SORAA
SIMPLY PERFECT LIGHT

MR16 9W

OUTPUT RANGE: VIVID SERIES	465 - 490 lumen
OUTPUT RANGE: BRILLIANT SERIES	560 - 590 lumen
BEAM ANGLE RANGE	25°, 36°
COLOR TEMPERATURE RANGE	2700K, 3000K
APPLICATION	**Not suitable for enclosed or lensed fixtures.** Halogen replacement for indoor applications.

FLICKER FREE   12V AC   GU-5.3   DIM   IR   UV

POINT SOURCE OPTICS
Exceptional beam control with smooth uniform beams

Single light source, single crisp shadow

VP₃ VIVID COLOR & VP₃ NATURAL WHITE
VIVID series provides accurate color rendering across the visible spectrum from 400nm to 700nm, with CRI/95, R9/95, Rf/90, Rg/100

Whiteness rendering matches or exceeds that of halogen and incandescent sources at 2700K and 3000K

ENERGY EFFICIENCY & LONG LIFE
85% more energy efficient than standard halogen lamps

Typical payback of one year or less

Rated lifetime of 35,000 hours. 3 year warranty

CERTIFICATIONS
FCC Title 47 Part 15B, RoHS, CE

CE RoHS

HIGHLY COMPATIBLE
Geometrically compatible with standard fixtures and suitable for damp locations

This lamp is not recommended for use in enclosed fixtures or for use with front glass cover.

Works with trailing edge and leading edge phase cut dimmers, 12V AC magnetic and electronic transformers and 12V DC transformers (see www.soraa.com/resources)
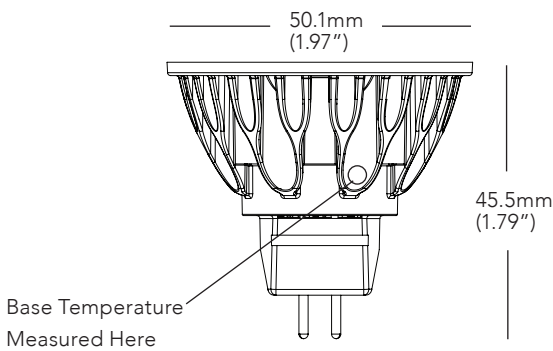
INTENDED USE AND APPLICATIONS
Intended for use in MR16 compatible recessed downlights, track lighting and other indoor and outdoor applications

Soraa lamps are designed to safely turn down in high temperature environments to protect LED and components. This lamp should not be used in fully enclosed or lensed fixtures
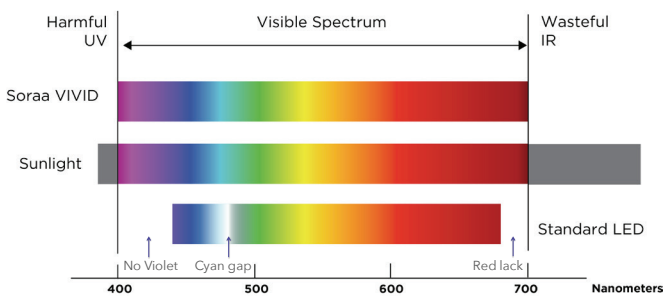
GENERAL SPECIFICATIONS

| Form Factor	Operating Temperature	Electrical	Dimming and Flicker
Width: 50.1mm (1.97")	Minimum: -40°C (ambient)	Wattage: 9W	Dimmable to <20%
Height: 45.5mm (1.79")	Typical: 90°C - 95°C (base)	Power factor: 0.92	Flicker Index: 0.02
Weight: 47g	Maximum: 100°C (base)	Voltage: 12V +/- 1.2V	Percent Flicker: 5%
		Frequency: 50/60Hz	

DIMENSIONS

50.1mm
(1.97″)

45.5mm
(1.79″)

