

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

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

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

## FEATURES

- Designed to meet the demanding requirements of controlled environments
- Specify green circuit to enhance visual clarity for the surgical team
- Seam-welded housing and door frame 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 warranty, see [hew.com/warranty](http://hew.com/warranty).

## ORDERING EXAMPLE: MSTG - 24 - L32/GRN/L121/840 - CS - SSSYM - 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>	<b>1x4</b>	8 80	30 3000K
	F NEMA Type “F” <sup>(2)</sup>	2 2'	4 4'	<b>L75</b> 7,500lm white only <b>L37/GRN</b> 3,700 green only <b>L36/GRN/L53</b> 3,600 green/5,300lm white	9 90 <sup>(5)</sup>	35 3500K 40 4000K 50 5000K
				<b>2x2</b>		
				<b>L96</b> 9,600lm white only <b>L14/GRN/L57</b> 1,400 green/5,700lm white <b>L58/GRN</b> 5,800lm green only		
				<b>2x4</b>		
				<b>L210</b> 21,000lm white only <b>L32/GRN/L121</b> 3,200lm green/12,100lm white <b>L114/GRN</b> 11,400lm green only		

HOUSING <sup>(6)</sup>	DOOR FRAME <sup>(7)</sup>	DISTRIBUTION
CS 20-gauge C.R.S.	S Flat white steel	<b>SYM</b> Symmetric
AL Flat white aluminum	F Flat white aluminum	<b>SYM/ASY</b> Symmetric/asymmetric <sup>(8)</sup> <b>ASY</b> Asymmetric <sup>(9)</sup>

OPTIONS	CONTROL <sup>(10)</sup>	VOLTAGE
<b>EM/10W</b> 10-watt emergency battery <sup>(11)</sup>	<b>DRV</b> Non-dimming driver	<b>120</b> 120V
<b>EM/10WLP</b> Low-profile 10-watt emergency battery <sup>(12)</sup>	<b>DIM</b> Dimming driver	<b>277</b> 277V
<b>GLR</b> Fuse, fast blow (specify voltage), one per driver		<b>UNV</b> 120-277V
<b>(L__)</b> Additional lower lumen packages available. <b>Example:</b> 12,000 nominal lumens = MSTG-24-L210/840-(L120) <sup>(13)</sup>		
<b>EQCLIPS</b> Earthquake clips <sup>(14)</sup>		
<b>TG</b> Triple gasket <sup>(15)</sup>		
<b>NSWH</b> Fixture provided without seam-welded housing <sup>(16)</sup>		
<b>TP</b> Tamper resistant stainless steel, Torx T-25 screws		
<b>2C</b> Two circuit wiring <sup>(17)</sup>		

### NOTES

- Nominal lumen output based on 4000 CCT. Actual lumens may vary +/-5%. See page 2 for FIXTURE PERFORMANCE DATA. Additional lumen packages available, see options.
- See page 3 for NEMA TYPE “F” INSTALLATION.
- 4' length only.
- 2' width only.
- Extended lead times may apply. Consult factory for availability.
- Stainless steel options available, consult factory.
- Stainless steel options available, consult factory.
- Reduces fixture output up to 5%.
- Reduces fixture output up to 23%.
- See page 4 for ADDITIONAL CONTROL OPTIONS.
- 120V-277V only; 2x2, 2x4 only.
- 120V-277V only; 1x4 only.
- Specify in increments of 100 nominal lumens. Option must be specified with next higher lumen package.
- NEMA Type “G” only, 4 per fixture.
- See page 5 for GASKETING DETAILS.
- 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.
- 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	66.0	-	7509	-	113.8	-	7156	-	108.4	-	6127	-	92.8	-
2x2	L96	79.6	-	9687	-	121.8	-	9377	-	117.9	-	7517	-	94.5	-
2x4	L210	166.6	-	21154	-	126.9	-	20541	-	123.3	-	16606	-	99.7	-
<b>GREEN/WHITE</b>															
1x4	L36/L53	38	40	5346	3572	140.7	89.3	5082	3395	133.7	84.9	4356	2910	114.6	72.8
2x2	L14/L57	48.3	17.5	5713	1444	118.3	82.8	5524	1269	114.3	72.7	4439	1161	91.9	66.5
2x4	L32/L121	93.8	36.7	12210	3250	130.1	88.6	11807	2883	125.8	78.6	9621	2772	102.5	75.5
<b>GREEN</b>															
1x4	L37	-	52.4	-	3766	-	71.9	-	3581	-	68.3	-	3069	-	58.6
2x2	L58	-	79.0	-	5906	-	74.8	-	5717	-	72.4	-	4571	-	57.9
2x4	L114	-	142.0	-	11466	-	80.8	-	11088	-	78.1	-	8978	-	63.2

