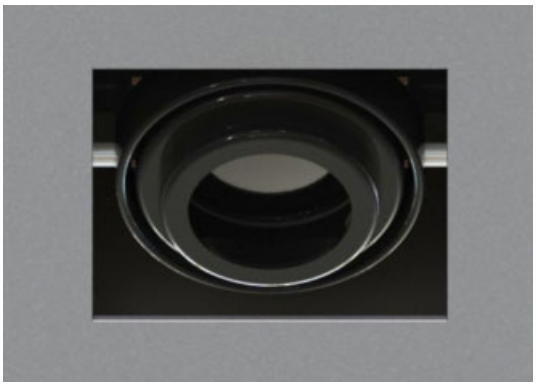
Job Name Here	Fixture Type Here
Designer/Firm Name Here	Ordering Information Here

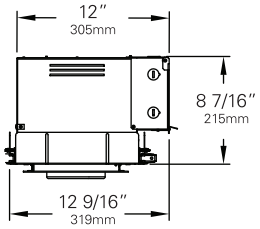
MAR-L1 • 120/277V • LED • XICATO

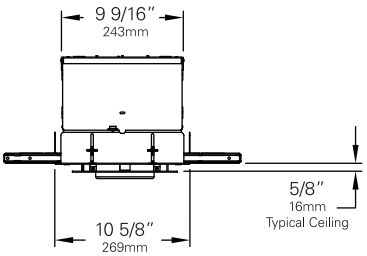


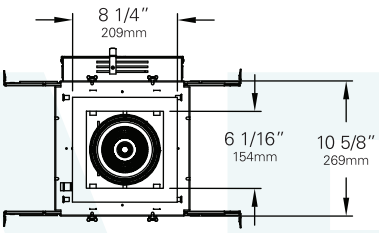
The LumeLEX MAR1 Series features the highly efficient Xicato XTM Modules and a variety of optics and accessory options for unprecedented flexibility.

- Designed for the Xicato™ XTM LED module up to 20 Watts
- Extremely tight color consistency (less than 2 MacAdam Ellipses)
- System efficiency up to 100 lumens/watt
- Backed by Xicato's Five Year Color Consistency and Lumen Maintenance Warranty
- Tested to LM79 and LM80 Protocols
- 50,000 hour life to 70% lumen output, L_{70} at 95°F max ambient
- Integral electronic driver compatible with reverse phase (ELV compatible) dimmers down to 5%
- Choice of 13°, 24° or 43° field changeable optic
- 25° Aiming
- Choice of LED modules with various lumen outputs
- Choice of color temperatures
- Color Rendering Index (CRI) of either 98 (high) or 83+ (standard)
- No UV or IR emissions; no mercury or lead
- All LumeLEX modules are field replaceable
- Can be ordered for 120V or 277V
- Sturdy steel housing with spun aluminum lamp holders
- Accepts up to three size-B LSI filters and accessories
- Thermally protected and approved for all Non-IC ceiling types, including air handling plenums
- Unique spring-loaded clamping system facilitates installation in plaster, sheetrock or acoustic tiles
- Supplied with LED driver
- Flange finishes: LSI Black, White and Silver
- Fixture weight: 12 LB
- c ETL us

SPECIFICATIONS







Job Name Here	Fixture Type Here
Designer/Firm Name Here	Ordering Information Here

MAR-L1 • 120/277V • LED • XICATO

ORDERING INFORMATION

1. Choose the product code
   (L1) for Large 1-head fixture

2. Choose the numeric code to designate the desired LED Rating
   Lumens/CRI/Wattage
   (13-98) for 1300/98/18
   (20-83) for 2000/83/20
   (21-98) for 2100/98/24
   (27-83) for 2700/83/24

3. Choose the numeric code to designate the desired **Color Temperature**
   (27) for 2700K **(30)** for 3000K
   (35) for 3500K **(40)** for 4000K

4. Use the following alpha-numeric codes to designate the **Optic:**
   (M13) for 13° **(M24)** for 24° **(M43)** for 43°

5. Choose the letter code for **Dimming Type:**
   (TE) Trailing Edge (ELV Reverse Phase) (5%)
   (10) 0-10V (10%)
   (L3) Lutron Ecosystem

6. Choose the desired **Voltage**:
   (120) for 120V **(277)** for 277V

7. Choose a **Finish** for your fixture:
   Black **(B)** White **(W)** Silver **(S)** Trimless **(T)**

Example:

LXMAR-L1	13-98	27	M24	TE	120	W
FIXTURE	LED RATING	COLOR TEMP	OPTIC	DIMMING	VOLTAGE	FINISH

8. Don't forget your Accessories!

ACCESSORIES

Glass Color Filters B
Selection of 95 permanent rimmed dichroic and rimmed and slotted standard colors.

