Energy-Efficient Lighting Design Awards 2011

Awards

Eligible Entrants

Entry is open to new or existing public and private facilities that are equipped with energy-efficient lighting. Such facilities must exhibit both outstanding lighting installation and energy-saving light sources and must achieve energy efficiency and reduced carbon dioxide emissions, creating an appealing eco-friendly space.

1. <Public Facilities and Other Major Facilities>

1. Offices, showrooms, display homes, etc.
2. Halls, gymnasiums, stadiums, theaters, cinemas, underground arcades, stations, airports, etc.
3. Hospitals, medical facilities, etc.
4. Municipal government buildings, schools, libraries, museums, etc.

2. <Commercial Facilities and Accommodations>

1. Restaurants, cafes, bars, department stores, supermarkets, shopping center, grocery stores, etc.
2. Hotels and other accommodations, etc.

3. <Urban Design and others>

1. Streets, shopping malls, roads, parks, etc.
2. Apartment houses and outside facilities including housing complexes, petrol stations, etc.

* This category includes both buildings and external spaces.
* The eligible entries include new and existing facilities.

Applicants

Open to all applicants who meet the above criteria, including municipal government organization.
Applicants must have corporate status and own their respective entry.

Outline

Application Period

November 18 – December 15, 2011

Categories

1. Public Facilities and Other Major Facilities
2. Commercial Facilities and Accommodations
3. Urban Design and others

Awards

Grand award, awards for excellence, special awards for each category and jury's special award.

Entries

Public and commercial facilities and urban spaces
Applicants entering under the "Urban Design and others" category must include multiple buildings on/at one location and the energy consumption must be calculated based on the energy usage of the entire city block or shopping mall.

Screening

The screening process will not commence until the closing date has passed. Screening will be based solely on the application documents provided.

Evaluation Criteria

1. Effectiveness of energy-efficient lighting (contributes to greenhouse gas emissions reduction)
Reduction of carbon dioxide and greenhouse gas emissions
Energy-efficient and feeds energy to the grid
Suitability of energy-saving lighting and fixture

2. Design, uniqueness, innovativeness and comfort
Good lighting design using energy-efficient lights
Innovative, unique and advanced implementation of energy-efficient lighting
Optimal balance between lighting, architecture and interior design
Unique installation of lighting
Creating comfortable and relaxing space with energy-efficient lighting

3. Replicable lighting model based on solid design principles and contributes to the local environment
Replicable model for companies consider implementing energy-efficient lighting
Encouraging communities and companies to make every effort to reduce carbon dioxide emissions

4. Practical lighting design and cost-effectiveness
Practical lighting design giving consideration to maintenance and renewal
Reducing energy cost by implementing energy-efficient lighting

5. Others
Sustainability of energy-efficient lighting design
Continuous effort to achieve energy efficiency separate from implementing energy-efficient lighting
Promoting energy-efficient lighting and encouraging facility owners to replace existing lighting with energy-efficient lighting
A leading example of energy-efficient lighting design that initiates wider use of eco-friendly lighting

Results and Award Ceremony

The number of entries received

56

Results

1. Public Facilities and Other Major Facilities: One grand award and seven awards for excellence
2. Commercial Facilities and Accommodations: One grand award and five awards for excellence
3. Urban Design and others: One grand award and three awards for excellence

Award Ceremony Details

Date: February 6, 2012
Location: Nikkei Hall, Otemachi, Tokyo

Judges

Chairman
Dr. Yoshihiko Ohtani D.Eng.
Former professor at Nihon University

Ohtani has studied and researched interior lighting design. He received Light and Lighting Design Award in 1997 and CIE Award in 2003. Ohtani is a former vice-president of the NPO Japan LED Association, vice-president of NPO Light Bridge Association JAPAN, an honorary member of the Illuminating Engineering Institute of Japan (IEIJ) and JCIE, and is an IEIJ accredit lighting professional.

Vice Chairman
Motoko Ishii
Lighting designer/CEO of Motoko Ishii Lighting Design

Ishii designs urban lighting, lighting sculpture and lighting installations, all of which broaden the field of lighting design. Ishii's lighting has been seen around the world – America, Europe, the Middle East, South-east Asia and, of course, in Japan. In recent years, she has been committed to use new-energy and energy-saving lighting. Ishii is a member of the Illuminating Engineering Society of North America, a fellow of the International Association of Lighting Designers (IALD), a member of JCIE, an honorary member of IEIJ, and is president of Inter Light Forum.

Member
Motomi Kawakami
Designer/CEO of Kawakami Design Room

Graduated from Graduate School of Fine Arts, Tokyo University of Arts. After working for Angelo Mangiarotti in Milan, Kawakami established design studio Kawakami Design Room. Kawakami is a product, interior and environmental designer and has taken a part in a number of revitalization projects and human resource development in rural areas. He has received a great number of awards in Japan and around the world.

Member
Dr. Tetsuji Takeuchi D.Eng.
Managing director of Japan Electric Lamp Manufactures Association (JELMA)

Graduated from Graduate School of engineering, Tokyo Institute of Technology. Takeuchi worked at Panasonic and studies visual technology. He received the CIE Award in 2007.

Public Facilities and Other Major Facilities

Grand Award

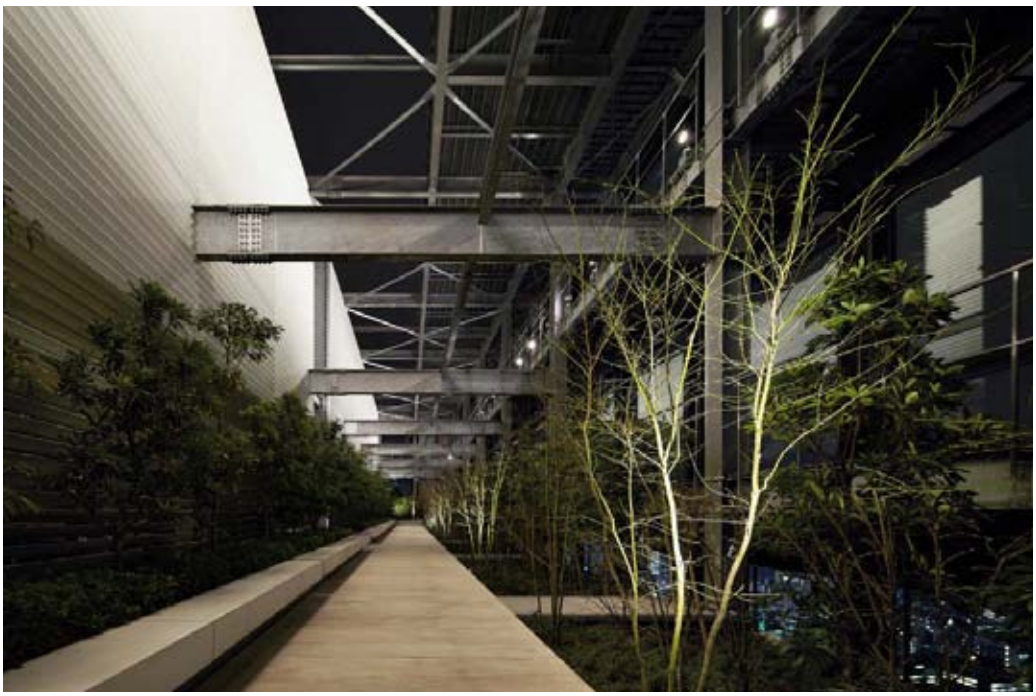
Iino Building

Energy-efficient lighting design tailored to utility – innovative lighting design in a mega-office complex

Key Features

LED lights used exclusively as base lighting on office floors
Lighting design tailored to each space
Carbon dioxide emissions reduced by 50%, which is a remarkable achievement for a multitenant building
An advanced concept, designed to last and be loved for over 100 years

The ground floor entrance lobby with glass screen and 12m-high ceiling creates an airy space. Warm-hued LED indirect lighting and spotlights provide both task and ambient lighting. They are designed in such a way that they illuminate a large white marble wall, which features an ancient underwater ruins motif. Linear LED lights embedded in the eaves produce lighting that is reflected off the glass screen, making the reflected light appear like glittering jewels.



Floodlights on the roof. Warm-hued LED lighting is projected from the roof, making the building blend in with neighboring high-rise building illuminations.

Exterior lighting. Light streaming through the window creates an outstanding night view, integrating with indirect LED lighting installed in the roof.

