

REPORT NUMBER: PH1102.3
03/12/09

Test Report

DEVICE UNDER TESTING

LUMINAIRE:	LED fluorescent replacement tube, 20 Watt nominal
MODEL:	T848LED110120(20W)
DRIVER:	Built in
SPECTRORADIOMETRIC INSTRUMENTATION:	Sphere Optics 2m integrating sphere & CCD spectrophotometer
THERMAL INSTRUMENTATION:	n/a
ENVIRONMENTAL CONTROL:	n/a
OTHER APPARATUS:	n/a
OBJECTIVE OF TEST:	Measure the total flux output in lumens, Correlated Colour Temperature (CCT), Colour Rendering Index (CRI), Chromaticity Coordinates (x,y), and spectral power distribution (SPD) of the unit. Using the input electrical characteristics, determine the luminous efficacy of the unit (lm/W).
PROCEDURE:	The unit, preburnt for 500 hrs, was supplied by client. The luminaire was prewarmed overnight before each test. Stabilization data were recorded for 1 hour to assure steady state operation (time series data available on request). Stabilized input electrical characteristics were measured with the unit mounted in the integrating sphere. CCT, CRI, (x,y), SPD, and total flux of the unity were measured using the integrating sphere. 5 datasets were averaged in order to measure the mean performance. All data are traceable to the National Institute of Standards and Technology. Spectroradiometric tests were performed in a 25 ± 1 °C free air ambient.
LUMENTRA SOP #:	SOP-PH-01.1

THIS REPORT IS BASED ON PUBLISHED INDUSTRY PROCEDURES. FIELD PERFORMANCE MAY DIFFER FROM LABORATORY PERFORMANCE.

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Graham Murdoch	Date	Venkat Venkateramanan	Date

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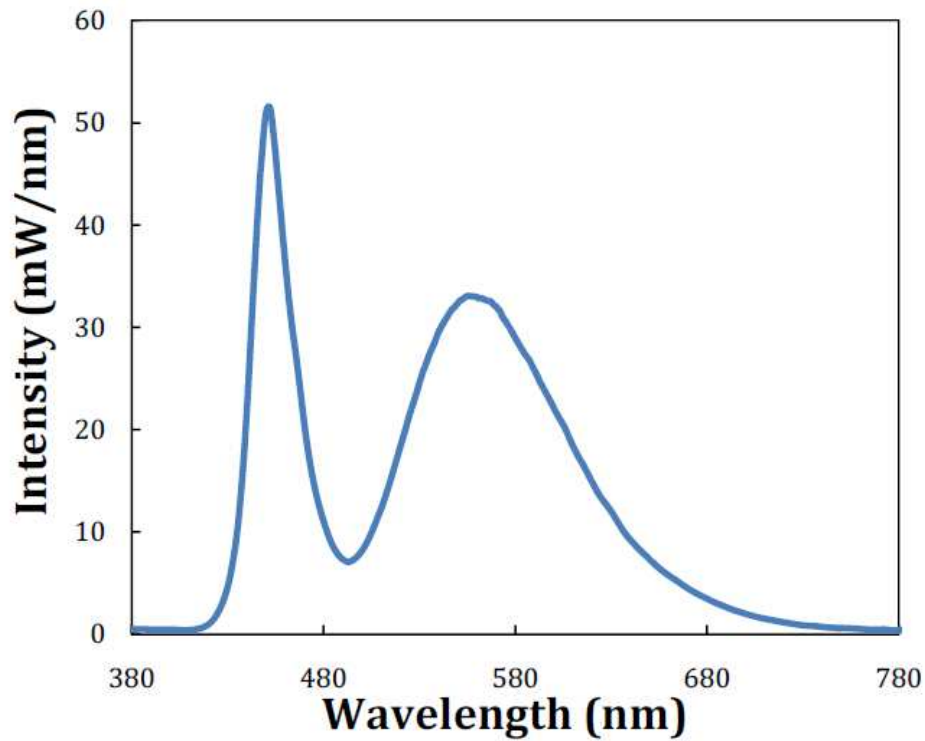
RESULTS

SPECTRORADIOMETRIC TESTING IN INTEGRATING SPHERE	
PHOTOMETRIC	
TOTAL INTEGRATED FLUX* (LUMENS)	1723
SPECTRORADIOMETRIC	
OBSERVER	CIE 1976 2 degree
CHROMATICITY ORDINATE X	0.3224
CHROMATICITY ORDINATE Y	0.3475
CORRELATED COLOUR TEMP CCT (K)	5933
COLOUR RENDERING INDEX (CRI)	64
ELECTRICAL	
INPUT VOLTAGE (V)	120.44
INPUT CURRENT (A)	0.1667
INPUT POWER (W)	20.08 W
EFFICACY	
lm/W	85.8

*Note: Proper calibration of integrating spheres for measuring total flux output of non-directional lamps will produce reliable, repeatable results within the calibration tolerances of the equipment used.

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SPECTRAL POWER DISTRIBUTION

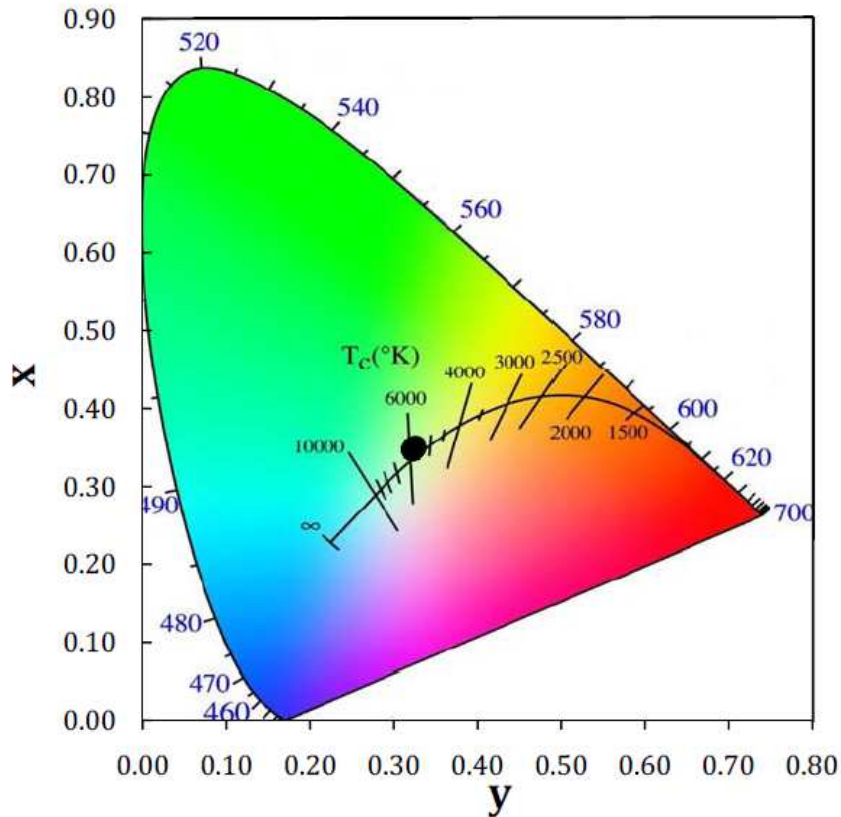


TABULATED SPECTRAL POWER DISTRIBUTION

Tabular data supplied in electronic format

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CIE CHROMATICITY DIAGRAM



NOTE:

Time series data were recorded for approximately one hour prior to each test to ensure steady-state measurement results.