

Weaver, Deborah

From: Ron Mateas <Ron.Mateas@ea.epson.com>
Sent: Friday, February 15, 2019 9:57 AM
To: Lowman, Don
Subject: [External_Sender] RE: RE: RE: FW: License Question RML 7728-07
Attachments: NRC Original Application 2008001.pdf; Technical Drawings NRC 400 Watt Kr 85.doc; Attach_20080704_1743.ZIP; LampSupplier_Info080709.xls; Label for lamp 10 units .zip; Label for lamp one unit.zip; Label for projector box.pdf; Label for Projector Carton Box.pdf; Lamp box_one unit.zip; Lamp outer box_10 units.zip; drawing complete lamp.zip; Kr85 marking.zip; E-TORL.ZIP; Kr85_Projector itself.ppt; Kr85_Rating label.pdf; NRC Radioactive Materials License Supplemental Info Page 2.doc; NRC Lamp Supplier Measurement Info.doc; Test_Iwasaki.zip; NRC Updated Product Info.xlsx; Updated KR85 Lamp and Projector List Jan 10 2018.docx; Delagation of Authority Updated 2018002.pdf

Importance: High

Hi Don

Hopefully this will be what you need. Please note:

1. The Delegation of Authority remains the same, but has been updated with a new Executive.
2. Updated Product info is attached. This was submitted with our renewal application.
- 3.
- 4.
- 5.
- 6.
7. Rgds.

Ron Mateas
Corporate Manager, Environmental Programs
Epson America, Inc.
3840 Kilroy Airport Way,
Long Beach, CA 90806
(562) 290-5252
ron.mateas@ea.epson.com

From: Lowman, Don <Donald.Lowman@nrc.gov>
Sent: Thursday, February 14, 2019 11:31 AM
To: Ron Mateas <Ron.Mateas@ea.epson.com>
Subject: RE: RE: RE: FW: License Question RML 7728-07

Ron,

I do need you to send me the original application and all the documents. Please resend me the email below with the original application and documents attached.

Thanks,
Don

From: Ron Mateas [mailto:Ron.Mateas@ea.epson.com]
Sent: Thursday, February 14, 2019 1:37 PM
To: Lowman, Don <Donald.Lowman@nrc.gov>
Subject: [External_Sender] RE: RE: FW: License Question RML 7728-07

Hi Don

There were no changes to any of the information submitted with our original NRC License. Our original license listed our Carson California facility as being located at 18300 Central Ave., Carson, CA 90746, however, we moved that location to 1650 Glenn Curtiss Street, Carson, CA 90746 but put in a change to the NRC so our license should already reflect this change.

All manufactures, lamps, etc. are the same as originally submitted. Is this all you need? Thanks!

Ron Mateas
Corporate Manager, Environmental Programs
Epson America, Inc.
3840 Kilroy Airport Way,
Long Beach, CA 90806
(562) 290-5252
ron.mateas@ea.epson.com

From: Lowman, Don <Donald.Lowman@nrc.gov>
Sent: Wednesday, February 13, 2019 6:47 AM
To: Ron Mateas <Ron.Mateas@ea.epson.com>
Subject: RE: RE: FW: License Question RML 7728-07

Please send all the documents (corrected as needed).

Thanks,
Don

From: Ron Mateas [mailto:Ron.Mateas@ea.epson.com]
Sent: Wednesday, February 13, 2019 9:44 AM
To: Lowman, Don <Donald.Lowman@nrc.gov>
Subject: [External_Sender] RE: FW: License Question RML 7728-07

Hi Don

OK thanks. One clarification. Do I send ALL of the document that I provided with the original application or just a copy of the application? Thanks!

Ron Mateas
Corporate Manager, Environmental Programs
Epson America, Inc.
3840 Kilroy Airport Way,
Long Beach, CA 90806
(562) 290-5252
ron.mateas@ea.epson.com

From: Lowman, Don <Donald.Lowman@nrc.gov>
Sent: Wednesday, February 13, 2019 4:36 AM
To: Ron Mateas <Ron.Mateas@ea.epson.com>
Subject: RE: FW: License Question RML 7728-07

Hi Ron,

We now have the proper documentation for your California license. Your exempt distribution license is currently in timely renewal, however, we need some further information from you to renew your license. [NUREG-1566 Volume 8, "Program-Specific Guidance About Exempt Distribution Licenses"](#) states on page 10-1:

For renewals, provide a complete and up-to-date application, including all required program elements. For the convenience and streamlined handling of exempt distribution licensing applications, the licensee should view the detailed source and product information for the distribution license as outlined in the applicable section of 10 CFR Part 32 or Part 40 and discussed in Chapter 9, "Information Required for Specific Types of Distribution Licenses," of this NUREG.

Basically, what you need to do is go to your original application and update all information so that it is correct (labeling, construction and design, additional testing, etc.). If nothing has changed, you can send me an email with the original application and state that all required program elements are as found in the original application.

Thanks,

Don Lowman

Health Physicist
U.S. Nuclear Regulatory Commission
NMSS/MSST/MSLB
301.415.5452

From: Ron Mateas [<mailto:Ron.Mateas@ea.epson.com>]
Sent: Tuesday, February 12, 2019 12:43 PM
To: Lowman, Don <Donald.Lowman@nrc.gov>
Subject: [External_Sender] FW: License Question RML 7728-07

Don

FYI the note below from the State of California. I don't know if this helps or not but I would like to get our NRC renewed license as soon as possible. Thanks.

Ron Mateas
Corporate Manager, Environmental Programs
Epson America, Inc.
3840 Kilroy Airport Way,
Long Beach, CA 90806
(562) 290-5252
ron.mateas@ea.epson.com

From: Moore, Thomas@CDPH <Thomas.Moore@cdph.ca.gov>
Sent: Tuesday, February 12, 2019 9:26 AM
To: Ron Mateas <Ron.Mateas@ea.epson.com>
Subject: RE: License Question RML 7728-07

Good Morning Ron,

Just a helpful tip, if you don't mind, put your license number on the subject line of correspondence, it can speed things up a little bit.

Your timely renewal has not been assigned yet.

As long as you have our response letter that acknowledges you are in "Timely Renewal" your license is active and in good standing, that's the first page of the attachment you sent.

Please let me know if there is anything else you need.

Regards,

Thomas

Thomas Moore
Health Physicist
Radiologic Health Branch
California Department of Public Health
P.O. Box 997414, MS 7610
Sacramento, CA 95899-7414

Ph. 916-319-9672
fax. 916-341-7238
Thomas.Moore@cdph.ca.gov

PHYSICAL ADDRESS (for FEDEX, UPS, etc.):
Department of Public Health
Radiologic Health Branch
1500 Capitol Avenue, 5th Floor, MS 7610
Sacramento, CA 95814-5006



From: Ron Mateas <Ron.Mateas@ea.epson.com>
Sent: Tuesday, February 12, 2019 6:32 AM
To: Moore, Thomas@CDPH <Thomas.Moore@cdph.ca.gov>
Subject: License Question

Hello Thomas

I am following up on my radioactive materials license renewal. Can you please confirm the status of my license? Please see attached. Thank you.

Ron Mateas
Corporate Manager, Environmental Programs
Epson America, Inc.
3840 Kilroy Airport Way,
Long Beach, CA 90806
(562) 290-5252
ron.mateas@ea.epson.com

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NRC FORM 313

(4-2008)

10 CFR 30, 32, 33,
34, 35, 36, 39, and 40

U.S. NUCLEAR REGULATORY COMMISSION

APPROVED BY OMB: NO. 3150-0120

EXPIRES: 10/31/2008

Estimated burden per response to comply with this mandatory collection request: 4.4 hours. Submittal of the application is necessary to determine that the applicant is qualified and that adequate procedures exist to protect the public health and safety. Send comments regarding burden estimate to the Records and FOIA/Privacy Services Branch (T-5 F53), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by internet e-mail to infocollects@nrc.gov, and to the Desk Officer, Office of Information and Regulatory Affairs, NEOB-10202, (3150-0120), Office of Management and Budget, Washington, DC 20503. If a means used to impose an information collection does not display a currently valid OMB control number, the NRC may not conduct or sponsor, and a person is not required to respond to, the information collection.

APPLICATION FOR MATERIALS LICENSE

INSTRUCTIONS: SEE THE APPROPRIATE LICENSE APPLICATION GUIDE FOR DETAILED INSTRUCTIONS FOR COMPLETING APPLICATION. SEND TWO COPIES OF THE ENTIRE COMPLETED APPLICATION TO THE NRC OFFICE SPECIFIED BELOW.