Exterior stairs leads to an underground commercial area. Point-source LED lights are projected towards chic stairs surrounded with glass screens.

In the underground commercial area, continuous eave panels, where store signs are displayed and lit with indirect lighting, play an important role in unifying the passage design. The LED indirect lighting installed on top of the eaves has color temperature choice of yellow and white, which is adjusted by timer to create four types of lighting in the morning, afternoon, evening and night.

Office floor entrance lobby (3rd floor). Given the building owner Iino Lines' maritime transportation business, ceiling and lighting are designed to evoke waves. Lighting complements natural light that pours into the spacious lobby.

Elevator hall on office floor. Sleek linear LED lights embedded in the ceiling create a refined atmosphere and serve as waymarkers, leading visitors through the space.

Office area. The LED base lighting is embedded in a 600mm grid ceiling system. This LED lighting fixture is designed to emit natural-colored light, similar to white fluorescent light, in all directions. Instead of standard high-powered 5000K LED lights, an LED lighting source with a color temperature of 4000K is used to produce natural-colored light. The acrylic panels feature a dot pattern print that softens the bright light.
Moreover, lino Line office has successfully reduced lighting energy usage by approximately one-third compared to an office space equipped with fluorescent light base lighting. At the lino office, task and ambient lighting is provided – LED base lighting is reduced to an illuminance level of 300lx at the desk surface, while desk lamps have been installed to allow lighting levels to be adjusted to suit each workspace. Individual lighting controls and motion and daylight sensors also help to achieve energy efficiency gains.

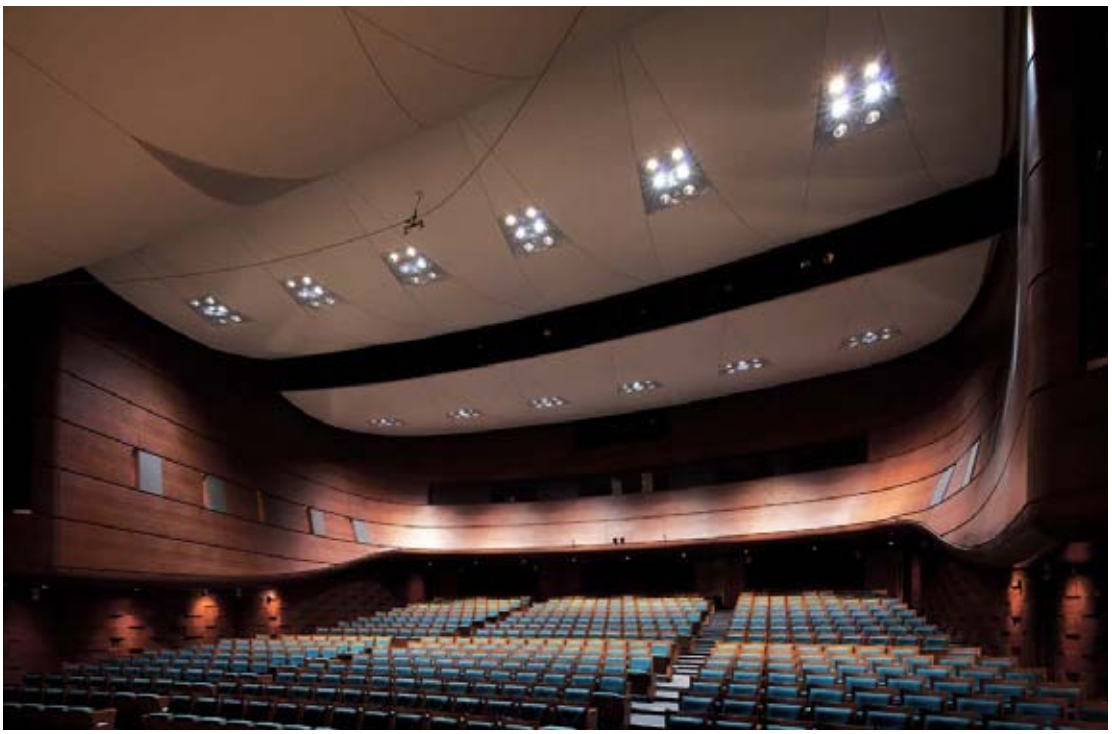
Lavatory in the office floor has a lighting control system with motion and daylight sensors.

Office entrance for Iino Lines.

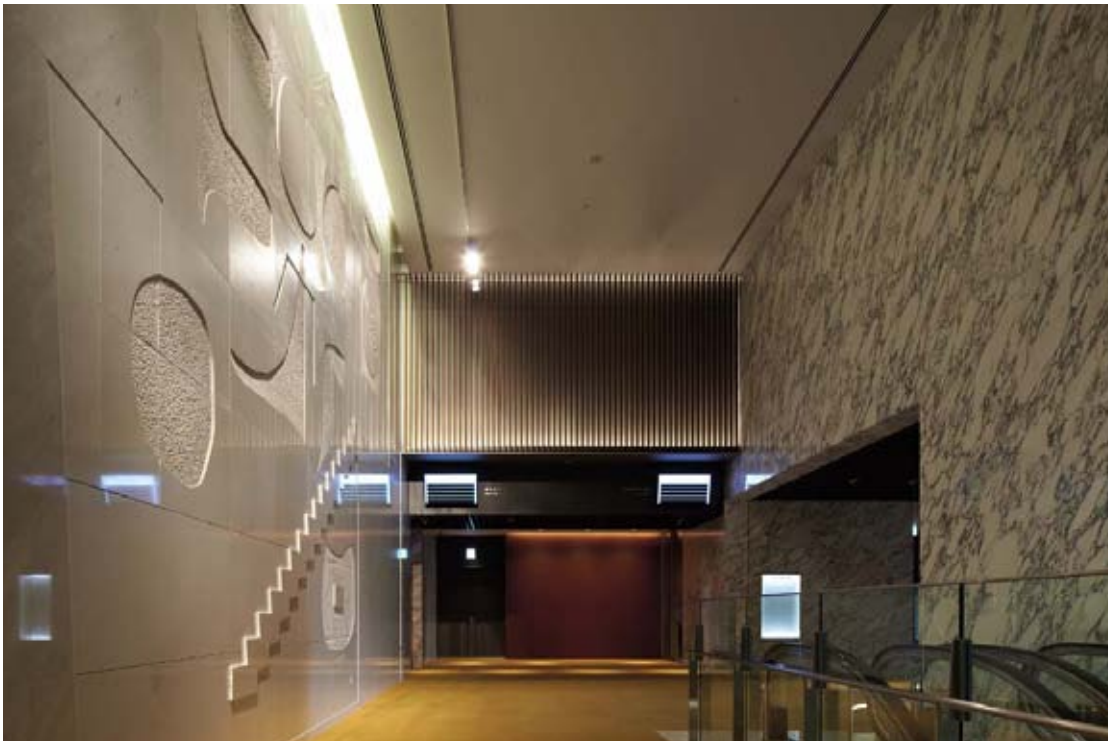
Conference room. The sympathetic addition of linear LED lighting strips embedded between the conference room's ceiling panels helps to delineate the lines of partition and the strips of rigging equipment. A white-base lighting source and yellow lighting source is combined in a linear LED light, which can be adjusted to create a similar effect to the traditional combination of fluorescent lighting and downlights. These ceiling LED lights, which need to be high-powered to adequately light a space, are covered with polarizing prisms that reduce brightness and diffuse the light. Polarizing prisms also create unique lighting effect and set off the ceiling design.

Passage that leads to the conference center.

Roof balcony (6th floor). Glass screens face on to the roof balcony that affords views of the Imperial Palace in the north. The glass has no supporting structures that obstruct views, which helps to make the space transparent and airy. The balcony, where a striking sculpture creates an unforgettable impression, can be used for occasions including board meetings and reception parties. The space is lit by linear LED lights with adjustable color temperature created through the use of a two color combination.



Iino Hall, representing a sailing vessel (4th floor)



The hall lobby, where a stunning wall installation that have been relocated from the former Iino Building is displayed.

