



MagicDot Neo is the latest evolution of Ayrton's MagicDot family. Compact, lightweight, and ultra-fast, it delivers 3,000 lumens from a new 120 W RGB-L multi-chip LED source. A 100 mm high-efficiency lens and advanced phase-change cooling ensure reliable performance even in demanding environments, including outdoor and saline conditions. With instant Beam-to-Wash transitions, a 10:1 zoom ratio, and a 3°–30° range, it offers exceptional versatility.

Beyond its technical excellence, MagicDot Neo unlocks new creative possibilities. Its powerful central beam is enhanced by a High-Definition Liquid Effect with 60 RGB LEDs, producing organic, multi-coloured volumetric effects. Fixtures can be grouped tightly for ultra-compact matrices or concentric circles, with each unit individually controlled. Weighing just 6.6 kg, with infinite pan/tilt and a minimalist cylindrical design, MagicDot Neo combines elegance and engineering for a unique visual signature.

★ KEY FEATURES

➤ Compact Power

MagicDot Neo features a 120 W RGB-L multi-chip LED source paired with a 100 mm lens. Together, they deliver 3,000 lumens of output while consuming only 160 W. This balance of high performance and low energy use makes it efficient without compromising on brightness.

➤ Creative Effects

The High-Definition Liquid Effect integrates 60 RGB LEDs around the central beam. This produces hypnotic, multi-coloured effects that feel fluid and organic. It gives lighting designers a powerful tool for adding dynamic visual textures to their shows.

➤ Optimised Engineering

Advanced heat-pipe cooling ensures stable performance from the powerful LED engine. Lightweight aluminium design reduces the fixture's weight to just 6.6 kg. Its IP65 rating makes it durable and reliable for both indoor and outdoor use.

➤ Flexible Zoom

The fixture offers a 10:1 zoom ratio, covering a beam range from 3° to 30°. It can instantly shift from Beam to Wash mode, allowing designers to adapt quickly to changing needs. This flexibility ensures both punchy narrow beams and smooth wide coverage in one unit.

➤ Extreme Precision

MagicDot Neo supports infinite pan and tilt movement, ensuring full directional freedom. Minimal spacing between fixtures allows previously impossible arrangements. Each light source can be individually controlled, opening endless creative configurations.

➤ Unique Signature

The cylindrical design and refined finish give MagicDot Neo an instantly recognisable look. It combines elegance with technical sophistication, setting it apart from conventional fixtures. This visual signature makes it both a creative and engineering standout.

TECHNICAL SPECIFICATIONS

SOURCE	
Engine	RGB-L High-Power LED sources
LASER Watts	120 W (total fixture use, see Electrical section)
LASER Engine Life (L70)	Up to 40,000 hours
LASER Refresh Rate	1.2 kHz, 2.4 kHz, 16 kHz, 25 kHz
Dimming	Electronic
Dimming Curves	Square & Linear
Dimming Control Options	Auto on/off dimmer smoothing when Snap effects
Strobe Speed	1-25 Hz Per Second
Strobe Modes	Strobe Effects / Pulse Effects / Random Effects

ELECTRICAL	
Max Power Consumption	160 W
Standby Consumption	23 W
Voltage Range	100-240 V 50-60 Hz
Current (Max)	1.5 A @ 230 V / 3 A @ 110 V
Inrush (Half Cycle)	110 V : 7 A / 230 V : 6 A
Total Fixtures per Circuit	10 @ 220/230 V / 6 @ 110 V
Connector	True1 In/Thru
Power Supply Unit	Active PFC
Contains Battery	N/A

TYPICAL POWER AND CURRENT	
120V , 60Hz	1.16 A, 138 W, PF 1
208V, 60Hz	0.67 A, 137 W, PF 0.98
230V, 50Hz	0.60 A, 135 W, PF 0.97
240V, 50Hz	0.58 A, 135 W, PF 0.96

Suitable disclaimer nominal, etc

OPTICAL PERFORMANCE	
Lens Size	100 mm (3.94 in)
Zoom Range	3° to 30°
Zoom Ratio	10:1
Gate Size	N/A

MOVEMENT		
Pan Range	Infinite	
Pan Speed (End to End or range)	180°	329.6 rpm
	360°	410.2 rpm
	EtoE	410.2 rpm
Tilt Range	Infinite	
Tilt Speed (End to End or range)	180°	314.6 rpm
	EtoE	392.5 rpm
Resolution	8- or 16-bit	
Calibration Time	46 sec	
Position Correction System	Yes / Automatic repositioning	
Follow Spot Modes	Manual & Tracking system	

COLOUR SYSTEM	
Colour System(s)	RGB-L with 4.29 billions colours
Control	RGB-L 8-bit
CTO	Virtual Wheel
Variable CTP	2700 to 8000 K Virtual +/- Green (Tint)
Colour Wheel	Virtual colour wheel, including most usuals white colour temperature presets
Colour Wheel Effects	N/A

GOBOS	
Indexing Wheel	N/A
Indexing Gobos	N/A
Gobo Diameter (Index)	N/A
Image Diameter (Index)	N/A
Static Wheel	N/A
Static Gobos	N/A
Gobo Diameter (Fix)	N/A
Image Diameter (Fix)	N/A
Gobo Thickness	N/A
Animation Wheel	N/A
Animation Details	N/A

TECHNICAL SPECIFICATIONS

PERFORMANCE		
LED engine output (Sphere)		5,000 (Fan Mode Stage)
Fixture output (Sphere)		2,700 lm (Fan Mode Auto)
		3,000 lm (Fan Mode Stage)
		2,200 lm (Fan Mode Silence)
		1,600 lm (Fan Mode Super Silence)
Fixture Output (Goniometer)		1,500 lm (Fan Mode Auto)
Field Lumens (Goniometer)	Narrow	1,300 lm
	Middle	1,420 lm
	Wide	1,500 lm
Lumen Per Watt (LPW) Max fixture output / 230 V Typical Power		22
Test with 6500 K Color preset CTC channel @ 15/255		
CCT		6500 K $\pm$ 100 K
Ra @ open		75 ($\pm$ 2)
Δ uv		0.006
CRI		< 86
Tm30		Rf: 80.9 Rg: 116
TLCI		66
CQS		86.7

