LUXAM
Lighting For Museums

MUSEUM LIGHTING

Fiber Optic & LED solutions

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INTRODUCTION

For over 25 years, Luxam has specialised in museum display case lighting. Our fiber optic and LED solutions have lit tens of thousands of priceless artifacts within thousands of cases across the globe, collaborating with many of the world's most renowned museums.

From the National Air and Space Museum to the Grand Egyptian Museum, our lighting philosophy has stayed the same; case lighting is there to help each unique artifact tell its story, while preserving it for history, and enabling museums to maintain its light for decades to come. Luxam is now coming out of cases and into spaces, our product offering organically growing with the demand and needs of our clients and partners.

"Studies suggest that among museum staff, artifact preservation is the most important issue; while artifact appearance (especially clear form and accurate color) is the most important issue to visitors. Effective museum lighting can balance both concerns. [...] Successful museum lighting should be an integral part of both the architecture and the exhibit design." RP-30 "Recommended Practice for Museum Lighting" ANSI/IES

Which is why, Luxam works with museums, designers, and fabricators, from the earliest stages of design, in order to ensure the best results.

MicroLED System

PHOTO 2

MICROLED SYSTEM

The Luxam MicroLED system enables to easily set up a high quality, functional lighting, within museums and galleries. Each powerful fixture has individual adjustable beam spreads and brightness levels, making it effortless to craft a perfectly tailored light.

Within the MicroLED Family we have two systems - the MicroTrack which includes spotlights, lightbars and wall washer which go on tracks; and the MicroMono - standalone versions of the spotlights, stems, and ledsticks.

MICROTRACK TRACKS

Tracks are available in 1M, 2M, and can be custom cut.
Available colors are Black, White, and Silver.

L-MTHTK

25 50 15 21
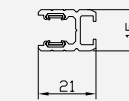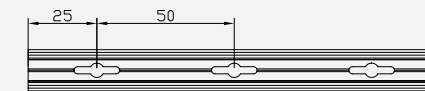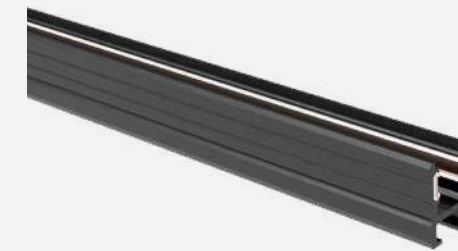
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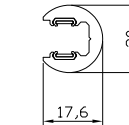
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L-MTOTK

17,6 20

L-MTOEC-01   L-MTOSJ-01   L-MTOCJ-01   L-MTOCP-01-B

L-MTFL-01   L-MTCTK-01

L-MTRTK

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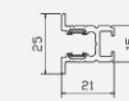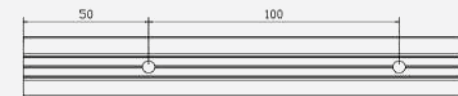
L-MTREC-01   L-MTRSJ-01   L-MTRCJ-01

L-MTRCP-01   L-MTCTK-01

PHOTO 3

ALL MICROTRACK FIXTURES

All fixtures can mix and match on the same track.

SPOTLIGHTS

L-MTSP-12
1W - Onboard dimmer

L-MTSP-02
3W - Onboard dimmer

L-MTSP-22
6W - Onboard dimmer

WALL WASHERS

L-MTWS-22
Wall Washer 5W
with Barndoor

L-MTWS-32
Wall Washer 10W
with Barndoor

QUADRI - FRAMING SHUTTER

L-MTFS-02
3W - Quadri Framing
Shutter Spotlight

L-MTFS-22
6W - Quadri Framing
Shutter Spotlight

LINEAR LIGHTBAR

L-MTBA-01 : Light Bar
L-MTBA-01-B

MICROTRACK SPOTLIGHT VARIATIONS

L-MTSP-12   1W

1W with onboard dimmer

FEATURES:

Fully compatible with all MicroTrack systems

Compatible accessories : Barndoors, Angled Snoots, & Filter frames

Two versions:
- Available with Remote Dimming : L-MTSP-11

STANDALONE VERSIONS:

with onboard dimmer (L-MTSA-12)

without onboard dimmer (L-MSPS-10)

L-UPL-10-1, L-UPL-10-2/3/4

L-MTSP-11
1W Remote Dimmer

L-MTSA-12
1W Standalone
Onboard Dimmer

L-MSPS-10
1W Standalone Remote Dimmer

L-UPL-10-1/2/3/4
Stem Lights

L-MTSP-02   3W

3W with onboard dimmer

FEATURES:

Fully compatible with all MicroTrack systems

Fully dimmable and focusable

Full range of accessories including Barndoors, Snoots, Filter Frames, etc.

Two versions:
- Available with Remote Dimming : L-MTSP-01

STANDALONE VERSIONS:

with onboard dimmer (L-MTSA-02)

without onboard dimmer (L-MSPS-00)

L-MTSP-01
3W Remote Dimmer

L-MTSA-02
3W Standalone Onboard Dimmer

L-MSPS-00
3W Standalone Remote Dimmer

L-MTFS-02
3W Quadri - Framing Shutter Spotlight

L-MTSP-22   6W

6W with onboard dimmer

FEATURES:

Fully compatible with all MicroTrack systems

Fully Dimmable and Focusable

Compatible accessories : Angled Snoots & Barndoor

Quadri Framing Shutter Head can be added to the body of the L-MTSP-22 and transform into L-MTFS-22

STANDALONE VERSIONS:

with onboard dimmer (L-MTSA-22)

L-MTSA-22
6W Standalone
Spotlight

L-MSPS-20
6W Standalone
Solid Surface

L-MFSA-22
6W Quadri-
Standalone

L-MTFS-22
6W Quadri
Framing Shutter

MICROTRACK SPOTLIGHT FIXTURES

L-MTSP-12   1W

Voltage/wattage	12V / 1.2W
Input current	100m A
Beam angles	Zoomable 9° to 70°
Luminous flux	98 lm @RA97 / 56 lm
CTT available	3000K, 4000K, 5000K
Dimmable options	Onboard Dimmer PWM 0-100%
CRI	97 typ
Weight	39g
Main materials	Aluminum

Color finished	Black, White and Silver
Working temperature	10°C to 25°C
Storage temperature	Recommended 22°C
Lifespan	50000 hours
Certificates	UL, CE
Warranty	5 years
Protection	IP30
Without Onboard dimmer:	L-MTSP-11

L-MTSP-02   3W

Voltage/wattage	12V / 3.8W
Input current	340m A
Beam angles	Zoomable 8° to 56°
Luminous flux	270 lm @RA97 / 130 lm
CTT available	3000K, 4000K, 5000K
Dimmable options	Onboard Dimmer PWM 0-100%
CRI	97 typ
Weight	84g
Main materials	Aluminum

Color finished	Black, White and Silver
Working temperature	10°C to 25°C
Storage temperature	Recommended 22°C
Lifespan	50000 hours
Certificates	UL, CE
Warranty	5 years
Protection	IP30
Without Onboard dimmer:	L-MTSP-01

L-MTSP-22   6W

Voltage/wattage	11V-24VDC / 7.8W
Input current	650mA - 330m A
Beam angles	Zoomable 8° to 55°
Luminous flux	813 lm @RA97 / 255 lm
CTT available	3000K, 4000K, 5000K
Dimmable options	Onboard Dimmer PWM 0-100%
CRI	97 typ
Weight	158g
Main materials	Aluminum

Color finished	Black, White and Silver
Working temperature	10° to 25°C
Storage temperature	Recommended 22°C
Lifespan	50000 hours
Certificates	UL, CE
Warranty	5 years
Protection	IP30

CE UL

SPOTLIGHT PHOTOMETRICS

L-MTSP-12   1W

9°	‹Zoom›	60°

1W with Onboard Dimmer

Distances

Ø0.15m	2048 lux	0.5m	216 lux	Ø0.86m
Ø0.30m	512 lux	1m	54 lux	Ø1.71
Ø0.44m	227 lux	1.5m	24 lux	Ø2.56m
Ø0.59m	128 lux	2m	13 lux	Ø3.41m

L-MTSP-02   3W

7°	‹Zoom›	60°

3W with Onboard Dimmer

Distances

Ø0.12m	8800 lux	0.5m	844 lux	Ø0.61m
Ø0.25m	2200 lux	1m	211 lux	Ø1.22m
Ø0.37m	977 lux	1.5m	93 lux	Ø1.83m
Ø0.50m	550 lux	2m	52 lux	Ø2.44m

L-MTSP-22   6W

8°	‹Zoom›	55°

6W with Onboard Dimmer

Distances

Ø0.13m	22757 lux	0.5m	1655 lux	Ø0.6m
Ø0.26m	5690 lux	1m	414 lux	Ø1.2
Ø0.39m	2528 lux	1.5m	184 lux	Ø1.8m
Ø0.51m	1422 lux	2m	103 lux	Ø2.4m
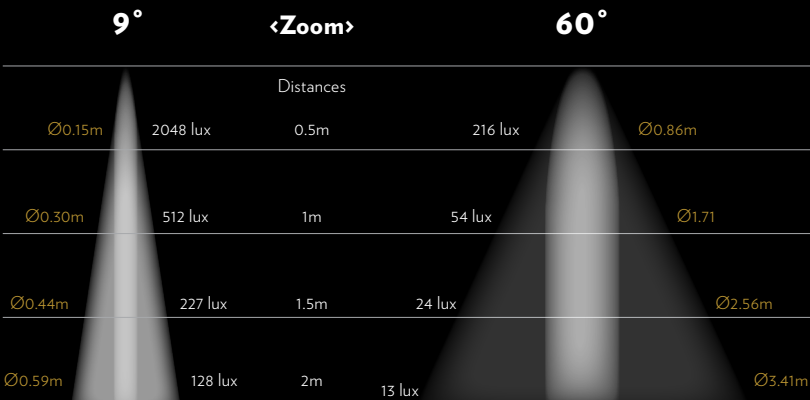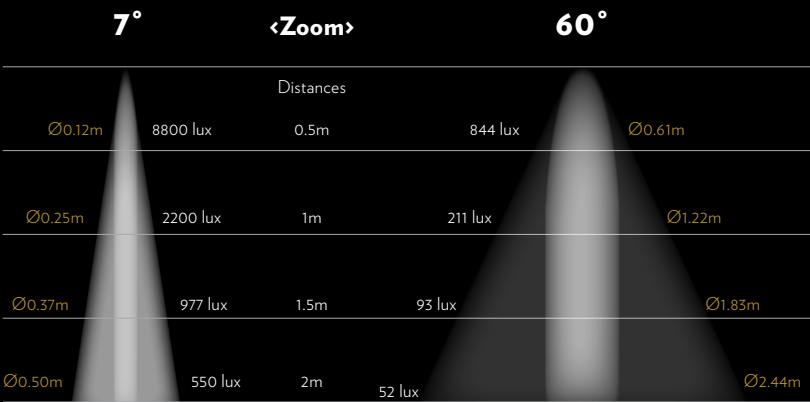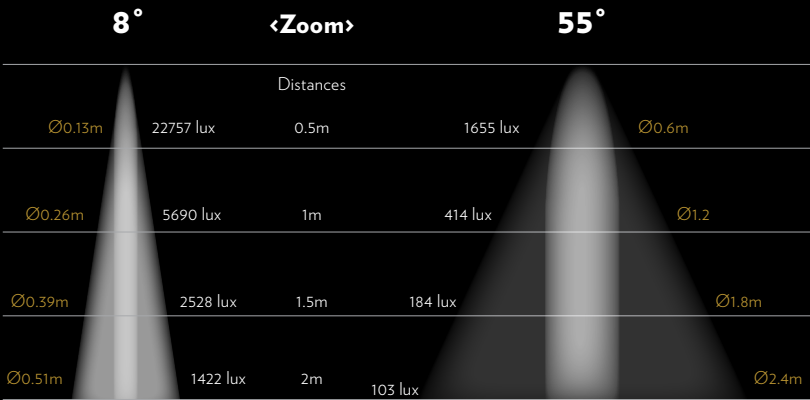
MICROTRACK SPOTLIGHT ACCESSORIES

L-MTSP-12   1W

L-MTAS-10   L-MTBD-10   L-MTFH-10   L-MTBR-10

L-MTSP-02   3W
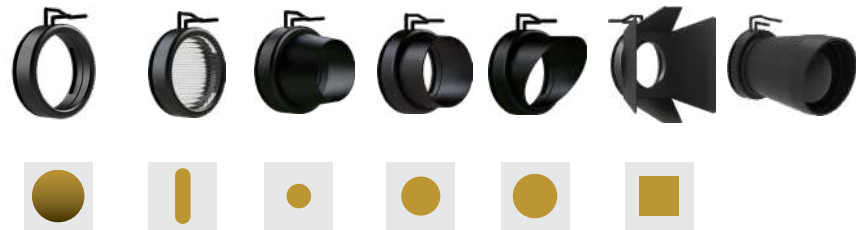
L-MTFH-01   L-MTAR-01   L-MTSC-01   L-MTSN-01   L-MTAS-01   L-MTBD-01   L-MTBST-01

L-MTSP-22   6W

L-MTAS-20   L-MTBD-20   L-MTFH-20

PHOTO 4

MICROTRACK ACCESSORY BOOSTER
L-MTBST-01

L-MTSP-02 spotlights with
L-MTBST-01 Booster accessory

128
350°
121
Ø38
90°

39
7
54
Ø38

PHOTOMETRICS COMPARISON
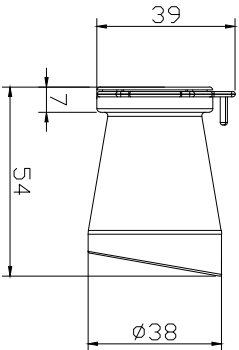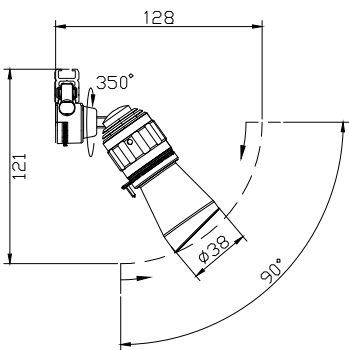
L-MTSP-02

L-MTSP-02 + L-MTBST-01

(lx)	8°	(diameter)	distance (m)	(lx)	5°	(diameter)
8,800		Ø0.12m	0.5m	24,621		Ø0.07m
2,200		Ø0.25m	1m	6,155		Ø0.15m
997		Ø0.37m	1.5m	2,735.7		Ø0.22m
550		Ø0.50m	2m	1,538.8		Ø0.29m
352			2.5m	984.88		Ø0.37m
244			3m	683.9		Ø0.44m

PHOTO 5

PHOTO 6

MICROTRACK LIGHTBAR FIXTURES

50°

Dimmer Switch
0-100%

Fully compatible with all MicroTrack systems
Available with Clear or Frosted Filters
Onboard Dimmer and Tilt function

The LightBar can be used alone or with other MicroTrack fixtures to provide the desired effect - wash and spot.

The 1W, 3W, and the 6W MicroTrack heads can be combined together with the Lightbar on the same track. All have the ability to be individually dimmed creating a highly functional system.