Public Facilities and Other Major Facilities

Award for Excellence

Urbannet Irifune Building (5th floor)

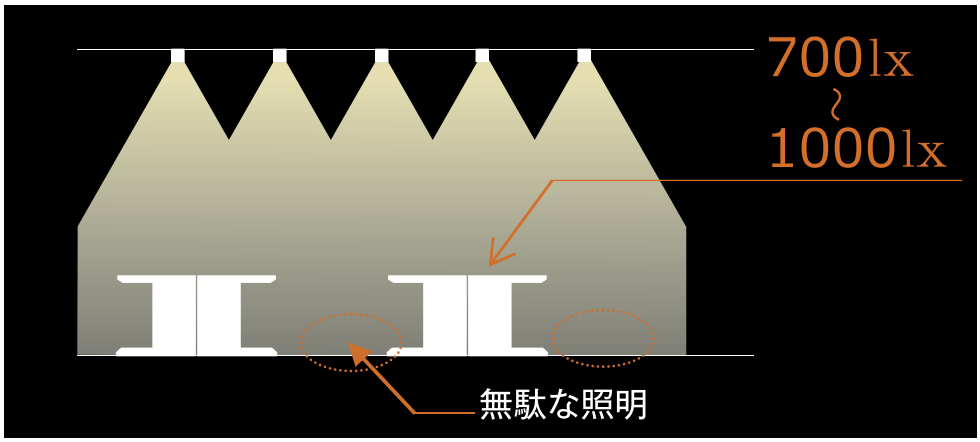
Purpose-designed task and ambient lighting creates a comfortable lighting environment

Office space

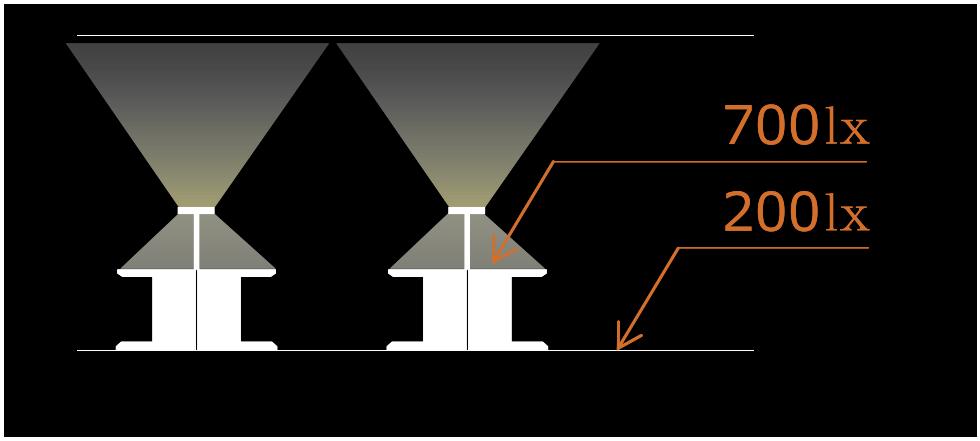
The desks, task and ambient lighting form a complementary unit. The ambient light, which is incorporated into the desks, is carefully designed to draw little attention to itself.

Adjustable task lights – 4200K (left) and 2700K (right) – can be tailored to users' work requirements or preferences.

3DCG simulation. The illuminance level is measured by brightness based on luminance, the measure of the reflectance of a surface, instead of by the traditional illuminance calculation. As a result of the simulation, it was determined that 300lx LED indirect lighting could provide sufficient lighting levels in the office.



General lighting system. This traditional system provides a standardized level of brightness across a whole space including unused spaces. This is considered to be inefficient.



Task and ambient lighting system. The ambient lighting maintains the minimum brightness required in the space, while task lighting is projected towards certain areas such as desk surfaces, where additional brightness is required. The two lighting sources can be combined to create an optimum lighting level as required.

Entrance lobby. The building's current energy usage is displayed on a monitor in the lobby to promote environmental awareness in the workplace by highlighting how much energy is being consumed.

Cafe area. A sensor near the window determines ambient daylight levels, then automatically adjusts the interior pendant lighting level to ensure a constant lighting environment.

Office meeting areas. The meeting rooms carry themes such as of “decision making”, “brain-storming” and “contemplation”. Each is lit in a suitable color temperature.

Public Facilities and Other Major Facilities

Award for Excellence

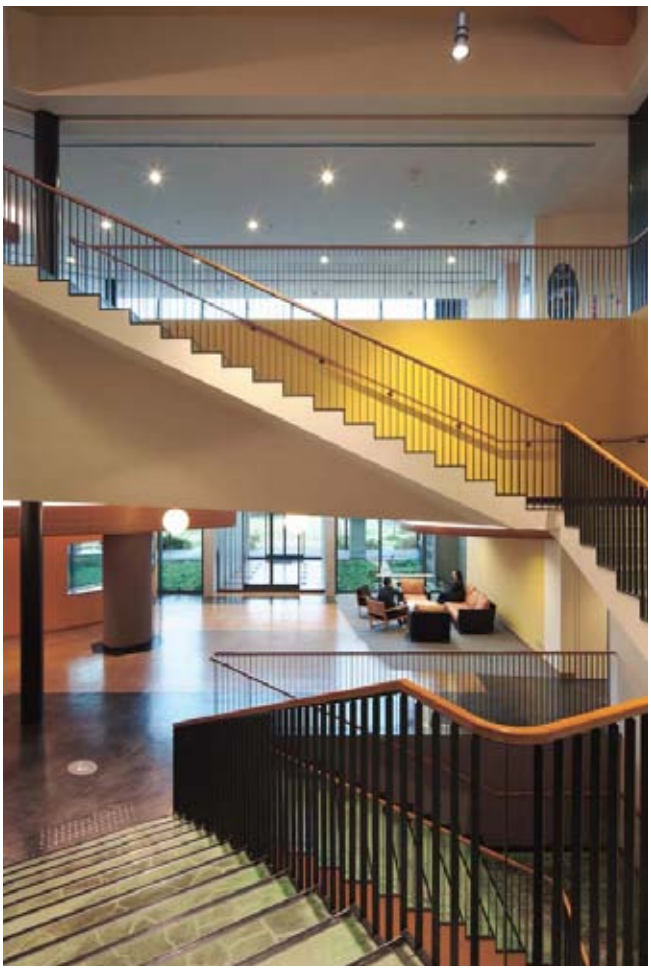
Okinawa Institute of Science and Technology Graduate University
Laboratory 1 and Center Building

The laboratory building features environmentally friendly yet effective interior lighting, which creates a visual environment tailored to its various users' needs.

Overlooking Laboratory viewed from the administrative building across the roof garden. Outdoor lighting is set at the minimum level at which pedestrians can see each other out of consideration for the effect on flora and fauna in the garden and the wider campus.

When a light sensor detects a certain level of darkness in the evening, it triggers all of the window screens to automatically shut to prevent light coming out.

In the laboratory, task and ambient lighting is used. Ambient, indirect lighting creates a pleasant lighting environment and overcomes the issues involved with LED lights regarding maintaining a consistent light level vertically and avoiding strong shadows. The standard illuminance level of the lighting pictured is 500lx, which is considered to be dark in Japan, and the color temperature is approximately 3000K.



The lounge where researchers discuss ideas.

Laboratories on either side of a corridor.


1


2


3

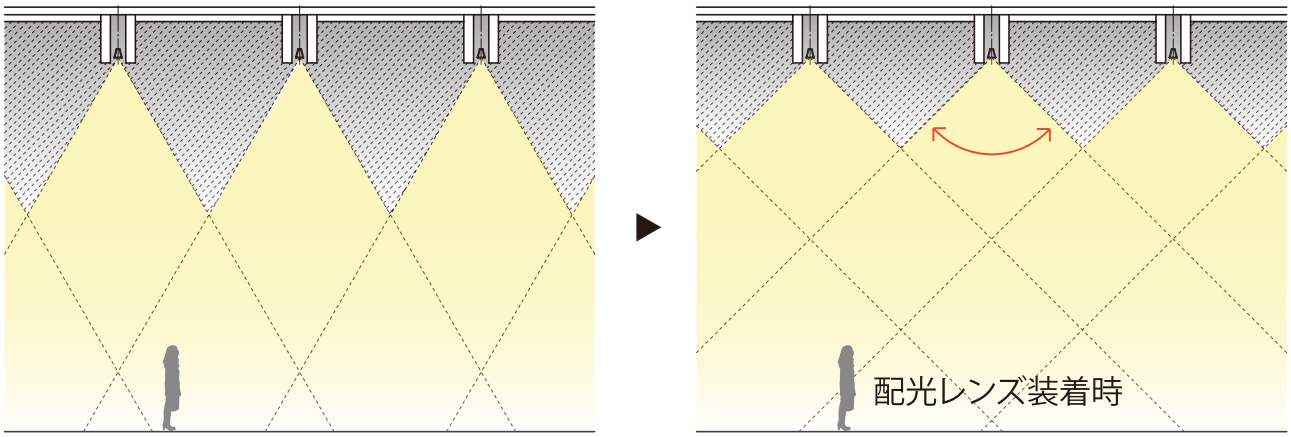
A hill on the university campus is home to a significant number of rare animals and plants. To protect this ecosystem, buildings and other facilities have been constructed on a ridge and are connected by bridges.
The university is entered through the OIST Gallery tunnel (picture 1), which links the car park and the basement of the Center Building. From here, an elevator (picture 2) connects to the ground level. From the Center Building (picture 3), many laboratories are accessible though Center Court or Sky Walk. All of the spaces are lit with LED indirect lighting to create pleasant lighting environments.

