MCT Red LED Medical Clean Room Troffer

Williams

5″

23-13/16″

2x2 | 2x4 shown

CATALOG #: _____

TYPE: _____

PROJECT: _____

BUY AMERICAN ACT COMPLIANT · CCEA Approved · IP65 Rated · ISO 5 Class 100 · MIL STD 461G · NSF COMPONENT

FEATURES

- 625nm Red LEDs provide safe lighting for spectrally-sensitive applications
- Red and white LED circuits are optimized for vivarium, biosafety, and pharmaceutical applications
- Seam-welded fixture housing and doorframe are designed for infection controlled environments
- Optional MIL-STD-461G for environments requiring conducted emission mitigation
- NSF approved closed cell foam gasketing meets all required testing criteria for ISO 5, Class 100 certification
- Optimized for hospitals, medical facilities and containment sensitive manufacturing facilities that utilize 15/16″ and 1-1/2″ face T-bars
- Made Right Here® in the USA

SPECIFICATIONS

- HOUSING – 20-gauge die-formed, seam-welded C.R.S. Aluminum 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 – Choice of frosted acrylic 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. 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). Available with red LEDs only, or red and white LEDs. Dedicated driver for each color included to allow dimming of the two circuits individually.
- 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. [1]
  - IP65 rated
  - ISO 5, Class 100 rated
  - 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)
  - Complies with the Buy American Act and other federal regulations. Request certification at hew.com/baa.
- WARRANTY – 5-year limited fixture warranty, see hew.com/warranty.

ORDERING EXAMPLE: MCTG - 24 - L28/RED/L74/835 - CS - SAF12125 - OPTIONS - DRV - UNV

ORDERING INFO

SERIES	CEILING TYPE	WIDTH	LENGTH	LUMENS [2]		CRI [3]	CCT
MCT	G 15/16″ or 1-1/2″ grid	1 1′	2 2′ [5]	**1x4**		8 80	30 3000K
	F Flange [4]	2 2′	4 4′	L6/RED	600lm red only	9 90 [6]	35 3500K
				L12/RED	1,200lm red only		40 4000K
				L12/RED/L45	1,200lm red/4,500lm white		50 5000K
				2x2			
				L11/RED	1,100lm red only		
				L18/RED	1,800lm red only		
				L6/RED/L68	600lm red/6,800lm white		
				L12/RED/L36	1,200lm red/3,600lm white		
				2x4			
				L24/RED	2,400lm red only		
				L38/RED	3,800lm red only		
				L14/RED/L134	1,400lm red/13,400lm white		
				L28/RED/L74	2,800lm red/7,400lm white		

HOUSING	DOOR FRAME	SHIELDING	
CS 20-gauge C.R.S.	S Flat white steel	AF12125	Pattern #12, .125″ thick with acrylic underlay
AL Flat white aluminum	F Flat white aluminum	AF125	.125″ thick with acrylic underlay
		AF19156	Pattern #19, .156″ thick with acrylic underlay
		AF12125/PC	Pattern #12, .125″ thick with polycarbonate
		AF125/PC	.125″ thick with polycarbonate
		AF19156/PC	Pattern #19, .156″ thick with polycarbonate

OPTIONS

EM/10W	10-watt emergency battery [7]	
EM/10WLP	Low-profile 10-watt emergency battery [8]	
EQCLIPS	Earthquake clips [9]	
MIL	Complies with MIL-STD-461G specifications	
TG	Triple gasket [10]	
NSWH	Fixture provided without seam-welded housing [11]	
TP	Tamper resistant stainless steel, Torx T-25 screws [12]	
2C	Two circuit wiring [13]	

CONTROL

DRV	Driver prewired for non-dimming applications
DIM	Dimming driver prewired for 0-10V low voltage applications

VOLTAGE

UNV	120-277V
347	347V [14]

ACCESSORIES

TPTX-25 TOOL	Tamper-resistant tool for Torx T-25 screws. [15]

NOTES

1. Only available with 1x4: L6/RED, 2x2: L11/RED, L6/RED/L68, 2x4: L24/RED, L14/RED/L134.
2. Lumen output based on 80 CRI/3500K CCT. Actual performance may vary +/-5%. See page 2 for FIXTURE PERFORMANCE DATA.
3. Specify for fixtures with white LEDs only.
4. See page 3 for CROSS SECTIONS.
5. 2′ width only.
6. Extended lead times may apply. Consult factory for availability.
7. 120V-277V only; 2x2, 2x4 only, connected to white circuit if applicable.
8. 120V-277V only; 1x4 only, connected to white circuit if applicable.
9. G Ceiling Type only. 4 per fixture.
10. Field installed. See page 3 for GASKETING DETAILS.
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. Fixture is wired as two circuit by default when specified with the "red circuit" and does not require that the "2C" option be specified.
14. Not available with MIL or EM options.
15. Tamper-resistant tool must be ordered separately. Please specify quantity required per project.

