

LED Light Engine Solution

SAMSUNG

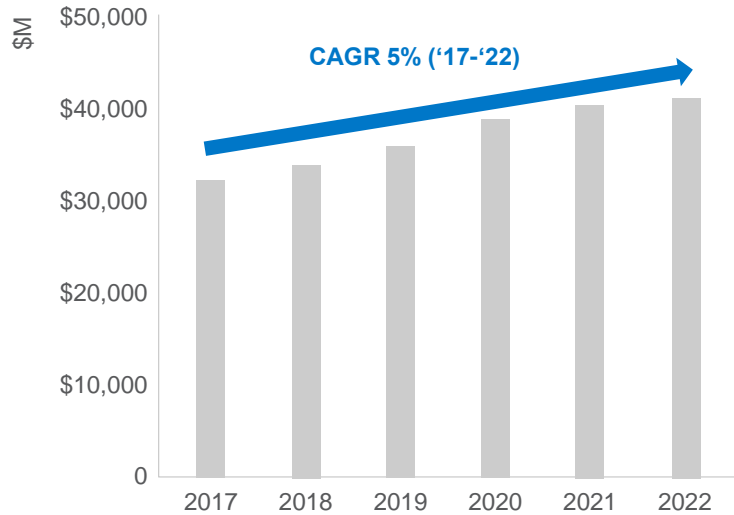
A Wide Range of Product Lines and Leading Innovation



Market Forecast

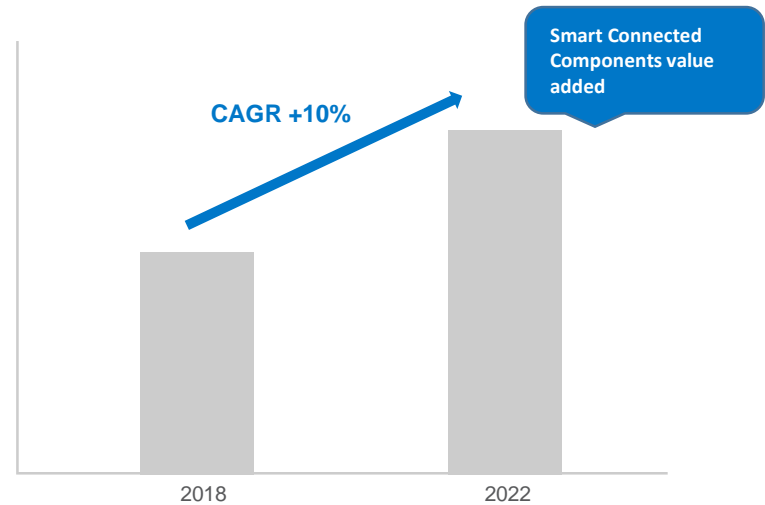
LED Engine Market continues to grow with newly added value

LED Lighting Market



Source: LED Inside (2019)