Public Facilities and Other Major Facilities

Award for Excellence

Kobe International Junior and High School Harmonie Kawano Memorial Hall

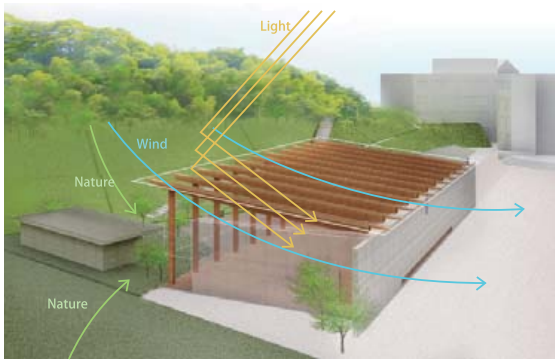
The gymnasium achieved energy efficiency by switching to 100% LED lighting, made possible through use of light-distribution lenses and lighting with an enhanced color rendering index.



The LED lighting on the ceiling is equipped with innovative light distribution lenses that are able to project light in a set direction. They are designed to diffuse the light in an optimal fashion across the upper area of the gymnasium space, which is required for sports events. Although the light distribution lenses use LEDs with a high-brightness level to ensure JIS illuminance level of 500lx, they are designed to reduce glare.

Lighting fixtures are neatly embedded within the roofing beams, which helps to make the space appear more airy.

Unlike discharge lamps, LED lights can be turned on and off instantly. Because of this, the lights are switched off more frequently, leading to energy savings.



Overlooking the north side of the gymnasium from a neighboring hill. Natural light reflects off the hill and through the wide window. A ventilation window installed on the bottom of concrete wall is designed to allow breezes in.

The gymnasium can be configured as a 600-capacity ceremony hall. Lighting fixtures are embedded in the ceiling beams and used as spotlights above the stage. Multiple lighting circuits enable us to select the amount of lights to be switched on, providing simple and efficient lighting without additional lighting fixtures.

In the entrance, linear lights are neatly embedded in the ceiling beams, which are structural components, creating a simple lighting environment.

Public Facilities and Other Major Facilities

Award for Excellence

Sanbancho KS Building (Ground Floor)

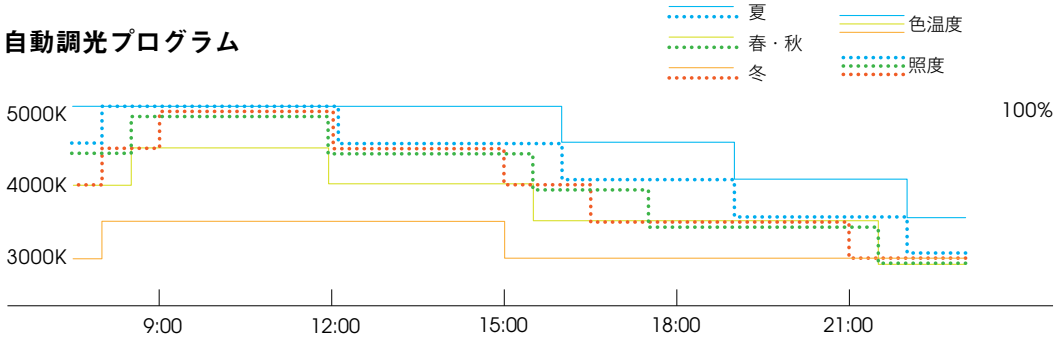
Lighting is controlled by a system that references circadian rhythms to create a pleasant working environment.

In the office and cafe space, natural light enters through a large window. Under the raised floor, air ducts with cooling and heating systems and outlets have been installed to maintain a consistent room temperature.


1


2

自動調光プログラム



※実際の机上面照度は、天井高さや素材、その他オフィス環境によって変わります。

Okamura Corporation's "Next Generation Office Lighting System" automatically adjusts the lighting level and color temperature according to a 365-days program that references circadian rhythms and seasonal changes. Lighting level and color temperature changes in the morning (picture 1) and evening (picture 2).

Lighting installed units of a combination of ambient lights and reflective panels. It can create an even lighting environment in the office. LED task lights are positioned on each desk to meet individual needs.

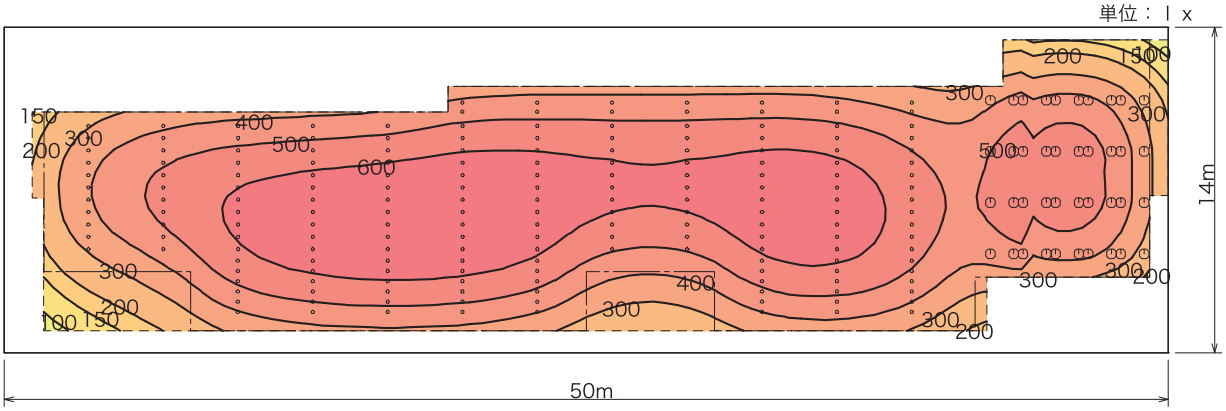
Public Facilities and Other Major Facilities

Award for Excellence

JR Hakata City

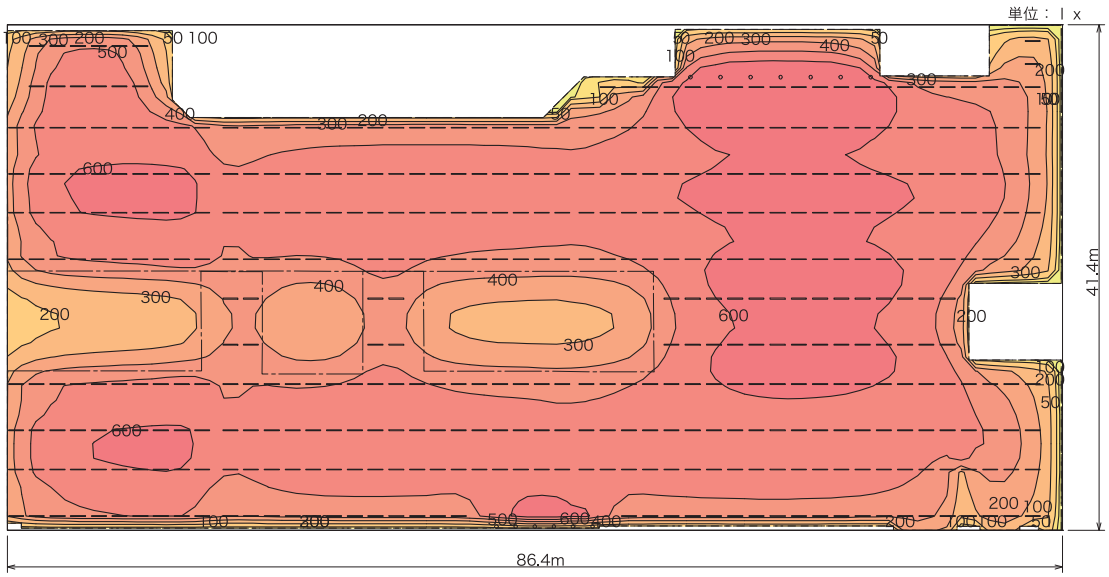
The energy-efficient concourse is lit with LEDs and energy-saving fluorescent lighting, creating a safe and comfortable space.