APPLICATION FOR DISTRIBUTION OF EXEMPT PRODUCTS FILE APPLICATIONS WITH:

DIVISION OF INDUSTRIAL AND MEDICAL NUCLEAR SAFETY
OFFICE OF NUCLEAR MATERIALS SAFETY AND SAFEGUARDS
U.S. NUCLEAR REGULATORY COMMISSION
WASHINGTON, DC 20555-0001

ALL OTHER PERSONS FILE APPLICATIONS AS FOLLOWS:

IF YOU ARE LOCATED IN:

ALABAMA, CONNECTICUT, DELAWARE, DISTRICT OF COLUMBIA, FLORIDA, GEORGIA, KENTUCKY, MAINE, MARYLAND, MASSACHUSETTS, NEW HAMPSHIRE, NEW JERSEY, NEW YORK, NORTH CAROLINA, PENNSYLVANIA, PUERTO RICO, RHODE ISLAND, SOUTH CAROLINA, TENNESSEE, VERMONT, VIRGINIA, VIRGIN ISLANDS, OR WEST VIRGINIA, SEND APPLICATIONS TO:

LICENSING ASSISTANCE TEAM
DIVISION OF NUCLEAR MATERIALS SAFETY
U.S. NUCLEAR REGULATORY COMMISSION, REGION I
475 ALLENDALE ROAD
KING OF PRUSSIA, PA 19406-1415

IF YOU ARE LOCATED IN:

ILLINOIS, INDIANA, IOWA, MICHIGAN, MINNESOTA, MISSOURI, OHIO, OR WISCONSIN, SEND APPLICATIONS TO:

MATERIALS LICENSING BRANCH
U.S. NUCLEAR REGULATORY COMMISSION, REGION III
2443 WARRENVILLE ROAD, SUITE 210
LISLE, IL 60532-4352

ALASKA, ARIZONA, ARKANSAS, CALIFORNIA, COLORADO, HAWAII, IDAHO, KANSAS, LOUISIANA, MISSISSIPPI, MONTANA, NEBRASKA, NEVADA, NEW MEXICO, NORTH DAKOTA, OKLAHOMA, OREGON, PACIFIC TRUST TERRITORIES, SOUTH DAKOTA, TEXAS, UTAH, WASHINGTON, OR WYOMING, SEND APPLICATIONS TO:

NUCLEAR MATERIALS LICENSING BRANCH
U.S. NUCLEAR REGULATORY COMMISSION, REGION IV
612 E. LAMAR BOULEVARD, SUITE 400
ARLINGTON, TX 76011-4125

PERSONS LOCATED IN AGREEMENT STATES SEND APPLICATIONS TO THE U.S. NUCLEAR REGULATORY COMMISSION ONLY IF THEY WISH TO POSSESS AND USE LICENSED MATERIAL IN STATES SUBJECT TO U.S. NUCLEAR REGULATORY COMMISSION JURISDICTIONS.

1. THIS IS AN APPLICATION FOR (Check appropriate item)



A. NEW LICENSE



B. AMENDMENT TO LICENSE NUMBER



C. RENEWAL OF LICENSE NUMBER

2. NAME AND MAILING ADDRESS OF APPLICANT (Include ZIP code)

Epson America, Inc.
3840 Kilroy Airport Way
Long Beach, CA 90806-2452
Attn: Ron Mateas - Manager, Environmental Programs

3. ADDRESS WHERE LICENSED MATERIAL WILL BE USED OR POSSESSED

Epson West Carson Distribution
18300 Central Ave.
Carson, CA 90746

4. NAME OF PERSON TO BE CONTACTED ABOUT THIS APPLICATION

Ron Mateas - Manager, Environmental Programs

TELEPHONE NUMBER

(562) 290-5252

SUBMIT ITEMS 5 THROUGH 11 ON 8-1/2 X 11" PAPER. THE TYPE AND SCOPE OF INFORMATION TO BE PROVIDED IS DESCRIBED IN THE LICENSE APPLICATION GUIDE.

5. RADIOACTIVE MATERIAL

a. Element and mass number; b. chemical and/or physical form; and c. maximum amount which will be possessed at any one time.

6. PURPOSE(S) FOR WHICH LICENSED MATERIAL WILL BE USED.

7. INDIVIDUAL(S) RESPONSIBLE FOR RADIATION SAFETY PROGRAM AND THEIR TRAINING EXPERIENCE.

8. TRAINING FOR INDIVIDUALS WORKING IN OR FREQUENTING RESTRICTED AREAS.

9. FACILITIES AND EQUIPMENT.

10. RADIATION SAFETY PROGRAM.

11. WASTE MANAGEMENT.

12. LICENSE FEES (See 10 CFR 170 and Section 170.31)

FEE CATEGORY

31

AMOUNT
ENCLOSED

\$ 10,500.00

13. CERTIFICATION. (Must be completed by applicant) THE APPLICANT UNDERSTANDS THAT ALL STATEMENTS AND REPRESENTATIONS MADE IN THIS APPLICATION ARE BINDING UPON THE APPLICANT.

THE APPLICANT AND ANY OFFICIAL EXECUTING THIS CERTIFICATION ON BEHALF OF THE APPLICANT, NAMED IN ITEM 2, CERTIFY THAT THIS APPLICATION IS PREPARED IN CONFORMITY WITH TITLE 10, CODE OF FEDERAL REGULATIONS, PARTS 30, 32, 33, 34, 35, 36, 39, AND 40, AND THAT ALL INFORMATION CONTAINED HEREIN IS TRUE AND CORRECT TO THE BEST OF THEIR KNOWLEDGE AND BELIEF.

WARNING: 18 U.S.C. SECTION 1001 ACT OF JUNE 25, 1948 62 STAT. 749 MAKES IT A CRIMINAL OFFENSE TO MAKE A WILLFULLY FALSE STATEMENT OR REPRESENTATION TO ANY DEPARTMENT OR AGENCY OF THE UNITED STATES AS TO ANY MATTER WITHIN ITS JURISDICTION.

CERTIFYING OFFICER - TYPED/PRINTED NAME AND TITLE

Ron Mateas - Manager, Environmental Programs

SIGNATURE

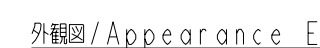
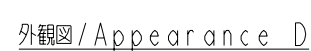
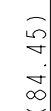
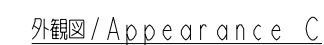
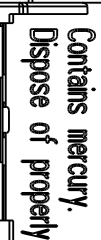
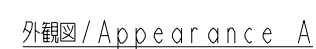
Ron Mateas

DATE

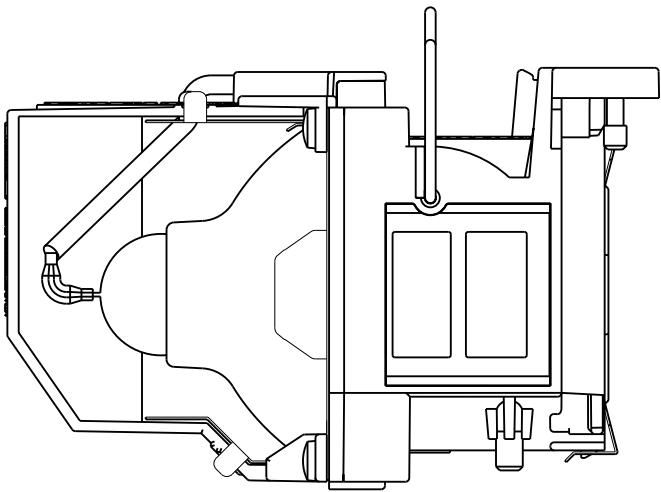
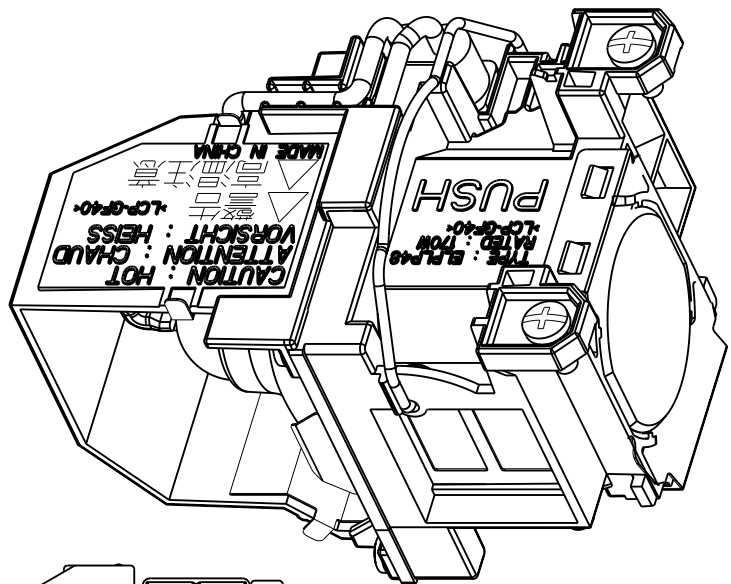
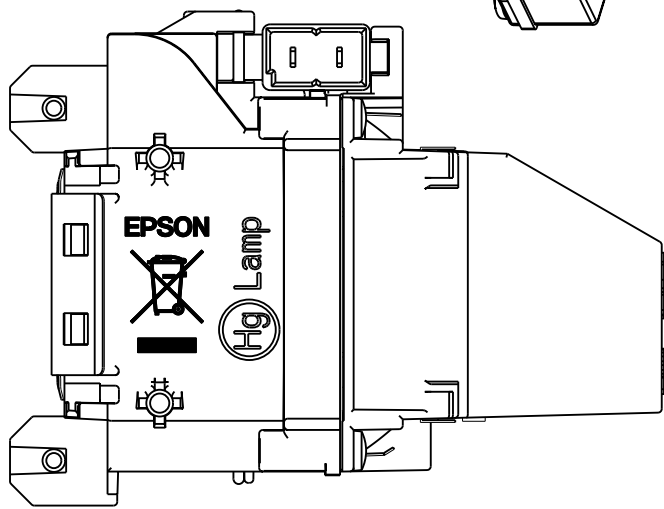
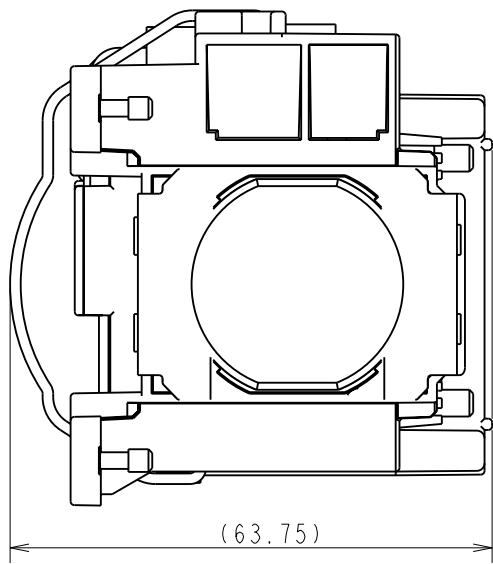
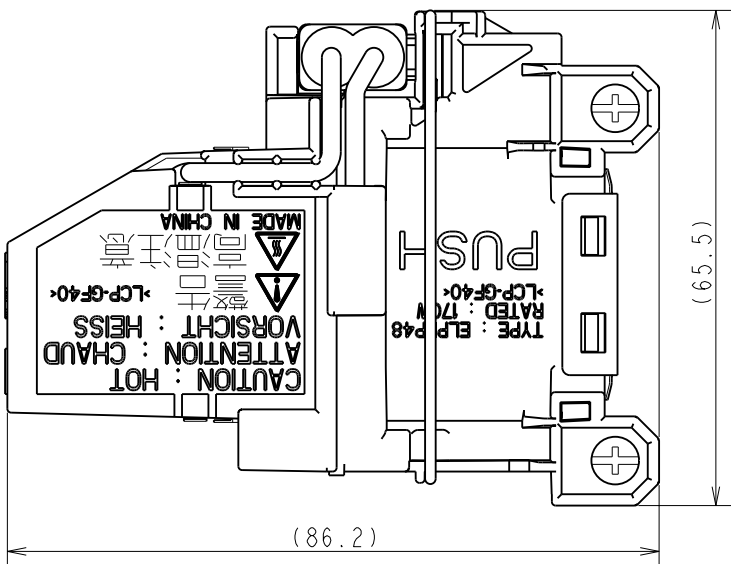
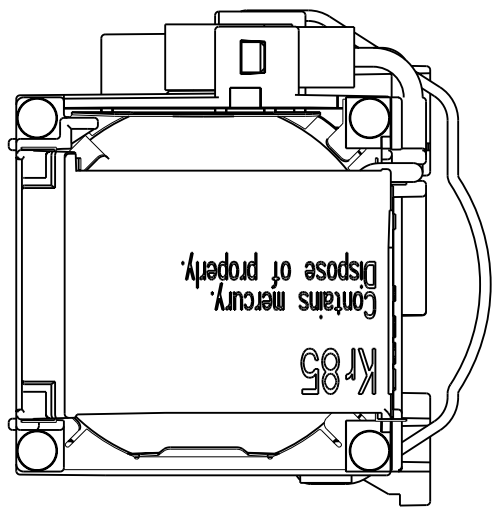
7/6/08

