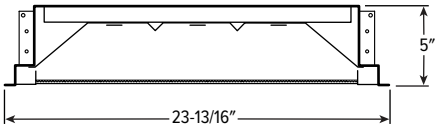
MCT LED
Medical Clean Room Troffer



2x2 | 2x4 shown

CATALOG #:

TYPE:

PROJECT:

BAA & BABA COMPLIANT | ISO 5 Class 100 | BSL 1–4 | MIL STD 461G | IP65 Rated | WET/CC | CCEA Approved | NSF COMPONENT

FEATURES

- Designed to meet the demanding requirements of controlled environments
- Seam-welded fixture housing and doorframe are designed for infection control
- Smooth surface doorframe and lens materials simplify cleaning and maintenance
- Optional MIL-STD-461G complies with radiated and conducted emission regulations
- NSF approved closed cell foam gasketing in three locations meets all required testing criteria for ISO 5, Class 100 certification
- Anti-microbial white finish is standard
- Optional plenum panel allows access to the plenum space without disturbing the ceiling structure or compromising cleanroom integrity
- Narrow-spectrum color LEDs available for vivarium and manufacturing applications, see hew.com
- Made Right Here® in the USA

SPECIFICATIONS

- HOUSING – 20-gauge die-formed, seam-welded C.R.S. standard. 18-gauge aluminum available.
- DOOR FRAME – One-piece 20-gauge seam-welded C.R.S. 18-gauge aluminum available. Secured from one side with stainless steel safety cables. Attached to fixture using captive, stainless steel screws.
- SHIELDING – Choice of frosted lens with smooth clear acrylic or polycarbonate underlay.
- FINISH – 92% minimum average reflective white anti-microbial powder coating bonded to phosphate-free, multi-stage pretreated metal. Salt spray tested, 1,000 hours (ASTM B117). All parts painted after fabrication to facilitate installation, increase efficiency, and inhibit corrosion.
- ELECTRICAL – High-quality mid-power LED boards. L70 at 50,000 hours. 50/60hz, THD < 10%.
- MOUNTING – NEMA Type "G" 15/16" or 1-1/2" grid standard. Drywall flange type available.
- LISTINGS –
  - cCSAus certified as luminaire suitable for wet location under covered ceiling
  - IC-rated for direct contact with insulation [17]
  - IP65 rated
  - ISO 5, Class 100 rated
  - Suitable for use in BSL 1-4 laboratories in most applications (consult CDC)
  - NSF/ANSI 2
  - Complies with MIL-STD-461G with DIM or DRV drivers
  - City of Chicago Environmental Air approved (not available when specified with NSWH)
  - Build America, Buy America (BABA) and Buy American Act (BAA) compliant. Request certification at hew.com/buy-american
- WARRANTY – 5-year limited warranty, see hew.com/warranty

ORDERING EXAMPLE: MCTG - 24 - L208/835 - CS - SAF12125 - OPTIONS - DRV - UNV

SERIES	CEILING TYPE	WIDTH	LENGTH	LUMENS [1]	CRI	CCT
MCT	**G** 15/16" or 1-1/2" grid **F** Flange [2]	**1** 1′ [3] **2** 2′	**2** 2′ [4] **4** 4′	**1x4** **L40** 4,000lm **L79** 7,900lm **2x2** **L34** 3,400lm **L65** 6,500lm **L95** 9,500lm **2x4** **L60** 6,000lm **L121** 12,100lm **L208** 20,800lm	**8** 80 **9** 90	**30** 3000K **35** 3500K **40** 4000K **50** 5000K

HOUSING	DOOR FRAME
CS Cold rolled steel	**S** Cold rolled steel
AL Aluminum	**F** Aluminum

SHIELDING	
AF12125	Pattern #12, .125" thick with acrylic underlay
AF125	.125" thick with acrylic underlay
AF19156	Pattern #19, .156" thick with acrylic underlay
AF12125/PC	Pattern #12, .125" thick with polycarbonate underlay
AF125/PC	.125" thick with polycarbonate underlay
AF19156/PC	Pattern #19, .156" thick with polycarbonate underlay

