

2' X 2'

2 Lamp 31U6

2 or 3 Lamp 31U1

2, 3, or 4 Lamp CFTT5, T5, T5HO, or T8

A premium quality surface modular for use in areas where vandalism is common

CONSTRUCTION/FINISH

- For surface or pendant mounting. 2 and 4 lamp 31U1 or straight lamp models require 2 stems for pendant mounting. 231U6 and 3 lamp models require 4 stems.
- 4" deep metal sided unit.
- Housing is multi-stage phosphate treated for maximum corrosion resistance and painted after fabrication with white polyester powder coating.
- K.O.'s provided in ends allow individual or continuous row mounting.

ELECTRICAL

- cULus listed for direct mounting on low density ceilings and damp locations.
- Self-contained fluorescent emergency power packs can be incorporated, listed for dry locations.

ENCLOSURES

- Door latches secured with 2 Torx head pin drive screws.
- Special screwdriver required, catalog # TPDTH sold separately.
- Vanguard high-impact extruded acrylic Gridless Octex; nominal thickness, 3/16", minimum weight 15 oz./sq. ft.
- Lens withstands impact of 70 ft. lbs. at 75° F, with the lens supported on all four edges.
- Painted after fabrication door frames feature mitered corners, T-hinges, and guide post spring-loaded latches.

CATALOG NUMBER

2				TFS	56		
WIDTH	NO. OF LAMPS		DOOR FRAME		VOLTAGE		OPTIONS
2 – 2'	(not included) 2 3 (except 31U6) 4 (14, 17, 24HO, or CF40 only)		TFS - Tamper Resistant Flat Steel		120 277 347 UNV - Universal Voltage, 120-277 volt		1/2 – One 2-lamp ballast 1/3 – One 3-lamp ballast 1/21 – 2-lamp & 1-lamp ballasts 2/2 – Two 2-lamp ballasts EB – Electronic ballast, <20% THD EB10I – T8/CF electronic ballast, instant start, <10% THD EB10R – Electronic ballast, program rapid start, <10% THD E1 – DEB-1 emerg. ballast, T8 or CF40, 350-450 lumens, 120/277V E1CAN – DEB-1 emerg. ballast, Canada market, T8 or CF40, 350-450 lumens, 120/347V E7 – DEB-7 emerg. ballast, CF or T8, 600-700 lumens E5 – DEB-5 emerg. ballast, US or Canada market, CF or T8, 1100-1400 lumens, 120/277V E5CAN – DEB-5 emerg. ballast, Canada market, CF or T8, 1100-1400 lumens, 120/347V E5ST – DEB-5ST emerg. ballast w/self test, CF or T8, 1100-1400 lumens E7LP – DEB-7LP emerg. ballast T8/T5/T5HO, 430-700 lumens E6LP – DEB-6LP emerg. ballast, US or Canada market, T8/T5/T5HO, 750-1325 lumens, 120/277V GLR# – Fusing, fast blow (# = number of ballasts) 1W – 1-way gasketing, between lens & door frame 2W – 2-way gasketing, 1W + gasketing between door frame & housing
FIXTURE FAMILY		LAMP TYPE/WATTAGE		LENS			
SMR – Surface Modular		14 – 14W T5 (22") 17 – 17W T8 (24") 24HO – 24W T5HO (22") 31U1 – 31W T8 1-5/8" (24") 31U6 – 31W T8 6" (24") CF40 – 40W T5 (24") CF50 – 50W T5 (24") CF55 – 55W T5 (24")		56 – 3/16" DR Acrylic Lens			

