

CATALOG #: \_\_\_\_\_

TYPE: \_\_\_\_\_

PROJECT: \_\_\_\_\_

## FEATURES

- Designed to meet the demanding requirements of controlled environments
- Optional green circuit provides enhanced visual clarity for operating room staff and reduces eye fatigue during videoscopic surgical procedures
- Seam-welded fixture housing and doorframe are designed for infection-controlled environments
- Optimized lensing reduces shadowing and glare
- Multiple distribution options provide effective, application specific lighting performance
- Smooth surface doorframe and lens materials simplify cleaning and maintenance
- NSF approved closed cell foam gasketing seals the fixture for particle sensitive environments
- Designed to accommodate 2" tall T-bar
- Complies with MIL-STD-461G conducted emission regulations
- Made Right Here™ in the USA

## SPECIFICATIONS

- HOUSING** – 20-gauge die-formed, seam-welded C.R.S. Aluminum and stainless steel options available.
- DOOR FRAME** – One-piece 20-gauge seam-welded C.R.S. Hinged from one side with stainless steel safety cables. Attached to fixture using captive, stainless steel screws.
- SHIELDING** – Clear acrylic directional lens with radio suppression grid and clear acrylic underlay.
- FINISH** – 92% minimum average reflective white anti-microbial powder coating bonded to phosphate-free, multi-stage pretreated metal. All parts painted after fabrication to facilitate installation, increase efficiency, and inhibit corrosion.
- ELECTRICAL** – High quality mid-power LED boards. Rated for 50,000 hours at 70% lumen maintenance (L70)
- MOUNTING** – NEMA Type "G" for 15/16", 1-1/2", and grid ceiling systems. NEMA Type "F" available.
- LISTINGS** –
  - CCSAUS certified as luminaire suitable for wet location under covered ceiling.
  - IP65 rated
  - ISO 5, Class 100 rated
  - NSF/ANSI 2
  - Complies with MIL-STD-461G
  - City of Chicago Environmental Air approved (not available when specified with NSWH)
- WARRANTY** – 5-year limited fixture warranty, see [hew.com/warranty](http://hew.com/warranty).

## ORDERING EXAMPLE: MSTG - 24 - L32/GRN/L121/840 - CS - SSYM - OPTIONS - DRV - UNV

### ORDERING INFO

SERIES	CEILING TYPE	WIDTH	LENGTH	LUMENS <sup>(1)</sup>	CRI	CCT	
MST	G NEMA Type "G"	1 1' <sup>(3)</sup>	2 2' <sup>(4)</sup>	1x4	8 80	30 3000K	
				L75	7,500lm white only	9 90 <sup>(5)</sup>	35 3500K
	F NEMA Type "F" <sup>(2)</sup>	2 2'	4 4'	L37/GRN	3,700 green only		40 4000K
				2x2			50 5000K
	L96	9,600lm white only	L14/GRN/L57	1,400 green/5,700lm white	L58/GRN	5,800lm green only	2x4
	L32/GRN/L121	3,200lm green/12,100lm white	L114/GRN	11,400lm green only			

### HOUSING

- CS 20-gauge C.R.S.
- AL Flat white aluminum
- ST Stainless steel <sup>(6)</sup>

### DOOR FRAME

- S Flat white steel
- F Flat white aluminum
- W White stainless steel <sup>(7)</sup>
- B Brushed stainless steel <sup>(8)</sup>

### DISTRIBUTION

- SYM Symmetric
- SYM/ASY Symmetric/asymmetric <sup>(9)</sup>
- ASY Asymmetric <sup>(10)</sup>