FOR NRC USE ONLY

TYPE OF FEE	FEE LOG	FEE CATEGORY	AMOUNT RECEIVED	CHECK NUMBER	COMMENTS
			\$		
APPROVED BY				DATE	



検討図
EXAMINATION DRAWING



検討図
EXAMINATION DRAWING

QUALITY CHARACTERISTIC 品質特性	MEASURING DEVICE 計測器	DATUM 基準	STANDARD 規格	REMARKS 備考

①	Tech No.	Design No.	⑦	Tech No.	Design No.	一般公差 GENERAL TOL.	DIMENSION 呼び寸法	±
②	Tech No.	Design No.	⑧	Tech No.	Design No.		ANGLE 角度	±
③	Tech No.	Design No.	⑨	Tech No.	Design No.		THREAD ねじ精度	JIS LEVEL 級
④	Tech No.	Design No.	MATERIAL 材質、材料寸法	材質 色:				
⑤	Tech No.	Design No.	HEAT TREATMENT 熱処理		HARDNESS 硬度			
⑥	Tech No.	Design No.	SURF TREATMENT 表面処理		PLATING THK. メッキ厚			
	RECOG.	CONFIRM	CHECK	DESIGN	DRAWN	BURR TREATMENT カエリ処理	FINISH LEVEL 仕上げ程度	▽ ▽ ▽ ▽ ▽ ▽
DSGN 設計						機種/MODEL H268010	コード/CODE No. 148704700	尺度/SCALE 1.000 (1=1mm)
TECH 技術						品名/PART NAME LAMP ASSY. ランプアセンブリ	図番/DRAWING No. 1487047-01	三角法 3rd ANG PROJ.

ISSUED
制定 21/DEC/2007

TECH. 技通 No. --
DSGN. 設通 No. 575

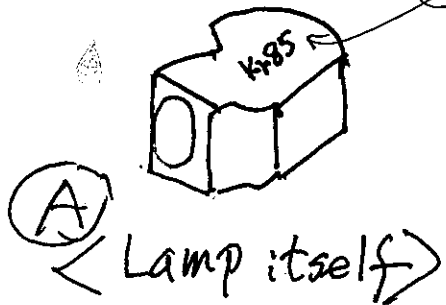
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Model file name : H268_LAMP_ASSY(ASSEM)

6+
87+

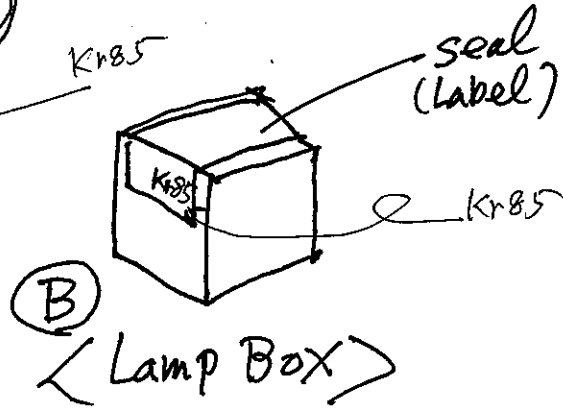
P.120
EPSON

Marking

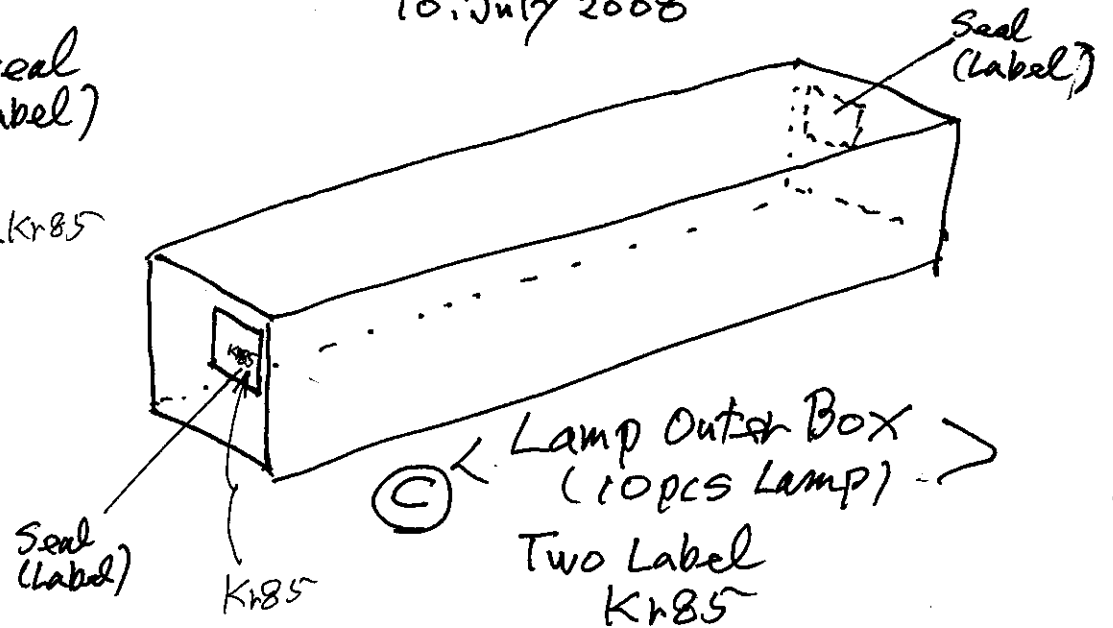
10 July 2008



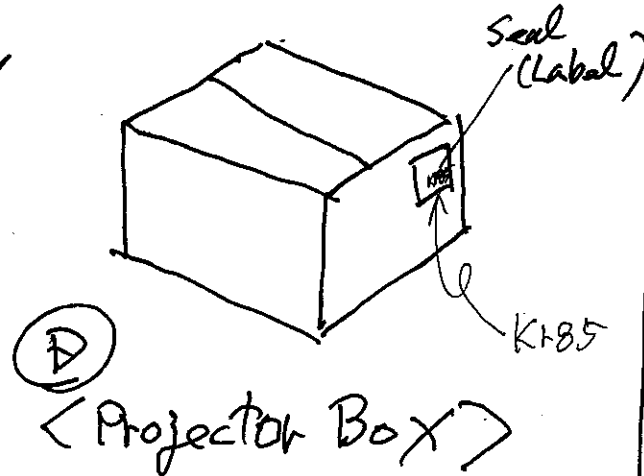
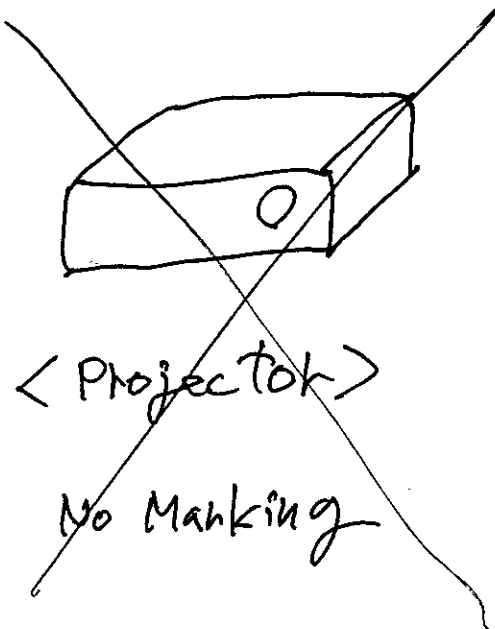
One Position
Kr85