L-MTBA-01-B/W-45

450
381

L-MTBA-01-B/W-90

900
831
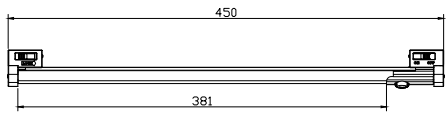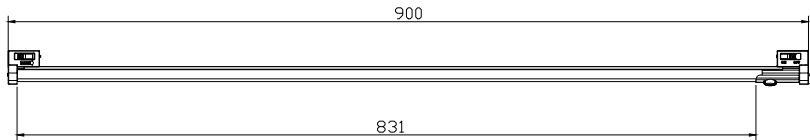
TECHNICAL DATA: L-MTBA-01

Power Input	7W/450mm// 15W/900mm-Voltage:12VDC
Control	On-board Dimmer
LED	Smart Eco
CRI	97
CCT available	3000K , 4000K , 5000K

Filter	Clear or frosted
Rotation angle	0-50°
Body	Aluminum / PC
Rating	IP30
Dimensions	450-900*27*38 (mm)

Distance	1m, 2m
L-MTBA-01-B/W-45	80 lux, 20 lux
L-MTBA-01-B/W-90	140 lux, 35 lux

LIGHTBAR PHOTOMETRICS

L-MTBA-450 Lightbar 7W (18")

112°

430 lux	Ø0.5m
140 lux	Ø1m
60 lux	Ø1.5m
35 lux	Ø2m
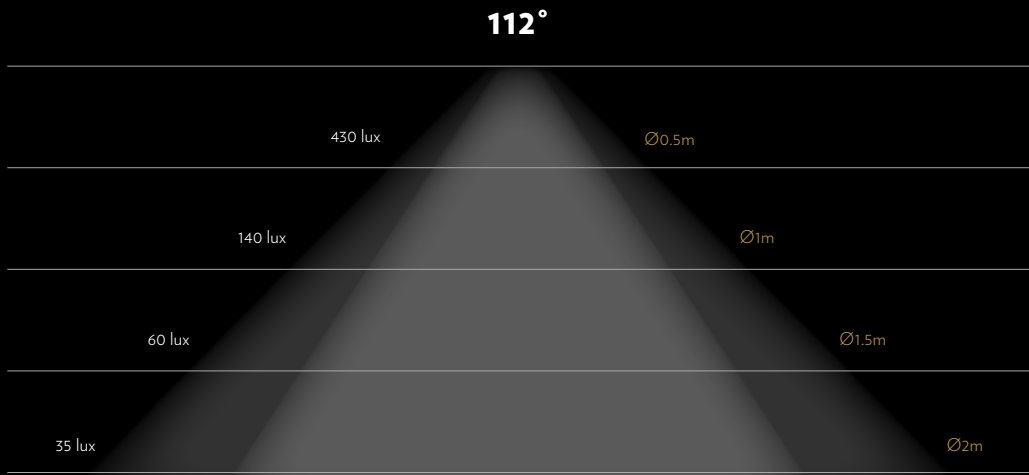
L-MTBA-900 Lightbar 15W (36")

112°

650 lux	Ø0.5m
240 lux	Ø1m
120 lux	Ø1.5m
65 lux	Ø2m
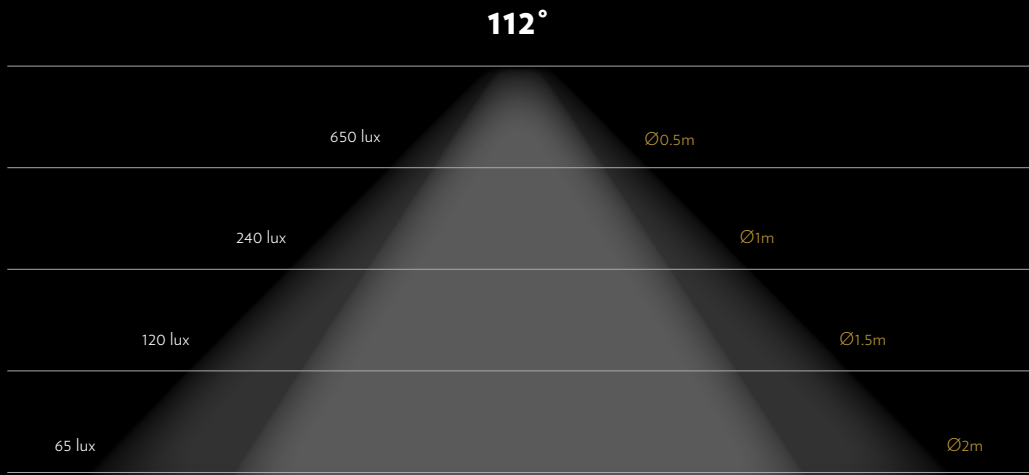
QUADRI FRAMING SHUTTER SPOTLIGHT

FEATURES:

Fully compatible with all MicroTrack systems

Fully dimmable and Focusable

L-MTFS-02   3W

L-MTFS-02
3W - Quadri Framing Shutter Spotlight

L-MTFS-22   6W

L-MTFS-22
6W - Quadri Framing Shutter Spotlight

117 / 40 / 135 / Ø39

118 / 40 / 142 / Ø39
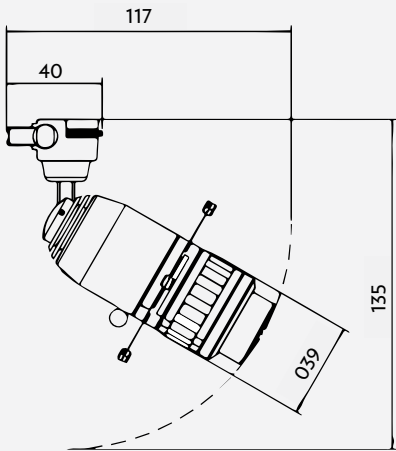
TECHNICAL DATA: L-MTFS-02

Voltage/wattage	11v -24VDC / 3.8W
Beam angle	55°
Input Current	340mA
Polarity	No polarity required
Dimming	Onboard Dimmer PWM 0-100%
CRI	97 typ
CCT available	3000K, 4000K, 5000K
Head Pan	355°/tilt 90°
Indoor use	IP30
Material	Alum. Alloy / PC
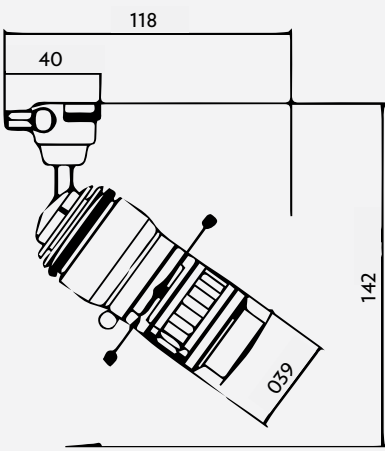
TECHNICAL DATA: L-MTFS-22

Voltage/wattage	11v -24VDC / 7.8W
Beam angle	55°
Input Current	650mA - 330mA
Polarity	No polarity required
Dimming	Onboard Dimmer PWM 0-100%
CRI	97 typ
CCT	3000K, 4000K, 5000K
Head Pan	355°/tilt 90°
Rating	IP30
Material	Aluminum

QUADRI FRAMING SHUTTER PHOTOMETRICS

L-MTFS-02   3W

55°

Distance	(lx)	(diameter)
0.5m	680	Ø0.35m
1m	170	Ø0.7m
1.5m	75	Ø1m
2m	42	Ø1.4m

L-MTFS-22   6W

55°

Distance (m)	(lx)	(diameter)
0.5m	1400	Ø0.35m
1m	350	Ø0.7m
1.5m	156	Ø1m
2m	88	Ø1.4m
2.5m	57	Ø1.75m
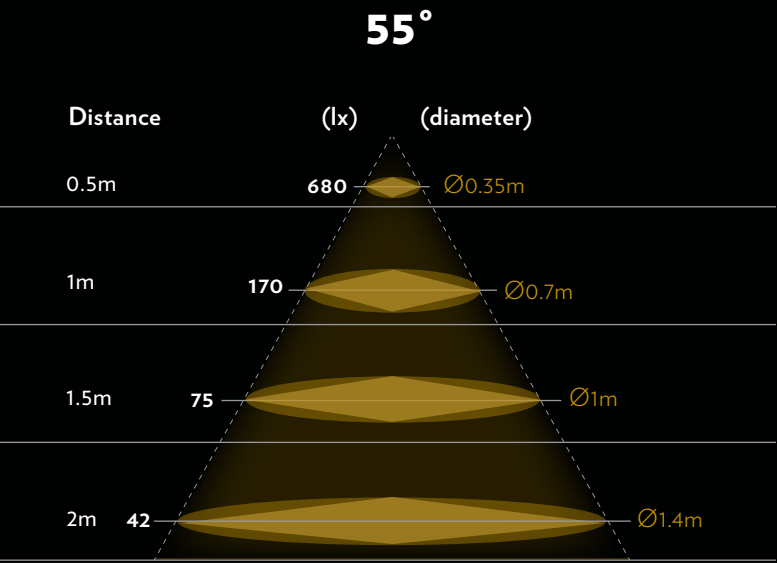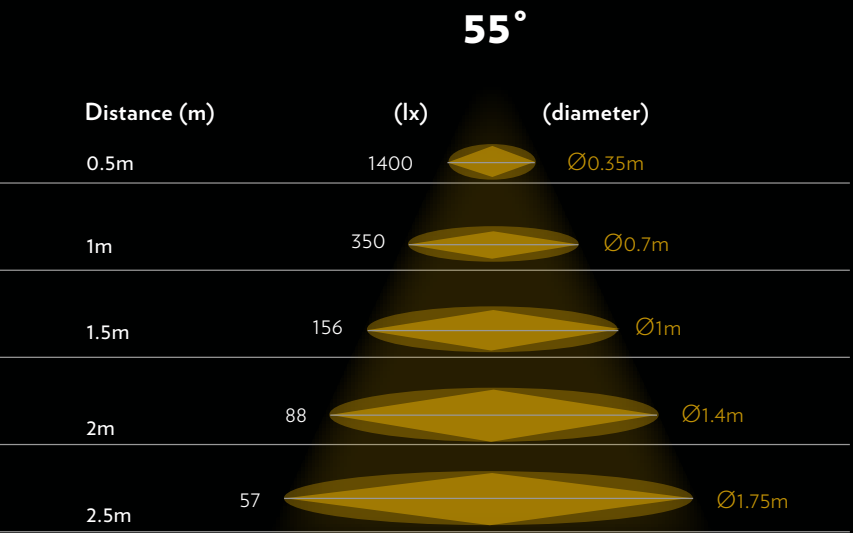
The Quadri L-MTFS-02 and L-MTFS-22 are Framing Shutter spotlights and work with all our MicroLED tracks.

The L-MTSP-22 6W Spotlight can transform into the L-MTFS-22 Quadri spotlight - with one body you can have either a spotlight or a framing shutter spotlight.

OR

Spotlight Head   Framing Shutter Head

Blades can be moved individually   Adjustable Focus

VARIATIONS

L-MTSP-22
6W Spotlight with
onboard dimmer

L-MSPS-20
6W Standalone
Solid Surface

L-MTSA-22
6W Standalone
Spotlight

L-MFSA-22
6W Quadri-
Standalone

MICROTRACK WALL WASHERS

20°

Dimmer

FEATURES:

These fixtures are designed to evenly highlight a wall from top to bottom, also used inside the showcases they light the back panels.

Fully compatible with all MicroTrack systems

Available in Black or White

Onboard dimmer

L-MTWS-22   5W

115

TECHNICAL DATA: L-MTWS-22

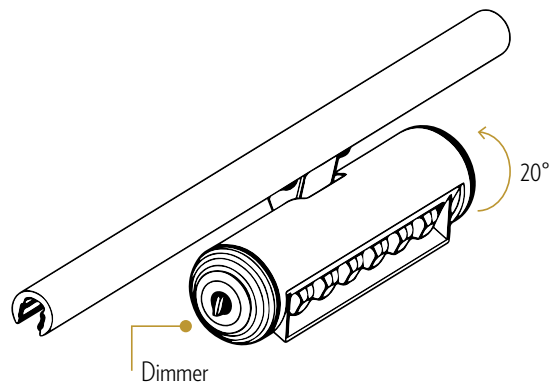|	
Power	5W
Beam angle	Washer effect
Voltage	12V DC
Input Current	410mA
Class	III
Dimmer	Onboard Dimmer PWM 0-100%
CRI	97 typ
CCT available	3000K , 4000K , 5000K
Indoor use	IP30
Material	Alum. Alloy / PC

L-MTWS-32   10W

174

TECHNICAL DATA: L-MTWS-32

Power	10.5W
Beam angle	Washer effect
Voltage	12V DC
Input Current	860mA
Class	III
Dimmer	Onboard Dimmer PWM 0-100%
CRI	97 typ
CCT available	3000K , 4000K , 5000K
Indoor use	IP30
Material	Alum. Alloy / PC

CE UL

MicroTrack Wall Washer Fixture Photometrics

Distance from wall / Height

Distance between wallwashers = Distance from the wall

1.3m / 3.9m   1m / 3m   0.7m / 2.1m

20°

150 lux (5W)
300 lux (10W)

90 lux (5W)
180 lux (10W)

50 lux (5W)
100 lux (10W)

PHOTO 8   LUXAM | Lighting for Museums   23
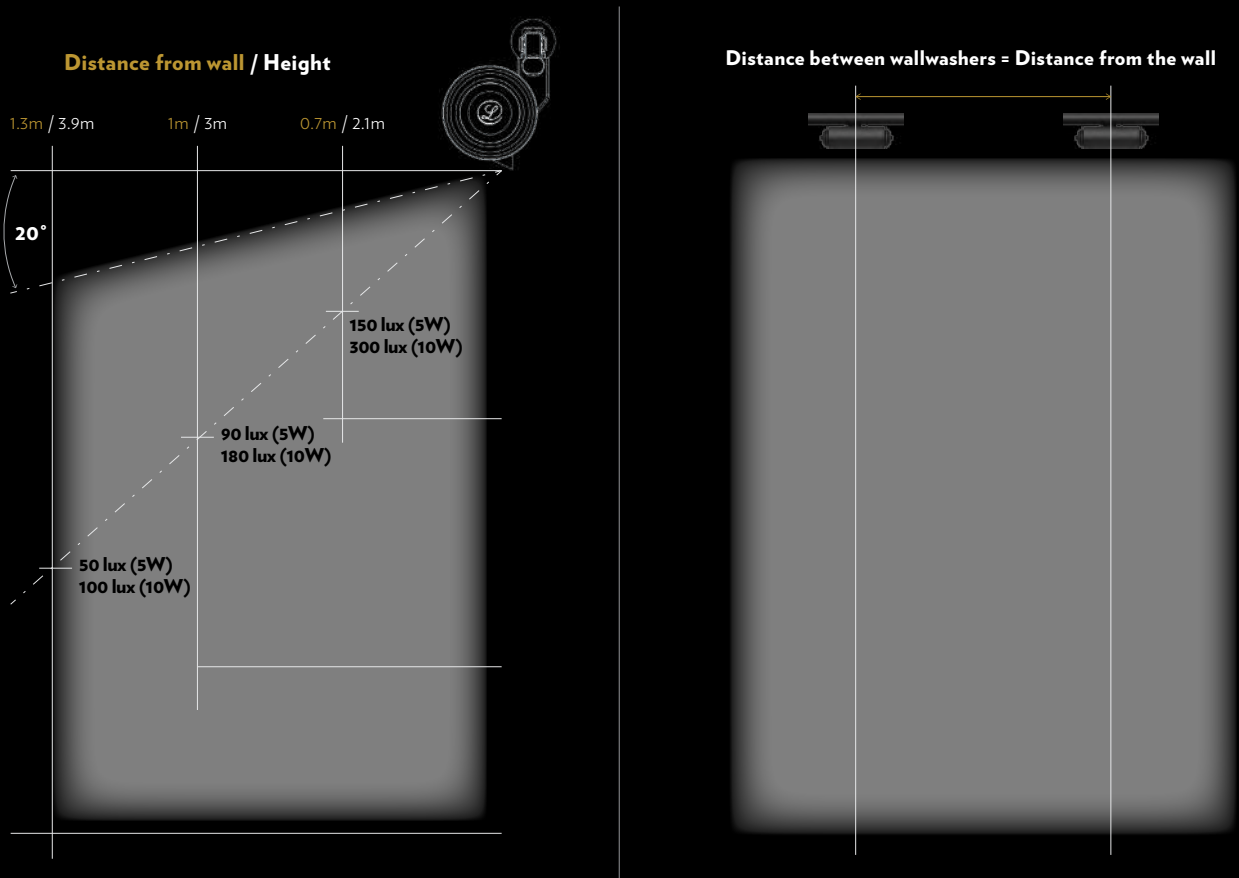
MICROMONO STANDALONE FIXTURES

The standalone heads are ideal when there is no possibility to use a track or when only individual lights are required.

