SORAA
SIMPLY PERFECT LIGHT

MR16 7.5W

OUTPUT RANGE: VIVID SERIES	390 - 455 lumen
OUTPUT RANGE: BRILLIANT SERIES	475 - 525 lumen
BEAM ANGLE RANGE	10°, 25°, 36°
COLOR TEMPERATURE RANGE	2700K, 3000K, 4000K
APPLICATION	Halogen replacement for indoor and outdoor applications

FLICKER FREE · 12V AC · GU-5.3 · DIM · IR · UV

POINT SOURCE OPTICS

Exceptional beam control enables unique 10° narrow spot and smooth uniform beams

Single light source, single crisp shadow

VP$_3$ VIVID COLOR AND VP$_3$ 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 AND LONG LIFE

85% more energy efficient than standard halogen lamps

Typical payback of one year or less

Rated lifetime to L70: 35,000hrs

Warranty: 3yrs or 25,000hrs whichever comes first.

Detailed warranty information available at soraa.com/resources/legal

CERTIFICATIONS

UL/CUL Class 2 and non-Class 2, FCC Title 47 Part 15B, RoHS, CE

HIGHLY COMPATIBLE

Narrow spot compatible with Soraa SNAP System accessories

Geometrically compatible with standard fixtures and suitable for damp locations

This lamp is suitable for use in fully enclosed fixtures, subject to the maximum heatsink temperature limits stated in this data sheet. A list of qualified enclosed fixtures can be found at www.soraa.com/resources

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 any thermal environment not conducive to minimum airflow or proper ventilation

GENERAL SPECIFICATIONS

Form Factor

Width: 50.1mm (1.97")

Height: 45.5mm (1.79")

Weight: 47g

Operating Temperature

Minimum: -40°C (ambient)

Typical: 85°C - 95°C (base)

Maximum: 100°C (base)

Electrical

Wattage: 7.5W

Power factor: 0.92

Voltage: 12V +/- 1.2V

Frequency: 50/60Hz

Dimming and Flicker

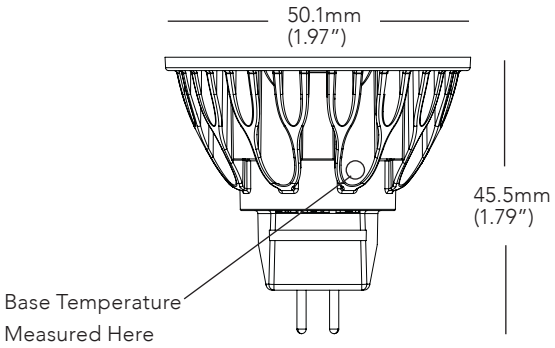
Dimmable to <20%

Flicker Index: 0.02

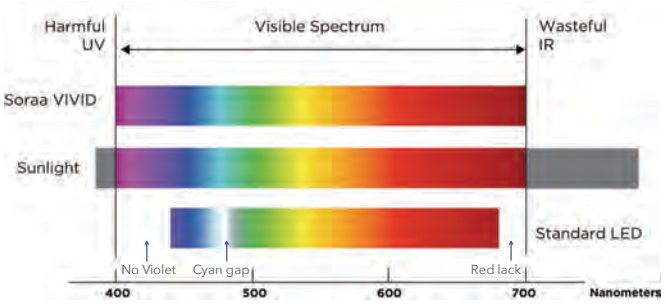
Percent Flicker: 5%*

*These Soraa lamps are certified to California's demanding JA8 standard, which requires <30% flicker

DIMENSIONS

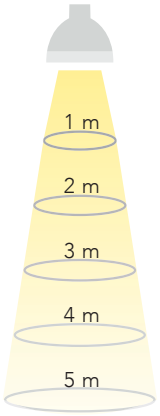


COLOR RENDERING



10 DEGREE BEAM

Beam Dia at 50% Intensity (m)	Field Dia at 10% Intensity (m)	Lux (% of Intensity)
0.2	0.4	100%
0.3	0.7	25%
0.5	1.1	11%
0.7	1.4	6%
0.9	1.8	4%

