



HARAM-LED

Healthcare Surgical **LED** Asymmetrical / Symmetrical Grid / Flange 1 to 1.5 in. T Grid

PRODUCT SPECIFICATION

The HARAM series is designed for dust-free operation in surgical suites where maximum illumination is required in the operating zone.

Mounting

Suitable for installation in recessed 1"–1.5" T-Grid or hard ceiling applications. Hard ceiling (flange) type mounts via swing arm brackets that extend and clamp with a single screw action. Swing arm bracket also serves as connection for earthquake cables.

Housing

18 gauge cold rolled steel die-formed to shape with seams welded, ground smooth, and caulked airtight. Aluminum and 304 stainless steel available.

Door

One-piece 18 gauge cold rolled steel, gasketed and sealed overlapping door. Freedom Hinge™ design permits removal and hinging from either side. Aluminum and 304 stainless steel available.

Optical System

Precisely engineered V-Shaped reflector provides *perfect asymmetrical/symmetrical distribution.*

Lens

Optic Plus lens (standard) completely hides diode image while providing greater than 90% light transmission.

Finish

Antimicrobial white powder-coat applied after phosphate pretreatment for superior adhesion and corrosion resistance. Brushed stainless steel door available.

Hardware

Stainless steel fasteners.

Driver

Tested and Certified MIL461 driver.

Certifications

UL Listed wet location and IP65 rated. Suitable for use in ISO-3 cleanrooms (209E Class 1). Certified to MIL-STD-461F: CE101, CE102, CS101, CS106, CS114, CS116, RE101, RE102, RS101, RS103, MIL-STD-1399-300B: 5.3.1 through 5.3.9.

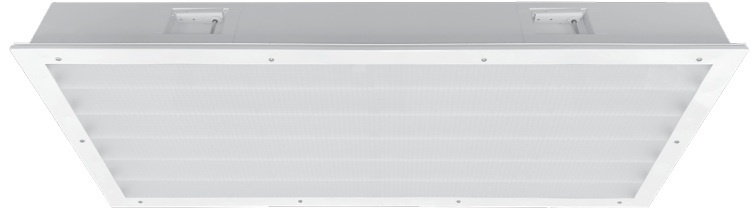


Job Name _____

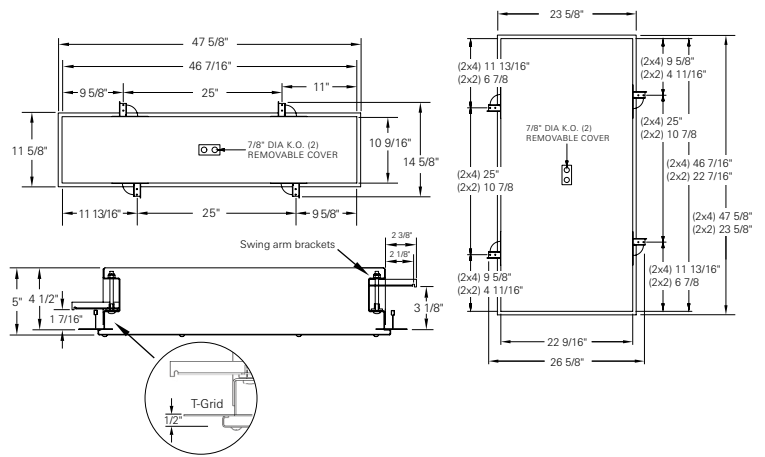
Fixture Type _____

Catalog No. _____

Approval _____ Date _____



Ceiling Grid / Flange Design



	one	two	three	four	five	six	seven	eight	nine	ten	eleven	
HARAM	-		/		-			MIL	122	/	-	
one Luminaire Size	14	1 x 4 - two rows			five Door Material	A	Aluminum		nine Internal Lens	122	Optic Plus diffusing acrylic lens, <u>standard</u>	
	22	2 x 2 - six rows				C	Cold rolled steel, <u>standard</u>		130	.125 in. LED diffusing Lexan		
	24	2 x 4 - six rows				S	Stainless steel		ten External Lens	00	No external lens	
two LED Source					six Door Finish	R	304 Brushed (Stainless steel only)		33	.125 in. clear polycarbonate lens		
						W	White		eleven Options	CU	Canadian UL Listing	
three Color Temperature	35	3500K			seven Voltage	120	120 V, 60 Hz		CP	CCEA Chicago		
	40	4000K				277	277 V, 60 Hz		EM	Emergency ballast		
	50	5000K			eight Driver				FH	Fuse and holder		
four CRI	80	Min 80 CRI			MIL	MIL461 Tested and Certified					Housing Material	
	90	Min 90 CRI				<i>Refer to HRA Series for dimming applications</i>					AH	Aluminum
											SH	Stainless steel

View LCDoane-HRA-LED-Luminaire.pdf

Modifications are available to meet custom requirements. Specifications and dimensions are subject to change without notice.

