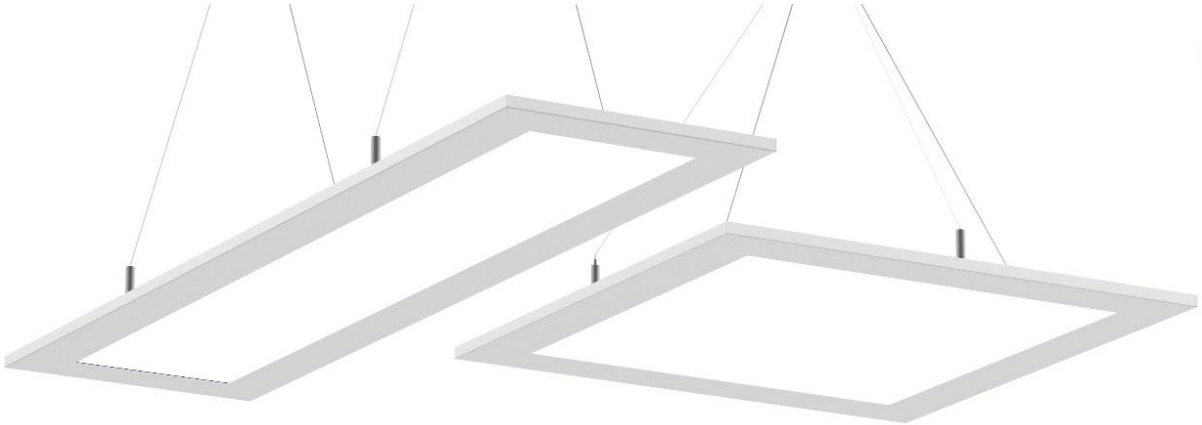
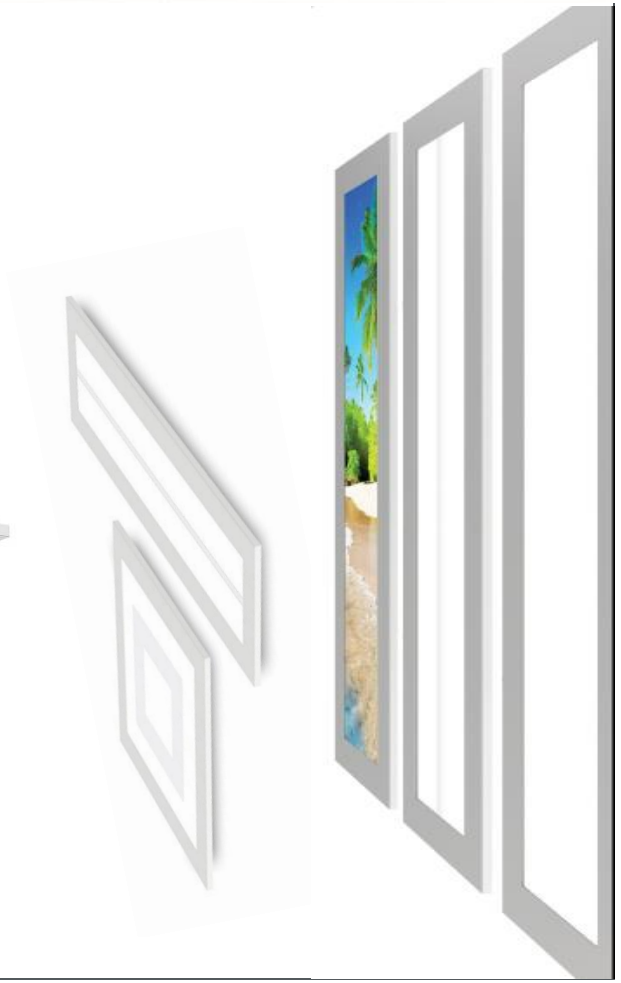
SCENE

LED SCE & SCEM SERIES

Pendant, Recessed & Surface Luminaires





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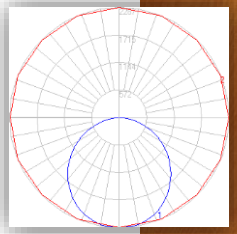
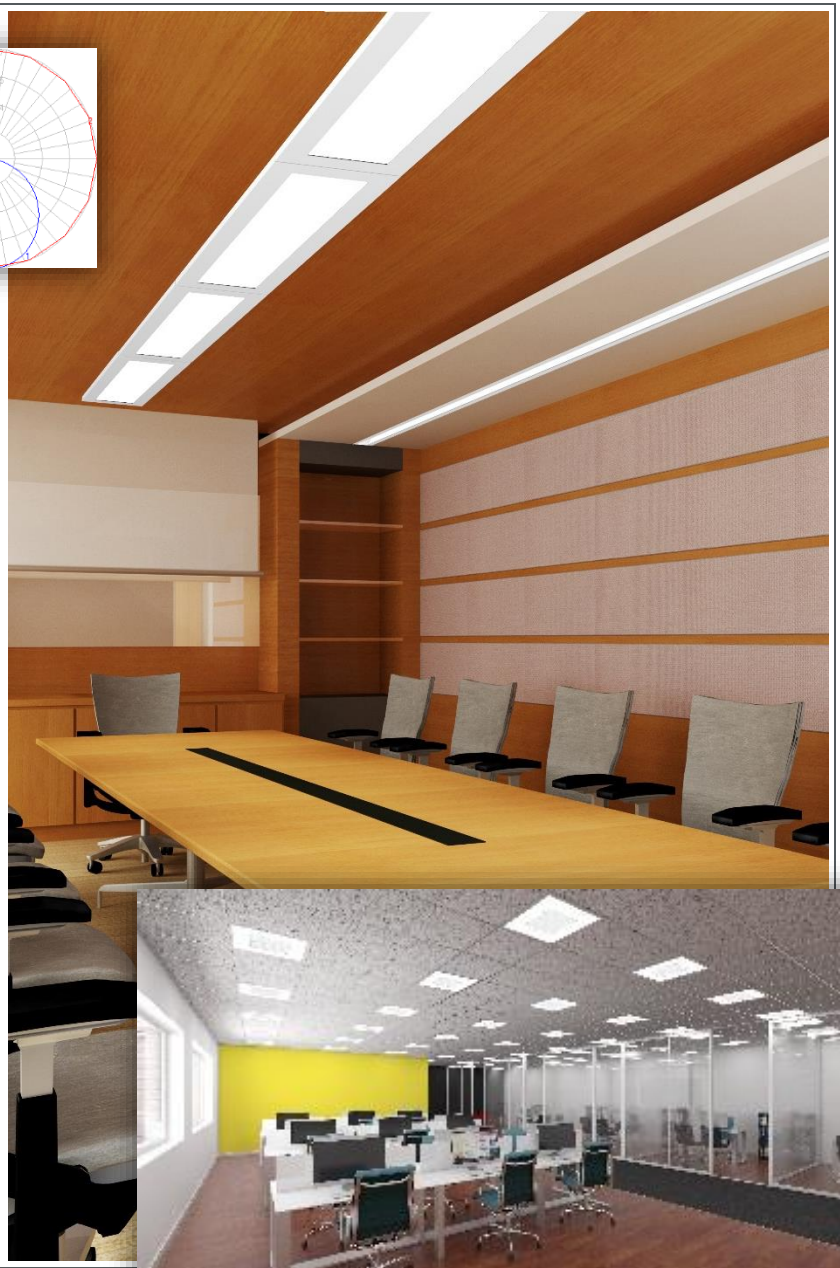
SCE & SCEM

