LightingScience®
Changing the way the world experiences light.

Prepared By	Catalog #	
Project	Comments	Date

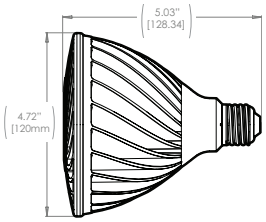
DEFINITY™ PAR38 & PAR38 Hi-Output

BENEFITS

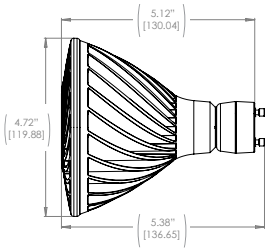
- Dimmable to 5% of light on most dimmers.[3]
- Up to three unique beam distributions for application flexibility.
- Suitable for wet locations.
- 18/24 Watts – 80% more efficient than comparable 90/120 watt halogen lamps or incandescent 90/120W lamps.
- Maintenance free operation, lasts up to 16 times longer than halogen lighting.
- Centralized optical package provides high quality point source beam versus pixilated designs.
- RoHS compliant – contains no mercury or lead.

FEATURES[1]

Equivalent Source	
Standard	Up to 90W Halogen
High Output	Up to 120W Halogen
L70 lumen depreciation design criteria =	**PAR38: 50,000 hours** Rating is based on open-air fixture application, installations in recessed downlight applications rated at 30,000 hrs.
Early Submission	
ENERGY STAR Life =	**25,000 hours[2]**
Housing	**Aluminum**
Socket	**E26/GU24**
Beam Spread	**15°, 25°, 40°**
Spot, Narrow Flood, Flood	
Operating Temperature	**-20°C to +40°C**
E26 MOL	**5.05 in, 128mm**
GU24 MOL[5]	**5.38 in, 136.65mm**
Voltage	**120VAC & 230VAC[4]**
Weight	**1.54lbs., 700g**
Power Factor	**≥.70**
Warranty	**PAR38: 5 year limited Hi-Output: 3 year limited**



E26 BASE



GU24 BASE

Specifications supplied are nominal. Please refer to the DOE's Lighting Facts Tolerance Guidelines.
[1] Values are nominal, advances from further innovation, specifications are subject to change.
[2] Early Submission ENERGY STAR Life = 25,000 hours (L70 lumen depreciation design criteria = 50,000 hours.) For directional lamps, Energy Star early submission dictates that manufacturers can only claim 25,000 hour life with 3000 hour actual life test data, 6,000 hour LM80 data and in-situ temperature measurements. Once a product has been fully qualified, manufacturers may increase the lifetime of a product by demonstrating full compliance with the ENERGY STAR criteria at the new lifetime with Lumen Maintenance at the minimum required test period. Refer to Energy Star website.
[3] See dimmer compatibility chart on next page.
[4] 230V available in non high output version only and utilizes E27 base.
[5] Not available or rated for 230V

NAFTA COMPLIANT
This product qualifies as an originating good under the terms of NAFTA.

ORDERING INFORMATION \\ DFN 38 WW FL 120

Family	Product	Color (CCT)	Light Output	Distribution	Voltage[4]	Base
DFN Definity	38 PAR38	W27 Warm White 2700K	(leave blank for standard	FL 40° Flood	120 120 Volt	(leave blank for E26 base)
		WW Warm White 3000K	V2 High Output	NFL 25° Narrow Flood	230 230 Volt[4]	GU24 GU24
		NW Neutral White 4000K		SP 15° Spot		
		CW Cool White 5000K				

CERTIFICATIONS
NORTH AMERICA

ENVIRONMENT
WET

LightingScience®

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DIMMER CAPABILITIES

PAR38

LUTRON DIMMERS: ADRIANI AYLV-600; Commecrical Systems QSG-6P, LP-RPM-4A-120, QSG-6D, HW/LP-RPM-4U-120; Diva DV-600, DVLV-600; Homeworks HxD-6ND, HW-RPM-4U-120; Interfaces PHPM-WBX w/ DVF-103P, PHPM-PA w/QSG-6D; NOVA NLV-600; Panel Module GP (Harrier) card w/GRX-3503, Grafik Eye; Radio Ra RRD-6NA; Stanza SZ-6ND; Lutron HW-RPM-4U-120, LP-RPM-4U-120, S-600PR-WH, DV-600PR-WH, NLV-600, TG-600PR-WH, AY600P, Q600P, GL600, CN-600PHW, DV-603PG, S-600, S-600P, LG-600P, D-600PH, TT-300NLH, TG-603PG, DV-600PR-WH, MAELV-600-WH OTHER DIMMERS: Ace 34050, 3027596 Leviton 6633-PL, 6684, 6631, IPI06-1LX Legrand DrRD4W

PAR38 Hi-Output

LUTRON DIMMERS: Interfaces PHPM-WBX w/DVF-103P; Radio Ra RRD-6NA; Lutron CN-600PHW, DV-603PG, S-600, S-600P, LG-600P , D-600PH, TT-300NLH, TG-603PG, DV-600PR-WH OTHER DIMMERS: Leviton 6684

Recommended number of lamps per 600 watt dimmer[4]

While an LED lamp may draw as few as 10 watts continuously, it could have an in-rush current spike (maximum, instantaneous input) which may limit the number of lamps you can install on one dimmer. The following table provides a recommended maximum quantity of DEFINITY lamps that should be used on a typical approved 600W dimmer.

