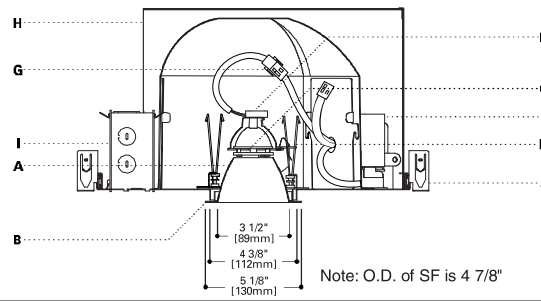


DESCRIPTION

Specification grade 50 watt MR16 fixture rated for direct contact with insulation. The 50° cut-off to lamp and lamp image provides a glare free, smooth distribution of light. For use with all halogen MR16 lamps in either open or cover glass varieties. Halogen lamps provide excellent color, long life, and low radiant heat. **Optical element can be changed after installation to provide a variety of distributions. e.g. into an Adjustable**



SPECIFICATION FEATURES

A...Reflector

.040 thick aluminum spun parabolic reflector. Reflector is available in iridescent free Black, Clear, Gold, Haze, Warm Haze Alzak®, or painted gloss white finish. Special cone colors listed below.

B...Flange

Self flange reflector or die-cast flange with either matte white or clear coat finish. Die-cast flanges are easily removed for field painting. Elements are keyed for proper insertion.

C...Lens

Soft focus lens standard for smooth beam patterns. Up to two filter media can be used which are retained during relamping.

D...Attachment

Positive torsion springs pull flange tight to ceiling. Mechanical light trap eliminates spill light at edge of flange or reflector.

E...Socket

GX5.3 base for Bi-pin MR16 lamps. Fixed socket height ensures consistent lamp position and back light shield keeps interior of fixture dark.

F...Transformer

Truvolt™ toroidal transformer with dual-output taps for proper 12.0V operation and quiet operation when dimmed. Dimmer tap compensates for inherent voltage loss from dimmers, resulting in 30% more lumens than traditional laminated transformers. Toroidal design, with 90% or greater efficiency, features a rolled one-piece continuous core of M3 grade grain oriented silicon steel complete with an integral thermal to protect against overheating. For dimming, use dimmers rated for electromagnetic transformers. **Transformer is warranted for 5 years and is serviceable from below ceiling.**

Note: If a dimming system is operated for construction lighting in its "shunt" mode, i.e. bypassing the dimmer modules, for an extended period of time, fixtures with the dual-tap toroidal transformer should be operated on the "Switched Fixture" output until the dimmers are in use. Operating fixtures on the "Dimmed Fixture" output with a full 120v input for an extended period will overdrive the lamp and cause shortened lamp life.

G...Electrical
Keyed quick connect for low voltage socket leads.

H...Frame/Housing

Hot dipped galvanized 20 gauge steel frame with built in 1/2 inch plaster lip. Gunsights allow for consistent alignment. Aluminum .032 thick housing allows for heat dissipation and reduces weight. Matte black housing interior.

I...Junction Box

18 cubic inches, listed for 4#12 AWG or 6#14 AWG 90° C additional feed through conductors, has six 1/2 inch pryouts.

J...Bar Hangers

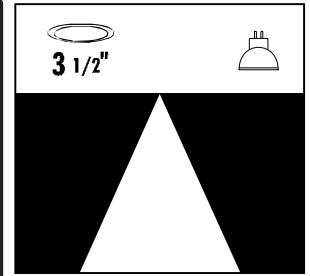
No Flex® bar hangers with positive locking, for use with wood, engineered wood and steel frame joists spaced up to 24" O.C. ship with platform. For use in T-bar ceilings order accessory MBCLP clips. Nailless barb and locator lip provide consistent installation height.

Codes

Thermally protected, IP labeled, for use in direct contact with insulation. Meets Washington State Air tight requirements, 1995 CABO Model Energy Code.

Labels

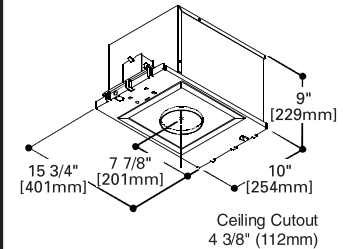
UL and cUL listed, standard damp label, IBEW union made.



**P3MR
E3MR**

50 W MR 16

3" DOWNLIGHT



ENERGY DATA

120V Input		
Lamp Watts	Input Watts	Operating Current
20	23	.19
35	41	.34
37	42	.35
42	47	.39
50	57	.48

ORDERING INFORMATION

Order platform and element separately for a complete unit

Platform	Optical Element	Finish	Flange	Accessories
P3MR				
P3MR=3" Airtight IC Rated Low Voltage Housing P3MR-REMOTE= 3" Airtight IC Rated Low Voltage Housing for Remote Transformer	E3MR= 3" MR16 Downlight Reflector	Standard B=Black C=Clear H=Haze G=Gold WMH=Warm Haze W=Gloss White MW=Matte White Custom K=Cognac KH=Cognac Haze CC=Chocolate	Custom Cont. CCH=Chocolate Haze BU=Blush BUH=Blush Haze GP=Graphite GPH=Graphite Haze PN=Pine PNH=Pine Haze SK=Sky SKH=Sky Haze	Blank= White Die-cast SF=Self Flange RAW= Natural Die-cast SFWF= Self Flange Painted White MBCLP = 40 Push On T Bar Clips (for 10 Units) PLE3 = Plaster Lip Extension for Max 2" Thick Ceiling FMC3 = Flush Mount Collar LSPD = Spread Lens LLNR = Linear Spread Lens LUV = UV Reduction Lens LLPINK = Light Pink Lens LLSTRAW = Light Straw Lens L27K = 2700K dichroic filter LDAY = Daylight Lens LSPINK = Surprise Pink Lens LPLAV = Pale Lavender Lens LHEX= Hex Cell Louver

