

LED BAY LIGHTING

BAY LIGHTING

# CASE STUDY

## ADNEC Convention Center

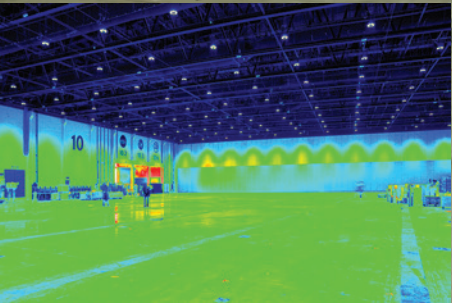
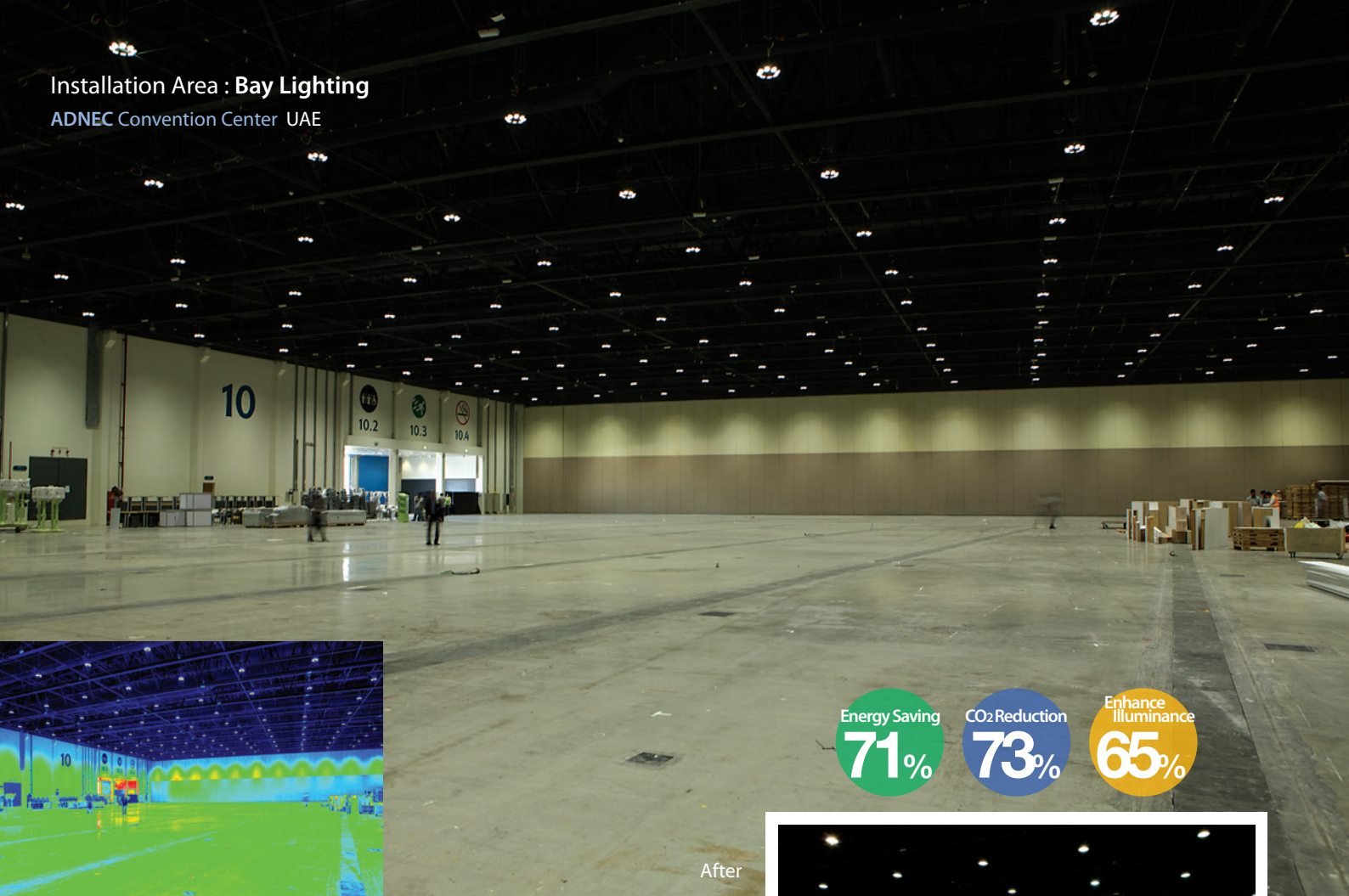
AbuDhabi UAE



