

id[®] 2.5" Round

HALOGEN MR16 ADJUSTABLE ACCENT/DOWNLIGHT/WALL WASH, WOOD/NON-DRYWALL HARD CEILING



clear specular reflector



clear diffuse reflector



black specular reflector



warm diffuse reflector



black baffle



white baffle



hex louver



linear spread lens

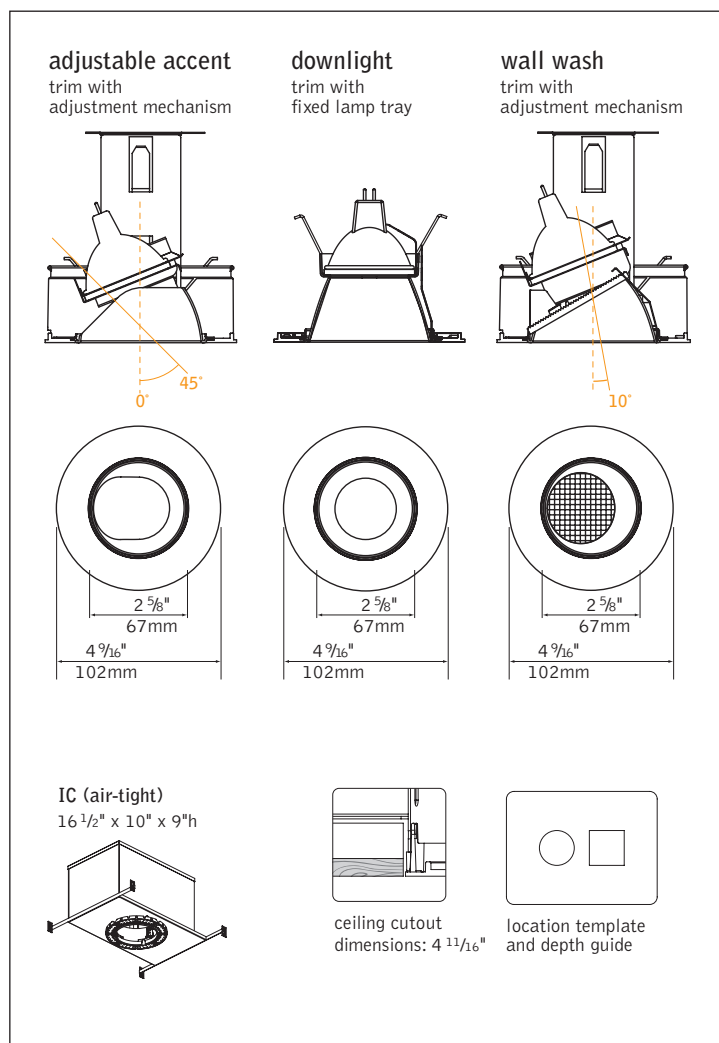


prismatic spread lens



sand blasted lens

DIMENSIONAL DATA



FEATURES

Trims designed to integrate flush with wood or other non-drywall solid ceilings for a seamless appearance. Template available for precision cutting of ceiling material.

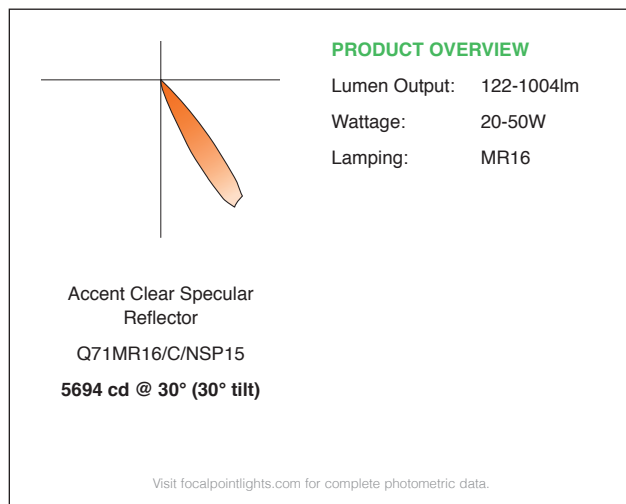
Gloves Off™ hot aiming made simple with 45° vertical and 363° horizontal adjustment.

Auto Memory remembers original lamp position after relamping.

Perfect Fit™ installation provides seamless integration in plaster, drywall and acoustical tiles, while maintaining optics in any ceiling thickness.

Smart Lock™ ring allows quick removal and re-assembly of trim components for field painting.