### OPTIONS

- EM/10W 10-watt emergency battery <sup>(12)</sup>
- EM/10WLP Low-profile 10-watt emergency battery <sup>(13)</sup>
- GLR Fuse, fast blow (specify voltage), one per driver
- (L\_) Additional lower lumen packages available. Specify in increments of 100 nominal lumens. Option must be specified with next higher lumen package.  
**Example:** 12,000 nominal lumens = MSTG-24-L210/840-(L120)
- EQCLIPS Earthquake clips <sup>(14)</sup>
- TG Triple gasket <sup>(15)</sup>
- NSWH Fixture provided without seam-welded housing <sup>(16)</sup>
- TP Tamper resistant stainless steel, Torx T-25 screws
- 2C Two circuit wiring <sup>(17)</sup>

### DRIVER <sup>(11)</sup>

- DRV Non-dimming driver
- DIM Dimming driver

### VOLTAGE

- 120 120V
- 277 277V
- UNV 120-277V

## NOTES

- Nominal lumen output based on 4000 CCT. Actual lumens may vary +/-5%, see page 2 for FIXTURE PERFORMANCE DATA.
- See page 4 for FIXTURE DETAILS.
- 4' length only.
- 2' width only
- 4000K and 5000K only.
- Contact factory for availability.
- Contact factory for availability.
- Contact factory for availability.
- Reduces fixture output up to 5%.
- Reduces fixture output up to 23%.

<sup>11</sup> See page 4 for ADDITIONAL DRIVER OPTIONS.

<sup>12</sup> 120V-277V only; 2x2, 2x4 only.

<sup>13</sup> 120V-277V only; 1x4 only.

<sup>14</sup> 4 per fixture.

<sup>15</sup> Field installed, see page 4 for GASKETING DETAILS.

<sup>16</sup> NSWH option does not affect NSF, ISO, IP65, or MIL-STD461G listings. Fixture is not City of Chicago Environmental Air approved when specified with NSWH.

<sup>17</sup> Inboard-outboard wiring. Allows for independent dimming of each circuit when ordered with DIM driver. Fixture is wired as two circuit by default when specified with green/white.



## FIXTURE PERFORMANCE DATA

LED PACKAGE	WATTAGE	SYMMETRIC						SYMMETRIC/ASYMMETRIC				ASYMMETRIC			
		DELIVERED LUMENS		EFFICACY (lm/W)		DELIVERED LUMENS		EFFICACY (lm/W)		DELIVERED LUMENS		EFFICACY (lm/W)			
		WHITE	GREEN	WHITE	GREEN	WHITE	GREEN	WHITE	GREEN	WHITE	GREEN	WHITE	GREEN		
<b>WHITE</b>															
1x4	L75	81	-	7492	-	92.5	-	5573	-	88.1	-	6114	-	75.5	-
2x2	L96	95	-	9609	-	101.1	-	9300	-	97.5	-	7456	-	78.8	-
2x4	L210	190	-	21049	-	110.8	-	20449	-	107.4	-	16525	-	87.3	-
<b>GREEN/WHITE</b>															
2x2	L14/L57	58	31	5766	1334	98.1	45.3	5573	1173	94.6	43.0	4482	1072	76.8	35.3
2x4	L32/L121	108	62	12278	3156	112.5	50.9	11882	2799	108.8	45.1	9677	2692	88.2	44.9
<b>GREEN</b>															
1x4	L37	-	62	-	3726	-	60.1	-	3542	-	57.1	-	3036	-	49.0
2x2	L58	-	92	-	5796	-	63.0	-	5610	-	60.8	-	4485	-	48.8
2x4	L114	-	159	-	11426	-	71.9	-	11054	-	69.5	-	8942	-	56.2

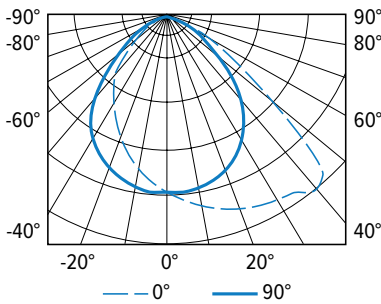
## MULTIPLIER TABLES

		COLOR TEMPERATURE	
		CCT	CONVERSION FACTOR
80 CRI	3000K	0.96	
	3500K	0.97	
	4000K	1.00	
	5000K	1.03	
90 CRI	4000K	0.83	
	5000K	0.87	

- Photometrics tested in accordance with IESNA LM-79. Results shown are based on 25°C ambient temperature.
- Wattage shown is average for 120V through 277V input.
- Results based on 4000K, 80 CRI, actual lumens may vary +/-5%
- Use multiplier table to calculate additional options.