L-MTSA-12
1W - with
Onboard dimmer

L-MTSA-02
3W - with
Onboard dimmer

L-MTSA-22
6W Standalone
Spotlight

L-MFSA-22
6W Quadri-
Standalone

L-MSPS-10
1W - Standalone
Solid Surface

L-MSPS-00
3W - Standalone
Solid Surface

L-MSPS-20
6W Standalone
Solid Surface

L-UPL-10-1
Stem Light

L-UPL-10-2/3/4
Stem Light

L-MBA-01
TALEA 10-MM Ledbar

PHOTO 9
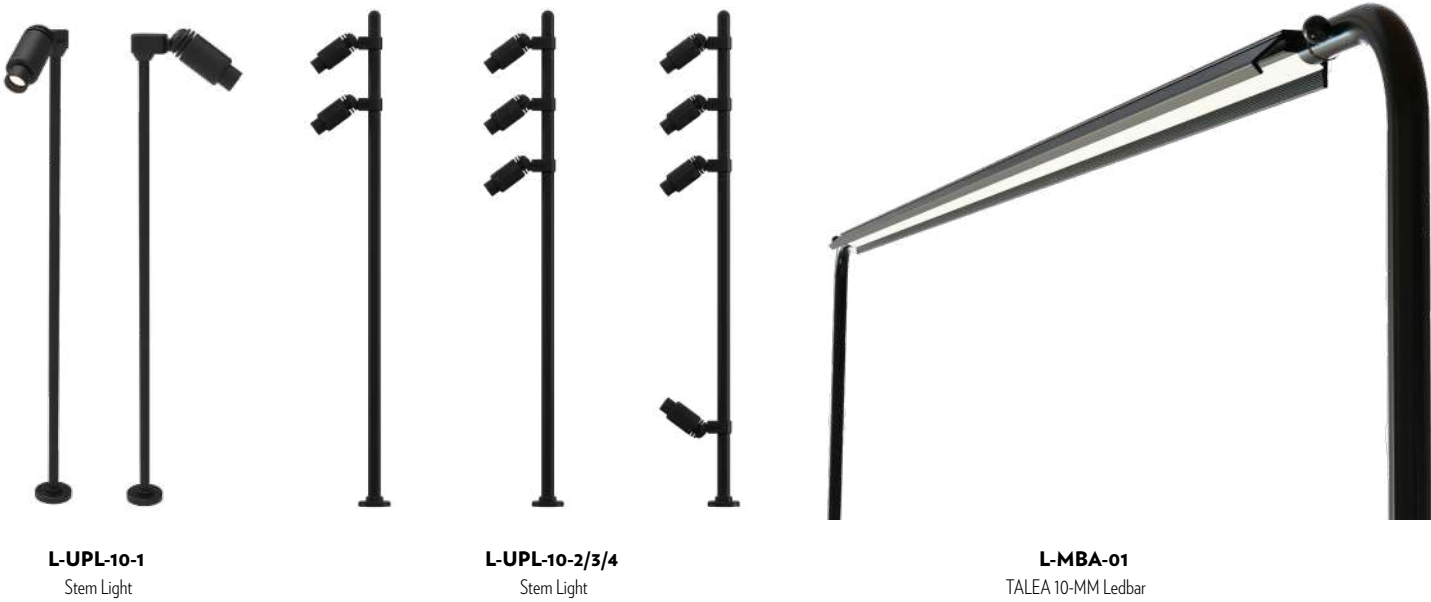
MICROMONO STANDALONE FIXTURES

L-MTSA-12

Voltage	12 VDC	CRI	97 typ	Lens	Glass BK7
Power	1.2W	Standard	UL - CE	Beam angles	9° to 70°
Input Current	100mA	Tilt angle	90°	Light Color	3000K, 4000K, 5000K
Dimmer	PWM 0-100% with onboard dimmer	Pan angle	355°	Fixture Color	Black, White or Silver

L-MTSA-02

Voltage	12 VDC	CRI	97 typ	Lens	Glass BK7
Power	3.8W	Standard	UL - CE	Beam angles	8° to 56°
Input Current	340mA	Tilt angle	90°	Light Color	3000K, 4000K, 5000K
Dimmer	PWM 0-100% with onboard dimmer	Pan angle	355°	Fixture Color	Black, White or Silver

L-MTSA-22

Voltage	11V - 24VDC	CRI	97 typ	Lens	Glass BK7
Power	7.2W	Standard	UL - CE	Beam angles	8° to 55°
Input Current	650mA - 330m A	Tilt angle	90°	Light Color	3000K, 4000K, 5000K
Dimmer	PWM 0-100% with onboard dimmer	Pan angle	355°	Fixture Color	Black, White and Silver

L-MFSA-22

Voltage	11V - 24VDC	CRI	97 typ	Lens	Glass BK7
Power	6W	Standard	UL - CE	Beam angles	8° to 55°
Input Current	650mA - 330m A	Tilt angle	90°	Light Color	3000K, 4000K, 5000K
Dimmer	PWM 0-100% with onboard dimmer	Pan angle	355°	Fixture Color	Black, White and Silver

L-MSPS-10

Voltage	For Constant Current	CRI	97	Lens	Glass BK7
Power	1W	Standard	UL - CE	Beam angles	9° to 70°
Input Current	300W 350m A	Tilt angle	90°	Light Color	3000K, 4000K, 5000K
Dimmer	PWM0-100% with remote dimmer	Pan angle	355°	Fixture Color	Black, White or Silver

L-MSPS-00

Voltage	For Constant Current	CRI	97 typ	Lens	Glass BK7
Power	3W	Standard	UL - CE	Beam angles	8° to 56°
Input Current	700-1000mA	Tilt angle	90°	Light Color	3000K, 4000K, 5000K
Dimmer	PWM 0-100% with remote dimmer	Pan angle	355°	Fixture Color	Black, White or Silver

L-MSPS-20

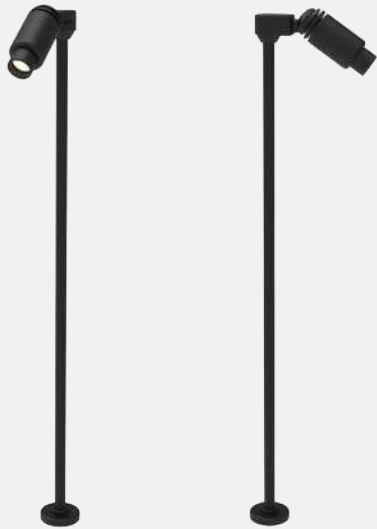| Voltage	For Constant Current Driver	CRI	97 typ	Lens	Glass
Power	6W	Standard	UL - CE	Beam angles	8° to 55°
Input Current	165mA	Tilt angle	90°	Light Color	3000K, 4000K, 5000K
Dimmer	PWM 0-100% with remote dimmer	Pan angle	355°	Fixture Color	Black, White or Silver

PHOTO 10

MICROMONO STANDALONE STEM FIXTURES

L-UPL-10-1 STEM1

Stem 1 comes with a 6mm rod with ad justable heights

FEATURES:

STEM 1 has a single stationary spot light
Full range of accessories – Barndoors, Snoots, Filter frame, etc.
Stem 1 comes with a 6mm rod with ad justable heights
Focusable from 10° to 60°
Standard height: 30cm

TECHNICAL DATA : L-UPL-10-1

Voltage/Wattage	For Constant Current
Input Current	300-350mA Constant Current (connect in series)
Beam angles	9° to 70°
Dimmable options	Compatible PWM with external dimmer
CRI	97 typ
CCT	3000K, 4000K, 5000K
Main materials	Aluminum Alloy / PC
Color Definition	Black, White and Silver
Certificates	UL - CE
Warranty	5 years
Protection	IP30

L-UPL-10-2/3/4
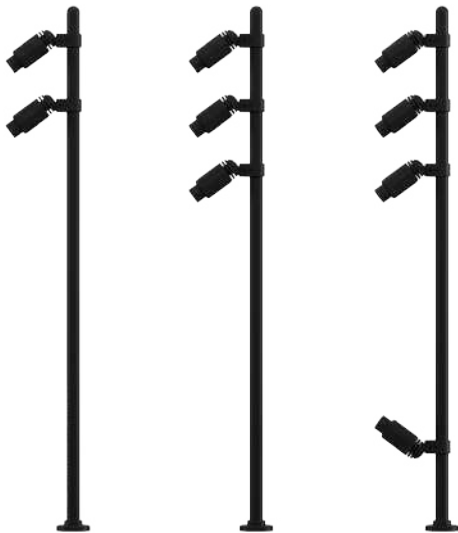
FEATURES:

Choose between 2, 3, or 4 heads - standard or custom heights available
Full range of accessories – Barndoors, Snoots, Filter frame, etc.
Fixed on a 10mm bar
Focusable from 9° to 60°
Standard height: 40cm - Long option: up to 90cm stem

TECHNICAL DATA : L-UPL-10-2/3/4

Voltage/Wattage	For Constant Current
Input Current	600-700mA/900-1050mA/1200-1400mA
Beam angles	9° to 70°
Dimmable options	Compatible PWM with external dimmer
CRI	97 typ
CCT	3000K, 4000K, 5000K
Main materials	Aluminum Alloy / PC
Color Definition	Black, White, Silver, Gold
Certificates	UL - CE
Warranty	5 years
Protection	IP30

PHOTO 11

TALEA 10MM LEDSTICK

L-MBA-01: TALEA 10MM LEDSTICK
with ADJUSTABLE BARN DOOR

Unique adjustable barndoor feature. Barndoor can be removed and can be adjusted in order to control the beam spread 30-120° degrees.
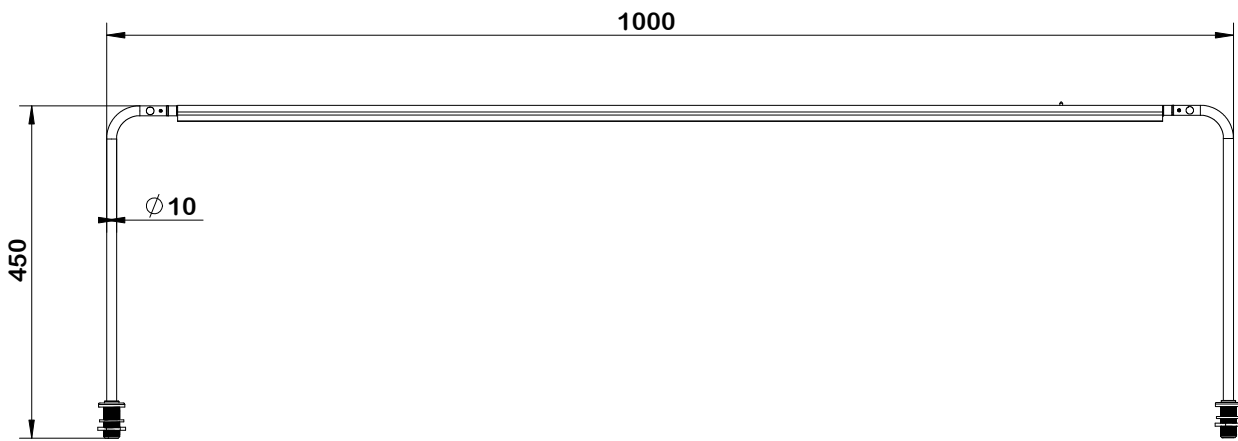
FEATURES:

Available in 1M, 1.5M and 2M in length
12V input with 15, 23 and 30W output
CCT available in 3000K, 4000K, or 5000K
Standard color is Black Anodized
Adjustable 30-120° degree clean cut Beamspread
Adjustable height 5cm-2 meters

TECHNICAL DATA : L-MBA-01

Voltage/Wattage	For Constant Current
Input Current	1000mA/meter
Beam Angles	90°
Pan	355°
Dimmable Options	Dimmable with PMW driver
CRI	97+
CCT	3000K, 4000K, 5000K
Main Materials	Aluminum
Color Definition	Black, White, Silver, Gold
Certificates	UL - CE
Warranty	5 years
Protection	IP30

1000

⌀ 10

450

Grub screw to fix position

Grub screw either end to add/remove/adjust barndoor to desired beam spread.

Height adjustable 5 cm to 2 meters

Spread Opening Cut from 30° to 120°

An adjustable barndoor gives flexibility to have a wider scope of lighting by tilting the opening cut.

Double barndoor for a cleancut

LEDSTICK 18W – 1000mm

112°

877 lux   ⌀0.5m

326 lux   ⌀1m

170 lux   ⌀1.5m

100 lux   ⌀2m

FROM CASES TO LOW CEILINGS

After over 20 years as museum display case lighting specialist, Luxam is coming out of cases and into spaces.

Once our MicroLED line launched, our clients using our spotlights for low ceiling applications, and exhibit/ architectural lighting where a larger track and fixture could not necessarily be attached or was not needed. From new spaces to historical houses - the MicroLED line is the ideal solution for easy to use and quick to adjust high quality lighting.

We've therefore organically developed part of the MicroLED family with this evolution in mind, from recessed tracks, a larger 6W Spotlight, white and silver colors available, and now 6W Quadri Framing Shutter Spotlight.

We are always listening to our clients, designers and partners to create better tools and solutions.

PHOTO 12

PHOTO 13

PHOTO 14

2023 MICROLED SYSTEM

ORDER CODES

MICROSPOT 1W

MICROSPOT 1W

REFERENCES	PRODUCT DESCRIPTION
L-MTSP-12-B-3K	Micro spot 6W/12VDC, dimmer, 3000K, Black
L-MTSP-12-B-4K	Micro spot 6W/12VDC, dimmer, 4000K, Black
L-MTSP-12-B-5K	Micro spot 6W/12VDC, dimmer, 5000K, Black
L-MTSP-12-W-3K	Micro spot 6W/12VDC, dimmer, 3000K, White
L-MTSP-12-W-4K	Micro spot 6W/12VDC, dimmer, 4000K, White
L-MTSP-12-W-5K	Micro spot 6W/12VDC, dimmer, 5000K, White
L-MTSP-12-S-3K	Micro spot 6W/12VDC, dimmer, 3000K, Silver
L-MTSP-12-S-4K	Micro spot 6W/12VDC, dimmer, 4000K, Silver
L-MTSP-12-S-5K	Micro spot 6W/12VDC, dimmer, 5000K, Silver

MICROSPOT 1W NON-DIMMER

REFERENCES	PRODUCT DESCRIPTION
L-MTSP-11-B-3K	Wall washer for Microtrack, 5W - 3000K, Black

MICROSPOT STANDALONE 1W

REFERENCES	PRODUCT DESCRIPTION
L-MSPS-10-B-3K	Micro Spot Standalone 1.2W/12VDC, 3000K, Black
L-MSPS-10-B-4K	Micro Spot Standalone 1.2W/12VDC, 4000K, Black
L-MSPS-10-B-5K	Micro Spot Standalone 1.2W/12VDC, 5000K, Black
L-MSPS-10-W-3K	Micro Spot Standalone 1.2W/12VDC, 3000K, White
L-MSPS-10-W-4K	Micro Spot Standalone 1.2W/12VDC, 4000K, White
L-MSPS-10-W-5K	Micro Spot Standalone 1.2W/12VDC, 5000K, White
L-MSPS-10-S-3K	Micro Spot Standalone 1.2W/12VDC, 3000K, Silver
L-MSPS-10-S-4K	Micro Spot Standalone 1.2W/12VDC, 4000K, Silver
L-MSPS-10-S-5K	Micro Spot Standalone 1.2W/12VDC, 5000K, Silver

MICROSPOT STANDALONE 1W DIMMER

REFERENCES	PRODUCT DESCRIPTION
L-MTSA-12-B-3K	Micro Spot Standalone 1.2W/12VDC, dimmer, 3000K, Black
L-MTSA-12-B-4K	Micro Spot Standalone 1.2W/12VDC, dimmer, 4000K, Black
L-MTSA-12-B-5K	Micro Spot Standalone 1.2W/12VDC, dimmer, 5000K, Black
L-MTSA-12-W-3K	Micro Spot Standalone 1.2W/12VDC, dimmer, 3000K, White
L-MTSA-12-W-4K	Micro Spot Standalone 1.2W/12VDC, dimmer, 4000K, White
L-MTSA-12-W-5K	Micro Spot Standalone 1.2W/12VDC, dimmer, 5000K, White
L-MTSA-12-S-3K	Micro Spot Standalone 1.2W/12VDC, dimmer, 3000K, Silver
L-MTSA-12-S-4K	Micro Spot Standalone 1.2W/12VDC, dimmer, 4000K, Silver
L-MTSA-12-S-5K	Micro Spot Standalone 1.2W/12VDC, dimmer, 5000K, Silver