IMAGING	
Framing	N/A
Framing Rotation	N/A
Iris	N/A
Frost	N/A
Effect	- Built-in pattern effects with speed and fade controls for scenic applications - LiquidEffect with 60 individual pixels

CONNECTORS	
Power	In/Thru powerCON True 1
DMX	In/Thru 5 Pin XLR
Network	In/Thru RJ45
Wireless	DMX Only

CONTROL	
DMX Control	DMX (USITT DMX-512-A) RDM (ANSI/ESTA E1.20)
Transceiver/Receiver	RS-485 with Opto Isolation
DMX Modes	1 User Mode
Channel Count	Mode 1 Extended – 35
DMX Chart	Scan the QR code on page 5
Network Protocols	ArtNet & sACN
Local Control	Colour LCD Panel 5 Menu Buttons NFC
Stand Alone Mode	Main/Follow, presets 250
RDM Functions	Yes
Wireless DMX	CRMX TiMo RDM receiver
E-Sim Ready	Optional
USB Port	No

THERMAL	
Max Surface Temperature, steady state, at Ta 40°	45° C (113° F)
Max Ambient Temperature (Ta Max)	45° C (113° F)
Min Ambient Temperature (Ta Min)	-20° C (-4° F)
Total Heat Dissipation (Calculated +/- 10%)	39.5 BTU/H 135 W @ 230 V 40.4 BTU/H 138 W @ 110 V
Minimum to illuminated surface	0.5 m (1.64 ft)
Minimum to combustible surface	0.1 m (0.32 ft)
Thermal Protection system	Yes
Cooling modes	See Acoustics
Cooling System	Advanced Liquid Cooling

TECHNICAL SPECIFICATIONS

ACOUSTICS STATIC

Fan Mode	dBA ²	NC ³
Auto	38.9 dBA	32
Stage	45.7 dBA	36
Silence/Studio	30.5 dBA	23
Super Silence	29.2 dBA	23

DYNAMIC

Mode	dBA ²	NC ³
Auto	42.3 dBA	32
Stage	46.8 dBA	36
Silence/Studio	41.5 dBA	32
Super Silence	43.6 dBA	33

2. Measured @ 1m Static, 10 dBA ambient

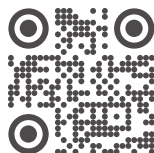
3. Noise Criterion

https://www.engineeringtoolbox.com/nc-noise-criterion-d_517.html

ENVIRONMENTAL

IP Rating	IP 65
Salt Spray Testing	Pending
Estimated embodied carbon including: ▪ A1 - Raw materials of fixture and packaging ▪ A3 - Product manufacturing	54.65 kg CO ₂ e/fixture
Recycling options	Packaging fully recycled and widely recyclable
SIP Optional	Yes

Our Environmental Commitment



3. Up to 92%

WARRANTY

Fixture	2 years
LED Engine	5 years

From date of invoice

INSTALLATION

Orientation	Any
Mounting attachments	- Fastening brackets system: One Omega ¼ turn brackets designed for use with standard clamps - Mounting points: Tow ¼ turn locking fittings allowing installation of Omega brackets on luminaire - Safety cable attachment point
Installation version	TBC

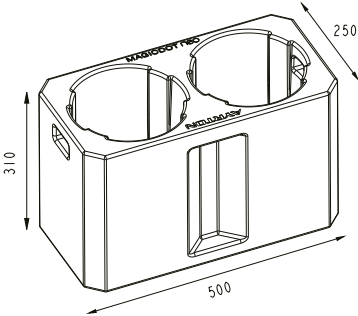
CONSTRUCTION

Colour	Carbon Black Standard Custom colours on request
Housing	ABS PC (V0 class) and die-cast aluminium
Materials	- Moving-head skeleton made of aluminium and steel metal plates - Base in die-cast aluminium - Heatsinks in aluminium and copper