- **Color and Spread Gels B**
- **Backer Ring B**

Other accessories:

- **Spread Lenses B990, B992, B995, B996**
- **Beam Softener B998**
- **Louver Hex B**
- **Light Blocking Screens B801S, B802S, B803S**

MAR-L1 • PERFORMANCE

The performance characteristics of the LumeLEX MAR Series can be customized based on the LED module and the optic (reflector) selected.

Each available LED module is defined by four characteristics – the color rendering index (CRI), the correlated color temperature (CCT), the power that it uses (watts), and its "available lumens." Note that available lumens is a theoretical value that represents the light output of the module on its own – no fixture or optic attached.

In the LSI part number, the LED module is specified with a number that immediately follows the product series number. For example, in the part number LXMAR-L1-13-98-27-M24-TE-120-W, the "**13-98-27**" represents an LED module with an output of 1300 lumens, a CRI of 98, a power usage of 18 watts and a color temperature of 2700K.

Additional parameters, such as Center Beam Candle Power (CBCP), Delivered Lumens, and Efficiency (Lumens per Watt) are all shown in a table that is organized by LED module and optic combination.

CBCP = Center Beam Candle Power

LED Module	Optic (Reflector)		
Lumens/CRI/Wattage	**M13**	**M24**	**M43**
1300/98/18	7995	2847	1703
2000/83/20	12300	4600	2613
2100/98/24	12915	4599	2751
2700/83/24	18449	6579	3920

Delivered Lumens

LED Module	Optic (Reflector)		
Lumens/CRI/Wattage	**M13**	**M24**	**M43**
1300/98/18	1027	1040	1027
2000/83/20	1580	1600	1580
2100/98/24	1659	1680	1659
2700/83/24	2133	2160	2133

Efficiency = Lumens Per Watt

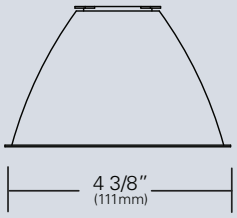
LED Module	Optic (Reflector)		
Lumens/CRI/Wattage	**M13**	**M24**	**M43**
1300/98/18	57	58	57
2000/83/20	79	80	79
2100/98/24	69	70	69
2700/83/24	89	90	89

Absolute range of values are +/- 10% of typical value, and are for all color temperatures

LED Module **Lumens/CRI/Wattage** **SKU Code**	**1300/98/18** **13-98**	**2000/83/20** **20-83**	**2100/98/24** **21-98**	**2700/83/24** **15-83**
Nominal Fixture Power (+/- 20%), Watts	18	20	24	24
Maximum Inrush Current Amps	10	10	10	10
Minimum Power Factor	0.92	0.92	0.92	0.92

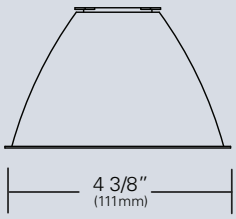
Inrush current is instantaneous current drawn by the LED only when fixture is initially powered on or instantaneously changed from full dim to full bright. For more details see Dimming Application Sheet, IS-0119.

MAR-L1 • OPTICS



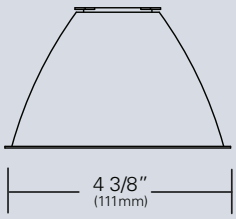
M13 REFLECTOR (111mm/13°)

Computer designed polycarbonate specular optic. Tool-less, twist and lock installation.



M24 REFLECTOR (111mm/24°)

Computer designed polycarbonate specular optic. Tool-less, twist and lock installation.



M43 REFLECTOR (111mm/43°)

Computer designed polycarbonate specular optic. Tool-less, twist and lock installation.

