

DATE	PROJECT	FIRM	TYPE
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THE ALL-SILICONE, FLEXIBLE LUMINAIRE WITH OPTICS, TROV FLEX L09 PACKS 2-STEP COLOR CONSISTENCY INTO A DURABLE PACKAGE SUITABLE FOR BOTH EXTERIOR AND INTERIOR USE. ITS ULTRA-DISCREET PROFILE MAKES IT AN IDEAL FIT FOR APPLICATIONS WHERE SPACE IS A PREMIUM.

FEATURES:

- DIMMABLE TO 0%
- 3 BEAM ANGLES
- FIELD CUTTABLE EVERY 6 INCHES
- 24 VDC CLASS 2
- 90+ CRI
- IP67 RATED FOR OUTDOOR AND INDOOR APPLICATIONS



MODEL SIZE	INTERIOR/ EXTERIOR	LENGTH	POWER	CCT	CRI	VOLTAGE	OPTICS
L09	E - Exterior	120 - 120" (3048mm)	05 - 5W/ft 09 - 9W/ft	27 - 2700K 30 - 3000K 35 - 3500K 40 - 4000K	90 - 90CRI	CV24 - 24VDC	10x10 15x40 ASYM

NOTE: 120in spools come with a 12in leader cable attached and sealed inside the fixture. If cutting and reusing section, additional leader cables need to be ordered separately.

EXAMPLE: L09-E-120-05-27-90-CV24-15x40

PERFORMANCE	WATTS	OPTIC	LUMEN OUTPUT	EFFICACY	CBCP
	05	10x10 15x40 ASYM	440 lm/FT (1,443 lm/m) 441 lm/FT (1,447 lm/m) 428 lm/FT (1,405 lm/m)	92 lm/W 92 lm/W 89 lm/W	4,345 700 385
	09	10x10 15x40 ASYM	714 lm/FT (2,344 lm/m) 716 lm/FT (2,350 lm/m) 696 lm/FT (2,282 lm/m)	84 lm/W 84 lm/W 82 lm/W	7,056 1,137 626

ALL LUMEN DATA IS FROM 4000K 90CRI FIXTURES. PLEASE SEE PHOTOMETRY SPEC SHEET FOR ADDITIONAL LUMEN AND TM-30 DATA.

COLOR RENDERING INDEX	90+
COLOR CONSISTENCY	2-STEP MACADAM ELLIPSE
LUMEN DEPRECIATION / RATED LIFE	WATTS L70 @ 25C
	5W-9W >50,000

*CALCULATIONS FOR LED FIXTURES ARE BASED ON MEASUREMENTS THAT COMPLY WITH IES LM-80 TESTING PROCEDURES AND IES TM-21 CALCULATOR.

ELECTRICAL	MAX POWER CONSUMPTION MAX FIXTURE RUN LENGTH OPERATING VOLTAGE DRIVER STARTUP TEMPERATURE OPERATING TEMPERATURE STORAGE TEMPERATURE	5W/ft = 4.8W (15.7W/m) ; 9W/ft = 8.7W/ft (28.5W/m) 5W/ft = 20ft (Interior) 10ft (Exterior), 9W/ft = 10ft 24VDC REMOTE DRIVER SOLD SEPARATELY -4°F TO 122°F (-20°C TO 50°C) -4°F TO 122°F (-20°C TO 50°C) -40°F TO 176°F (-40°C TO 80°C)
PHYSICAL	HOUSING/LENS WEIGHT CONNECTORS ENVIRONMENT MOUNTING OPTIONS CUT LENGTH BEND RADIUS	SILICONE HOUSING AND LENS 2.22oz/ft ; (206.5g/m) INTEGRAL MALE AND FEMALE CONNECTORS OUTDOOR WET LOCATION IP67 FOR OUTDOOR, MARINE, AND NATATORIUM APPLICATIONS STAINLESS STEEL MOUNTING BRACKET NEEDED EVERY 6 INCHES. SOLD SEPARATELY. CUTTABLE EVERY 6 INCHES (152.4MM) 3IN (75MM) VERTICAL, 0IN (0MM) HORIZONTAL
CONTROL	DIMMING	0%-100%

