gotham® | EVO®

Multiple Layers of Light

Luminaire Type:

Catalog Number:

General Illumination MRI Downlight 4"

OVERVIEW

Feature Set

- Bounding Ray™ optical design
- Unitized optics mechanically attach the light engine to the lower reflector for complete optical alignment.
- 45° cutoff to source and source image
- Fully serviceable and upgradeable lensed LED light engine
- 70% lumen maintenance at 60,000 hours
- 2.5 MacAdam Ellipse; 85 CRI typical, 90+ CRI optional
- Non-ferrous construction for use in MRI
- Remote mount driver(s) for MRI applications
- Fixtures are wet location, covered ceiling
- Available with 10% dimming, 1% dimming, or dim to dark
- Batwing distribution with feathered edges provides even illumination on horizontal and vertical surfaces
- UGR of zero for fixtures aimed at nadir with a cut-off equal to or less than 60deg per CIE 117-1995 Discomfort Glare in Interior Lighting. UGR FAQ

Distribution

Superior Perfomance

Nominal Lumens	250	500	750	1000	1500	2000	2500
Delivered	217	433	650	843	1281	1684	2165
Wattage	3.1	7.2	7.9	8.8	13.7	19.5	25.7
Efficacy	70.0	60.1	82.3	95.8	93.5	86.4	84.2

Based on DFF SMO Lens*

COMPLEMENTARY PRODUCTS

Coordinated Apertures | Multiple Layers of Light

General Illumination Layer | EVO

High Center Beam Layer | Incito

EVO + Incito — Multiple Layers of Light

Core

Healthcare

Special Applications

GOTHAM ARCHITECTURAL DOWNLIGHTING | 1400 Lester Road Conyers, GA 30012 | P 800-705-SERV (7378) | gothamlighting.com

ORDERING INFORMATION

Luminaire Type:

Catalog Number:

EXAMPLE: EV04M 35/20 AR MWD LSS

Series	Color Temperature	Nominal Lumen Values	Reflector & Flange Color[1]	Lens Setting
EV04M	**27/** 2700K **30/** 3000K **35/** 3500K **40/** 4000K **50/** 5000K	**02** 250 lumens **05** 500 lumens **07** 750 lumens **10** 1000 Lumens **15** 1500 Lumens **20** 2000 Lumens **25** 2500 Lumens	**AR** Clear **PR** Pewter **WTR** Wheat **GR** Gold **WR**[2] White painted **BR**[2] Black painted **WRAMF**[2] White painted anti-microbial finish **TRALTBD**[2] Trim RAL # TBD (TBD for pricing only) **TCPC**[2] Trim Custom Paint Color TBD (TBD for pricing only)	**DFR**[2] Regressed lensed trim, white flange **DFF**[2] Flush lensed trim, white flange **DFRAMF**[2] Regressed lensed trim with anti-microbial finish, white flange **DFFAMF**[2] Flush lensed trim with anti-microbial finish, white flange

Distribution[3]	Finish	Lens[4]	Options
MD Medium (0.9 s/mh) **MWD** Medium Wide (1.0 s/mh) **WD** Wide (1.2 s/mh)	**LSS** Semi-specular **LD** Matte-diffuse **LS** Specular	**SOL** Textured Lens **SMO** Smooth Lens	**90CRI** 90+ CRI **TRW**[5] White painted flange **TRBL**[5] Black painted flange **FRALTBD**[5] Flange RAL # TBD (TBD for pricing only) **FCPC**[5] Flange Custom Paint Color TBD (TBD for pricing only)

Remote Driver Box Required (Order Separately)

EXAMPLE: EVORDB 3DBOX 1000LM MVOLT EZ1

Series	Driver Quantity	Nominal Lumen Values	Voltage	Driver	Control Interface	Zone[8]
EVORDB	**1DBOX** Driver box includes 1 driver **2DBOX** Driver box includes 2 drivers **3DBOX** Driver box includes 3 drivers **4DBOX** Driver box includes 4 drivers **5DBOX** Driver box includes 5 drivers **6DBOX** Driver box includes 6 drivers	**250LM** 250 lumens **500LM** 500 lumens **750LM** 750 lumens **1000LM** 1000 Lumens **1500LM** 1500 Lumens **2000LM** 2000 Lumens **2500LM** 2500 Lumens	**MVOLT** Multi volt **120** 120V **277** 277V	**GZ10** 0-10V driver dims to 10% **GZ1** 0-10V driver dims to 1% **EZ1** eldoLED 0-10V ECOdrive. Linear dimming to 1% min. **EZB** eldoLED 0-10V SOLOdrive. Logarithmic dimming to <1%.	**NLT**[6] nLight® dimming pack controls **NLTER**[6,7] nLight® dimming pack controls emergency circuit **GTD** Generator transfer device	**1Z** One nLight zone **2Z** Two nLight zones

