

DESCRIPTION

Recessed 1.25" aperture downlight pinhole luminaire utilizing a low voltage MR16 tungsten-halogen lamp. Suitable for 2x10 residential or commercial constructions, airtight and can be used in direct contact with insulation. Housing platform + optical element support various lamp beams providing desired optical distribution with excellent light control and low aperture brightness. Interchangeable optical elements provide design flexibility; luminaire can be changed from downlight, to accent to wall wash.

Catalog #		Type
Project		
Comments		Date
Prepared By		

SPECIFICATION FEATURES

Frame

Galvanized steel plaster frame with integral bar hanger receivers. Setscrews provide positive horizontal locking. Integral gun sights facilitate the use of guide strings or laser lines for accurate positioning. Shipped with an overspray protector installed.

Housing

Double wall housing provides for effective thermal management. Internal housing is painted matte black for a visually dark interior.

Bar Hangers

Bar hangers adjust 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 attached directly to tee-bar.

Gaskets

Closed cell gaskets achieve restrictive airflow requirements without additional caulking.

Adjustment Mechanism

Hot aiming rotates 365°, tilts 45° and locks in position. Angle markings assist in repeatable settings. Translating center beam optics aligns axis of primary reflector with aperture from nadir to 45°. Shipped set at nadir. Removable thru aperture for service.

Lamp Capsule

Retained in the adjustment mechanism with spring loaded ball catches, aim and focus is not disturbed during lamp replacement. Ceramic GX5.3 lamp holder mounts a die cast aluminum heat sink to dissipate heat and provide maximum lamp life. Connects to the transformer with electrical quick connect. Accepts 2 lenses, filters, or an optional lamp snoot.

Splay

Die cast aluminum splay with pinhole aperture and black oculus for glare control. Spun 0.04" thick black Alzak interior parabolic contour prevents view into housing. Oculus can be removed to facilitate painting or to create 1.75" aperture (E3DNPINLARGE). Can be installed flush mount with optional flush mount collar accessory.

Trim Retention

Retained with two torsion springs holding the flange tightly to the finished ceiling surface and accommodates ceiling thickness from 1/2" - 1" thick. Optional PLE3 plaster lip extender accommodates up to 2" thick ceilings.

Junction Box

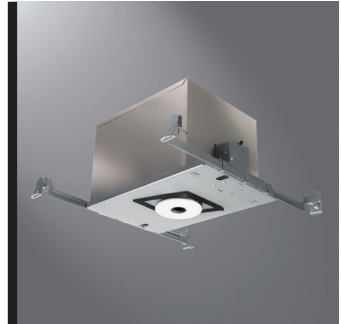
(6) 1/2" trade size pry outs positioned to allow straight conduit runs. 18 in3 internal volume supports up to (10) #12 or (14) #14 AWG 90° C conductors for pass thru or switch legs.

Transformer

Integral magnetic step down transformer, 120V 50/60Hz input, 12V, 50VA nominal output is greater than 90% efficient. Toroidal wound core is epoxy encapsulated providing extremely low noise and reliable operation.

Compliance

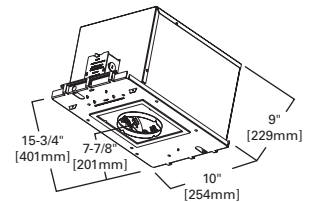
Type IC thermally protected, suitable for direct contact with insulation and cULus listed for damp locations. Restrictive airflow per ASTM-E283. Contains no mercury or lead and RoHS compliant.



**P3MR
E3DNPIN**

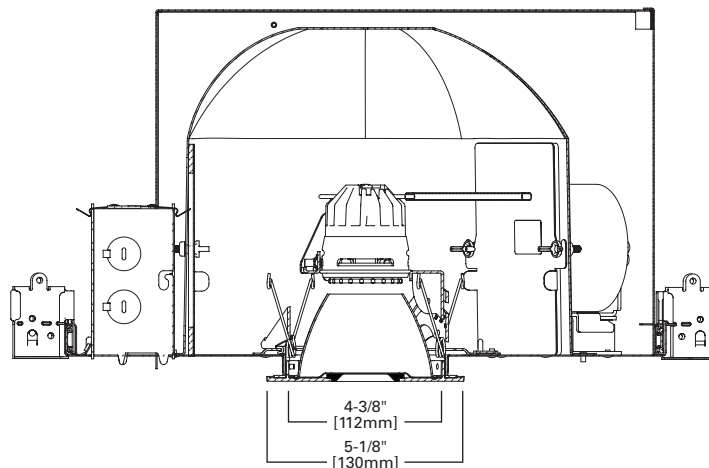
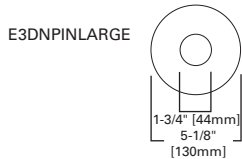
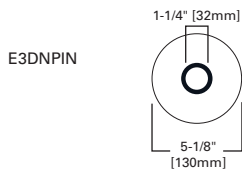
**Downlight Pinhole
1.25" Aperture**

**50W MR16
Tungsten-Halogen**



Ceiling Cutout
4-3/8" [112mm]

**PINHOLE ELEMENT
VARIETIES (PLAN VIEW)**



Energy Data		
Lamp Wattage	Input Watts	Input Current
20	23	0.19
35	41	0.34
37	42	0.35
42	47	0.39
50	57	0.48



To learn more visit:
www.soraa.com/wws/fixtures
for recommended lamp ratings.