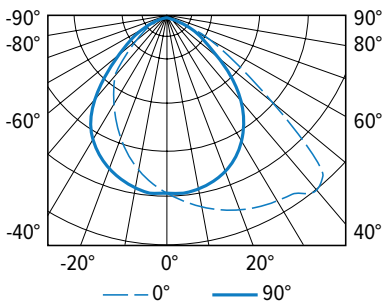
## MULTIPLIER TABLES

	COLOR TEMPERATURE	
	CCT	CONVERSION FACTOR
80 CRI	3000K	0.96
	3500K	0.97
	4000K	1.00
	5000K	1.03
90 CRI	3000K	0.79
	3500K	0.80
	4000K	0.83
	5000K	0.86

- 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

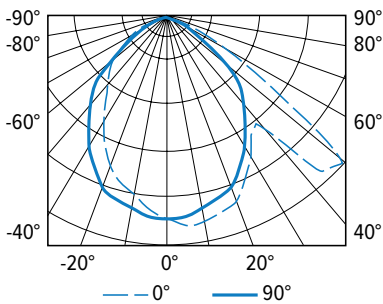
**MSTG-24-L210/840-CS-SASY-DRV-UNV** Total Luminaire Output: 16606 lumens; 166.6 Watts | Efficacy: 99.7 lm/W | 81.8 CRI; 4079K CCT



VERTICAL ANGLE	HORIZONTAL ANGLE					ZONAL LUMENS
	0°	45°	90°	135°	180°	
0	6524	6524	6524	6524	6524	6524
5	6865	6766	6576	6338	6142	623
15	7378	7040	6338	5816	5469	1807
25	7823	7118	5791	4965	4472	2770
35	8054	7114	5017	3938	3570	3407
45	8231	6801	3746	2860	2750	3541
55	3960	4333	2135	2064	1569	2582
65	1548	1665	1253	1248	854	1353
75	572	474	369	303	322	476
85	61	25	0	0	3	48
90	0	0	0	0	0	0

LUMEN SUMMARY	ZONE	LUMENS	% FIXTURE
	0 - 30	5200	31
	0 - 60	14730	89
	0 - 90	16606	100
	0 - 180	16606	100

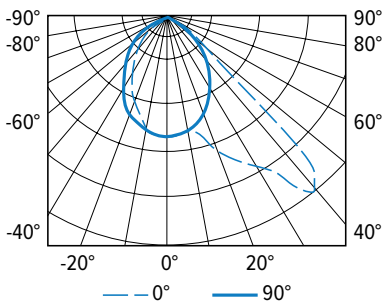
**MSTG-24-L32/GRN/L121/840-CS-SASY-DRV-UNV** White Only Total Luminaire Output: 9621 lumens; 93.8 Watts | Efficacy: 102.5 lm/W | 82 CRI; 4000K CCT



VERTICAL ANGLE	HORIZONTAL ANGLE					ZONAL LUMENS
	0°	45°	90°	135°	180°	
0	4243	4243	4243	4243	4243	4243
5	4434	4380	4266	4172	4126	402
15	4316	4266	4031	3768	3699	1134
25	3813	3800	3591	3187	3097	1617
35	3151	3010	2911	2412	2276	1739
45	4625	2253	2263	1755	1818	1821
55	2952	2984	1160	1256	1142	1584
65	1016	1229	549	802	721	893
75	390	363	227	322	386	365
85	55	46	27	46	55	67
90	0	0	0	0	0	0

