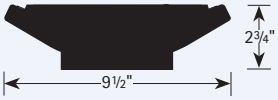
CÛRV LOUVERED - A+CLASS

3-Lamp T8, Direct/Indirect Distribution

FEATURES

- A+CLASS™ compatible for GEN/ A/V classroom lighting
- Parabolic louver combines with curved shape for direct/indirect distribution
- Sturdy 20-gauge steel construction for excellent housing rigidity
- High efficiency with wide distribution
- Flat end caps standard (5/16" length)
- Modular mounting points for convenient hanging locations
- Patented die cast aluminum, tongue and groove couplers provide zero tolerance alignment resulting in consistently straight rows (Patent# 6,796,676B2)
- Aircraft cable mounting
- RAL colors available
- A+CLASS™ system includes lighting controls, switches and low voltage wiring
- See APCS controls submittal for additional details

SHAPE AND DIMENSIONS



PROJECT INFORMATION

Project Name | Type

Catalog No. | Date

A+CLASS

A+CLASS™ energy management system compatible. Can be installed as part of A+CLASS™ classroom-in-a-box. A+CLASS™ electronic ballast must be program rapid start (EP). Electronic Dimming (ED) requires 0-10V ballast. 347V not available.

CONSTRUCTION

—Modular mounting points maintain convenient, predictable locations and fixture lengths.

—Heavy 20-gauge steel housing.

—The housing is designed to wrap around the end plates and secures on top with concealed screws to ensure housing tolerances are consistent.

—3-Lamp CVL APCS is shipped with an A/V Center Lamp Cover for enhanced classroom performance in the audio-visual mode.

FINISH

Housing and all painted parts are treated with a multi-stage phosphate prior to finish. Parts are then finished with a white powder coat for maximum consistent coverage and longevity. Other colors may be specified; refer to page MTX-1 or contact your local Alera Lighting representative.

SHIELDING

—Low iridescence semi-specular louver (LD) provides both direct and indirect illumination.

MOUNTING

To maintain consistent, predictable mounting points, 3-lamp fixtures use a yoke hanger at each hanging location. The end of the cable barrel screws into a standard ¼-20 bolt brought down from the ceiling. All fixtures are suspended in modular increments and must be supported at each fixture housing end.

LABELS AND ELECTRICAL

—UL 1598 or CSA

—Prewired w/ T8

—Quick connect plugs standard

—Damp label available on most models

Name:	CVL-3T8-2UD-CLC-LD
Test #:	ITL62670
Efficiency:	79.5%
LER:	71

ORDERING INFORMATION

EXAMPLE: CVL-24-3T8-CLC-CM48-LD-EDAGDD277-MW-IBOB

CVL - ___ - 3T8 - CLC - CM ___ - LD - ___ - ___ - ___

MODEL

CVL	Cûrv Louvered High Performance Lighting

To order A+CLASS™ controls: see page APCS.

LAMP TYPE AND PROFILE

3T8	Three T8 Lamps

MOUNTING METHOD

CM	Adjustable Aircraft Cable Mount

SHIELDING

LD	Low Iridescent Semi-Specular Louver (Std.)

DIMMING FEATURE

Blank	None
DD	Daylight Dimming[3]
AVD	A/V Teacher Dimming[3]
AVDD	AVD & Daylight Dimming[3]
AGD	GEN & A/V Teacher Dimming[3]
AGDD	AGD & Daylight Dimming[3]
GMD	General Teacher Dimming[3]
GMDD	General Teacher and Daylight Dimming[3]

COLOR

MW	Matte White (Std.)
ZT	ZET Metallic Silver

Additional RAL colors available. Contact factory.

ROW LENGTH

4	4' Single
8	8' Single
—	Indicate row length over 8' in 4' increments

Note: Rows over 8' will be configured by Alera. Example: 16' will be (2) 8'. Alternate configurations: contact factory.

DISTRIBUTION

CLC	Center Lamp Cover A/V Mode

ADJUSTABLE CABLE LENGTH

48	48"
96	96"

Other lengths available on request.

