



OFFICE OF STATEWIDE HEALTH PLANNING AND DEVELOPMENT
FACILITIES DEVELOPMENT DIVISION

APPLICATION FOR OSHPD SPECIAL SEISMIC
CERTIFICATION PREAPPROVAL (OSP)

OFFICE USE ONLY
APPLICATION #: OSP - 0401 - 10

OSHPD Special Seismic Certification Preapproval (OSP)

Type: [] New [X] Renewal

Manufacturer Information

Manufacturer: KONE

Manufacturer's Technical Representative: Jorge Torres

Mailing Address: 450 Century Parkway, Allen, Texas 75013

Telephone: ON FILE Email: ON FILE

Product Information

Product Name: ReSolve w/ Unity - Series B LCE Traction Elevator Logic & Drive Controller

Product Type: Elevator Controls

Product Model Number: See Attachment 1
(List all unique product identification numbers and/or part numbers)

General Description: Electronic motion control system for the operation of people-moving elevators. Seismic
enhancements made to the test units and modifications required to address the anomalies observed during the tests
shall be incorporated into the production units.

Mounting Description: Rigid Base mount.

Applicant Information

Applicant Company Name: EASE LLC

Contact Person: Jonathan Roberson, S.E.

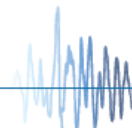
Mailing Address: 5877 Pine Ave, Suite 210, Chino Hills, CA. 91709

Telephone: (909) 606-7622 Email: j.roberson@easeco.com

I hereby agree to reimburse the Office of Statewide Health Planning and Development review fees in
accordance with the California Administrative Code, 2016.

Signature of Applicant: [Signature] Date: 5/29/2019

Title: Principal Structural Engineer Company Name: EASE LLC





**OFFICE OF STATEWIDE HEALTH PLANNING AND DEVELOPMENT
FACILITIES DEVELOPMENT DIVISION**

California Licensed Structural Engineer Responsible for the Engineering and Test Report(s)

Company Name: EASE LLC

Name: Jonathan Roberson, S.E. California License Number: S4197

Mailing Address: 5877 Pine Ave, Suite 210, Chino Hills, CA. 91709

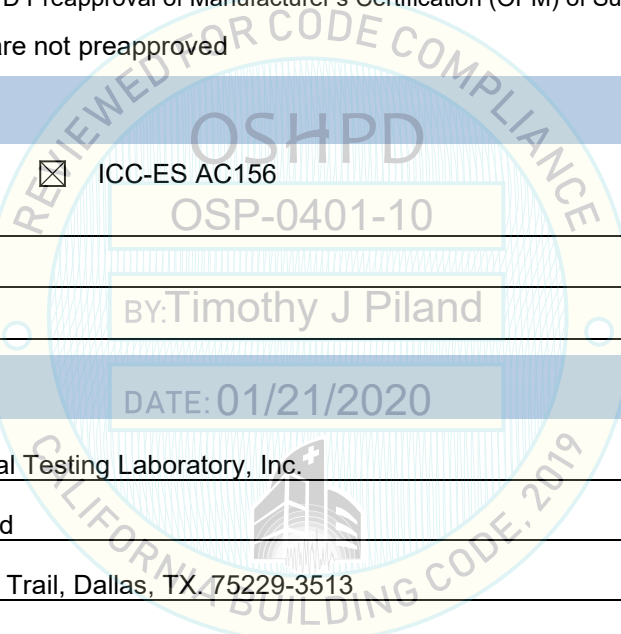
Telephone: (909) 606-7622 Email: j.roberson@easeco.com

Supports and Attachments Preapproval

- Supports and attachments are preapproved under OPM- _____
(Separate application for OSHPD Preapproval of Manufacturer's Certification (OPM) of Supports and attachments is required)
- Supports and attachments are not preapproved

Certification Method

- Testing in accordance with: ICC-ES AC156
- Other (Please Specify): _____



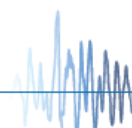
Testing Laboratory

Company Name: Environmental Testing Laboratory, Inc.