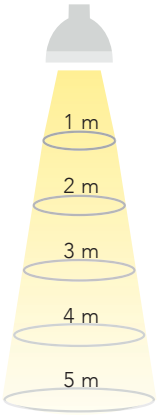


25 DEGREE BEAM

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%

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%



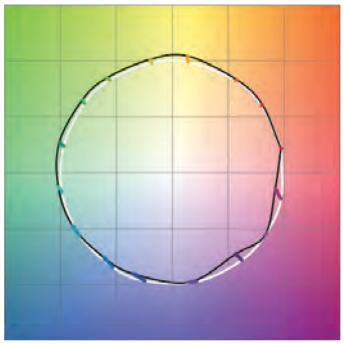
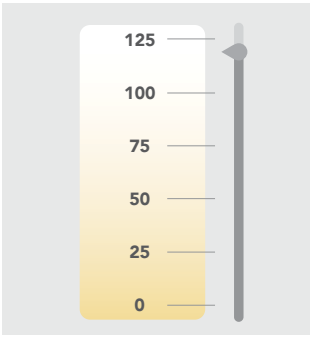
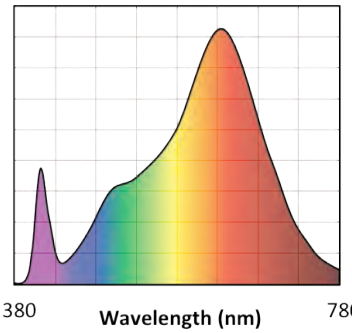
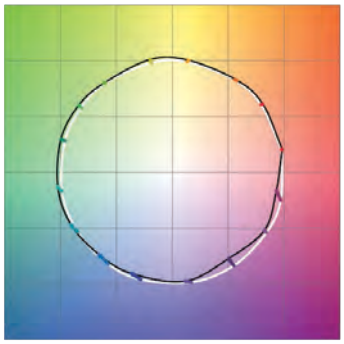
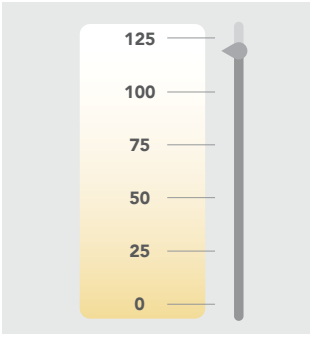
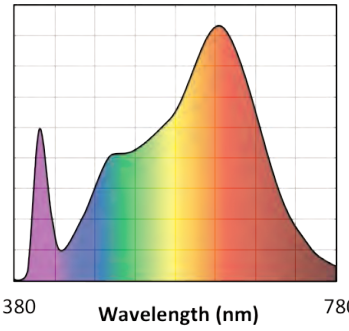
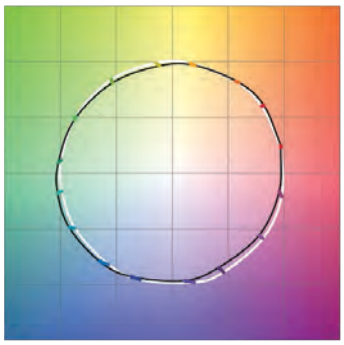
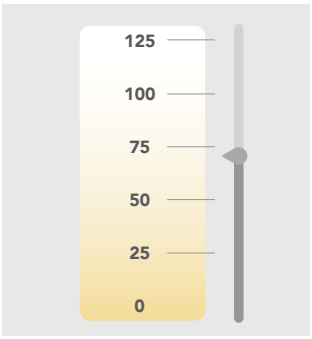
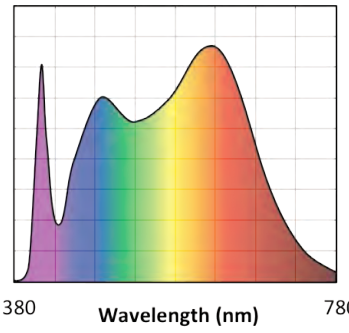
Note: Lux may be calculated by multiplying the peak Intensity of the desired model number by the percentage in the tables above