MICROSPOT 1W ACCESSORIES

BARNDOOR

REFERENCES	PRODUCT DESCRIPTION
L-MTBD-10-B	Barndoor for 1.2W Micro spot, Black
L-MTBD-10-W	Barndoor for 1.2W Micro spot, White
L-MTBD-10-S	Barndoor for 1.2W Micro spot, Silver

ANGLED SNOOT

REFERENCES	PRODUCT DESCRIPTION
L-MTAS-10-B	Angled snoot for 1.2W Micro Spot, Black
L-MTAS-10-W	Angled snoot for 1.2W Micro Spot, White
L-MTAS-10-S	Angled snoot for 1.2W Micro Spot, Silver

FILTER HOLDER

REFERENCES	PRODUCT DESCRIPTION
L-MTFH-10-B	Filter holder for 1.2W Micro Spot, Black
L-MTFH-10-W	Filter holder for 1.2W Micro Spot, White
L-MTFH-10-S	Filter holder for 1.2W Micro Spot, Silver

BEAM REDUCER

REFERENCES	PRODUCT DESCRIPTION
L-MTBR-10-B	Beam Reducer for 1W, Black
L-MTBR-10-W	Beam Reducer for 1W, White
L-MTBR-10-S	Beam Reducer for 1W, Silver

MICRO SPOT 3W

MICROSPOT 3W

REFERENCES	PRODUCT DESCRIPTION
L-MTSP-02-B-3K	Micro spot 3.8W/12VDC, dimmer, 3000K, Black
L-MTSP-02-B-4K	Micro spot 3.8W/12VDC, dimmer, 4000K, Black
L-MTSP-02-B-5K	Micro spot 3.8W/12VDC, dimmer, 5000K, Black
L-MTSP-02-W-3K	Micro spot 3.8W/12VDC, dimmer, 3000K, White
L-MTSP-02-W-4K	Micro spot 3.8W/12VDC, dimmer, 4000K, White
L-MTSP-02-W-5K	Micro spot 3.8W/12VDC, dimmer, 5000K, White
L-MTSP-02-S-3K	Micro spot 3.8W/12VDC, dimmer, 3000K, Silver
L-MTSP-02-S-4K	Micro spot 3.8W/12VDC, dimmer, 4000K, Silver
L-MTSP-02-S-5K	Micro spot 3.8W/12VDC, dimmer, 5000K, Silver

MICROSPOT 3W NON-DIMMER

REFERENCES	PRODUCT DESCRIPTION
L-MTSP-01-B-ND 3W	Micro spot 3.8W/12VDC, non-dim 3000K, Black

MICROSPOT STANDALONE 3W

REFERENCES	PRODUCT DESCRIPTION
L-MSPS-00-B-3K	Micro Spot Standalone 3.8W/12VDC, 3000K, Black
L-MSPS-00-B-4K	Micro Spot Standalone 3.8W/12VDC, 4000K, Black
L-MSPS-00-B-5K	Micro Spot Standalone 3.8W/12VDC, 5000K, Black
L-MSPS-00-W-3K	Micro Spot Standalone 3.8W/12VDC, 3000K, White
L-MSPS-00-W-4K	Micro Spot Standalone 3.8W/12VDC, 4000K, White
L-MSPS-00-W-5K	Micro Spot Standalone 3.8W/12VDC, 5000K, White
L-MTSP-00-S-3K	Micro Spot Standalone 3.8W/12VDC, 3000K, Silver
L-MTSP-00-S-4K	Micro Spot Standalone 3.8W/12VDC, 4000K, Silver
L-MTSP-00-S-5K	Micro Spot Standalone 3.8W/12VDC, 5000K, Silver

MICROSPOT STANDALONE 3W DIMMER

REFERENCES	PRODUCT DESCRIPTION
L-MTSA-02-B-3K	Micro Spot Standalone 3.8W/12VDC, dimmer, 3000K, Black
L-MTSA-02-B-4K	Micro Spot Standalone 3.8W/12VDC, dimmer, 4000K, Black
L-MTSA-02-B-5K	Micro Spot Standalone 3.8W/12VDC, dimmer, 5000K, Black
L-MTSA-02-W-3K	Micro Spot Standalone 3.8W/12VDC, dimmer, 3000K, White
L-MTSA-02-W-4K	Micro Spot Standalone 3.8W/12VDC, dimmer, 4000K, White
L-MTSA-02-W-5K	Micro Spot Standalone 3.8W/12VDC, dimmer, 5000K, White
L-MTSA-02-S-3K	Micro Spot Standalone 3.8W/12VDC, dimmer, 3000K, Silver
L-MTSA-02-S-4K	Micro Spot Standalone 3.8W/12VDC, dimmer, 4000K, Silver
L-MTSA-02-S-5K	Micro Spot Standalone 3.8W/12VDC, dimmer, 5000K, Silver

QUADRI 3W

REFERENCES	PRODUCT DESCRIPTION
L-MTFS-02-B-3K	Framing Shutter Spotlight, 3.8W/12-24VDC, Dimmer, 3000K, Black
L-MTFS-02-B-4K	Framing Shutter Spotlight, 3.8W/12-24VDC, Dimmer, 4000K, Black
L-MTFS-02-W-3K	Framing Shutter Spotlight, 3.8W/12-24VDC, Dimmer, 3000K, White
L-MTFS-02-W-4K	Framing Shutter Spotlight, 3.8W/12-24VDC, Dimmer, 4000K, White

MICRO SPOT 3W ACCESSORIES

BARNDOOR

REFERENCES	PRODUCT DESCRIPTION
L-MTBD-01-B	Barndoor for 3.8W Spot, Black
L-MTBD-01-W	Barndoor for 3.8W Spot, White
L-MTBD-01-S	Barndoor for 3.8W Spot, Silver

FULL SNOOT

REFERENCES	PRODUCT DESCRIPTION
L-MTSN-01-B	Snoot for 3.8W Spot, Black
L-MTSN-01-W	Snoot for 3.8W Spot, White
L-MTSN-01-S	Snoot for 3.8W Spot, Silver

ANGLED SNOOT

REFERENCES	PRODUCT DESCRIPTION
L-MTAS-01-B	Snoot for 3.8W Spot, Black
L-MTAS-01-W	Snoot for 3.8W Spot, White
L-MTAS-01-S	Snoot for 3.8W Spot, Silver

CONE SNOOT

REFERENCES	PRODUCT DESCRIPTION
L-MTSC-01-B	Cone Snoot for 3.8W Spot, Black
L-MTSC-01-W	Cone Snoot for 3.8W Spot, White
L-MTSC-01-S	Cone Snoot for 3.8W Spot, Silver

FILTER HOLDER

REFERENCES	PRODUCT DESCRIPTION
L-MTFH-01-B	Filter Holder for 3.8W Spot, Black
L-MTFH-01-W	Filter Holder for 3.8W Spot, White
L-MTFH-01-S	Filter Holder for 3.8W Spot, Silver

ARCHITECTURE HOLDER

REFERENCES	PRODUCT DESCRIPTION
L-MTAR-01-B	Architecture Filter for 3.8W Spot, Black
L-MTAR-01-W	Architecture Filter for 3.8W Spot, White
L-MTAR-01-S	Architecture Filter for 3.8W Spot, Silver

BOOSTER

REFERENCES	PRODUCT DESCRIPTION
L-MTBST-01-B	Booster for 3.8W Spot, Black
L-MTBST-01-W	Booster for 3.8W Spot, White
L-MTBST-01-S	Booster for 3.8W Spot, Silver

MICRO SPOT 6W

MICROSPOT 6W

REFERENCES	PRODUCT DESCRIPTION
L-MTSP-22-B-3K	Micro spot 3.8W/12VDC, dimmer, 3000K, Black
L-MTSP-22-B-4K	Micro spot 3.8W/12VDC, dimmer, 4000K, Black
L-MTSP-22-B-5K	Micro spot 3.8W/12VDC, dimmer, 5000K, Black
L-MTSP-22-W-3K	Micro spot 3.8W/12VDC, dimmer, 3000K, White
L-MTSP-22-W-4K	Micro spot 3.8W/12VDC, dimmer, 4000K, White
L-MTSP-22-W-5K	Micro spot 3.8W/12VDC, dimmer, 5000K, White
L-MTSP-22-S-3K	Micro spot 3.8W/12VDC, dimmer, 3000K, Silver
L-MTSP-22-S-4K	Micro spot 3.8W/12VDC, dimmer, 4000K, Silver
L-MTSP-22-S-5K	Micro spot 3.8W/12VDC, dimmer, 5000K, Silver

MICROSPOT STANDALONE 6W DIMMER

REFERENCES	PRODUCT DESCRIPTION
L-MTSA-22-B-3K	Micro spot 3.8W/12VDC, dimmer, 3000K, Black
L-MTSA-22-B-4K	Micro spot 3.8W/12VDC, dimmer, 4000K, Black
L-MTSA-22-B-5K	Micro spot 3.8W/12VDC, dimmer, 5000K, Black
L-MTSA-22-W-3K	Micro spot 3.8W/12VDC, dimmer, 3000K, White
L-MTSA-22-W-4K	Micro spot 3.8W/12VDC, dimmer, 4000K, White
L-MTSA-22-W-5K	Micro spot 3.8W/12VDC, dimmer, 5000K, White
L-MTSA-22-S-3K	Micro spot 3.8W/12VDC, dimmer, 3000K, Silver
L-MTSA-22-S-4K	Micro spot 3.8W/12VDC, dimmer, 4000K, Silver
L-MTSA-22-S-5K	Micro spot 3.8W/12VDC, dimmer, 5000K, Silver

MICROSPOT STANDALONE SOLID SURFACE 6W

REFERENCES	PRODUCT DESCRIPTION
L-MSPS-20-B	Standalone solid surface 6W/12-24VDC, dimmer, 3000K/4000K Black
L-MSPS-20-W	Standalone solid surface 6W/12-24VDC, dimmer, 3000K/4000K White
L-MSPS-20-S	Standalone solid surface 6W/12-24VDC, dimmer, 3000K/4000K Silver

QUADRI 6W STANDALONE

REFERENCES	PRODUCT DESCRIPTION
L-MFSA-22-B	Quadri Standalone with integrated dimmer 6W/12-24 VDC, dimmer, 3000K/4000K Black
L-MFSA-22-W	Quadri Standalone with integrated dimmer 6W/12-24 VDC, dimmer, 3000K/4000K White

QUADRI 6W

REFERENCES	PRODUCT DESCRIPTION
L-MTFS-22-B	Framing Shutter, 6W/12V-24VDC, dimmer, 3000K/4000K, Black
L-MTFS-22-W	Framing Shutter, 6W/12V-24VDC, dimmer, 3000K/4000K, White

MICRO SPOT 6W ACCESSORIES

LED ENGINE 6W

REFERENCES	PRODUCT DESCRIPTION
L-MTLED-22-B	Led Engine 6W, 3000K/4000K, Black

ZOOM LENS 6W

REFERENCES	PRODUCT DESCRIPTION
L-MTZO-22-B	ZOOM LENS 6W, Black

FRAMING SHUTTER LENS PLUS ADAPTER

REFERENCES	PRODUCT DESCRIPTION
L-MTQAD	Framing shutter lens + Adapter

BARNDOOR

REFERENCES	PRODUCT DESCRIPTION
L-MTBD-20-B	Barndoor for 6W Spot, Black
L-MTBD-20-W	Barndoor for 6W Spot, White
L-MTBD-20-S	Barndoor for 6W Spot, Silver

ANGLED SNOOT

REFERENCES	PRODUCT DESCRIPTION
L-MTAS-20-B	Snoot for 6W Spot, Black
L-MTAS-20-W	Snoot for 6W Spot, White
L-MTAS-20-S	Snoot for 6W Spot, Silver

LIGHTBAR AND WALLWASHER

MICROSPOT WALLWASHER 5W

REFERENCE	DESCRIPTION
L-MTWS-22-B-3K	Wall washer for Microtrack, 5W - 3000K, Black
L-MTWS-22-B-4K	Wall washer for Microtrack, 5W - 4000K, Black
L-MTWS-22-W-3K	Wall washer for Microtrack, 5W - 3000K, White
L-MTWS-22-W-4K	Wall washer for Microtrack, 5W - 4000K, White

MICROSPOT WALLWASHER 10W

REFERENCE	DESCRIPTION
L-MTWS-32-B-3K	Wall washer for Microtrack, 5W - 3000K, Black
L-MTWS-32-B-4K	Wall washer for Microtrack, 5W - 4000K, Black
L-MTWS-32-W-3K	Wall washer for Microtrack, 5W - 3000K, White
L-MTWS-32-W-4K	Wall washer for Microtrack, 5W - 4000K, White

BARNDOOR FOR WALLWASHER

REFERENCE	DESCRIPTION
L-MTBD-22-B	Barndoor for L-MTWS-22, Black
L-MTBD-32-B	Barndoor for L-MTWS-32, Black
L-MTBD-22-W	Barndoor for L-MTWS-22, White
L-MTBD-32-W	Barndoor for L-MTWS-32, White

MICROTRACK LED BAR

REFERENCE	DESCRIPTION
L-MTBA-01-B-450-3K	Microtrack LED Bar, 3000K, 450mm (18"), Black
L-MTBA-01-B-450-4K	Microtrack LED Bar, 4000K, 450mm (18"), Black
L-MTBA-01-W-450-3K	Microtrack LED Bar, 3000K, 450mm (18"), White
L-MTBA-01-W-450-4K	Microtrack LED Bar, 4000K, 450mm (18"), White
L-MTBA-01-B-900-3K	Microtrack LED Bar, 3000K, 900mm (36"), Black
L-MTBA-01-B-900-4K	Microtrack LED Bar, 4000K, 900mm (36"), Black
L-MTBA-01-W-900-3K	Microtrack LED Bar, 3000K, 900mm (36"), White
L-MTBA-01-W-900-4K	Microtrack LED Bar, 4000K, 900mm (36"), White

STEMLIGHT
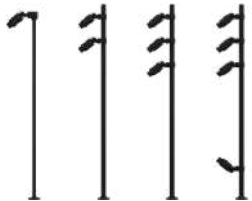
REFERENCE	DESCRIPTION
L-UPL-10-1-B	StemLight 1 head on 6mm stem - Black - 3000K/4000K/5000K
L-UPL-10-1-W	StemLight 1 head on 6mm stem - White - 3000K/4000K/5000K
L-UPL-10-1-S	StemLight 1 head on 6mm stem - Silver - 3000K/4000K/5000K
L-UPL-10-2-B	StemLight 2 heads on 10mm stem - Black - 3000K/4000K/5000K
L-UPL-10-2-W	StemLight 2 heads on 10mm stem - White - 3000K/4000K/5000K
L-UPL-10-2-S	StemLight 2 heads on 10mm stem - Silver - 3000K/4000K/5000K
L-UPL-10-2-G	StemLight 2 heads on 10mm stem - Gold - 3000K/4000K/5000K
L-UPL-10-3-B	StemLight 3 heads on 10mm stem - Black - 3000K/4000K/5000K
L-UPL-10-3-W	StemLight 3 heads on 10mm stem - White - 3000K/4000K/5000K
L-UPL-10-3-S	StemLight 3 heads on 10mm stem - Silver - 3000K/4000K/5000K
L-UPL-10-3-G	StemLight 3 heads on 10mm stem - Gold - 3000K/4000K/5000K
L-UPL-10-4-B	StemLight 4 heads on 10mm stem - 3000K - Black - 3000K/4000K/5000K
L-UPL-10-4-W	StemLight 4 heads on 10mm stem - 3000K - White - 3000K/4000K/5000K
L-UPL-10-4-S	StemLight 4 heads on 10mm stem - 3000K - Silver - 3000K/4000K/5000K
L-UPL-10-4-G	StemLight 4 heads on 10mm stem - 3000K - Gold - 3000K/4000K/5000K