Base Temperature
Measured Here

COLOR RENDERING

Harmful
UV

Visible Spectrum

Wasteful
IR

Soraa VIVID

Sunlight

Standard LED

No Violet   Cyan gap   Red lack

400   500   600   700   Nanometers

25 DEGREE BEAM

Beam Dia at 50% Intensity (m)	Field Dia at 10% Intensity (m)	Lux (% of Intensity)
0.4	0.7	100%
0.9	1.5	25%
1.3	2.2	11%
1.8	2.9	6%
2.2	3.6	4%

1 m
2 m
3 m
4 m
5 m
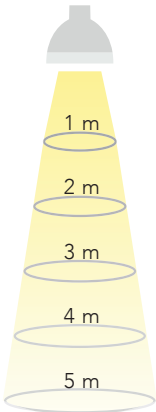
36 DEGREE BEAM

Beam Dia at 50% Intensity (m)	Field Dia at 10% Intensity (m)	Lux (% of Intensity)
0.6	1.1	100%
1.3	2.2	25%
1.9	3.3	11%
2.6	4.3	6%
3.2	5.4	4%
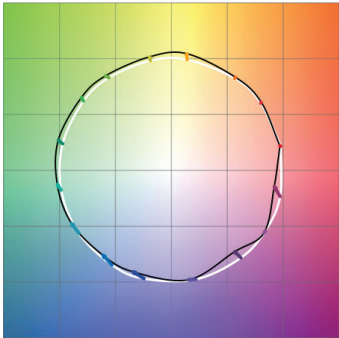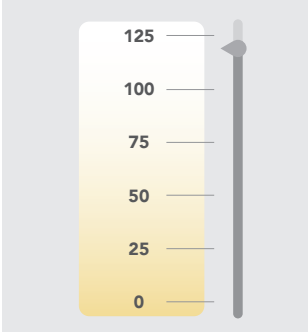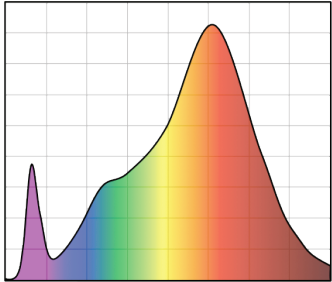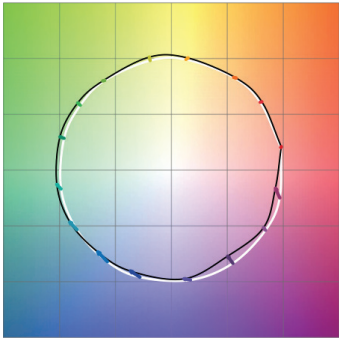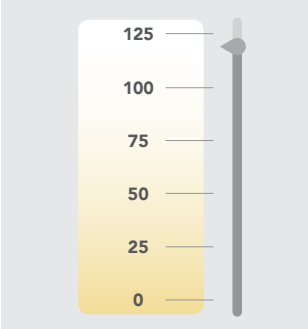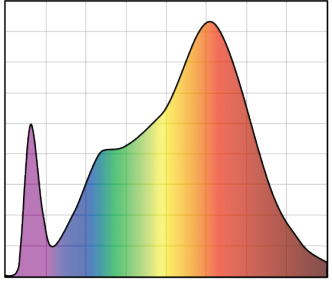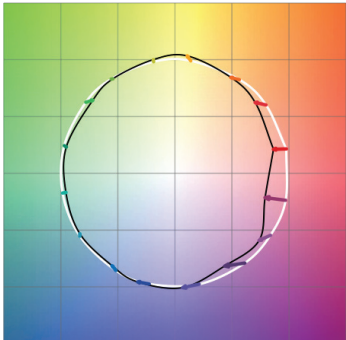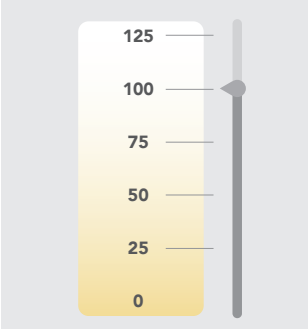
Note: Lux may be calculated by multiplying the peak Intensity of the desired model number by the percentage in the tables above