## PHOTOMETRY

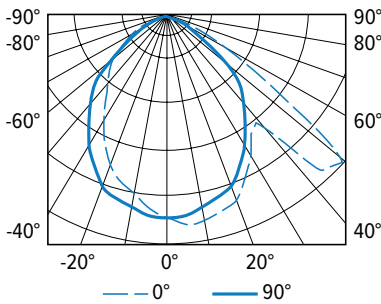
MSTG-24-L210/840-CS-SASY-DRV-UNV Report#: 19832; 05/24/17 | Total Luminaire Output: 16587 lumens; 184 Watts | Efficacy: 90.2 lm/W | 81.8 CRI; 4079K CCT



VERTICAL ANGLE	HORIZONTAL ANGLE					ZONAL LUMENS
	0°	45°	90°	135°	180°	
0	6492	6492	6492	6492	6492	
5	6832	6733	6544	6307	6112	622
15	7342	7006	6307	5788	5442	1806
25	7785	7083	5763	4941	4450	2766
35	8015	7079	4993	3919	3553	3368
45	8191	6768	3728	2846	2737	3606
55	3941	4312	2125	2054	1561	2639
65	1540	1657	1247	1242	850	1307
75	569	472	367	302	320	453
85	61	25	0	0	3	20
90	0	0	0	0	0	

LUMEN SUMMARY	ZONE	LUMENS	% FIXTURE
	0 - 30	5193	31
	0 - 60	14807	89
	0 - 90	16587	100
	0 - 180	16587	100

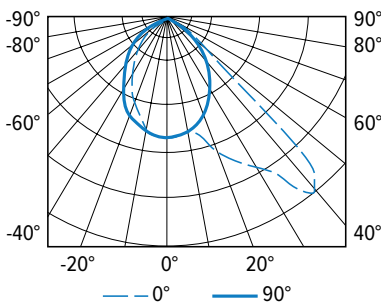
MSTG-24-L32/GRN/L121/840-CS-SASY-DRV-UNV White Only Report#: 19738.1; 03/03/17 | Total Luminaire Output: 9523 lumens; 105 Watts | Efficacy: 90.4 lm/W | 82 CRI; 4000K CCT



VERTICAL ANGLE	HORIZONTAL ANGLE					ZONAL LUMENS
	0°	45°	90°	135°	180°	
0	4268	4268	4268	4268	4268	
5	4460	4405	4291	4196	4150	410
15	4341	4291	4054	3790	3721	1154
25	3835	3822	3612	3206	3115	1631
35	3169	3028	2928	2426	2289	1748
45	4652	2266	2276	1765	1829	1803
55	2969	3001	1167	1263	1149	1479
65	1022	1236	552	807	725	893
75	392	365	228	324	388	358
85	55	46	27	46	55	47
90	0	0	0	0	0	

LUMEN SUMMARY	ZONE	LUMENS	% FIXTURE
	0 - 30	3195	34
	0 - 60	8225	86
	0 - 90	9523	100
	0 - 180	9523	100

MSTG-24-L32/GRN/L121/840-CS-SASY-DRV-UNV Green Only Report#: 19739.1; 03/03/17 | Total Luminaire Output: 2783 lumens; 60 Watts | Efficacy: 46.7 lm/W | 82 CRI; 4000K CCT