Contact Name: Brady Richard

Mailing Address: 11034 Indian Trail, Dallas, TX. 75229-3513

Telephone: (972) 247-9657 Email: brady@etldallas.com





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Seismic Parameters

Design in accordance with ASCE 7-10 Chapter 13: [X] Yes [] No

Design Basis of Equipment or Components (Fp/Wp) = 1.44

Sds (Design spectral response acceleration at short period, g) = 2.00

ap (In-structure equipment or component amplification factor) = 1

Rp (Equipment or component response modification factor) = 2 1/2

Omega_0 (System overstrength factor) = 2

Ip (Importance factor) = 1.5

z/h (Height factor ratio) = 1

Equipment or Component Natural Frequencies (Hz) = See Attachment 2

Overall dimensions and weight (or range thereof) = See Attachment 1, Table 1

Equipment or Components @ grade designed in accordance with ASCE 7-10 Chapter 15: [] Yes [X] No

Design Basis of Equipment or Components (V/W) =

Sds (Design spectral response acceleration at short period, g) =

Sd1 (Design spectral response acceleration at 1 second period, g) =

R (Response modification coefficient) =

Omega_0 (System overstrength factor) =

Cd (Deflection amplification factor) =

Ip (Importance factor) = 1.5

Height to Center of Gravity above base =

Equipment or Component Natural Frequencies (Hz) =

Overall dimensions and weight (or range thereof) =

Tank(s) designed in accordance with ASME BPVC, 2015: [] Yes [X] No

List of Attachments Supporting Special Seismic Certification

[X] Test Report(s) [] Drawings [] Calculations [] Manufacturer's Catalog

[X] Other(s) (Please Specify): Attachments 1 & 2

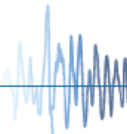
OSHPD Approval (For Office Use Only) - Approval Expires on December 31, 2025

Signature: [Signature] Date: February 21, 2020

Print Name: Timothy J. Piland Title: SSE

Special Seismic Certification Valid Up to: Sds (g) = 2.00 z/h = 1

Condition of Approval (if applicable):



ATTACHMENT 1: SEISMIC CERTIFIED COMPONENTS

TABLE 1: SEISMIC CERTIFIED COMPONENTS

<i>Manufacturer</i>	KONE Inc.								
<i>Product Line</i>	ReSolve w/Unity - Series B LCE Traction Elevator Logic & Drive Controller								
COMPONENT	MANUF.	MODEL NO.	DIMENSIONS (IN.)			MAX. WT. (LB.)	MOUNT	BASIS	
			W	D	H				
ReSolve w/Unity - Series B LCE Logic Controller ^[3]	KONE	927210D06	24	14.375	88.25	357	Floor	UUT3 UUT4	
Quattro Drive Cabinet w/ 125A to 300A DC Drive w/ or w/o Internal 480VAC/380VAC 138KVA Transformer ^[3]	Magnetek	850008D02	24	19.25	83	620	Floor	UUT3 UUT4	
JVC Electric Inc 40kVa Main Line Transformer ^[4]	JVC Electric Inc.	KM785083	18.5	12.25	14.375	153	Floor	UUT7	
JVC Electric Inc 40kVA -110kVa Main Line Transformer ^[4]	JVC Electric Inc.	---	18.5 - 31.25	12.25 - 21.5	14.375 - 32.625	153-780	Floor	INT	
JVC Electric Inc 110kVa Main Line Transformer ^[4]	JVC Electric Inc.	KM806413	31.25	21.5	32.625	780	Floor	UUT8	
<i>Mount</i>	Floor (Rigid Base): free-standing, base-mounted tower configuration with the component rigidly attached to a supporting structure and no lateral support above the base.								
<i>Notes</i>	<ol style="list-style-type: none"> BASIS: <ul style="list-style-type: none"> UUT#: Indicates that a test specimen matching these characteristics was tested as part of this testing program. INT (Interpolate/Extrapolate): indicates a model that was not specifically tested, and by which seismic certification is established through evaluation of testing of other, similar models in the product line Covered configuration includes Quattro Drive Cabinet with or without optional internal transformer. Controller and Drive are separate enclosures connected by rigid conduit above their base. See photos of test specimens in Attachment 2 Dry type main line transformers with copper windings. 								