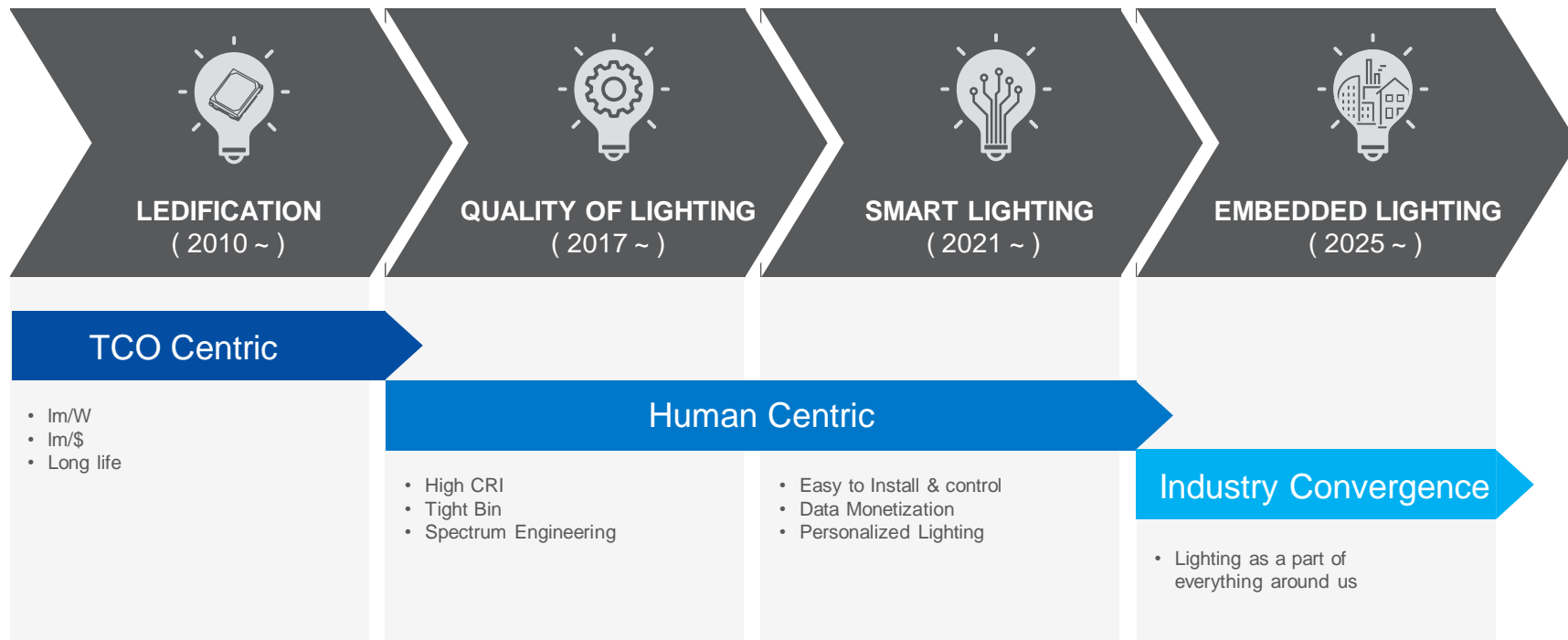
LED Light Engine Market



Source: Samsung MI (2020)

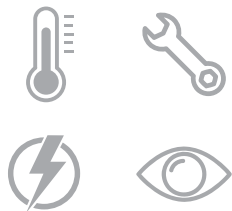
Trend in LED Lighting

LED Lighting will focus more on differentiated values rather than cost & lm/W



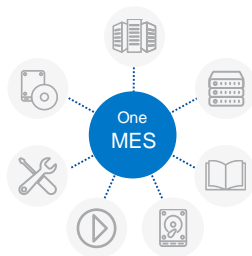
Samsung LED Light Engine Solution

Design



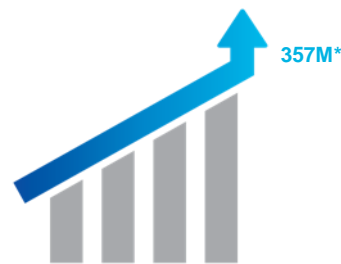
- LED chip & package technology
- Application technology
- Customization expertise

Quality



- Real time monitoring system for all manufacturing sites (One MES)
- Quality backed up by brand

Speed



- Biggest LED module production & customization expertise
- In-house reliability lab & global FAE network

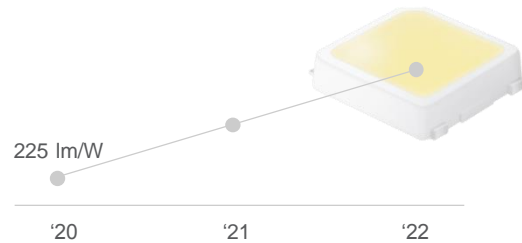
Innovation



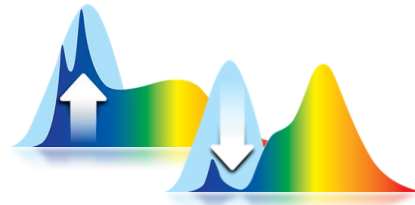
- Strong IP Portfolio
- Collaboration with Sister companies for innovation & fast Time to Market