Ex: Max number of A19 60W lamps, with an 80W in-rush, that can be used on 600W dimmer = 7

DFN LED Lamp	Lamp In-Rush Current Equivalent	Max # of Lamps per 600W Dimmer
PAR38	115 W	5
PAR38 HO	125 W	4

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[2] Early Submission ENERGY STAR Life = 25,000 hours (L70 lumen depreciation design criteria = 50,000 hours.) For directional lamps, Energy Star early submission dictates that manufacturers can only claim 25,000 hour life with 3000 hour actual life test data, 6,000 hour LM80 data and in-situ temperature measurements. Once a product has been fully qualified, manufacturers may increase the lifetime of a product by demonstrating full compliance with the ENERGY STAR criteria at the new lifetime with Lumen Maintenance at the minimum required test period. Refer to Energy Star website.

[3] Design life rating is open air application. Use in housings that enclose lamp body will shorten life.

[4] Dimmer compatibility list indicates those dimmers that have been tested and operate properly under normal conditions. In certain cases, approved dimmers are offered in higher wattage varieties that are also compliant and allow the installation of additional lamps if kept within the maximum inrush current equivalent provided in the table.Each application is unique and various factors such as load, common neutrals or other electrical products on the circuit can, in certain instances, cause variance in system performance. Consult dimming system manufacturer for additional support in operation.

PAR38

Part Number	Base Type	Watts	Beam Angle[1]	Lumens	Voltage	Efficacy	CRI	CBCP	Energy Star[2,5]
DFN 38 NW NFL 120	E26/GU24	18W	25	950	120	53	85	4099	✓
DFN 38 WW NFL 120	E26/GU24	18W	25	850	120	47	85	3574	✓
DFN 38 W27 NFL 120	E26/GU24	18W	25	840	120	47	85	3493	
DFN 38 CW NFL 120	E26/GU24	18W	25	1290	120	72	67	4711	
DFN 38 NW FL 120	E26/GU24	18W	40	890	120	49	85	1766	✓
DFN 38 WW FL 120	E26/GU24	18W	40	850	120	47	85	1658	✓
DFN 38 W27 FL 120	E26/GU24	18W	40	840	120	47	85	1573	
DFN 38 CW FL 120	E26/GU24	18W	40	1290	120	72	67	2030	
DFN 38 NW SP 120	E26/GU24	18W	15	950	120	53	85	6977	✓
DFN 38 WW SP 120	E26/GU24	18W	15	850	120	47	85	6194	✓
DFN 38 W27 SP 120	E26/GU24	18W	15	840	120	47	85	6054	
DFN 38 CW SP 120	E26/GU24	18W	15	1290	120	72	67	8019	

PAR38 Hi-Output

Part Number	Base Type	Watts	Beam Angle[1]	Lumens	Voltage	Efficacy	CRI	CBCP	Life[3]
DFN 38 NW V2 NFL 120	E26/GU24	24W	25	1375	120	57	85	5500	50,000
DFN 38 WW V2 NFL 120	E26/GU24	24W	25	1300	120	54	85	5200	50,000
DFN 38 W27 V2 NFL 120	E26/GU24	24W	25	1250	120	52	85	5000	50,000
DFN 38 CW V2 NFL 120	E26/GU24	24W	25	1460	120	61	67	5900	50,000
DFN 38 NW V2 FL 120	E26/GU24	24W	40	1375	120	57	85	2500	50,000
DFN 38 WW V2 FL 120	E26/GU24	24W	40	1300	120	54	85	2400	50,000
DFN 38 W27 V2 FL 120	E26/GU24	24W	40	1250	120	52	85	2250	50,000
DFN 38 CW V2 FL 120	E26/GU24	24W	40	1460	120	61	67	2700	50,000
DFN 38 NW V2 SP 120	E26/GU24	24W	15	1375	120	57	85	9400	50,000
DFN 38 WW V2 SP 120	E26/GU24	24W	15	1300	120	54	85	8900	50,000
DFN 38 W27 V2 SP 120	E26/GU24	24W	15	1250	120	52	85	8500	50,000
DFN 38 CW V2 SP 120	E26/GU24	24W	15	1460	120	61	67	10000	50,000

NFL: Narrow Flood **FL:** Flood **SP:** Spot **NW:** Neutral White **WW:** Warm White **W27:** Warm White 2700K **CW:** Cool White
CBCP: Center Beam Candle Power

[5] Energy Star certification applies to E26 base only, GU24 base certification is still in progress.

Cautions

- Turn power off before inspection, installation, or removal.
- Risk of Electric Shock – Do not use where directly exposed to water or weather.
- For use in recessed fixtures.
- Suitable for wet locations.
- Do not open – no user serviceable parts inside.
- North America use on 120VAC, 50 - 60 Hz circuits.
- This device is not intended for use with emergency exit fixtures or emergency exit lights.
- Added weight of the device may cause instability of a free-standing portable luminaire.
- This device complies with Part 15 of the FCC rules and has been tested and found to comply with the limits for a Class B digital device. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. Any changes or modifications not expressly approved by the manufacturer could void the user's authority to operate the equipment.

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