MAR-L1 • PHOTOMETRIC DATA

LED RATING: 20-83

M13 Optic

Beam Spread (minimum)	**13°**
Center Beam Candlepower	**12300**
CRI	**83**

M24 Optic

Beam Spread (minimum)	**24°**
Center Beam Candlepower	**4600**
CRI	**83**

M43 Optic

Beam Spread (minimum)	**43°**
Center Beam Candlepower	**2613**
CRI	**83**

LED RATING: 27-83

M13 Optic

Beam Spread (minimum)	**13°**
Center Beam Candlepower	**18449**
CRI	**83**

M24 Optic

Beam Spread (minimum)	**24°**
Center Beam Candlepower	**6579**
CRI	**83**

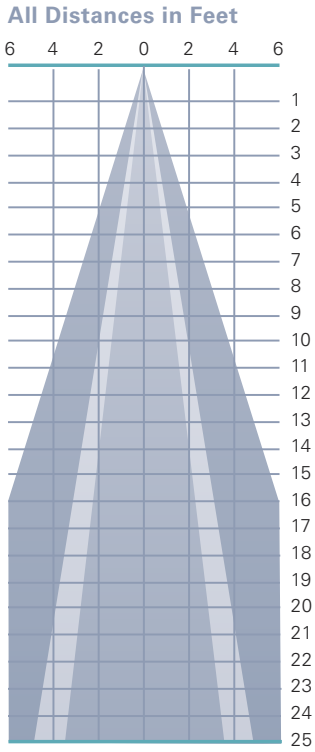
M43 Optic

Beam Spread (minimum)	**43°**
Center Beam Candlepower	**3920**
CRI	**83**

LED RATING: 20-83

All Max. Footcandles at 0° Beam Axis

M43 (43°)	M24 (24°)	M13 (13°)
2613	4600	12300
653	1150	3075
290	511	1367
163	288	769
105	184	492
73	128	342
53	94	251
41	72	192
32	57	152
26	46	123
22	38	102
18	32	85
15	27	73
13	23	63
12	20	55
10	18	48
9	16	43
8	14	38
7	13	34
7	12	31
6	10	28
5	10	25
5	9	23
5	8	21
4	7	20

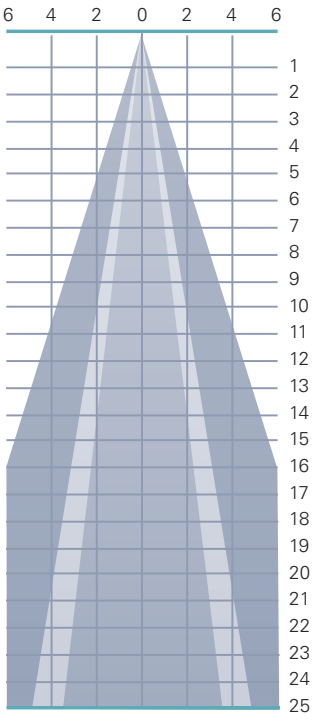


Photometric Data based on LED Rating: 20-83 (2000 Lumens/83CRI/20watts)

LED RATING: 27-83

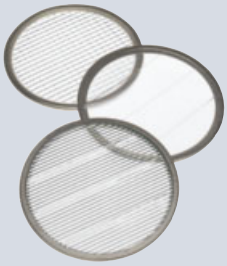
All Max. Footcandles at 0° Beam Axis

M43 (43°)	M24 (24°)	M13 (13°)
3920	6579	18449
980	1645	4612
436	731	2050
245	411	1153
157	263	738
109	183	512
80	134	377
61	103	288
48	81	228
39	66	184
32	54	152
27	46	128
23	39	109
20	34	94
17	29	82
15	26	72
14	23	64
12	20	57
11	18	51
10	16	46
9	15	42
8	14	38
7	12	35
7	11	32
6	11	30



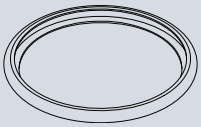
Photometric Data based on LED Rating: 10-98 (2700 Lumens/83CRI/24watts)

MAR-L1 • ACCESSORIES



SPREAD LENSES AND BEAM SOFTENER

No.	Description	% of Light Transmission
990	Spread Lens/Clear	83 (5°X 50°)
992	Spread Lens/Clear	85 (5°X 30°)
995	Spread Lens/Clear	83 (50°X 50°)
996	Spread Lens/Clear	86 (45°X 50°)
998	Beam Softener/Clear	80 (45°X 45°)



BACKER RING B

Stainless steel ring to hold gel when no other size Baccessories are being used.

LOUVER HEX B

1/8" thick Hexcell black metal louver used for thin profile.

[1.] LIGHT BLOCKING SCREENS B

Stainless steel mesh screens used alone or in combinations will block from approximately 20% to 90% of the transmitted light without changing color temperature of the light.

No.	% of Light Blocked
B801S	20
B802S	30
B803S	40

1. Figures vary based upon LED Module/Optic being used and relationship of screen(s) to LED Module/Optic and to each other.

MAR-L1 • GELS

As the foremost innovator in accent lighting, LSI offers a complete range of pre-cut Gels to modify the spread and color of light for the LumeLEX LED Series.