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FIXTURE PERFORMANCE DATA

LED PACKAGE	AF12125 SHIELDING						AF125 SHIELDING			
	WATTAGE		DELIVERED LUMENS		EFFICACY (lm/W)		DELIVERED LUMENS		EFFICACY (lm/W)	
	RED	WHITE	RED	WHITE	RED	WHITE	RED	WHITE	RED	WHITE
RED/WHITE										
1x4 L12/RED/L45	30.5	39.1	1181	4546	39	116	1063	4091	35	105
2x2 L6/RED/L68	15.7	59.6	605	6859	39	115	544	6166	35	103
2x2 L12/RED/L36	30.3	33.3	1211	3677	40	110	1089	3306	36	99
2x4 L14/RED/L134	30.3	101.7	1375	13496	45	133	1236	12133	41	119
2x4 L28/RED/L74	59.0	62.4	2738	7459	46	120	2461	6706	42	107
RED ONLY										
1x4 L6/RED	14.0	–	603	–	43	–	542	–	38.7	–
1x4 L12/RED	30.3	–	1181	–	39	–	1062	–	35.0	–
2x2 L11/RED	25.6	–	1124	–	44	–	1010	–	39.4	–
2x2 L18/RED	44.6	–	1816	–	41	–	1633	–	36.6	–
2x4 L24/RED	51.4	–	2421	–	47	–	2176	–	42.3	–
2x4 L38/RED	87.8	–	3812	–	43	–	3427	–	39.0	–

MULTIPLIER TABLES

COLOR TEMPERATURE		
	CCT	CONVERSION FACTOR
80 CRI	2700K	0.97
	3000K	0.99
	3500K	1.00
	4000K	1.03
	5000K	1.06
90 CRI	2700K	0.80
	3000K	0.82
	3500K	0.83
	4000K	0.86
	5000K	0.89

- 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-L12/RED/L36/835-SAF12125 (Red Only) Total Luminaire Output: 1211 lumens; 30.3 Watts | Efficacy: 39.9 lm/W | 80 CRI; 3500K CCT
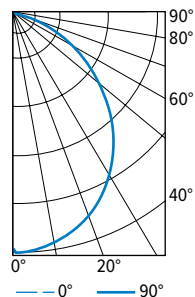
VERTICAL ANGLE	HORIZONTAL ANGLE			ZONAL LUMENS
	0°	45°	90°	
0	513	513	513	
5	519	507	507	48
15	495	485	486	137
25	447	439	441	203
35	379	372	375	234
45	294	290	291	224
55	203	200	201	180
65	119	118	120	118
75	51	51	55	56
85	7	8	9	11
90	0	0	0	

| ZONE	LUMENS	% FIXTURE
0 - 30	389	32
0 - 40	622	51
0 - 60	1026	85
0 - 90	1211	100
0 - 180	1211	100

MCTG-22-L12/RED/L36/835-SAF12125 (White Only) Total Luminaire Output: 3677 lumens; 33.3 Watts | Efficacy: 110.5 lm/W | 80 CRI; 3500K CCT
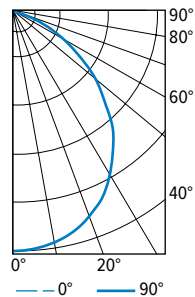
VERTICAL ANGLE	HORIZONTAL ANGLE			ZONAL LUMENS
	0°	45°	90°	
0	1635	1635	1635	
5	1631	1629	1626	155
15	1559	1565	1565	441
25	1415	1434	1433	659
35	1188	1218	1206	754
45	899	896	909	692
55	580	569	572	515
65	316	299	299	308
75	130	112	115	132
85	14	8	14	21
90	0	0	0	

ZONE	LUMENS	% FIXTURE
0 - 30	1255	34
0 - 40	2009	55
0 - 60	3215	88
0 - 90	3677	100
0 - 180	3677	100

MCTG-24-L28/RED/L74/835-SAF125 (Red Only) Total Luminaire Output: 2462 lumens; 59 Watts | Efficacy: 42 lm/W | 80 CRI; 3500K CCT
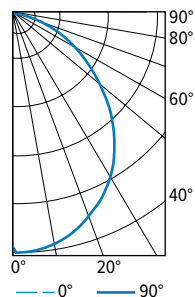
VERTICAL ANGLE	HORIZONTAL ANGLE			ZONAL LUMENS
	0°	45°	90°	
0	1070	1070	1070	
5	1077	1060	1058	101
15	1022	1008	1008	285
25	921	908	912	419
35	773	765	771	480
45	601	594	600	460
55	418	412	415	370
65	237	236	237	236
75	87	89	87	97
85	7	7	6	13
90	0	0	0	