Leading Innovation

High Efficacy



Quality of Light



Smart Light



EPI

Optimized EPI structure for higher photon output

CHIP

Design and fabrication for better light extraction

PKG

Materials and design for optimized structure

Phosphor

Spectrum engineering for high quality light

LED Module

Best PKG w Design, Quality & Speedy Service

IoT Module

Seamless connection to all major platforms with One app

Standard Module Line-up

Ambient



Industrial



Downlight



Outdoor

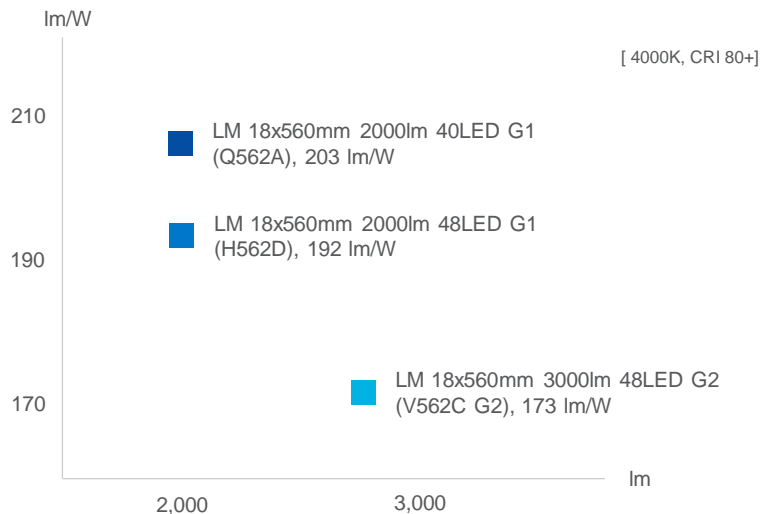


Ambient Light Module

A wide range of ambient solutions with design flexibility



Line-up



Specification

Combination		Performance	
		Module	Fixture
Q562A	1 Module	2,000 lm, 203 lm/W	1,700 lm, 148 lm/W
H562D		2,020 lm, 187 lm/W	1,720 lm, 137 lm/W
V562C		2,460 lm, 146 lm/W	2,090 lm, 107 lm/W
Q562A	2 Modules	4,000 lm, 203 lm/W	3,400 lm, 148 lm/W
H562D		4,040 lm, 187 lm/W	3,440 lm, 137 lm/W
V562C		4,920 lm, 146 lm/W	4,180 lm, 107 lm/W