FIXTURE RATING & CERTIFICATIONS

UL AND CE LISTED
RoHS COMPLIANT
TITLE 24 JA8



LIMITED WARRANTY 5 YEARS

ECOSENSE®

ECOSENSE LIGHTING INC.
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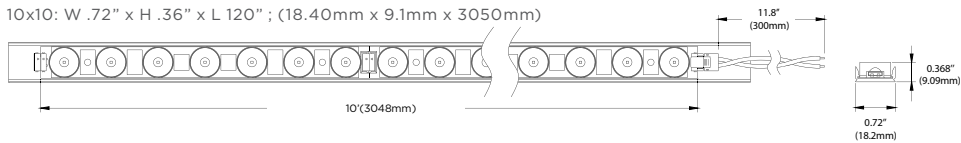
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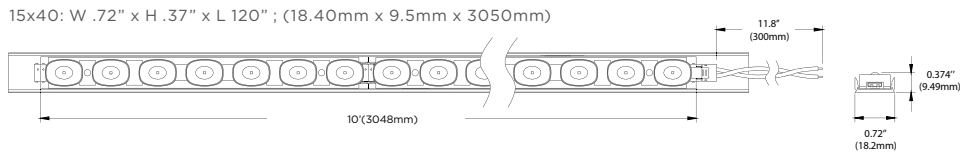
PHYSICAL

DIMENSIONS

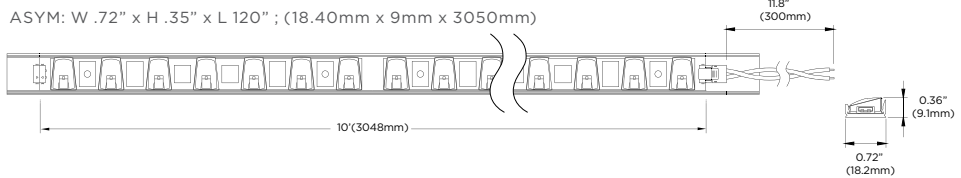
10x10: W .72" x H .36" x L 120" ; (18.40mm x 9.1mm x 3050mm)



15x40: W .72" x H .37" x L 120" ; (18.40mm x 9.5mm x 3050mm)



ASYM: W .72" x H .35" x L 120" ; (18.40mm x 9mm x 3050mm)



WIRING OPTIONS (Stand alone cables are dry/damp use only. Cable covers are required for wet locations.)

Cable Assembly, AVX Connector, Leader, 6 feet	CBL-AVX-LDR-6ft
Cable Assembly, AVX Connector, Jumper, 4 inches	CBL-AVX-JMP-4in
Cable Assembly, AVX Connector, Jumper, 12 inches	CBL-AVX-JMP-12in
Cable Assembly, AVX Connector, Jumper, 6 feet	CBL-AVX-JMP-6ft

L09 120 inch spools come with 12" wired leads. Leader and jumper cables are only needed when cutting to shorter lengths.

REMOTE DRIVER OPTIONS

MAGNETIC NORTH AMERICA

Driver, Magnetic, Exterior, MLV & TRIAC, 96W, 120/277V Dual Tap	DRV-M-E-96W-120/277-SBC
Driver, Magnetic, Exterior, MLV & TRIAC, 60W, 120/277V Dual Tap	DRV-M-E-60W-120/277-SBC
Driver, Magnetic, Exterior, MLV & TRIAC, 40W, 120/277V Dual Tap	DRV-M-E-40W-120/277-SBC

ELECTRONIC NORTH AMERICA

Driver, Electronic, Exterior, 0-10V & TRIAC & ELV, 96W, 120-277V Multi-Volt	DRV-E10-E-96W-120-277-LTF
Driver, Electronic, Exterior, 0-10V & TRIAC & ELV, 60W, 120-277V Multi-Volt	DRV-E10-E-60W-120-277-LTF
Driver, Electronic, Exterior, 0-10V & TRIAC & ELV, 40W, 120-277V Multi-Volt	DRV-E10-E-40W-120-277-LTF

MULTI-OUTPUT ELECTRONIC NORTH AMERICA

Driver, Electronic, Exterior, 0-10V & TRIAC & ELV, 96WX2, 100-277V Multi-Volt	DRV-E10-E-96WX2-100-277-KVG
Driver, Electronic, Exterior, 0-10V & TRIAC & ELV, 96WX3, 100-277V Multi-Volt	DRV-E10-E-96WX3-100-277-KVG
Driver, Electronic, Exterior, 0-10V & TRIAC & ELV, 96WX4, 100-277V Multi-Volt	DRV-E10-E-96WX4-100-277-KVG