LUMEN SUMMARY	ZONE	LUMENS	% FIXTURE
	0 - 30	3153	33
	0 - 60	8296	86
	0 - 90	9621	100
	0 - 180	9621	100

**MSTG-24-L32/GRN/L121/840-CS-SASY-DRV-UNV** Green Only Total Luminaire Output: 2772 lumens; 36.7 Watts | Efficacy: 75.5 lm/W | 82 CRI; 4000K CCT



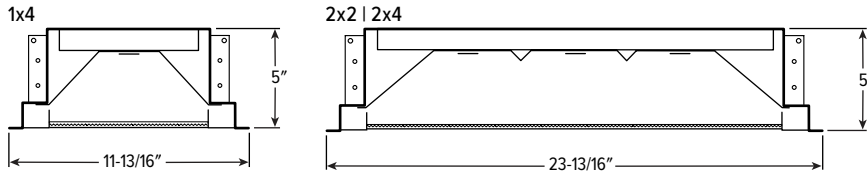
VERTICAL ANGLE	HORIZONTAL ANGLE					ZONAL LUMENS
	0°	45°	90°	135°	180°	
0	1086	1086	1086	1086	1086	1086
5	1084	1082	1089	1098	1099	103
15	1104	1034	1006	980	938	288
25	1412	1117	900	798	751	450
35	1727	1238	696	607	534	580
45	1809	1839	526	418	344	676
55	441	662	296	245	179	405
65	234	237	165	111	64	190
75	81	73	74	31	30	68
85	12	10	8	6	6	13
90	0	0	0	0	0	0

LUMEN SUMMARY	ZONE	LUMENS	% FIXTURE
	0 - 30	840	30
	0 - 60	2501	90
	0 - 90	2772	100
	0 - 180	2772	100

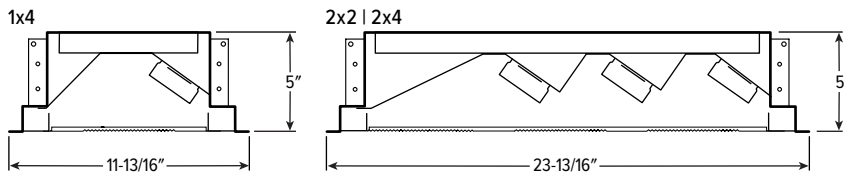


## FIXTURE DETAILS

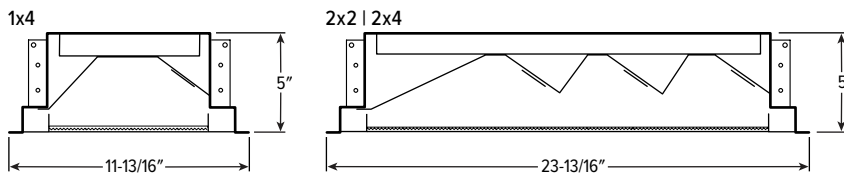
### SYM



### ASY

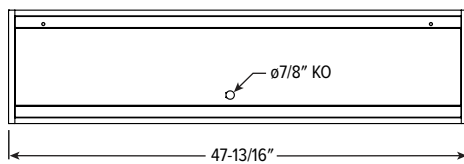


### SYM/ASY



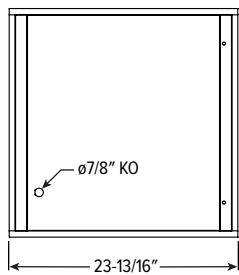
## BACK VIEW DETAILS

### 1x4



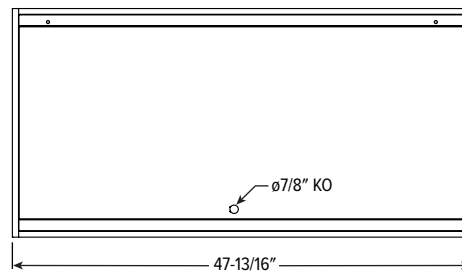
Recommended Ceiling Opening: 10-7/8" x 46-3/4"

