

3.5" LED Adjustable Recessed Downlight 120VAC (50mm Lens)

SORAA arc™

Product Specifications

The Soraa Arc™ Downlight series combines elegant design with Soraa's unique quality of light to create a dynamic and versatile solution for retail, hospitality, and residential applications. Soraa Arc gets its name from the form of its unique die-cast curved heat sink, which is precisely engineered for optimal thermal performance.

1. FRAME

Can be ordered in advance for ceiling construction phase.

Housings: New construction application - thermally protected (T) galvanized steel. Insulation must be kept 3" away from housing. IC type frame inherently protected, suitable for direct contact with insulation. Die-formed housing and integral junction box with five (5) 1/2" pry-outs. Removable power supply cover with Quick Connect fittings.

Remodel application- thermally protected (T) galvanized steel. Housing can be installed from below ceiling. Removable power supply cover with Quick Connect fittings.

Electrical: 120-277VAC fully integral LED electronic constant current driver (included). Frequency: 50/60Hz Power Factor: 0.93 Wattage: 18W.

Dimming and Flicker: Dimming as low as 5%*; Triac, 0-10V, and ELV dimming standard. < 30% Flicker. See soraa.com for details.

Mounting: Pre-installed mounting brackets allow vertical adjustment of bar hangers up to 1". Complete fixture assembly will not exceed 5 lb. Accommodates ceiling thickness from 1/2" (13mm) to 1.75" (44mm). Ceiling cutout: 4.1" (105mm). Weight of total assembly: Non-IC frame 5 lb (including Light Engine); IC Frame 6.5 lb (including Light Engine); Remodel frame 1.5 lb (excluding Light Engine).

Optional Trimless Adapter: Order separately for use with trimless Light Engines only.

2. LIGHT ENGINE & COLLAR

Soraa VIVID™ LED: Soraa Full Spectrum integral LED Light Engine available in 2700K, 3000K, and 4000K with 95 CRI, 95 R9, and 100 Rw. IR and UV free.

Soraa Optics: Soraa optic technology with exceptional beam control and smooth uniform light distribution. The 15° beam versions are compatible with all Soraa SNAP accessories.

Construction and Finish: Light Engine includes die-cast aluminum heat sink designed for optimal thermal management. Collar made of die cast aluminium. Durable non-glare satin finish. Tilt: 35°, rotation: 365°.

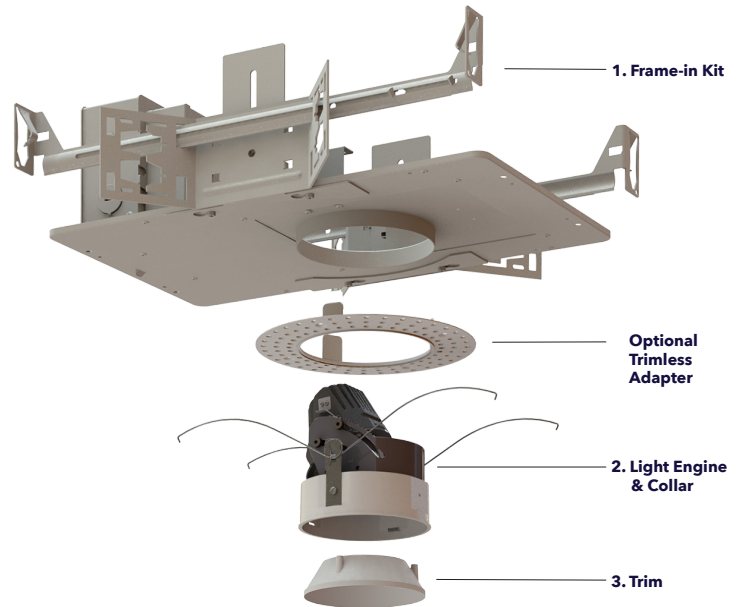
3. SNAP™ TRIMS

Construction and Finish: Die-cast aluminum construction. Magnetic SNAP attachment allows easy tool-free installation and tight ceiling fit. 4 color options available.

