniformity lens.

**Socket** Ceramic bi-pin socket with double blade nickel alloy contacts • Quick disconnect for simplified maintenance.

**Lamp** One 75W MR16 lamp.

**Transformer** 120V High efficiency (>90%) dual tap magnetic, toroidal transformer has a boost tap to compensate for dimmer losses, improving color temperature and lumen output • Potted to eliminate noise and vibration • High efficiency (>94%), high power factor electronic transformer also available.

**Dimming** May be dimmed using dimmers specifically designed for low voltage magnetic or electronic transformers; consult factory or dimmer manufacturer for additional information.

**Codes/Labels** UL and cUL listed for through branch wiring, damp 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.

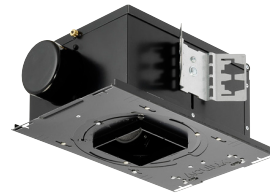
**Ceiling Thickness** 1/2" – 7/8" ceiling standard • For thicker ceilings, order CTA4SQ-125 (7/8"-1 1/4"), CTA4SQ-163 (1 1/4"-1 5/8") or CTA4SQ-200 (1 5/8" – 2") • CTA4SQ not required for wood, stone, or tile flush mount applications.

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

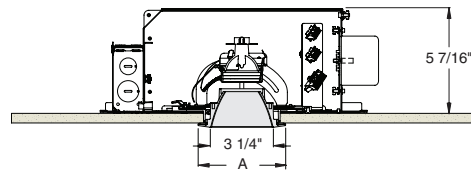
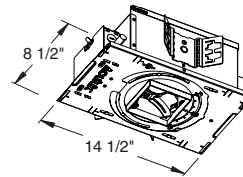
Fixture Type: \_\_\_\_\_

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"

# RECESSED DOWNLIGHT



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Non-IC Rated, 75W MR16

**TC943SQ, 437SQ TRIM**

## Ordering Information

Housing, trim and accessories each ordered separately

Example: <b>TC943SQ-V</b>			Example: <b>437SQW-SF</b>		
Housing	Transformer	Options	Trim/Description		
<b>TC943SQ</b>	<b>Blank</b> 120V Magnetic <b>V</b> 277V Magnetic <b>E1</b> 120V Electronic <b>E2</b> 277V Electronic	<b>CP</b> Chicago Plenum	 		
			<b>Self Flanged<sup>1</sup></b>	<b>Flush Mount<sup>2</sup></b>	<b>Description</b>
			<b>437SQBHZ-SF</b>	<b>437SQBHZ-FM</b>	Black Haze Reflector
			<b>437SQHZ-SF</b>	<b>437SQHZ-FM</b>	Haze Reflector
			<b>437SQW-SF</b>	<b>437SQW-FM</b>	White Reflector
			<b>437SQWHZ-SF</b>	<b>437SQWHZ-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

<b>FMASQ4</b>	Drywall Ceiling Adapter
<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: TC943SQ (437SQHZ-SF)

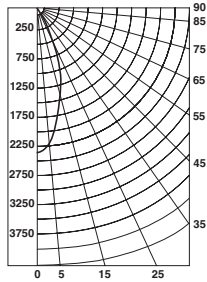
Test Number: PT01102601

Total Luminaire Efficiency: 69.8%

Luminaire Spacing Criteria: 0.54

Luminaire: Haze finish, square downlight trim. Open aperture.

Lamps: One 50MR16/1R/FL35/C, rated at 1200 total lumens.



**Candlepower Distribution (Candelas)**

Angle	Candela	Lumens
0°	2371	
5°	2200	210
15°	1326	376
25°	428	198
35°	69	43
45°	11	8
55°	3	2
65°	0	0
75°	0	0
85°	0	0

**Initial Footcandles**

Distance to Illuminated Plane (Feet)	Footcandles Beam Center	Footcandles Beam Edge	Beam Diameter
6'	65.9	28.9	3.6'
7'	48.4	21.2	4.2'
8'	37.0	16.2	4.8'
9'	29.3	12.8	5.5'
10'	23.7	10.4	6.1'
11'	19.6	8.6	6.7'
12'	16.5	7.2	7.3'
13'	14.0	6.1	7.9'
14'	12.1	5.3	8.5'
15'	10.5	4.6	9.1'

**Luminance Data**

Ang in Deg	Footlamberts	Candela/M <sup>2</sup>
45	651	2229
55	198	677
65	0	0
75	0	0
85	0	0

**Zonal Lumen Summary**

Zone	Lumens	%Lamp	%Fixture
0-30°	784	65.3	93.6
0-40°	827	68.9	98.7
0-60°	838	69.8	100.0
0-90°	838	69.8	100.0
90-180°	0	0.0	0.0
0-180°	838	69.8	100.0