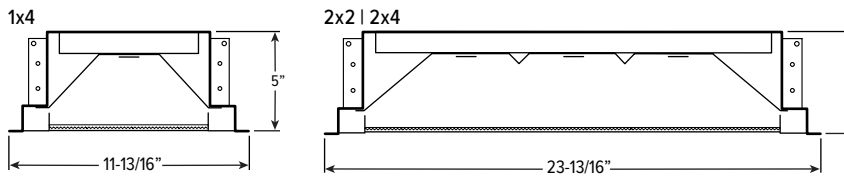


VERTICAL ANGLE	HORIZONTAL ANGLE					ZONAL LUMENS
	0°	45°	90°	135°	180°	
0	1055	1055	1055	1055	1055	
5	1053	1051	1058	1066	1067	101
15	1072	1004	977	952	911	278
25	1371	1085	874	775	729	437
35	1677	1202	676	589	519	553
45	1757	1786	511	406	334	714
55	428	643	287	238	174	433
65	227	230	160	108	62	195
75	79	71	72	30	29	62
85	12	10	8	6	6	10
90	0	0	0	0	0	

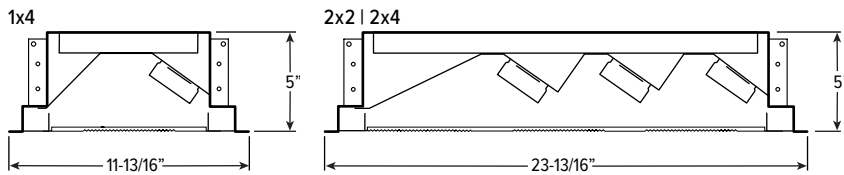
LUMEN SUMMARY	ZONE	LUMENS	% FIXTURE
	0 - 30	816	30
	0 - 60	1369	90
	0 - 90	2516	100
	0 - 180	2783	100

## FIXTURE DETAILS

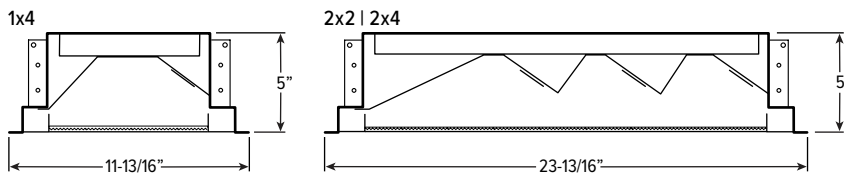
### SYM



### ASY

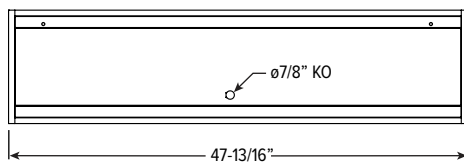


### SYM/ASY



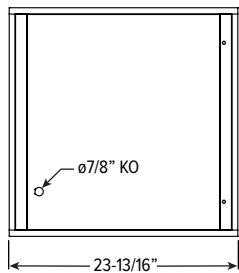
## BACK VIEW DETAILS

### 1x4



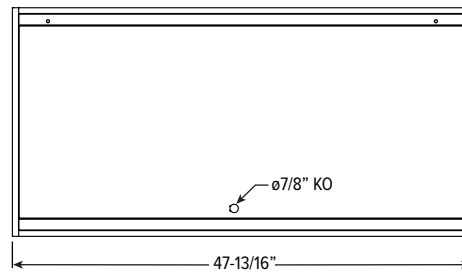
Recommended Ceiling Opening: 10-7/8" x 46-3/4"

### 2x2



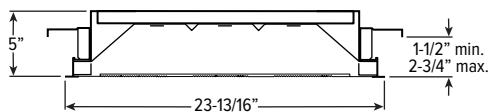
Recommended Ceiling Opening: 22-7/8" x 22-3/4"

### 2x4



Recommended Ceiling Opening: 22-7/8" x 46-3/4"

## NEMA TYPE "F" INSTALLATION



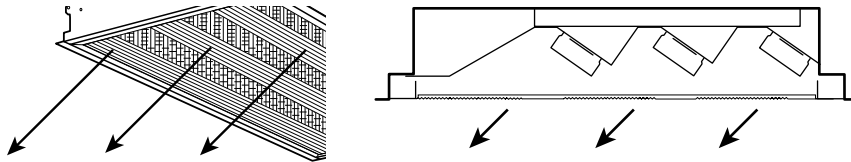
For continuous row mounting, add 47-13/16" for each additional fixture to obtain ceiling opening. 3/4" between end plates.