One Label
Kr85



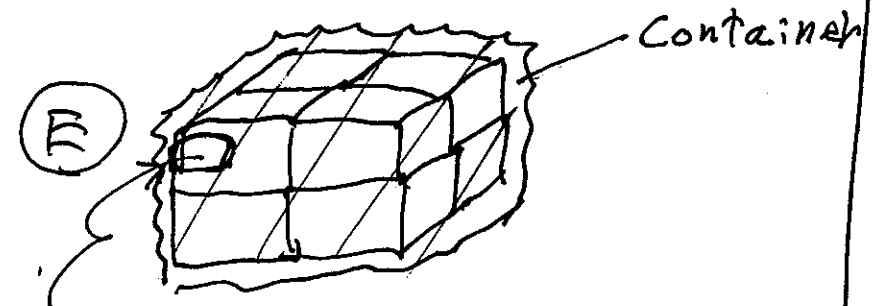
Two Label
Kr85



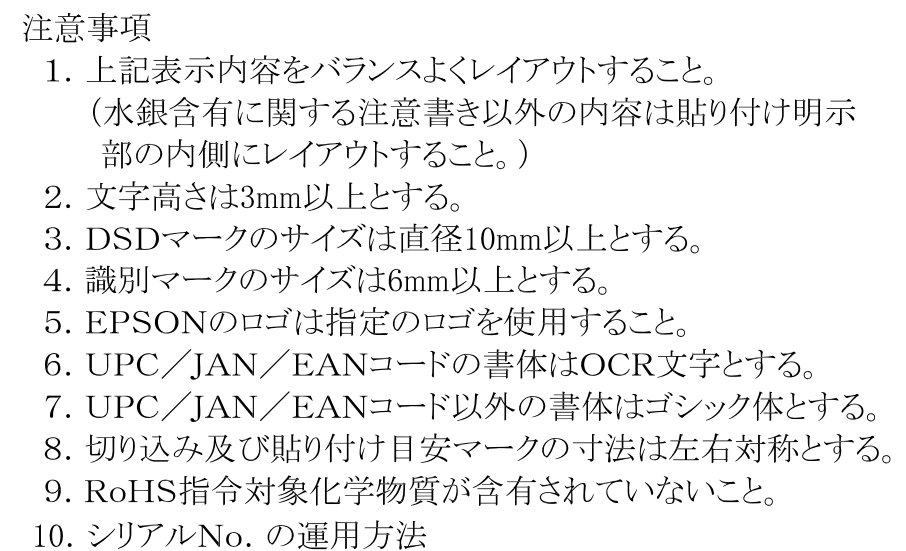
One Label
Kr85

EAI warehouse → Distributor





If EAI Packing



Kr85 put it on by EAI USA site



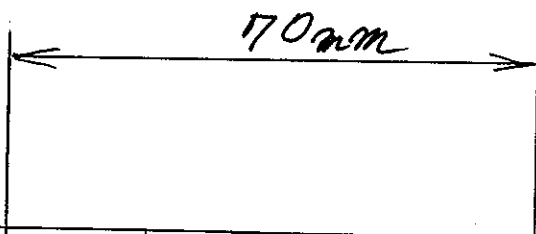
EPSON

		…シリアルNo. (CODE39)
UPC		…商品コード(UPC)
JAN/EAN		…商品コード(JAN/EAN)
Product No.		…バーコード(CODE39)



Label for One Lamp Unit

8	通知				材料				
7	通知				上質紙(白地)				
6	通知				処理 表面:印刷(印刷色:黒) 裏面:接着剤+台紙				
5	通知								
4	通知				寸法一般公差: ±0.2 角度一般公差:			寸法単位	尺度
3	通知							1 = 1mm	1 / 1
2	通知				モデル名 ELPLP44			部品名 ランプ個装箱ラベル	
1	通知	07. 08. 13	01	李 亮					
制定通知 VT-07-B0577		07. 6. 30	00	李 亮	製品コード H010L440130		図番(部品番号) 1477486		図歴/EC 01
書替() 2007年8月13日		発行	確認	検図					
作成 2007年6月30日									

The Label for Projector Box



製品コード	仕向け先	部品コード	
H270200030	E A I	1498207 00	

<p>MODEL: H270A PL 1735W</p> <p>UPC  0 10343 87019 2</p> <p>Product No.  *V11H270120*</p> <p>E A I Kr 85</p>	<p>5mm</p> <p>60mm</p>
---	------------------------

4 通知				材料:	アート紙		
3 通知				処理:	表面: 印刷 裏面: 接着剤+台紙		
2 通知				寸法一般公差: $\pm 0.2\text{mm}$	寸法単位:	尺度:	
1 通知				角度一般公差:	1 = 1 mm	1 / 1	
制定通知 VPT-08-80151		08.3.25	00	張新怡	モデル名	EB-1735W	図名
代替 ()	年 月 日	発行(課長)	確認	検 図	製品コード	H270***0030	商品コードラベル一覧図
作成 ()	2008年 3 月 25 日			設計	仕向け先	図中の通り	図番
				張新怡			H270000091G1-2 00

Projector Carton Box

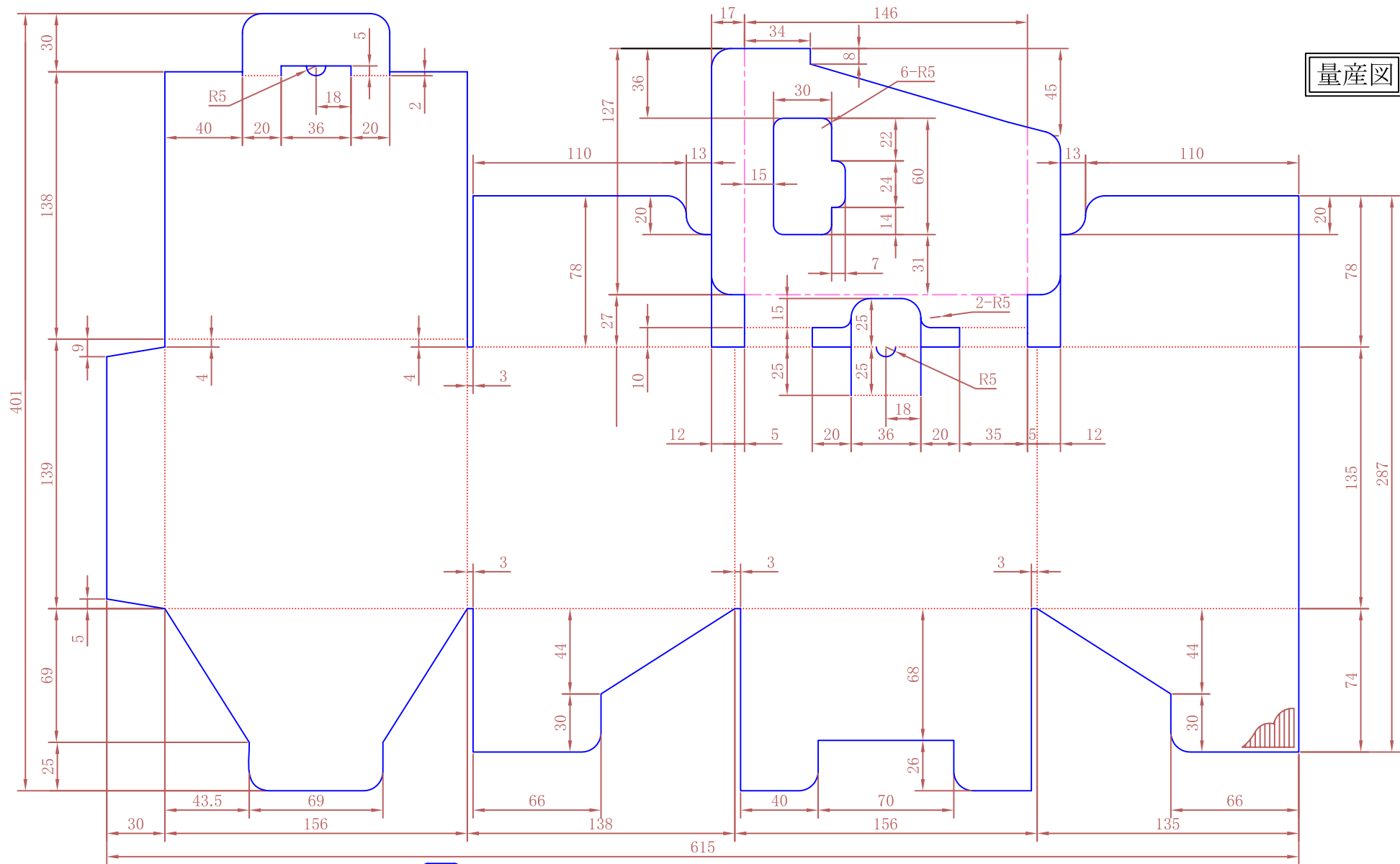
Label "Kr85"

We propose Kr85 marking add to this sheet.