LED Recessed, Pendant, Surface





- AccuRay® Optics enabled
- Pendant, recessed and surface mounting
- No Glare & optimal uniformity
- Round distribution pattern
- Quick disconnect wiring for easy maintenance.
- Narrow profile for tight plenum space.
- 3 Macadam Ellipses binning.
- 100% concealed source
- Controls compatible with 0-10V dimming, Lurton, and DALI
- 3000k, 3500K, 4000K & 5000K CCT & Tunable White option
- Efficacy up to 97 LPW
- 24 standard light levels with different lens patterns aside from dimming
- Staggered & Continuous row mounting standard
- LM79 & LM80 compliant
- L90 ≥ 60,000h by IESNA TM-21
- UL/CSA
- Suitable for dry locations only
- DLC pending testing

Metalumen

SCEM – MEDICAL MRI COMPLIANT

NON-FERROUS COMPONENTS
Fixtures are carefully engineered with non-ferrous materials. Housings are made from aluminum extrusion, internal parts are built from aluminum or plastics, and all hardware are stainless steel.

MAGNETIC TESTING
Prior to shipment, all assembled luminaires are tested for trace magnetic properties with a hand-held bar magnet to ensure no ferrous materials exist.

REMOTE MOUNTING
All MRI compliant luminaires are to be remote mounted due to steel construction of the LED driver. The electricity going from the driver to the fixture is Direct Current (DC) which further reduces the chance of interference.

ELECTRONIC NON-INTERFERENCE
All fixtures should not interfere with, nor should they be susceptible to, MRI frequencies. An RF filter can be utilized to eliminate interference as an option.

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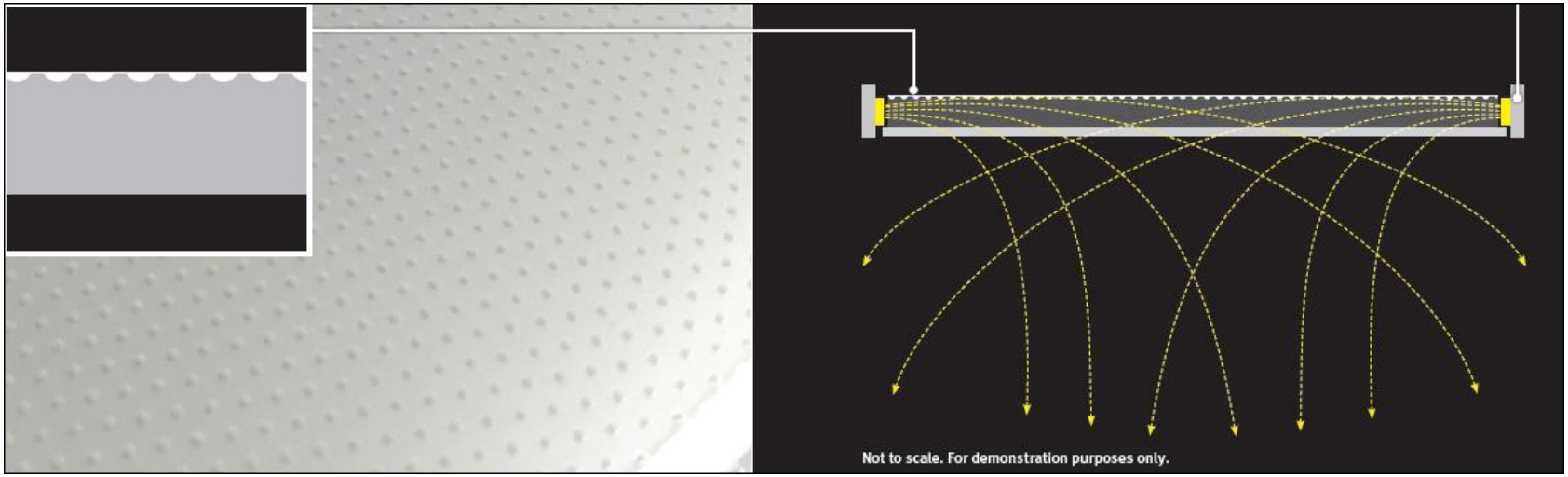
AccuRay® Optic LED

The light emitted from the MetaLED mid-flux LEDs is channeled inside Metalumen's AccuRay® optical plane where a precisely controlled micro dot matrix pattern directs, shapes and distributes the light throughout the material. A high performance optical reflector and diffuser further guide and extract the light with superb efficiency and beam control



- Eliminates Glare
- Maximum uniformity and extremely high vertical cutoff.
- Wide distribution for shortest suspension lengths.
- Designed around the LED engine with precise LED coupling mechanics causing minimal light loss.
- Maximum beam controls right at the source.
- Efficacy improves dramatically.

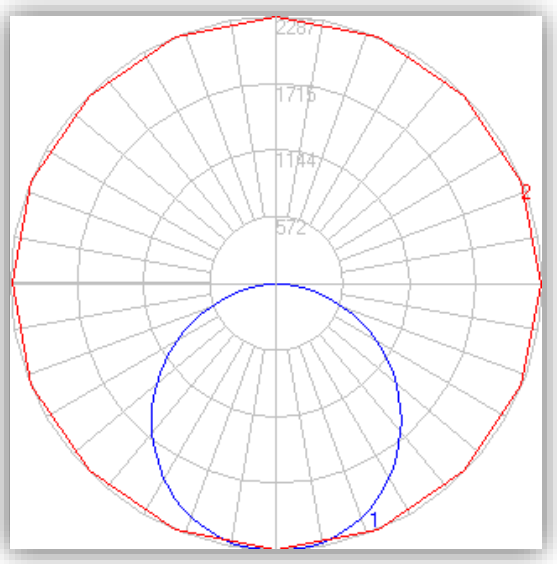
Metalumen

SCENE Photometry

SCENE

LED Pendant, Recessed & Surface

Model	Light Level	Output (Lumens)	Wattage	Efficacy (L/W)
1X4 (SD lens)	L3	2037	21	97
	L4	4068	48	85
	L5	5814	73	80
	L6	6522	85	77
2X2 (SD lens)	L4	2227	24	94
	L5	3185	37	87
	L6	3581	43	84
	L7	4090	51	80



