



SUBJECT: PHOSPHOR APPROVAL TESTS
 Process Specifications

SUPERSEDED DATE

SCHEDULE NO. 1
 (LANCASTER PROCESS)

(Initially for all-sulfide phosphor for 16AP4)

1. EQUIPMENT
 - a. Blend shall be run using standard factory equipment.
 - b. 250 ml. graduate cylinder.
 - c. Qualitative filter paper #4.
 - d. 4 inch Buchner funnel.
 - e. Glass stirring rod with rubber policeman.
 - f. Erlenmeyer suction flask.
 - g. 8 ft. of 1/4 inch rubber tubing.
 - h. Water aspirator.
 - i. W7J distilled, W7K distilled, or deionized water.

2. PROCEDURE
 - a. A 1400 - 1700 gram sample of phosphor shall be sent from the Lancaster Phosphor Factory to screen engineer to be milled and prepared for screen settling according to standard procedure.
 - b. Two wet screened bulbs shall be held in settling room for phosphor weight determination.
 1. Add water to the test bulb and wash all phosphor into a 5U bulb.
 2. Prepare two pieces of filter paper for Buchner funnel; cut to fit, dry one hour in Fisher oven (90°C), cool in dessicator, and weigh on a torsion balance.
 3. Place Buchner funnel in Erlenmeyer suction flask and connect rubber tubing to water aspirator.
 4. A piece of the prepared filter paper is made to adhere to the bottom of the Buchner funnel by wetting with water and pressing gently with the fingers.
 5. The water aspirator is turned on and phosphor sample filtered. Water used to rinse all phosphor from the 5U bulb.
 6. Remove rubber tubing carefully off the suction flask arm and turn water aspirator off.
 7. Remove filter paper and place on second piece of weighed filter paper.
 8. Any phosphor adhering to Buchner funnel is removed with rubber policeman and deposited on the filter paper.
 9. Place filter papers in Fisher oven (at 90°C) for 2 hours.
 10. Cool filter papers in dessicator and reweigh on torsion balance.
 11. Record screen weight in mg/cm².
 12. Repeat the above procedure (1 to 11) for the second test bulb.
 - c. A sample run of 60 bulbs will be settled and processed to testing. Records of settling conditions and scrap at light box, U.V. inspection and testing will be kept by the screen engineer.
 - d. Testing shall hold eight (8) blend approval tubes, that are OK electrically.
 - e. Screen color of five (5) blend approval tubes shall be determined by screen engineer, and tube closest to average color sent to Bldg. #3 for a spectroradiometer reading.
 - f. Phosphor screen color shall be in accordance with specifications. See S.N. 33-Z-609, page 2.
 - g. Blend may be rejected at the discretion of the screen engineer for any unusual scrap in the process which may be attributed to the blend.

SCALE—

DIMENSIONS IN

UNLESS OTHERWISE SHOWN. DIMENSIONS SHOWN WITHOUT TOLERANCES ARE DESIGN CENTERS

6-5212-18-62

PCL19662-126LM

* CHANGE
 ** ADDITION
 *** DELETION

These drawings and specifications are the property of Radio Corp. of America, RCA Victor Div. and shall not be reproduced or copied or used as the basis for the manufacture or sale of apparatus and/or devices without permission. 13726



SUBJECT: Process Specifications

SUPERSEDED DATE

SCHEDULE NO. 2
 (MARION PROCESS)

(Initially for all-sulfide phosphor for 16AP4.)

1. EQUIPMENT Blend will be run using standard factory equipment.

2. PROCEDURE

- a. A 2000 gm sample of phosphor shall be sent from the Lancaster phosphor factory to screen engineer to be milled according to standard procedure.
- b. A sample run of 40 bulbs will be settled and processed to testing. The screen engineer will note screen characteristics at Light Box, incident light inspection and testing to find any unusual settling characteristics of the phosphor.
- c. Four screened bulbs shall be removed from the settling belt before drying and shall be delivered to the Chemical and Physical Laboratory for screen weight determination.
- d. Testing shall hold all blend approval tubes and deliver 3 good tubes to the Quality Control Section for color readings.
- e. If the average color of three tubes is below 8400°K or over 9700°K two additional tubes shall be read. The screen color difference of individual tubes must be between -600°K and +800°K.
- f. The tube closest to average in part "e" shall be sent to the Lancaster Phosphor Laboratory for a spectroradiometer. Information on color of individual tubes, average color, screen weight and uniformity shall be sent with the tube. The I.C.I. color coordinates must fall within the quadrilateral established by the following coordinates:

Point	X	Y
1	0.291	0.304
2	0.290	0.310
3	0.282	0.292
4	0.281	0.297

- If the color coordinates are outside this rectangle the blend is to be rejected unless the screen weight error will correct the color to a point within the rectangle.
- g. The range of a sample of 3 shall not exceed 1500°K. In the event of failure to meet this requirement a second sample of 3 shall be run. If the range is still excessive the blend shall be rerun.
 - h. The blend may be rejected at the discretion of the screen engineer for any unusual scrap in the process which may be attributed to the blend.

ENGINEERING SECTION
 STANDARDIZING

SCALE—

DIMENSIONS IN UNLESS OTHERWISE SHOWN. DIMENSIONS SHOWN WITHOUT TOLERANCES ARE DESIGN CENTERS

7-5212-18-62

PCL19662-126LM

* CHANGE
 ** ADDITION
 *** DELETION
 These drawings and specifications are the property of Radio Corp. of America, RCA Victor Div. and shall not be reproduced or copied or used as the basis for the manufacture or sale of apparatus and/or devices without permission. 13D26