INCLUDED ITEMS

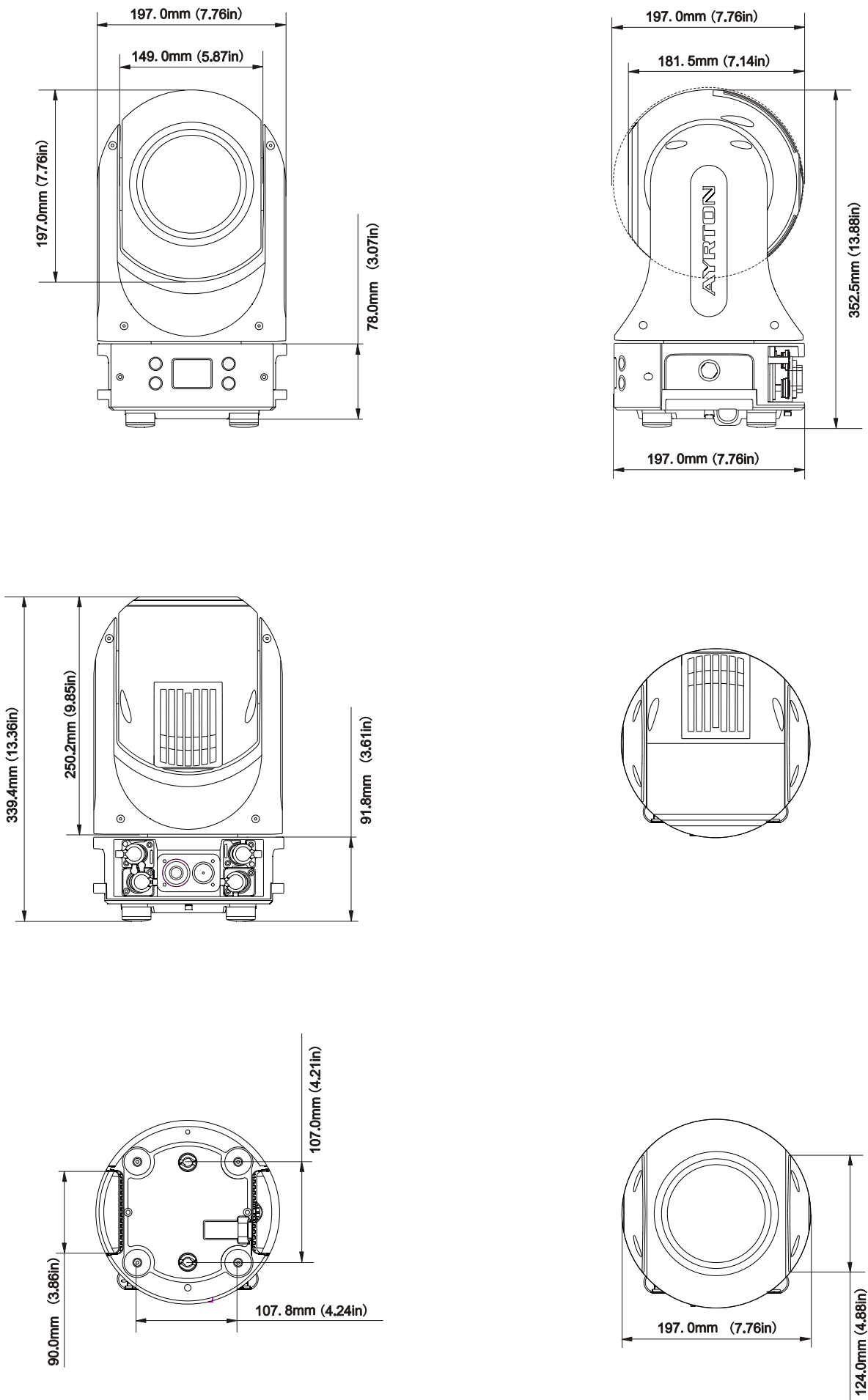
Manual	1
OMEGA brackets with quarter-turn locks	1
Cables	- IP65: 1.5 m powerCON True1 TOP Tails Bared End - IP66: Tails Bared End
Other accessories	N/A

TECHNICAL SPECIFICATIONS

PHYSICAL	
Fixture	
Length	197 mm (7.75 in)
Height	353 mm (13.89 in)
Depth	197 mm (7.75 in)
Weight	6.6 kg (14.55 lb)
IP65	
Length	197 mm (7.75 in)
Height	353 mm (13.89 in)
Depth	197 mm (7.75 in)
Weight	6.6 kg (14.55 lb)
IP66	
Length	197 mm (7.75 in)
Height	353 mm (13.89 in)
Depth	197 mm (7.75 in)
Weight	6.6 kg (14.55 lb)
Shipping Dimensions	
Length	435 mm (17.12 in)
Height	315 mm (12.40 in)
Depth	285 mm (11.22 in)
Weight	9.1 kg (19.84 lb)
In SIP Dimensions	
Length	500 mm (19.68 in)
Height	310 mm (12.20 in)
Depth	250 mm (9.84 in)
Weight (excl fixture)	3.2 kg (6.61 in)
SIP Drawing	

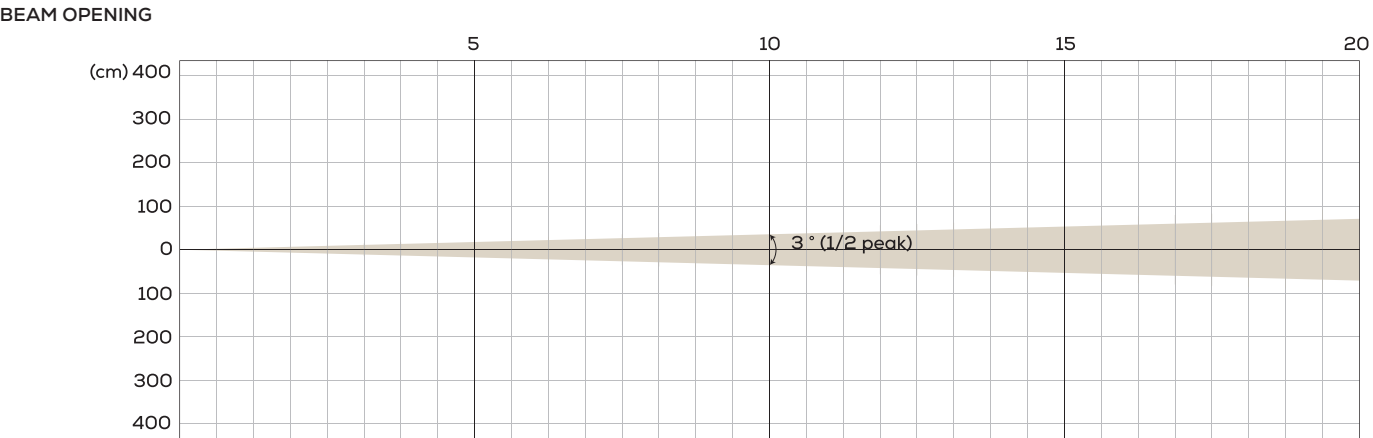
SUPPORTING DOCUMENTS	
Manual	
GDTF Profile	
GMA Profile	
IES FILE	
DMX Chart	
Photometric Files	
Software	
Warranty	
COMPLIANCE	
EU (EMC & LVD)	• EMC Directive 2014/30/EU • LVD Directive 2014/35/EU
US (Safety & EMC)	• UL 1573 • FCC Part 15, Subpart B:2023
Substance Regulations	▪ RoHS ▪ REACH ▪ CP65
Declarations	Scan the QR code above
ORDERING DETAILS	
MagicDot Neo	015180
ACCESORIES	
Lynx Control	045130