OPTIONS	
EM/10W	10-watt emergency battery [6]
EM/10WLP	Low-profile 10-watt emergency battery [7]
(L__)	Additional lower lumen packages available. **Example**: 15,000 nominal lumens = MCTG-24-L208/835-**(L150)** [8]
EQCLIPS	Earthquake clips [9]
MIL	Complies with MIL-STD-461G specifications [10]
NSWH	Fixture provided without seam-welded housing [11]
TP	Tamper resistant stainless steel, Torx T-25 screws [12]
2C	Two circuit wiring [13]
PA	Plenum access [14]

DRIVER [5]	
DRV	Non-dimming driver
DIM	Dimming driver, 0-10V

VOLTAGE	
120	120V
277	277V
UNV	120V-277V
347	347V [15]

ACCESSORIES

TPTX-25 TOOL Tamper-resistant tool for Torx T-25 screws. [16]

NOTES

1 Lumen output based on 80 CRI/3500K CCT. Actual performance may vary +/-5%. See page 2 for FIXTURE PERFORMANCE DATA. Additional lumen packages available, see Options.
2 See page 3 for CROSS SECTIONS.
3 4′ length only.
4 2′ width only.
5 See page 4 for ADDITIONAL DRIVER OPTIONS.
6 2x2, 2x4 only.
7 1x4 only.
8 Specify in increments of 100 nominal lumens. Option must be specified with next higher lumen package.
9 G Ceiling Type only. 4 per fixture.
10 Must specify 120 or 277 Voltage only. DIM, DIM1 and DRV Controls only. Power factor may be lower than typical due to MIL-SPEC requirements. See page 2 for FIXTURE PERFORMANCE DATA.
11 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.
12 Requires a tamper-resistant tool, see Accessories. When TP option is specified, fixture is not NSF/ANSI 2 certified.
13 Inboard-outboard wiring where applicable unless specified otherwise. Allows for independent dimming of each circuit when ordered with DIM driver configuration. Consult factory for additional wiring configurations.
14 2x2 and 2x4 only. See page 3 for FIXTURE DETAILS.
15 Not available with MIL or EM battery Options.
16 Tamper-resistant tool must be ordered separately. Please specify quantity required per project.
17 Only available with 1x4: L40, 2x2: L34 and L65, 2x4: L60 and L121.

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FIXTURE PERFORMANCE DATA

	LED PACKAGE	AF12125 SHIELDING			AF125 SHIELDING			TOTAL AMP DRAW			
								STANDARD		MIL OPTION	
		DELIVERED LUMENS	WATTAGE	EFFICACY (lm/W)	DELIVERED LUMENS	WATTAGE	EFFICACY (lm/W)	120V	277V	120V	277V
1x4	L40	4021	32.6	123	3615	32.6	111	0.28	0.12	0.30	0.21
	L79	7962	66.1	121	7158	66.1	108	0.56	0.24	0.58	0.29
2x2	L34	3452	26.1	132	3103	26.1	119	0.22	0.10	0.25	0.19
	L65	6522	50.2	130	5863	50.2	117	0.43	0.19	0.44	0.25
	L95	9534	77.1	124	8571	77.1	111	0.65	0.28	0.66	0.32
2x4	L60	6078	45.3	134	5464	45.3	121	0.39	0.17	0.40	0.23
	L121	12124	89.9	135	10899	89.9	121	0.76	0.33	0.77	0.38
	L208	20805	167.0	125	18704	167.0	112	1.40	0.61	1.42	0.73

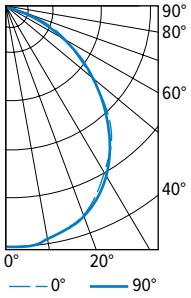
MULTIPLIER TABLE

	COLOR TEMPERATURE	
	CCT	CONVERSION FACTOR
80 CRI	3000K	0.99
	3500K	1.00
	4000K	1.03
	5000K	1.06
90 CRI	3000K	0.83
	3500K	0.84
	4000K	0.86
	5000K	0.90

- Photometrics tested in accordance with IESNA LM-79. Results based on 80 CRI/3500K CCT, average wattage for 120V through 277V input, and 25°C ambient temperature. Actual performance may vary +/-5%.
- To calculate lumen output in emergency mode, multiply the battery wattage by the efficacy.
- Use multiplier table to calculate additional options.

