

DESCRIPTION

Recessed downlight luminaire with 4 inch square aperture utilizing a low voltage MR16 tungsten-halogen lamp. Modular platform can be reconfigured from below the ceiling to accept a broad range of lamp modules and optical elements. Platform is suitable for direct contact with insulation and 2x8 residential construction. Platform + module + element combination supports various lamp beam spreads for desired optical distribution with excellent light control and low aperture brightness.

Catalog #		Type
Project		
Comments		Date
Prepared By		

SPECIFICATION FEATURES

Frame

Galvanized steel plaster frame with integral bar hanger receivers. Setscrews provide positive horizontal locking.

Collar

Matte black steel collar adjusts vertically for 1/2" - 1" thick ceilings and can be rotated +/- 75° thru the aperture. Integral gun sights facilitate the use of guide strings or laser lines. Shipped with a paint overspray protector installed in the collar.

Lamp Module

Installed or removed thru the aperture or from the top and allows lamp orientation at 0°, 90°, 180° and 270° positions. Hot aiming rotates 365°, tilts 45°, and locks in position using #2 Philips screwdriver. Translating center beam optics aligns axis of lamp with aperture as lamp translates from nadar to 45°.

Housing

Double wall aluminum housing painted matte black for a visually dark interior. Removable hinged top allows for top access. All fasteners are captive.

Gaskets

Closed cell gaskets achieve restrictive airflow requirements without additional caulking.

Optical Element

Mousetrap type springs pull flange tight to ceiling. Light trap eliminates spill light at edge of flange and reflector. Available in self-flanged or metal trim ring versions. May also be installed rimless using optional plastering lathing ring.

Bar Hangers

Captive preinstalled bar hangers adjusts from 8-1/2" to 24" wide; pass thru feature allows shortening without removal. Captive nail penetrates standard and engineered lumber. Mounting flange levels platform with ceiling. Integral clip attaches directly to t-bar.

Lower Reflect or

Aluminum parabolic shielding prismatoid provides for 65° cutoff and is available in a wide range of semi specular Alzak® finishes. Corrugated Baffle: An optional embossed pattern that extends through the flange adding a subtle design element and reduces aperture brightness.

Junction Box

(7) 1/2" trade size pry outs, (3) integral clamps for non-metallic cable. Rated for (4) #12 thru branch circuits. Wago® type push wire connectors for field connections.

Thermal Protector

Self-resetting thermal protector protects against improper lamping.

Transformer

Integral dual output toroidal magnetic transformer, 120V 50/60Hz input 12V nominal 75VA maximum output. Separate output for circuits controlled by dimmers compensates for losses in dimmers improves color temperature and lumen output.

Lamp Capsule

Ceramic GX5.3 lamp holder mounts to die cast aluminum heat sink to dissipate heat. Connects to the transformer with electrical quick connects. Accepts 2 lenses, filters, or optional lamp snoot.

Code Compliance

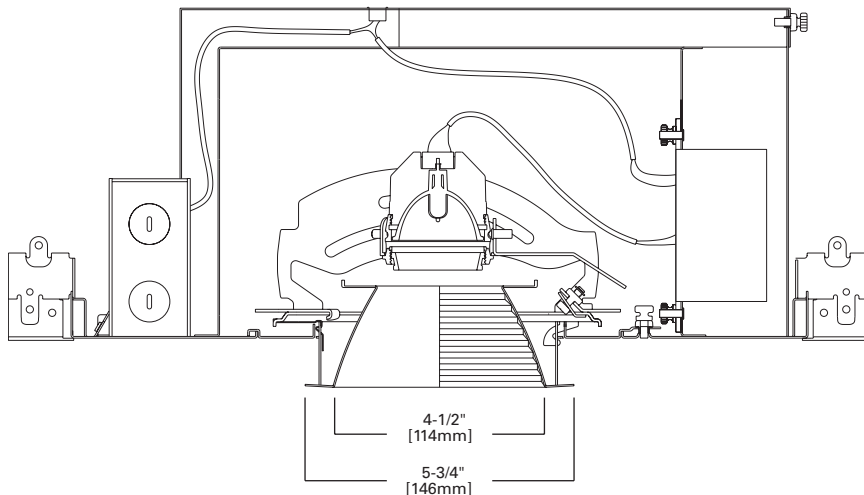
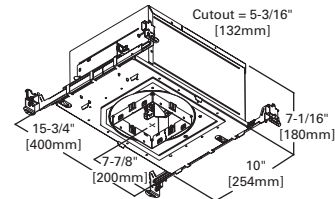
Thermally protected, IP labeled, cULus listed for damp locations and ASTM-E283 AIRTITE™. Suitable for direct contact with insulation.