TALEA LEDBAR 10mm

REFERENCE	DESCRIPTION
L-MBA-01-B-100	LED BAR 10mm, 100cm, 12V / 15W, Black
L-MBA-01-B-150	LED BAR 10mm, 150cm, 12V / 23W, Black
L-MBA-01-B-200	LED BAR 10mm, 200cm, 12V / 30W, Black

H-SHAPE MICRO TRACK

H-SHAPE MICRO TRACK

REFERENCES	PRODUCT DESCRIPTION
L- MTHTK- 100- B	H-shape micro Track 1 meter, Black
L-MTHTK-100-W	H-shape micro Track 1 meter, White
L-MTHTK-100-S	H-shape micro Track 1 meter, Silver
L-MTHTK-200-B	H-shape micro Track 2 meters, Black
L-MTHTK-200-W	H-shape micro Track 2 meters, White
L-MTHTK-200-S	H-shape micro Track 2 meters, Silver

LIVE END CONNECTOR

REFERENCES	PRODUCT DESCRIPTION
L-MTEC-01-B	Live end connector for H-shape Track, Black
L-MTEC-01-W	Live end connector for H-shape Track, White
L-MTEC-01-S	Live end connector for H-shape Track, Silver

STRAIGHT JUNCTION CONNECTOR

REFERENCES	PRODUCT DESCRIPTION
L-MTSJ-01-B	Straight junction connector for H-shape Track, Black
L-MTSJ-01-W	Straight junction connector for H-shape Track, White
L-MTSJ-01-S	Straight junction connector for H-shape Track, Silver

90° CORNER JUNCTION

REFERENCES	PRODUCT DESCRIPTION
L-MTCJ-01-B	90° corner junction for H -shape Track, Black
L-MTCJ-01-W	90° corner junction for H -shape Track, White
L-MTCJ-01-S	90° corner junction for H -shape Track, Silver

90° INSIDE FLAT CONNECTOR

REFERENCES	PRODUCT DESCRIPTION
L-MTFCJ-01-B	90° inside-slot Flat connector for H -shape Track

END CAP

REFERENCES	PRODUCT DESCRIPTION
L-MTCP-01-B	End cap for H-shape track, Black
L-MTCP-01-W	End cap for H-shape track, White
L-MTCP-01-S	End cap for H-shape track, Silver

CACHE

REFERENCES	PRODUCT DESCRIPTION
L-MTCTK-01-100-B	Cache for H and O track slot / meter, Black
L-MTCTK-01-100-W	Cache for H and O track slot / meter, White

O-SHAPE MICRO TRACK

O-SHAPED MICRO TRACK

REFERENCES	PRODUCT DESCRIPTION
L-MTOTK-100-B	O-shape micro Track 1 meter, Black
L-MTOTK-100-W	O-shape micro Track 1 meter, White
L-MTOTK-100-S	O-shape micro Track 1 meter, Silver
L-MTOTK-200-B	O-shape micro Track 2 meters, Black
L-MTOTK-200-W	O-shape micro Track 2 meters, White
L-MTOTK-200- S	O-shape micro Track 2 meters, Silver
L-MTOTK-300	O-shape micro Track (3m), Black

LIVE END CONNECTOR

REFERENCES	PRODUCT DESCRIPTION
L-MTOEC-01-B	Live end connector for O-shape track, Black
L-MTOEC-01-W	Live end connector for O-shape track, White
L-MTOEC-01-S	Live end connector for O-shape track, Silver

STRAIGHT JUNCTION CONNECTOR

REFERENCES	PRODUCT DESCRIPTION
L-MTOSJ-01-B	Straight junction connector for O-shape track, Black
L-MTOSJ-01-W	Straight junction connector for O-shape track, White
L-MTOSJ-01-S	Straight junction connector for O-shape track, Silver

90° CORNER JUNCTION

REFERENCES	PRODUCT DESCRIPTION
L-MTOCJ-01-B	90° corner junction for O -shape Track, Black
L-MTOCJ-01-W	90° corner junction for O -shape Track, White
L-MTOCJ-01-S	90° corner junction for O -shape Track, Silver

END CAP

REFERENCES	PRODUCT DESCRIPTION
L-MTOCP-01-B	End cap for O-shape Track, Black
L-MTOCP-01-W	End cap for O-shape Track, White
L-MTOCP-01-S	End cap for O-shape Track, Silver

FLANGE

REFERENCES	PRODUCT DESCRIPTION
L-MTFL-01-B	Flange for O-shape Track, Black
L-MTFL-01-W	Flange for O-shape Track, White
L-MTFL-01-S	Flange for O-shape Track, Silver

CACHE

White

Black

REFERENCES	PRODUCT DESCRIPTION
L-MTCTK-01 100-B	Cache for H and O track slot / meter, Black
L-MTCTK-01-100-W	Cache for H and O track slot / meter, White

R-SHAPED MICRO TRACK

**RECESSED
MICRO TRACK**
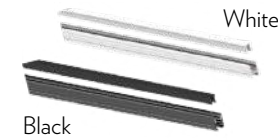
REFERENCES	PRODUCT DESCRIPTION
L-MTRTK-100-B	R-shape micro Track 1 meter, Black
L-MTRTK-100-W	R-shape micro Track 1 meter, White
L-MTRTK-200-B	R-shape micro Track 2 meter, Black
L-MTRTK-200-W	R-shape micro Track 2 meters, White

LIVE END CONNECTOR

REFERENCES	PRODUCT DESCRIPTION
L-MTREC-01-B	Live end connector for R-shape track, Black
L-MTREC-01-W	Live end connector for R-shape track, White

**STRAIGHT JUNCTION
CONNECTOR**

REFERENCES	PRODUCT DESCRIPTION
L-MTRSJ-01-B	Straight junction connector for R-shape track, Black
L-MTRSJ-01-W	Straight junction connector for R-shape track, White

**90° CORNER
JUNCTION**

REFERENCES	PRODUCT DESCRIPTION
L-MTRCJ-01-B	90° corner junction for R -shape Track, Black
L-MTRCJ-01-W	90° corner junction for R -shape Track, White

END CAP

REFERENCES	PRODUCT DESCRIPTION
L-MTRCP-01-B	End cap for R-shape Track, Black
L-MTRCP-01-W	End cap for R-shape Track, White

CACHE

White

Black

REFERENCES	PRODUCT DESCRIPTION
L-MTCTK-01 100-B	Cache for H and O track slot / meter, Black
L-MTCTK-01-100-W	Cache for H and O track slot / meter, White

Different spotlights require different drivers - please contact us to know which to add to your order.

LED DRIVERS 12V

REFERENCES	PRODUCT DESCRIPTION
PLC-30-12	LED Driver 12V/30W
PLC-60-12	LED Driver 12V/60W
LPV-100-12	LED Driver 12V/100W

**LED DRIVERS 12V
- EUROPE**

REFERENCES	PRODUCT DESCRIPTION
NPF-40	LED Driver 12V/40W
NPF-90	LED Driver 12V/90W

PICK-UP CONNECTOR

REFERENCES	PRODUCT DESCRIPTION
L-MTPK-01-B	Picking Connector 12V/18W

PHOTO 15
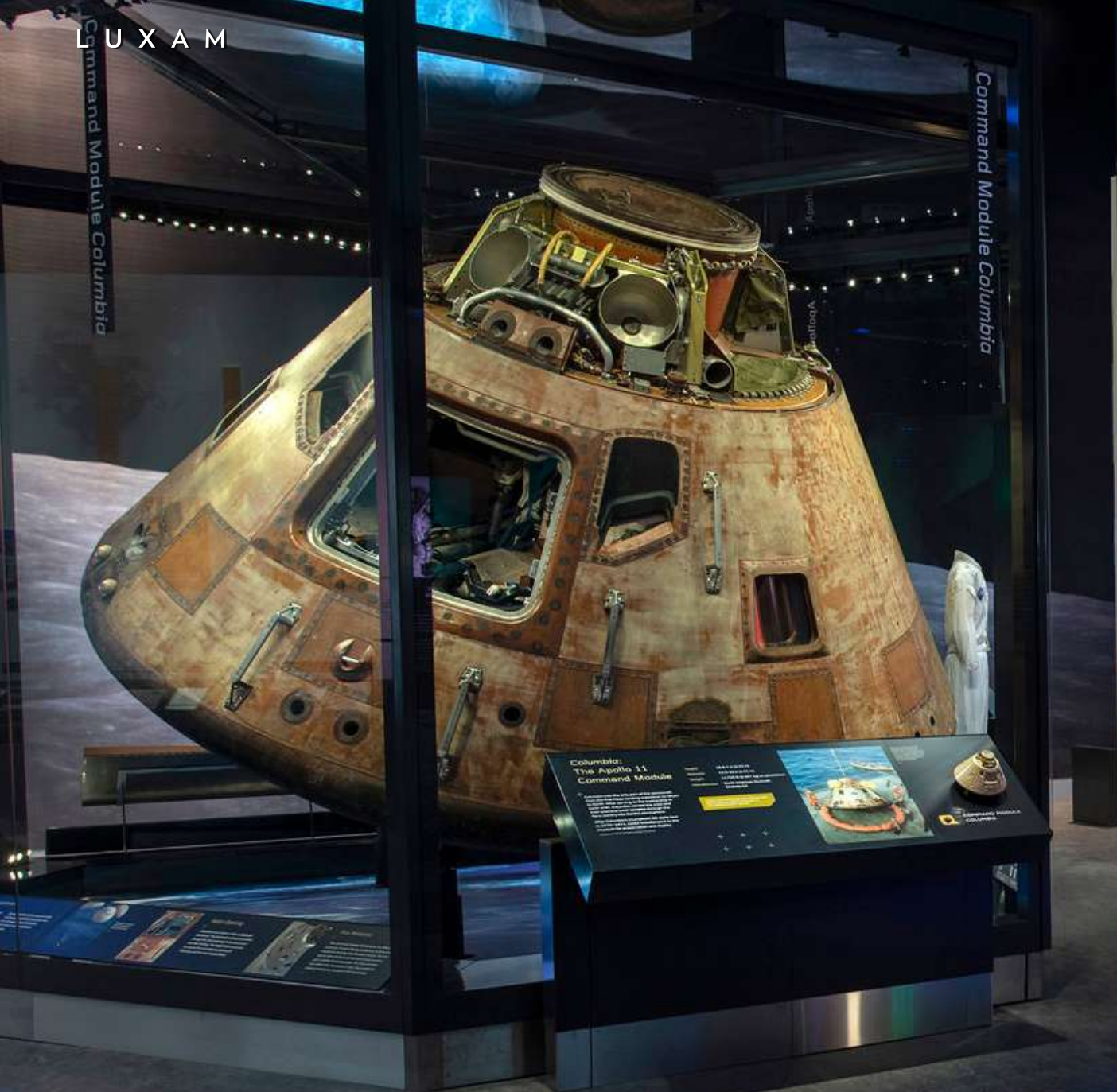
This section is generously sponsored by
Philip N. and Mary A. Lyons

Conservation, digitization, and display of the
Armstrong spacesuit was made possible by the
backers of the "Reboot the Suit" Kickstarter campaign

**First Spacesuit
on the Moon**

Neil Armstrong wore this spacesuit when
he made his historic "one small step" onto
the surface of the Moon on July 20, 1969.
Before and after his two-and-a-half-hour
lunar walk, he wore it inside the lunar
module, but without the special gold
visor helmet and with different gloves.

Neil Armstrong's
A-7L Lunar Spacesuit
Apollo 11

Armstrong's spacesuit is basically a form-fitting
spacecraft. It provided air to breathe, protected
him from temperature extremes, radiation,
and high-speed meteoroid particles, and
allowed him to communicate with others.

The A-7L was the seventh version of the Apollo
suit built by ILC Industries in Delaware. It is
displayed with Armstrong's lunar exploration
visor assembly and extravehicular gloves.

**Columbia:
The Apollo 11
Command Module**

"THAT'S
ONE SMALL
STEP FOR
MAN, ONE
GIANT
LEAP FOR
MANKIND."

FIBER OPTIC
SYSTEMS

PHOTO 16

INTRODUCTION TO FIBER OPTICS

"For internal lighting of display cases, the most sustainable, maintainable, preventive conservation solution is a combination of LED light source with fiber optic light guides in the case." The RP-30 (ANSI recommended practice), which is the standard for American museums.

The Luxam lighting philosophy is to enhance the beauty and story of the object while respecting its conservation requirements, and for the lighting to have the ability to adapt to the needs of the display over time.

The Luxam Micro Fiber Optic System enables each object to benefit from an individual lighting that puts forward its details, color, textures, and its organic differences. Our concept makes it possible to rigorously control the visual ergonomics (multiple levels of lighting, reflections, and highlights) offering an optimal perception of objects and text for the observer.

Fiber optics are still the only way to avoid heat and electricity to enter the case. Our miniature optical terminals are easily hidden from visitors. The LED illuminators are installed outside of the case avoiding any problems of obsolescence due to the evolution of the LED and ensuring that every system benefits from the latest technology available.

This 'obsolescence proof' system will technically match the expected life of the display case.

Fiber Optic system is the best long-term investment for museums when looking at a 10, 20, 30-year period. The only part that would require changing are the illuminators, and each illuminator can enable up to 24 spots of lights. Many of our museum partners change out all their illuminators after 10-15 years and immediately have the best of the latest technology and color rendering, at a fraction of the cost that it would be to replace an entire system.

HOW THE LUXAM FIBER SYSTEM WORKS

The Fiber system is very simple and has 3-4 elements to consider depending on the system chosen. Each system is individually chosen and manufactured depending on the needs of the display cases and the artifacts housed within them.

The variables to consider when picking the right system for you:

1. What type of lighting would be best: Spotlights or Lightsticks
   Optics will offer a highly precise and contrasted lighting especially useful to illuminate rounded and 3D objects. Lightsticks will offer an even linear lighting best suited to books and texts.

2. The Illuminator - We currently have 7 types of illuminators – traditional illuminators with onboard dimmers, DMX compatible, and two interactive illuminators.