TECHNICAL SPECIFICATIONS



AUTO MODE: PHOTOMETRIC DETAIL

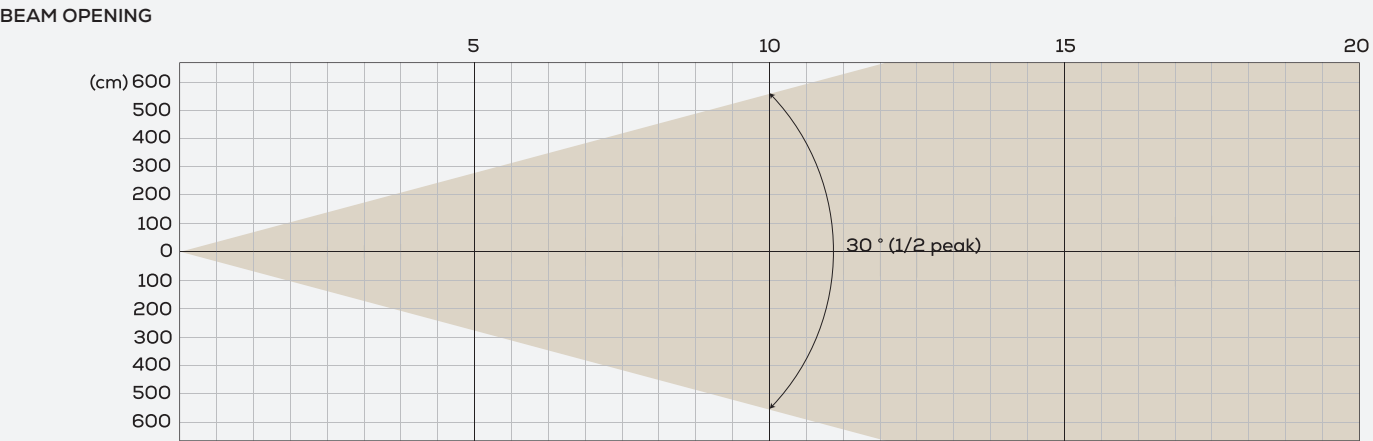
MIN ZOOM



INTENSITY

Distance (m)	5		10		15		20	
unit	lux	diameter	lux	diameter	lux	diameter	lux	diameter
Red	2,941	0.35	735	0.7	368	1.05	184	1.4
Green	6,228	0.35	1,557	0.7	779	1.05	389	1.4
Blue	865	0.35	216	0.7	108	1.05	54	1.4
Lime	10,380	0.35	2,595	0.7	1,298	1.05	649	1.4
RGB-L	17,300	0.35	4,325	0.7	2,163	1.05	1,081	1.4

MAX ZOOM

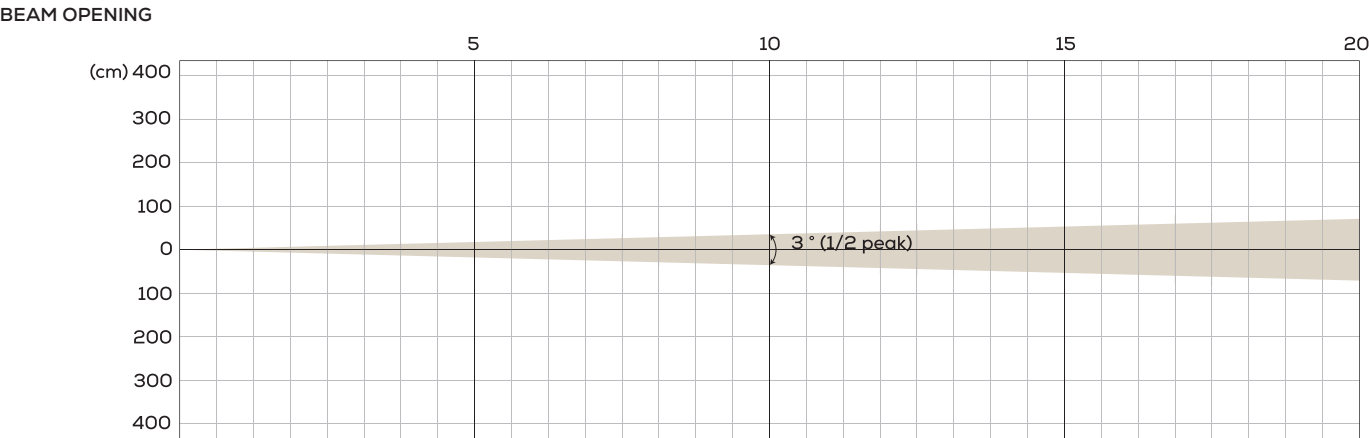


INTENSITY

Distance (m)	5		10		15		20	
unit	lux	diameter	lux	diameter	lux	diameter	lux	diameter
Red	71	5.54	18	11.09	9	16.63	4	22.17
Green	151	5.54	38	11.09	19	16.63	9	22.17
Blue	21	5.54	5	11.09	3	16.63	1	22.17
Lime	252	5.54	63	11.09	32	16.63	16	22.17
RGB-L	420	5.54	105	11.09	53	16.63	26	22.17