PERFORMANCE



fixture:

project:

HOUSING SPECIFICATIONS

Lamp

Halogen MR16 lamp provides numerous beam options from 10° to 40° (60° not recommended).

Construction

(IC) Insulated ceiling housing for new construction applications with direct insulation contact. Unit is constructed of double wall 18ga. aluminum housing on a 20ga. CRS frame. Housing ships standard with locking bar hangers. Transformers and thermal protectors are accessible from below ceiling. Housing is gasketed and complies with ASTM E-283, air-tight energy codes. Fixture will not exceed 11lbs.

Electrical

Porcelain bi-pin socket with #18 Teflon leads with keyed quick connection. Acoustically isolated transformer, replaceable from below, mounted outside of housing to ensure cool operation and minimize hum. Transformers available in either electronic or magnetic 120V or 277V. For residential dimming applications, toroidal magnetic transformer is available. Large junction box with pryouts. UL & cUL listed for thru branch wiring and two #14 90°C conductors for IC housing.

Installation

Adjustable throat allows infinite adjustment for 3/4" to 1-3/4" thick ceilings. Shipped in 3/4" ceiling position. Ceiling thickness adjustment sleeve locks with supplied 9/64" hex driver. Sleeve allows fine tuning of the housing for a perfect fit. Comes with laser/string alignment guides. Housing ships with dust cover and trim location template. Installation Kit: 1/2" thick UHMW template, depth guide and location templates for wood ceiling installations

TRIM SPECIFICATIONS

Aesthetics

Spun aluminum reflector cones with parabolic profile ensure glare free optics. Optics sit flush with the front surface of the faceplate. Matte white finish may be used as a primer coat for field painting. Smart Lock™ ring allows disassembly for custom field painting. Optional slope-sided baffle consists of 1/8" steps. Black and white baffles are painted finishes (AA, DNF). Specular kicker reflector and patterned glass provide smooth illumination down the wall (WW).

Adjustment Mechanism

Mechanism is matte black finish and holds lamp and lenses independently. Tempered soft focus lens supplied as standard. Hot aiming with Phillips screwdriver allows for 45°(AA) or 10°(WW) vertical tilt, and 363° rotation and locks into position. Mechanism pulls down for quick and easy relamping. Vertical angle and horizontal rotation indicators display positioning. Auto Memory returns lamp to preset aiming position (AA, WW) or keeps lamp in a straight down aiming position (DNF). Lens tray can hold up to two (DNF) or three (AA,WW) accessories, up to 3/8" thick. Lenses remain undisturbed during relamping.

Optics

50° cutoff to the lamp and lamp image. Specular kicker and tempered patterned glass lens with diffuse finish (WW).

Construction

Trim stays captive to housing during relamping via torsion springs. Torsion springs pull trim tight to the ceiling. No visible fasteners within the trim. Mechanical light traps eliminate light leaks. Warp free die-cast aluminum faceplate, .040" thick flange on overlap versions.

Labels

UL & cUL listed, Damp label standard (AA, DNF). Wet label standard (WW). No visible labels when trim is installed.

HOUSING ORDERING

Housing Series		FD4
Halogen Housing	FD4	
Lamp		MR
MR16 Lamp	MR	
Transformer Type		
Electronic Dimming 120V, 11.7V	E1	
Electronic Dimming 277V, 11.7V	E2	
Toroidal Dimming 120V	M1T	
Faceplate Type		RFN
Round—Non—Drywall Hard Ceiling (Ex. wood, stone)	RFN	
Housing Type (50W max.)		
New Construction IC Rated, up to 1-5/8" ceilings	IC	
New Construction IC Rated, 1-1/2" to 2-1/2" ceilings	IC2	
New Construction IC Rated, 2-1/2" to 3-1/2" ceilings	IC3	
Factory Options		
Wattage Restriction Label (XX=wattage)	WRXX	
Installation Kit (1/2" thick UHMW template, depth guide and location templates for wood ceiling installations; order one per project)	FD4-WK	

TRIM ORDERING

Trim Aperture		D2
2-5/8" Aperture	D2	
Faceplate Type		RFN
Round—Non—Drywall Hard Ceiling	RFN	
Optic		
Adjustable Accent	AA	
Downlight	DNF	
Wall Wash	WW	
Reflector Color		
Clear Specular	CS	
Clear Diffuse	CD	
Black Specular	BS	
Warm Diffuse	WD	
Black Baffle (AA, DNF only)	BB	
White Baffle (AA, DNF only)	WB	
Faceplate Finish		
White	WH	
Black	BK	
Titanium Silver	TS	
Aluminum Raw	AL	
Lens Accessories (Soft focus lens supplied as standard)		
Hex Louver	HL	
Linear Spread Lens	LSL	
Prismatic Spread Lens	PSL	
Sand Blasted Lens	SBL	
Clear Lens	CL	
UV Lens	UVL	