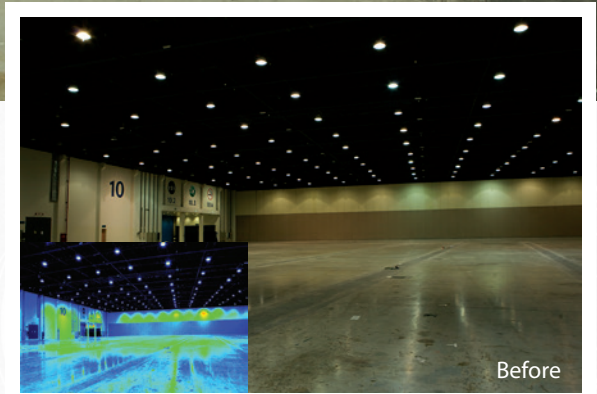
GigaTera<sup>®</sup>  
beyond the light

# Installation Area : Bay Lighting

ADNEC Convention Center UAE



After



Before

## Summary

The background of this case study is the largest international exhibition hall in the United Arab Emirates located in Abu Dhabi, the capital of the UAE, a fine example of the installation of a high bay lighting LN product from the GigaTera® line-up that boasts superior uniformity luminance and sufficient light intensity using multi-beam width control technology.

The result of surveying the existing environment equipped with a 450W metal halide product recorded values that include a minimal luminance of 216lx and a maximum luminance of 662lx, showing extreme disparity in illumination. The task was to replace existing lighting with high bay lighting to ease eye-strain when attempting to make out the original colors of objects, though a big requirement by the convention exhibition hall, it had scored very poorly on the Color Rendering Index\* when compared with LED lighting.

This case outlines the standards of the exhibition lighting system using GigaTera's® differentiated LED bay lighting system.

## Result 01

The result of measuring luminance prior to replacement showed that the existing system was severely lacking when it came to satisfying the range of illumination. Further, there was a noticeable gap between maximum and minimum values. The exhibition hall lighting system was a poor match for the environment. However, after analyzing the data after replacement, the results of the measured value of overall uniformity luminance, which measures the uniformity of illumination, jumped from 0.57 to 0.94, resulting in an exhibition hall with world-class lighting.

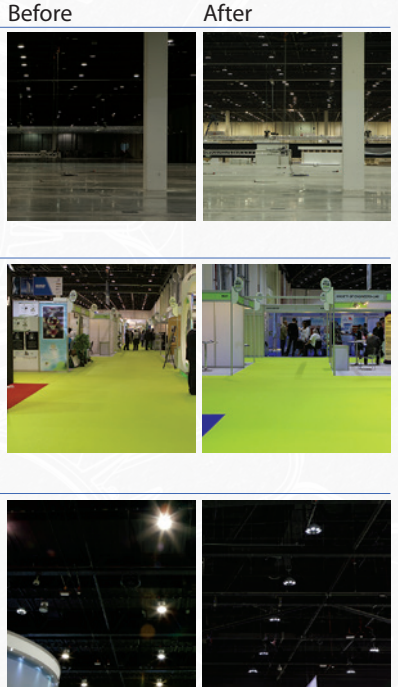
## Result 02

The ability for visiting guests to be able to recognize natural, original colors is a must for exhibition halls. Through this project the existing lighting environment could be enhanced from a Color Rendering Index of 60 to more than 80, which represents a nearly 30% improvement.

(\*Color Rendering Index - index that determines how well artificial lighting renders the colors of objects compared to how they would appear in natural light. The closer the score to 100, the more natural the colors appear.)

## Result 03

Differing from existing lighting systems that use single beams and lenses, the LN product family uses multi-beams and reflectors allowing visitors to not only experience significantly less glare, but also enjoy even and uniform luminance. Exhibition halls and large retailers have to consider such factors when taking into consideration the potential for eye-fatigue among visitors. After completing the installation, we kept receiving compliments on how amazing the difference was.





### Site Information

Application	Bay Lighting
Location	ADNEC Convention Center (UAE)
Light sources	LN130
Lighting support	GigaTera Application Team

### Install Data

	Before	After
Model Name	MH	LN130
Power Consume	450W	130 W
Color Rendering	60	80
Q'ty	1,210	1,210
Total Power	544.5KW	157.3 KW
Energy Saving(%)		71%

### Illuminance Measurement Data

	Before	After
Average	379 lux	364 lux
Minimum	216 lux	341 lux
Maximum	662 lux	393 lux
Ud (Emin/Emax)	0.33	0.93
Uo (Emin/Eav)	0.57	0.94
Enhance Illuminance(%)		65%

### Illuminance Measurement Data

Before (MH-450W)

Fixture Position

293	567	444	365	405	352	348	372	223
387	375	304	347	561	383	277	285	216
356	534	321	421	410	345	283	228	220
400	478	342	375	496	342	308	300	264
364	316	303	373	374	315	351	433	302
224	259	320	348	341	371	447	387	662
166	272	467	441	370	422	555	480	631
233	335	379	449	413	523	388	394	589

After (LN-130W)

Fixture Position

369	366	349	387	372	348	382	358	390
358	359	356	369	341	347	366	375	390
375	359	353	346	344	347	386	393	368
353	360	367	386	387	355	385	365	375
341	362	371	374	361	342	352	355	368
353	355	365	371	348	365	357	361	359
357	361	375	367	349	361	364	387	378
348	368	356	354	362	357	368	365	371

### Manager Interview



"The assessed results by our ADNEC Facility Maintenance Team over the past 6 months are nothing short of amazing after learning about maximum performance and energy savings shown to us with the GigaTera® LN Series high bay lighting. The LN Series creates little glare, but provides sufficient balanced light intensity which offers excellent visibility. We are glad that we made a wise choice with the LN Series."