ATTACHMENT 1: SEISMIC CERTIFIED COMPONENTS

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TABLE 2: SEISMIC CERTIFIED SUBCOMPONENTS

DESCRIPTION/RATING	MANUFACTURER	PART No.	MATERIAL	BASIS
RESOLVE W/UNITY - SERIES B LOGIC CONTROLLERS	KONE INDUSTRIAL	927210D06		
CONTROL TRANSFORMER (POS. 239), 1 PHASE, 1250VA, 208-240 Input	GRAND TRANSFORMERS INC	KM813136G02	Laminated Steel/Copper/Varnished/Open Core	UUT4
CONTROL TRANSFORMER (POS. 239), 1 PHASE, 1250VA, 420-480 Input	GRAND TRANSFORMERS INC	KM813136G03	Laminated Steel/Copper/Varnished/Open Core	UUT3
POWER MODULE, 1200VA, W/ (W/O) PS, Simplex < 12 Openings	KONE Industrial	KM782646G01	Formed Aluminum/Electrogalvanized CRS/Copper/Plastic/FR4 PCB	UUT4
POWER MODULE, 1200VA, W/ PS, All > 12 Openings	KONE Industrial	KM782646G03	Formed Aluminum/Electrogalvanized CRS/Copper/Plastic/FR4 PCB	UUT3
MODULE, FSP/TSD ES INTRFACE	KONE Industrial	KM783040G01	Galvanized CRS/Plastic	UUT3
MODULE, OPTION 1, ONE (TWO) BRD, Seismic and/or FPO	KONE Industrial	KM806495G02	Galvanized CRS/FR4 PCB/Plastic	UUT3 UUT4
MODULE, OPTION 2, LCEEAQ AND/OR LCEGTWOG03; Seismic; < 63 flrs	KONE Industrial	KM780225G01	Galvanized CRS/FR4 PCB/Plastic	INT
MODULE, OPTION 2, LCEEAQ AND/OR LCEGTWOG03; No Seismic; >12 flrs	KONE Industrial	KM780225G07	Galvanized CRS/FR4 PCB/Plastic	UUT3
MODULE, OPTION 2, LCEEAQ AND/OR LCEGTWOG03; Seismic; >12 flrs	KONE Industrial	KM780225G08	Galvanized CRS/FR4 PCB/Plastic	INT
MODULE, LCEOPT, SINGLE I/O BOARD	KONE Industrial	KM806495G01	Galvanized CRS/FR4 PCB/Plastic	UUT3
MODULE, LCEOPT, DUAL I/O BOARDS	KONE Industrial	KM806495G02	Galvanized CRS/FR4 PCB/Plastic	UUT3
LCE-ETSL MODULE w/ One ETSL PC Board	KONE Industrial	KM780215G01	Galvanized CRS/FR4 PCB/Plastic	UUT3
LCE-ETSL MODULE w/Two ETSL PC Board	KONE Industrial	KM780215G02	Galvanized CRS/FR4 PCB/Plastic	UUT3
MODULE, INTERCOM	KONE Industrial	KM996186G01	Galvanized CRS/Copper/Plastic	UUT3 UUT4
TRANSFORMER, CONTROL, POS. 245, 420 - 480 VAC, 1350VA	GRAND TRANSFORMERS INC	KM977496G01	Laminated Steel/Copper/Varnished/Open Core	UUT3
CONTROL TRANSFORMER (POS. 240), 420 – 480VAC	TRAFOMIC OY	KM927689G03	Laminated Steel/Copper/Varnished/Open Core	UUT3
CONTROL TRANSFORMER (POS. 240), 200 – 240VAC	TRAFOMIC OY	KM927689G04	Laminated Steel/Copper/Varnished/Open Core	UUT4
HOIST MOTOR FAN MODULE	SCANFIL OÜ	KM783550G17	Galvanized CRS/Copper/Plastic	UUT3
ROPE GRIPPER MODULE	SCANFIL OÜ	KM780220G02	Galvanized CRS/Copper/Plastic	UUT3 UUT4
CONSTANT PARTS	KONE Industrial	KM1376452R01		UUT3 UUT4
TRACTION LOSS RESET SWITCH	KONE Industrial	KM50071398G01	Galvanized CRS/Plastic	UUT3
MODULE, LCEOPT, SINGLE I/O BOARD/Traction Loss Reset function	KONE Industrial	KM806495G01	Galvanized CRS/FR4 PCB/Plastic	UUT3

