

TECHNOLOGY PROMOTION ASSOCIATION (THAILAND-JAPAN) CALIBRATION SERVICES AND ENVIRONMENTAL ANALYSIS DEPARTMENT

534/4 PATTANAKARN ROAD SOI 18, SUANLUANG, SUANLUANG, BANGKOK 10250 TEL. 0-2717-3000-24 FAX. 0-2719-9484



Certificate of Calibration

Certificate No.: 18PH253

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Equipment:

Digital Lux Meter

Manufacturer:

Digicon

This certificate may not be reproduced other than in full, except with the prior written approval of the head of

Calibration Services and environmental analysis department.

Model:

LX-73

Serial No.:

Q606426

ID No.:

Condition As-Received: Used Item

Received Date:

08 June 2018

Calibration Date:

22 June 2018

Reference:

1806-0440WN

Submitted by:

MAEJO UNIVERSITY

Ambient Temperature:

 (23 ± 2) °C

Relative Humidity:

(50 ± 15) %

63 Moo 4, Nong Nong Daeng, Sansai Chiang Mai 50290

Thailand

Procedure used:

Calibration were conducted using In-house calibration procedure CP-PH01 by measuring against

luminous-intensity standard lamp (source-based method) According to the inverse square law measurement

method.

Condition of this result of calibration

1.Reference standards instuments:

| <u>Instrument</u> | <u>Model</u> | Serial No. | Certificate No. | Due Date |
|--------------------------------------|---------------|------------|-----------------|-----------------|
| 1) Photometry & Encorder | LMguide 9,6 m | 120RC003 | 61-140006-1 | 30 Apr 2021 |
| 2) High-accuracy Irradiance Standard | OL-FEL-U | F-1472 | PP-1035-17 | 02 Oct 2018 |

- 2. This result of calibration was made on requested at the point specified by customer.
- 3.Test Equipment: Programmable Voltage/Current Source (Model: OL83A, S/N: 16221394).
- 4.Test Equipment: Illuminance Meter (Model: 51002, S/N: 080129).
- 5. This result of calibration was found accurate as shown on date and place of calibration only.
- 6. This Certification is traceable to the International System of Unit maintained at:-
 - -National Institute of Metrology Thailand (NIMT)

Calibrated by: Issue Date:

Nuntawat Khamchai

25 June 2018

Approved Signatory:

[] Mitr Veeratham

[] Phalinee Prabpaipal

[] Nuntawat Khamchai



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|-----------------------------------|----------------------------|--------------|----|--------------------|
| | thout adjustment () After | | | |
| Function: Illuminance Measurement | Range: | 40 | lx | |
| Standard Value | UUC* Reading | <u>Error</u> | | <u>Uncertainty</u> |
| (lx) | (lx) | (lx) | | (± lx) |
| 0 | 0.00 | 0.00 | | 0.058 |
| 20 | 20.02 | 0.02 | | 0.26 |
| 28 | 28.02 | 0.02 | | 0.37 |
| 36 | 36.01 | 0.01 | | 0.47 |
| Function: Illuminance Measurement | Range : | 400 | lx | |
| <u>Standard Value</u> | UUC* Reading | Error | | Uncertainty |
| (lx) | (lx) | (lx) | | (± lx) |
| 40 | 39.2 | -0.8 | | 0.52 |
| 120 | 120.5 | 0.5 | | 1.6 |
| 200 | 201.5 | 1.5 | | 2.6 |
| 280 | 282.9 | 2.9 | | 3.7 |
| 360 | 362.2 | 2.2 | | 4.7 |
| Function: Illuminance Measurement | Range : | 4000 | lx | |
| Standard Value | UUC* Reading | Error | | <u>Uncertainty</u> |
| (lx) | (lx) | (lx) | | (± lx) |
| 400 | 396 | -4 | | 5.2 |
| 1200 | 1202 | 2 | | 16 |
| 2000 | 2004 | 4 | | 26 |
| 2800 | 2802 | 2 | | 37 |
| 3600 | 3602 | 2 | | 47 |
| Function: Illuminance Measurement | Range : | 40000 | lx | |
| Standard Value | UUC* Reading | Error | | <u>Uncertainty</u> |
| (lx) | (lx) | (lx) | | (± lx) |
| 4000 | 4010 | 10 | | 52 |
| 5000 | 5000 | 0 | | 65 |

The reported uncertainty of measurement was based on a standard uncertainty multiplied by a coverage factor k = 2, providing a level of confidence of approximately 95 %

UUC* = Unit Under Calibration.