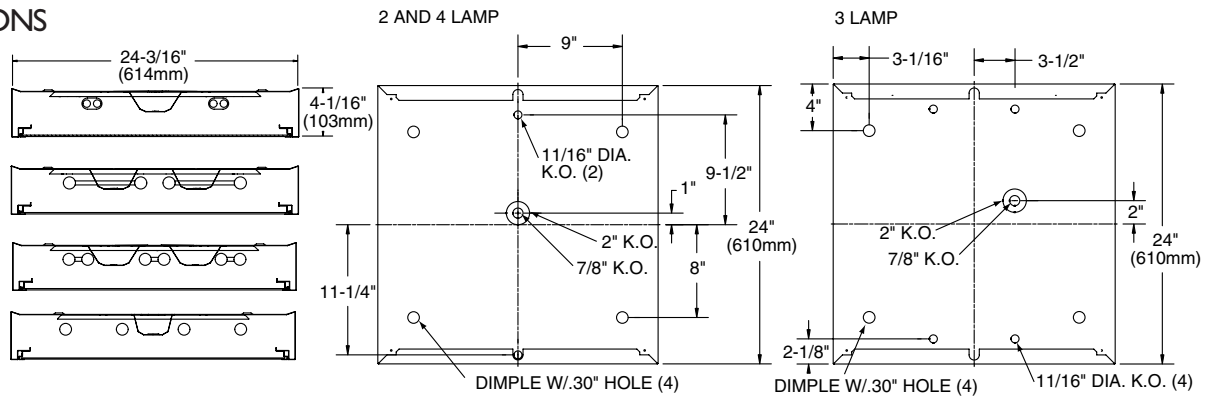


Some luminaires use fluorescent or high intensity discharge (HID) lamps that contain small amounts of mercury. Such lamps are labeled, "Contain Mercury" and/or the symbol "HG". Lamps that contain mercury must be disposed of in accordance with local requirements. Information regarding lamp recycling and disposal can be found at www.lamprecycle.org

See section 1600-OA for option information.
See page 950-SS for mounting hardware.

JOB INFORMATION

DIMENSIONS



PHOTOMETRIC DATA

CATALOG # 2SMR231U6-TFS01-1/2-EB LAMPS = FB031U6

INPUT WATTS = 56

LER = FL-62

TEST #25054 S/MH=1.3

BALLAST = ELECTRONIC BALLAST FACTOR = .88

TER = 55

FIXTURE EFFICIENCY= 70.0%

COMPARATIVE YEARLY LIGHTING ENERGY COST PER 1000 LUMENS = \$3.87 BASED ON 3000 HRS. AND \$.08 PER KWH.

CANDLEPOWER				
Angle	End	45	Cross	
0	1505	1505	1505	
5	1494	1499	1500	
10	1472	1484	1495	
15	1435	1462	1485	
20	1385	1429	1466	
25	1323	1383	1430	
30	1241	1315	1379	
35	1144	1232	1306	
40	1023	1121	1209	
45	886	985	1085	
50	729	819	914	
55	581	655	727	
60	449	491	536	
65	333	338	377	
70	242	225	265	
75	169	158	199	
80	113	116	147	
85	59	65	83	

MAINTAINED ILLUMINATION TABLE- Square Feet/
Fixture*

- 80-50-20 Reflectances (Ceiling-Wall-Floor)
- LLF = 0.76 2800 Lumens/Lamp very clean
- Room width divided by room height = 5 or more, 2 or 1

Fixture Size & # of Lamps	Room Width Room Height =	Approx. Area (sq. ft.) per Fixture				
		10 ft-c	30 ft-c	50 ft-c	70 ft-c	100 ft-c
2' X 2'	5	-	104	63	45	31
2-Lamp	2	-	73	44	31	-
31U6	1	-	54	32	-	-

*Observe Fixture S/MH Requirements for Specific Applications

AVERAGE LUMINANCE
CD/SQ.M
WITH 2800 LUMEN LAMPS

ANGLE	END	45°	CROSS
45	4352	4838	5330
55	3518	3966	4402
65	2737	2778	3098
75	2268	2120	2671
85	2351	2590	3308

TYPICAL V.C.P.'s

Room Size	Mounting Height			
	Lengthwise	Crosswise	Lengthwise	Crosswise
8.5	10	8.5	10	
30x30	50	54	47	52
40x40	47	50	44	47
60x30	52	56	51	55
60x60	44	46	40	43
100x100	42	43	38	39

COEFFICIENT OF UTILIZATION

pfc pcc pw	20				70				50			
	80	30	70	50	30	70	50	30	50	30	70	50
RCR	0	82	82	82	81	81	81	78	78	78	78	78
	1	77	73	70	75	71	68	68	67	67	67	67
	2	69	65	59	68	63	58	60	57	57	57	57
	3	64	56	52	63	56	51	54	50	50	50	50
	4	58	51	45	57	50	45	47	44	44	44	44
	5	55	46	40	53	45	39	44	39	39	39	39
	6	50	40	34	48	40	34	40	34	34	34	34
	7	46	38	32	46	36	30	35	30	30	30	30
	8	44	34	28	42	34	28	33	28	28	28	28
	9	40	32	26	40	30	26	29	26	26	26	26
	10	38	28	23	36	28	23	28	23	23	23	23

