

**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.

<b>Catalog #</b>		<b>Type</b>
<b>Project</b>		
<b>Comments</b>		<b>Date</b>
<b>Prepared by</b>		

**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 +/- 7.5° 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.

**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 Reflector**

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.

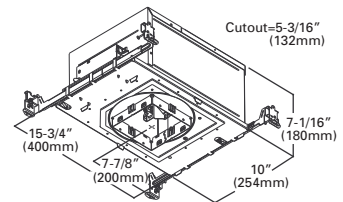
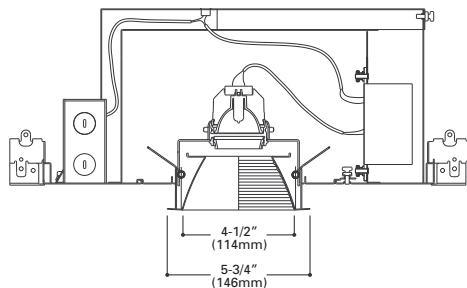
**Code Compliance**

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



**P408ICAT  
MV4MR  
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

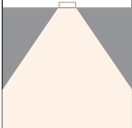
**ORDERING INFORMATION:** Complete unit consists of platform, lamp module and optical element.

Platform	Lamp Module	Optical Element	Finish	Flange	Accessories
<b>P408ICAT</b>	<b>MV4MR</b>				
P408ICAT = 4" Square Aperture IC Housing	MV4MR = MR16 Vertical Lamp Module, 120V Input	E4MR = 4" Square Aperture Lower Shielding Prismatoid, Open E4MRCB = 4" Square Aperture Corrugated Lower Shielding Prismatoid, Open	Alzak® Finishes H = Clear Haze WMH = Warm Haze WHH = Wheat Haze KH = Cognac Haze GPH = Graphite Haze CTH = Cobalt Haze CCH = Chocolate Haze BH = Black Haze Painted Finishes MW = Matte White MB = Matte Black	[Blank] = Metal Trim Ring, Matte White SF = Self Flanged SFWF = Self Flanged, Matte White Flange (SFWF not available with corrugated baffle)	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 MTR4AC = Metal trim ring, antique copper MTR4TBZ = Metal trim ring, tuscan bronze LSA16 = Matte black lamp snoot accessory L Series - Filter Media For MR16 lamps (See Accessories specification sheet)

**Photometric Results**

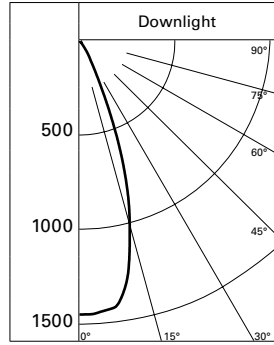
Spacing Criterion = .6  
Efficiency = 77.0%

Test No. P11086  
Platform = P4  
Element = E4MRH  
Lumens = 800  
Lamp = Q50MR16C/FL/40

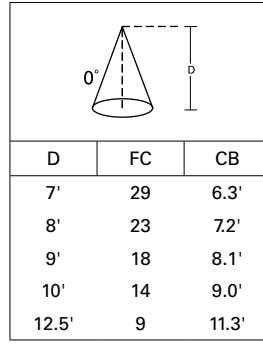


50W MR16

**Candlepower Distribution**



**Cone of Light**



**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

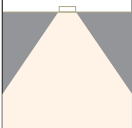
**Coefficients of Utilization**

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**

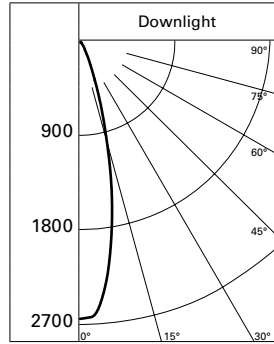
Spacing Criterion = .4  
Efficiency = 75.4%

Test No. P11084  
Platform = P4  
Element = E4MRH  
Lumens = 884  
Lamp = 50MR16C/NFL/25

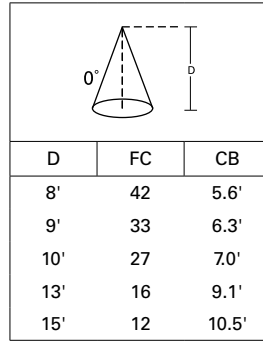


50W MR16

**Candlepower Distribution**



**Cone of Light**



**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