PHOTOMETRY

MCTG-22-L95/835-SAF12125-DRV-UNV Total Luminaire Output: 9534 lumens; 77.1 Watts | Efficacy: 123.7 lm/W | 80 CRI; 3500K CCT



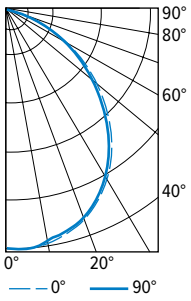
CANDLEPOWER DISTRIBUTION

VERTICAL ANGLE	HORIZONTAL ANGLE 0°	45°	90°	ZONAL LUMENS
0	4239	4239	4239	
5	4228	4224	4215	401
15	4042	4057	4059	1145
25	3669	3719	3716	1708
35	3081	3158	3127	1954
45	2330	2324	2357	1795
55	1504	1475	1482	1334
65	820	776	775	799
75	338	290	298	342
85	37	22	36	55
90	0	0	0	

LUMEN SUMMARY

ZONE	LUMENS	% FIXTURE
0 - 30	3254	34
0 - 40	5208	55
0 - 60	8337	88
0 - 90	9534	100
0 - 180	9534	100

MCTG-24-L208/835-SAF12125-DRV-UNV Total Luminaire Output: 20805 lumens; 167.0 Watts | Efficacy: 124.6 lm/W | 80 CRI; 3500K CCT



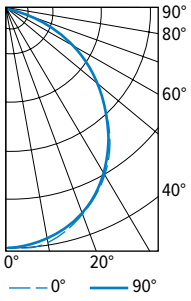
CANDLEPOWER DISTRIBUTION

VERTICAL ANGLE	HORIZONTAL ANGLE 0°	45°	90°	ZONAL LUMENS
0	9063	9063	9063	
5	9108	8999	8980	857
15	8752	8679	8655	2447
25	7995	7954	7923	3653
35	6819	6746	6686	4201
45	5202	5174	5033	3952
55	3488	3420	3228	3007
65	1864	1842	1709	1801
75	680	699	694	763
85	50	69	71	125
90	0	0	0	

LUMEN SUMMARY

ZONE	LUMENS	% FIXTURE
0 - 30	6956	33
0 - 40	11157	54
0 - 60	18117	87
0 - 90	20805	100
0 - 180	20805	100

MCTG-24-L208/835-SAF125-DRV-UNV Total Luminaire Output: 18704 lumens; 167.0 Watts | Efficacy: 112.0 lm/W | 80 CRI; 3500K CCT



CANDLEPOWER DISTRIBUTION

VERTICAL ANGLE	HORIZONTAL ANGLE 0°	45°	90°	ZONAL LUMENS
0	7962	7962	7962	
5	7994	7902	7885	752
15	7624	7571	7529	2132
25	6878	6853	6826	3149
35	5816	5781	5768	3616
45	4530	4544	4548	3489
55	3217	3131	3191	2824
65	1837	1791	1849	1828
75	720	746	690	785
85	48	91	74	130
90	0	0	0	

LUMEN SUMMARY

ZONE	LUMENS	% FIXTURE
0 - 30	6033	32
0 - 40	9649	52
0 - 60	15962	85
0 - 90	18704	100
0 - 180	18704	100

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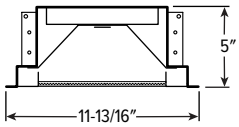
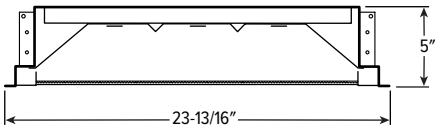
CROSS SECTIONS

G CEILING TYPE INSTALLATION

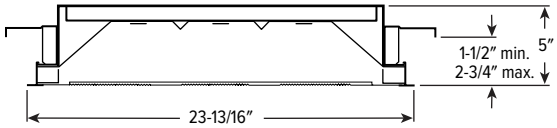
1x4



2x2 | 2x4



F CEILING TYPE INSTALLATION

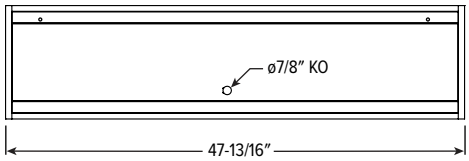


	ROUGH-IN	FINISH TRIM SIZE
1x4	11″ x 46-7/8″	13-13/16″ x 49-13/16″
2x2	22-7/8″ x 22-7/8″	23-13/16″ x 23-13/16″
2x4	22-7/8″ x 46-3/4″	23-13/16″ x 47-13/16″