STAGE MODE: PHOTOMETRIC DETAIL

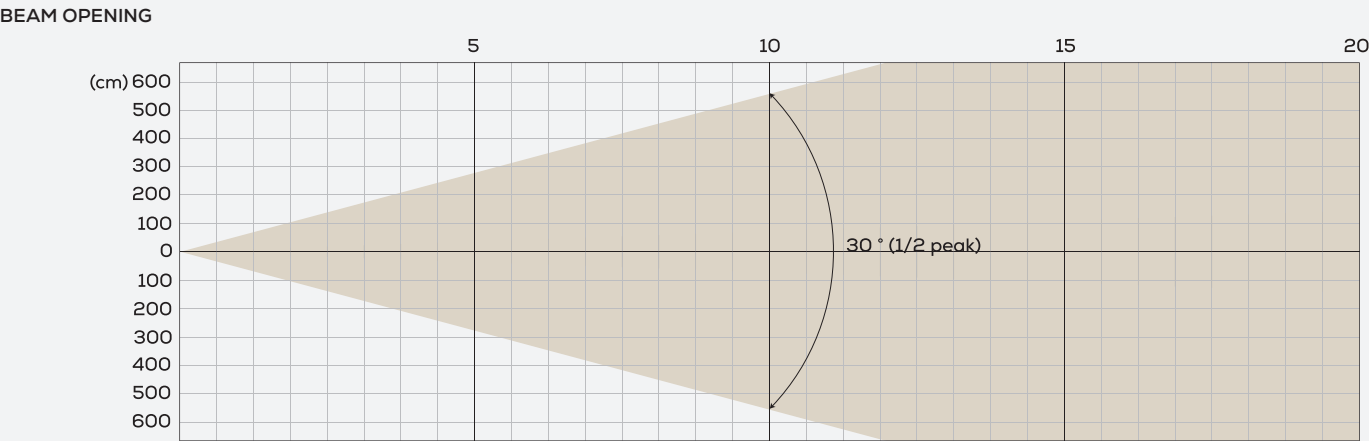
MIN ZOOM



INTENSITY

Distance (m)	5		10		15		20	
unit	lux	diameter	lux	diameter	lux	diameter	lux	diameter
Red	3,332	0.35	833	0.7	417	1.05	208	1.4
Green	7,056	0.35	1,764	0.7	882	1.05	441	1.4
Blue	980	0.35	245	0.7	123	1.05	61	1.4
Lime	11,760	0.35	2,940	0.7	1,470	1.05	735	1.4
RGB-L	19,600	0.35	4,900	0.7	2,450	1.05	1,225	1.4

MAX ZOOM

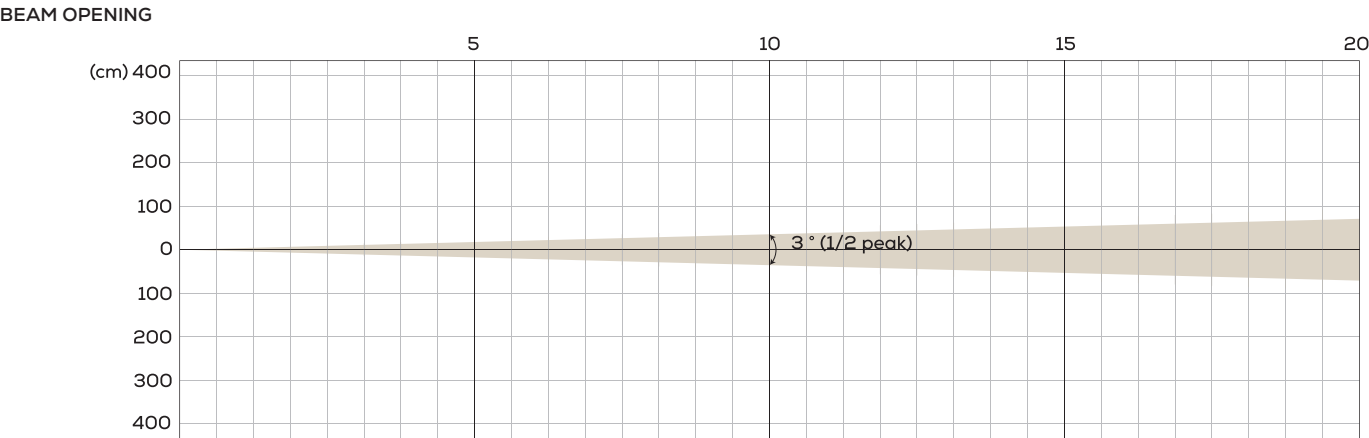


INTENSITY

Distance (m)	5		10		15		20	
unit	lux	diameter	lux	diameter	lux	diameter	lux	diameter
Red	81	5.54	20	11.09	10	16.63	5	22.17
Green	171	5.54	43	11.09	21	16.63	11	22.17
Blue	24	5.54	6	11.09	3	16.63	2	22.17
Lime	285	5.54	71	11.09	36	16.63	18	22.17
RGB-L	475	5.54	119	11.09	59	16.63	30	22.17