ACCESSORIES — order as separate catalog numbers (shipped separately)

SCA4	Sloped ceiling adapter. Degree of slope must be specified (5D, 10D, 15D, 20D, 25D, 30D). Ex: SCA4 10D. Refer to TECH-190.
4CHMRIF	4-channel MRI filter (Class 2 100W; 3A/up to 40VDC; insertion loss 100dB between 10Khz-1Ghz)

ORDERING NOTES

1. Not available with Lens Setting.
2. Not available with Finish options.
3. Not available with Lens Setting options.
4. Only available with Lens Setting options.
5. Not applicable with painted reflectors (ex: BR, WR, WRAMF, TRALTBD, TCPC).
6. Specify voltage.
7. ER for use as UL924 Emergency Operation via power sense lead. Will require an emergency hot feed and normal hot feed. EM for use as UL924 Emergency Operation via power interrupt detection.
8. Zones only apply when nLight options are ordered. See chart for zone wiring specifications.

SPECIFICATIONS

Optical Assembly

Fully serviceable and upgradeable lensed LED light engine suitable for field maintenance or service from below the ceiling.

Optical design is a Bounding Ray™ design with 45° cutoff to source and source image. Top-down flash characteristic for superior glare control.

Unitized optics shall have mechanical attachment of the light engine to the lower reflector for complete optical alignment with anti-microbial flush and re-gressed lenses.

Electrical

The luminaire shall operate from a 50 or 60 Hz ±3 Hz AC line over a voltage ranging from 120 VAC to 277 VAC. The fluctuations of line voltage shall have no visible effect on the luminous output.

The luminaire shall have a power factor of 90% or greater at all standard operating voltages and full luminaire output.

Sound Rated A+. Driver shall be >80% efficient at full load across all input voltages.

Input wires shall be 18AWG, 300V minimum, solid copper. All drivers are ROHS compliant.

0-10V dimming drivers available with choice of 10%, 1% or <1% dimming levels.

nLight enabled option for 1 or 2 zones per driver box

48Vdc output to MRI room

Controls

Luminaire shall be equipped with interface for nLight wired network with integral power supply as per specification.

Dimming

The luminaire shall be capable of continuous dimming without perceivable stroboscopic flicker as measured by flicker index (ANSI/IES RP-16-10) over a range of 100 – 10%, 100 – 1.0% or 100 – 0.1% of rated lumen output with a smooth shut off function to step to 0%.

eldoLED LED drivers shall conform to IEEE P1789 standards. Alternatively, manufacturers must demonstrate conformance with product literature and testing which demonstrates this performance. Systems that do not meet IEEE P1789 will not be considered.

Driver is inaudible in 24dB environment, and stable when input voltage conditions fluctuate over what is typically experienced in a commercial environment.

Construction

Non-ferromagnetic construction suitable for use in rooms containing magnetic resonance equipment.

Maximum 1-1/2" ceiling thickness

Telescopic mounting bars maximum of 27-1/2" and minimum of 20-1/4"

The assembly and manufacturing process for the luminaire shall be designed to assure all internal components are adequately supported to withstand mechanical shock and vibration.

25°C ambient temperature standard (1/2" clearance on all sides from non-combustible materials in non-IC applications, unless marked spacing noted otherwise). For use in insulated ceilings, a 3" clearance on all sides from insulation is required (unless marked spacing noted otherwise).

EMI filter required – up to 4 fixtures per filter (ordered separately). See accessory section of this spec sheet for ordering information.

Remote driver box easily mounts to wall outside shielded MRI room, controls up to 6 EVO MRI downlights, and is constructed of 20 gauge black painted steel

Listings

Fixtures are CSA certified to meet US and Canadian standards; wet location, covered ceiling

Lensed trims: IP64 rated; consult installation instruction sheet for details regarding attaining IP65 rating via additional installation steps.

Photometrics

LEDs tested to LM-80 standards. Measured by IESNA Standard LM-79-08 in an accredited lab. Lumen output shall not decrease by more than 30% over the minimum operational life of 60,000 hours.