ELECTRONIC INTERNATIONAL

Driver, Electronic, Exterior, 0-10V, 100W, 100-305V Multi-Volt, CE Only	DRV-E10-E-100W-100-305-ELG
Driver, Electronic, Exterior, DALI, 100W, 100-305V, Multi-Volt, CE Only	DRV-DALI-E-100W-100-305-ELG
Driver, Electronic, Exterior, 0-10V, 120W, 90-305V Multi-Volt, CE Only	DRV-E10-E-120W-90-305-PWM
Driver, Electronic, Exterior, DALI, 120W, 90-305V Multi-Volt, CE Only	DRV-DALI-E-120W-90-305-PWM

See Remote Driver Spec Sheets for more details.
Drivers can be fully loaded.

VOLTAGE DROP CHART - WIRE GAUGE NEEDED FOR WIRE LENGTH FROM FIXTURE TO DRIVER

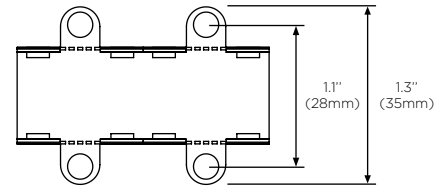
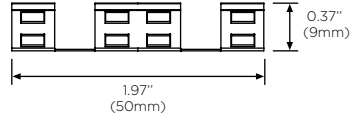
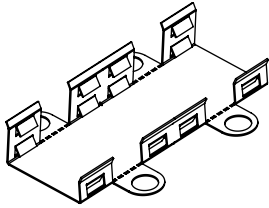
Wire Gauge	Total Wattage per Run									
	10W .42 A	20W .83 A	30W 1.3 A	40W 1.7 A	50W 2.1 A	60W 2.5 A	70W 2.9 A	80W 3.3 A	90W 3.75 A	100W 4.2 A
20 AWG	85 ft.	43 ft.	27 ft.	21 ft.	17 ft.	14 ft.	12 ft.	11 ft.	9 ft.	8 ft.
18 AWG	134 ft.	68 ft.	45 ft.	33 ft.	27 ft.	22 ft.	19 ft.	17 ft.	15 ft.	14 ft.
16 AWG	215 ft.	109 ft.	72 ft.	54 ft.	43 ft.	36 ft.	31 ft.	27 ft.	24 ft.	22 ft.
14 AWG	345 ft.	174 ft.	115 ft.	86 ft.	69 ft.	57 ft.	49 ft.	43 ft.	39 ft.	36 ft.
12 AWG	539 ft.	272 ft.	181 ft.	135 ft.	108 ft.	90 ft.	77 ft.	68 ft.	61 ft.	56 ft.
10 AWG	784 ft.	397 ft.	263 ft.	197 ft.	158 ft.	131 ft.	112 ft.	98 ft.	97 ft.	82 ft.

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L09 MOUNTING ACCESSORIES

Mounting Bracket.....L09-A-MNT-BRKT

Mounting brackets need to be installed every 6 inches. Mounting brackets can be used in inverted applications.


Mounting Extrusions, Dust Covers, and Aimable Brackets
 (See Extrusion Web page and Spec Sheet for more details)

- Mounting Extrusions can be used instead of the mounting brackets. There is a symmetrical profile for the 10x10 and 15x40, and an asymmetric profile for the ASYM optic. They come in 62in lengths, include a set of end caps, and are available in clear anodized, white, and black finishes. The extrusions have pre-drilled holes for mounting directly to the surface. They are field cuttable. Factory cutting is not available.
- Optional Aimable Brackets mount directly to mounting extrusions to provide up to 180-degree aiming. They will not mount directly to L09. 1 bracket is used for 12in and 2 brackets for 12in-60in extrusions.
- Option Dust Covers can be added to the top of the extrusions to keep dust and debris off L09. They come in symmetric and asymmetric options to coincide with the extrusions.