SILENCE MODE: PHOTOMETRIC DETAIL

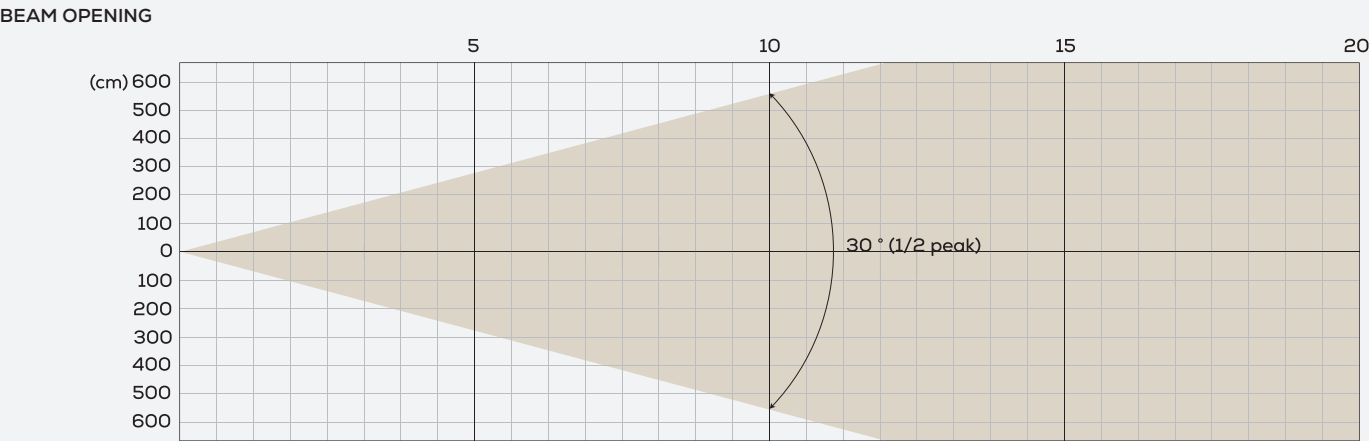
MIN ZOOM



INTENSITY

Distance (m)	5		10		15		20	
unit	lux	diameter	lux	diameter	lux	diameter	lux	diameter
Red	2,414	0.35	604	0.7	302	1.05	151	1.4
Green	5,112	0.35	1,278	0.7	639	1.05	320	1.4
Blue	710	0.35	178	0.7	89	1.05	44	1.4
Lime	8,520	0.35	2,130	0.7	1,065	1.05	533	1.4
RGB-L	14,200	0.35	3,550	0.7	1,775	1.05	888	1.4

MAX ZOOM

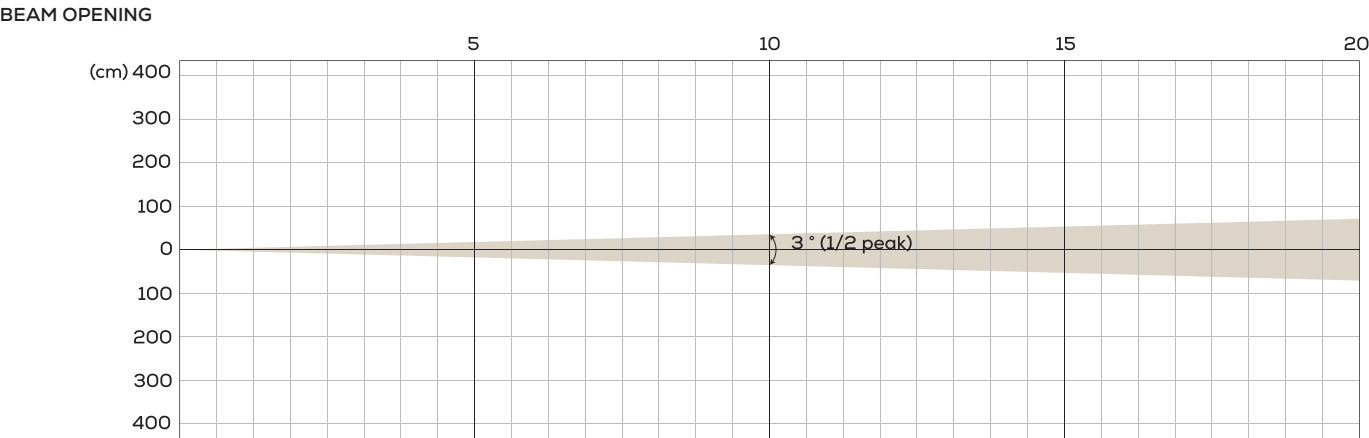


INTENSITY

Distance (m)	5		10		15		20	
unit	lux	diameter	lux	diameter	lux	diameter	lux	diameter
Red	58	5.54	15	11.09	7	16.63	4	22.17
Green	124	5.54	31	11.09	16	16.63	8	22.17
Blue	17	5.54	4	11.09	2	16.63	1	22.17
Lime	206	5.54	52	11.09	26	16.63	13	22.17
RGB-L	344	5.54	86	11.09	43	16.63	22	22.17

SUPER SILENCE MODE: PHOTOMETRIC DETAIL

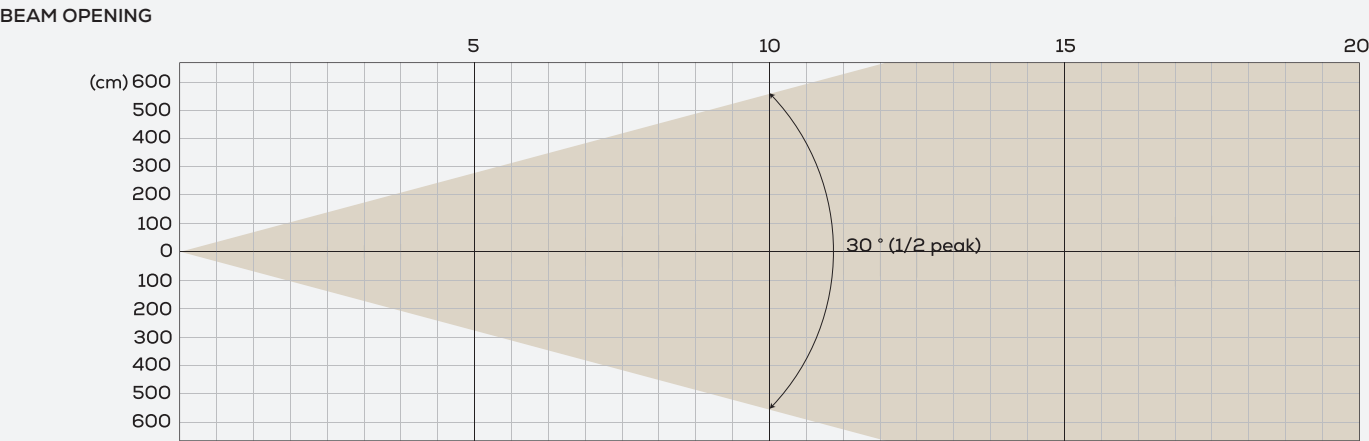
MIN ZOOM



INTENSITY

Distance (m)	5		10		15		20	
unit	lux	diameter	lux	diameter	lux	diameter	lux	diameter
Red	1,938	0.35	485	0.7	242	1.05	121	1.4
Green	4,104	0.35	1,026	0.7	513	1.05	257	1.4
Blue	570	0.35	143	0.7	71	1.05	36	1.4
Lime	6840	0.35	1,710	0.7	855	1.05	428	1.4
RGB-L	11,400	0.35	2,850	0.7	1425	1.05	713	1.4

