

## DESCRIPTION

The ORL provides supplemental, asymmetric/symmetric lighting in the operating room. Typically positioned around the perimeter of the operating room, the ORL is available in 1x4, 2x2, and 2x4 sizes. IP66 compliant, wet location listed standard, MILSTD 461G available, NSF listed, anti-microbial matte white finish, Red and Green LEDs, the ORL is the perfect choice in the operating room/surgical suite.

Catalog #		Type
Project		
Comments		Date
Prepared by		

## SPECIFICATION FEATURES

### Mounting

Recessed grid for 1" or 1 1/2" NEMA Type "G" ceiling systems. Recessed flange for use with hard-pan ceilings. Optional mounting safety brackets (4) available.

### Housing

Die-formed, heavy gauge steel. Seam-welded construction. Optional stainless steel or aluminum.

### Door

Inset door, constructed of die-formed steel, stainless steel, or aluminum. All doors attached to the housing with two stainless steel aircraft cables.

### Fasteners

Captive, countersunk stainless steel Philips head screws painted to match door finish, secure door frame to the housing.

### Gasketing

**Lens to Door Frame:** Closed-cell gasket seals lens to door frame.

**Door Frame to Housing or Ceiling:** One piece continuous closed-cell gasket.

**Housing to Grid:** Closed-cell gasket.

### Lens

One-piece asymmetric/symmetric acrylic lens. RFI 3/8" square metalized grid, grounded to housing. Other lenses available, refer to Ordering Information.

### LED

LEDs available in 2000K, 2700K, 3000K, 3500K, 4000K, and 5000K with 85 CRI. 90 CRI optional. Life is 50,000 hours at 70% lumen maintenance. Red (630nm) and Green (520nm) LEDs also available.

### Driver

Electronic, standard 0-10V, 1% and 10% dimming.

### Finish

Electrostatically applied, anti-microbial matte white powder coat finish.

### Compliance/Ratings

IP66  
MILSTD 461G compliant for conducted and radiated emissions.  
NSF=NSF2 Listed (Non-food, Splash zone).

### Labels

ETL listed for wet locations under covered ceiling.



## ORL

LD4 LED

Operating Room

**RECESSED FLANGE  
RECESSED GRID  
2x4/2x2/1x4  
Inset Door  
Wet Location  
Anti-Microbial  
NSF listed  
MILSTD461G  
IP66**

2' x 2'		
No. of Modules, Level	Input Watts	Delivered Lumens
2LO	24.0	2343
2STD	34.0	3113
2HI	44.2	3759
3LO	35.4	3567
3STD	50.2	4739
3HI	66.3	5723
4LO	47.0	4682
4STD	66.7	6220
4HI	88.0	7511
5LO	58.7	5909
5STD	84.0	7850
5HI	110.0	9479
6LO	70.2	6972
6STD	99.8	9262
6HI	131.7	11184

2' x 4'		
No. of Modules, Level	Input Watts	Delivered Lumens
2LO	58.0	4660
2STD	68.0	6185
2HI	88.0	7519
3LO	70.8	7455
3STD	100.8	9888
3HI	133.3	12024
4LO	95.0	10210
4STD	134.0	13550
4HI	177.8	16471
5LO	120.0	12490
5STD	169.9	16561
5HI	222.2	20138
6LO	141.2	15255
6STD	200.9	20238
6HI	265.6	24609

1' x 4'		
No. of Modules, Level	Input Watts	Delivered Lumens
1LO	24.2	2461
1STD	34.0	3280
1HI	44.2	4002
2LO	48.0	4471
2STD	67.0	5970
2HI	88.3	7268
3LO	70.4	6810
3STD	100.3	9079
3HI	132.5	11070

### Approximate Color Temperature Multiplier

5000K	1.09
4000K	1.00
3500K	0.97
3000K	0.94
2700K	0.91
2000K	0.68

\* Delivered Lumens shown were tested with 4000K LEDs and ASR (asymmetric/symmetric grid) lens.