Symmetric Components

L09 Flat mounting extrusion, 62in, symmetric, clear anodized aluminum	L09-A-MNT-EXT-SYM-62IN-AL
L09 Flat mounting extrusion, 62in, symmetric, white	L09-A-MNT-EXT-SYM-62IN-WH
L09 Flat mounting extrusion, 62in, symmetric, black	L09-A-MNT-EXT-SYM-62IN-BK
L09 Extrusion end cap set, symmetric, set of 2, black	L09-A-MNT-EXT-SYM-ENDCAPS
L09 Extrusion end cap set, symmetric, set of 2, white	L09-A-MNT-EXT-SYM-ENDCAPS-WH
L09 Clear dust cover, 62in, symmetric	L09-A-DUSTCVR-SYM-62IN

Asymmetric Components

L09 Flat mounting extrusion, 62in, asymmetric, clear anodized aluminum	L09-A-MNT-EXT-ASYM-62IN-AL
L09 Flat mounting extrusion, 62in, asymmetric, white	L09-A-MNT-EXT-ASYM-62IN-WH
L09 Flat mounting extrusion, 62in, asymmetric, black	L09-A-MNT-EXT-ASYM-62IN-BK
L09 Extrusion end cap set, asymmetric, set of 2, black	L09-A-MNT-EXT-ASYM-ENDCAPS
L09 Extrusion end cap set, asymmetric, set of 2, white	L09-A-MNT-EXT-ASYM-ENDCAPS-WH
L09 Clear dust cover, 62in, asymmetric	L09-A-DUSTCVR-ASYM-62IN

Universal Components

L09 Extrusion Aiming Bracket, SYM and ASYM, set of 2, clear anodized	L09-A-MNT-EXT-ADJ-BRKTs
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Louvers

(See Extrusion web-page and spec sheet for more details)

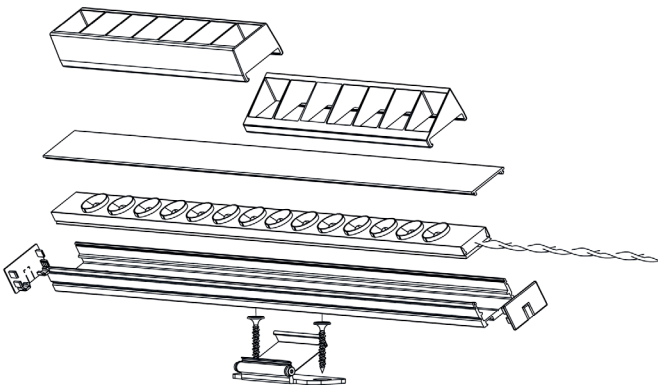
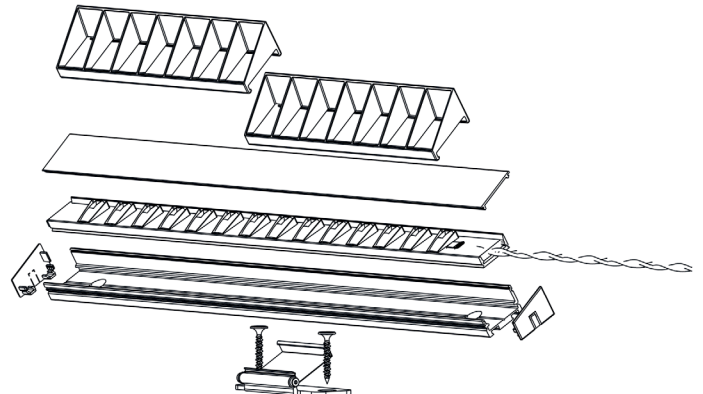
- Louvers can be used to shield the optics and reduce glare. They are available in full and half shield for the 10x10 and 15x40 and half shielding for the ASYM optic.
- Louvers will only work with the mounting extrusions. They will not mount directly to L09.
- Louvers are specific to each mounting extrusion type, so order a symmetric louver when using the symmetric extrusion and an asymmetric louver when using the asymmetric extrusion.

SYMMETRIC COMPONENTS

L09 Half Louver, Symmetric, 6in, black	L09-A-SYM-HL
L09 Full Louver, Symmetric, 6in, black	L09-A-SYM-FL

ASYMMETRIC COMPONENTS

L09 Half Louver, Asymmetric profile, 6in, black	L09-A-ASYM-HL
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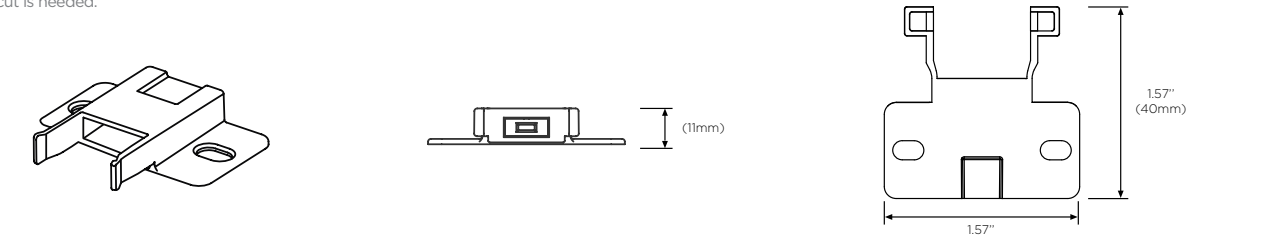
**SYMMETRIC EXTRUSION
ASSEMBLY**