ATTACHMENT 1: SEISMIC CERTIFIED COMPONENTS

TABLE 2: SEISMIC CERTIFIED SUBCOMPONENTS

DESCRIPTION/RATING	MANUFACTURER	PART No.	MATERIAL	BASIS
MAGNETEK QUATTRO DC DRIVE CONTROL CABINETS	MAGNETEK			
Dynamic Braking Resistors				
300A Drive Configuration	Magnetek	QDCKN00241-3	Electroplated CRS/Copper/Ceramic	UUT3
125A - 300A Drive Configuration	Magnetek	QDCKN00XXX-X	Electroplated CRS/Copper/Ceramic	INT
125A Drive Configuration	Magnetek	QDCKN00239-3	Electroplated CRS/Copper/Ceramic	UUT4
I/O Control Tray				
UTM Contactor for AC control	ABB	KM50019743	Electroplated CRS/Copper/Plastic	UUT3
UTM Contactor for AC control	ABB	KM50019742	Electroplated CRS/Copper/Plastic	UUT4
ME Contactor for DC Control	ABB	KM50019744	Electroplated CRS/Copper/Plastic	UUT3
ME Contactor for DC Control	ABB	KM940720	Electroplated CRS/Copper/Plastic	INT
ME Contactor for DC Control	ABB	KM940719	Electroplated CRS/Copper/Plastic	UUT4
Low Voltage Field Control Module for Motor	Magnetek	KM50019745	Electroplated CRS/Copper/Plastic/FR4-PCB	UUT3
A8 Electrical Control Board	Magnetek	KM50019747	Copper/FR4-PCB	UUT3 & 4
Standard Field Control Module for Motor	Magnetek	KM940702	Electroplated CRS/Copper/Plastic/FR4-PCB	UUT4
AC Filter Tray				
AC Input Inductor	CTM	KM50019753	Laminated Steel/Copper/Varnished/Open Core	UUT3
AC Input Inductor	CTM	KM50019752	Laminated Steel/Copper/Varnished/Open Core	INT
AC Input Inductor	CTM	KM50019751	Laminated Steel/Copper/Varnished/Open Core	INT
AC Input Inductor	CTM	KM50019750	Laminated Steel/Copper/Varnished/Open Core	UUT4
AC Input Capacitor	Ward Leonard-CT Gamble	KM50019755	Aluminum/Mylar/Copper	UUT3
AC Input Capacitor	Ward Leonard-CT Gamble	KM50019754	Aluminum/Mylar/Copper	UUT4
DC-Link Discharge Resistor	RCD	KM50019764	Electroplated CRS/Ceramic	UUT3 & 4
Control Tray				
A1 Main Control-PCB, Line Side	Magnetek	KM940692	Copper/FR4-PCB	UUT3 & 4

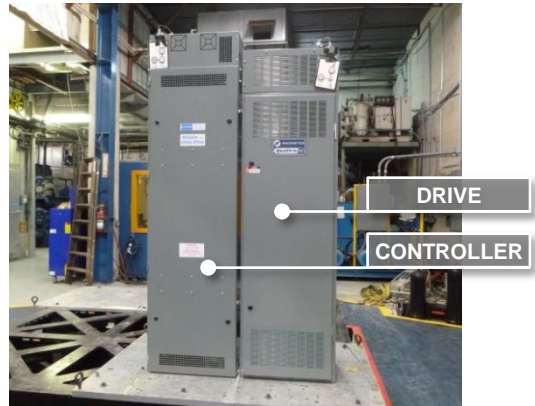
ATTACHMENT 1: SEISMIC CERTIFIED COMPONENTS