Color appearance from luminaire to luminaire of the same type and in all configurations, shall be consistent both initially and at 60,000 hours and operate within a tolerance of <2.5 MacAdam ellipse as defined by a point at the intersection of the CCT line and the black body locus line in CIE chromaticity space.

Government Procurement

BAA - Buy America(n) Act: Product qualifies as a domestic end product under the Buy American Act as implemented in the FAR and DFARS. Product also qualifies as manufactured in the United States under DOT Buy America regulations
BABA - Build America Buy America: Product qualifies as produced in the United States under the definitions of the Build America, Buy America Act
Please refer to www.acuitybrands.com/buy-american for additional information.

Warranty

5-year limited warranty on luminaire. 2-year warranty on 4CHMRIF filter accessory. These are the only warranty provided and no other statements in this specification sheet create any warranty of any kind. All other express and implied warranties are disclaimed. Complete warranty terms located at: www.acuitybrands.com/support/warranty/terms-and-conditions

Note:

Actual performance may differ as a result of end user environment and application.
All values are design or typical values, measured under laboratory conditions at 25 °C.

A+ Capable Luminaire

This item is an A+ capable luminaire, which has been designed and tested to provided consistent color appearance and out-of-the-box control capability with simple commissioning when used with Acuity Brands controls products.

All configurations of this luminaire are calibrated and tested meet the Acuity Brands' specification for chromatic consistency - including color rendering, color fidelity and color temperature tolerance around standard CIE chromaticity coordinates.

To learn more about A+, visit www.acuitybrands.com/aplus.

Tables of Use

EVO - eldoLED Driver Default Dimming Curve			
Nomenclature	Min Dimming	Driver Dim Curve	Control Dim Curve
EZ1	1%	Linear	Linear/Logarithmic
EZB	<1%	Logarithmic	Linear

Driver		Control Provided (note: 347V/UVOLT versions provided with 347 option selected)	
Nomenclature	Description	NLT	NLTER
GZ10	0-10V driver dims to 10%	nPP16 D EFP	nPP16 D ER EFP
GZ1	0-10V driver dims to 1%	nPP16 D EFP	nPP16 D ER EFP
EZ1	eldoLED 0-10V ECOdrive	nPS 80 EZ	nPS 80 EZ ER
EZB	eldoLED 0-10V SOLOdrive	nPS 80 EZ	nPS 80 EZ ER

nLight 2 Zone Wiring Configuration		
# Drivers	Wired to Upper nPS80EZ	Wired to Lower nPS80EZ
1DBOX	-	-
2DBOX	1	1
3DBOX	2	1
4DBOX	2	2
5DBOX	3	2
6DBOX	3	3

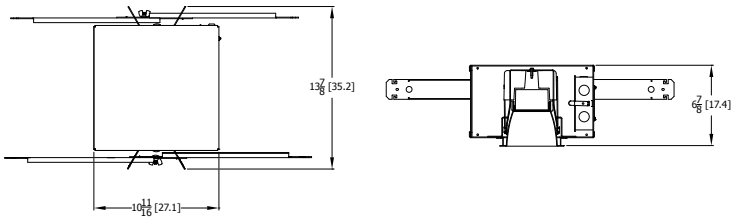
DIMENSIONAL DATA

*Dimensions in inches [centimeters]

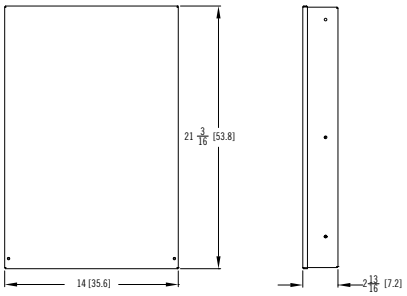
Aperture: 4-5/16" (11) Ceiling Opening: 5-1/8" (13) self-flanged