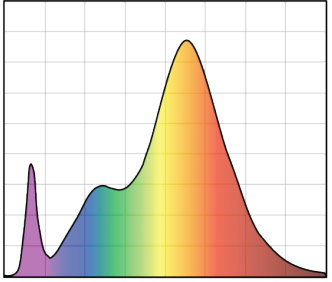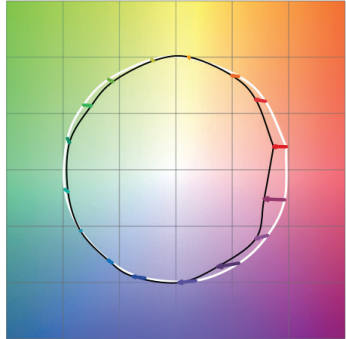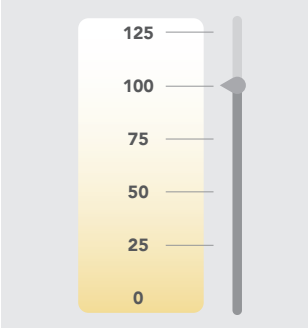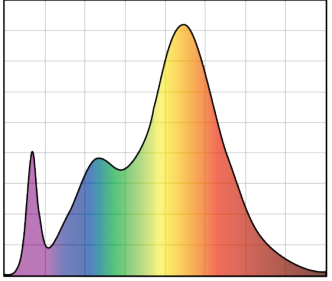## SPECIFICATIONS BY MODEL NUMBER* SORAA LED MR16 9W

Model #	Product Code	CCT (K)	Beam Angle	Field Angle	Peak Intensity	Total Flux (Lm)	Efficacy (Lm/W)	90° Lumens	McA	EEI	SNAP
VIVID SERIES											
SM16-09-25D-927-03-S3	01221	2700	25	40	2570	465	52	440	3	A	-
SM16-09-36D-927-03-S3	01229	2700	36	57	1210	465	52	425	3	A	-
SM16-09-25D-930-03-S3	01225	3000	25	40	2700	490	54	465	3	A	-
SM16-09-36D-930-03-S3	01233	3000	36	57	1280	490	54	450	3	A	-
BRILLIANT SERIES											
SM16-09-25D-827-03-S3	01219	2700	25	40	3090	560	62	530	3	A	-
SM16-09-36D-827-03-S3	01227	2700	36	57	1460	560	62	515	3	A	-
SM16-09-25D-830-03-S3	01223	3000	25	40	3260	590	66	560	3	A	-
SM16-09-36D-830-03-S3	01231	3000	36	57	1540	590	66	540	3	A	-

CCT: Correlated Color Temperature **McA**: White Point Accuracy in McA step **SNAP**: SORAA SNAP System Compatible **EEI**: Energy Efficiency Index

*Specifications are at stable warm operating conditions (25°C ambient)

SERIES/CCT	COLOR ACCURACY	WHITENESS INDEX	SPECTRAL POWER DISTRIBUTION
VIVID 2700K	Rf: 90, Rg: 100, Rfh1: 95	Rw: 120	CRI: 95, R9: 95
VIVID 3000K	Rf: 90, Rg: 100, Rfh1: 95	Rw: 120	CRI: 95, R9: 95
BRILLIANT 2700K	Rf: 85, Rg: 92, Rfh1: 77	Rw: 100	CRI: 85, R9: >0
BRILLIANT 3000K	Rf: 85, Rg: 92, Rfh1: 77	Rw: 100	CRI: 85, R9: >0

Rf: TM-30 metric measuring color fidelity (whether colors are similar to those under natural light). Rf is a more accurate version of the CRI Ra. Rf is 100 for natural light.

Rg: TM-30 metric measuring color gamut (whether colors are more saturated than under natural light). Rg is 100 for natural light.

Rfh1: TM-30 metric measuring color fidelity for red tones. Rfh1 is a more accurate version of the CRI R9. Rfh1 is 100 for natural light.

Rw: Soraa-developed metric to measure white fidelity. Rw measures the magnitude of excitation of whitening agents within whites. Rw is about 100 for natural light.