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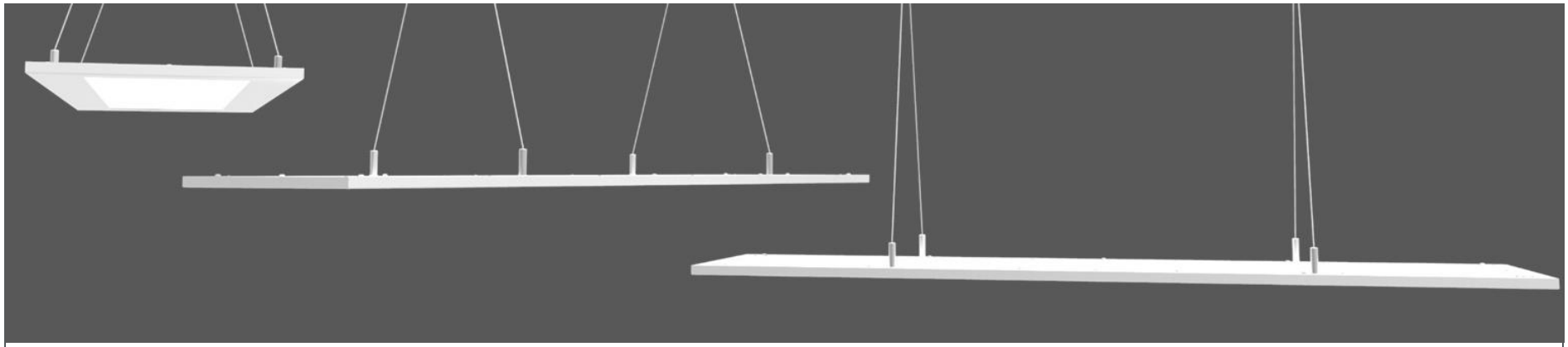
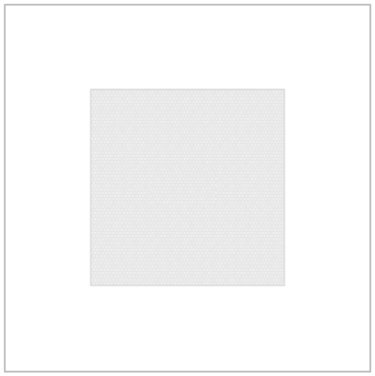
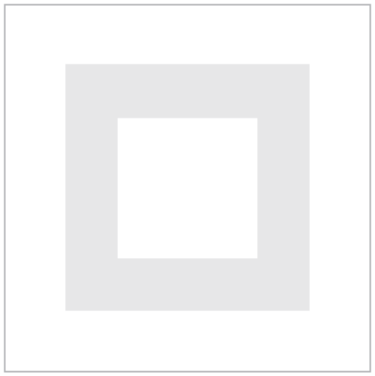
Elegance in Design