LED Life
>100,000

LED Source (Box 2)	4000K 80 CRI		4000K 90 CRI		5000K 80 CRI		5000K 90 CRI		Input Watts
	Delivered Lumens	L/W	Delivered Lumens	L/W	Delivered Lumens	L/W	Delivered Lumens	L/W	
1' x 4' Fixture									
2W46	4513	146	3739	121	4642	150	3868	125	31
2W90	8823	138	7311	114	9075	142	7563	118	64
2' x 2' Fixture									
6W47	4585	150	3799	125	4716	155	3930	129	31
6W91	8940	143	7408	119	9196	148	7663	123	62
6W136	13235	139	10966	115	13613	143	11344	119	95
2' x 4' Fixture									
6W94	9169	150	7597	125	9431	155	7859	129	61
6W139	13539	146	11218	121	13926	150	11605	125	93
6W183	17880	143	14815	119	18391	148	15326	123	125
6W272	26470	139	21932	115	27226	143	22688	119	191

Photometric Data with 122 lens

33 lens multiplier	.86
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MIL461 LED Driver

The L.C. Doane MIL461 driver is tested and certified to MIL461-F, but is compliant to 461G and all RE, RS, CE, and CS test protocol

- The tests encompass Radiated Emissions, Radiated Susceptibility, Conducted Emissions and Conducted Susceptibility
- L.C. Doane's MIL461F compliant drivers are tested by a recognized, independent 3rd party lab.

MIL461 driver:

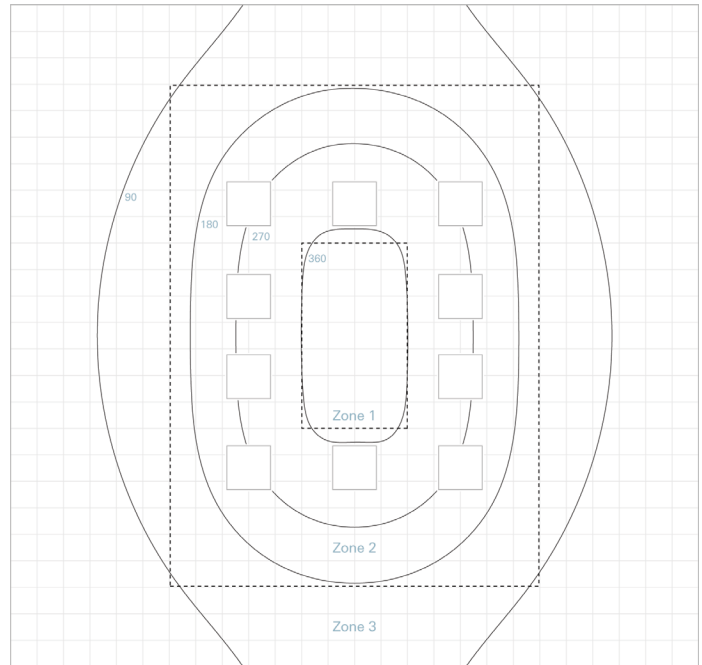
- Use multiple driver/circuits to achieve light levels
- This solution assures the end user that ALL MIL461 requirements are met
- No RF Grid lens or RF Filtering required as the MIL461 is accomplished at the driver level

MIL-461 Certifications

- | | |
|--|--|
| <ul style="list-style-type: none"> • CE101 • CE102 • CS101 • CS106 • CS114 • CS116 | <ul style="list-style-type: none"> • RE101 • RE102 • RS101 • RS103 • MIL-STD-1399-300B: 5.3.1-5.3.9 |
|--|--|

Zone Values

37	46	60	80	103	121	128	122	104	81	60	46	37		
44	55	78	112	144	172	191	198	192	173	144	112	78	55	43
50	67	99	143	190	233	259	268	260	233	191	143	99	66	50
56	76	118	172	235	288	322	334	323	288	233	172	117	76	56
60	83	128	192	260	322	359	371	359	321	260	192	128	82	60
62	86	133	204	275	326	370	379	370	355	275	204	133	86	62
62	86	133	208	278	337	366	375	368	336	279	209	133	86	62
60	82	128	210	280	355	366	371	366	335	280	210	133	86	62
56	76	118	209	279	336	368	375	366	337	278	208	133	83	60
50	66	99	204	275	334	370	379	370	336	275	204	133	83	60
43	55	78	192	260	321	359	371	360	322	260	192	118	76	56
37	46	60	172	235	288	323	334	322	288	233	172	99	67	50
37	46	60	143	191	233	260	268	259	233	190	143	99	67	50
37	46	60	112	144	173	192	198	191	172	144	112	78	55	44
37	46	60	81	104	122	128	121	103	81	60	46	37		



luminaire	Zone 1		Zone 2		Zone 3	
	(10) HRA	average	371 fc	average	244 fc	average
max		379 fc	max	371 fc	max	133 fc
min		366 fc	min	112 fc	min	37 fc
average / min		1.01	average / min	2.18	average / min	2.14
max / min		1.03	max / min	3.31	max / min	3.59