LIGHT DISTRIBUTION

DEGREES	LUMENS	% LAMP	% FIXTURE
0-30	1193	21.3	30.4
0-40	1963	35.0	50.0
0-60	3307	59.0	84.3
0-90	3922	70.0	100.0

LLF = .76 LLF = LIGHT LOSS FACTOR LLF = LDD X LLD X BF LDD = VERY CLEAN 0.94 CLEAN 0.90
 LLD = 0.92 @ 40% RATED LAMP LIFE BF = .88 ELECTRONIC BALLAST & 31U6 LAMP (RELAMP AT 70% LAMP LIFE)

PHOTOMETRIC DATA

CATALOG # 2SMR331U1-TFS01-1/3-EB LAMPS = FB031U1

INPUT WATTS = 95

LER = FL-52

TEST #25056 S/MH=1.3

BALLAST = ELECTRONIC BALLAST FACTOR = .88

TER = 46

FIXTURE EFFICIENCY= 66.7%

COMPARATIVE YEARLY LIGHTING ENERGY COST PER 1000 LUMENS = \$4.62 BASED ON 3000 HRS. AND \$.08 PER KWH.

CANDLEPOWER				
Angle	End	45	Cross	
0	2207	2207	2207	
5	2196	2196	2206	
10	2163	2175	2199	
15	2111	2142	2173	
20	2035	2087	2137	
25	1939	2014	2079	
30	1816	1916	1994	
35	1668	1787	1885	
40	1480	1621	1736	
45	1276	1409	1531	
50	1038	1167	1269	
55	820	929	986	
60	632	680	724	
65	471	469	507	
70	342	312	361	
75	240	222	275	
80	162	163	204	
85	85	91	113	

MAINTAINED ILLUMINATION TABLE- Square Feet/
Fixture*

- 80-50-20 Reflectances (Ceiling-Wall-Floor)
- LLF = 0.76 2800 Lumens/Lamp very clean
- Room width divided by room height = 5 or more, 2 or 1

Fixture Size & # of Lamps	Room Width Room Height =	Approx. Area (sq. ft.) per Fixture				
		10 ft-c	30 ft-c	50 ft-c	70 ft-c	100 ft-c
2' X 2'	5	-	149	90	64	45
3-Lamp	2	-	104	63	45	31
31U1	1	-	77	46	33	-

*Observe Fixture S/MH Requirements for Specific Applications

AVERAGE LUMINANCE
CD/SQ.M
WITH 2800 LUMEN LAMPS

ANGLE	END	45°	CROSS
45	6268	6921	7520
55	4966	5626	5971
65	3871	3855	4167
75	3221	2979	3691
85	3387	3627	4503

TYPICAL V.C.P.'s

Room Size	Mounting Height			
	Lengthwise	Crosswise	Lengthwise	Crosswise
8.5	10	8.5	10	
30x30	41	45	39	44
40x40	39	42	36	39
60x30	44	48	43	47
60x60	36	38	33	35
100x100	34	35	31	32

COEFFICIENT OF UTILIZATION

pfc pcc pw	20				70				50			
	80	30	70	50	30	70	50	30	50	30	70	50
RCR	0	79	79	79	78	78	78	73	73	73	73	73
	1	72	69	67	70	68	66	66	64	64	64	64
	2	67	61	57	65	60	56	57	55	55	55	55
	3	60	55	50	59	54	48	52	47	47	47	47
	4	56	48	42	55	47	42	46	41	41	41	41
	5	52	44	38	51	42	38	41	36	36	36	36
	6	47	40	34	46	39	34	38	33	33	33	33
	7	45	35	30	44	35	29	34	29	29	29	29
	8	41	33	28	40	33	27	32	27	27	27	27
	9	39	29	25	38	29	25	28	25	25	25	25
	10	36	28	23	35	28	23	27	23	23	23	23

LIGHT DISTRIBUTION

DEGREES	LUMENS	% LAMP	% FIXTURE
0-30	1740	20.7	31.0
0-40	2854	34.0	50.9
0-60	4752	56.6	84.8
0-90	5605	66.7	100.0

LLF = .76 LLF = LIGHT LOSS FACTOR LLF = LDD X LLD X BF LDD = VERY CLEAN 0.94 CLEAN 0.90
 LLD = 0.92 @ 40% RATED LAMP LIFE BF = .88 ELECTRONIC BALLAST & 31U1 LAMP (RELAMP AT 70% LAMP LIFE)



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