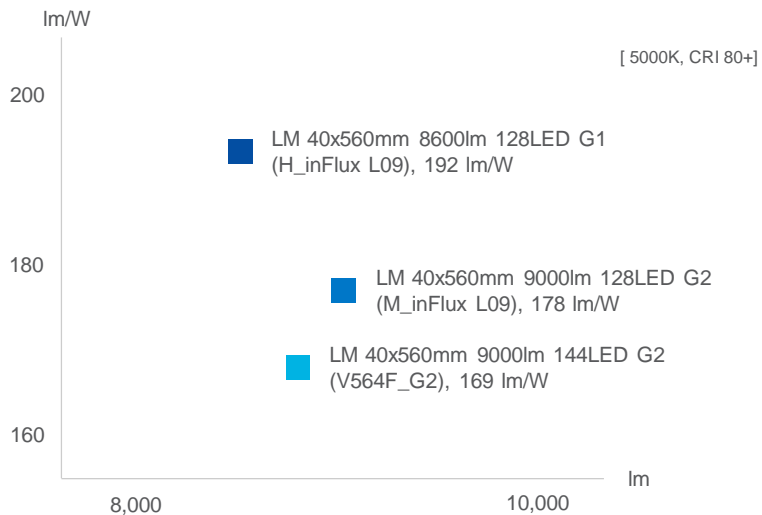
* Assumed as optic 86 %, Driver 88%

Industrial Light Module

Superior performance for high flux industrial lighting



Line-up



Specification

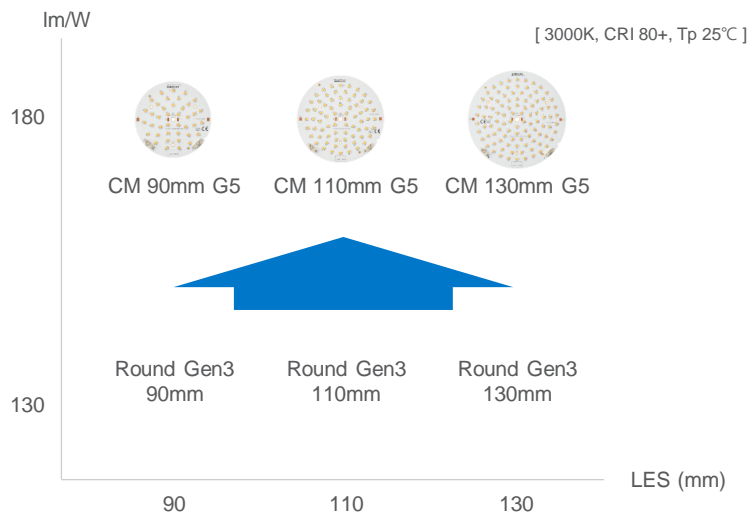
	T8 Lamp		H / M inFlux
Low Bay	32 W * 2ea	5,400~5,600 lm	L06*1ea
	32 W * 3ea	7,800~8,400 lm	L04*2ea, L09*1ea
	32 W * 4ea	10,400~11,200 lm	L06*2ea
High Bay	54 W * 1ea	4,450~5,000 lm	L04*1ea
	54 W * 2ea	8,900~10,000 lm	L04*2ea, L09*1ea
	54 W * 3ea	13,350~15,000 lm	L06*2ea
	54 W * 4ea	17,800~20,000 lm	L09*2 ea
	54 W * 8ea	35,600~40,000 lm	L09*4 ea

Downlight Module – DC

High luminous efficacy for energy saving



Line-up



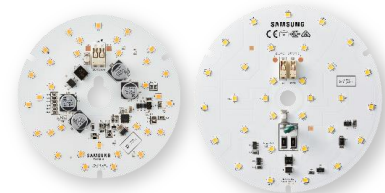
Specification

Model	Luminous Flux	Luminous Efficacy	Condition
CM 90mm 1000lm G5	1,190 lm	178 lm/W	240 mA, 27.5 V
CM 110mm 2000lm G5	2,130 lm	178 lm/W	430mA, 27.8 V
CM 130mm 3000lm G5	3,170 lm	178 lm/W	640 mA, 27.9 V

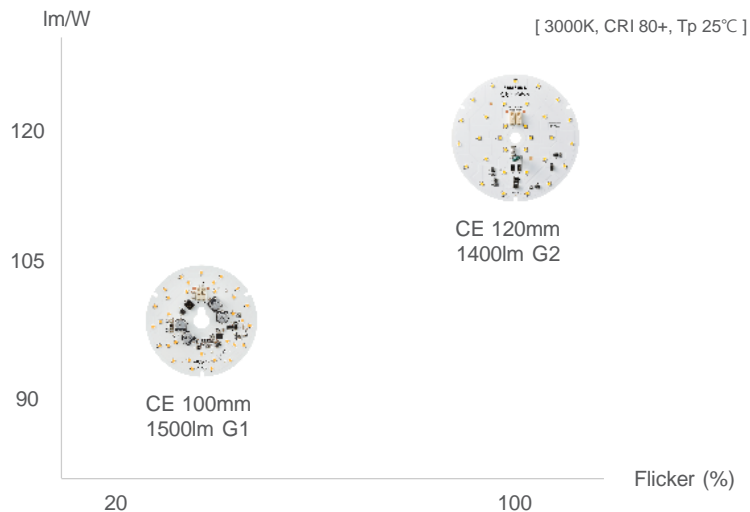
* CCT: 3000/3500/4000/5000/5700K

Downlight Module – AC

Compact plug-in module with regional regulation



Line-up



Specification

Model	Key Features
CE 100mm 1500lm G1 (T-24 ACOM)	<ul style="list-style-type: none"> • Minimum dimming level ≤ 10% • %flicker <30% at 100% and 20% light output • 1,540 lm, 95 lm/W @ 120 V, 3000K, Title-24
CE 120mm 1400lm G2 (ACOM Round Gen2)	<ul style="list-style-type: none"> • Cost competitive with good lm/\$ • 1,440 lm, 119 lm/W @ 230V, 3000K

