

Request No. \_\_\_\_\_

Date 18 May 1970

Deadline Date 30 June 1970

Requester

STAT

TECHNICAL EFFORT

Generate 100 arbitrary color patches on type SO-242 film by photographing "Color-Aid" swatches, determine colorimetric values of same, and compare the values with customer-furnished values.

CUSTOMER FURNISHED MATERIAL

100 feet, type SO-242 film, type II perforation, sensitometric data of same, final processing of exposed color patches, and customer-determined colorimetric data of the color patches.

DELIVERABLE ITEMS

1. 100 exposed, processed color patches on type SO-242 film
2. Colorimetric values of processed color patches, and customer/contractor comparison
3. Reports X Monthly X Interim \_\_\_\_\_ Final Memo

Rates of Delivery, or Delivery period

STAT

APPROVAL

Start Date \_\_\_\_\_ By \_\_\_\_\_

Task No. Assigned: 6680-06

## Statement of Work

### Project: Color Patch Generation

### Objectives:

1. Generate 100 arbitrary color patches on SO-242 film by photographing a selection of "Color-Aid" swatches.
2. Determine CIE coordinates of the 100 color patches and calculate chromatic difference, brightness difference, and total color difference of each when compared with a customer specified standard.

### Approach:

One hundred color patches will be exposed on 70mm type SO-242 film using a Hasselblad camera, electronic flash equipment, and selected "Color-Aid" swatches. Tests will be conducted to determine the proper exposures and uniformity of illumination. These tests will utilize contractor-furnished EA-5 processing. Since the final exposures will be customer-processed, sensitometric cross-over data will be required to evaluate the test exposures.

The exposed color patches will be shipped to the customer for processing, and colorimetric analysis, after which the patches and data will be returned to the contractor for colorimetric analysis, and comparison. The customer will supply his determination of x, y, and Y for each patch.

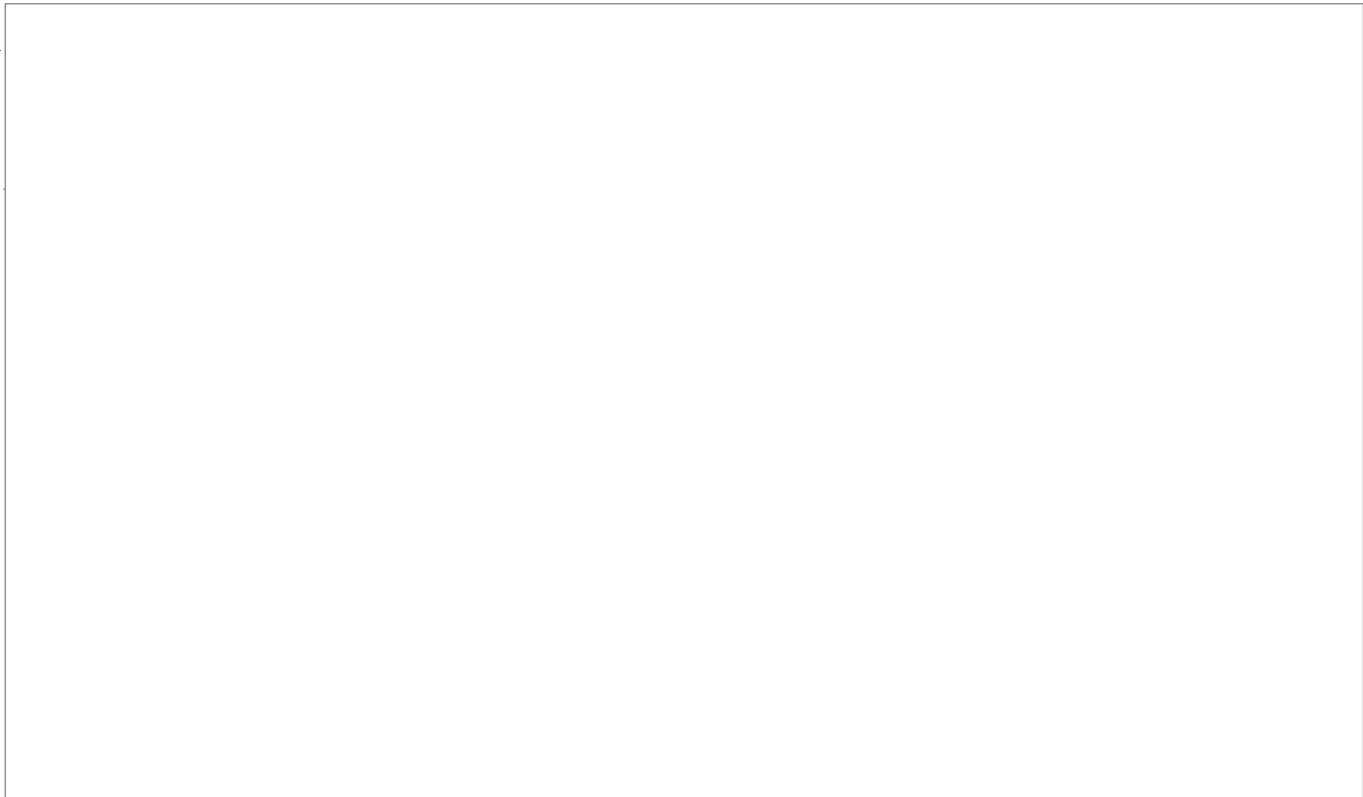
The C.I.E. tristimulus values, X, Y, and Z, will be determined from three replicate measurements of each patch. The average tristimulus values will be used to calculate the following from each color patch:

1. x and y (chromaticity coordinates)
2. Y (luminosity)
3.  $(\Delta C)^2$  (chromatic difference from customer's determination)
4.  $\Delta L$  (brightness difference from customer's determination)
5.  $\Delta E$  (total color difference from customer's determination)

The above data will be reported to the customer in a memorandum summarizing the results of the project.

Financial Summary:

STAT



Schedule:

18 May 70	Start
27 May 70	Complete color patch selection and exposure tests
1 June 70	Complete color patch exposures and ship unprocessed film to customer
9 June 70	Receive processed film from customer
23 June 70	Complete colorimetric analysis of color patches
30 June 70	Deliver summary of results and color patches to customer

NOTE: The above schedule assumes receipt of 100 feet of type SO-242 film, 70 millimeter, type II perforation, by 22 May 70.