TABLE 2: SEISMIC CERTIFIED SUBCOMPONENTS

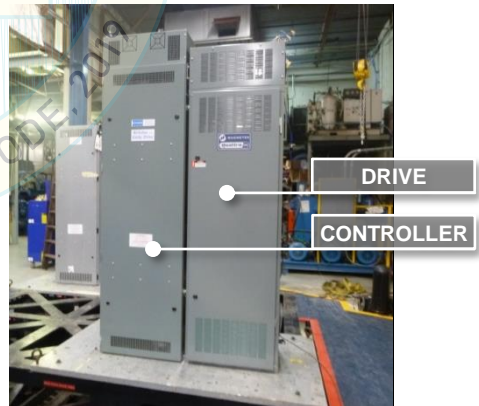
DESCRIPTION/RATING	MANUFACTURER	PART No.	MATERIAL	BASIS
A2 Main Control-PCB, Motor Side	Magnetek	KM940693	Copper/FR4-PCB	UUT3 & 4
A3, A4 Product Interface-PCB	Magnetek	KM50068708	Copper/FR4-PCB	UUT3 & 4
A6 User Interface-PCB	Magnetek	KM940696	Copper/FR4-PCB	UUT3 & 4
Operator Keypad Programming Tool	Magnetek	KM940743	Copper/Plastic/FR4-PCB	UUT3 & 4
Power Tray				
Current Transducers	LEM USA	KM50093067	Laminated Steel/Copper/Plastic	UUT3
Current Transducers	LEM USA	KM50093066	Laminated Steel/Copper/Plastic	UUT4
Complete Power Tray	Magnetek	KM50093063G05	Galvanized CRS/Copper/Plastic/FR4-PCB	UUT3
Complete Power Tray	Magnetek	KM50093063G04	Galvanized CRS/Copper/Plastic/FR4-PCB	INT
Complete Power Tray	Magnetek	KM50093063G03	Galvanized CRS/Copper/Plastic/FR4-PCB	INT
Complete Power Tray	Magnetek	KM50093063G02	Galvanized CRS/Copper/Plastic/FR4-PCB	INT
Complete Power Tray	Magnetek	KM50093063G01	Galvanized CRS/Copper/Plastic/FR4-PCB	UUT4
Line Transformer				
Internal Autotransformer, 480V Pri, 380V Sec 300-amp Drive	V&F Transformer	KM50009226G05	Laminated Steel/Copper/Varnished/Open Core	UUT3
Internal Autotransformer, 480V Pri, 380V Sec 250-amp Drive	V&F Transformer	KM50009226G04	Laminated Steel/Copper/Varnished/Open Core	INT
Internal Autotransformer, 480V Pri, 380V Sec 200-amp Drive	V&F Transformer	KM50009226G03	Laminated Steel/Copper/Varnished/Open Core	INT
Internal Autotransformer, 480V Pri, 380V Sec 150-amp Drive	V&F Transformer	KM50009226G02	Laminated Steel/Copper/Varnished/Open Core	INT
Internal Autotransformer, 480V Pri, 380V Sec 125-amp Drive	V&F Transformer	KM50009226G01	Laminated Steel/Copper/Varnished/Open Core	UUT4
Notes	<p>1. BASIS:</p> <ul style="list-style-type: none"> • UUT#: Indicates that a test specimen matching these characteristics was tested as part of this testing program. • INT (Interpolate/Extrapolate): indicates a model that was not specifically tested, and by which seismic certification is established through evaluation of testing of other, similar models in the product line. <p>2. Certification in this table is limited to the devices identified when installed as part of a complete assembly of the equipment defined in Table 1.</p> <p>3. CRS = Cold-Rolled Sheet-Steel.</p> <p>4. FR4 PCB = Copper-clad, epoxy-fiberglass substrate, printed circuit board (PCB) material.</p>			

ATTACHMENT 2: TEST SPECIMEN SUMMARY

UUT- 3 ReSolve w/ Unity –Series B (300A Drive)									
MANUFACTURER:		KONE Industrial & Magnetek							
IDENTIFICATION:		LCE Logic Controller				Magnetek Drive			
		Part No.: 927210D06				850008D02			
DESCRIPTION:		ReSolve with Unity Drive – Series B KONE LCE Traction Elevator Logic Controller & 300A Magnetek Quattro Drive Controller The separate controller and drive enclosures are joined at two points along their height by rigid conduit.							
MOUNTING:		Floor mounted to aluminum plate using <ul style="list-style-type: none"> Controller: (4) – 3/8" dia GR 8 Allen head cap bolts w/ 7/16" I.D. x 1" O.D. washers Drive: (4) – 5/8" dia GR 8 bolts w/ 7/16" I.D. x 1" O.D. washers 							
PROPERTIES:									
DIMENSIONS (in.)					LOWEST RESONANT FREQUENCY (Hz.)				
Width	Depth	Height	Weight (lb.)		Front-Axis	Side-Axis	Vertical-Axis		
Controller: 24	14.375	88.25	357		6.3	6.7	35.4		
Drive: 24	19.25	83	620		10.5	7.5	35.2		
SHAKE TABLE TEST PARAMETERS									
CODE	TEST CRITERIA	S _{Ds}	z/h	I _p	A _{FLX-H}	A _{RIg-H}	A _{FLX-V}	A _{RIg-V}	
CBC 2016	ICC-ES AC156	2.0	1.0	1.5	3.2	2.4	1.34	0.54	
Unit maintained structural integrity and functionality after the ICC-ES AC 156 test									