One position. (One sheet)



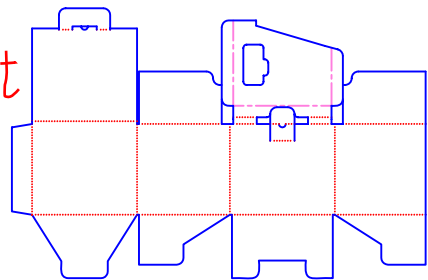
量産図



Lamp Box One Unit

注意事項

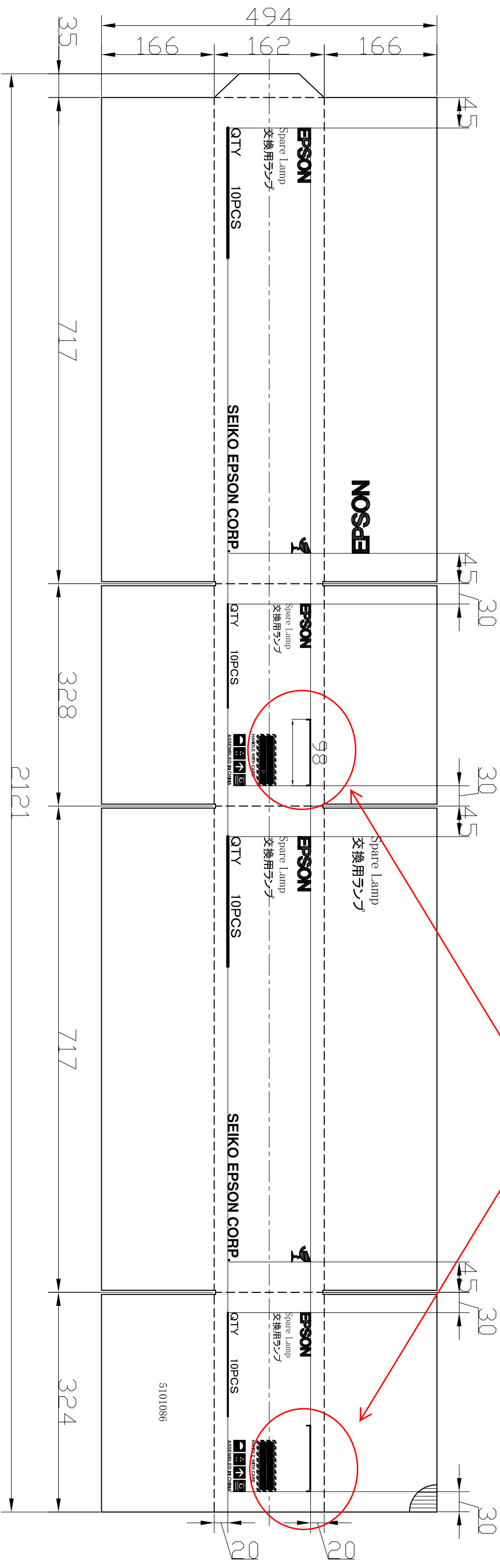
1. ----- (一点鎖線)は逆折れ線
:10×10のリード野(3箇所)
2. (ドット)は折れ線
3. 指示なきRはR10



6	通知 第 号 ()	.	.			材料	175g/112g/175g(B-F) (C5 B-F 相当)			
5	通知 第 号 ()	.	.				処理			
4	通知 第 号 ()	.	.			寸法一般公差: 角度一般公差:		寸法単位	尺度	
3	通知 第 号 ()	.	.				1 = 1mm	1 / 2		
2	通知 第 号 ()	.	.			モデル名	部品名			
1	通知 第 号 ()	.	.				ELPLP18	ランプ個装箱		
制定通知 第 180 号 (VD設サ)						'03 . 11 . 14	00	高木		
書替()		発行	確認	検図	設計	製品コード	H010L180033	図番(部品番号)		図暦/EC
作成						仕向け先		共通	5032073	
2003 年 11 月 14 日		池田	大戸	塚原	高木					

セイコーエプソン株式会社

Label Position



注意事項

1. 上記記載内容をバリエーションよくイアクトすること。
2. EPSONのロゴは指定のロゴを使用すること。
3. EPSONのロゴ以外にはゴジック体とすること。
4. ライブ、文字等のつぶれ、にじみ、スレ、カスレはなきこと。
5. RoHS指令対象化学物質が含有されていないこと。

[illegible]

EPSON

Epson Carton Box Label "Kr85" proposal

We propose Kr85 marking add to this sheet.

One position. (One sheet)

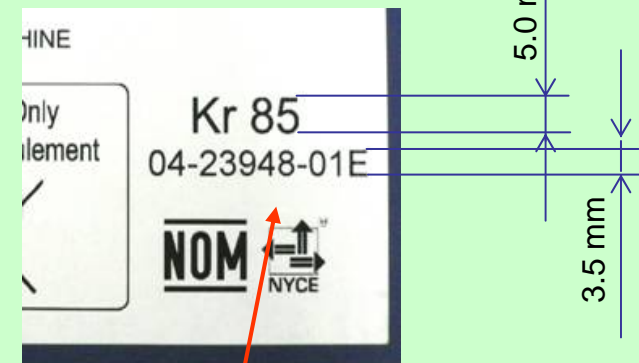


Letter size is
same as
VLP-EX50



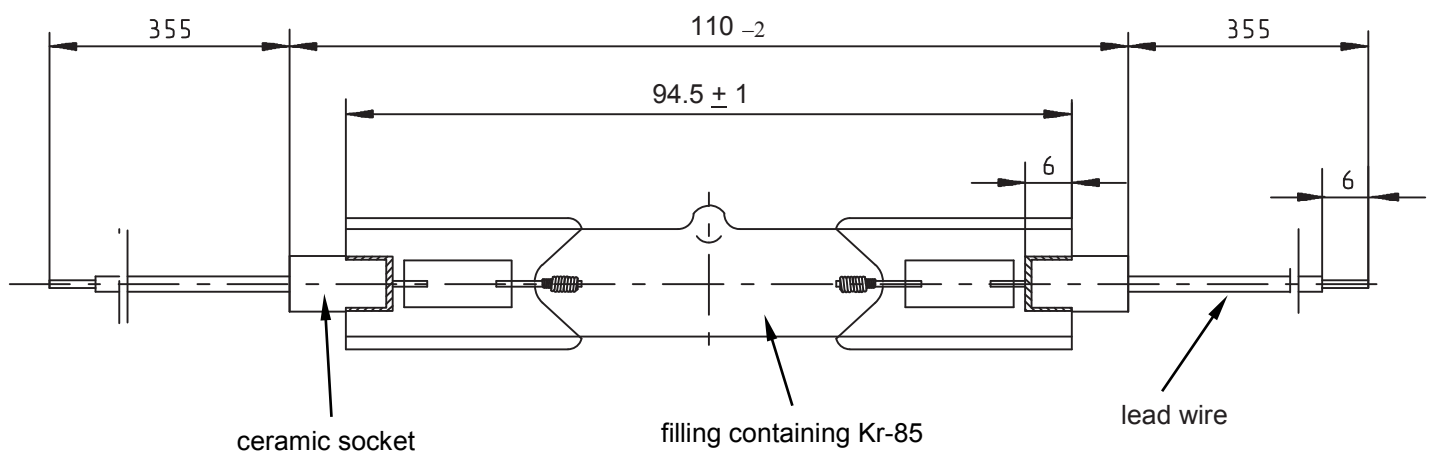
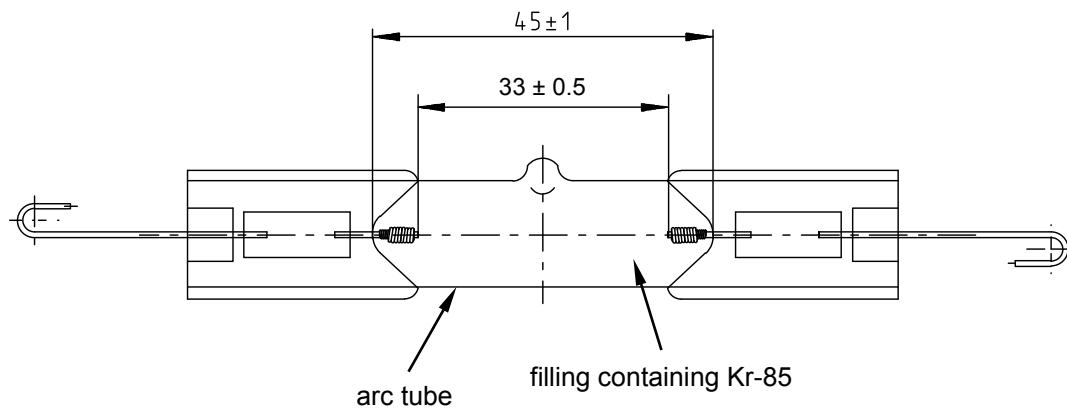
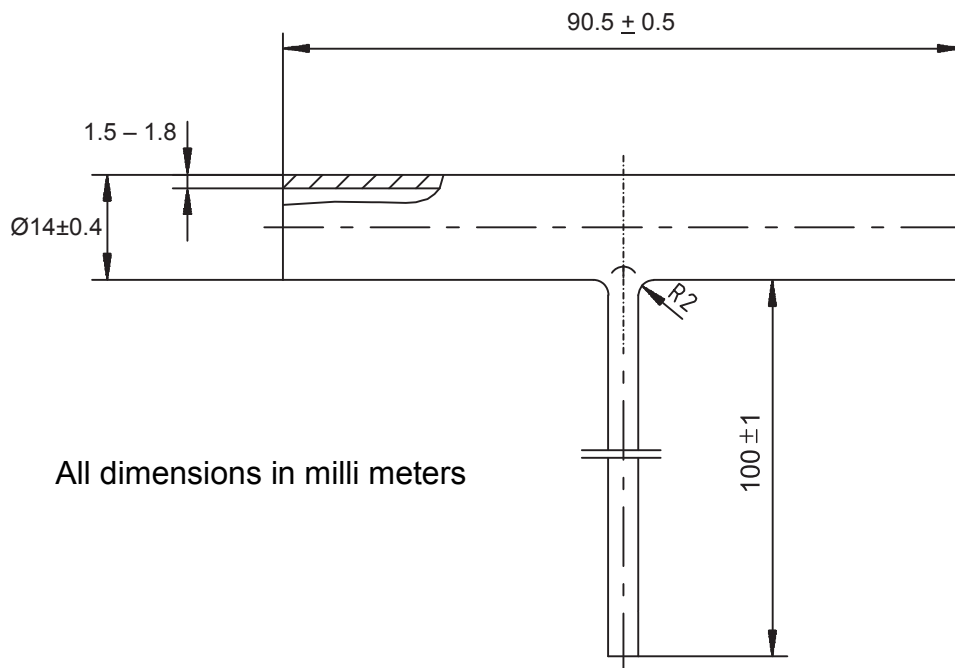
4, July 2008