Operating Temperature: Minimum -40°C, 25°C typical.

Compliance: cULus Listed. FCC CFR Title 47 Part 15 Class B compliant. NOM compliant.

Warranty: Five year warranty. See www.soraa.com.



Order Separate Part Numbers

1. Frame-In Kit (Optional Trimless Adapter)
2. Light Engine & Collar
3. SNAP Trim

Simple Installation, Including SNAP™ Trim

Replaceable Light Engine

Fully Adjustable from Below Ceiling without tools

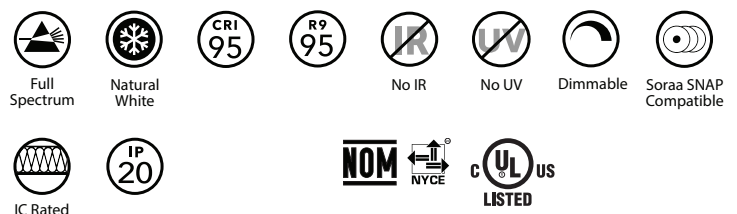
Adjusts to 35° Tilt

Soraa Vivid Full Spectrum LED 95CRI, R9 >95, 100 Rw

Flicker-Free TRIAC/ELV 0-10V Dimming as low as 5%*

25,000 hr Lifetime at 70% Lumen Maintenance

5 year Warranty



* see soraa.com/resources/arc_compatibility

3.5" LED Adjustable Recessed Downlight 120VAC (50mm Lens)

Luminaire Specification Guide

1. Frame-In Kit

Sample Number: DFS50-T-U
May be ordered in advance as separate part number

Product Code

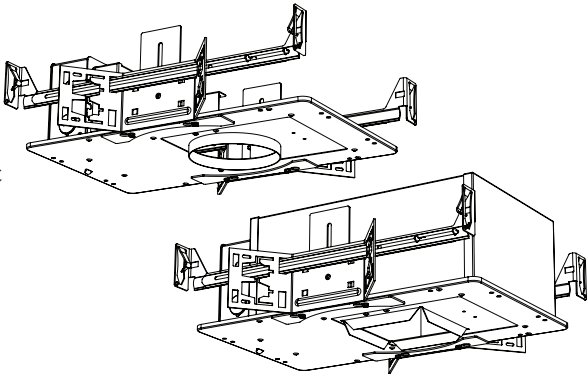
- DFR50** Downlight New Construction Frame (US Frame-in) Round
- DFS50** Downlight New Construction Frame (US Frame-in) Square

IC Rating

- IC** IC Rated
- T** Thermally Protected Non-IC
- CP** Chicago Plenum

Driver

- U** 120-277VAC
0-10V:120-277VAC
Triac 120VAC
ELV: 120VAC



1A. Remodel Frame

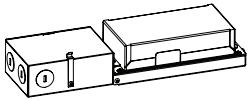
Sample Number: DRD50-U
May be ordered in advance as separate part number

Product Code

- DRD50** Downlight Remodel Frame

Driver

- U** 120-277VAC
0-10V:120-277VAC
Triac 120VAC
ELV: 120VAC

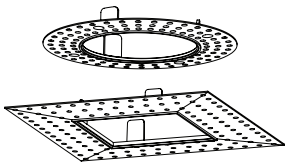


Trimless Adaptor

Sample Number: DMS50
Trimless Adaptor required for trimless installation.
May be ordered in advance as separate part number.