3. The best attachment solution for each option: grid, bars, towers, or different lighstick options. (More info in the following pages)

Illuminator

Bundle + Optics   Micro-optics

OR

Lightstick
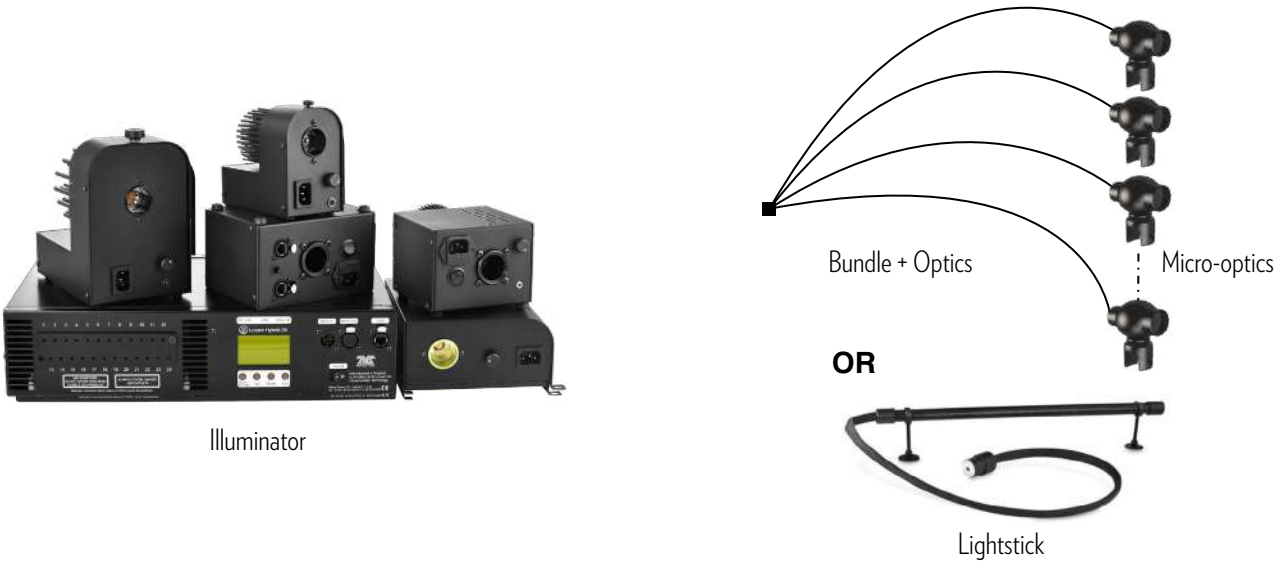
CHOOSING THE RIGHT FIBER SYSTEM
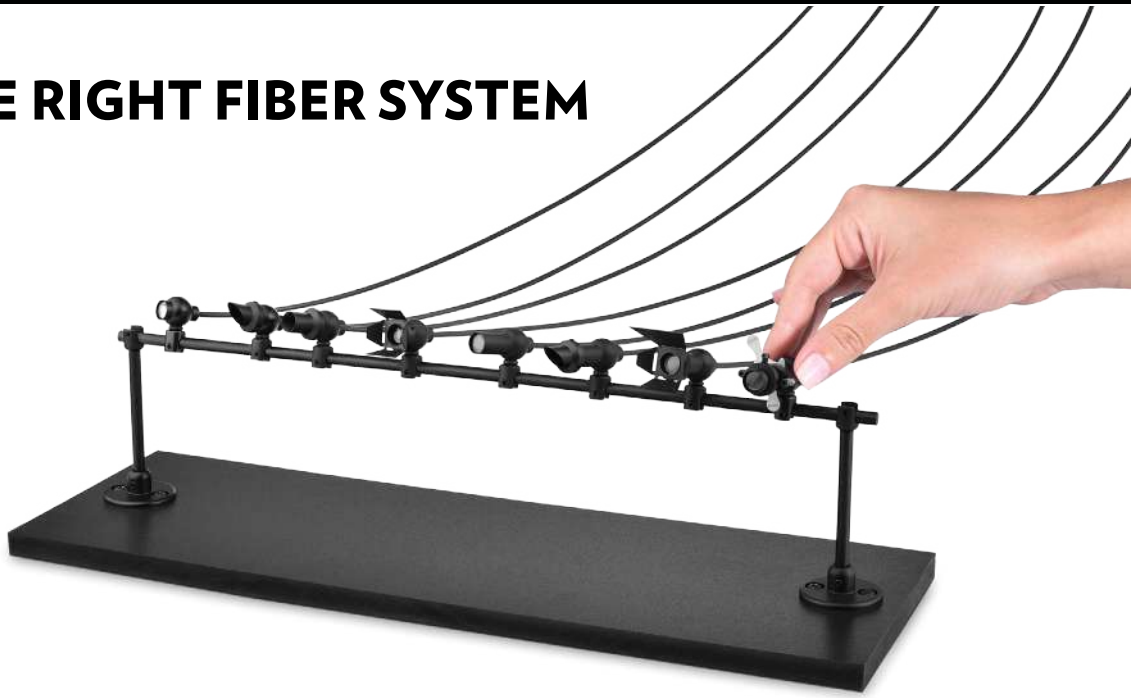
What to consider when choosing a Fiber Optic System:

1. The Illuminator: Do you need a simple system with onboard dimming, one that is DMX compatible, or an interactive option when various lights can be controlled separately? We currently have 7 types of illuminators. (More info from page 18)

2. The Optic size – We have 3 sizes: Nano, Micro, and Mini. The Micro Optic size is by far the most common and practical – it can light the smallest of the object as well as full medieval gowns. All options come with an extensive range of accessories.

3. The Bundle size – There are three aspects to a bundle: size of the fiber, number of strands, and length of each strand. The size of the optics will determine the millimeter of the fiber, which will determine the max number of fibers you can have per bundle. For example, the micro-optics use 2mm fiber and you can have up to 24 strands per bundle. As each bundle is custom made there are a multitude of options. We do not recommend for strands to be more than 7 meters long

PHOTO 19
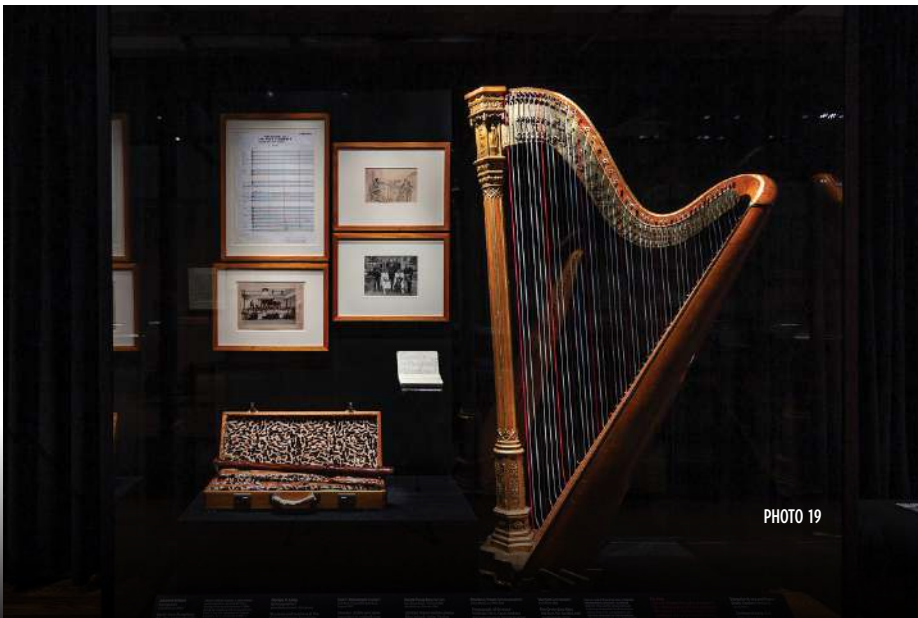
FIBER BUNDLE SPECIFICATIONS

SPECIFICATIONS

Active Diameter	1.5mm	2.0mm	3.0mm	4.0mm	5.0mm
Outside Diameter	2.0mm	2.8mm	6.0mm	7.0mm	8.0mm
Minimum 90° Turning Radius	20mm (3/4")	40mm (1/75")	50mm (2")	60mm (3")	65mm (4")
*Optimal Fibers/Connector	30	24	20	12	4

TYPICAL FIBER BUNDLES W/ ORDER CODE

Bundle 1.5 x 24 x 3	1.5mm x 24 tails x 3 meters, to common connector
Bundle 2 x 16 x 3	2.0mm x 16 tails x 3 meters, to common connector
Bundle como 1.5 x 10 x 3 + 2 x 10 x 3	Combo 20 trails, 10 x 1.5mm and 10 x 2 x 3 meters to common connector
Bundle 3 x 12 x 4	3.0mm x 12 tails x 4 meters, to common connector

Custom Fiber bundles of any length and combination of diameters available as standard order.
Maximum tail length for optimal performance is recommended to be less than 20'.

PHOTO 20

PHOTO 21

FIBER OPTIC MICROTOWERS

Self supported fiber optic MicroTowers are for most vertical applications.

This flexible system uses pins that can be adjusted to provided the desired focus according to the objects. For Vitrines and Four-Sided viewing when you cannot attach the lighting to the casework sides. Mounting options include a flange mount for the base and/or ceiling.

** Note INSERTS between pins are an option to beadded and hide the fiber further.

FEATURES

Pan & Tilt capable

Variable spacing bet ween fixtures provides great flexability for focusing

Standard Color: Anodinzed Matte Black - exterior extrusion can be painted

Custom lengths to 2.5 m

Unique triangular mount to fit tight corners

55-2 10 MICRO 10° : 10° to 60°

55-207 MICRO 5° : 5° to 50°

Adjustable Pins

Flange: 78.18mm wide

Unique triangular mount fits seamlessly into corners

PHOTO 22   LUXAM | Lighting for Museums   57

FIBER MICRO OPTIC PHOTOMETRICS

MICRO FIXTURE 5 DEGREES (55-207) WITH 2MM FIBER

55-207_5° Open Intensity Level (lux)

Illuminator/ Distance (m)	0.5	1m	1.5m	2m	2.5m
20W 3000k	1328	332	148	83	53
30W 3000k	1536	384	171	96	61
45W 3000k	1960	490	218	123	78

Distance (m)	Lighting Spot Diameter (m)
0.5	0.04
1	0.09
1.5	0.13
2	0.17
2.5	0.22

55-207_55° Open Intensity Level (lux)

Illuminator/ Distance (m)	0.5	1m	1.5m	2m	2.5m
20W 3000k	108	27	12	7	4
30W 3000k	120	30	13	8	5
45W 3000k	156	39	17	10	6

Distance (m)	Lighting Spot Diameter (m)
0.5	0.71
1	1.43
1.5	2.14
2	2.86
2.5	3.57

55-210_10° Open Intensity Level (lux)

Illuminator/ Distance (m)	0.5	1m	1.5m	2m	2.5m
20W 3000k	1140	285	127	71	46
30W 3000k	1284	321	143	80	51
45W 3000k	1736	434	193	109	69

Distance (m)	Lighting Spot Diameter (m)
0.5	0.9
1	0.18
1.5	0.26
2	0.35
2.5	0.44

55-210_65° Open Intensity Level (lux)

Illuminator/ Distance (m)	0.5	1m	1.5m	2m	2.5m
20W 3000k	140	35	16	9	6
30W 3000k	168	42	19	11	7
45W 3000k	212	53	24	13	8

Distance (m)	Lighting Spot Diameter (m)
0.5	1.07
1	2.14
1.5	3.22
2	4.29
2.5	5.36

PHOTO 23

PHOTO 24

FIBER OPTIC LIGHTSTICKS

Fiber Optic Lightsticks are the linear expression of fiber optic lighting.
They are designed to illuminate two-dimensional surfaces with an even spread of light.

SPECIFICATIONS

Custom fabrication to your exact specifications

Perfect for documents, books, and text panels

Provides a show less wash of light

Uniform base light in a 3D space for small cases

Standard focus at 60° wash

Tight focus capable at 30°

Wide focus capable for vitrines at 90°

Length measurement must include Live End Cap and End Cap

LIGHTSTICK SPECIFICATIONS AND FIXATIONS

Lightstick Diameter	20mm (standard)	16mm	10mm
Lightstick length max	Up to 2.5m	Up to 1.95m	Up to 0.5m
Tail length	Up to 5m	Up to 5m	Up to 5m
Beam Angle Options	30° / 60° / 90°	30° / 60° / 90°	60°

16mm Lightstick has 40% less light because of the turn of the fiber.

ELBOW GANTRY WITH FLANGE

90° elbow for 16mm and 20mm for gantry and thrust mounting in table cases, vitrines, and wall cases.
To specify stick lenght for elbows - provide drawing.

CLAM SHELL

• Base support for 16mm black 22-105

• Base support for 20mm black 22-101

C-CLAMP WITH 65-103 BASE

• C-clamp with surface mount 16mm – 65-502

• C-clamp with surface mount 20mm – 65-503

• C-clamp with surface mount 24mm – 65-504

STEMS

• Stems 15, 30, 60, 75, and 90 mm

VERTICAL FLANGE

• for 16mm – 22-104

C-CLAMP SIZE

• Code x stem length, mm

• Order Code example: 65-502-15

PHOTO 25

PHOTO 25

LIGHTSTICK PHOTOMETRICS
40" LIGHSTICK - 10-200-B 35W ILLUMINATOR @ 700 MA

30° light beam

side view

10"	6"
20"	8"
30"	14"
40"	18"

front view

10"	44x6	72 Fc
20"	50x12	36 Fc
30"	55x18	23 Fc
40"	60x24	16 Fc

60° light beam

side view

10"	8"
20"	14"
30"	18"
40"	28"

front view

10"	44x6	49 Fc
20"	50x12	23 Fc
30"	55x18	16 Fc
40"	60x24	12 Fc

90° light beam

side view

10"	10"
20"	24"
30"	32"
40"	62"

front view

10"	44x6	33 Fc
20"	50x12	15.5 Fc
30"	55x18	9.5 Fc
40"	60x24	6 Fc
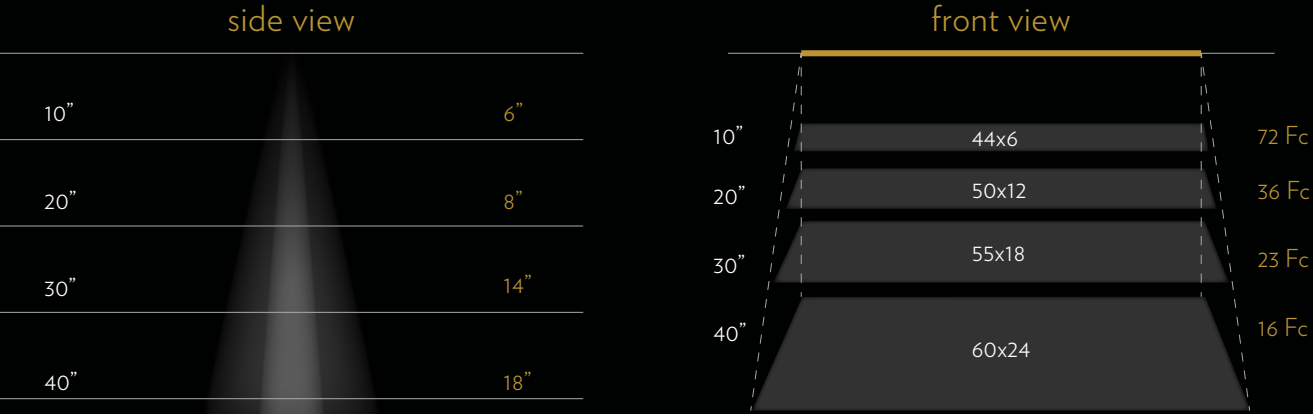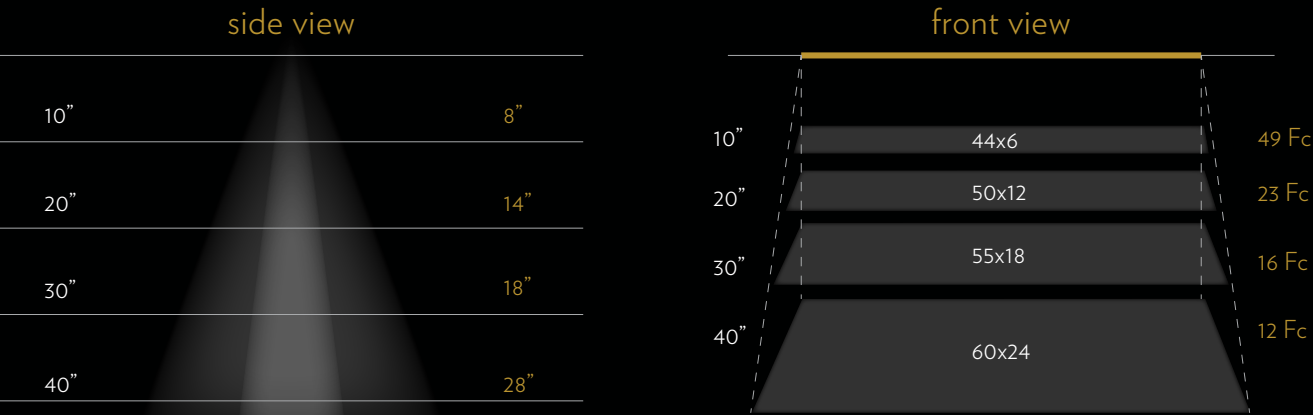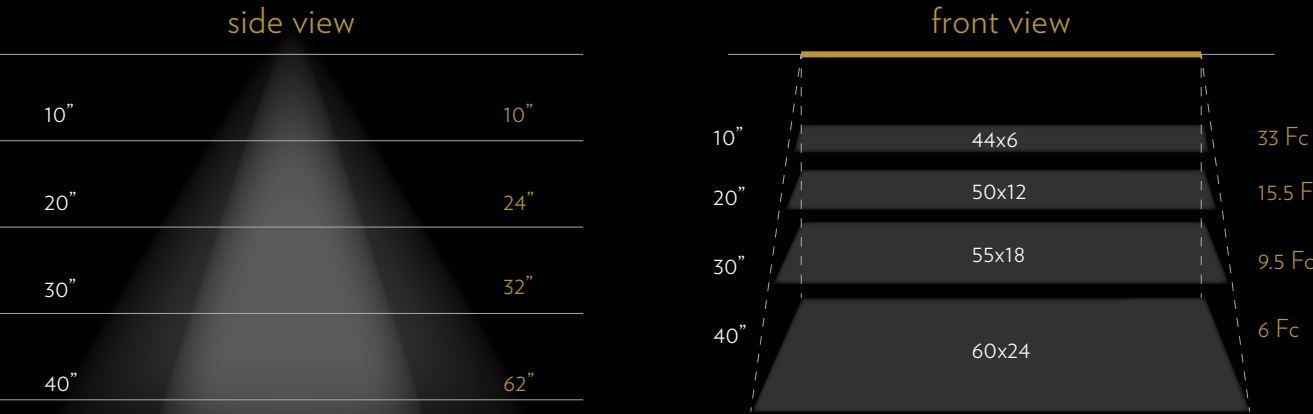
LED ILLUMINATORS
Mated to our fiber optic bundle CAX2 brings the light directly to our Microfixtures inside the casework.