For reference Sony VLP-EX50 Carton Box

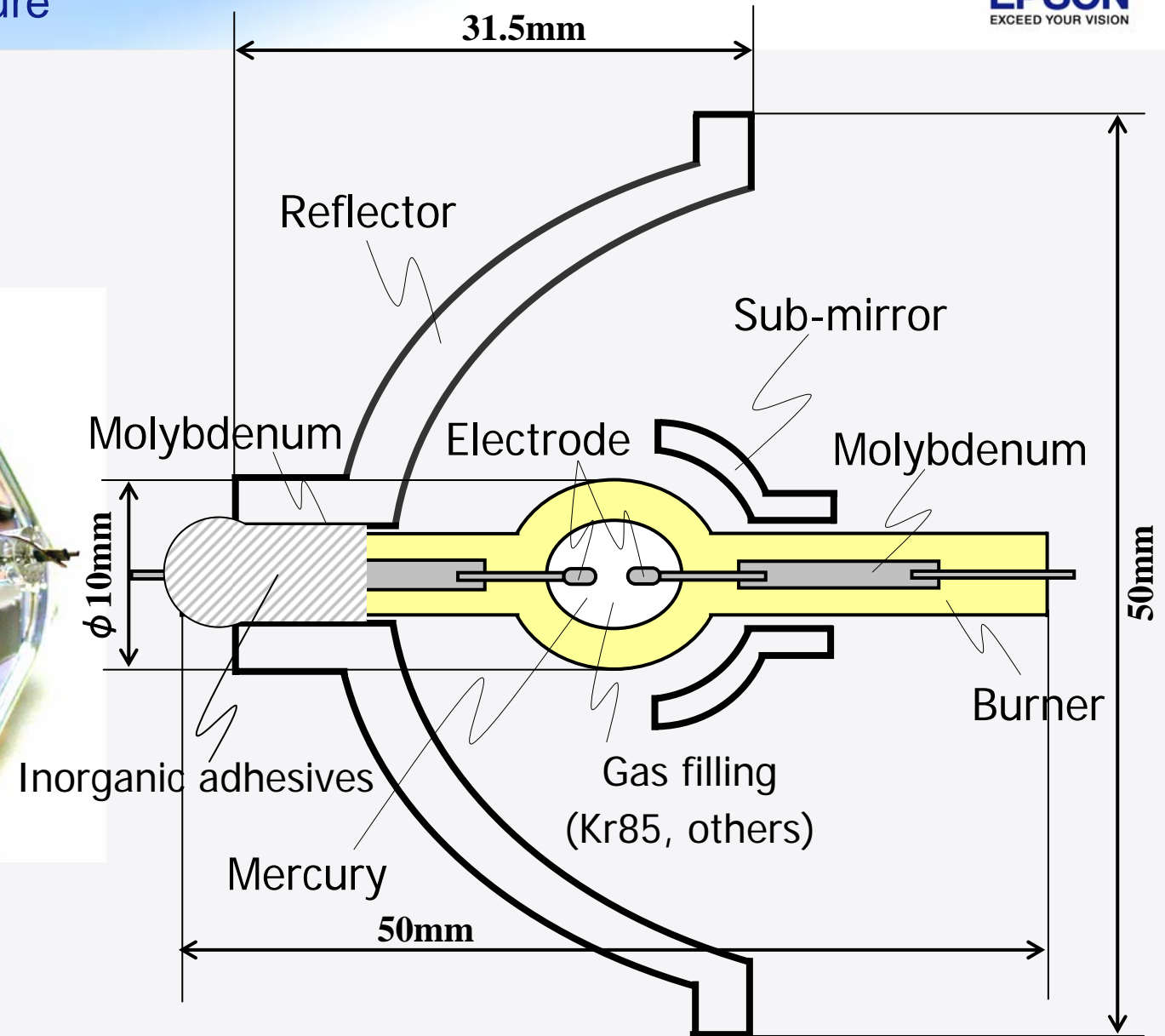


Radium Lampenwerk, Wipperfürth, Germany October 16, 2007

This document shows a typical arc tube, quartz burner and lamp with socket (R7s in 400W/230 v.). This lamp is sold in the USA and Canada under the brands Supra and Radiance. This lamp contains Kr 85.



Typical product picture

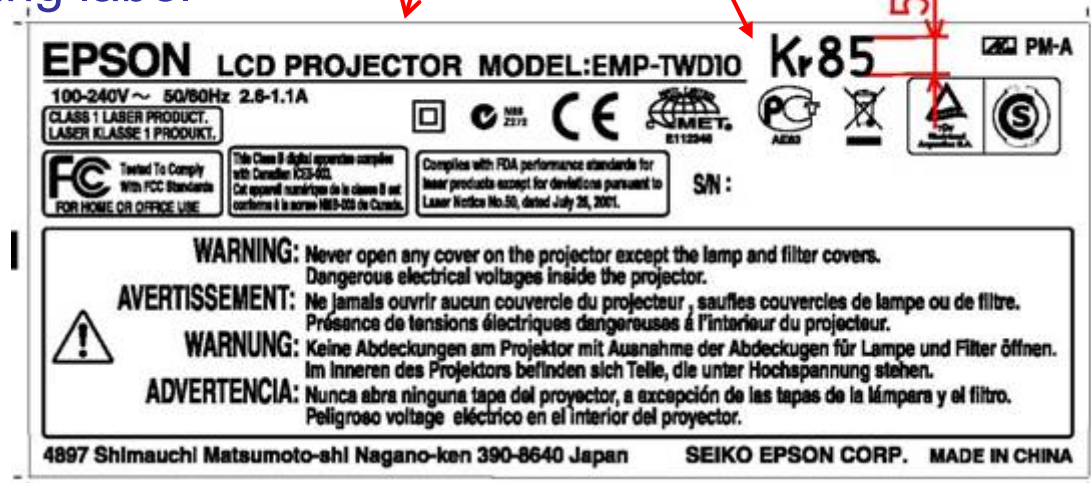


Projector itself “Kr 85”



Rating label

Kr 85



EPSON LCD PROJECTOR MODEL:EMP-TWD10

Kr85

PM-A

100-240V ~ 50/60Hz 2.6-1.1A

CLASS 1 LASER PRODUCT.
LASER KLASSE 1 PRODUKT.



N86
Z272



FC Tested To Comply
With FCC Standards
FOR HOME OR OFFICE USE

This Class B digital apparatus complies
with Canadian ICES-003.
Cet appareil numérique de la classe B est
conforme à la norme NMB-003 du Canada.

Complies with FDA performance standards for
laser products except for deviations pursuant to
Laser Notice No.50, dated July 26, 2001.

S/N :



WARNING: Never open any cover on the projector except the lamp and filter covers.
Dangerous electrical voltages inside the projector.

AVERTISSEMENT: Ne jamais ouvrir aucun couvercle du projecteur, sauf les couvercles de lampe ou de filtre.
Présence de tensions électriques dangereuses à l'intérieur du projecteur.

WARNUNG: Keine Abdeckungen am Projektor mit Ausnahme der Abdeckungen für Lampe und Filter öffnen.
Im Inneren des Projektors befinden sich Teile, die unter Hochspannung stehen.

ADVERTENCIA: Nunca abra ninguna tapa del proyector, a excepción de las tapas de la lámpara y el filtro.
Peligroso voltage eléctrico en el interior del proyector.

4897 Shimauchi Matsumoto-shi Nagano-ken 390-8640 Japan

SEIKO EPSON CORP. MADE IN CHINA

Measurement Info – Matsushita and Iwasaki

Measurement info

Our lamp suppliers have established their own documented quality system to ensure product quality shall meet required quality standards and specifications.