Concourse on the 3rd floor. LED downlights run across the 8m-high ceiling of the concourse and complements the space. The concourse is not only used as a walkway but also as a rest space in which to relax while waiting for a train.



Lighting level of the 3rd floor concourse. The lighting level in this area is set based on passenger flow. For example, a high brightness level is provided in the passages that lead to the platforms as well as an area with a 3.8m-high ceiling.

The ground-floor concourse links the east and west sections of JR Hakata Station. Energy-efficient straight-tube fluorescent lamps, which can produce twice the amount of light generated by traditional models, create an elegant line pattern on the ceiling.



Lighting level in the ground-floor concourse. In Hakata Station's busiest concourse, the lighting has been carefully designed to ensure a safe environment for passengers by eliminating poorly lit spots as much as possible. The brightest lighting level (colored in deep red) is maintained around the ticket gates area, which leads to the platforms.

Public Facilities and Other Major Facilities

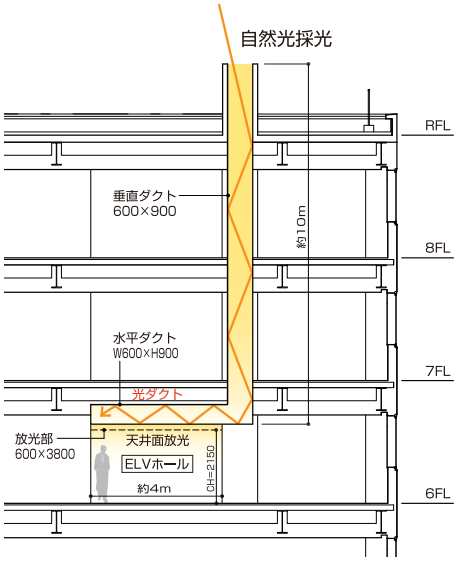
Award for Excellence

Toda Building Aoyama

Environmentally friendly office building that teams a comfortable atmosphere with state-of-the-art technology.

Exterior glass curtain wall made of transparent solar power panels. The well-designed wall helps to reduce carbon dioxide emissions and creates a more comfortable working space.

LED lighting has been installed on the entrance wall, which is covered with opalescent glass blocks (50mm x 50mm) that help to diffuse the light. Phosphate-coated steel panels soften the lighting, creating a more organic look in the entrance space.



Skylight with an angled duct by the 6th floor elevator hall that provides natural light during the day. At night, a sensor triggers the lighting to be switched on.

The skylight duct opening. Mirrors inside the ducts increase natural light reflection.

Energy-usage monitor. Placed in every office, these monitor screens detail current energy use to increase environmental awareness among users of the building.

Public Facilities and Other Major Facilities

Award for Excellence

Nagoya University

Central Building of Graduate School of Engineering, Particle and Astrophysical Science Building (Engineering and Science Building)

This future-oriented university facility has achieved energy efficiency by implementing a purpose-designed and effective lighting plan.

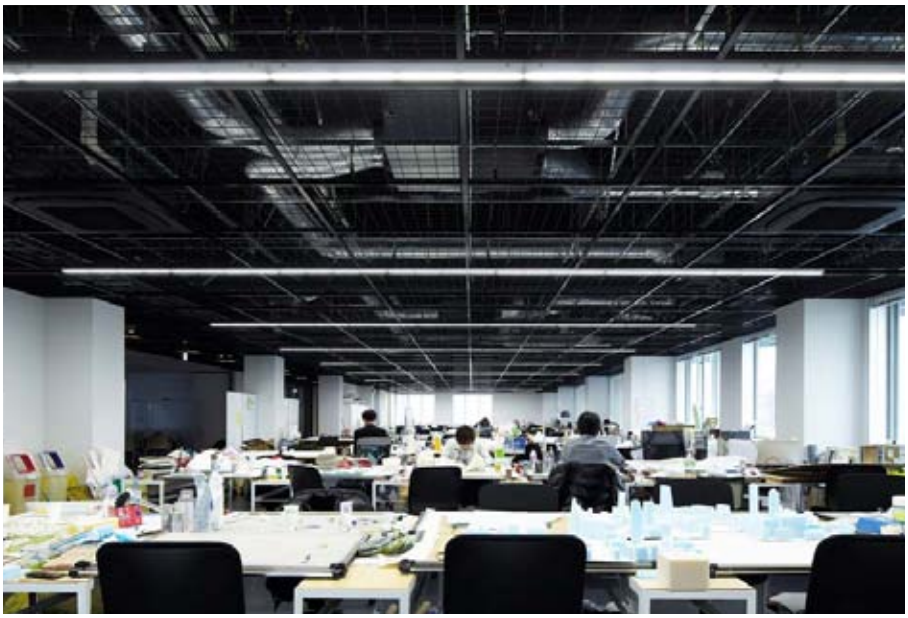
Central Building of Graduate School of Engineering, Particle and Astrophysical Science Building (Engineering and Science Building), a symbol of a “low-carbon and eco-friendly campus”.

Entrance hall linked to a multipurpose hall (left), cafe (right) and Nobel Prize Gallery (right, 2nd floor) provide lively gathering spaces and are collectively seen as the heart of the university. Functional and well-designed LED lighting adds a graceful touch to the spaces.

Structure laboratory. High-powered LED lights, with an output equivalent to the brightness of an HID lamp, are installed to provide even light distribution as well as reduce the maintenance costs normally involved in lighting a space with a high ceiling.

Library

Multipurpose hall. LED lights have been installed as spotlights.



Drawing room. The mesh ceiling allows architecture students to see piping ductwork and other conduits that run above it. Slim LED lighting fixtures have been sandwiched between the mesh panels.

Passage on the laboratory floor. This space has been designed as a space where students and lecturers can hold discussions and meet with academics from other laboratories. The whiteboards on the wall, lit with LED wall washer lighting, are used for writing out ideas in a quick and easy way.

Nobel Prize gallery. The memorial gallery recognizes university alumni Dr. Toshihide Maskawa and Dr. Makoto Kobayashi who each received the Nobel Prize for the Physics, and former assistant professor Dr. Osamu Shimomura's Nobel Prize for Chemistry. The display includes an official replica for the Nobel Prize medal and panels explaining the research for which they were awarded the prize. The gallery represents the great achievements of Nagoya University's Engineering and Science department, a leading research and educational institution in the university.

Commercial Facilities and Accommodations

Grand Award

Futako Tamagawa Rise Shopping Center

A vast shopping center that creates a comfortable environment through the use of natural color lighting

Key Features

More than 40% reduction of energy consumption through implementing LED lights
An eco-friendly lighting environment that stimulates the five senses
Passage lighting used to bring out the features of shop facades
Lighting design tailored to each floor, alternating between white lights and warm colored lights

LED lighting creates a stylish ambience in the retail space, highlighting each shop and product.

Futako Tamagawa Rise Shopping Center is sited above the east exit of Tokyu Railway's Futako Tamagawa Station. The centres' Town Front and River Front buildings face each other across the Galleria, a passage linked to a residential area.
River Front provides office space on the upper floors of the 16-storey building.

Main entrance is open to the station and Galleria. The combination of white light, which resembles natural light, and warm-hued light invites visitors into the building.
The lighting for pillars and shop facades is controlled by a light level and color adjustment device called a "Lighting Timeline".

The lighting flows from the entrance through the retail space to the upper floor. Ambient while light and the impressive pillar lights (both 5000K) gives a warm welcome to visitors, while spotlights (3500K) help to lead visitors to each shop.

Warm-hued pillar lights (2700K) have been installed in the retail space on and above the fifth floor, creating a luxurious ambience.