LumeLEX® SPREAD GELS

Size: B (4 1/4" diameter)	Spread Gel
GEL-L1-B	1° Spread Gel
GEL-L5-B	5° Spread Gel
GEL-L10-B	10° Spread Gel
GEL-L20-B	20° Spread Gel
GEL-L30-B	30° Spread Gel
GEL-L40-B	40° Spread Gel
GEL-L60-B	60° Spread Gel
GEL-L80-B	80° Spread Gel
GEL-L30B5-B	30° by 5° Spread Gel
GEL-L40B2-B	40° by 0.2° Spread Gel
GEL-L60B1-B	60° by 1° Spread Gel
GEL-L60B10-B	60° by 10° Spread Gel
GEL-L75B45-B	5° by 45° Spread Gel
GEL-L90B60-B	90° by 60° Spread Gel
GEL-R101-B	Beam Softener

LumeLEX® COLOR GELS

Size: B (4 1/4" diameter)	Gel Color	Size: B (4 1/4" diameter)	Gel Color
GEL-R2-B	Bastard Amber	GEL-R312-B	Canary
GEL-R7-B	Pale Yellow	GEL-R3204-B	Half Blue
GEL-R12-B	Straw	GEL-R331-B	Shell Pink
GEL-R13-B	Straw Tint	GEL-R383-B	Sapphire Blue
GEL-R14-B	Medium Straw	GEL-R397-B	Pale Grey
GEL-R21-B	Golden Amber	GEL-R2001-B	Storaro Red
GEL-R25-B	Orange Red	GEL-R2004-B	Storaro Green
GEL-R26-B	Light Red	GEL-R2009-B	Storaro Violet
GEL-R27-B	Medium Red	GEL-R3202-B	Full Blue
GEL-R57-B	Lavender	GEL-R3206-B	Third Blue
GEL-R62-B	Booster Blue	GEL-R3216-B	Eighth Blue (Boosts 3200K to 3300K)
GEL-R71-B	Sea Blue	GEL-R3318-B	Tough 1/8 Minusgreen
GEL-R72-B	Azure Blue	GEL-R3410-B	Roscosun (1/8 CTO) (Reduces 5500K to 4900K)
GEL-R91-B	Primary Green	GEL-R3441-B	Full Straw (CTS)
GEL-R97-B	Light Grey	GEL-R3443-B	Quarter Straw (CTS)
GEL-R98-B	Medium Grey	GEL-R4330-B	CalColor 30 Cyan
GEL-R101-B	Light Frost	GEL-R4415-B	CalColor 15 Green
GEL-R104-B	Tough Silk	GEL-R4490-B	CalColor 90 Green
GEL-R119-B	Lt. Hamburg Frost	GEL-R4860-B	CalColor 60 Pink
GEL-R121-B	Blue Diffusion	GEL-R4890-B	CalColor 90 Pink
GEL-R305-B	Rose Gold	GEL-R4930-B	CalColor 30 Lavender

COLOR MEDIA

COLOR FILTERS

As the foremost innovator in accent lighting, LSI offers a complete range of permanent fade-free glass color filters, which are available in nine stock diameters. All glass color filters are rimmed in a seamless aluminum ring and are slotted for heat expansion.

Size	Diameter	LSI Fixture Series
AAA	2 3/8"	LumeLEX® 2020/2030/2031/2038, SSLCX16, SSL260, LumeLEX MAR-S
ZM	2 13/16"	LZ Zoom
AA	3"	LumeLEX® 2024 (with LX2024-Holder or LX2024-Barndoor), LumeLEX® 2044, LumeLEX 2048
A	3 1/2"	LumeLEX® 2060, SSL230, SSLCX30, SSLGR30CL, SSLGR36
B	4 1/4"	LumeLEX® MAR-L
C	4 3/4"	LumeLEX® 2084, LumeLEX® 2088, SSL238, SSLCX36, SSLCX38, SSLGR38CL