P408ICAT MA4MR E4MR E4MRCB

50W MR16 Tungsten-Halogen

4 Inch Square Downlight



ENERGY DATA

Lamp Wattage (Nominal)	Input Power (Watts)	Input Current (Amps)
20	21	0.17
35	37	.031
37	39	0.32
42	44	0.37
50	53	0.44

ORDERING INFORMATION: Complete unit consists of platform, lamp module and optical element.

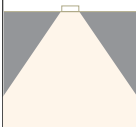
Example: P408ICAT + MA4MR + E4MRH

Platform	Lamp Module	Optical Element	Finish	Flange Style	Accessories
P408ICAT	MA4MR				
P408ICAT = 4" Square Aperture IC Housing	MA4MR = MR16 Directional Lamp Module, 120V Input	E4MR = 4" Square Aperture Lower Shielding Prismatoid, Open E4MRCB = 4" Square Aperture Corrugated Lower Shielding Prismatoid, Open	Alzak® Finishes LI = Specular Clear, Low Iridescence H = Semi-Specular Clear G = Gold WMH = Warm Haze WH = Wheat WHH = Wheat Haze GP = Graphite GPH = Graphite Haze K = Cognac KH = Cognac Haze CC = Chocolate CCH = Chocolate Haze B = Black Painted Finishes MB = Matte black MW = Matte white W = Gloss white	[Blank] = Metal Trim Ring, Matte White SF = Self Flanged SFWF = Self Flanged, Matte White Flange (SFWF not available with corrugated baffle) RL = Rimless, use with rimless adapter	RA4X4 = Rimless adapter for 4" optical elements PLR4X4 = Plaster lathing ring for rimless RLA4X4 = Rimless adapter for solid ceiling surfaces EDC4X41 = Extended depth collar for 1" - 1-1/2" thick ceilings EDC4X42 = Extended depth collar for 1-1/2" - 2" thick ceilings L4X4HEX = Matte black hex cell louver MTR4MW = Metal trim ring, matte white MTR4MB = Metal trim ring, matte black MTR4SN = Metal trim ring, satin nickel MTR4TBZ = Metal trim ring, tuscan bronze LSA16 = Matte black lamp snoot accessory L Series - Filter Media For MR16 lamps (See Accessories specification sheet)

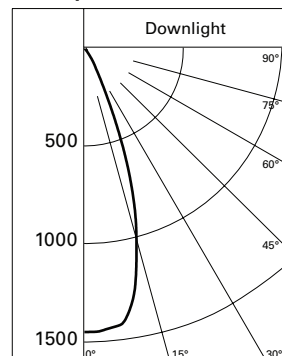
PHOTOMETRICS

P408ICAT MA4MR E4MR E4MRCB

Photometric Results

Spacing Criterion = .6 Efficiency = 77.0%
Test No. P11086 Platform = P4 Element = E4MRH Lumens = 800 Lamp = Q50MR16C/FL/40
 

Candlepower Distribution



Cone of Light

D	FC	CB
7'	29	6.3'
8'	23	7.2'
9'	18	8.1'
10'	14	9.0'
12.5'	9	11.3'

Candelas

Vertical Angle	CD
90	0
85	0
75	0
65	1
55	1
45	9
35	51
25	298
15	1047
5	1433
0	1445