Product Code

- DMS50** Downlight Trimless Adaptor Square
- DMR50** Downlight Trimless Adaptor Round



2. Light Engine & Collar

Sample Number: DESA50-15D-927-F-T-B

Product Code

- DESA50** Downlight Light Engine Square Adjustable
- DERA50** Downlight Light Engine Round Adjustable

Beam

- 15D** 15° Narrow Spot (SNAP Compatible) 😊
- 25D** 25° Narrow Flood
- 36D** 36° Flood

CRI/CCT

- 927** 95/2700K
- 930** 95/3000K
- 940** 92/4000K

Mounting

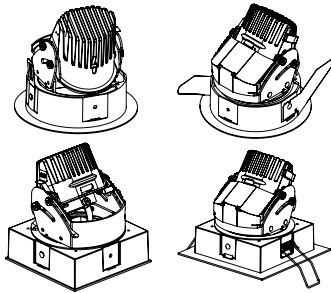
- F** Frame
- R** Remodel

Collar

- T** Trimmed
- TL** Trimless

Finish

- B** Black
- W** White



3. SNAP™ Trim

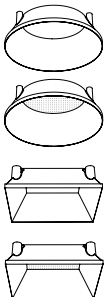
Sample Number: DTSA50-W

Product Code

- DTSA50** Downlight Trim Square Adjustable
- DTRA50** Downlight Trim Round Adjustable
- DTSAW50** Downlight Trim Square Adjustable IP44 (Solite Lens)
- DTRAW50** Downlight Trim Round Adjustable IP44 (Solite Lens)

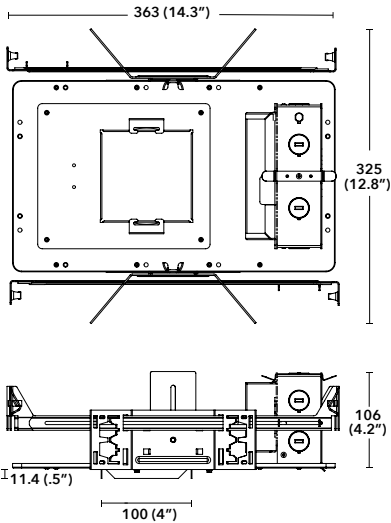
Finish

- B** Black
- W** White
- S** Silver
- T** Tangerine
- C** Custom

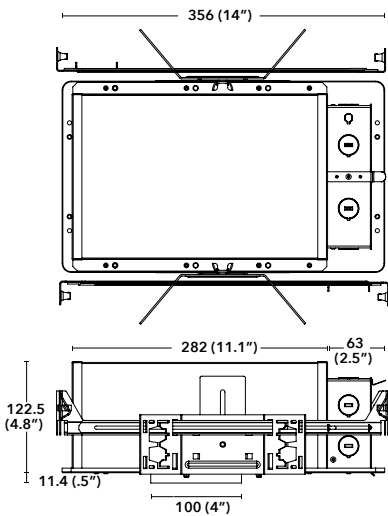


3.5" LED Adjustable Recessed Downlight
120VAC (50mm Lens)