BALLAST

EP	Electronic, Programmed Start
ED	Electronic, 0-10V Dimming

Unless specified, Alera will use fewest ballasts possible.

VOLTAGE

U	120V-277V
120	120V
277	277V

OPTIONS

SCE	Sculpted End Cap (5 5/16")
BN	Bull Nose End Cap (5 1/16")
IBOB	Inboard/Outboard Switching
EL	One Emergency Battery Pack[2,3]
GLR	Fast Blow Fuse
GMF	Slow Blow Fuse
TBAR	T-Bar Mounting
CSA	UL listed or CSA certified for Canada

[1] Specify voltage. For additional, specify quantity before nomenclature (Example: 2EL120).
[2] Not available with all configurations; some limitations apply. Contact factory for details.
[3] Requires ED ballast.

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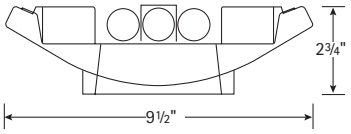
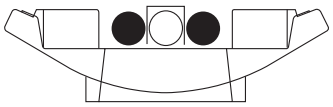
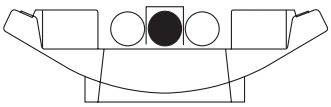
CROSS SECTION



A+CLASS
CVL-3T8



A+CLASS
CVL-3T8
GEN Mode

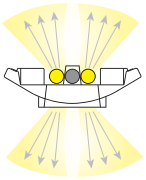


A+CLASS
CVL-3T8
A/V Mode

PHOTOMETRIC DATA

LUMINAIRE DATA Test ITL62670

Luminaire	CVL-3T8-2UD-CLC-LD-EU-MW-4-IBOB Cûrv Louver Architectural Curve 9.5" x 48" 2-Lamp with 1 x 17 Cell Semi-Specular Louver
Ballast	Advance ICN-P2P3-N
Ballast Factor	0.88
Lamp	Two 32W T8 FO32/835
Lumens per Lamp	2950
Watts	57.9
Mounting	Suspended
Shielding Angle	0° = 28 90° = 26
Spacing Criterion	0° = 1.15 90° = .94
Luminous Opening in Feet	Length: 3.58 Width: 0.32 Height: 0.00



AVG. LUMINANCE (Candela/Sq. M.)

Angle	0.0	45.0	90.0
45	6407	4486	4854
55	4298	3714	4525
65	814	1651	2355
75	323	539	934
85	213	213	427

ZONAL LUMEN SUMMARY

Zone	Lumens	% Lamp	% Fixt.
0-30	602	10.2	12.8
0-40	922	15.6	19.7
0-60	1438	24.4	30.6
0-90	1540	26.1	32.8
90-120	604	10.2	12.9
90-130	1106	18.7	23.6
90-150	2243	38.0	47.8
90-180	3153	53.4	67.2
0-180	4693	79.5	100.0

COEFFICIENTS OF UTILIZATION (%)

RC	80				70				50			0
RW	70	50	30	10	70	50	30	10	50	30	10	0
1	75	72	69	67	68	65	63	61	52	51	49	23
2	69	64	59	56	62	58	54	51	46	44	42	20
3	63	56	51	47	57	51	47	43	41	38	36	18
4	58	50	44	40	52	46	41	37	37	34	31	16
5	53	45	39	34	48	41	36	32	33	30	27	14
6	49	40	34	30	44	37	32	28	30	26	23	12
7	46	36	30	26	41	33	28	24	27	24	21	11
8	42	33	27	23	38	30	25	22	25	21	18	10
9	39	30	25	21	36	28	23	19	23	19	17	9
10	37	28	22	19	33	25	21	17	21	17	15	9