Overlap trim: 5-7/16" (13.8) 5-1/4" (13.3) flangeless

Standard

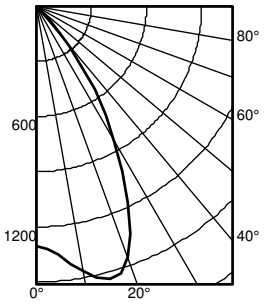


EVORDB



gotham®

EV04M 35/25 AR MWD LS 80CRI INPUT WATTS: 25.7W, DELIVERED LUMENS: 2580.5LM, LPW = 100.4, 1.08S/MH, TEST NO: LTL27786P494



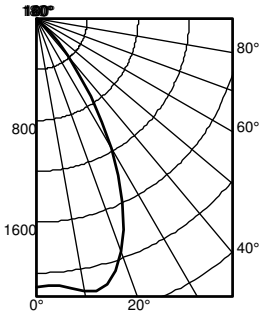
	Ave	Lumens
0	1305	
5	1354	133
15	1539	428
25	1181	533
35	553	342
45	93	86
55	2	4
65	1	1
75	0	0
85	0	0
90	0	

Zone	Lumens	% Lamp
0° - 30°	1093.9	71.6
0° - 40°	1436.2	94.0
0° - 60°	1525.8	99.9
0° - 90°	1527.3	100.0
90° - 180°	0.0	0.0
0° - 180°	1527.3	*100.0

*Efficiency

		50% beam - 56.7°		10% beam - 79.7°	
Mounting Height	Inital FC Center Beam	Diameter	FC	Diameter	FC
8.0	43.2	5.9	21.6	9.2	4.3
10.0	23.2	8.1	11.6	12.5	2.3
12.0	14.5	10.3	7.2	15.9	1.4
14.0	9.9	12.4	4.9	19.2	1.0
16.0	7.2	14.6	3.6	22.5	0.7

EV04M 35/25 4DFF SM0 80CRI INPUT WATTS: 25.7W, DELIVERED LUMENS: 2165LM, LPW = 84.2, 1.01 S/MH, TEST NO: LTL29878P0



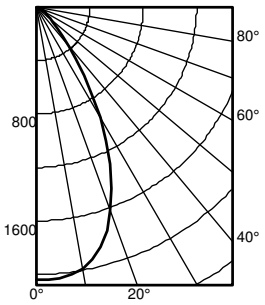
	Ave	Lumens
0	2107	
5	2110	204
15	2161	599
25	1601	723
35	748	466
45	152	132
55	18	20
65	11	11
75	6	7
85	3	3
90	0	

Zone	Lumens	% Lamp
0° - 30°	1526.4	70.5
0° - 40°	1992.2	92.0
0° - 60°	2143.6	99.0
0° - 90°	2164.1	100.0
90° - 120°	0.0	0.0
90° - 130°	0.0	0.0
90° - 150°	0.3	0.0
90° - 180°	0.9	0.0
0° - 180°	2165.0	*100.0

*Efficiency

		50% beam - 53.1°		10% beam - 78.0°	
Mounting Height	Inital FC Center Beam	Diameter	FC	Diameter	FC
8.0	69.7	5.5	34.8	8.9	7.0
10.0	37.5	7.5	18.7	12.1	3.7
12.0	23.3	9.5	11.7	15.4	2.3
14.0	15.9	11.5	8.0	18.6	1.6
16.0	11.6	13.5	5.8	21.8	1.2

EV04M 35/25 4DFF S0L 80CRI INPUT WATTS: 25.7W, DELIVERED LUMENS: 2059LM, LPW = 80.1, 0.91 S/MH, TEST NO: LTL29877P0



	Ave	Lumens
0	2045	
5	2038	193
15	1860	515
25	1298	589
35	629	396
45	219	179
55	92	85
65	57	56
75	34	36
85	9	11
90	0	

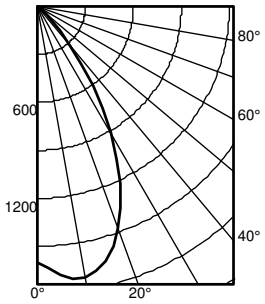
Zone	Lumens	% Lamp
0° - 30°	1296.8	63.0
0° - 40°	1692.6	82.2
0° - 60°	1956.2	95.0
0° - 90°	2059.4	100.0
90° - 180°	0.0	0.0
0° - 180°	2059.4	*100.0

*Efficiency

		50% beam - 48.5°		10% beam - 77.7°	
Mounting Height	Inital FC Center Beam	Diameter	FC	Diameter	FC
8.0	67.6	5.0	33.8	8.9	6.8
10.0	36.4	6.8	18.2	12.1	3.6
12.0	22.7	8.6	11.3	15.3	2.3
14.0	15.5	10.4	7.7	18.5	1.5
16.0	11.2	12.2	5.6	21.7	1.1

