

**DESCRIPTION**

Recessed lens downlight luminaire with 2 inch square regressed pinhole 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. Set-screws 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. All fasteners are captive.

**Gaskets**

Closed cell gaskets achieve restrictive airflow requirements without additional caulking.

**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.

**Splay**

Diecast aluminum splay has truncated pyramid with regressed square aperture and integral glass lens. Lens can be removed to facilitate painting to match ceiling finish. Mousetrap type springs pull flange tight to ceiling. Light trap eliminates spill light at edge of flange. Provided with both straight and angle cut parabolic shielding cone, shipped with angle cut version installed.

**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**

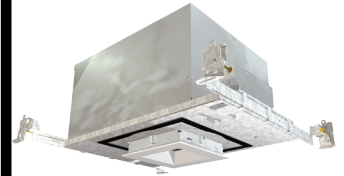
Integral dual output toroidal magnetic transformer, 120V 50/60Hz input, 12V nominal 75VA maximum output. Separate output for circuits controlled by dimmers compensates for losses in dimmers, improves color temperature and lumen output.

**Lamp Capsule**

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

**Code Compliance**

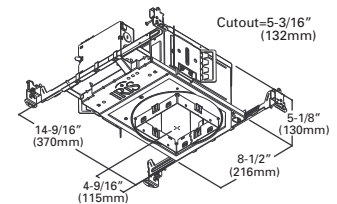
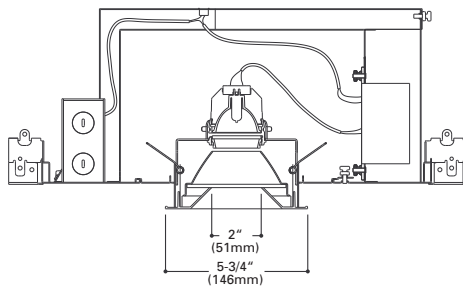
Thermally protected, IP labeled, cULus listed for wet locations and ASTM-E283 AIRTITE(tm). Suitable for direct contact with insulation.



**P408ICAT  
MV4MR  
E4RPINSR  
50W MR16**

**Tungsten-Halogen**

**2 Inch Square Lens 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.

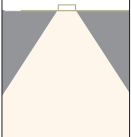
Platform	Lamp Module	Optical Element	Flange	Accessories
<b>P408ICAT</b>	<b>MV4MR</b>			
P408ICAT = 4" Square Aperture IC Housing	MV4MR = MR16 Vertical Lamp Module, 120V Input	E4RPINSR = 2" Square Aperture Regressed Pinhole, Lens	[Blank] = Self Flanged, Matte White Flange	LSA16 = Matte black lamp snoot accessory L Series - Filter Media For MR16 lamps (See Accessories specification sheet)

Photometrics

Photometric Results

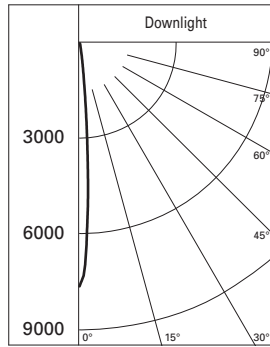
Spacing Criterion = .1  
Efficiency = 38.3%

Test No. P10515  
Platform = P408I CAT  
Element = E4RPINSR  
Lumens = 575  
Lamp = 42MR16 VN5P9

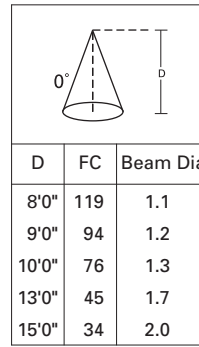


42W  
MR16

Candlepower Distribution



Cone of Light



Candelas

Vertical Angle	CD
90	0
85	0
75	0
65	0
55	0
45	1
35	4
25	16
15	103
5	2514
0	7625

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	46 46 46 46	44 44 44 44	43 43 43	41 41 41	39 39 39	38
1	44 44 43 43	44 43 43 42	42 41 41	40 40 40	39 39 38	38
2	44 42 42 41	43 42 41 40	41 40 40	40 39 39	39 38 38	38
3	43 41 40 40	42 41 40 39	40 39 39	39 39 38	38 38 38	37
4	42 41 39 39	41 40 39 38	39 39 38	39 38 38	38 38 37	37
5	41 40 39 38	41 39 38 38	39 38 37	38 38 37	38 37 37	37
6	41 39 38 37	40 39 38 37	38 38 37	38 37 37	38 37 37	36
7	40 39 38 37	40 38 37 37	38 37 37	38 37 36	37 37 36	36
8	40 38 37 36	39 38 37 36	38 37 36	37 37 36	37 36 36	36
9	39 38 37 36	39 38 37 36	37 36 36	37 36 36	37 36 36	35
10	39 37 36 36	39 37 36 36	37 36 36	37 36 36	37 36 35	35

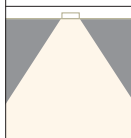
Zonal Lumens Summary

Zone	Lumens	% Lamp	% Luminaire
0- 30	217	37.7	98.6
0- 40	220	38.2	99.9
0- 60	220	38.3	100
0- 90	220	38.3	100
90-180	0	0	0
0-180	220	38.3	100

Photometric Results

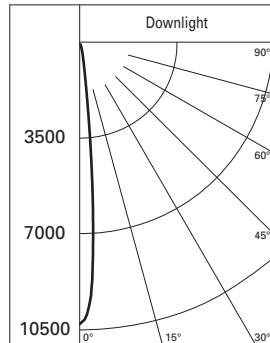
Spacing Criterion = .2  
Efficiency = 36.3%

Test No. P10537  
Platform = P408ICAT  
Element = E4RPINSR  
Lumens = 1320  
Lamp = 50MR16 IR SP10

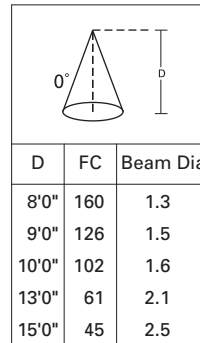


50W  
MR16

Candlepower Distribution



Cone of Light



Candelas

Vertical Angle	CD
90	0
85	0
75	0
65	1
55	0
45	0
35	12
25	67
15	330
5	5202
0	10234

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	43 43 43 43	42 42 42 42	40 40 40	39 39 39	37 37 37	36
1	42 42 41 40	41 41 40 40	39 39 39	38 38 37	37 37 36	36
2	41 40 39 39	40 40 39 38	38 38 37	37 37 37	36 36 36	35
3	40 39 38 37	40 38 38 37	38 37 36	37 36 36	36 36 35	35
4	39 38 37 36	39 38 37 36	37 36 35	36 36 35	36 35 35	34
5	39 37 36 35	38 37 36 35	36 35 35	36 35 34	35 35 34	34
6	38 36 35 34	38 36 35 34	36 35 34	35 35 34	35 34 34	33
7	37 36 35 34	37 36 35 34	35 34 34	35 34 33	35 34 33	33
8	37 35 34 33	37 35 34 33	35 34 33	34 34 33	34 33 33	33
9	36 35 34 33	36 35 34 33	34 33 33	34 33 33	34 33 33	32
10	36 34 33 32	36 34 33 32	34 33 32	34 33 32	33 33 32	32

Zonal Lumens Summary

Zone	Lumens	% Lamp	% Luminaire
0- 30	471	35.7	98.1
0- 40	478	36.2	99.8
0- 60	479	36.3	99.9
0- 90	480	36.3	100
90-180	0	0	0
0-180	480	36.3	100