A complete unit consists of two line items, housing and trim.
Focal Point recommends one Installation Kit per project.
Example: FD4-MR-E1-RFN-IC-FD4-WK | D2-RFN-AA-CD-WH

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HALOGEN MR16 ADJUSTABLE ACCENT - 71W, NARROW SPOT

FD4-MR / D2-RO-AA-CS-WH

0° Filename: D2RXAACSHA71NS15_0.ies

30° Filename: D2RXAACSHA71NS15_30.ies

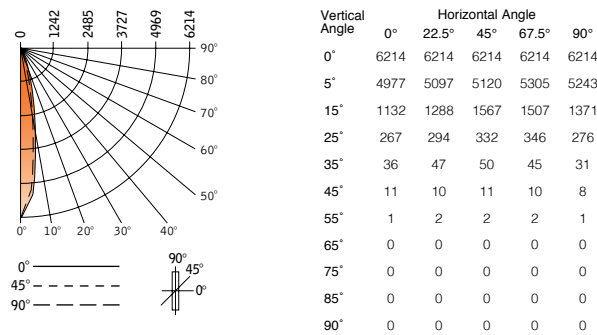
0° Test #: 13555.0

30° Test #: 13556.0

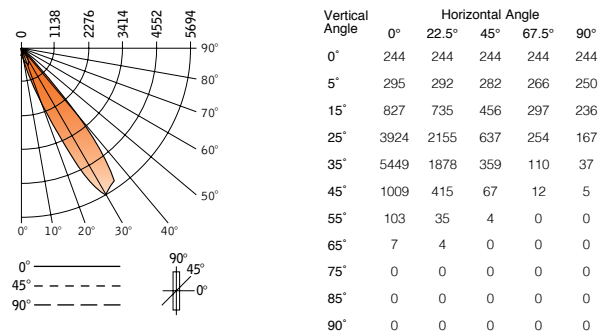
0° Efficiency: 88%

30° Efficiency: 85%

CANDLEPOWER DISTRIBUTION - 0° TILT



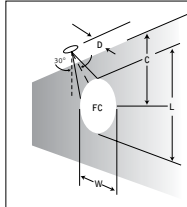
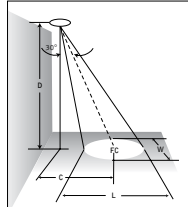
CANDLEPOWER DISTRIBUTION - 30° TILT



FOOTCANDLE VALUES

0° aiming angle - horizontal surface

D	C	FC	L	W
6'	0	173	1.6'	1.6'
8'	0	97	2.1'	2.1'
10'	0	62	2.6'	2.6'
12'	0	43	3.2'	3.2'
14'	0	32	3.7'	3.7'



FOOTCANDLE VALUES

30° aiming angle - horizontal surface

D	C	FC	L	W
6'	3.5'	102	2.1'	1.8'
8'	4.6'	58	2.8'	2.4'
10'	5.8'	37	3.5'	3.0'
12'	6.9'	26	4.2'	3.6'
14'	8.1'	19	4.9'	4.3'

FOOTCANDLE VALUES

30° aiming angle - vertical surface

D	C	FC	L	W
2'	3.5'	303	2.2'	1.1'
3'	5.2'	137	3.3'	1.6'
4'	6.9'	78	4.4'	2.1'
5'	8.7'	49	5.6'	2.6'
6'	10.4'	34	6.7'	3.2'

Footcandle results based on AGI32; off the shelf lamp in fixture, with microprismatic lens; Reflectances=0/0/0; LLF=1

Go to www.focalpointlights.com for additional photometric data.