They also have their own calibration system and procedures. They shall calibrate controlled measuring equipments with prescribed frequency and standard equipment which can keep traceability to national standards. This ensures they meet all prescribed volume quantities of Kr 85 that is contained in each lamp.

Epson America, Inc.

§32.14 Certain items containing byproduct material; requirements for license to apply or initially transfer.

United State Nuclear Regulatory Commission

(a) The applicant satisfies the general requirements specified in § 30.33 of this chapter

See attached NRC Form 303

(b) The applicant submits sufficient information regarding the product pertinent to evaluation of the potential radiation exposure, including:

(1) Chemical and physical form and maximum quantity of byproduct material in each product;

See attached NRC Form 303

(2) Details of construction and design of each product;

Matsushita: As you will see from the attached slip "the drawing of arc tube"

a) Thickness of tube: 2.5 mm

b) Material: quartz glass

Iwasaki:

a) Length; 50 mm Thickness; 2.6 mm or more

b) Quartz tube

(3) The method of containment or binding of the byproduct material in the product;

Matsushita: We enclose filler gas which includes Kr85 inside the discharge space of the arc tube made of quartz glass, melt the quartz glass, and seal it.

When the seal is imperfect, the gas which is enclosed into the discharge space does leak, the arc tube does not light up.

Therefore, it is guaranteed that the seal is complete by the fact that lighting of the arc tube is verified.

Iwasaki: The arc tube body is a quartz tube. One electrode is inserted into each end. The two ends are then sealed by a heating process. The arc tube is flushed with Argon gas. Next the arc tube is filled with a Argon - Hydrogen bromide gas mixture, which contains up to a maximum of 2.6 nCi (95Bq) of Krypton-85.

Epson America, Inc.

(4) Procedures for and results of prototype testing to demonstrate that the material will not become detached from the product and that the byproduct material will not be released to the environment under the most severe conditions likely to be encountered in normal use of the product;

Matsushita: We've conducted packing drop and vibration tests described in delivery specification, and verified that it is no problem.
Furthermore, after the above tests we confirm integrity of the seal by igniting the arc tube and confirming electrical characteristics like the way described in the above section (3)
For the details of test condition, please refer to the Exhibit worksheet ' test inspection'.

Iwasaki: No specific testing has been done for the prototype of the LCD projector in which the Krypton-85 gas mixture will be contained as described above. However, this LCD projector, without the Krypton-85, has been on the market and used in its present configuration **for at least the past 8 years.**

The release of the Krypton-85 would occur if the arc tube were shattered. From our past experience, it is a rare case. In any case, if the arc tube were shattered, a maximum of only about 2.6 nCi (95Bq) would be released. Iwasaki Electric Company will test finished LCD projector lamps containing Krypton-85 will be tested in the same manner as other metal halide lamps with Krypton-85 that are currently being produced. These tests are designed to assure that the Krypton-85 will not be released to the environment under the most severe conditions to be encountered in normal use of the product. Each finished lamp is also tested, to see if it will light. It is also aged for a period of time, to assure that it will function properly when used by a customer. If there is a leak in the arc tube, the lamp will not light, and it will be scrapped.

(5) Quality control procedures to be followed in the fabrication of production lots of the product and the quality control standards the product will be required to meet;

Matsushita: As described in the delivery specification, we assure shipped lamps. As for shipping inspection, we conduct tests to check lamp voltage, the appearance (in terms of blackening, loss of clarity, brown wheel, scratch/ soiling and foreign material mixture), and start-up performance on all of lamps.

As for the arc tube, we carry out tests to check lighting and electric quality on all of the arc tube at the aging process. Also after the aging, we carry out appearance test on all of arc tube.

We verify the integrity of the seal by the above-mentioned inspections.

Epson America, Inc.

Iwasaki: The arc tube will be filled with the Argon - Hydrogen Bromide-Krypton-85 gas mixture, which contains specified concentration of Krypton-85. Each finished arc tube containing Krypton-85, and LCD projector containing one of these arc tubes, will be tested in the same manner as LCD projectors with no Krypton-85 that are currently being produced. Each finished arc tube containing Krypton-85 will be tested in the same manner as lamps with no Krypton-85 that is currently being produced. Each finished arc tube is tested to be sure it will light. If there is a leak, the arc tube will not light, and it is scrapped. Each finished lamp is also tested, to see if it will light. It is also aged for a period of time, to assure that it will function properly when installed into a LCD projector. If there is a leak in the arc tube, the lamp will not light, and it is scrapped.

(6) The proposed method of labeling or marking each unit, except timepieces or hands or dials containing tritium or promethium-147, and its container with the identification of the manufacturer or initial transferor of the product and the byproduct material in the product;

We will be labeling our lamps and packaging with “Kr85” as follows **(please see attached label diagrams):**

1. On the Lamp itself
2. On the Projector Body
3. On the product box
 - a. Lamp : each unit box / Labeling
 - b. Lamp : outer box (10 units) / Labeling
 - c. Projector : each unit box / Labeling
4. On the outer shipping box

(7) For products for which limits on levels of radiation are specified in § 30.15 of this chapter, the radiation level and the method of measurement;

Matsushita: Because the amount of radioactivity included in one arc tube is small, it is not possible to measure the amount of radioactivity or the radiation dose released to outside every arc tube.

Amount of radioactivity in the arc tube is managed by controlling radioactive concentration of the filler gas at the process to blend the filler gas.

For the control of the radioactive amount, please refer to the exhibit worksheet 'radioactivity amount'.

Epson America, Inc.

Iwasaki: Iwasaki Electric uses the same concentration of Krypton-85 in Argon gas, in every gas cylinder used to dose the arc tubes. This concentration is 0.2 microcurie / cm³ (7.4 KBq / cm³). The maximum quantity of Krypton-85 permitted by the Japanese Government in each arc tube is 0.27 microcurie (10k Bq). The pressure gauge on the tank is used to assure that less than 2.6 nCi (95Bq) of Krypton-85 is injected into each arc tube, before the arc tube is sealed.

(8) Any additional information, including experimental studies and tests, required by the Commission to facilitate a determination of the safety of the product.

Matsushita: None

Iwasaki: None

(c) Each product will contain no more than the quantity of byproduct material specified for that product in § 30.15 of this chapter. The levels of radiation from each product containing byproduct material will not exceed the limits specified for that product in § 30.15 of this chapter.

Matsushita: We asked outside analysis organization to measure radiation dose in the arc tube and received the results from them. However, since the amount of radioactivity is small and it is difficult to assure it as absolute value, we cannot prove the amount of radioactivity. The measurement result is as follows:

The amount of radioactivity which is enclosed in one unit of arc tube = 51Bq (1.4nanoCi).
Measurement method: Gamma-ray spectrometry method using the germanium semiconductor detector. **See attached measurement information.**

Iwasaki: None. **See attached measurement information.**

The amount of KR 85 in our products range from 0.00257 micro Ci or less to 0.02700 micro Ci or less depending upon product. This is well below the quantities specified for this byproduct material.

(d) The Commission determines that the byproduct material is properly contained in the product under the most severe conditions that are likely to be encountered in normal use and handling.

See item #4 above. Also note, Lamps are installed in projectors at Epson's factories (as finished goods), boxed and sold by Epson to our retailers, distributors and the consumer. Additionally, replacement lamps are sold individually also as finished goods. Because the lamps are in the form of finished goods that have been placed in shipping as well as finished good packaging that includes internal cushioning to prevent damage to the product/lamps.

IWASAKI – Test

4.2.1 Packing drop test and vibration test

Packing drop test

Criteria: After the packing drop test under the below-mentioned test conditions, the lamp appearance and the electric quality must be normal.

Test conditions:

Drop the package from 80 cm high to concrete surface 10 times.

Drop sequence	Contact (Impact) position	Drop height
1	Standard corner *	80 cm
2	Shortest edge next to the corner “1”	80 cm
3	Secondly shortest edge next to the corner “1”	80 cm
4	Longest edge next to the corner “1”	80 cm
5	The smallest surface next to the corner “1”	80 cm
6	Opposite to the surface “5”	80 cm
7	Secondly smallest surface next to the corner “1”	80 cm
8	Opposite to the surface “7”	80 cm
9	The biggest surface next to the corner “1”	80 cm
10	Opposite to the surface “9”	80 cm

* Standard corner: Select the weakest corner

Packing vibration test

Criteria: After the packing vibration test under the below- mentioned test conditions, the lamp appearance and the electric quality must be normal.