15-122/ 20W
SPECIFICATIONS

Max power consumption	20W
Input Voltage	190–240V AC
Input Current	1A
CRI	3000K-97
CCT	3000K
Dimmer function	Yes
Operating temp	Natural Convection
Weigh	1.24kgs / 2.75lbs
Dimensions	152mm x 81mm x 125mm
Material	Alum. Alloy / PC

PRODUCT CODES

| CCT 3000K | 15-121-3K |

10-200-BP 30/35W
SPECIFICATIONS

Max power consumption	30-35W
Input Voltage	90–240V AC 60Hz
Input Current	1A
CRI	3000K – 97, 3500K – 90+, 4000K – 90+
CCT	3000, 3500, 4000
Dimmer function	Yes
Operating temp	+5°<ta<40°C
Weigh	1.4kgs / 3lbs
Dimensions	199.5mm x 131.7mm x 98.5mm
Material	Alum. Alloy / PC

PRODUCT CODES

CCT 3000K	10-200-B P-3K
CCT 4000K	10-200-B P-4K
CCT 3500K	10-200-BP-3.5K

10-200-BP-DMX/ 30/35W
SPECIFICATIONS

Max power consumption	30-35W
Input Voltage	90–240V AC 60Hz
Input Current	1A
CRI	3000K – 97, 3500K – 90+, 4000K – 90+
CCT	3000, 3500, 4000
Dimmer function	Yes
Operating temp	+5°<ta<40°C
Weigh	1.44kgs / 3.2lbs
Dimensions	193.6mm x 166.7mm x 98.5mm
Material	Alum. Alloy / PC

PRODUCT CODES

CCT 3000K	10-200-BP-DMX-3K
CCT 4000K	10-200-BP-DMX-4K
CCT 3500K	10-200-BP-DMX-3.5K

LED ILLUMINATORS (AVAILABLE IN EUROPE)

15-135 / 35W
SPECIFICATIONS

Max power consumption	35W
Input voltage	110-220 V
Input current	1A
CRI	3000K-97
CCT	3000k, 4000k
Dimmer function	yes
Operating temp	+5 < Ta < +40°C
Weigh	1.25kg
Dimension	191mm x 150mm x 96mm
Material	Alum. Alloy / PC

PRODUCT CODES

CCT 3000K	15-135-3K
CCT 4000K	15-135-4K

15-145 / 45W
SPECIFICATIONS

Max power consumption	45W
Input voltage	110-220 V
Input current	1A
CRI	3000K-97
CCT	3000k, 4000k
Dimmer function	yes
Operating temp	+5 < Ta < +40°C
Weigh	2.5kg
Dimension	191mm x 180mm x 122mm
Material	Alum. Alloy / PC

PRODUCT CODES

CCT 3000K	15-145-3K
CCT 4000K	15-145-4K

LED ILLUMINATORS - INTERACTIVE

By combining the best attributes of LED's and fiber optic delivery systems, the dynamic interactive showcase is now possible. We have two options: The 80-101 is a 24 channel illuminator with 24 LED's - each with a unique fiber strand. The 80-105 5 Port has 5 ports, each can accommodate up to 10 strands of fiber.

15-122/ 20W
SPECIFICATIONS

5 channels/ DMX dimming capable

5 channel of control via PC console for timed transitions

Remote location keeps out heat and electric power inside the display

Stream content directly to visitor per sonal devices

Wireless transmission to mobile server to modify on the fly

Max power consumption: 35W

Input Voltage: 90-240V AC

Input Current: 1A

CCT: 3000K or 4000K

Max operating temperature: +5° to 40°C

Use: For Indoor use only, IP20

Dimensions: 440mm*155mm*65mm

INTEGRATING IN DISPLAY CASES

After decades lighting display cases around the world, it's undeniable that integrating lighting systems within the original designs of the cases is the best way for lighting to 'disappear' while enabling objects to shine.

Integrating lighting correctly is a collaboration between the designers, fabricators, curators, and lighting provider. We are happy to provide counsel taking our experience of lighting thousands of cases worldwide from the very beginning of a project.

Our optics attach on 6mm rods and grid tops made of 6mm rods, there are also recessed options, single strand options etc

Some specifics to bear in mind:

- Grid Tops need 4 inches between the grid and the ceiling to move the fiber around. Ceiling should always be painted black.

- 6mm rods need to be at least 2 inches from the wall to give enough bend radius for the fiber to turn and affix to optics (for 2mm fiber – more for larger fibers).

- Making sure the lighting will have the angles needed – looking at depth, placement of objects.

INSTALLATION AND FOCUS

Luxam fiber optic lighting requires more diligence during installation than standard wash lighting. Each individual fixture is focused onto objects mounted within the casework. Our expert focusers have been trained in the Luxam system and are lighting experts – making sure that the final focus of the lighting is done to the highest standard.

Our teams have been called in to do one case or worked for months to do the display lighting of entire museums.

For best museum quality results, we recommend our personnel do a final focus.

We are always happy to train on site teams who will care for the maintenance of the cases.

THERE ARE THREE STAGES OF INSTALLATION:

- BASIC FITTING - The fibers or Lightsticks are installed into the cases. No optics are fitted to the tail ends and no tails are being fixed into position.

- FIRST FIX - The Lightsticks or fibers are placed, directed, and fixed into position to give a wash over the artifacts. They are fixed into position at regular intervals and directed towards the interior of the case. The purpose and result of this stage is to have the lights on in the case.

- FINAL FOCUS - In this stage, which is always taking place in cooperation with the curator, the lights are directed from the interior to the artifact. Final focus requires the objects and all labels to be in their final position within the case prior to our work beginning.

PHOTO 27

PHOTO 28

PHOTO 29

PHOTO 30

PHOTO 31

PHOTO 32

LUXAM
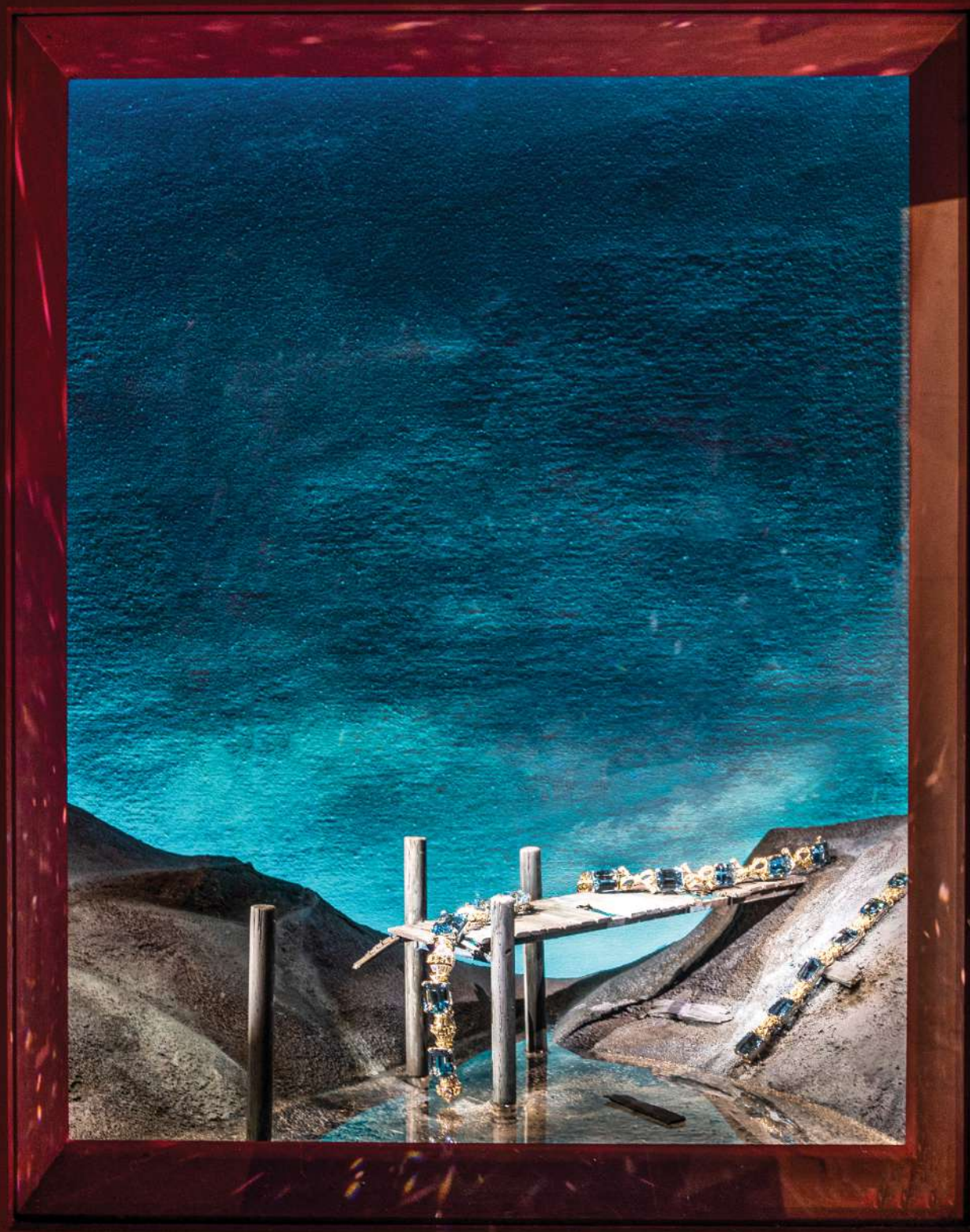
PART NUMBERS AND CODES

FIBER OPTIC SYSTEMS CATALOGUE

MICRO-FIXTURES

55-101

10° micro-fixture, stirrup mount

55-201

10° micro-fixture, staple mount for Ø.4" (10mm)

55-202

5° micro-fixture, staple mount for 0.4" (10mm)

55-203

5° micro-fixture, staple mount for 0.63"

55-204

5° micro-fixture, staple mount for 0.8" (20mm)

55-205

5° micro-fixture, stirrup mount

55-542

5° micro-fixture with front focalisation, staple mount for .63"

55-543

5° micro-fixture with front focalisation, staple mount for .8"

55-545

10° focusable micro-fixture, staple mount for 0.4" (10mm)

55-548

5° micro-fixture with front focalisation, stirrup mount

55-549

10° focusable micro-fixture, stirrup mount

55-210

10° micro-fixture, staple mount for 0.24"

55-207

5° micro-fixture, staple mount for 0.24"

55-301

10° micro-fixture, staple mount for 0.63"

55-304

10° micro-fixture, staple mount for 0.8"

55-535

5° micro-fixture with front focalisation, staple mount for .24"

55-541

5° micro-fixture with front focalisation, staple mount for .4"

FRAMING MICRO-PROJECTORS

55-430

Framing micro-projector, staple mount for 0.4(10mm), V-shaped blades.

55-431

Framing micro-projector, staple mount for 0.63"

55-432

Framing micro-projector, staple mount for 0.8"

55-433

Framing micro-projector, stirrup mount, V-shaped blades.

55-435

Framing micro-projector, staple mount for 0.24"

MODULAR MICRO-COMPONENTS

55-100

10° micro optic head

55-120

5° micro optic head

55-405

0.4(10mm) micro-optic head/ 10° for micro-fixture body

55-406

Micro-optic head/5° with double focusing device

55-505

Micro-fixture body without 0.4(10mm) optic head, stirrup mount

55-510

Micro-fixture body without 0.4(10mm) optic head

60-311

25°/35° mini optic head assembly

60-312

10° mini optic head assembly

60-400

Mini fixture body for 20°/35° lens (reference 60-320), surface mount

60-410

Mini fixture body for 20°/35° lens (reference 60-320), through pannel mount

60-415

Mini fixture body for 20°/35° lens (reference 60-320), staple mount on 0.24" tube

60-420

Mini fixture body for 20°/35° lens (reference 60-320), staple mount on Ø.4" tube

MICRO- FLEXIBLES

55-404

10° micro-optic head for 06mm micro-flexible tube

55-402

09mm micro-head without optic for 06mm micro-flexible tube

55-545

10° focusable micro-fixture, staple mount for 0.4" (10mm)

FILTER ACCESSORIES

55-433

Framing micro-projector, stirrup mount, V-shaped blades.

55-430

Framing micro-projector, staple mount for 0.4(10mm), V-shaped blades.

