


**illuminate**  
USA

# ILLUMINA 5 **HAIL RESISTANT SOLUTION**

# 540~560M

- Exceptional protection against severe hailstorms
- Advanced module technology with M10 Gallium-doped wafer and 10-busbar half-cut cells
- High-quality modules, testing and warranties ensure long term reliability
- Globally validated bifacial energy yield
- Assembled in Pataskala, Ohio, USA 

 **12-year warranty**  
for materials and processing

 **30-year warranty**  
for extra linear power output

**21.7%**  
MAX MODULE  
EFFICIENCY

**0~3%**  
POWER  
TOLERANCE

**<2%**  
FIRST YEAR  
POWER DEGRADATION

**0.45%**  
YEAR 2-30  
POWER DEGRADATION

**HALF-CELL**  
LOWER OPERATING  
TEMPERATURE

#### Complete System and Product Certifications

IEC 61215, IEC 61730, UL 61730

ISO 9001:2015 Quality Management Systems

ISO 14001:2015 Environmental Management Systems

ISO 45001: 2018 Occupational Health and Safety Management Systems

IEC 62941:2019 Terrestrial Photovoltaic (PV) Modules - Quality System for PV Module Manufacturing

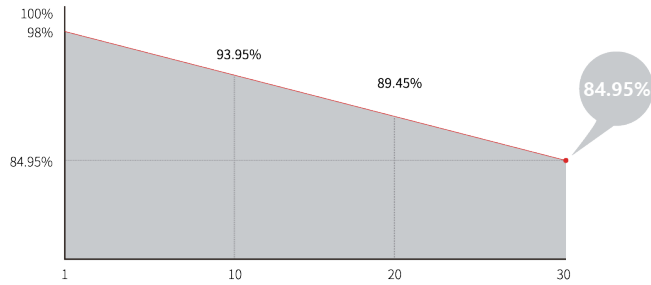
ISO/IEC 17025:2017 General Requirements for the Competence of Testing and Calibration Laboratories



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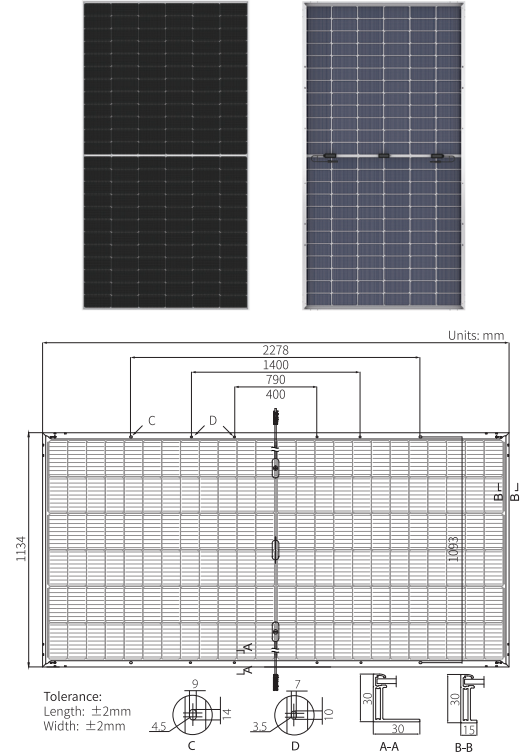
## Illuminate Performance Warranty

### 30-Year Power Warranty



## Mechanical Parameters

Cell Orientation	144 (6X24)
Junction Box	IP68, three diodes
Output Cable	4mm <sup>2</sup> , +400, -200mm/±1400mm; length can be customized
Glass	Dual glass, 3.2mm coated tempered glass + 2.0mm heat strengthened glass
Frame	Anodized aluminum alloy frame
Weight	39.5kg (87.1lbs)
Dimension	2278X1134X30mm
Packaging	468pcs per 40' HC



## Electrical Characteristics

STC: AM1.5 1000W/m<sup>2</sup> 25° C

NOCT: AM1.5 800W/m<sup>2</sup> 20°C 1m/s

Test uncertainty for Pmax: ±3%

Module Type	IL5-72HBD-540M		IL5-72HBD-545M		IL5-72HBD-550M		IL5-72HBD-555M		IL5-72HBD-560M	
	STC	NOCT	STC	NOCT	STC	NOCT	STC	NOCT	STC	NOCT
Maximum Power (Pmax/W)	540	403.6	545	407.4	550	411.1	555	414.8	560	418.6
Open Circuit Voltage (Voc/V)	49.50	46.54	49.65	46.68	49.80	46.82	49.95	46.97	50.10	47.11
Short Circuit Current (Isc/A)	13.85	11.17	13.92	11.23	13.99	11.29	14.05	11.34	14.10	11.38
Voltage at Maximum Power (Vmp/V)	41.65	38.86	41.80	39.00	41.95	39.14	42.10	39.28	42.25	39.42
Current at Maximum Power (Imp/A)	12.97	10.39	13.04	10.45	13.12	10.51	13.19	10.56	13.26	10.62
Module Efficiency (%)	20.9		21.1		21.3		21.5		21.7	

### Electrical Characteristics with different rear side power gain (reference to 550M front)

Pmax/W	Voc/V	Isc/A	Vmp/V	Imp/A	Pmax gain
578	49.80	14.68	41.95	13.77	5%
605	49.80	15.38	41.95	14.43	10%
633	49.90	16.08	42.05	15.08	15%
660	49.90	16.78	42.05	15.74	20%
688	49.90	17.48	42.05	16.39	25%

## Operating Parameters

Operational Temperature	-40°C ~+85°C
Power Output Tolerance	0~3%
Voc and Isc Tolerance	±3%
Maximum System Voltage	DC1500V (IEC/UL)
Maximum Series Fuse Rating	30A
Nominal Operating Cell Temperature	45±2°C
Protection Class	Class II
Bifaciality	70±5%
Fire Rating	UL type 29, IEC Class C

## Mechanical Loading

Front Side Maximum Static Loading	5400Pa
Rear Side Maximum Static Loading	2400Pa
Hailstone Test	50mm Hailstone at the speed of 32.4m/s*

## Temperature Ratings (STC)

Temperature Coefficient of Isc	+0.050%/°C
Temperature Coefficient of Voc	-0.265%/°C
Temperature Coefficient of Pmax	-0.340%/°C

\*The product can withstand larger hailstones impacting at higher speeds when integrated with tracker hail stow technology. Specifications included in this datasheet are subject to change without notice. Illuminate USA reserves the right of final interpretation. (IL20251204)