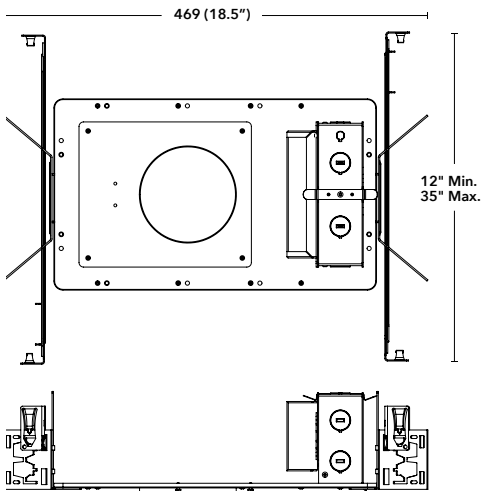
Frame and Trimless Adapter Dimensions



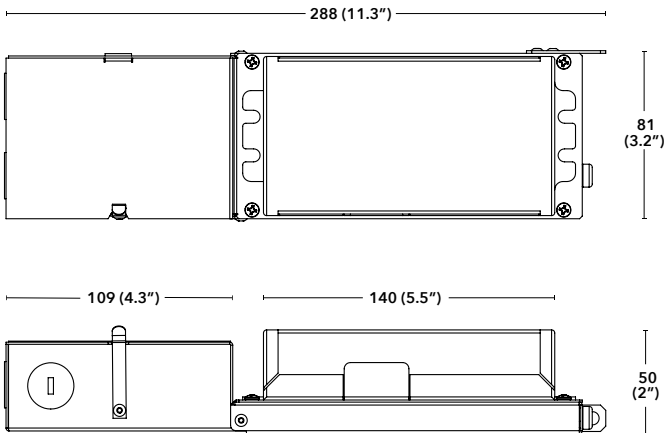
DFR50-T Non IC Thermally Protected
Downlight Frame-In Kit



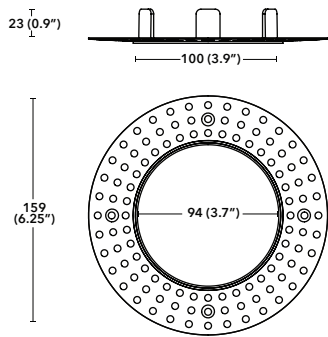
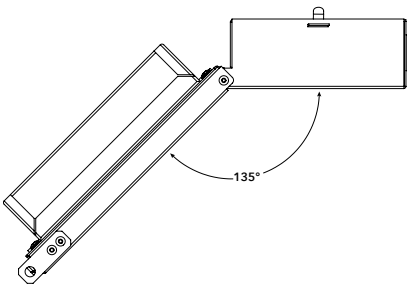
DFR50-IC IC Rated Downlight Frame-In Kit



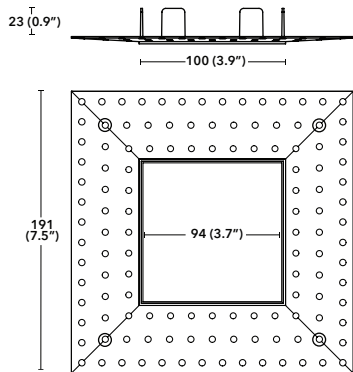
Alternate attachment of rails for DFR50-T and
DFR50-IC. Rails collapse to 12" minimum and ex-
pand to 35" maximum and have breakaway scores
to facilitate custom fit.



DRD50 Downlight Remodel Frame



DMR50
Downlight
Trimless Adapter
Round



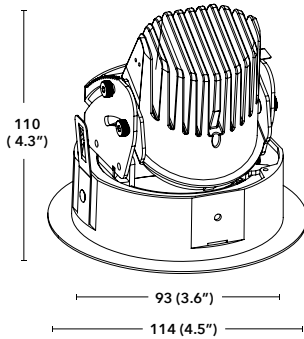
DMS50
Downlight
Trimless Adapter
Square

3.5" LED Adjustable Recessed Downlight 120VAC (50mm Lens)