Photometry

EV04M 35/25 4DFR SM0 80CRI INPUT WATTS: 25.7W, DELIVERED LUMENS: 1695LM, LPW = 66, 1 S/MH, TEST NO: LTL29880PO



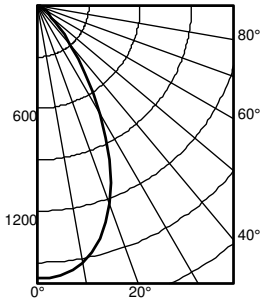
	Ave	Lumens
0	1605	
5	1683	162
15	1646	458
25	1225	554
35	603	374
45	128	112
55	16	17
65	12	10
75	6	6
85	1	2
90	0	

Zone	Lumens	% Lamp
0° - 30°	1173.8	69.3
0° - 40°	1547.9	91.3
0° - 60°	1677.1	99.0
0° - 90°	1694.8	100.0
90° - 180°	0.0	0.0
0° - 180°	1694.8	*100.0

*Efficiency

		50% beam - 53.3°		10% beam - 78.9°	
Mounting Height	Inital FC Center Beam	Diameter	FC	Diameter	FC
8.0	53.1	5.5	26.5	9.1	5.3
10.0	28.5	7.5	14.3	12.3	2.9
12.0	17.8	9.5	8.9	15.6	1.8
14.0	12.1	11.5	6.1	18.9	1.2
16.0	8.8	13.6	4.4	22.2	0.9

EV04M 35/25 4DFR SOL 80CRI INPUT WATTS: 25.7W, DELIVERED LUMENS: 1571LM, LPW = 61, 0.89 S/MH. TEST NO: LTL29883PO



	Ave	Lumens
0	1594	
5	1582	149
15	1409	391
25	996	451
35	489	307
45	176	143
55	73	68
65	40	40
75	18	19
85	2	3
90	0	

Zone	Lumens	% Lamp
0° - 30°	990.9	63.1
0° - 40°	1298.4	82.6
0° - 60°	1509.0	96.0
0° - 90°	1571.2	100.0
90° - 180°	0.0	0.0
0° - 180°	1571.2	*100.0

*Efficiency

		50% beam - 48.0°		10% beam - 77.8°	
Mounting Height	Inital FC Center Beam	Diameter	FC	Diameter	FC
8.0	52.7	4.9	26.3	8.9	5.3
10.0	28.3	6.7	14.2	12.1	2.8
12.0	17.7	8.5	8.8	15.3	1.8
14.0	12.1	10.2	6.0	18.6	1.2
16.0	8.7	12.0	4.4	21.8	0.9

Lumen Output Multiplier		
CRI	CCT	Multiplier
80	2700K	0.96
	300K	1.00
	3500K	1.00
	4000K	1.01
	5000K	1.07
90	2700K	0.80
	300K	0.83
	3500K	0.85
	4000K	0.87
	5000K	0.91

Distributions	
Distribution	Beam
MD	51
MWD	57
WD	73

Reflector Finish Multiplier	
Reflector Finish	Multiplier
LS - Specular	1
LSS - Semi Specular	0.956
WR - White	0.87
LD - Matte Diffuse	0.85
BR - Black	0.73

Distributions		
Nomenclature	Beam Angle	Field Angle
VND	30	64
ND	44	69
MD	54	82
MWD	67	89
WD	71	92

DFF SM0 - Flush Clear							
Nominal Lumens	250	500	750	1000	1500	2000	2500
Delivered	217	433	650	843	1281	1684	2165
Wattage	3.1	7.2	7.9	8.8	13.7	19.5	25.7
Efficacy	70.0	60.1	82.3	95.8	93.5	86.4	84.2

*Lumen output for CRI80 - 3500K

DFF SOL - Flush Textured							
Nominal Lumens	250	500	750	1000	1500	2000	2500
Delivered	206	412	618	801	1218	1602	2059
Wattage	3.1	7.2	7.9	8.8	13.7	19.5	25.7
Efficacy	66.5	57.2	78.2	91.0	88.9	82.2	80.1

*Lumen output for CRI80 - 3500K

DFR SM0 - Regressed Clear							
Nominal Lumens	250	500	750	1000	1500	2000	2500
Delivered	170	339	509	660	1003	1319	1695
Wattage	3.1	7.2	7.9	8.8	13.7	19.5	25.7
Efficacy	54.8	47.1	64.4	75.0	73.2	67.6	66.0