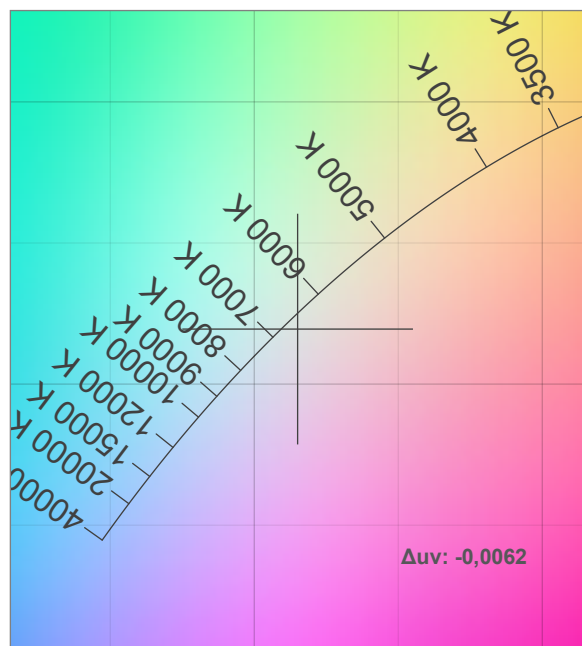
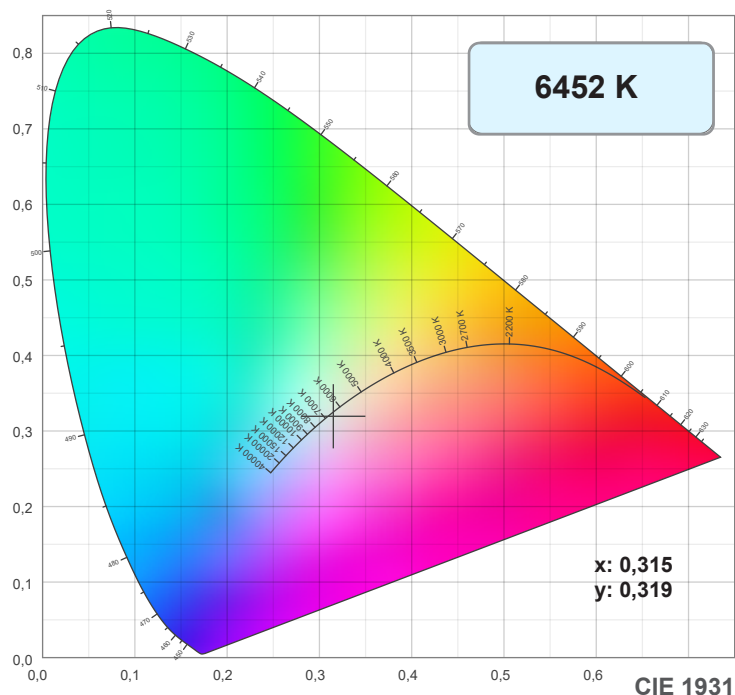
MAX ZOOM



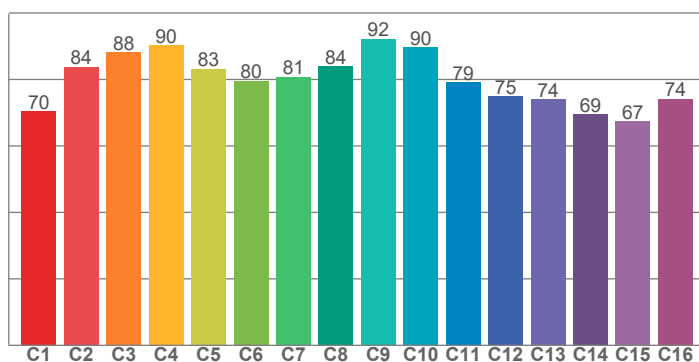
INTENSITY

Distance (m)	5		10		15		20	
unit	lux	diameter	lux	diameter	lux	diameter	lux	diameter
Red	47	5.54	12	11.09	6	16.63	3	22.17
Green	100	5.54	25	11.09	13	16.63	6	22.17
Blue	14	5.54	4	11.09	2	16.63	1	22.17
Lime	166	5.54	42	11.09	21	16.63	10	22.17
RGB-L	277	5.54	69	11.09	35	16.63	17	22.17

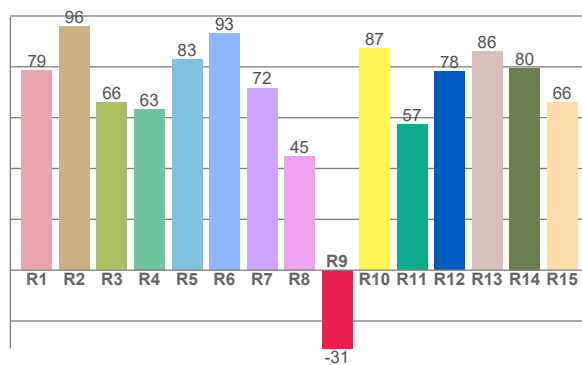
COLOUR PARAMETERS



TM-30: 80,9



CRI: 74,6 (R1-R8)



CRI R values, only R1-R8 are used to calculate final CRI value

R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12	R13	R14	R15
78,5	95,8	66,0	63,4	82,8	93,3	71,7	44,9	-30,7	87,4	57,3	78,1	86,1	79,5	66,1