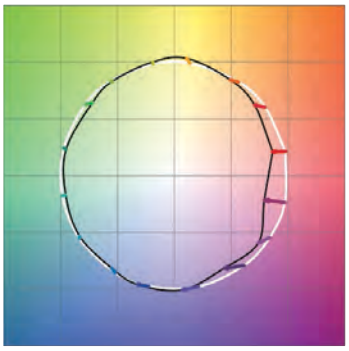
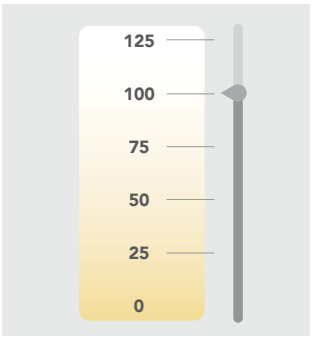
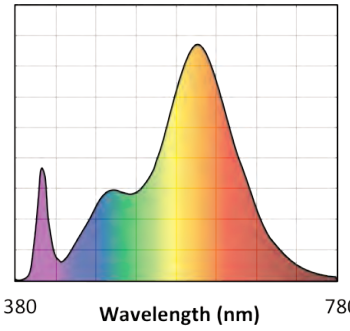
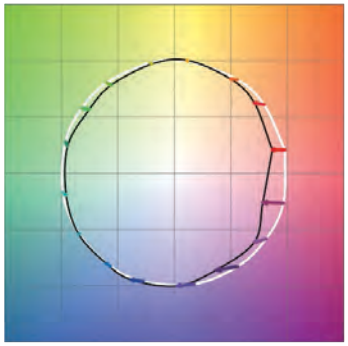
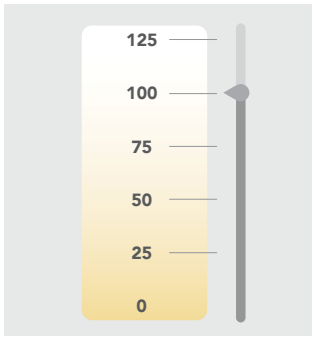
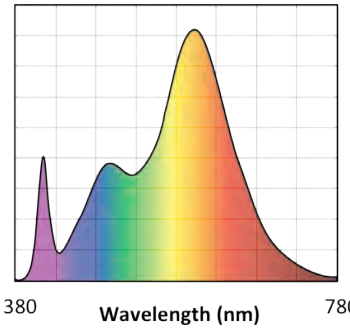
SPECIFICATIONS BY MODEL NUMBER* SORAA LED MR16 7.5W

Model #	Product Code	CCT (K)	Beam Angle	Field Angle	Peak Intensity	Total Flux (Lm)	Efficacy (Lm/W)	90° Lumens	McA	EEI	SNAP
VIVID SERIES											
SM16-07-10D-927-03-S3	01185	2700	10	20	5710	390	52	345	3	A	YES
SM16-07-25D-927-03-S3	01197	2700	25	40	2260	410	55	385	3	A	-
SM16-07-36D-927-03-S3	01209	2700	36	57	1070	410	55	375	3	A	-
SM16-07-10D-930-03-S3	01189	3000	10	20	6000	410	55	360	3	A	YES
SM16-07-25D-930-03-S3	01201	3000	25	40	2400	435	58	410	3	A	-
SM16-07-36D-930-03-S3	01213	3000	36	57	1130	435	58	400	3	A	-
SM16-07-10D-940-03-S3	01191	4000	10	20	6290	430	57	380	4	A	YES
SM16-07-25D-940-03-S3	01203	4000	25	40	2510	455	61	430	4	A	-
SM16-07-36D-940-03-S3	01215	4000	36	57	1190	455	61	415	4	A	-
BRILLIANT SERIES											
SM16-07-10D-827-03-S3	01183	2700	10	20	6950	475	63	420	3	A	YES
SM16-07-25D-827-03-S3	01195	2700	25	40	2760	500	67	475	3	A	-
SM16-07-36D-827-03-S3	01207	2700	36	57	1310	500	67	460	3	A	-
SM16-07-10D-830-03-S3	01187	3000	10	20	7320	500	67	445	3	A	YES
SM16-07-25D-830-03-S3	01199	3000	25	40	2900	525	70	495	3	A	-
SM16-07-36D-830-03-S3	01211	3000	36	57	1370	525	70	480	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
VIVID 4000K	 Rf: 90, Rg: 100, Rfh1: 95	 Rw: 70	 CRI: 95, R9: 95

SERIES/CCT	COLOR ACCURACY	WHITENESS INDEX	SPECTRAL POWER DISTRIBUTION
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.

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