Standard optics

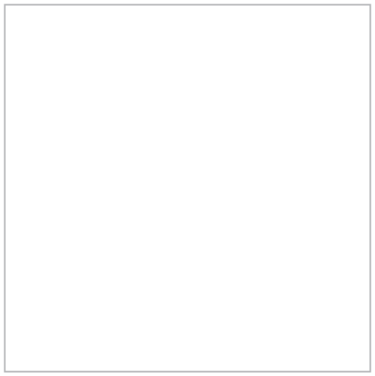


PQ - Perforated Square

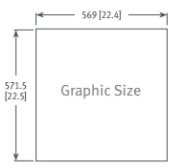


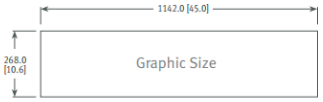
QQ - Square in Square

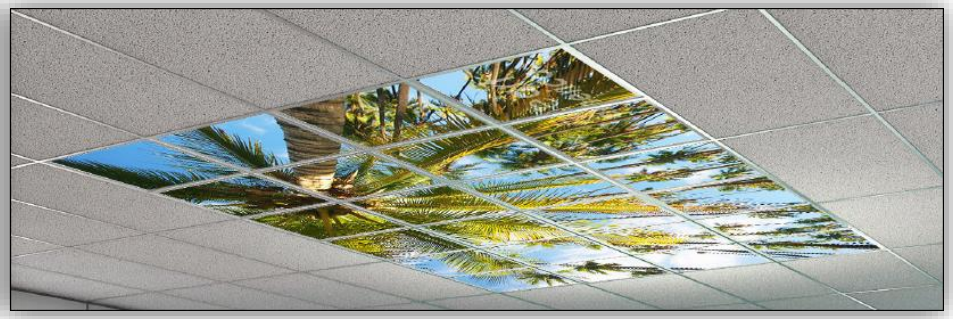
CC - Circle In Circle



SD - Standard Diffuse







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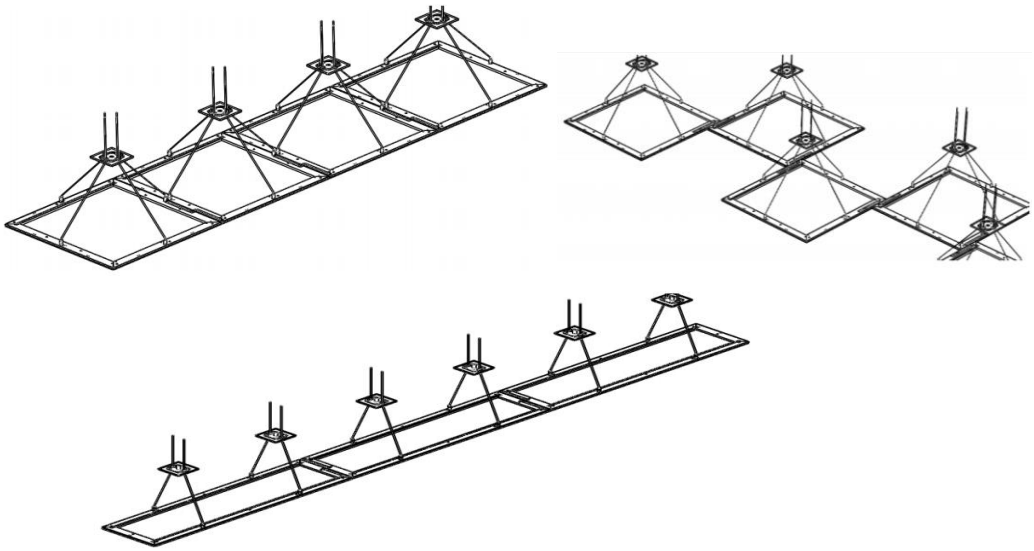
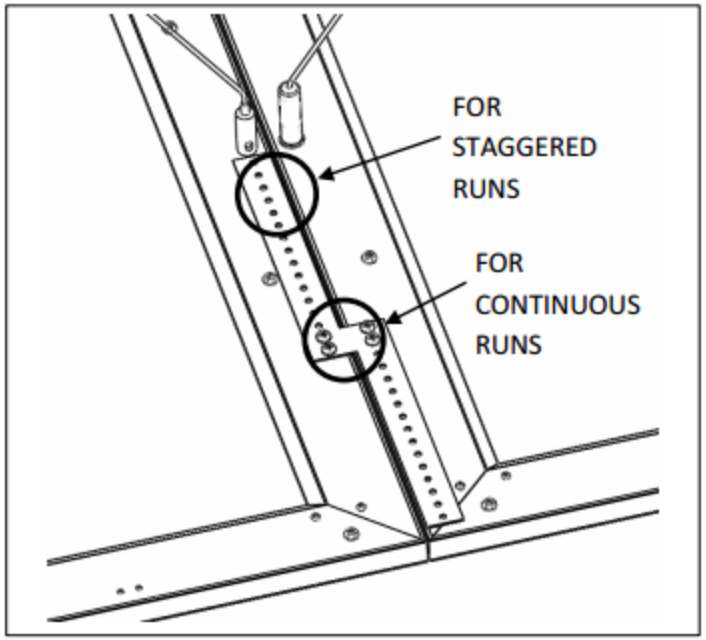
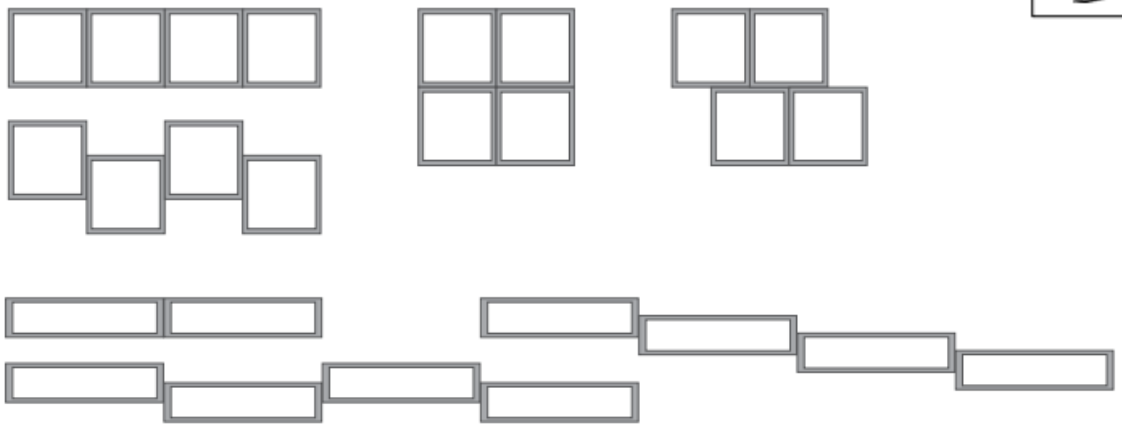
Staggered & Continuous runs







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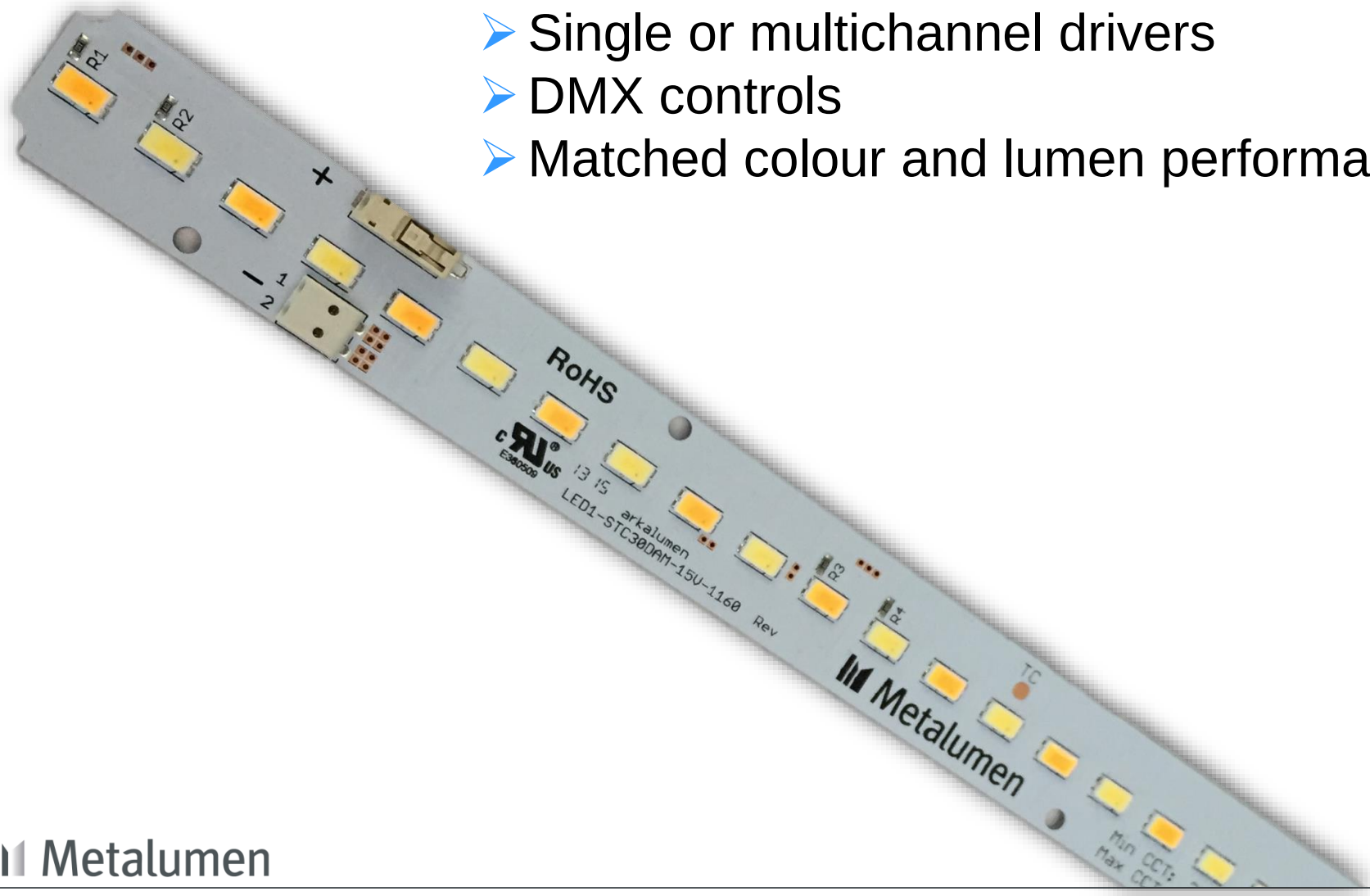
Flexibility of Metalumen 2-white tunable board