**ASYMMETRIC EXTRUSION
ASSEMBLY**


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L09 CONNECTING ACCESSORIES

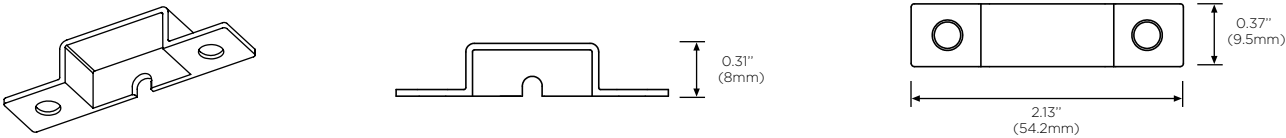
Terminator Cap..... L09-A-CAP

The terminator cap is only needed to seal the cut end of the fixture in wet locations. If the fixtures are not cut or are being installed in damp/dry locations, the terminator cap is not needed. One cap per cut is needed.



Strain Relief..... L09-A-SR

Strain reliefs are used to prevent accidental pull out of the AVX connector used on leader and jumper cables. They are not required but recommended for applications where the fixtures are accessible. Use one strain relief per leader cable and two per jumper cable. Comes in a 5-Pack.



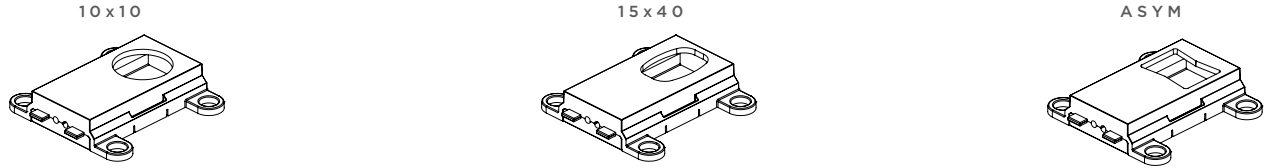
Cable Covers

Cable Covers are used to provide a waterproof (IP66) seal over cable connections. One cable cover is needed per connection point. Cable covers are specific to each optic, so order based on the fixture optic being used. Cable covers have non-hardening silicone grease that prevents water ingress. This grease can only be used once, so if they are attached then removed, additional silicone grease will need to be added in the field. Cable Covers will not fit inside the extrusion. Plan for them to stick out the ends.

L09 Cable Cover for 10x10 L09-A-CBLCVR-10x10

L09 Cable Cover for 15x40 L09-A-CBLCVR-15x40

L09 Cable Cover for ASYM L09-A-CBLCVR-ASYM



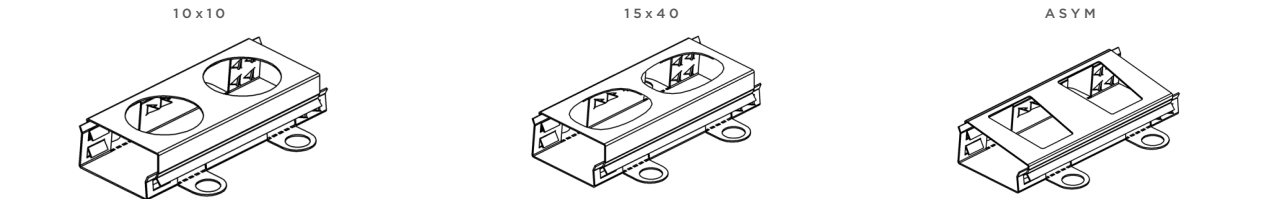
Connection Covers (Including Mounting Bracket)

Connection Covers are used to provide a waterproof (IP66) connection between two cut sections of L09 that are joined together. They can be used to make two 10ft sections of 5W/ft into one 20ft run or used to join cut off sections into one long run. 9W/ft cannot exceed 10ft. The Connection Cover, and included mounting bracket, have non-hardening silicone grease preapplied that prevents water ingress into the cut connection. This grease can only be used once, so if they are attached then removed, additional silicone grease will need to be added in the field. Connection Covers are specific to each optic, so order based on the fixture optic being joined. Connection covers will not fit inside extrusions. A 50mm gap in extrusion joints will be needed.