*Lumen output for CRI80 - 3500K

DFR SOL - Regressed Textured							
Nominal Lumens	250	500	750	1000	1500	2000	2500
Delivered	157	314	471	611	929	1222	1571
Wattage	3.1	7.2	7.9	8.8	13.7	19.5	25.7
Efficacy	50.6	43.6	59.6	69.4	67.8	62.7	61.1

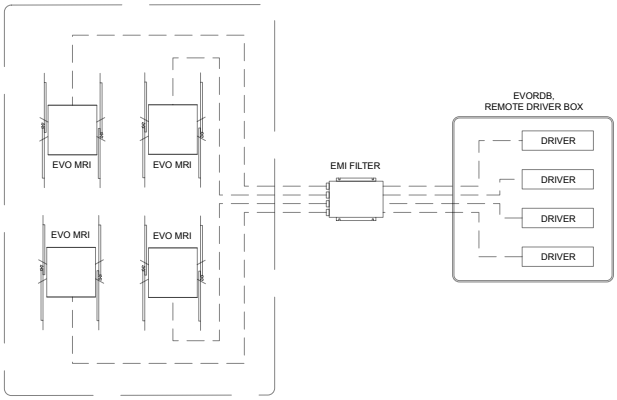
*Lumen output for CRI80 - 3500K

Choose Wall Controls.
nLIGHT offers multiple styles of wall controls – each with varying features and user experience.

Push-Button WallPod
Traditional tactile buttons and LED user feedback

Graphic WallPod
Full color touch screen provides a sophisticated look and feel

INSIDE MRI ROOM



A+ Capable Luminaire

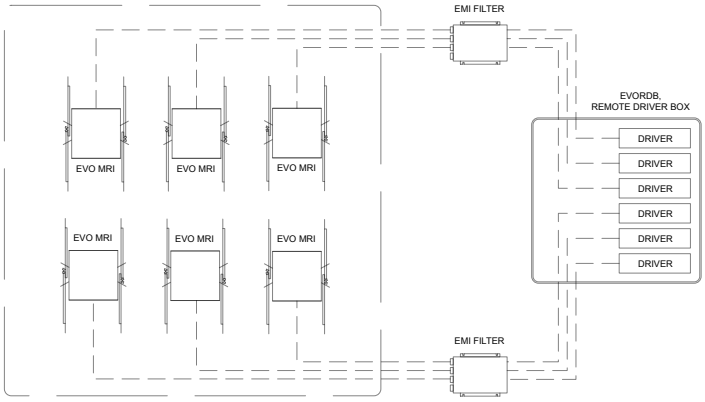
This item is an A+ capable luminaire, which has been designed and tested to provide consistent color appearance and out-of-the-box control compatibility with simple commissioning.

- All configurations of this luminaire meet the Acuity Brands' specification for chromatic consistency
- This luminaire is part of an A+ Certified solution for nLight® control networks when ordered with drivers marked by a shaded background*

To learn more about A+, visit www.acuitybrands.com/aplus.

*See ordering tree for details

INSIDE MRI ROOM



EXAMPLE

nPS 80 EZ Dimming/Control Pack installed in remote driver box (example shows 1 and 2 zone configuration)

nPODM 2P DX Dual On/Off/Dim Push-Button WallPod

Description: This design provides a dual on/off/dim wall station that enables manual control of one or two nLight zones from outside the MRI room. Utilizing a WallPod in the control room gives the MRI technician the ability to control multiple zones of light to maximize patient comfort during the scan as well as provide higher levels of light for exams that require greater visual acuity.

nLight® Control Accessories:
Order as separate catalog number. Visit www.sensorswitch.com/nLight for complete listing of nLight controls.

WallPod stations	Model number	Occupancy sensors	Model number
On/Off	nPODM [color]	Small motion 360°, ceiling (PIR / dual tech)	nCM 9 / nCM PDT 9
On/Off & Raise/Lower	nPODM DX [color]	Large motion 360°, ceiling (PIR / dual tech)	nCM 10 / nCM PDT 10
Graphic Touchscreen	nPOD GFX [color]	Wide view (PIR / dual tech)	nWV 16 / nWV PDT 16
Photocell controls	**Model number**	Wall Switch w/ Raise/Lower (PIR / dual tech)	nWSX LV DX / nWSX PDT LV DX
Dimming	nCM ADCX	**Cat-5 cables (plenum rated)**	**Model number**
		10', CAT5 10FT	CAT5 10FT J1
		15', CAT5 15FT	CAT5 15FT J1