The “rest spaces” by the escalator on the each floor have been designed to alter the look and feel of its surrounding. Lighting with a white temperature color (5000K) makes the space standout and easy to find from distance. Downlights (3500K) have been installed above the sofa, giving the space relaxed and comfortable ambience.

A void on the seventh floor restaurant space allows natural light to pour into the space. The Lighting Timeline device is implemented to adjust the lighting levels and temperature color during the day and night. The Timeline is scheduled to create the optimum lighting environment in accordance with the daylight, thereby creating an appealing ambience as well as achieving greater energy efficiency.
*Currently the Lighting Timeline is suspended due to a power-saving plan initiated after the earthquake

Commercial Facilities and Accommodations

Award for Excellence

Seven Eleven, Ayase Fukayaminami 1-chome

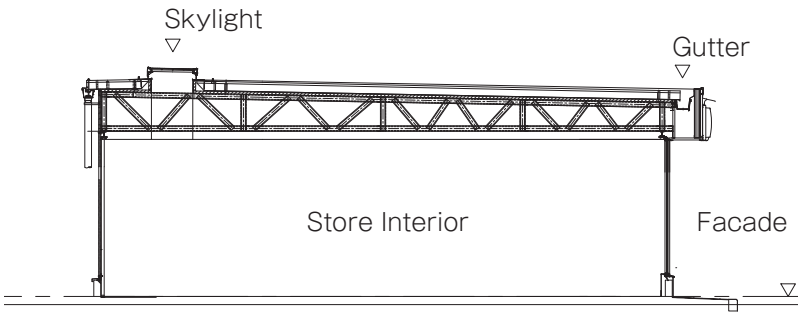
This environment-friendly convenience store features an optimal lighting design, incorporating a skylight and LEDs.

The interior of the store. A U-shaped skylight is effective in bringing natural light to the whole store, making the upper wall brighten as if it is glowing naturally.

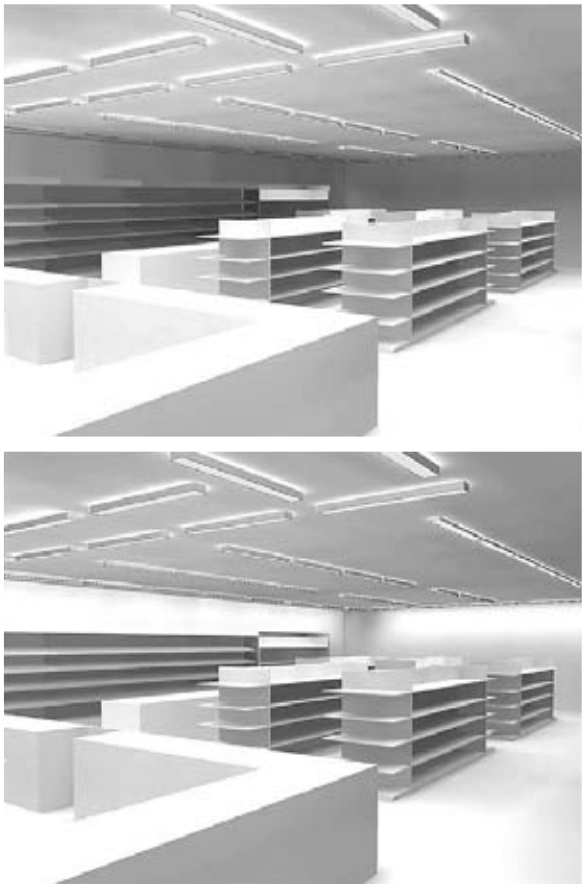
The exterior of the store. A U-shaped skylight allows natural light to pour into the whole store.

At nightfall, light shines horizontally through the front window towards the road, drawing passenger's attention to the store.

The view under the skylights. The skylight is equipped with interior finishing materials that feature high levels of light transparency and thermal insulation. The skylight opening has a white acrylic panel that enables natural light to bathe the wall in an appealing way.



A sectional drawing of the store. The store design is outstanding – the roof is inclined towards the front of the store, with a gutter to drain rainwater installed within the store sign.



The U-shaped skylight increases lighting levels significantly (picture below), compared to the store without the natural lighting (picture above). The skylight significantly brightens the upper wall, adding great vibrancy to the store.

Commercial Facilities and Accommodations

Award for Excellence

Fullel Saginuma

Lighting renewal design model for a community-based shopping center

The revitalized Fulell Saginuma shopping center has received positive feedback from locals – many say their shopping experience is improved.

LED indirect lighting creates a welcoming atmosphere by the escalator on the fourth floor.

The combination of high frequency fluorescent lamps and downlights gives lively feel to Tokyu Store's ground floor.

Escalator on the third floor. Louver-shaped ceiling lights have been installed on each floor, with the aim of leading customers upstairs.

The ceiling with its seamless LED straight-tube lamps welcomes visitors at the entrance. The ceiling light features a leaf pattern, which follows the store concept of a “shopping garden”.

In the elevator hall, LED downlights project light towards the entrance and sign, drawing visitors’ attention.

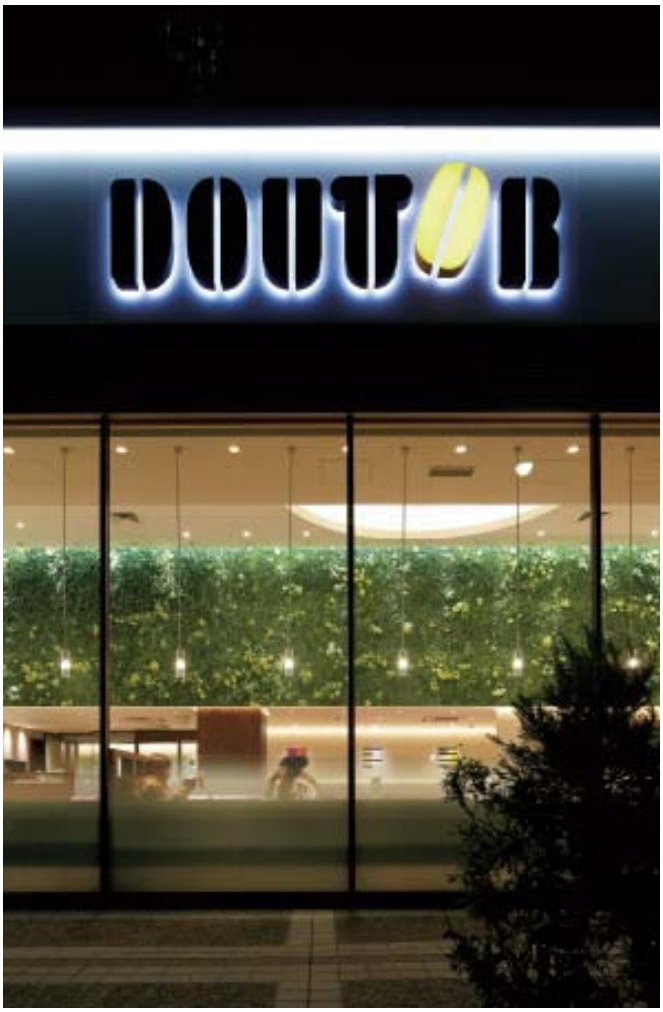
Commercial Facilities and Accommodations

Award for Excellence

Doutor Coffee, Akasaka 1-chome

An eco-friendly and relaxing coffee shop creates different atmosphere day and night.

The shop space. Linear LEDs installed between the ceiling and wall highlight the void and green wall.



Overlooking the shop interior through the shop facade. The shop sign and green wall combine to creates a memorable appearance.

The exterior of the shop. Line lighting under the eaves emphasizes the space by clarifying where the shop stands.

The wall of smoking area. Two mirrors facing each other make the space appear deeper than it is. Clear LED lights create a lively ambience in the eat and drink space.

LED downlighting has been installed in the void space that has a 5.2m-high ceiling. The downlights continues throughout the shop, which has 2.4m-high ceiling. Aki Murakami of Panasonic Lighting, says, “It was a big challenge to adjust lighting levels evenly above the table where the ceiling height varies”. Dotour Coffee is expecting to achieve an 80% reduction in lighting energy consumption compared to stores that use halogen lighting (or 70 % compare to stores with fluorescent lighting) through the use of only LED lighting.