No.	Color	[1]% of Light Transmission
902	Medium Pink	36
903	Deep Pink	37
904	Flesh Pink	73
906	Pale Lavender	14
907	Surprise Pink	19
908	Lilac	21
910	Warm Red	10
911	Strawberry	6
912	Ruby	4
913	Magenta	1
914	Light Amethyst	25
915	Medium Amethyst	16
916	Deep Amethyst	4
917	Olive	18
918	Light Green	68
920	Medium Green	25
921	Deep Green	7
922	Silver green	65
923	Yellow Green	49
924	Emerald Green	12
925	Light Turquoise	68
926	Medium Turquoise	40
927	Deep Turquoise	17
928	Light Blue	34
930	Medium Blue	3
932	Daylight	59
933	Gene Moore Blue	18
936	Grey	56
937	Light Blue Green	17
939	Light Amber	68
940	Medium Amber	48
941	Deep Amber	43
942	Straw	78
943	Gold	87
944	Canary Yellow	84
945	Lemon	81
946	Pumpkin	32
947	Tangerine	20
948	Orange	23
949	Pink Gold	54
950	Bronze	48
951	Brass	11
952	Autumn Tan	11
953	Leaf Brown	19
954	Butter Pecan	3
955	Toasted Almond	1

Notes:

1. Values given are approximate due to slight variations in glass color and thickness.

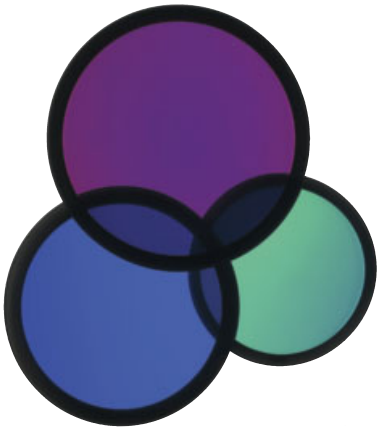
COLOR MEDIA

DICHROIC COLOR FILTERS

In addition to our complete line of glass color filters, LSI now offers dichroic glass color filters that achieve purer, more saturated, richer color by selective wavelength transmission. Since these filters reflect rather than absorb the unwanted color wavelengths, a higher intensity of colored light can be obtained with fewer or lower wattage fixtures. In addition, this selective transmission allows for very accurate color matching from filter to filter.

All standard LSI filter sizes are available in a wide palette of well chosen dichroic colors that can be used with all LSI fixtures that accept accessories.

LSI dichroic glass color filters have the added benefit of being rimmed for extra durability to allow for frequent usage without fear of breakage or edge chipping.



Size	Diameter	LSI Fixture Series
AAA	2 3/8"	LumeLEX® 2020/2030/2031/2038, SSLCX16, SSL260, LumeLEX MAR-S
ZM	2 13/16"	LZ Zoom
AA	3"	LumeLEX® 2024 (with LX2024-Holder or LX2024-Barndoor), LumeLEX® 2044, LumeLEX 2048
A	3 1/2"	LumeLEX® 2060, SSL230, SSLCX30, SSLGR30CL, SSLGR36
B	4 1/4"	LumeLEX® MAR-L
C	4 3/4"	LumeLEX® 2084, LumeLEX® 2088, SSL238, SSLCX36, SSLCX38, SSLGR38CL

Technical Data

Dichroic color filters are created in a vacuum chamber by multi-layer vapor deposits of different minerals onto low expansion, chemically resistant Borosilicate glass.

Deposits are made in alternating layers of varying microscopic thickness which allow very narrow color wavelengths to be selectively transmitted and all other wavelengths to be reflected.

LSI does not recommend using dichroic color filters with lamps or fixtures that have beam spreads greater than 40° because a secondary color aura is created by the wide angular transmitted wavelengths that are different than the desired color wavelength.

Since there is mainly transmission and reflection of the color wavelengths by the dichroic filter and very little absorption, the dichroic filter can be used with many high temperature lights that normally would not accept color filters.

No.	Color	% of Light Transmission
2001	Light Pink	69
2002	Medium Pink	43
2003	Hot Pink	11
2004	Pale Pink	55
2010	Deep Magenta	29
2011	Lavender	24
2012	Vivid Magenta	31
2013	Lavender Accent	48
2014	Lilac	37
2015	Purple Fusion	12
2020	Sky Blue	39
2021	Sea Blue	39
2022	Cyan	33
2023	Light Blue Green	30
2024	Primary Blue	24
2025	Medium Red Blue	15
2026	Deep Purple	16
2027	Peacock Blue	53
2028	Mediterranean Blue	20
2029	Boost Blue	51
2040	Light Yellow Green	64
2041	Fern Green	47
2042	Turquoise	35
2043	Primary Green	31
2044	Industrial Green	64
2050	Yellow	80
2051	Amber	71
2052	Amber Blush	38
2053	Bastard Amber	71
2054	Goldenrod	63
2055	Bright Straw	56
2060	Medium Orange	51
2061	Orange	44
2070	Flame Red	27
2071	Primary Red	25