55-505

Micro-fixture body without 0.4(10mm) optic head, stirrup mount

55-510

Micro-fixture body without 0.4(10mm) optic head

55-405

0.4(10mm) micro-optic head/ 10° for micro-fixture body

55-406

Micro-optic head/5° with double focusing device

65-160

Staple mount for 0,24" and 00,4" grid with 6mm rod 70mm length

55-401 - 100

06mm micro-flexible tube for 01.5 and 02 fiber, 4"(10cm) long

55-401 - 150

06mm micro-flexible tube for 01.5 and 02 fiber, 6"(15cm) long

55-401 - 200

06mm micro-flexible tube for 01.5 and 02 fiber, 8"(20cm) long

55-401

Micro-flexible tube, per meter

55-420

Cut to length

65-260

Staple mount for 0.24" grid and 0.24 rod/

60-430-X

Mini holder without lens, adjustable, magnetic mounting plate

60-310

Threaded mini holder

60-330

Mini 10° adjuster for 20°/35° optic head (60-320)

65-100

Adjustable coupler for Ø3,4,5 optic cable to Ø.24" rod

65-101

Through pannel threaded tube mount for 0.24" rod
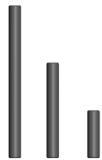
65-102

Staple mount for Ø.4" grid and 0,24"rod/

65-103

Surface mounting plate for Ø.24" rod

65-310

Magnetic mounting plate for Ø,24" rod/

65-110-25

0.24" rod, 1"

65-110-50

0.24" rod, 2"

65-110-100

0.24" rod, 4"

65-110-200

0.24" rod, 8"

65-110-300

0.24" rod, 12"

65-110-1000

0.24" rod, 39,5"

65-110-2000

0.24" rod, 79"

50-050

01,22" adustable micro-sphere, 10° optic, for .86" thick panel

50-055

01,22" adustable micro-sphere, 5° optic, for .86" thick panel

50-107

Adjustable mini-sphere, 18°/43° optic, 0.87" for 03,4,5 optic cable, fixation by clamping on back flange

50-108

Adjustable mini-sphere, 18°/43° optic, 0.87" for 03,4,5 optic cable, fixation by 2 screws

50-116

Adjustable mini-sphere without optic, for 03,4,5 optic cable, fixation by clamping on back flange

50-117

Adjustable mini-sphere without optic, for 03,4,5 optic cable, front fixation by 2 screws

57-302

Filter holder for nano-fixtures

57-303

Barn-doors/filter holder for nano-fixtures
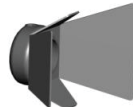
57-304

Nano snoot for nano-fixture

55-302

Filter holder for micro-fixture and semi-recessed adjustable mini sphere 50-116 and 50-117

55-303

Barn-doors/filter holder for micro-fixture and semi-recessed adjustable mini sphere 50-116 and 50-117

55-315

Asymmetric barndoors/filter holder for micro-fixture and semi-recessed adjustable mini sphere 50-116 and 50-117

55-320

Micro snoot for micro-fixture and semi-recessed adjustable mini sphere 50-116 and 50-117

55-325

Beveled micro snoot for micro-fixture and semi-recessed adjustable mini sphere 50-116 and 50-117
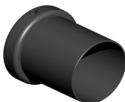
60-110

Filter holder for mini optic

60-115

Barn-doors/filter holder for mini optic

60-120

Mini snoot for mini optic

60-125

Beveled snoot for mini-fixture/

PHOTO CREDITS

Photo 1 (Cover) & 2 (Table of Contents)
Museum: Australian Museum
Lighting Designer: MEGS Lighting
Case Fabricator: Goppion
Exhibition Designer: Aaron Maestri Heritage
Architect: Design 5 Photography Credit: Rosie Hastie

Photo 2
Museum: Peary–MacMillan Arctic Museum | Bowdoin College
Design and production : GSM Project
Fabrication : Kubik Maltbie
Lighting Design: Lightfactor
Photography: Catherine Forand

Photo 3
Museum: American Museum of Natural History
Lighting Designer: Renfro Design Group
Case Fabricator: ClickNetherfield
Exhibit Designer: Ralph Appelbaum Associates
Exhibit Fabricator: Kubik Maltbie
Photo Credit:© Frank Oudeman/OTTO

Photo 4
Exhibition Museum: University of Arizona Museum of Art
Exhibition Fabricator: Design and Production
Exhibition Photo Credit: Logan Havens
Exhibition Lighting Designer: Technical Artistry – Kyle Chepulis
Case Fabricator: Meyvaert

Photo 5
Museum: Academy Museum of Motion Pictures
Exhibition Case Fabricator: Zone Display Cases
Photo: Joshua White JWPictures.com
Exhibition Lighting Designer: Available Light
Exhibition Lighting Integrator: Clearwing System Integration

Photo 6
Credits: Museum: National Museum of American History
Exhibit Designer: Reich+Petch
Exhibit Fabricator: Cinnabar
Lighting Designer: Available Light
Lighting integrator: EOS Lightmedia
Case Fabricators: Meyvaert
Multimedia: Cortina Productions
Ewing Cole
Photo Credit: Jay Rosenblatt Photography

Photo 7
Museum: National Music Museum
Exhibit Design: Luci Creative
Exhibit Fabrication: Ravenswood Studio Inc.
Casework: Click Netherfield
Showcase and Reader Rail Lighting Focus: LUXAM
Media Producer: Northern Light Productions
AV Integration: Electrosonic
Photo: Courtesy of Jaron Keener (edited)

Photo 8
Credits: Original Tibetan Cultural Museum Qinghai, China
Photo Credit: Mathias Guillin

Photo 9
Museum: The Metropolitan Museum of Art
Exhibition Fabricator: Dimensional Worldwide
Exhibition Graphic Designer: Abby Chen (Met Staff)
Exhibition Curators: Hannah Beachler, Michelle Commander, Sarah E. Lawrence (Met Staff), Ian Alteveer (Met Staff)
Exhibition Lighting Designer: Amy Nelson (Met Staff)
Exhibition Designer: Hannah Beachler, Fabiana Weinberg (Met Staff)
Exhibition Production Artist: Sarah Parke (Met Staff)
Photo Credit: The Metropolitan Museum of Ar

Photo 10
Credits: Sanxingdui Museum
Photo Credit: Mathias Guillin

Photo 11
Museum: Philipse Manor Hall
Exhibit Designer: Amaze Design
Exhibit Fabricator: Split Rock Studios
Lighting Designer: Christensen Lighting
Case Manufacturer: Zone Display Cases
Photo Credit: Gilbertson Photography

Photo 12
Exhibition Museum: Musée de la Toile de Jouy

Photo 13
Museum: Library of Congress
Lighting Designers: Marc Roman and Dave Jung (LOC Staff)
Photo Credit: Shawn Miller

Photo 14
Museum: Peary–MacMillan Arctic Museum | Bowdoin College
Design and production : GSM Project
Fabrication : kubik maltbie
Lighting Design: Lightfactor
Photography: Catherine Forand

Photo 15
Exhibition Museum: University of Arizona Museum of Art
Exhibition Fabricator: Design and Production
Exhibition Photo Credit: Logan Havens
Exhibition Lighting Designer: Technical Artistry – Kyle Chepulis
Case Fabricator: Meyvaert

Photo 16
Museum: National Air and Space Museum
Exhibition Designer: Haley Sharpe Design
Exhibit Fabricator: Design and Production
Lighting Designer: Abernathy Lighting
Display Case Focusing: LUXAM Lighting, LLC
Photo Credit: Smithsonian Institution, Jim Preston

Photo 17
Museum: Bavarian National Museum
Display case fabritcator: Glasbau REIER
Display Case Focusing: LUXAM Lighting, LLC
Photography Credit: Raffael Pollak

Photo 18
Museum: Goldkammer Museum
Exhibit Fabricator : Barth
Lighting Designer: Pfarré Lighting Design
Display Case Focusing: LUXAM Lighting, LLC

Photo 19
University of Melbourne- Old Quad Exhibition: Multivocal
Exhibition Lighting and Focus: Megs Lighting
Photos by Christian Capurro

Photo 20
Museum: Bavarian National Museum
Display case fabritcator: Glasbau REIER
Display Case Focusing: LUXAM Lighting, LLC
Photography Credit: Raffael Pollak

Photo 21
Museum: National Air and Space Museum
Exhibition Designer: Haley Sharpe Design
Exhibit Fabricator: Design and Production
Lighting Designer: Abernathy Lighting
Display Case Focusing: Luxam

Photo 22
Museum: Chateau de Versailles
Scenography Design: Jerome Dumoux
Case Fabrication: Muevo – Museum Evolution
Mounting: Aïnu
Lighting Focus: LUXAM Lighting, LLC
Bavarian National Museum
Photography Credit: Raffael Pollak

Photo 23
Museum: RMO LEIDEN
Collection of Derek Content: Rijksmuseum voor Oudheden, Leiden
Designer: Anika Ohlerich
Lighting Designer: Chris Pype licht
Graphic Design: Esther Devries
Showcases: Glascom
Film: Scheltens & Abbenes
Bavarian National Museum
Case Fabricator: Glasbau REIER
Display Case Focusing: LUXAM Lighting, LLC

Photography Credit: Mike Bink

Photo 24
Museum: QASR AL WATAN
Case Fabricator: Meyvaert
Photo Credit: Catalin Marin

Photo 25
Museum: QASR AL WATAN
Case Fabricator: Meyvaert
Photo Credit: Catalin Marin

Photo 26
Museum: National Museum of African American History and Culture
Exhibit Designer: Ralph Appelbaum Associates
Exhibit Fabricator: Design and Production
Lighting Designer: Fisher Marantz Stone
Display Case Focusing: Design and Production
Photography: Alan Karchmer, Alex Jamison, Eric Long courtesy of NMAAHC

Photo 27
Musée de la Chasse et de la Nature, Paris
Scenography/Museography : Scénos-Associés
Display Case Light Focus: LUXAM Lighting, LLC
Fondation François Sommer
Painting of Dioramas: François Malingrey
Photographer: Béatrice Hatala

Photo 28 and 29
Display case focus installation at Versailles and National
Bavarian Museum

Photo 30
Cover: Museum: National Museum of US Army
Exhibit Fabricator: Design and Production
Case Fabricator: Meyvaert
Lighting Designer: Available Light
Exhibition Track and Lighting: LSI
Display Case Lighting and Focusing: LUXAM Lighting, LLC
Photography Credit: ©2020 Duncan R. Millar / Design and Production Incorporated.

Photo 31
Curators: Dr Tamara Lewit and Dr Caroline Tully, Honorary Fellows, Classics & Archaeology
Photo: Courtesy of Melbourne University & Christian Capurro
Lighting Designer and Focus: MEGS lighting
Exhibitor Designer: Hohab Exhibition Design
Display cases: European Museum Technologies & Luxam
Build: Save Projects

Photo 32
Tiffany case at the LUXES exhibit at the Musée des Art Décoratifs de Paris, France
Photo credit: Martina O'Shea

REFERENCES

NORTH AMERICA

Academy Museum of Motion Pictures, CA
Alabama State Archives, Montgomery, AL
American Museum of Natural history, NY
Appomattox Court House Museum, VA
Armenian Museum of America, MA
Autry Museum of the West
Babe Ruth Birthplace, MD
Bank of Canada Museum, ON, Canada
Boston Fine Art, Boston, MA
Carnegie Museum of Natural History, PA
Carnegie Museum of New Hampshire, NH
Central Synagogue, Manhattan, NY
Chicago History Museum, IL
Chicago Museum of Science and Industry, Chicago, IL
Cincinnati Art Museum, OH
Cleveland Museum of Natural History, OH
Collier County Museum, FL
Cranbrook Institute, MI
Crystal Bridges Museum, AR
Dior Exhbit, Brooklyn Museum, NY
Emory University, GA
Fine Arts Museum of San Francisco, CA
First Division Museum at Cantigny, Wheaton, IL
Ford's Theatre, DC
Frazier Historical Arms Museum, Louisville, KY
Frick Collection, NY
George W. Bush Presidential Library, Dallas, TX
Georgia State Capitol Museum, GA
GIA Institute, CA
Hillwood Estate Museum, DC
Jamestown/Yorktown Foundation, VA
Jim Moran foundation, FL
Knoxville Museum of Art, TN
LSU Museum of Art, LA
Marco Island Museum, FL
Mariners Museum, VA
Metropolitan Museum of Art, NY
Mississippi Museum of Natural History, MI
Mississippi Museum of Natural history, Jackson, MS
Mt. Vernon Education Center, VA
Museum of American Finance, NY
Museum of Fine Art p Boston, MA
Nantucket Whaling Museum, Nantucket, MA
National Archives, DC
National Air and Space Museum, DC
National Civil War Museum, PA
National Infantry Museum, GA
National Museum of African American History and Culture, DC
National Museum of American History, DC
National Museum of American Indians, NY
National Museum of Natural history, DC
National Museum of Natural History, DC
National Museum of the American Indian, DC
National Museum of United States Army, VA
National Museum of Women in the Arts, Washington, DC
National Music Museum, SD
National Portrait Gallery, DC
National Postal Museum, DC
New York Historical Society, NY
Newseum, DC
Norton Museum of Art, FL
Old Conn. Statehouse, CT
Peabody Essex Museum, MA
Perfume Passage Foundation,
Philadelphia Museum of Art, PA
Philipse Manor Hall, NY
Pitts Theology Library Emory University, Atlanta, GA

Polk County Museum, FL
Ronald Regan Presidential Library, CA
Sandoway Nature Center, Delray, FL
Smithsonian Libraries, DC
Sports Legends Museum – Camden Yards, Baltimore, MD
The Asia Society, NY
The Catholic Museum of America, DC
The Cloisters, NY
The Henry Ford Museum, MI
The Holy Land attraction, Orlando, FL
The Flight Path Museum & Learning Center LAX, CA
The Library of Congress, Washington, DC
The Mob Museum
The White House Porcelain Collection, DC
UArizona Alfie Norville Gem & Mineral Museum, AR
University Conn Ballard Museum of Puppetry, CT
University of Florida Harn Museum of Asian Art, Gainesville, FL
US Marine Corps Museum, VA
US Mint, Philadelphia, PA
US Naval Academy – John Paul Jones crypt, Annapolis, MD
USC - Doheny Library Treasure Room, Los Angeles, CA
US Golf Association Museum
Vassar College, NY
Virginia Museum of Fine Art, VA
Walters Art Museum, Baltimore, MD
Walt Disney/ France Pavillion Epcot, FL

SOUTH AMERICA

Acheological Museum of Piura, Peru
Museu Carlos Costa Pinto, Salvador de Bahia, Brasil Museum of Sacred Art, Belem, Brasil
Museo de la moda, Santiago, Chile
Museo de Bellas Artes, Santiago, Chile

EUROPE

Amsterdam University Library
Archeological museum of Mykenae
Army Museum, Bruxelles
Ashmolean Museum ,Oxford
Australian Memorial Monash Villers bretonneux, France
Blaschka collection, Aquarium, Liége
Byzantyne Museum, Athens
Carolus Borromeus, Antwerpen, Belgium
Faberge and Icon exhibition,Vatican
Hasselt Museum, Belgium
Diamond museum, Antwerpen, Belgium
Faberge Exhibition, Venaria Reale, Torino
Gaasbeck castle, Belgium
Historische Museum, Basel
Holborn museum, Bath, UK
Katoenatie museum, Antwerpen, Belgium
King's Library British Museum, UK
La Bibliothèque Nationale, Paris
Landesmuseum Emden, Germany
Le Musée d'Orsay, Paris
Le Musée des Antiquités Nationales de Saint Germain en Laye
Manching Kelt Museum, Germany
Le Musée Fragonard de Grasse
Le Palais de la Découverte, Paris
Les Archives Nationales, Paris
Library Braunschweg, Germany
Maison Rouge, Paris
MAS, Antwerpen, Belgium
National Bavaria Library, Munich, Germany
Middelheim Museum, Atwerppen, Belgium
Mineralogy Museum, Liban

Musee parfum Fragonard, France
Musée Borelli, France
Musée de l'Armée, Invalides, France
Musée de l'esclavage, Pointe a pitre, Guadeloupe, France
Musee de la Chasse, France
Musée de la dentelle, Calais, France
Musée de la gendarmerie, Melun, France
Musée de la Toile de Jouy, France
Musée du Louvre, France
Musée Delvaux Brussels, Belgium
Musée Historique de Strasbourg, France
Musée des Beaux Arts, Bruxelles
Musée L Louvain la Neuve, Belgium
Musée M leuven, Belgium
Museum of London
Museum of Natural History, Madrid
National Archeological Museum of Athens
National Archeological Museum of Thessaloniki
National Bavaria Museum, Munich, Germany
National Museum of Iceland
National Museum of Ireland 1916
Order of St John Museum, London, UK
Palais Borely, Marseille, France
Palais de Tokyo , Paris, France
Palais de Versailles, France
Petit Palais, Paris, France
Pitt Rivers Museum, Oxford
Preston Porcelain Museum, UK
Rijks egyptian colllection Leiden Holland
RMO Leiden, National Museum of Antiques, Netherlands
Royal Library Bruxelles
Royal Medieval Textile Museum, Burgos, Spain
Saint Peter Babbey, Gent, Belgium
Toy Museum, Luxembourg
Valencia History Museum, Spain

ASIA

Asian Civilization Museum, Singapore
Cartier & Women, Palace Museum, HK
Ceramic gallery, Reference Collection, Forbidden city, Beijing
Chiang Mai National Museum, Thailand
Dior Exhibit, National Museum of Qatar
Fireboat Museum, Hong Kong
Hubei history Museum, China
Hunan Museum, China
Indian Heritage Museum, Singapore
Inner Mongolia Museum, China
Louvre Abu-Dhabi, UAE
National Library, Singapore
National Library, Singapore
National Museum of Singapore
Peranakan Museum, Singapore
QASR Al Watan - Abu Dhabi, UAE
Shenzen Regional Museum, China
Shindagha, Dubai
The Chariots, The Terra Cotta Museum, Xian, China

OCEANIA

Australia Museum ,Sydney ,Australia
Australian National Maritime Museum He Tohu ,Wellington, New Zealand
MONA, Hobart ,Tasmania
National Gallery of Victoria, Melbourne, Australia
State Library of Victoria, Melbourne, Australia
The Schrine, Melbourne, Australia
TMAG, Hobart, Tasmania
Univerity of Melbourne, Old Quad, Multivocal, Australia

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