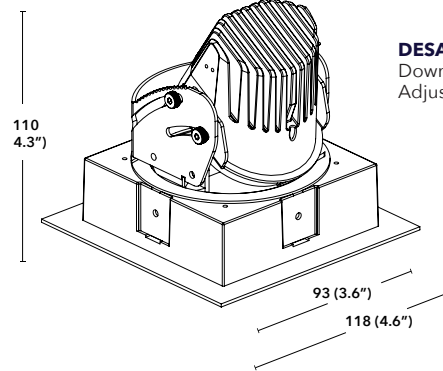
SORAA arc™

Light Engine Overview

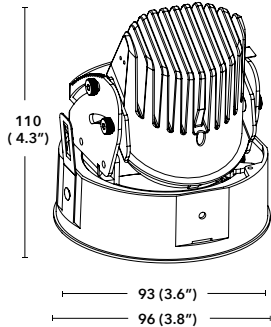
Output	Color & Optics	Operation	Electrical
Lumens 880-1040	CCT 2700K, 3000K, 4000K	Efficacy 48-58 lm/W	Input Voltage 120-277VAC, 50/60hz
CBCP 2560-8380	CRI 95	Ambient Operating Temperature Minimum -40°C, 25°C typical	Input Current @120V (Max) 0.10A
	R9 >95	Lifetime 25,000 hours	Power Factor 0.93
	Rw 100		Top Rated Power 18W
	SDCM 3-step McA		Dimming 100% - 5% (see soraa.com for performance details*)
	Beams 15°, 25°, 36°		



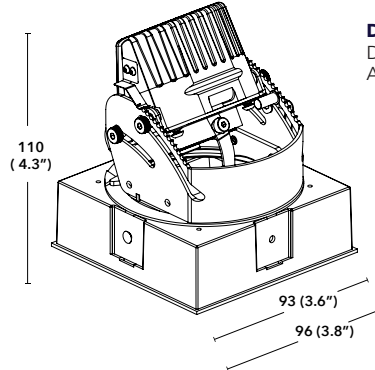
DERA50-T
Downlight Light Engine Round
Adjustable Trimmed



DESA50-T
Downlight Light Engine Square
Adjustable Trimmed



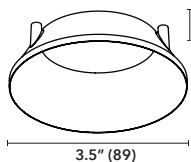
DERA50-TL
Downlight Light Engine Round
Adjustable Trimless



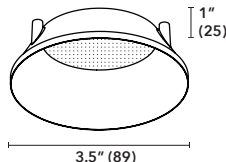
DESA50-TL
Downlight Light Engine Square
Adjustable Trimless

* soraa.com/resources/arc_compatibility

SNAP™ Trim Overview



DTRA50
Downlight Trim
Round Adjustable



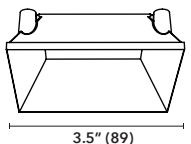
DTRAW50
Downlight Trim
Round Adjustable IP44
(Solite Lens)



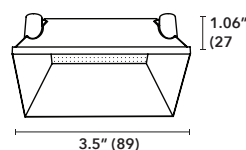
B Black



W White



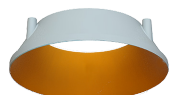
DTSA50
Downlight Trim
Square Adjustable



DTSAW50
Downlight Trim Square
Adjustable IP44
(Solite Lens)



S Silver



T Tangerine

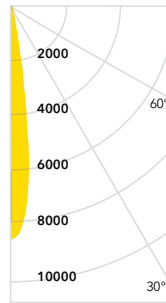
3.5" LED Adjustable Recessed Downlight 120VAC (50mm Lens)

SORAA arc™

Photometrics

Data is shown for 3000K, for 2700K multiply FC by 0.95, for 4000K by 1.04.

Spot 15°

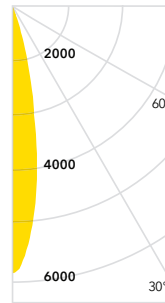


W	CCT	Lm	CBCP
18	2700	880	7650 cd
18	3000	930	8080 cd
18	4000	965	8380 cd

Candelas at Nadir

0°	8165
5°	6573
15°	628
25°	151
35°	87
45°	46

Narrow Flood 25°

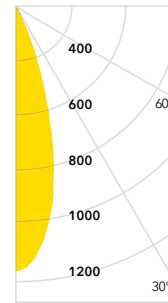


W	CCT	Lm	CBCP
18	2700	950	5510 cd
18	3000	1000	5800 cd
18	4000	1040	6030 cd

Candelas at Nadir

0°	5870
5°	4970
15°	1562
25°	128
35°	37
45°	25

Flood 36°



W	CCT	Lm	CBCP
18	2700	950	2560 cd
18	3000	1000	2700 cd
18	4000	1040	2800 cd

Candelas at Nadir

0°	2771
5°	2683
15°	1627
25°	408
35°	82
45°	32



Soraa SNAP
Compatible

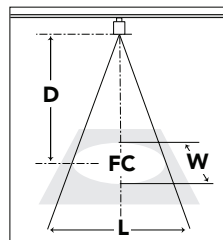
Aiming Angles

L and W refer to outer points where footcandles drop to 50% of maximum. FC refers to initial footcandles at the center of the beam.