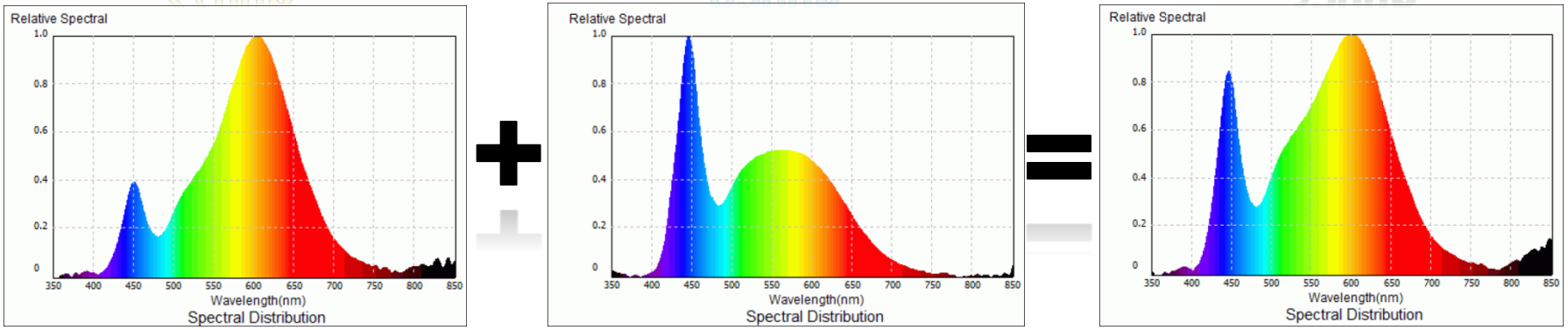
- Specifier chooses driver and controls
- LED chips operates independently
- Single or multichannel drivers
- DMX controls
- Matched colour and lumen performance



Metalumen

Accuracy of 2-white LED array Approach

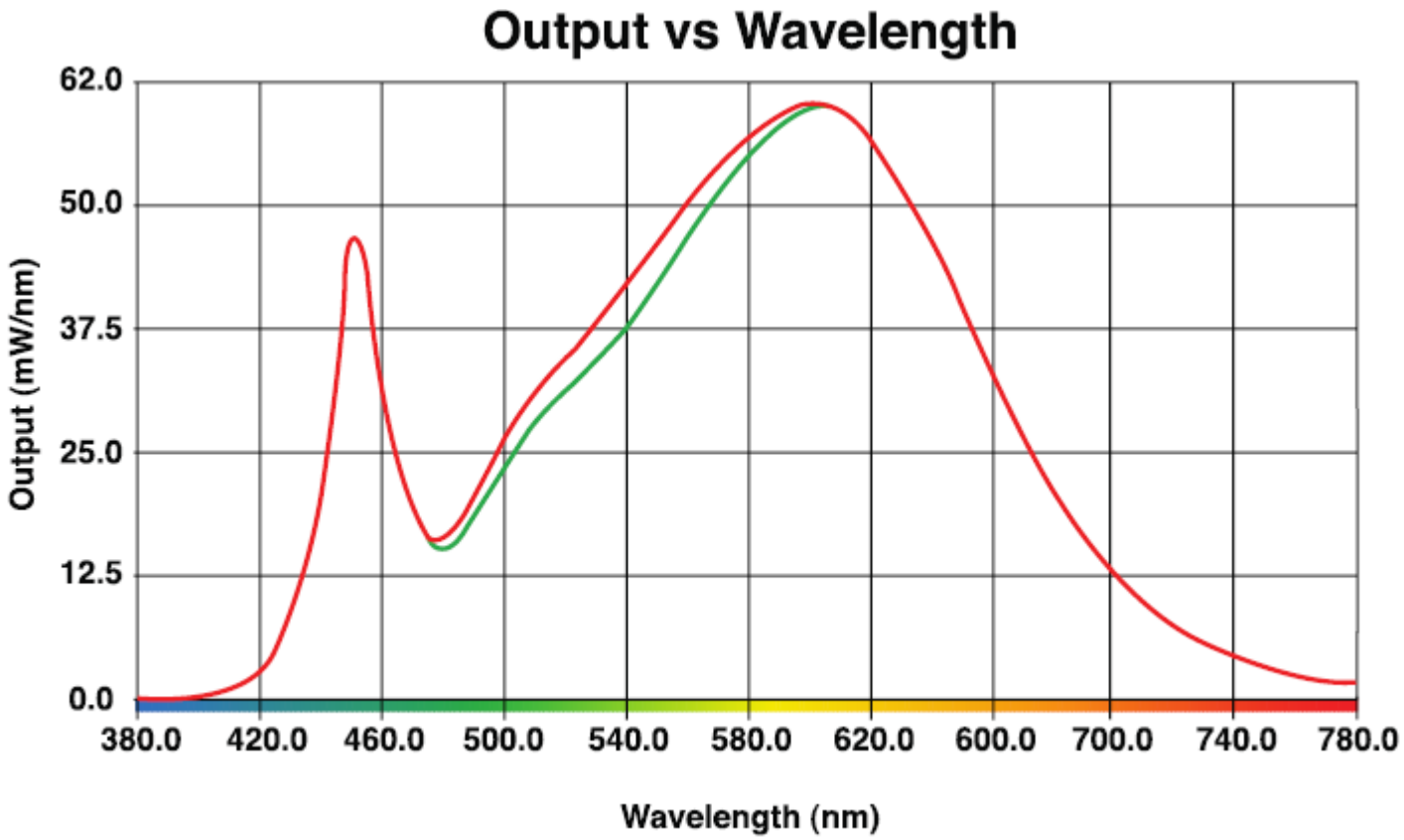
2700K + 6500K = 3500K



Tuning 2-white engine: 2700K + 6500K = 3500K

CCT (K)	TC [°C]	Lumens (Per LED board)	Relative Lumens
2700	34	1995	92%
3000	34	1979	91%
3500	33	2176	100%
4000	33	2237	103%
4500	32	2209	102%
5000	33	2207	101%
5500	33	2249	103%
6000	33	2236	103%
6500	33	2204	101%

