

CUSTOMER CASE STUDY

T-Opto® a Toyota Tsusho Business:

Creating the future state of the art for indoor lighting



CUSTOMER

T-Opto

PROJECT

Increase light output in LED retrofit
downlight module

CHROMALIT™ USED

ChromaLit Round 61.5mm

IMPROVEMENT

> 20% lumen increase



“Using ChromaLit technology, color consistency and light quality for LED downlighting has risen to a new level.”

***– Michael Handerhan
General Manager, Opto and
Energy Solutions***

T-Opto is a Toyota Tsusho Business focused on the development of LED packages and LED modules for Lighting OEMs. T-Opto wanted to improve its downlight retrofit module and enable OEMs to offer consumers an LED solution to replace inefficient or poor-quality lighting. By using the ChromaLit Round (61.5mm), T-Opto was able to get over 20% more light output from its Flex Module while using the existing tooling and heat sink.

INTEMATIX

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Snapshot:

- >20% increased lumens to industry leading 670 lumens at 11 watts
- Unprecedented color consistency from module to module
- Customizable color without excess inventory, with various CCT available to add to standard blue module
- Design uses existing tooling and heat sink



Significantly Improved Efficacy

T-Opto wanted to create a dimmable recessed downlight module with more light output per watt than anything on the market. LED was the obvious choice with its proven dimming and efficiency performance, but T-Opto found room for improvement. The company trusted Intematix and ChromaLit technology to redesign the Flex Module into a remote phosphor architecture. Using T-Opto's own royal blue LED packages and leveraging guidance provided by Intematix on mixing chamber design and white reflector materials, over 20% increased lumen output compared to the original white LED design was accomplished. The final design, which also features a mixing chamber by CerFlex, now offers 670 lumens at 11 watts.

Unprecedented Color Consistency

LEDs are often criticized for being inconsistent across fixtures. In separating the phosphor from the chip, remote phosphor allows for more uniform phosphor deposition and corrects bin variation between single LEDs. By offering a downlight featuring ChromaLit, T-Opto gives its customers confidence that color will remain consistent, satisfying the needs of retail, hospitality or residential applications where a shift in color in a single room becomes glaringly obvious.

Streamlined Manufacturing

The T-Opto recessed downlight module is available in color temperatures ranging from 2700K to 4000K, and the ChromaLit architecture simplifies manufacturing. T-Opto manufactures its standard blue LED light engine and is able to add the ChromaLit of the corresponding CCT at a later stage, reducing inventory and streamlining the process.

Flex Module Product details: Designed to fit all standard 5" and 6" recessed cans. Available in screw base, long stem, GU24 and bare wire leads. The unit is TRIAC dimmable to 10% and available in various CCTs ranging from 2700K to 4000K with 3000K standard.

Visit T-Opto on the web: www.t-opto.com

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