Housing	Optical Element	Flange Style and Finish Options	Accessories
<p>P3MR=3.5" aperture IC, AT low voltage 50W MR16 housing platform w/integral 120V transformer</p> <p>P3MRDR20=3.5" aperture IC, AT low voltage 20W MR16 housing platform w/integral 120V transformer</p> <p>P3MRDR35=3.5" aperture IC, AT low voltage 35W MR16 housing platform w/integral 120V transformer</p> <p>P3MRDR37=3.5" aperture IC, AT low voltage 37W MR16 housing platform w/integral 120V transformer</p> <p>P3MRREMOTE=3.5" aperture IC, AT low voltage MR16 housing platform for remote transformer</p>	<p>E3DNPIN=1.25" aperture downlight pinhole splay</p> <p>E3DNPINLARGE=1.75" aperture downlight pinhole splay</p>	<p>E3DNPIN (Only)</p> <p>(Blank)=Matte white die cast flange with black oculus</p> <p>POL=Polished aluminum die cast flange with black oculus</p> <p>RAW=Raw aluminum die cast flange with black oculus</p> <p>SAL=Satin aluminum die cast flange with black oculus</p> <p>W=Matte white die cast flange with white oculus</p> <p>E3DNPINLARGE (Only)</p> <p>(Blank)=Matte white die cast flange</p> <p>POL=Polished aluminum die cast</p> <p>RAW=Raw aluminum die cast flange</p> <p>SAL=Satin aluminum die cast flange</p>	<p>FMC3=Flush mount collar accessory</p> <p>PLE3=Plaster lip extender for up to 2" thick ceilings</p> <p>LSA16=Matte black lamp snoot accessory, for use with die cast lamp capsule</p> <p>LHEX=2-inch diameter matte black hex cell louver provides 45° cutoff</p> <p>LLNR=Skytek linear spread lens</p> <p>LSF=Solite lens</p> <p>LSPD=Crystal #73 prismatic spread lens</p> <p>LUV=Ultraviolet reducing lens</p> <p>L27K=2,700°K dichroic filter</p> <p>LLPINK=Light Pink</p> <p>LLSTRAW=Light Straw</p> <p>LDAY=Daylight Filter</p> <p>LPLAV=Pale Lavender</p> <p>LSPINK=Surprise Pink</p>

PHOTOMETRICS

P3MR-E3DNPIN

Test No. H21242

Lamp: GE Q50MR16C/NSP15

Lumens: 750

Cutoff: 50°

Spacing: 0.2

Efficiency: 38.7%

Vertical Angle	CD
90	0
85	0
75	0
65	0
55	0
45	0
35	0
25	7
15	42
5	3985
0	5788

Distribution



Luminance

Degree	cd/m²
85°	0
75°	0
65°	0
55°	0
45°	0

Cone of Light

Distance to Illuminated Plane	Initial Nadir Footcandles	Beam Diameter
6'	154	1.3
8'	87	1.8
10'	56	2.2
12'6"	36	2.8

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	46	46	46	46	45	45	43	43	41	41	39
1	45	45	44	44	44	43	42	42	41	40	39	39
2	44	43	43	42	43	41	42	41	41	40	38	38
3	44	42	42	41	42	40	41	40	40	39	38	38
4	43	42	41	40	41	40	41	39	40	39	38	38
5	42	41	40	39	41	39	40	39	40	39	38	38
6	42	41	40	39	40	39	40	39	39	38	38	38
7	42	40	39	39	40	38	40	38	39	38	38	38
8	41	40	39	38	40	38	39	38	39	38	38	38
9	41	40	39	38	39	38	39	38	39	38	38	38
10	41	39	38	38	39	38	39	38	39	38	37	37



Lamp	Beam	0° Aiming Angle			
		D	FC	L	W
Q20 MR16/C/VNSP7	7,400 CBCP	6'	87	0.7	0.7
Lumens: 200		8'	49	0.9	0.9
Spacing: 0.1		10'	31	1.1	1.1
Efficiency: 31.4%		12' 6"	20	1.4	1.4

Lamp	Beam	0° Aiming Angle			
		D	FC	L	W
Q42 MR16/C/VNSP9	12,500 CBCP	6'	123	0.8	0.8
Lumens: 575		8'	69	1	1.6
Spacing: 0.1		10'	44	1.3	2
Efficiency: 21.2%		12' 6"	28	1.6	2.5

Lamp	Beam	0° Aiming Angle			
		D	FC	L	W
Q50 MR16/C/FL40	1,700 CBCP	6'	38	3.2	2.5
Lumens: 800		8'	21	4.2	3.4
Spacing: 0.6		10'	14	5.3	4.2
Efficiency: 39.0%		12' 6"	9	6.6	5.3

Lamp	Beam	0° Aiming Angle			
		D	FC	L	W
Q37 MR16/IR/SP10	13,100 CBCP	6'	151	1.3	1.3
Lumens: 900		8'	85	1.8	1.8
Spacing: 0.2		10'	54	2.2	2.2
Efficiency: 32.7%		12' 6"	35	2.8	2.8

Lamp	Beam	0° Aiming Angle			
		D	FC	L	W
Q45 MR16/IRC/SP8	16,000 CBCP	6'	171	1	1
Lumens: 1030		8'	96	1.4	1.4
Spacing: 0.2		10'	62	1.7	1.7
Efficiency: 25.0%		12' 6"	39	2.2	2.2

Lamp	Beam	0° Aiming Angle			
		D	FC	L	W
Q50 MR16/C/NFL25	3,000 CBCP	6'	73	1.8	1.8
Lumens: 884		8'	41	2.4	2.4
Spacing: 0.3		10'	26	3	3
Efficiency: 39.2%		12' 6"	17	3.8	3.8

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 = lamp lumens x CU x light loss factors / room area
- total number of luminaires = total room area x maintained illuminance / lamp lumens x CU x light loss factors
- CU data based on 20% effective floor cavity reflectance.