PHOTOMETRICS

P3MR-E3MRC

Test No. H21030
 Lamp: Q50MR16/C/FL
 Lumens: 880
 Cutoff: 50°
 Spacing: 0.4
 Efficiency: 78.1%

Candelas	
Vertical Angle	CD
90	0
85	0
75	0
65	0
55	0
45	5
35	43
25	406
15	1052
5	1922
0	2513

Distribution		Luminance	
Degree	cd/m ²	Degree	cd/m ²
85°	0	85°	0
75°	0	75°	0
65°	0	65°	0
55°	0	55°	0
45°	1139	45°	1139

Cone of Light		
Distance to Illuminated Plane	Initial Nadir Footcandles	Beam Diameter
4'6"	123	2'0"
5'6"	82	2'0"
6'6"	59	2'6"
8'0"	39	3'0"
10'0"	25	4'0"
12'0"	17	5'0"

0°

Zonal Lumen Summary

Zone	Lumens	%Lamp	%Luminaire
0-30	799	74.0	94.7
0-40	838	77.6	99.4
0-60	843	78.1	100.0
0-90	843	78.1	100.0
90-180	0	0.0	0.0
0-180	843	78.1	100.0

Coefficient of Utilization

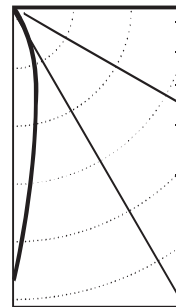
Ceiling Reflectance	80%					70%		50%		30%		0%
	70	50	30	10	50	10	50	10	50	10	0	
Room Cavity Ratio	0	93	93	93	93	91	91	87	87	83	83	78
1	90	89	87	86	87	85	84	82	81	80	76	76
2	88	85	83	81	84	81	82	79	79	77	74	74
3	86	82	80	78	81	77	80	76	78	75	73	73
4	83	80	77	75	79	75	78	74	76	73	71	71
5	81	77	74	72	77	72	75	72	74	71	70	70
6	79	75	72	70	75	70	74	70	73	69	68	68
7	77	73	70	68	73	68	72	68	71	67	66	66
8	76	71	68	66	71	66	70	66	69	66	65	65
9	74	69	66	64	69	64	68	64	68	64	63	63
10	72	67	65	63	67	63	67	63	66	63	62	62

P3MR-E3MRC

Test No. H21283
 Lamp: 37MR16/IR/FL/40
 Lumens: 900
 Cutoff: 50°
 Spacing: 0.3
 Efficiency: 72.1%

Candelas	
Vertical Angle	CD
90	0
85	0
75	0
65	0
55	0
45	5
35	30
25	206
15	1171
5	2169
0	3223

Distribution		Luminance	
Degree	cd/m ²	Degree	cd/m ²
85°	0	85°	0
75°	0	75°	0
65°	0	65°	0
55°	0	55°	0
45°	1139	45°	1139



Cone of Light

Distance to Illuminated Plane	Initial Nadir Footcandles	Beam Diameter
4'	201	1'4"
6'	90	2'0"
7'	66	2'4"
8'	50	2'7"
10'	32	3'4"
12'5"	21	4'2"

Zonal Lumen Summary

Zone	Lumens	%Lamp	%Luminaire
0-30	622	69.1	95.8
0-40	644	71.6	99.3
0-60	649	72.1	100.0
0-90	649	72.1	100.0
90-180	0	0.0	0.0
0-180	649	72.1	100.0

Coefficient of Utilization

Ceiling Reflectance	80%					70%		50%		30%		0%
	70	50	30	10	50	10	50	10	50	10	0	
Room Cavity Ratio	0	86	86	86	86	84	84	80	80	77	77	72
1	83	81	80	79	81	77	77	75	74	73	69	69
2	80	77	75	73	79	73	74	71	72	69	67	67
3	77	74	71	69	76	69	71	68	70	67	65	65
4	75	71	68	66	74	66	69	65	67	64	62	62
5	73	68	65	63	72	63	67	62	65	62	60	60
6	70	66	63	61	70	60	64	60	63	60	58	58
7	68	64	61	58	68	58	62	58	62	58	57	57
8	66	62	58	56	66	56	60	56	60	56	55	55
9	64	60	57	55	64	54	59	54	58	54	53	53
10	63	58	55	53	62	53	57	53	57	53	52	52

Notes and Formulas:

Luminance: To convert cd/m² to footlamberts, multiply by 0.2919

Cone of Light:

- Beam diameter is to 50% of maximum footcandles, rounded to the nearest half-foot.
- Footcandle values are initial. Apply appropriate light loss factors where necessary. See page 64-65 of catalog.

CU Notes/Formulas:

- maintained illuminance = $\frac{\text{lamp lumens} \times \text{CU} \times \text{light loss factors}}{\text{room area}}$
- total number of luminaires = $\frac{\text{total room area} \times \text{maintained illuminance}}{\text{lamp lumens} \times \text{CU} \times \text{light loss factors}}$
- CU data based on 20% effective floor cavity reflectance.

Note: Specifications and Dimensions subject to change without notice.

Visit our web site at www.cooperlighting.com