Accuracy of 2-white



Type	CCT
Tunable	3500K
Fixed	3500K

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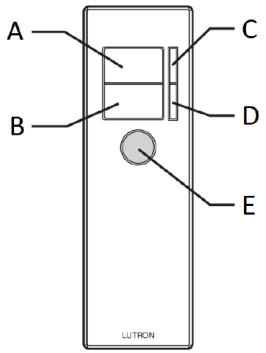
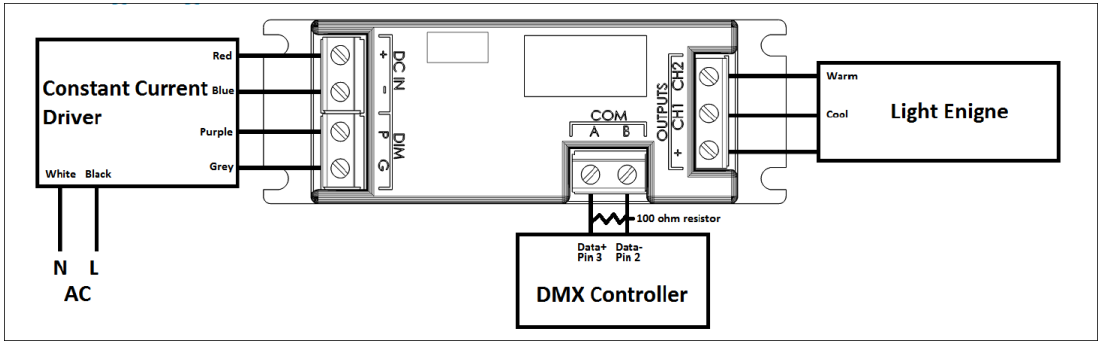
2-White Tunable Controls

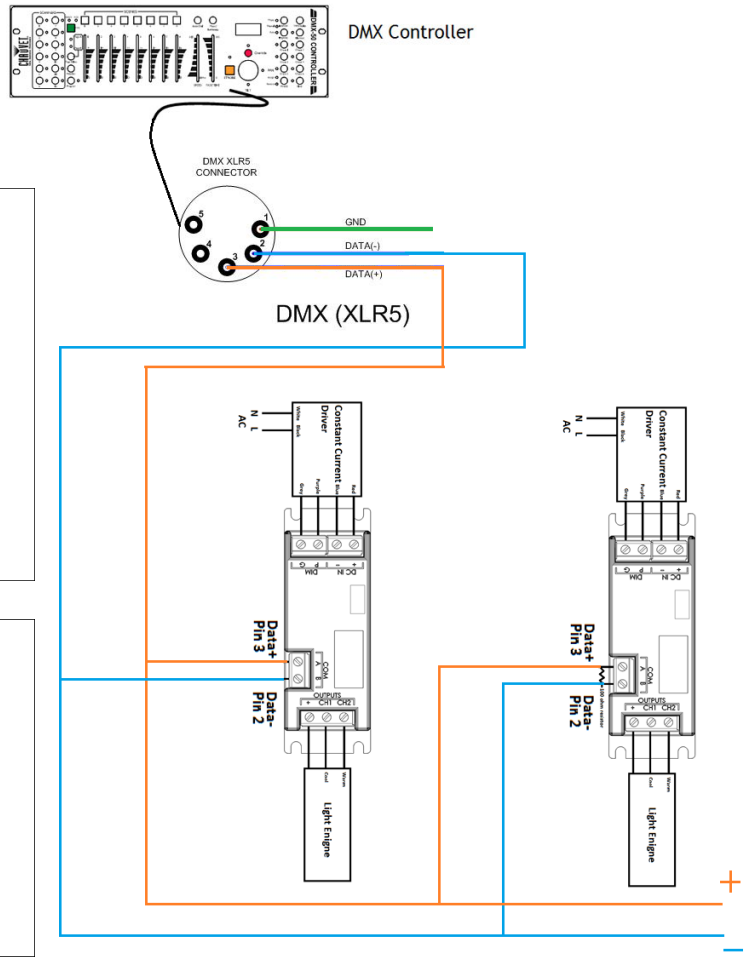
- Tunable white option from 2700K-6500K
- Tunable white with controls via DMX controls
- Remote 0-10V dimming Driver standard
- Max Current Output of 2A & 120W per channel

Interface Controls

	DMX	IR Remote
		A – Increase
CCT	Channel 10	B – Decrease
		C – Increase
Intensity	Channel 9	D – Decrease
ON/OFF	Channel 9 at 0 position – OFF	E







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2-White Tunable Controls

2-White Tunable Model by Metalumen

DMX

- DMX wired communication via COM ports with up to 512 addresses
- Extended portion to be mounted external to fixture for in-field addressability

0-10V Dim disabled with DMX enabled

OPTION CODES	In-Field Addressable	Max Output Channels	Control over Driver Dim	CCT Channel Mix	0-10V Dim	Daylight Harvest	IR Control	DMX	Zigbee	Bluetooth	LED COMM
X	●	2	●	●	○	●	●	●			●

○ = 0-10V dim available only directly through constant current driver for DMX module

*Note: the "X" option by Metalumen only includes a Module controller to communicate with any DMX systems or 0-10V dimmer by others

2-white Tunable Control Options (By Others):

- Standard 512 channel DMX system by Lutron, Fulham, or equivalent (requires complete DMX system including driver/dimmer, etc…).
- Standard (off the shelf) wired or wireless 3 or more channel LED controller. (24V, V+, ch1-, ch2-, …) must be compatible with constant current driver

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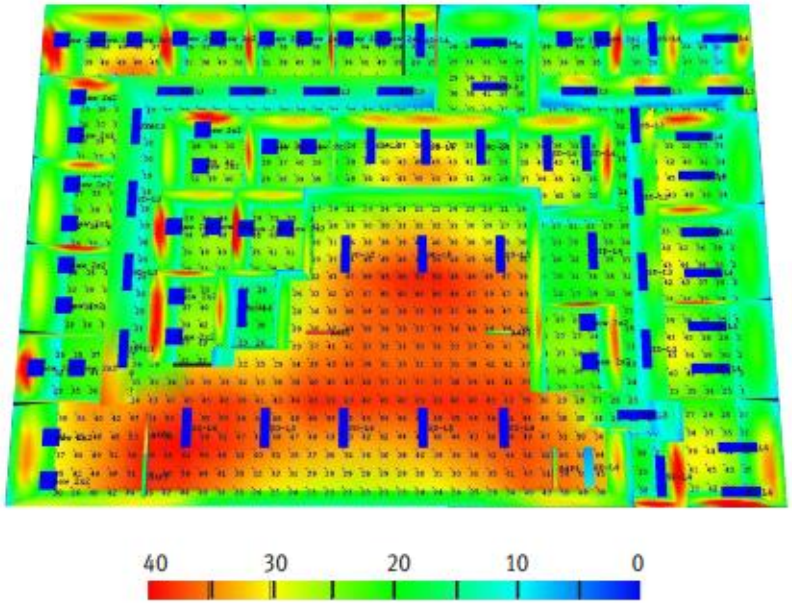
Medical Centre Calculation