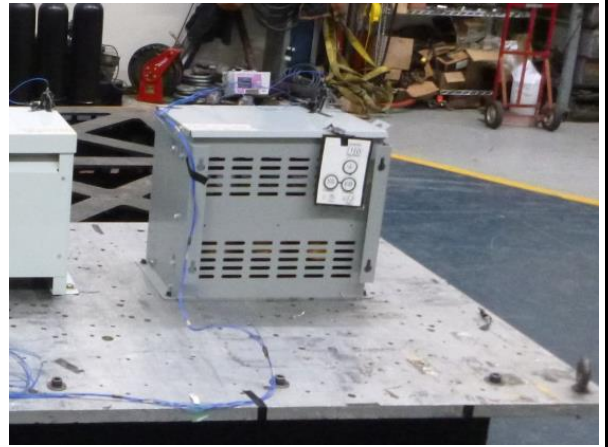


UUT- 4 ReSolve w/ Unity –Series B (125-amp Drive)									
MANUFACTURER:		KONE Industrial & Magnetek							
IDENTIFICATION:		LCE Logic Controller				Magnetek Drive			
		Part No.: 927210D06				850008D02			
DESCRIPTION:		ReSolve with Unity Drive – Series B KONE LCE Traction Elevator Logic Controller 125A Magnetek Quattro Drive The separate controller and drive enclosures are joined at two points along their height by rigid conduit.							
MOUNTING:		Floor mounted to aluminum plate using <ul style="list-style-type: none"> Controller: (4) – 3/8" dia GR 8 Allen head cap bolts w/ 7/16" I.D. x 1" O.D. washers Drive: (4) – 5/8" dia GR 8 bolts w/ 7/16" I.D. x 1" O.D. washers 							
PROPERTIES:									
DIMENSIONS (in.)					LOWEST RESONANT FREQUENCY (Hz.)				
Width	Depth	Height	Weight (lb.)		Side -Axis	Front-Axis	Vertical-Axis		
Controller: 24	14.375	88.25	298		18.6	8.3	49.6		
Drive: 24	19.25	83	489		8.2	8.3	36.1		
SHAKE TABLE TEST PARAMETERS									
CODE	TEST CRITERIA	S _{Ds}	z/h	I _p	A _{FLX-H}	A _{RIg-H}	A _{FLX-V}	A _{RIg-V}	
CBC 2016	ICC-ES AC156	2.0	1.0	1.5	3.2	2.4	1.34	0.54	
Unit maintained structural integrity and functionality after the ICC-ES AC 156 test									



ATTACHMENT 2: TEST SPECIMEN SUMMARY

UUT- 7 40kVa Autotransformer									
MANUFACTURER:		JVC Electric Inc							
IDENTIFICATION:		Part No.: KM785083							
DESCRIPTION:		Component of the ReSolve w/ Unity System 40 kVA dry type main line transformer Copper windings							
MOUNTING:		Floor mounted using (4) – 3/8" dia GR 8 Allen head cap bolts w/ washers to aluminum plate							
PROPERTIES:									
DIMENSIONS (in.)					LOWEST RESONANT FREQUENCY (Hz.)				
Width	Depth	Height	Weight (lb.)		Front-Axis	Side-Axis	Vertical-Axis		
18.5	12.25	14.375	153		36.6	36.4	43.0		
SHAKE TABLE TEST PARAMETERS									
CODE	TEST CRITERIA	S _{DS}	z/h	I _p	A _{FLX-H}	A _{RIG-H}	A _{FLX-V}	A _{RIG-V}	
CBC 2016	ICC-ES AC156	2.0	1.0	1.5	3.2	2.4	1.34	0.54	
Unit maintained structural integrity and functionality after the ICC-ES AC 156 test									



UUT- 8 110kVa Isolation Transformer									
MANUFACTURER:		JVC Electric Inc							
IDENTIFICATION:		Part No.: KM806413							
DESCRIPTION:		Component of the LCE Elevator Control System 110 kVA dry type main line transformer Copper windings							
MOUNTING:		Floor mounted using (4) - 1/2" dia GR 8 hex head bolts w/ standard washer to aluminum plate.							
PROPERTIES:									
DIMENSIONS (in.)					LOWEST RESONANT FREQUENCY (Hz.)				
Width	Depth	Height	Weight (lb.)		Side -Axis	Front-Axis	Vertical-Axis		
31.25	21.5	32.625	780		12.9	9.9	26.5		
SHAKE TABLE TEST PARAMETERS									
CODE	TEST CRITERIA	S _{DS}	z/h	I _p	A _{FLX-H}	A _{RIG-H}	A _{FLX-V}	A _{RIG-V}	
CBC 2016	ICC-ES AC156	2.0	1.0	1.5	3.2	2.4	1.34	0.54	
Unit maintained structural integrity and functionality after the ICC-ES AC 156 test									