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HALOGEN MR16 DOWNLIGHT - 71W, NARROW SPOT

FD4-MR / D2-RO-DNF-CS-WH

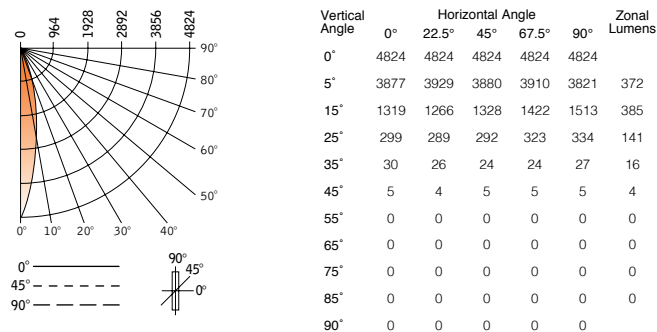
Filename: D2RXDNCSHA71NF25_0.ies

Lumens: 917lm

Test #: 13551.0

Efficiency 80%

CANDLEPOWER DISTRIBUTION



LUMEN SUMMARY

Zone	Lumens	% Lamp	% Fixture
0-30°	898	78.7	97.8
0-40°	914	80.2	99.6
0-60°	917	80.5	100.0
0-90°	917	80.5	100.0
Total Luminaire 0-180°	917	80.5	100.0

LUMINANCE DATA (cd/m²)

Vertical Angle	0°	45°	90°
45°	2010	2010	2010
55°	0	0	0
65°	0	0	0
75°	0	0	0
85°	0	0	0

CO-EFFICIENTS OF UTILIZATION

Floor Ceiling Wall	80				70				20				30				10				00
	70	50	30	10	70	50	10		50	10			50	10			50	10		00	
RCR	0	96	96	96	96	94	94	94		89	89		86	86			82	82		80	
	1	93	92	90	89		91	90	88		87	85		84	83		81	80		79	
	2	90	87	85	83		88	86	82		84	80		81	79		79	77		76	
	3	88	84	81	79		86	83	79		81	78		79	76		78	75		74	
	4	85	81	78	76		84	80	75		79	75		77	74		76	73		72	
	5	83	78	75	73		82	78	73		76	72		75	71		74	71		70	
	6	81	76	73	71		80	76	71		75	70		74	70		73	69		69	
	7	79	74	71	69		78	74	69		73	68		72	68		71	68		67	
	8	77	72	69	67		76	71	67		71	66		70	66		69	66		65	
	9	75	70	67	65		74	69	65		69	64		68	64		68	64		63	
	10	72	67	64	62		72	67	62		67	62		66	62		66	62		61	

Go to www.focalpointlights.com for additional photometric data.

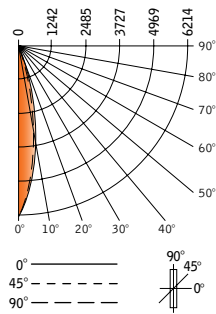
HALOGEN MR16 DOWNLIGHT REGRESSED LENS - 71W, NARROW SPOT

FD4-MR / D2-RX-RL-CS-WH

Filename: D2RXRLCSHA71NF25_0.ies
Test #: 13553.0

Lumens:	979lm
Efficiency	86%

CANDLEPOWER DISTRIBUTION



Vertical Angle	0°	22.5°	45°	67.5°	90°	Zonal Lumens
0°	5096	5096	5096	5096	5096	
5°	4169	4136	4073	4183	4205	396
15°	1308	1339	1380	1526	1605	404
25°	266	298	318	356	397	151
35°	27	30	34	44	51	23
45°	9	8	7	7	7	6
55°	0	0	0	0	0	0
65°	0	0	0	0	0	0
75°	0	0	0	0	0	0
85°	0	0	0	0	0	0
90°	0	0	0	0	0	

LUMEN SUMMARY

	Zone	Lumens	% Lamp	% Fixture
Total Luminaire	0-30°	951	83.4	97
	0-40°	974	85.4	99.4
	0-60°	979	85.9	100
	0-90°	979	85.9	100
	0-180°	979	85.9	100

LUMINANCE DATA (CD/M²)

Vertical Angle	0°	45°	90°
45°	3617	2814	2814
55°	0	0	0
65°	0	0	0
75°	0	0	0
85°	0	0	0

CO-EFFICIENTS OF UTILIZATION

Floor Ceiling Wall	80				70			20 50		30		10		00
	70	50	30	10	70	50	10	50	10	50	10	50	10	00
RCR 0	102	102	102	102	100	100	100	95	95	91	91	88	88	86
1	99	98	96	95	97	96	94	93	91	89	88	87	86	84
2	96	93	91	89	94	92	88	89	86	87	84	84	82	81
3	93	90	87	85	92	89	84	87	83	85	81	83	80	79
4	91	86	83	81	89	85	80	84	79	82	79	81	78	77
5	88	83	80	78	87	83	77	81	77	80	76	79	75	74
6	86	81	78	75	85	80	75	79	75	78	74	77	74	73
7	84	79	75	73	83	78	73	77	73	76	72	76	72	71
8	82	76	73	71	81	76	71	75	71	75	70	74	70	69
9	79	74	71	69	79	74	69	73	68	72	68	72	68	67
10	77	72	68	66	76	71	66	71	66	70	66	70	66	65

Numbers indicate percentage values of reflectivity.