L09 Connection Cover for 10x10, Includes Mounting Bracket..... L09-A-CONCVR-10x10

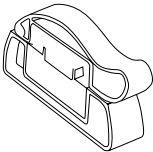
L09 Connection Cover for 15x40, Includes Mounting Bracket..... L09-A-CONCVR-15x40

L09 Connection Cover for ASYM, Includes Mounting Bracket..... L09-A-CONCVR-ASYM



Cutting Tool..... L09-A-CUTTOOL

The cutting tool ensures a clean safe cut that will not damage the optic or AVX connector. One cutter per installer is recommended.



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PHOTOMETRIC DATA

90 CRI

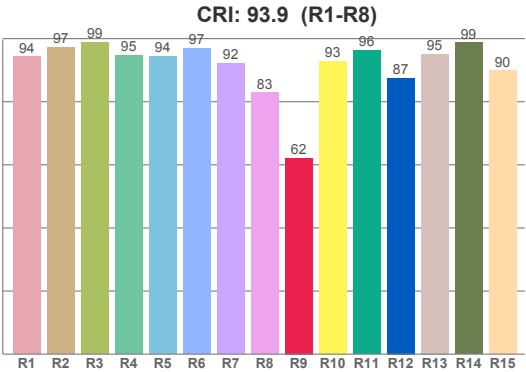
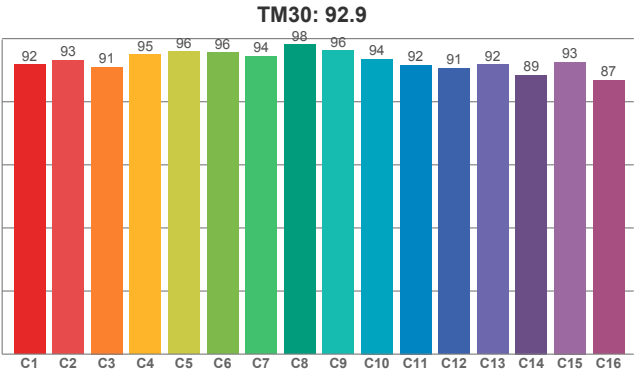
L90 5W

	10" x10"	15" x40"	ASYM
2700K			
Lumens	393	394	383
Efficacy	82	82	80
CBCP	3,886	720	366
3000K			
Lumens	415	416	404
Efficacy	86	87	84
CBCP	4,124	663	363
3500K			
Lumens	421	422	410
Efficacy	88	88	85
CBCP	3,420	670	272
4000K			
Lumens	440	441	428
Efficacy	92	92	89
CBCP	4,345	700	385

L90 9W

	10" x10"	15" x40"	ASYM
2700K			
Lumens	639	641	622
Efficacy	75	75	73
CBCP	6,311	1,016	560
3000K			
Lumens	674	676	656
Efficacy	79	79	77
CBCP	6,018	1,072	477
3500K			
Lumens	684	686	666
Efficacy	80	81	78
CBCP	6,371	1,088	492
4000K			
Lumens	714	716	696
Efficacy	84	84	82
CBCP	7,056	1,137	626

L09-E-012-05-27-90-CV24-ASYM (5 Watt, 2700K, 90 CRI, ASYM)



CRI R values, only R1-R8 are used to calculate final CRI value

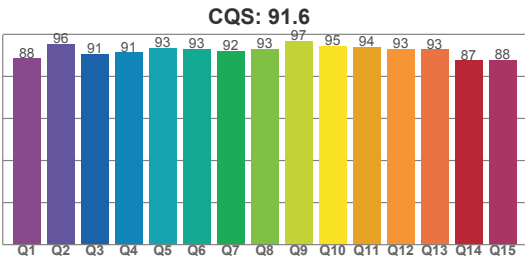
R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12	R13	R14	R15
94.28	97.21	98.79	94.72	94.38	96.97	92.20	82.84	62.18	92.95	96.30	87.50	95.14	98.72	89.85

TM30 C values, 16 binned values out of total of 99 C values

C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15	C16
91.77	93.08	91.02	94.86	95.88	95.52	94.44	98.14	96.23	93.53	91.61	90.62	91.74	88.51	92.59	86.81