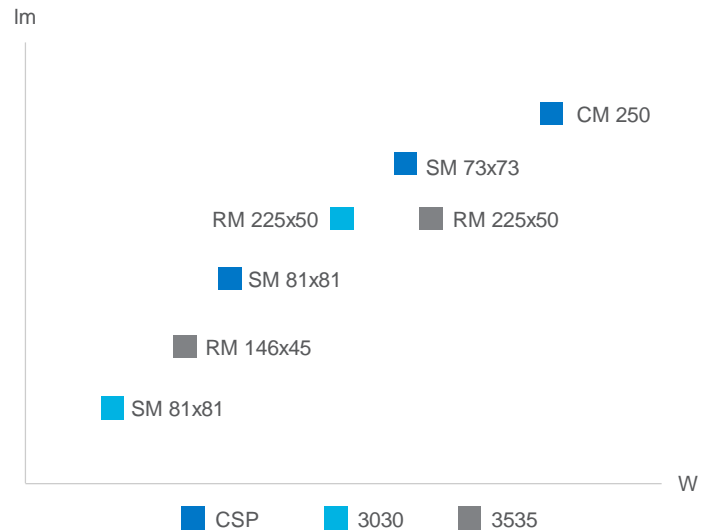
* CCT: 3000/3500/4000/5000/5700K

Outdoor Light Module – Level 2

Great design flexibility compatible with commercial lenses



Line-up



Specification

Type	PKG	Product	Efficacy
Circular	CSP	CM 250mm 25700lm (HCF0)	173 lm/W
Square	CSP	SM 73x73mm 7200lm (SC16)	138 lm/W
	CSP	SM 81x81mm 4700lm (SC28)	170 lm/W
	3030	SM 81x81mm 2430lm (SM28)	176 lm/W
Rectangle	3030	RM 225x50mm 5550lm (RM64)	176 lm/W
	3535	RM 225x50mm 5400lm (RH16)	164 lm/W
	3535	RM 146x45mm 4050lm (RH12)	164 lm/W

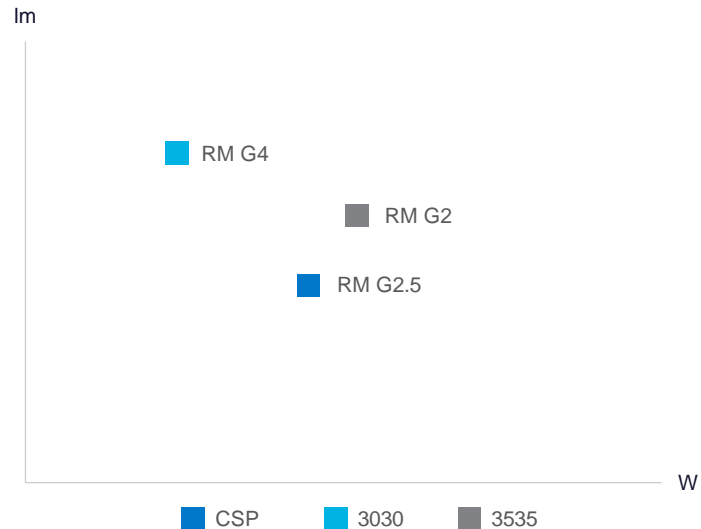
* CCT: 4000/5000K

Outdoor Light Module – Level 3

Total solution integrating LED, optics and thermal system



Line-up



Specification

Product	Efficacy	IP
RM 150x65mm 3100lm G2 (T-type Gen 2)	153 lm/W	IP66
RM 150x65mm 2900lm G2.5 (T-type Gen 2.5)	145 lm/W	IP66
RM 150x65mm 3210lm G4 (T-type Gen 4)	178 lm/W	IP66

Thank you