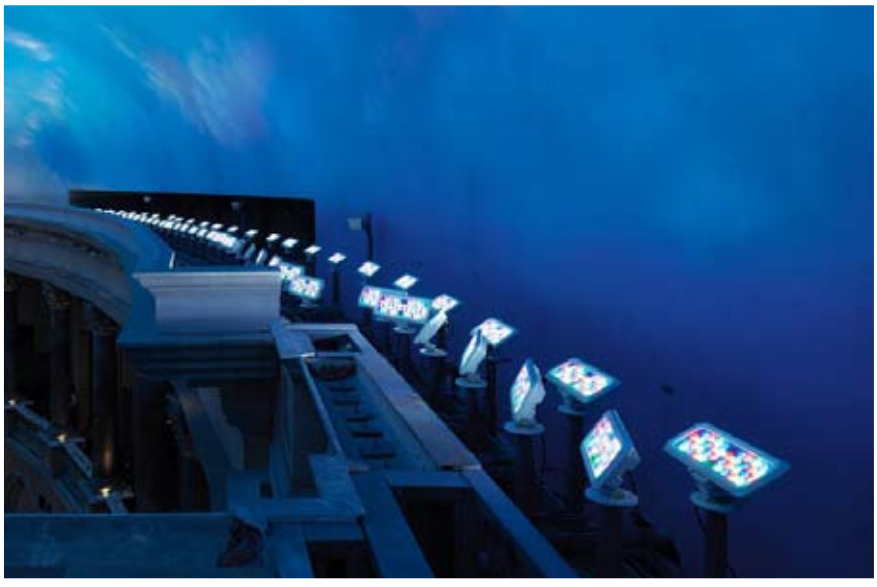
Commercial Facilities and Accommodations

Award for Excellence

Palette Town West Mall, Venus Fort

The unique broad sky display represents change of light throughout the day.

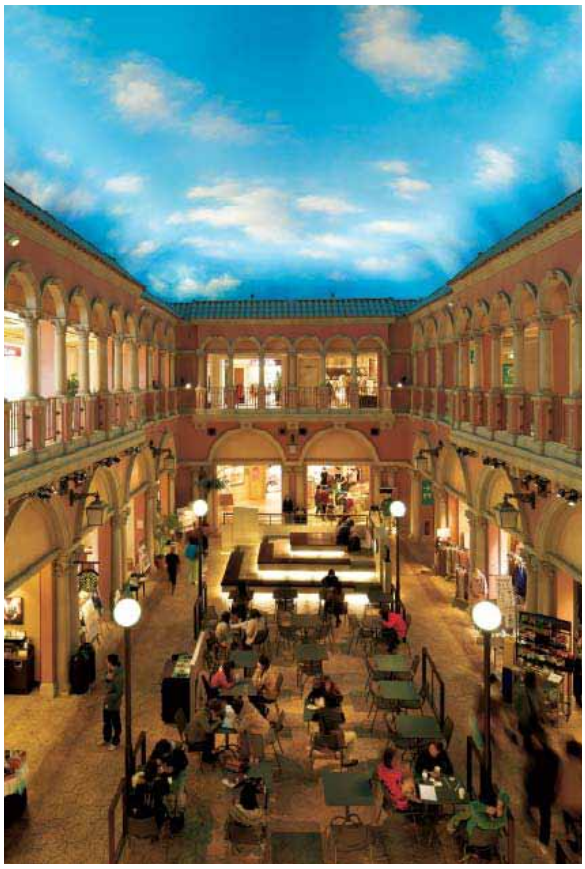
The interior is designed to resemble a medieval European village and broad sky display system creates extraordinary ambience. The lighting design changes throughout the day (picture: lighting at night). Light Illumination, a special lighting program, is run from Christmas and holiday season to the middle of March each year, creating a romantic ambience.



RGB LED lighting installed in the ceiling space. The original 1441 halogen lights (650W), which generated large amounts of heat, were replaced with 1650 LED uplights (55W), improving energy efficiency for cooling.

The lighting changes from morning to daytime, evening to night. High-brightness LEDs provide clear colored lighting that adjusts lighting level as well as improves energy efficiency.

At Fountain Plaza, LED lighting has been installed under the water. Replacement of the existing downlights in the passageway with LEDs is currently being considered.



Cafe Plaza pictured in the morning. The shopping mall consists of Cafe Plaza, Fountain Plaza, Olive Plaza and Church Plaza, each linked with passage. Visitors enjoy the sky display expanding overhead in each plaza and passage.

Commercial Facilities and Accommodations

Award for Excellence

Marugame Seimen, Kyoto Fushimi

A noodle shop with energy-efficient lighting optimized by using a brightness evaluation raises eco-friendly awareness in the community.

The exterior of the noodle shop. LED exterior lighting attracts attention to the roadside shop.

Analysis of brightness – new and old style. In the new-style shop that has been fitted with LED lighting (picture 1), downlights project onto tables. The downlights have been installed as close as possible to the walls, which helps to make the space brighter. In the older shop, downlights project onto the aisles (picture 2).

The interior of the shop. The new LED pendant light was developed to replicate the pendant light design that is common to other Marugame Seimen shops, thereby maintaining the shop concept of “Pure Sanuki Province”.

Energy-efficient linear fluorescent lights have been installed in the kitchen area. Those lights were recognized as being more cost-effective when the shop was designed in 2010. Compared to traditional HF fluorescent lights, they are twice as bright and last twice as long, and can be more efficient than LEDs when used effectively.

Solar power, solar water heating and green roof. The solar power can produce 2.9kW/h, which are equivalent to interior lighting energy use of 3.0kW/h.

The energy-consumption data for the LED lighting and high-efficiency air conditioner is displayed on the screen, raising awareness of energy efficiency as well as promoting sustainable energy savings.

Urban Design and Others

Grand Award

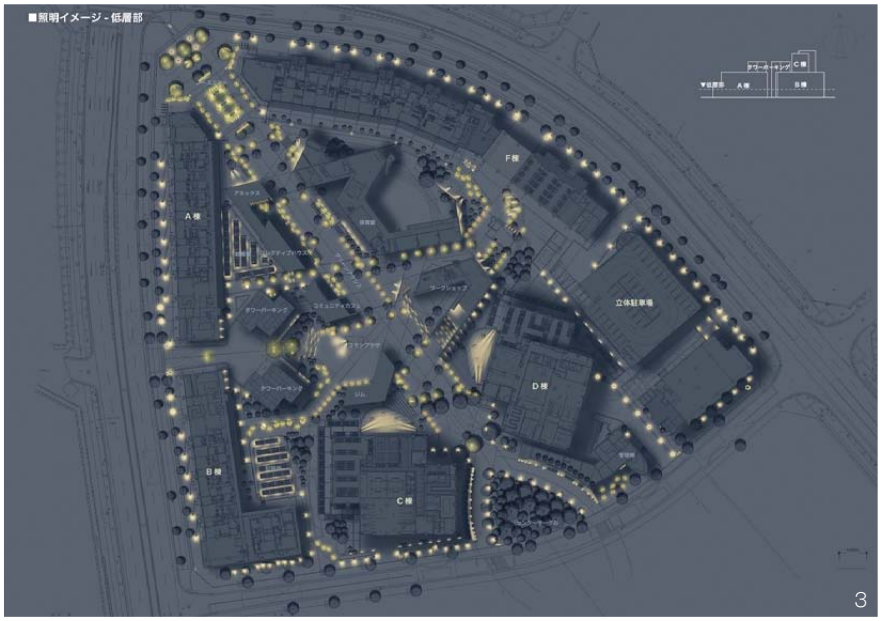
Park City Kashiwanoha Campus, 2-bangai Common

Stylish and efficient exterior lights and an equally stylish and efficient living space, featuring systems that raise awareness of carbon dioxide emissions.

Key Features

Eco-friendly path lighting is set low for maximum effectiveness.
The height of the external space is divided in three lighting sections with lighting specifically targeted for each section.
The area is not only energy-efficient but also is vibrant and creates a sense of comfort and excitement.

The view of Green Axis garden area from the living room.



Lighting design for each section. High-rise section (picture 1), middle-rise section (picture 2) and low-rise section (picture 3) set to eye level.

Light is projected to the outline of Mid Tower C and D building roof, while spotlights create a “Gate in the Air”.

Center Circle green area. The retaining wall is lit to create a dramatic atmosphere.

Am approximately 11m wide Green Axis. The light is designed to emphasize leafy green as well as to create ambience on each height section and space.

