

## ANNEX A – AT A GLANCE

### SOLAR PANELS AT F1 PIT BUILDING

Number of panels: 1,396

Estimated solar power generated in a year (in kWh): 803,155 kWh

This amount of solar energy is sufficient to power the Pit Building for an entire race month.

Solar capacity: 795.72 kWp

Size of each solar panel: 2,278(L) X 1,134(W) X 30(H) mm

Weight per solar panel: 26.6kg

Total area occupied: 3,588.14 sqm

Contractor: ENGIE Services Singapore

Manpower to set up the solar panels: 20

Time required to install the panels: 3 months

#### **Available assets:**

1. [Video of solar panel installation](#) (Credit: ENGIE South East Asia)
2. [Images of solar panel installation](#) (Credit: Singapore GP Pte Ltd)

### MARINA BAY STREET CIRCUIT LED LIGHTING SYSTEM

#	Technical Specification	Metal-Halide Lights (Conventional)	Philips Arenavision (LED) <i>NEW</i>	Benefits
1	Lamp Source	Metal-Halide Lamp	LED chip board	LED is less maintenance intensive technology and more energy efficient.
2	Colour Temperature (CCT)	4,200 K	5,700 K (+/- 400K)	Higher CCT improves perception of brightness and also increase alertness.
3	Colour Rendering Index (CRI)	72 (Nominal)	85	With higher CRI, true colours are well rendered to the human eye and also, to the transmission camera.
4	Power Consumption	2,040 Watts	1,305 Watts	Lower power consumption makes LED product more efficient.
5	Luminous efficacy	105 Lumens/Watt	157 Lumens/Watt	Higher Lumen delivery per wattage of power consumed.
6	Lumen package	214,000 Lumen	205,000 lumen	Similar lumen package with at least 30% less power consumed. No compromise on lighting levels.
7	Burning Hours	Up to 7,000 Hours	Up to 100,000 Hours	Higher reliability with longer lifespan.
8	Ambient Temperature	-30 to +35 deg C	-40 to +45 deg C	Higher durability
9	Optics	3 types of Beam options	11 types of beam options	More flexibility in achieving optimal lighting with uniformity.
10	Ingress Protection	65	66	Better withstanding capability towards external conditions.
11	Weight of the flood light	42 Kg	32 KG	Lighter weight puts less stress on the truss.
12	Dimension	652mm (L) x 640mm (W) x 390mm (H)	737mm (L) x 695mm (B) x 118mm (H)	Sleeker light fitting because of using LED PCB instead of circular lamp.

13	Warm up time	10 to 15 mins	0 min	Lights can be switched on instantly, with no lag time or warm up required.
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Total number of lighting projectors: 1,618  
 Light supplier: DZE Asia Pte Ltd in collaboration with Signify Singapore Pte Ltd  
 Lighting consultant: DZ Engineering Srl  
 Manpower to set up the lighting system and race communications system: 100 workers  
 Time required to install and dismantle the system: 4 months to set up, 2 months for dismantling

- Manufactured in Valladolid, Spain, the LED lights will perform at a higher level with a reduction in power consumption. In case of failure, no restrike/warm-up time is required.
- Compliant with international broadcasting standards.
- Other sports facilities that use similar LED projectors by Signify Holding:
  - Riyadh Street Circuit – Ad Diriyah ePrix of the FIA Formula E Championship, Saudi Arabia
  - Philips Stadion – PSV Eindhoven’s football stadium, the Netherlands
  - Volkswagen Arena – VfL Wolfsburg’s football stadium, Germany
  - Cairo Stadium Indoor Halls Complex, Egypt

“When the lighting system for the first Formula 1 night race was designed in 2007, we never imagined that it would take us so far. It gives us immense pleasure to witness the Singapore Grand Prix under a new and more sustainable light after 15 years. Signify has been our partner in this motorsport journey, and we are delighted to achieve another milestone together. As we move forward, we remain committed to delivering top-class lighting solutions that not only enhance the spectator’s experience but also contribute to a greener future,” said Roberto Grilli, General Manager of DZ Engineering.

**About DZ Engineering**

DZ Engineering, a company belonging to DZ Group Holding, designs and builds systems and integrated solutions in the lighting, telecommunications and motorsport fields, both in Italy and abroad. The experience acquired by the team of technicians and engineers over thirty years in business all around the world, enables DZ Engineering to offer customised solutions with a high technological content to all its customers. It operates in the public and private sector, thanks to international patents that guarantee the unique nature of the systems it offers, ranging from cathedrals to historic buildings, from archaeological sites to old town centres, from football stadiums to motor racing circuits, from port areas to industrial hubs. The first grand prix at night in the history of Formula 1 was designed and built by the team of technicians and engineers now in DZ Engineering. In 2021, the company was involved in the development of the first night-time ePrix with LED technology and, subsequently, of the first partially indoor ePrix in the history of Formula E, in Diriyah (Saudi Arabia) and London respectively. The full-service lighting solutions for events in this category are another distinctive attribute of DZ Engineering, which guarantees the standards required by the competent international authorities, reducing the economic and ecological impact, especially for city circuits where the track is only used for one event a year. DZE Asia is a subsidiary of DZ Engineering.

“Signify is thrilled to illuminate the Formula 1 Singapore Grand Prix, elevating both the live experience and global broadcast viewing experience of this iconic night race to another level while empowering the drivers to strive for their best performance. Being a carbon neutral company since 2020, the

instalment is a testament to Signify's commitment to enabling like-minded partners and customers to advance positive climate impact," said Jitender Khurana, CEO of Signify Singapore.

#### **About Signify**

[Signify](#) (Euronext: LIGHT) is the world leader in lighting for professionals and consumers and lighting for the Internet of Things. Our [Philips](#) products, [Interact](#) connected lighting systems and data-enabled services, deliver business value and transform life in homes, buildings and public spaces. In 2022, we had sales of EUR 7.5 billion, approximately 35,000 employees and a presence in over 70 countries. We unlock the extraordinary potential of light for brighter lives and a better world. We [achieved](#) carbon neutrality in our operations in 2020, have [been](#) in the [Dow Jones Sustainability World Index](#) since our IPO for six consecutive years and were named [Industry Leader](#) in [2017](#), [2018](#) and [2019](#). News from Signify is located at the [Newsroom](#), [Twitter](#), [LinkedIn](#) and [Instagram](#).

#### **Available assets:**

1. *B-Roll: [Video comparison of metal halide lamps vs LED lights](#)*
2. *[Images from 2022 test](#) (Credit: Singapore GP Pte Ltd)*