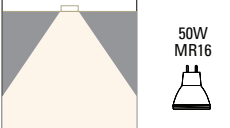
Zonal Lumens Summary

Zone	Lumens	% Lamp	% Luminaire
0-30	573	71.6	93
0-40	607	75.9	98.6
0-60	615	76.9	99.9
0-90	616	77	100
90-180	0	0	0
0-180	616	77	100

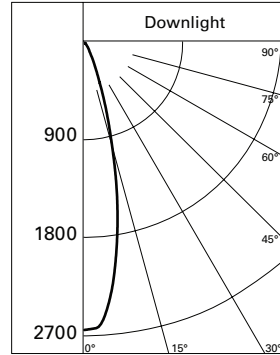
Coefficients of Utilization

Ceiling Wall % RCR	70 50 30 10	70 50 30 10	50 30 10	50 30 10	50 30 10	0
	Zonal cavity method -- floor reflectance = 20%					
0	91 91 91 91	89 89 89 89	85 85 85	82 82 82	78 78 78	77
1	88 86 85 83	86 85 83 82	82 80 79	79 78 77	76 75 75	74
2	85 82 79 77	83 80 78 76	78 76 75	76 74 73	74 73 72	70
3	82 78 75 72	80 77 74 72	75 72 71	73 71 69	71 70 68	67
4	79 74 71 68	77 73 70 68	72 69 67	70 68 66	69 67 66	65
5	76 71 67 65	75 70 67 64	69 66 64	68 65 63	67 65 63	62
6	73 68 64 62	72 67 64 62	66 63 61	65 63 61	64 62 60	59
7	71 65 62 59	70 65 61 59	64 61 59	63 60 58	62 60 58	57
8	68 63 59 57	68 62 59 56	61 58 56	61 58 56	60 58 56	55
9	66 60 57 54	65 60 57 54	59 56 54	59 56 54	58 56 54	53
10	64 58 55 52	63 58 54 52	57 54 52	57 54 52	56 54 52	51

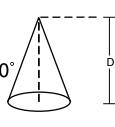
Photometric Results

Spacing Criterion = .4 Efficiency = 75.4%
Test No. P11084 Platform = P4 Element = E4MRH Lumens = 884 Lamp = 50MR16C/NFL/25


Candlepower Distribution



Cone of Light

		
D	FC	CB
8'	42	5.6'
9'	33	6.3'
10'	27	7.0'
13'	16	9.1'
15'	12	10.5'

Candelas

Vertical Angle	CD
90	0
85	0
75	0
65	0
55	1
45	8
35	58
25	228
15	1062
5	2479
0	2660

Zonal Lumens Summary

Zone	Lumens	% Lamp	% Luminaire
0-30	624	70.6	93.6
0-40	658	74.5	98.8
0-60	666	75.3	99.9
0-90	667	75.4	100
90-180	0	0	0
0-180	667	75.4	100

Coefficients of Utilization

Ceiling Wall % RCR	70 50 30 10	70 50 30 10	50 30 10	50 30 10	50 30 10	0
Zonal cavity method -- floor reflectance = 20%						
0	90 90 90 90	88 88 88 88	84 84 84	80 80 80	77 77 77	75
1	87 85 84 82	85 83 82 81	80 79 79	78 77 76	75 75 74	73
2	84 81 79 77	82 80 78 76	77 76 74	75 74 73	73 72 71	70
3	81 77 75 72	80 76 74 72	75 73 71	73 71 70	71 70 69	68
4	78 74 71 69	77 73 71 69	72 70 68	71 69 67	69 68 66	65
5	76 71 68 66	75 71 68 66	70 67 65	68 66 65	67 66 64	63
6	74 69 66 63	73 68 65 63	67 65 63	66 64 62	66 64 62	61
7	72 67 63 61	71 66 63 61	65 63 61	64 62 60	64 62 60	59
8	69 64 61 59	69 64 61 59	63 61 59	63 60 58	62 60 58	57
9	68 62 59 57	67 62 59 57	61 59 57	61 58 57	60 58 56	56
10	66 61 57 55	65 60 57 55	60 57 55	59 57 55	59 57 55	54