CQS Q values

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15
88.44	95.52	90.65	91.29	93.39	92.81	91.96	92.90	96.94	94.51	93.95	93.16	92.72	87.48	87.59



Color parameters

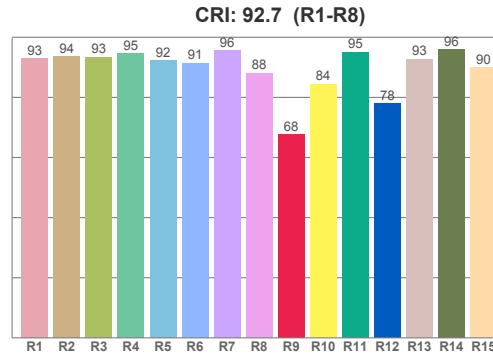
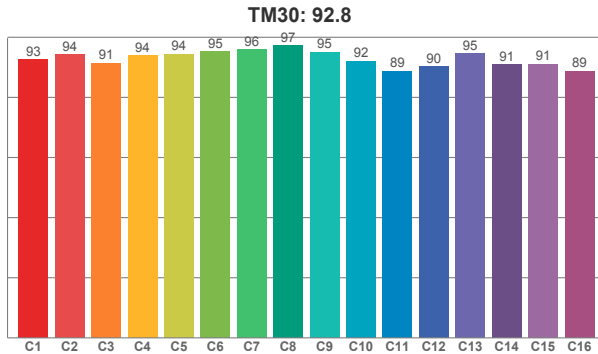
CCT	CRI	CRI R9	TM30 Rf	TM30 Rg	CQS	x	y	u	v	Duv
2801 K	93.9	62.2	92.9	100.0	91.6	0.5	0.4	0.3	0.3	-0.0005

DATE

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TYPE

L09-E-012-05-35-90-CV24-ASYM (5 Watt, 3500K, 90 CRI, ASYM)

CRI R values, only R1-R8 are used to calculate final CRI value

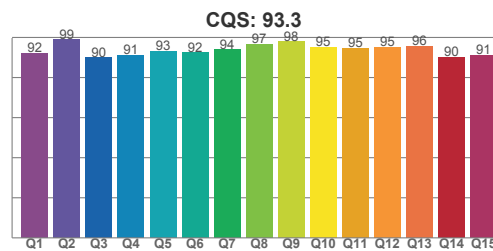
R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12	R13	R14	R15
93.00	93.52	93.42	94.64	92.18	91.45	95.53	88.06	67.62	84.46	95.04	77.90	92.74	95.83	89.90

TM30 C values, 16 binned values out of total of 99 C values

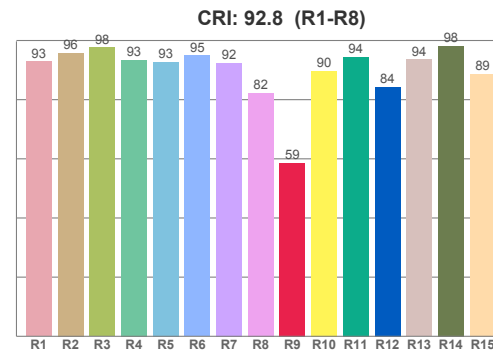
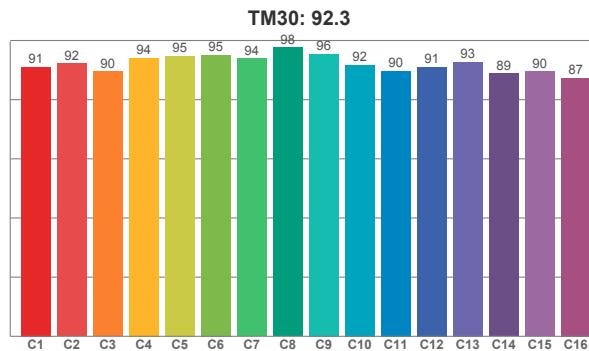
C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15	C16
92.59	94.22	91.47	93.94	94.40	95.28	95.91	97.31	95.10	92.05	88.74	90.31	94.52	90.84	91.10	88.81

CQS Q values

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15
92.32	98.86	89.87	91.29	93.21	92.47	93.83	96.70	97.91	94.99	94.80	95.19	95.52	90.32	91.02