Specially designed standing LED lights blend in amid the garden. The lighting level is adjusted to suit the height at which it is set and the site.

Kashiwanoha Campus City has implemented a system that notifies household of their energy consumption. The Kashiwanoha Eco SNS website also promotes energy-saving activities, with the aim of reducing carbon dioxide emissions within the apartment complex by 35% on current levels by 2030.

“Gate in the Air” projected from the Tower Building, overlooking Green Axis.

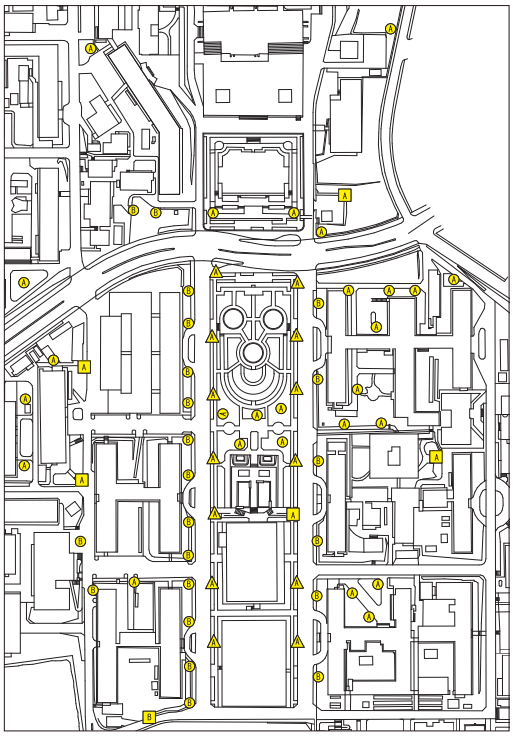
Urban Design and Others

Award for Excellence

Nagoya University Higashiyama Campus

The exterior lights have been replaced with LEDs, making the university safer, and more comfortable and energy-efficient.

The exterior lights have been replaced with LEDs on Nagoya University Higashiyama Campus.



A “Green Belt” central square leads to the renowned masterpiece of modernism, Toyoda Auditorium (1962), designed by Fumihiko Maki. Mercury-vapor lamps have been replaced with LED lights in the area.

An 85W LED projects light equivalent to that of a 300W mercury-vapor lamp. LED lighting helps to create safe and secure space at night. They also cut carbon emissions by 17 tons a year, which is equivalent to the carbon absorption of 1510 beech trees.

The Nobel Prize Road (temporary name) walkway starts at the Central Building of Graduate School of Engineering (E & S Bldg.), where the Nobel Laureates Gallery was completed last year. The intelligently lit road represents a low-carbon eco-friendly campus.

Nagoya University is currently the research base for Prof. Isamu Akasaki who invented the bright gallium nitride (GaN) p-n junction blue LED. The Toyoda Atrium clock tower is lit with blue LEDs to commemorate Professor Akasaki's achievement.

Urban Design and Others

Award for Excellence

Park House Senrichuo

Residential apartment buildings with an effective and robust lighting design create magnificent views at night throughout the year.

Lighting along the Thank Garden passage. Energy-efficient and low-heat-generation LED lights (the surface temperature of the light is below 60 degree) are plant-friendly because they don't emit ultraviolet that attracts insects. The LED lights are installed at the entrance airlock, under the eaves, and beside benches to create a safe and comforting ambience at night. By using LED lights, which are as efficient as discharge lamps, lighting-related energy consumption is reduced by approximately 20%.

Entrance lobby in the Central Residence building. The Library Space on the second floor is gently lit with indirect LED lighting.

The unique glass wall becomes a light wall at night, the lighting contributing to a safe environment.

Entrance lounge area in the Southern Residence building.

The exterior of the Southern Residence building. The stone-pitched floor and wall and 10 sleek pillars are designed to create a sense of elegance at the entrance. At night, LED lights embedded in the pillars add unique character to the building.

The site layout. The car park is positioned between the Southern Residence and the Central Residence buildings. From the Southern Residence, Thanks Garden, a roof garden above the car park, links to the Central and Northern Residence buildings.

Urban Design and Others

Award for Excellence

Lions Kurakuen, Grand Fort

This eco-friendly apartment building features varying combinations of solar-powered and LED lights, creating a diversity of lighting environments.

The entrance hall features a gallery space that has been designed to promote environmental awareness.

The exterior light illuminates the path in a rhythmic way and ensures a safe lighting environment for pedestrians.

The apartment building is lit at nightfall against the backdrop of Mt. Rokko. Each apartment is equipped with mobile louver that controls the amount of sun or shade in the balcony.

An evaporative cooler – an entirely natural cooling system – is installed in the courtyard facing the entrance hall. The lower window is designed to let fresh air into the hall – on the summer evenings, the Rokko Oroshi, a crisp wind that rolls in from nearby Mt Rokko cools the building.

The hallway lit by LED lights (picture left) and the lighting simulation of the same scene (picture right). The unique lighting design ensures necessary brightness in the space as well as saving a significant amount of energy.

In each household, LED lights have been installed in each room. Motion sensors automatically control lighting in the entrance and toilet.

Jury's Special Award

Solar-powered LED street lights (National Highway Route 45, in Minami Sanriku) / Portable solar-powered LED lights (Kesennuma)

National Highway Route 45 in Shizugawa was damaged significantly by the tsunami that followed the Great East Japan Earthquake.

The emergency evacuation site in Shishiori Junior High School, Kesennuma.

The combination of solar panels (80W) and lithium-ion batteries. The light source is white LED (10.8W).

Reconstruction along the National Highway is being undertaken, with light poles and cables to be replaced. Streetlights have been reinstalled in some areas, lighting the roads leading to temporary shelters.

The portable solar panel installed at Oshima Kisen ferry terminal.

The light is 4m high excluding the base. The light base is usually buried under the ground, however, this large concrete base is exposed aboveground.

Jury's Special Award

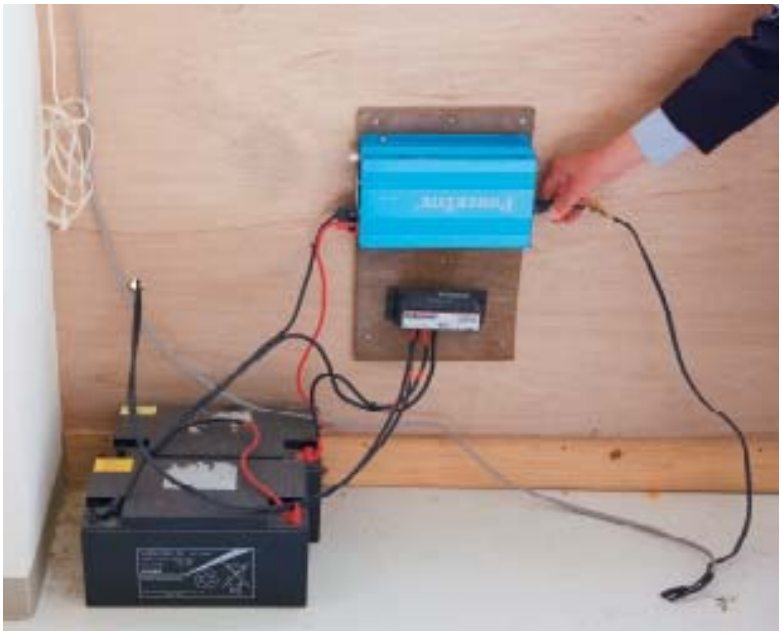
Ishinomaki Fishery Cooperative Association Omotehama Office, Miyagi Prefecture

The Omotehama Office building suffered significant tsunami damage caused by the Great East Japan Earthquake. Currently, the ground floor cannot be used. Due to subsidence, the most of the neighboring area goes under water at high tide. The building is owned and maintained by Ishinomaki City and its reconstruction plan is still under consideration.

Office space on the second floor. A single LED light provides an optimum lighting level.

The lighting fixture is equipped with a reflector panel made in Germany using specially designed steel and purpose-built waterproof light socket. Ryoyo Electro Corporation is targeting overseas markets, especially in areas with an unsteady power supply.

The light when switched on (stock image). Reflector panes concentrate the lighting and effectively project it towards the desk and wall surfaces, minimizing diffusion.



Solar-powered battery and controller. The battery can produce 600W. This is the sole power supply for the entire office.