Go to www.focalpointlights.com for additional photometric data.

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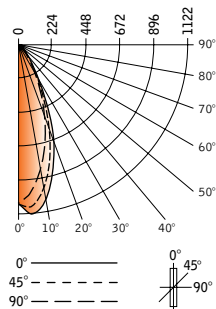
HALOGEN MR16 WALL WASH - 71W, NARROW SPOT

FD4-MR / D2-RX-WW-CS-WH

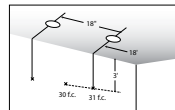
Filename: D2RXWWCSHA71NFL25_0.ies
Test #: 13559.0

Efficiency 54%

CANDLEPOWER DISTRIBUTION



Vertical Angle	Horizontal Angle					Zonal Lumens
	0°	22.5°	45°	67.5°	90°	
0°	1054	1054	1054	1054	1054	
5°	1122	1100	1078	1027	983	96
15°	905	887	822	734	684	201
25°	497	473	448	403	376	171
35°	191	183	170	155	151	91
45°	74	72	61	54	51	39
55°	32	33	25	17	11	13
65°	22	20	11	5	1	6
75°	4	5	3	0	0	1
85°	0	0	0	0	0	0
90°	0	0	0	0	0	



FOOTCANDLE VALUES - UNITS 24" FROM WALL

Distance from Ceiling	18"			24"			30"			36"		
1'	6	7	6	5	5	5	4	3	4	4	2	4
2'	11	12	11	9	9	9	8	6	8	7	5	7
3'	17	17	17	14	13	14	12	10	12	11	7	11
4'	20	20	20	16	16	16	14	12	14	12	10	12
5'	19	19	19	15	15	15	12	12	12	11	10	11
6'	16	16	16	13	13	13	11	11	11	9	9	9
7'	12	13	12	10	11	10	9	9	9	8	7	8
8'	10	10	10	8	9	8	7	7	7	6	6	6
9'	8	8	8	7	7	7	6	6	6	5	5	5
10'	6	6	6	5	6	5	5	5	5	4	4	4

FOOTCANDLE VALUES - UNITS 18" FROM WALL

Distance from Ceiling	18"			24"			30"			36"		
1'	10	10	10	9	7	9	8	4	8	8	3	8
2'	22	21	22	18	14	18	17	10	17	16	6	16
3'	28	28	28	23	20	23	20	15	20	19	10	19
4'	25	26	25	20	19	20	17	15	17	15	12	15
5'	20	20	20	16	16	16	13	13	13	11	10	11
6'	15	15	15	12	12	12	10	10	10	9	8	9
7'	11	11	11	9	9	9	8	8	8	7	7	7
8'	8	9	8	7	7	7	6	6	6	5	5	5
9'	6	7	6	6	6	6	5	5	5	4	4	4
10'	5	5	5	4	4	4	4	4	4	3	3	3

FOOTCANDLE VALUES - UNITS 30" FROM WALL

Distance from Ceiling	18"			24"			30"			36"		
1'	3	3	3	3	2	3	2	2	2	2	1	2
2'	7	7	7	6	6	6	5	4	5	4	3	4
3'	11	11	11	8	9	8	7	7	7	6	5	6
4'	14	14	14	11	11	11	10	9	10	8	7	8
5'	15	15	15	12	12	12	10	10	10	9	8	9
6'	14	14	14	12	12	12	10	10	10	8	8	8
7'	12	13	12	10	11	10	9	9	9	8	7	8
8'	10	11	10	9	9	9	8	8	8	7	7	7
9'	8	9	8	7	8	7	6	7	6	6	6	6
10'	7	7	7	6	6	6	5	6	5	5	5	5

Footcandle results based on AGI32; off the shelf lamp in fixture, with microprismatic lens; Reflectances=0/0/0; LLF=1

Go to www.focalpointlights.com for additional photometric data.

note: Photometric testing performed in an independent lab with standard lamps and ballasts. Lamp and ballast type and configuration will affect photometric performance.