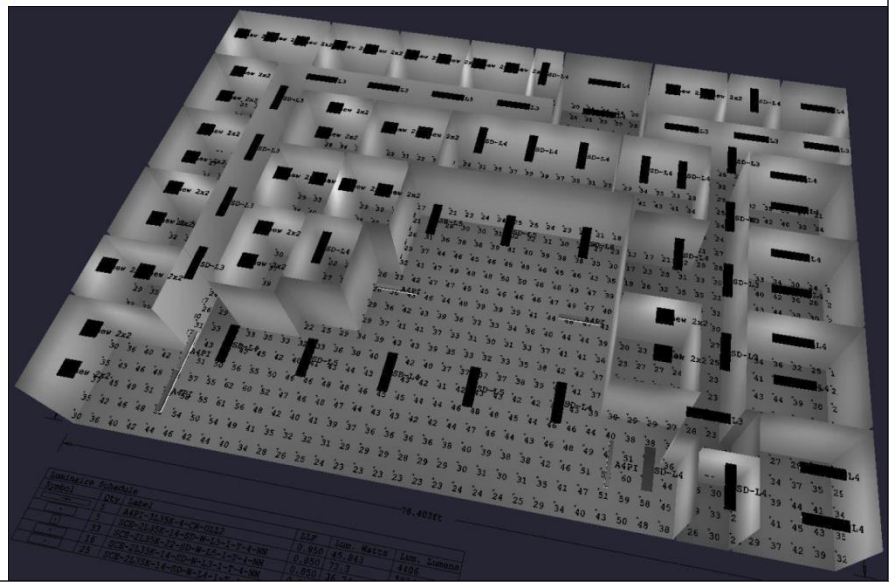
MEDICAL CENTRE CALCULATION



Luminaire Schedule					
Symbol	Qty	Label	LLF	Lum. Watts	Lum. Lumens
	5	SCE-2L35K-14-SD-W-L5-1-T-4-NN	0.850	73.3	5814
	33	SCE-2L35K-22-SD-W-L5-1-T-4-NN	0.850	36.74	3185
	16	SCE-2L35K-14-SD-W-L3-1-T-4-NN	0.850	21	2037
	25	SCE-2L35K-14-SD-W-L4-1-T-4-NN	0.850	47.7	4068

Room Size: 78.4' x 53.8'
Ceiling Heigh: 10'

Avg. Horizontal Light Level	40 FC
Avg/Min	1.24
Max/Min	1.52



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FL vs. LED

Room Size: 80' X 60'
Ceiling Height: 9.5'
Reflectance: 80/50/20
Target Horizontal Avg. FC: 35fc

Space Application
30% less energy
6% less Luminaires

SCE-2L35K-14-SD-W-L4

Settings
Units: Feet - Footcandles

Room Dimensions

Length [X]	80	ft
Width [Y]	60	ft
Height [Z]	9.5	ft
Workplane	2.5	ft
Ceiling Type	2x4	

Room Reflectances

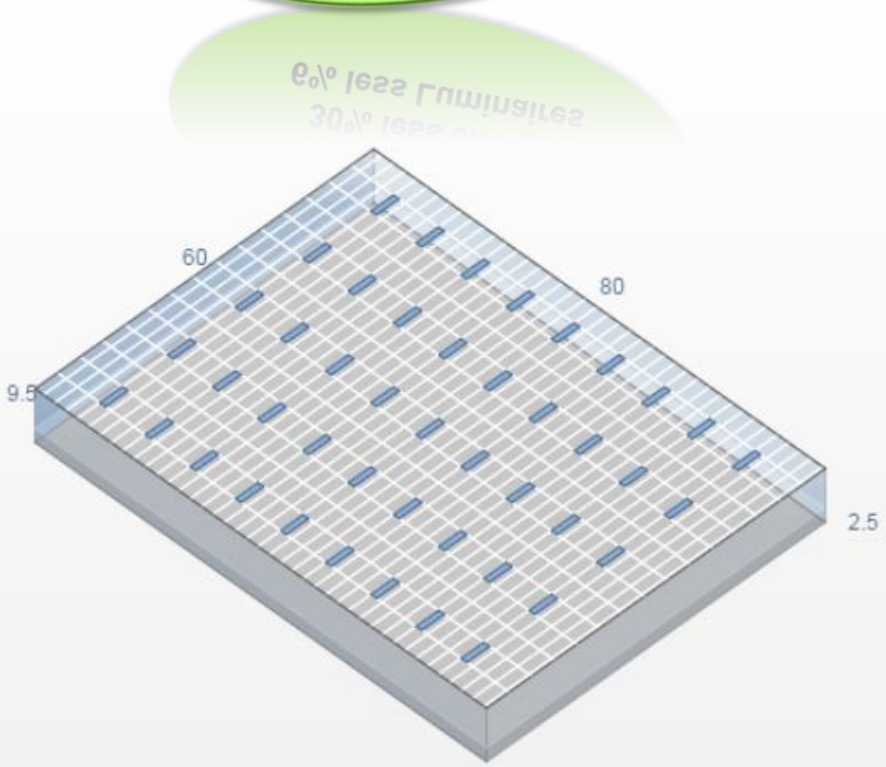
Ceiling	80	%
Walls	50	%
Floor	20	%

Criteria

Illuminance	35	fc
Power Density		W/ft²
Quantity		

Constraints

Spacing X [SC=12.3]		ft
Spacing Y [SC=12.4]		ft
Rows		
Columns		



Calculation Results [SCE-L4]

Illuminance	35 fc
Power Density	0.45 W/ft²
Quantity	45

Spacing Results [SCE-L4]

Spacing	8 x 12 ft
Arrangement	9 x 5
Outside Spacing X	7.5 ft
Outside Spacing Y	4 ft

Comparison

Luminaire	FC	W/FT²	Count
SCE-L4	35	0.45	45
TC42T5	35	0.64	48

Display

Dimensions: Room ☑ Layout ☐

Hide Zonal Cavity Info [-]

Coefficient of Utilization: 1.03

Floor Cavity

Height	2.5 ft
Cavity Ratio	0.37
Form Factor	0.93
Effective Reflectance	19.7 %

Room Cavity

Height	7 ft
Cavity Ratio	1.02
Form Factor	0.82

Ceiling Cavity

Height	0 ft
Cavity Ratio	0
Form Factor	1
Effective Reflectance	80 %

1X4' SCENE AccuRay Luminaire

Light Level	Wattage	Lumens Delivered	Efficacy (LPW)	Fluorescent Equivalent	Energy Savings*
		SCE	SCE		
L3	21	2037	97	1T8/1T5	42%
L4	48	4068	85	2T8/2T5	34%
L5	73	5814	79	3T8/3T5	32%
L6	85	6522	77	2T5HO	32%