**Color parameters**

CCT	CRI	CRI R9	TM30 Rf	TM30 Rg	CQS	x	y	u	v	Duv
3459 K	92.7	67.6	92.8	100.1	93.3	0.4	0.4	0.2	0.3	0.0032

L09-E-012-09-30-90-CV24-ASYM (9 Watt, 3000K, 90 CRI, ASYM)

CRI R values, only R1-R8 are used to calculate final CRI value

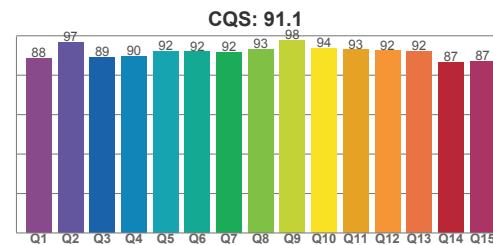
R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12	R13	R14	R15
92.86	95.81	97.66	93.48	92.77	94.98	92.42	82.23	58.67	89.68	94.46	84.25	93.61	98.18	88.71

TM30 C values, 16 binned values out of total of 99 C values

C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15	C16
91.12	92.21	89.56	94.11	94.77	95.19	93.90	97.66	95.52	91.80	89.64	91.12	92.73	88.87	89.51	87.29

CQS Q values

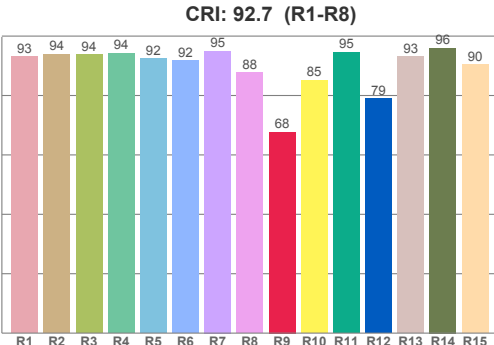
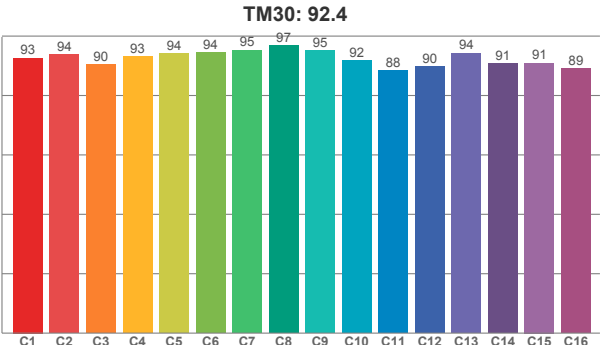
Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15
88.49	96.82	89.20	89.75	92.17	91.96	91.56	93.06	97.74	93.68	93.02	92.44	92.19	86.58	87.06

**Color parameters**

CCT	CRI	CRI R9	TM30 Rf	TM30 Rg	CQS	x	y	u	v	Duv
3107 K	92.8	58.7	92.3	100.0	91.1	0.4	0.4	0.2	0.3	-0.0004

DATE	PROJECT	FIRM	TYPE
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L09-E-012-09-35-90-CV24-10x10 (9 Watt, 3500K, 90 CRI, 10x10)



CRI R values, only R1-R8 are used to calculate final CRI value

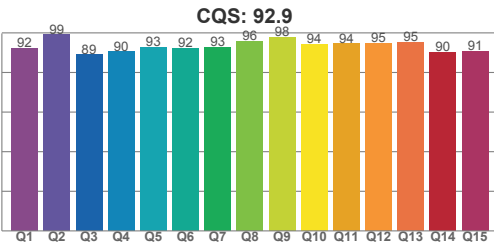
R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12	R13	R14	R15
93.17	93.91	93.71	94.24	92.43	91.78	94.96	87.75	67.70	85.14	94.59	79.04	93.06	95.97	90.34

TM30 C values, 16 binned values out of total of 99 C values

C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15	C16
92.61	93.84	90.36	93.03	94.05	94.43	95.26	96.82	95.04	91.84	88.34	89.76	94.24	90.81	90.98	88.97

CQS Q values

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15
92.18	99.00	88.95	90.44	92.90	92.14	92.78	95.91	97.87	94.20	94.48	94.86	95.18	90.31	90.88



Color parameters

CCT	CRI	CRI R9	TM30 Rf	TM30 Rg	CQS	x	y	u	v	Duv
3469 K	92.7	67.7	92.4	100.6	92.9	0.4	0.4	0.2	0.3	0.0017