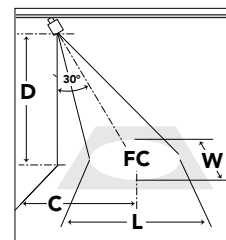
Key

L Beam Distance
D Distance
W Beam Width
FC Footcandles
C Distance to Center Beam

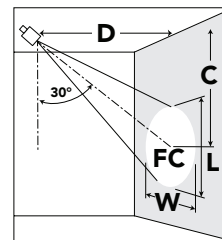
0° Horizontal



30° Horizontal



30° Vertical



Spot 15°

D	FC	L	W
6	226	1.6	1.6
8	127	2.1	2.1
10	82	2.6	2.6
12	57	3.1	3.1

D	C	FC	L	W
6	3.7	151	2.1	1.8
8	4.8	86	2.8	2.3
10	5.9	55	3.4	2.9
12	7.0	39	4.1	3.5

D	C	FC	L	W
2	3.7	307	1.7	0.9
3	5.4	140	2.5	1.3
4	7.1	79	3.3	1.8
5	8.7	51	4.1	2.1

Narrow Flood 25°

D	FC	L	W
6	164	2.2	2.2
8	93	2.9	2.9
10	61	3.6	3.6
12	43	4.3	4.3

D	C	FC	L	W
6	3.6	109	2.9	2.5
8	4.8	62	3.8	3.3
10	6.0	41	4.6	4.1
12	7.1	28	5.5	4.9

D	C	FC	L	W
2	3.9	239	2.1	1.2
3	5.7	108	3.1	1.8
4	7.5	62	4.1	2.4
5	9.3	40	5.1	2.9

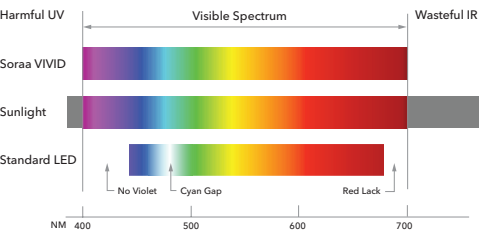
Flood 36°

D	FC	L	W
6	78	3.3	3.2
8	45	4.3	4.2
10	29	5.3	5.3
12	21	6.2	6.2

D	C	FC	L	W
6	3.8	57	3.8	3.5
8	5.0	32	5.0	4.6
10	6.1	21	6.2	5.5
12	7.1	15	7.5	6.6

D	C	FC	L	W
2	4.2	152	2.1	1.5
3	6.0	68	3.2	2.2
4	7.7	39	4.2	3.0
5	9.3	25	5.1	3.6

Soraa Arc™ Color and Whiteness Rendering



Soraa has engineered the perfect balance between color rendering and white rendering. Soraa's core technology uses a violet LED emitter as the basis for full spectrum light. This allows both Vivid™ color rendering and Natural White™ white rendering, which creates whiteness by exciting fluorescing agents with violet radiation, without the harmful effect of UV.

CCT	CRI	R9	Rf	Rg	Rfh1	Rw	McA
2700	95	95	90	100	95	120	3
3000	95	95	90	100	95	120	3
4000	92	95	90	100	95	70	4

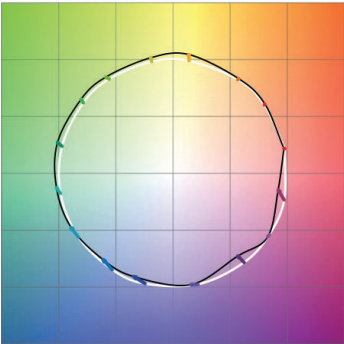
Rf: The TM-30 metric for color fidelity (similarity to colors under natural light), a more accurate version of the CRI Ra. Rf is 100 for natural light.