Savings based upon standrad lamp/ballast combination using an equivilant high efficent FL system (TC4). SCENE's SD lens used in the ab

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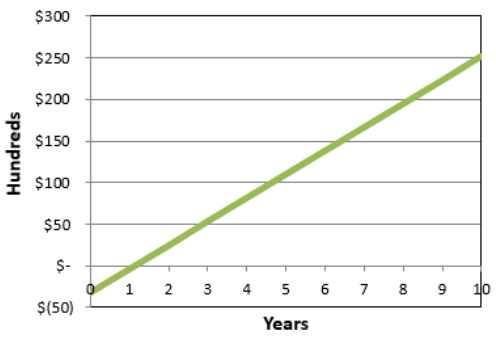
FL vs. SCENE LED System Energy & Maintenance Savings

LED Payback (Years)



Payback = 1.16 Years

System Energy & Maintenance Cost Summary

	LED	Traditional
Total Initial Fixture/Installation Cost	$28,361	$25,075
Total System kW	3.79	5.44
Annual kWh	13,841	19,856
Cost of Energy per kWh	$0.120	$0.120
kWh Inflation Rate (%/yr)	1.00%	1.00%
Average Annual Energy Cost	$1,738	$2,493
Average Annual Maintenance Cost	$0	$2,088
Average Annual Energy + Maintenance Costs	$1,738	$4,580
Average Annual Energy & Maintenance Savings	$2,843	

	Savings		Cost/Year	
	Annual	Cumulative	LED	Traditional
1st Year	$722	$722	$1,661	$2,383
5th Year	$2,824	$10,834	$1,694	$4,518
10th Year	$2,843	$25,142	$1,738	$4,580

	Savings
10 Year Total	$28,428

Cost	
LED	Traditional
$17,377	$45,805

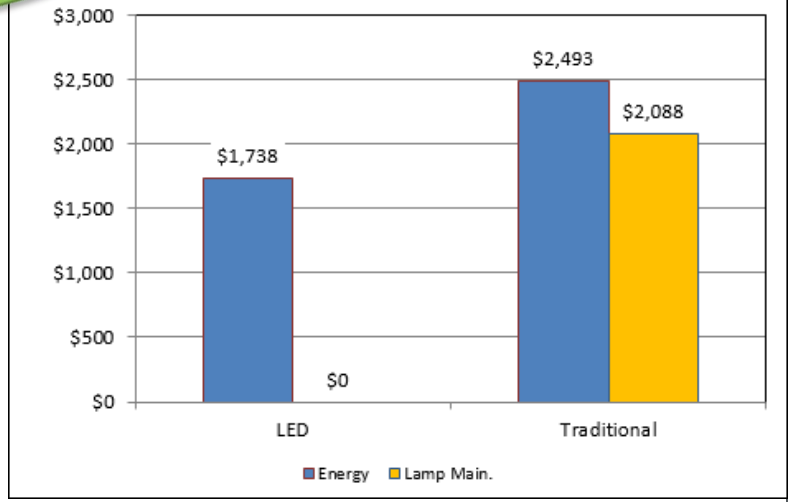
60%
Avg. savings including Energy & maintenance over 5 years

PAYBACK ANALYSIS

AVERAGE ANNUALIZED SAVINGS PER YEAR

Annual Energy Savings	$ 755
Annual Lamp Maintenance Savings	$ 2,088
Annual Combined Savings	**$ 2,843**
Cost of Waiting (Monthly)	$ 237
Simple Payback (years)	1.16
IRR (%)	86%
10 Year Cash Flow (Energy & Lamp Main.)	$ 25,142

Annual Operating Cost: Energy & Lamp Maintenance



***** Calculation is based on actual LED fixture used in comparison to a 2-T5 28W FL fixture. Assumptions are $0.12 per KWh and 10 operating Hours/day (10h @ full power). These are estimated savings only. Annual and monthly savings are based on a number of variables and assumptions that could change over time. The actual savings derived by our firm may be higher or lower. Metalumen's business does not imply a warranty of performance or savings as calculated and shown within this document.**

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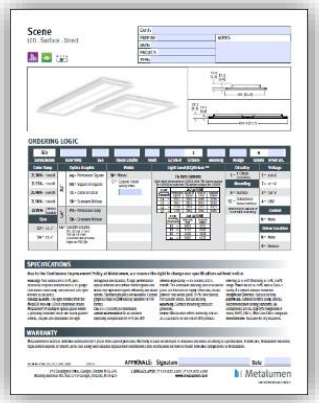
Standard Lead time:
Ships in 4-6 weeks

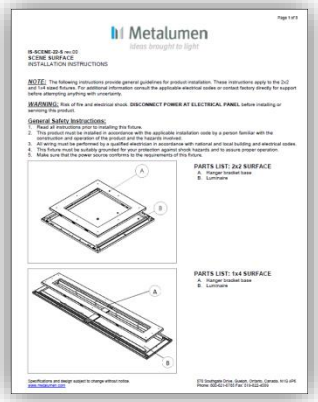
First 4 months of production:
Ships in 8-10 weeks

Sales Tools

Brochure

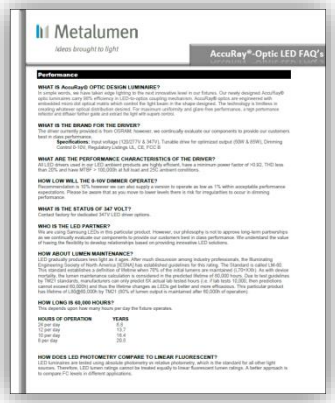


Spec Sheet



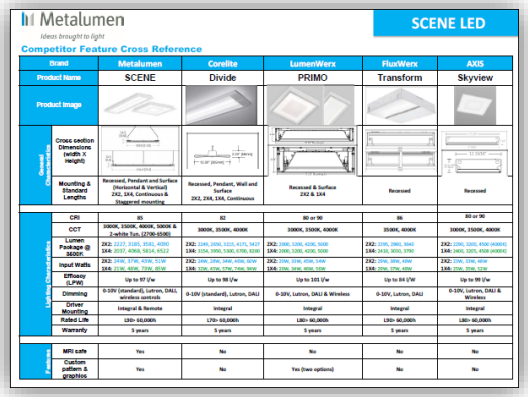
Installation Instructions

IES Files



FAQ Sizzle Sheet

New Product Intro



Competitive Analysis (Agent Portal)

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