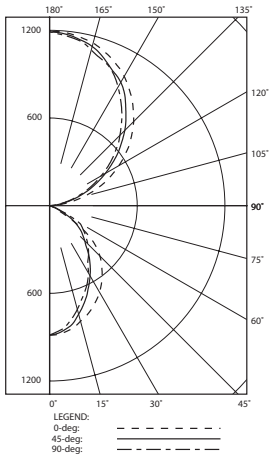
RCR

RCR = Room Cavity Ratio
RC = Effective Ceiling Cavity Reflectance RW = Wall Reflectance

ENERGY DATA

Total Luminaire Efficiency	79.5%
Luminaire Efficacy Rating (LER)	71
ANSI/IESNA RP-1-2004 Compliance	Yes-VDT Intensive Use
Comparative Yearly Lighting Energy Cost per 1000 Lumens	$3.38 based on 3000 hrs. and $0.08 per KWH

INDOOR CANDELA PLOT

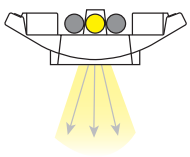


Test Date 7/22/09

PHOTOMETRIC DATA

LUMINAIRE DATA Test ITL62671

Luminaire	CVL-3T8-1D-CLC-LD-EU-MW-4-IBOB Cûrv Louver Architectural Curve 9.5" x 48" 3-Lamp with 1 x 17 Cell Semi-Specular Louver
Ballast	Advance ICN-1P32-N
Ballast Factor	0.88
Lamp	One 32W T8 FO32/835
Lumens per Lamp	2950
Watts	31.4
Mounting	Suspended
Shielding Angle	0° = 28 90° = 38
Spacing Criterion	0° = 1.2 90° = 1.5
Luminous Opening in Feet	Length: 3.58 Width: 0.32 Height: 0.00



AVG. LUMINANCE (Candela/Sq. M.)

Angle	0.0	45.0	90.0
45	6446	6328	5960
55	4606	4119	3649
65	814	1299	1959
75	323	503	1114
85	0	213	320

ZONAL LUMEN SUMMARY

Zone	Lumens	% Lamp	% Fixt.
0-30	623	21.1	36.2
0-40	1013	34.4	58.9
0-60	1611	54.6	93.7
0-90	1701	57.7	98.9
90-120	3	0.1	0.2
90-130	6	0.2	0.3
90-150	13	0.4	0.7
90-180	18	0.6	1.1
0-180	1720	58.3	100.0

COEFFICIENTS OF UTILIZATION (%)

RC	80				70				50			0
RW	70	50	30	10	70	50	30	10	50	30	10	0
1	86	82	79	76	78	75	72	70	61	59	58	30
2	78	72	67	63	71	66	62	58	54	51	49	26
3	72	64	58	53	65	58	53	49	48	44	41	23
4	66	57	50	45	60	52	46	42	43	39	35	20
5	60	51	44	39	55	46	40	36	38	34	31	17
6	56	45	38	34	50	42	36	31	35	30	27	15
7	51	41	34	29	47	38	32	27	31	27	23	14
8	48	37	30	26	43	34	28	24	29	24	21	12
9	44	34	27	23	40	31	25	21	26	22	19	11
10	41	31	25	20	38	28	23	19	24	20	17	10

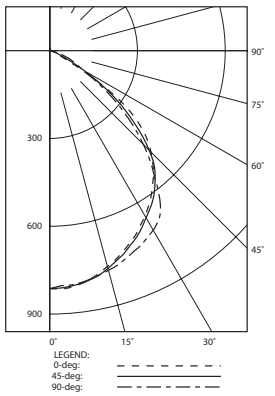
RCR

RCR = Room Cavity Ratio
RC = Effective Ceiling Cavity Reflectance RW = Wall Reflectance

ENERGY DATA

Total Luminaire Efficiency	58.3%
Luminaire Efficacy Rating (LER)	49
ANSI/IESNA RP-1-2004 Compliance	Yes-VDT Normal Use
Comparative Yearly Lighting Energy Cost per 1000 Lumens	$4.90 based on 3000 hrs. and $0.08 per KWH

INDOOR CANDELA PLOT



Test Date 7/23/09