**AVERAGE INITIAL FOOTCANDLES**

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

Luminaire Spacing	Room Cavity Ratio		
	RCR1	RCR3	RCR5
4' x 4'	59	53	49
5' x 5'	37	34	31
6' x 6'	26	24	22
7' x 7'	21	19	18
8' x 8'	17	15	14
9' x 9'	13	12	11
10' x 10'	9	9	8
12' x 12'	7	6	5

**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	83	83	83	83	81	81	81	81	78	78	78	74	74	74	71	71	71	70
1	80	78	77	76	78	77	76	75	74	73	72	72	71	70	69	69	68	67
2	77	74	72	70	76	73	71	70	71	69	68	69	68	67	67	66	65	64
3	74	71	68	66	73	70	67	65	68	66	64	67	65	63	65	64	63	62
4	72	68	65	62	71	67	64	62	66	63	61	64	62	61	63	61	60	59
5	69	65	62	59	68	64	61	59	63	61	59	62	60	58	61	59	58	57
6	67	62	59	57	66	62	59	56	61	58	56	60	58	56	59	57	55	55
7	65	60	57	54	64	59	56	54	59	56	54	58	55	54	57	55	53	53
8	63	58	54	52	62	57	54	52	56	54	52	56	53	52	55	53	51	51
9	61	55	52	50	60	55	52	50	55	52	50	54	52	50	54	51	50	49
10	59	54	50	48	58	53	50	48	53	50	48	52	50	48	52	50	48	47

**PHOTOMETRIC REPORT**

Catalog Number: TC943SQ (437SQHZ-SF)

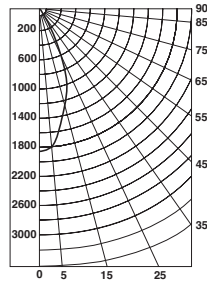
Test Number: PT01102701

Total Luminaire Efficiency: 70.0%

Luminaire Spacing Criteria: 0.64

Luminaire: Haze finish, square downlight trim. Open aperture.

Lamps: One Q71MR16C/FL40, rated at 1200 total lumens.



**Candlepower Distribution (Candelas)**

Angle	Candela	Lumens
0°	1837	
5°	1775	169
15°	1230	349
25°	556	257
35°	82	52
45°	14	11
55°	2	2
65°	0	0
75°	0	0
85°	0	0

**Initial Footcandles**

Distance to Illuminated Plane (Feet)	Footcandles Beam Center	Footcandles Beam Edge	Beam Diameter
6'	51.0	20.9	4.5'
7'	37.5	15.3	5.3'
8'	28.7	11.7	6.0'
9'	22.7	9.3	6.8'
10'	18.4	7.5	7.6'
11'	15.2	6.2	8.3'
12'	12.8	5.2	9.1'
13'	10.9	4.4	9.8'
14'	9.4	3.8	10.6'
15'	8.2	3.3	11.3'

**Luminance Data**

Ang in Deg	Footlamberts	Candela/M <sup>2</sup>
45	871	2984
55	184	632
65	0	0
75	0	0
85	0	0

**Zonal Lumen Summary**

Zone	Lumens	%Lamp	%Fixture
0-30°	775	64.6	92.3
0-40°	827	68.9	98.4
0-60°	840	70.0	100.0
0-90°	840	70.0	100.0
90-180°	0	0.0	0.0
0-180°	840	70.0	100.0

**AVERAGE INITIAL FOOTCANDLES**

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

Luminaire Spacing	Room Cavity Ratio		
	RCR1	RCR3	RCR5
4' x 4'	59	53	48
5' x 5'	38	34	31
6' x 6'	26	23	21
7' x 7'	21	19	17
8' x 8'	17	15	14
9' x 9'	13	11	10
10' x 10'	9	8	8
12' x 12'	7	6	5

**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	83	83	83	83	81	81	81	81	78	78	78	74	74	74	71	71	71	70
1	80	79	77	76	78	77	76	74	74	73	72	72	71	70	69	69	68	67
2	77	74	72	70	76	73	71	69	71	69	68	69	67	66	67	66	65	64
3	74	70	67	65	73	69	67	65	68	65	64	66	64	63	64	63	62	61
4	71	67	64	61	70	66	63	61	65	62	60	63	61	60	62	60	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	55	59	57	55	58	56	54	58	55	54	53
7	64	58	55	52	63	58	55	52	57	54	52	56	54	52	56	53	52	51
8	61	56	52	50	61	55	52	50	55	52	50	54	52	50	54	51	49	49
9	59	54	50	48	58	53	50	48	53	50	48	52	49	48	52	49	47	47
10	57	51	48	46	56	51	48	46	51	48	46	50	48	46	50	47	46	45