Test conditions:

Vibration Frequency	5 – 55 Hz	Bending point 20 Hz
Vibration Frequency Value	5 – 20 Hz	Vibration control 2.5 mm P-P
	20 – 55 Hz	Accelration 19.6 m/s^2 2.0 G
Sweep method	Logarithm sweep (LOG SWEEP)	
Cycle period	15 min	
Vibrating direction and time	X, Y-direction 30 min, Z-direction 60min	
	[X (back and forth), Y (right and left), Z (up and down)]	

4. 2. 1 衝撃試験

下記試験条件で外観、電気特性の異常のないこと。

梱包落下試験

製品をセットした状態で試験し、落下面はコンクリートの水平面でたわまないこと。

試験方法 : 落下順序、落下箇所、落下高さは下表の通りとする。

順序	落下箇所	落下高さ
1	基準角	80 cm
2	基準角を含む稜で最も短い稜	80 cm
3	基準角を含む稜で二番目に短い稜	80 cm
4	基準角を含む稜で最も長い稜	80 cm
5	最も面積が小さな面（基準角側）	80 cm
6	落下順序 5 番の反対側の面	80 cm
7	二番目に面積の小さな面（基準角側）	80 cm
8	落下順序 7 番の反対側の面	80 cm
9	最も面積の大きな面（基準角側）	80 cm
10	落下順序 9 番の反対側の面	80 cm

* 基準角及び稜については、製品の最も弱いと見られる角及びそれに接する稜を選定する。

梱包振動試験

製品をセットした状態で試験し、振動条件は下記の通りとする。

- ・振動周波数 5(Hz)～55(Hz) 折れ点 20(Hz)
- ・振動値 5(Hz)～20(Hz) 振動制御 2.5 (mm)P-P
20(Hz)～55(Hz) 加速制御 19.6(m/s²) 2.0G
- ・掃引方式 対数掃引方式 (LOG SWEEP)
- ・掃引時間 往復 15(min)
- ・振動方向と振動時間 X 方向 30(min) Y 方向 30(min) Z 方向 60(min)
[X (前後) ・ Y (左右) ・ Z (上下)]

Lamp**Projectors**

<u>ELPLP77</u>	4550/4650/4750W/4770W/4850WU/4950WU/4955WU, G5910 1970W/1975W/1980WU/1985WU, HC1440
<u>ELPLP67</u>	S01/W01/S02/X02/W02/W10/S11/S11H/X11/X11H/S12/X12 W12/X14/X14H/X14G/TW480 C05S/C10SE/C15S/C20X/C25XE/C26XE/C26SH/C28SH C30X/C30XH/C30XE/C35XC40X/C45W C50W/C55W/C215S/C240X/C340X, EH-TW490C TW510/TW550/TW560C, W16/W16SK, MG-850HD/MG-850C EX3210/EX5210/EX7210/EX3212 VS210/VS310/VS315W/MG-50/Presenter i+, HC710HD/750HD
<u>ELPLP66</u>	MovieMate85HD
<u>ELPLP65</u>	1750/1760W/1770W/1775W 1751/1761W/1771W/1776W C260M/C260MN/C300MS/C300MN/C3000X/C3010WN C261M/C261MN/C301MS/C301MN/C3001X/C3011WN
<u>ELPLP60</u>	92/93/93e/93H/93+/95/96W/900/905 C1000X/C1010X/C2000X/C2010X/C2010XH C2020XN/C2030WN/C2040XN/C2060XN 420/421i/425W/425We/426Wi/426WT CS500Xi/CS500XN/CS500Wi/CS500WN
<u>ELPLP59</u>	EH-R1000/R2000/R4000/R3000C/R5000C HC21000, PC31000/61000
<u>ELPLP58</u>	S9/S92/X9/X92/W9/S10/X10/W10/C250S/C250X/C250XS 1220/1260/VS200*/EX3200/EX5200/EX7200 C250XC/C250W/C260S/C260X/C260XS/C260W
<u>ELPLP56</u>	DM3, MM60/62, Presenter L
<u>ELPLP57</u>	450Wi/450WT/450W/450We/440W/460i/460T/460/460e 455Wi/455WT/465i/465T
<u>ELPLP55</u>	W8D/DM30/DM30HD/Presenter/PresenterHD
<u>ELPLP54</u>	79/S7*/S72*/X7*/X72*/W7*/S8/S82/X8/X8e/W8 EX31/EX51/EX71/TW450/HC 705HD

<u>ELPLP53</u>	1830/1900/1910/1913/1915/1920W/1925W/VS400 C730X/C735W/C1050X/C1830/C1900/C1910/C1915 C1920W/C1925W/C2090X
<u>ELPLP50</u>	84/84e/84H/84He/84+/84L/85/85H/85+ 824/824H/825/825H/826W/826WH/D290/EX91
<u>ELPLP49</u>	TW2800/TW2900/TW3000/TW3200/TW3500/TW3600/TW3800 TW4000/TW4400/TW4500/TW5000/TW5500/TW5800 HC6100/6500UB/8100/8350/8345/8500UB/8700UB PC 7100/7500UB/9100/9350/9500UB/9700UB TW3300C/TW3700C/TW3850C/5850C
<u>ELPLP48</u>	1716/1720/1723/1724/1725/1730W/1735W
<u>ELPLP44</u>	DM1, DM2, MM50/55
<u>ELPLP43</u>	TWD10, W5D, MM72

**Epson America,
Inc.**

LAMP NUMBER	PROJECTOR MODEL
ELPLP77	4550/4650/G5910/1970W/1975W/4750W/4770W/650KG/750KG 1980WU/1985WU/4850WU/4855WU/4950WU/4955WU/HC 1440
ELPLP67	S01/S02/S02H/S11/S11H/S12/S12H/S12+/S100/S110 X02/X11/X11H/X12/X14/X14G/X14H/X14+/X15 X100/W01/W02/W11+/W12/W12+/W110/1221/1261W C05S/C10SE/C15S/C20X/C25XE/C26SH/C26XE/C28SH/C30X/C30XE C30XH/C35X/C40X/C45W/C50W/C55W/C215S/C240X/C340X EX3210/EX3212/EX5210/EX6210/EX7210 VS210/VS220/VS310/VS315W/VS320/VS325W TW400/TW480/TW470C/TW490C/ HC 500/HC 707/HC 710HD
ELPLP66	MM 85HD
ELPLP65	1750/1750G/1751/1760W*/1761W*/ 1770W/1771W/1775W/1776W C260M/C260MN*/C261M/C261MN*/ C300MN/C300MS/C301MS C301MN/C3000X/C3001X/C3005WN*/C3010WN/X3011WN
ELPLP64	D6155W/D6250/1840W/1850W/1860/ 1870/1880/935W/VS350W/VS410 C1030WN/C1040XN/C700W/C705W/ C710X/C713X/C715X/C720XN
ELPLP61	910W/915W/925/D6150/1835 C1020XN/C2050WN/C2070WN/C2080XN/C2100XN 430/431i/435W/435We/436Wi/436WT CS510Xi/CS510XN/CS520Wi/CS520WN
ELPLP60	92/93/93e/93H/93+/95/96W/900/905 C1000X/C1010X/C2000X/C2010X/C2010XH C2020XN/C2030WN/C2040XN/C2060XN 420/421i/425W/425We/426Wi/426WT CS500Xi/CS500XN/CS500Wi/CS500WN
ELPLP59	R1000/R2000/R4000/R3000C/R5000C HC 21000/PC 31000/PC 61000
ELPLP58	S9/S92*/X9/X92*/W9/S10/S10+/X10/X10+/W10/W10+ 1220/1260/VS200*/EX3200/EX5200/EX7200 C250S/C250X/C250W/C250XC/C250XS C260S/C260X/C260XS/C260W

ELPLP57	440W/450Wi/450WT/450W/450We/460i/460T 460/460e/455Wi/455Wi+/455WT/465i/465T
ELPLP56	DM3/MM 60/MM 62/Presenter L
ELPLP55	W8D/DM30/DM30HD/Presenter/PresenterHD
ELPLP54	79/S7*/S72*/X7*/X72*/W7*/S8/S82/X8/X8e/W8 EX31/EX51/EX71/TW450/HC 705HD
ELPLP53	1830/1900/1910/1913/1915/1920W/1925W/VS400 C730X/C735W/C1050X/C1830/C1900/C1910/C1915 C1920W/C1925W/C2090X
ELPLP50	84/84e/84H/84He/84+/84L/85/85H/85+ 824/824H/825/825H/826W/826WH/D290/EX91
ELPLP49	TW2800/TW2900/TW3000/TW3200/TW3500/TW3600/TW3800 TW4000/TW4400/TW4500/ TW5000/TW5500/TW5800 HC 6100/HC 6500UB/HC 8100/HC 8345/ HC 8350/HC 8500UB/HC 8700UB PC 7100/PC 7500UB/PC 9100/ PC 9350/PC 9500UB/PC 9700UB TW3300C/TW3700C/TW3850C/TW5850C
ELPLP48	1716/1720/1723/1724/1725/1730W/1735W
ELPLP44	DM1/DM2/MM 50/MM 55
ELPLP43	TW10/W5D/MM 72

Delegation of Authority Memo

To: Radiation Safety Officer (Ronald Mateas)

From: Chief Executive Officer (Keith Kratzberg)

Subject: Delegation of Authority


You, **Ronald Mateas**, have been appointed radiation safety officer and are responsible for ensuring the safe and secure use of radiation. You are responsible for managing the Radiation Safety Program; identifying radiation protection problems; initiating, recommending, or providing corrective actions; verifying implementation of corrective actions; stopping unsafe activities; and ensuring compliance with regulations. You are hereby delegated the authority necessary to meet those responsibilities, including prohibiting the use of byproduct material by employees who do not meet the necessary requirements and shutting down operations, when justified, to maintain radiation safety. You are required to notify management if staff does not cooperate and does not address radiation safety issues. In addition, you are free to raise issues with the U.S. Nuclear Regulatory Commission at any time. It is estimated that you will spend 1 hour(s) per week conducting radiation protection activities.



Signature of Management Representative

November 5, 2018
Date

I accept the above responsibilities.



Signature of Radiation Safety Officer

November 5, 2018
Date

cc: General Counsel (Kendra Jones)

Director of Legal Affairs (Jilana Miller)