### 2x2



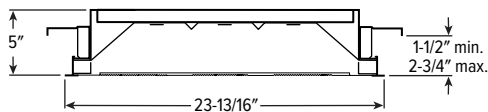
Recommended Ceiling Opening: 22-7/8" x 22-3/4"

### 2x4



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

## NEMA TYPE "F" INSTALLATION



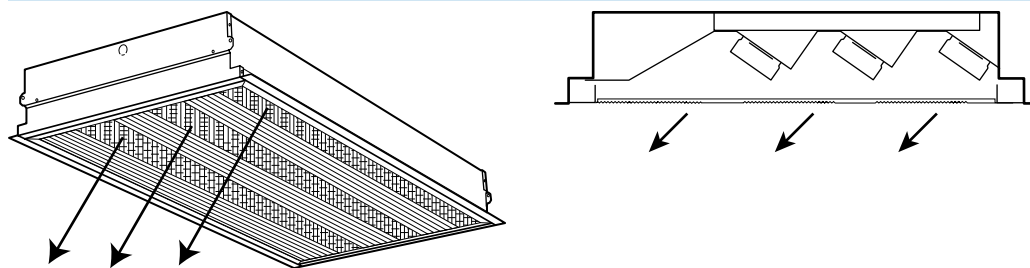
For continuous row mounting, add 47-13/16" for each additional fixture to obtain ceiling opening. 3/4" between end plates.

## ADDITIONAL CONTROL OPTIONS

Note: Lumen restrictions apply, consult product builder at [hew.com/product-builder](http://hew.com/product-builder).

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 1% 2-wire dimming driver forward phase line voltage controls (120V only)
LDE1	Lutron Hi-lume 1% EcoSystem dimming LED driver
LDE5	Lutron 5-Series 5% EcoSystem dimming LED driver
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

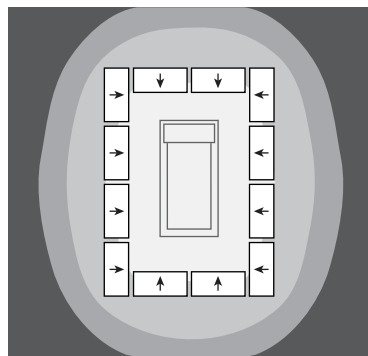
## DIRECTIONAL LENS DETAILS



## TYPICAL SURGICAL SUITE LAYOUT

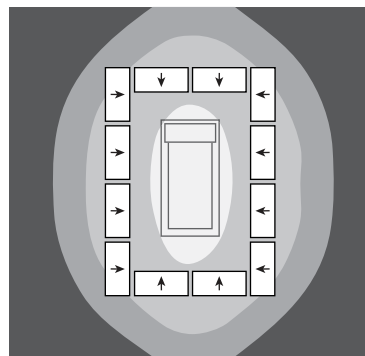
MSTG-24-L121/840/L32/GRN-SASYRF-DRV-UNV  
 Suite 1: White LEDs only | Suite 2: Green LEDs only | 625 sq. ft. Ceiling/Mounting Height: 10'-0" AFF |  
 Light Loss Factor: 0.90 LLF | Room Reflectance Values: 90/60/20 | Calculation Grids: 3'-0" AFF

Suite 1



AVERAGE FOOTCANDLES		
ZONE 1	ZONE 2	ZONE 3
200	150	100

Suite 2



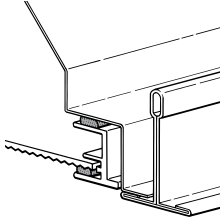
AVERAGE FOOTCANDLES		
ZONE 1	ZONE 2	ZONE 3
100	50	30



## GASKETING DETAILS

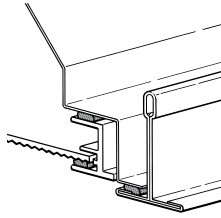
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### DOUBLE GASKETING (STANDARD)



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.