# ORDERING INFORMATION

\*SAMPLE NUMBER: ORLF-24-4-ALH-INA-ASR-LD4-4HI-40-120-ED1D2 (White only)  
 \*SAMPLE NUMBER: ORLG-24-4-ALH-INA-ASR-LD4-4HI40/2HIG52-277-ED1D2 (White/Green)  
 \*SAMPLE NUMBER: ORLG-24-4-ALH-INA-ASR-LD4-4STD63-120-ED1D2 (Red only)

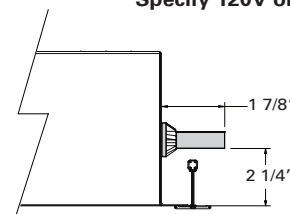
Product Family	Width	Length	Housing Material	Door Type	Lens	LEDs	No. of LEDs	Illumination Level	Color Temp.	Voltage	Driver	No. of Circuits	Options								
<b>ORL</b>						<b>LD4</b>															
<b>Series</b> ORLF=Recessed Flange <sup>1</sup> ORLG=Recessed Grid, (1", 1-1/2", NEMA G) <sup>2</sup>						<b>LD4=Linear LED, Version 4.0</b>			<b>Specify Voltage</b> 120=120V 277=277V												
24=24" Wide 12=12" Wide <sup>8</sup>						1=(1) LED Module in X-section 2=(2) LED Modules in X-section 3=(3) LED Modules in X-section 4=(4) LED Modules in X-section (2' Width Only) 5=(5) LED Modules in X-section <sup>4</sup> (2' Width Only) 6=(6) LED Modules in X-section <sup>4</sup> (2' Width Only)			EDC=Electronic Driver, Non-Dimming EDD=Electronic Driver, 0-10V Dimming,10% ED1D=Electronic Driver, 0-10V Dimming,1% 5LTD=Fifth Light Dali, Dimming <sup>12</sup> LUA/ES=Lutron A-Series, 1% EcoSystem Dimming LUA/3W=Lutron A-Series, 1% EcoSystem 3-wire Dimming												
2=2' Length <sup>8</sup> 4=4' Length						<b>STD=Standard</b> <b>LO=Low</b> <b>HI=High</b>															
<b>Blank=Cold Rolled Steel, painted anti-microbial matte white</b> <b>ALH=Aluminum Housing, painted anti-microbial matte white</b> <b>SHB=Stainless Steel, Brushed anti-microbial matte white, not available on brushed)</b> <b>SHP=Stainless Steel, painted anti-microbial matte white</b>						20=White LED, 2000K 27=White LED, 2700K 30=White LED, 3000K 35=White LED, 3500K 40=White LED, 4000K 50=White LED, 5000K G52=Green LED, 520nm, (defaults to the 2 outboard rows) R63=Red LED, 630nm, (defaults to the 2 outboard rows)															
<b>Inset Die Formed, One Piece</b> INS=Inset Door, Die-formed Steel, painted anti-microbial matte white INA=Inset Door, Die-formed Aluminum, painted anti-microbial matte white INSSP=Inset Door, Die-formed Stainless Steel, painted anti-microbial matte white INSSB=Inset Door, Die-formed Stainless Steel, Brushed (anti-microbial matte white not available on brushed)						<b>Please see below for ordering logic for multi-color LED application in combination: Specify as follows, per the sample numbers below:</b> White/Green: ORLG-24-4-INS-A12125-LD4-4STD40/2HIG52-277-EDC1 (4 White LED modules and 2 Green LED modules) White/Green: ORLG-24-4-INS-A12125-LD4-3STD35/2LOG52-277-EDC1 (3 White LED modules and 2 Green LED modules) Red only: ORLG-24-4-INS-A12125-LD4-4STD63-277-EDC1 (4 Red LED modules) Green only: ORLG-24-4-INS-A12125-LD4-4HIG52-277-EDC1 (4 Green LED modules)			1 = 1 Circuit 2 = 2 Circuits 3 = 3 Circuits <sup>6</sup> 4 = 4 Circuits												
AS=Asymmetric/Symmetric Lens <sup>7</sup> (Add "C" to end of lens to include .125" clear acrylic underlay. Ex. ASC) ASR=Asymmetric/Symmetric Lens with RFI grid <sup>7</sup> (Add "C" to end of lens to include .125" clear acrylic underlay. Ex. ASRC) A125=Pattern 12 Acrylic, 0.125" thick, Inverted (Add "C" to end of lens to include .125" clear acrylic underlay. Ex. A125C) KSH25=Linear Ribbed Acrylic Lens (Add "C" to end of lens to include .125" clear acrylic underlay. Ex. KSH25) 89BC=0.125" thick KSH19 RFI Symmetrical Lens (Add "C" to end of lens to include .125" clear acrylic underlay. Ex. 89BCC)						* Illumination level (LO,STD,HI) and color temperature chosen randomly in examples. <b>Red,Green LEDs always on separate circuit.</b>						<b>Accessories</b> (Ordered Separately) MSB4=Mounting Safety Brackets (4) with hardware CPH=Continuous piano hinge MIL1=MILSTD 461G compliant, 4,5,9,10 one filter for single circuit MIL2=MILSTD 461G compliant, 4,5,9,10 two filters for dual circuits MIL3=MILSTD 461G compliant, 4,5,9,10 three filters for 3 circuits 90=90CRI <sup>11</sup>									
						<b>Approximate Lumen Multipliers Red and Green LEDs</b>															
						<table border="1"> <thead> <tr> <th>Color</th> <th>Multiplier from White 4000K</th> </tr> </thead> <tbody> <tr> <td>White, 4000K</td> <td>1.00</td> </tr> <tr> <td>Red, 630nm</td> <td>0.30</td> </tr> <tr> <td>Green, 520nm</td> <td>0.71</td> </tr> </tbody> </table>			Color	Multiplier from White 4000K	White, 4000K	1.00	Red, 630nm	0.30	Green, 520nm	0.71					
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## Notes:

- Flange ships standard with (4) brackets for quick and easy installation.
- Hard metric grid fixtures available (600mm x 600mm, 300mm x 1200mm, 600mm x 1200mm) with PDR. Consult product technical support to verify ceiling compatibility (Main-T height and width, Cross-T height and width, other related specifications).
- Emergency battery pack is mounted on back of fixture, adding 3" to fixture height. Emergency not accessible from room-side of fixture. For room-side access, specify the EMRA option.
- Thermal protectors installed on side of fixture, located approximately 2 1/4" inches from bottom of fixture. (See thermal protector detail below). \*Please specify voltage in the catalog ordering logic.
- ASR or 89BC lens options must be used for MILSTD 461G compliance.
- Outermost two modules on one circuit, next outermost modules on 2nd circuit, remaining module(s) on 3rd circuit.
- Light is directed away from hinge/lanyard. Orient fixture with hinge/lanyard to the outside, away from the patient/table.
- ORL not available in 1x2.
- EL7W and EL14W not available with MILSTD 461G.
- MILSTD 461G is the latest MILSTD version. MILSTD 461G supercedes all other versions (A-F).
- 90 CRI option may require extended lead time.
- For Dali, the number of circuits becomes the number of drivers.

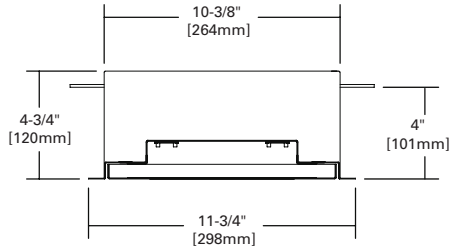
## Thermal Protector Detail

\*Factory installed on side of fixture  
 \*Specify 120V or 277V

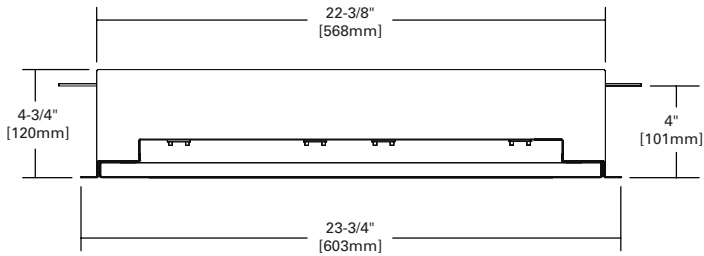


## Flange

1' Wide, Inset Door

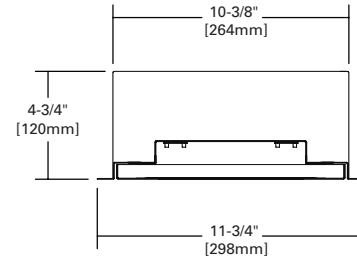


2' Wide, Inset Door

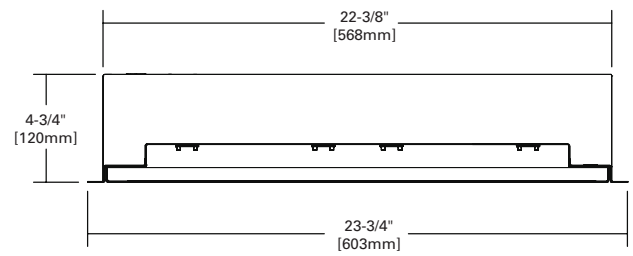


## Grid

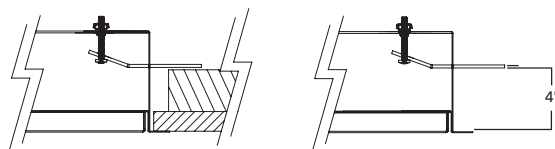
1' Wide, Inset Door



2' Wide, Inset Door



Mounting Bracket - Standard (ORL-F)



Cut-Out Dimensions

1x4	10-5/8" x 46-5/8"
2x4	22-5/8" x 46-5/8"
2x2	22-5/8" x 22-5/8"