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

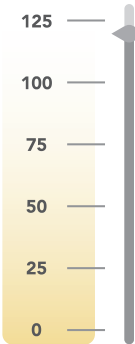
Rfh1: The TM-30 metric for color fidelity for red tones. Rfh1 is a more accurate version of the CRI R9. Rfh1 is 100 for natural light.

Rw: The Soraa-developed metric for white fidelity. Rw measures the magnitude of excitation of whitening agents within white materials. Rw is 100 for natural light.

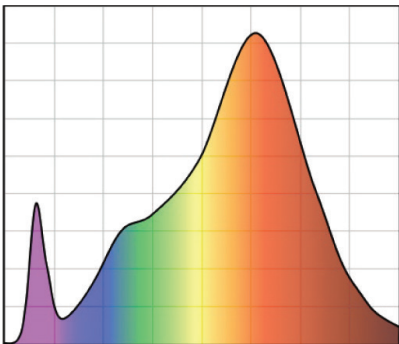
2700K



Rf: 90, Rg: 100, Rfh1: 95

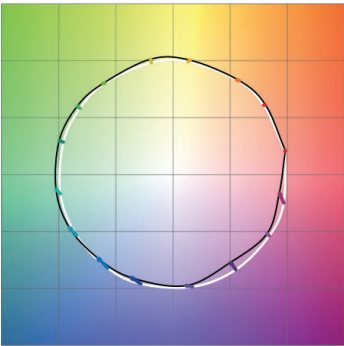


Rw: 120

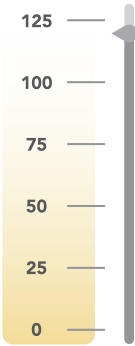


CRI: 95, R9: 95

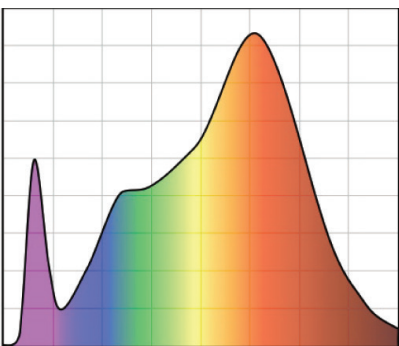
3000K



Rf: 90, Rg: 100, Rfh1: 95

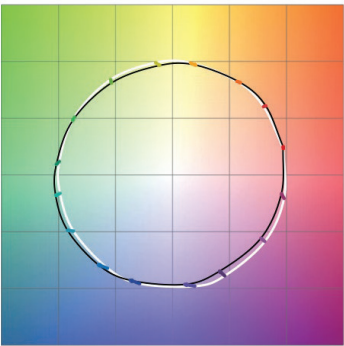


Rw: 120

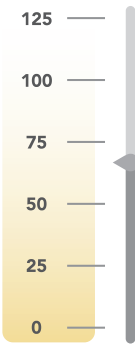


CRI: 95, R9: 95

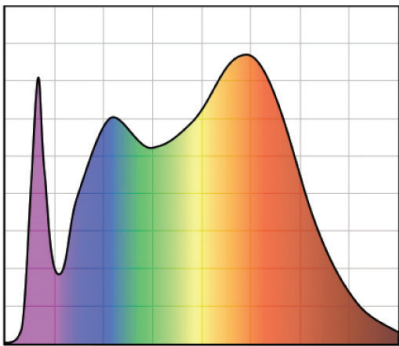
4000K



Rf: 90, Rg: 100, Rfh1: 95



Rw: 70



CRI: 95, R9: 95