## ADDITIONAL DRIVER OPTIONS

Note: Lumen restrictions apply, consult factory.

CATALOG NUMBER	DESCRIPTION
DRV	Driver prewired for non-dimming applications
DIM	Dimming driver prewired for 0-10V low voltage applications
DIM1	1% dimming driver prewired for 0-10V low voltage applications
DIM LINE	Line voltage dimming driver (Must specify 120V or 277V only)
SD40	40% step-dimming driver
SD50	50% step-dimming driver
DALI	DALI dimming driver
LTE LINE	Lutron Hi-lume® A-Series 1% dimming driver for forward phase line voltage controls (120V only)
LDE1	Lutron EcoSystem® H-Series 1% dimming driver for EcoSystem® controls
LDE5	Lutron EcoSystem® 5-Series 5% dimming driver for EcoSystem® controls
ELDO SOLOB	EldoLED Solodrive, 0.1% dimming driver for 0-10V controls
ELDO SOLOB DALI	EldoLED Solodrive, 0.1% dimming driver for DALI controls
ELDO ECO1	EldoLED Ecodrive, 1% dimming driver for 0-10V controls
ELDO ECO1 DALI	EldoLED Ecodrive, 1% dimming driver for DALI controls

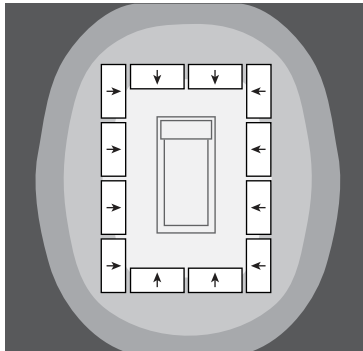
## DIRECTIONAL LENS DETAILS



## TYPICAL SURGICAL SUITE LAYOUT

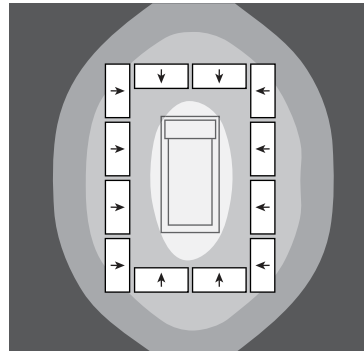
MSTG-24-L121/840/L32/GRN-SASYRF-DRV-UNV  
 Suite 1: White LEDs only | Suite 2: Green LEDs only | 625 sq. ft. Ceiling/Mounting Height: 10'-0" AFF |  
 Light Loss Factor: 0.90 LFF | Room Reflectance Values: 90/60/20 | Calculation Grids: 3'-0" AFF

Suite 1



AVERAGE FOOTCANDLES		
ZONE 1	ZONE 2	ZONE 3
200	150	100

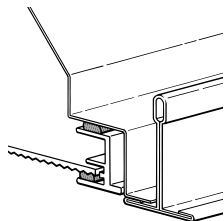
Suite 2



AVERAGE FOOTCANDLES		
ZONE 1	ZONE 2	ZONE 3
100	50	30

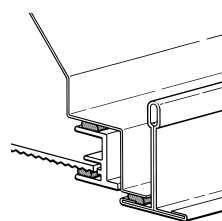
## GASKETING DETAILS

### DOUBLE GASKETING (STANDARD)



Gasketing is factory-installed continuously between door frame and luminaire housing; and between door frame and lens.

### TRIPLE GASKETING (TG)



Gasketing is factory-installed continuously between door frame and luminaire housing; and between door frame and lens. Gasketing between bottom perimeter of unit (adjacent to T-bar or hardpan ceiling) is provided by factory and field-installed.