ZONE	LUMENS	% FIXTURE
0 - 30	805	33
0 - 40	1285	52
0 - 60	2116	86
0 - 90	2462	100
0 - 180	2462	100

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MCTG-24-L28/RED/L74/835-SAF125 (White Only) Total Luminaire Output: 6706 lumens; 62.4 Watts | Efficacy: 107.5 lm/W | 80 CRI; 3500K CCT
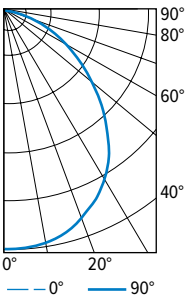
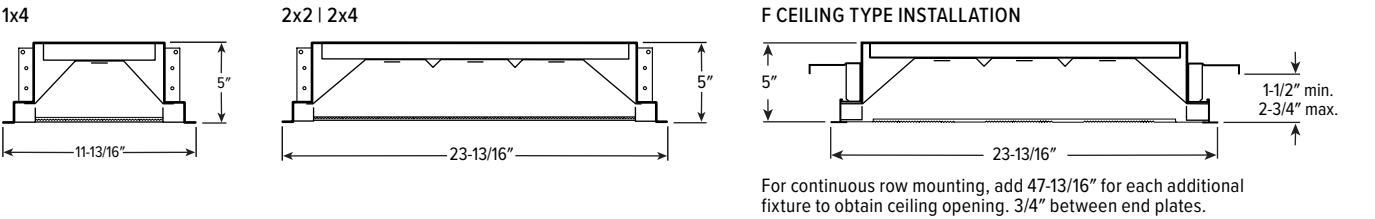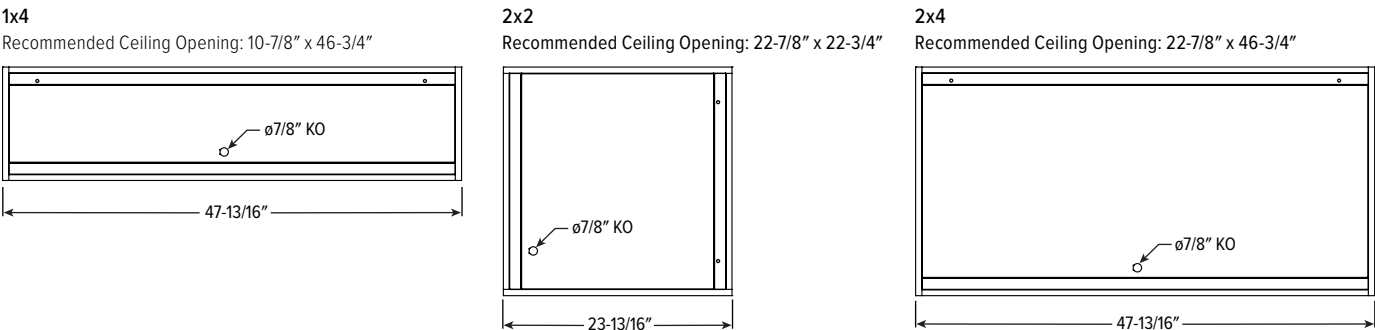| VERTICAL ANGLE	HORIZONTAL ANGLE			ZONAL LUMENS
	0°	45°	90°	
0	2900	2900	2900	
5	2911	2878	2869	274
15	2775	2742	2733	775
25	2509	2480	2469	1142
35	2130	2093	2065	1309
45	1662	1609	1591	1251
55	1154	1126	1091	1005
65	687	644	613	644
75	252	246	231	269
85	18	20	17	37
90	0	0	0	

CANDLEPOWER DISTRIBUTION

ZONE	LUMENS	% FIXTURE
0 - 30	2191	33
0 - 40	3500	52
0 - 60	5756	86
0 - 90	6706	100
0 - 180	6706	100

LUMEN SUMMARY

CROSS SECTIONS

1x4

5″ — 11-13/16″

2x2 | 2x4

5″ — 23-13/16″

F CEILING TYPE INSTALLATION

5″ — 23-13/16″ — 1-1/2″ min. 2-3/4″ max.

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

FIXTURE DETAILS

1x4
Recommended Ceiling Opening: 10-7/8″ x 46-3/4″

ø7/8″ KO — 47-13/16″

2x2
Recommended Ceiling Opening: 22-7/8″ x 22-3/4″

ø7/8″ KO — 23-13/16″

2x4
Recommended Ceiling Opening: 22-7/8″ x 46-3/4″

ø7/8″ KO — 47-13/16″

RED LED DETAILS

2x2: L6/RED/L68 | 2x4: L14/RED/L134

2x2: L12/RED/L36 | 2x4: L28/RED/L74

Red Only

GASKETING DETAILS

DOUBLE GASKETING (STANDARD)

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

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

TRIPLE GASKETING (TG OPTION)

T-bar

Third gasketing field installed between bottom perimeter of fixture and T-bar ceiling seals plenum dust from the room.

Drywall

Between bottom perimeter of fixture and hardpan ceiling.

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