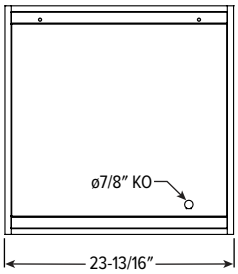
For continuous row mounting, add 47-13/16″ for each additional fixture to obtain ceiling opening. 3/4″ between end plates.

FIXTURE DETAILS

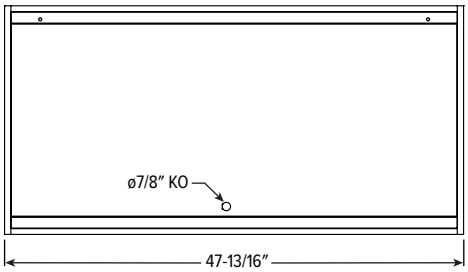
1x4



2x2

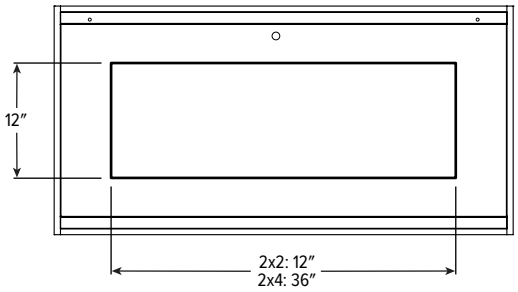


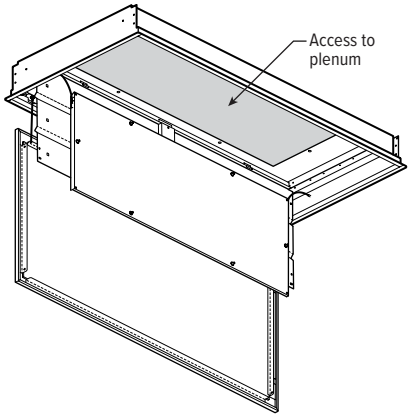
2x4



PA OPTION

Backview





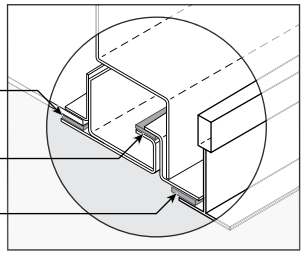
GASKETING DETAILS

T-BAR

Shielding gasketing factory-installed between door frame and lens reduces dust and bug contaminants.

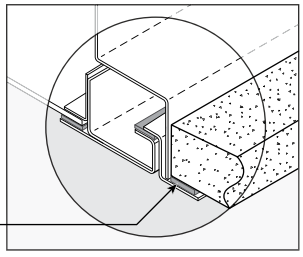
Door frame gasketing factory-installed between door frame and luminaire housing prevents light leak and reduces dust ingress.

Housing gasketing (supplied with fixture) field installed between bottom perimeter of fixture and T-bar ceiling seals plenum dust from the room.



DRYWALL

Between perimeter of fixture and hardpan ceiling.



ADDITIONAL DRIVER OPTIONS

DIM, DIM1 and DRV only for MIL-STD-461G compliance
Note: Lumen restrictions apply, consult product builder at hew.com/product-builder

CATALOG NUMBER	DESCRIPTION
DRV	Driver without external dimming wires prewired for non-dimming applications
DIM	Driver with external dimming wires prewired for 0-10V low voltage applications
DIM1	1% driver with external dimming wires prewired for 0-10V low voltage applications
DIM LINE	Line voltage dimming driver (TRIAC and ELV compatible, 120V only)
DIM TRC	Line voltage dimming driver (TRIAC compatible, 120V only)
SD40	40% step-dimming driver
SD50	50% step-dimming driver
DALI	DALI dimming driver
LDE1	Lutron Hi-lume 1% EcoSystem dimming driver