Al Hosani / ADNEC Facility Manager

# GigaTera

beyond the light

**Unique & Better**

[www.gigateraled.com](http://www.gigateraled.com)

LN Series

New Light, New Ambience, New Life  
Journey to the new world of lighting

INDOOR LIGHTING  
OUTDOOR LIGHTING  
INDUSTRIAL LIGHTING  
IT CONVERGED LIGHTING

GigaTera  
beyond the light

## GigaTera® Global Directory

### Head Office / Republic of Korea

Address : 183-6 Youngcheon-Ro,  
Dongtan-Myeon, Hwaseong-Si,  
Gyeonggi-Do, Korea (445-813)  
Tel : +82-31-370-8866  
Fax : +82-31-370-0443  
E-mail : [ledsales@gigateraled.com](mailto:ledsales@gigateraled.com)  
<http://www.gigateraled.com>  
<http://www.kmw.co.kr>

### GigaTera Japan Inc.

Address : 4F, K&G Bldg., 1-3, Yamabukicho,  
Naka-ku, Yokohama-shi,  
Kanagawa, 231-0038, Japan  
Tel : +81-45-251-8951  
Fax : +81-45-251-8952  
E-mail : [info@kmwinc.co.jp](mailto:info@kmwinc.co.jp)  
<http://www.gigateraled.com>  
<http://www.kmw.co.kr/jp>

### GigaTera BlueKite

Address : 908 Teilhard Hall, 35 Baekbeom-ro,  
Mapo-gu, Seoul, Korea (121-742)  
Tel : +82-2-2038-4208  
Fax : +82-70-7500-0379  
E-mail : [bluekite@bluekite.co.kr](mailto:bluekite@bluekite.co.kr)  
<http://www.bluekite.co.kr>

### GigaTera USA

Address : 1818 E. Orangethorpe Ave,  
Fullerton, CA 92831 U.S.A.  
Tel : +1-714-515-1100  
Fax : +1-714-515-1134  
E-mail : [sales@kmwgigatera.com](mailto:sales@kmwgigatera.com)  
<http://www.kmwgigatera.com>  
<http://www.kmw.co.kr/eng>

### GigaTera [G<sup>+</sup>]

Address : Xi'an Huatian Telecom Inc. LED  
Dept. No.38 South Tuanjie Road,  
Xi'an Hi-Tech Zone, Shaanxi,  
PR China  
Tel : +86-29-8799-5888  
Fax : +86-29-8799-5999  
E-mail : [gtcn@gigateraled.com](mailto:gtcn@gigateraled.com)  
<http://www.gigateraled.com>  
<http://www.kmw.co.kr/cn>

### GigaTera Turkey

Address : Mahmut Yesari Cad. No:18 Kosuyolu,  
Istanbul, Turkey, 34718  
Tel : +90-216-326-5475  
Fax : +90-216-326-5476  
E-mail : [sales@gigateraled.com.tr](mailto:sales@gigateraled.com.tr)  
<http://www.gigateraled.com.tr>  
<http://www.kmw.co.kr/eng>

### GigaTera EU GmbH

Address : Bonner Str. 363 40589, Dusseldorf,  
Germany  
Tel : +49-(0)211-1592-4481  
Fax : +49-(0)211-1592-4482  
E-mail : [gteu@gigateraled.com](mailto:gteu@gigateraled.com)  
<http://www.gigateraled.com>  
<http://www.kmw.co.kr/eng>

### GigaTera Middle East

Address : The Avenue Business Center,  
2nd Floor, Rimah Office Tower,  
Khalidiyah Street, P.O Box 33763,  
Abu Dhabi, UAE  
Tel : +971-2-4122220  
Fax : +971-2-4122200  
E-mail : [me@gigateraled.com](mailto:me@gigateraled.com)  
<http://www.gigateraled.com>  
<http://www.kmw.co.kr/eng>

Due to product revision, GigaTera reserves the right to make changes at any time, without prior notice.

The color printed in the brochure may differ from the actual product.

©2015 GigaTera All Rights Reserved. Not to be reproduced wholly or in part without written permission of GigaTera Korea.

All illustration and Specification contained in this brochure are based on the latest product information available at the time of printing.

2015.02.16 Printed

GigaTera by 