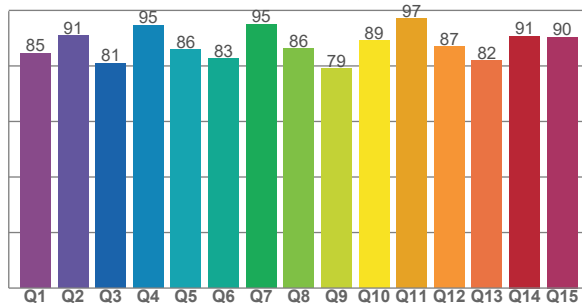
TM30 C values, 16 binned values out of total of 99 C values

C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15	C16
70,4	83,8	88,1	90,3	83,1	79,6	80,7	84,0	92,1	89,7	79,0	74,9	74,0	69,5	67,3	74,1

CQS Q values

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15
84,5	90,9	80,9	94,7	85,9	82,6	95,0	86,3	78,9	89,2	96,9	87,0	81,9	90,8	90,4

CQS: 86,7



Color parameters

Color temperature	Color rendering index	Red component	Color fidelity	Color gamut	Color quality scale	Color coordinate cie 1931	Color coordinate cie 1931	Color coordinate	Color coordinate	Color diviation from black body
CCT	CRI	CRI R9	TM30 Rf	TM30 Rg	CQS	x	y	u	v	Δuv
6452 K	74,6	-30,7	80,9	116,0	86,7	0,315	0,319	0,203	0,309	-0,0062

TM-30

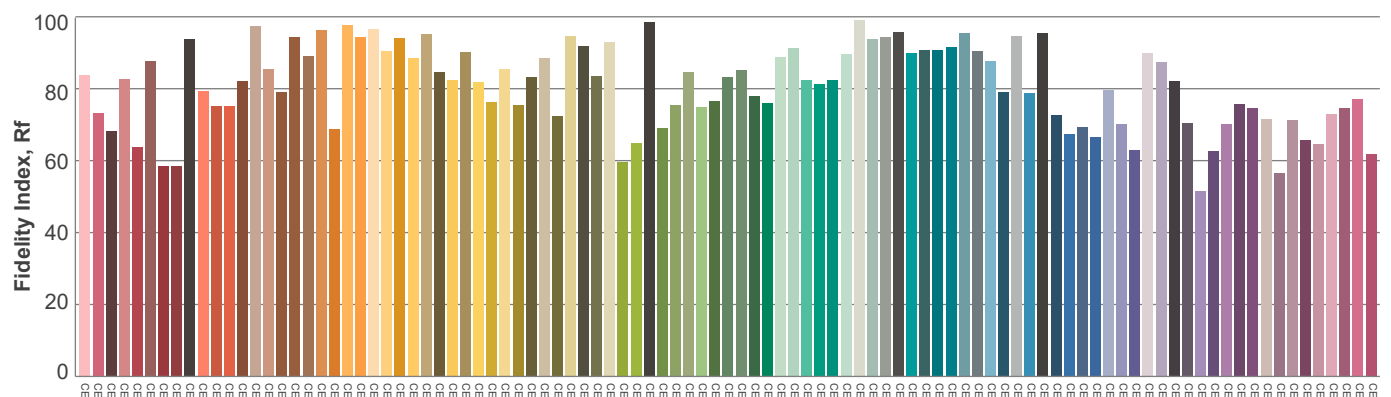
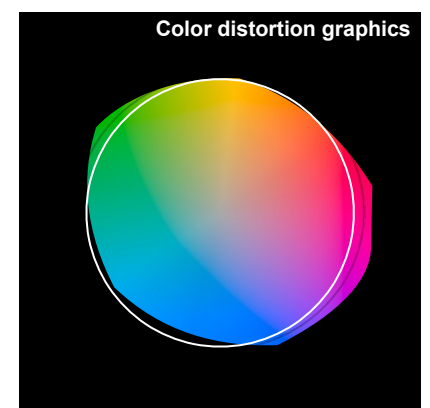
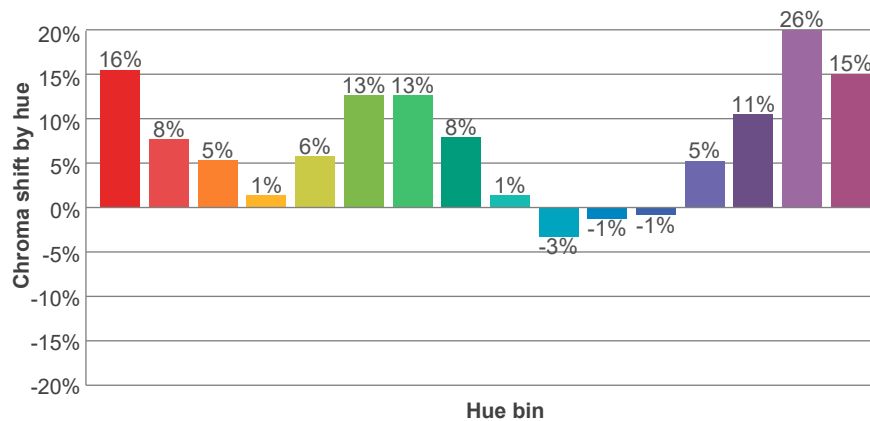
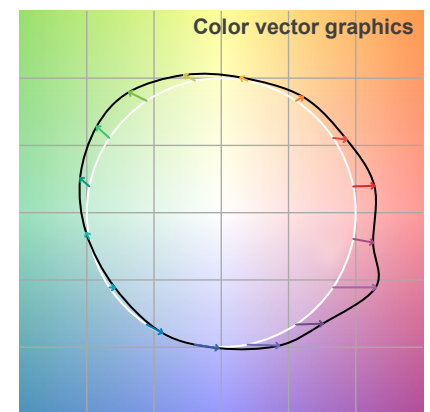
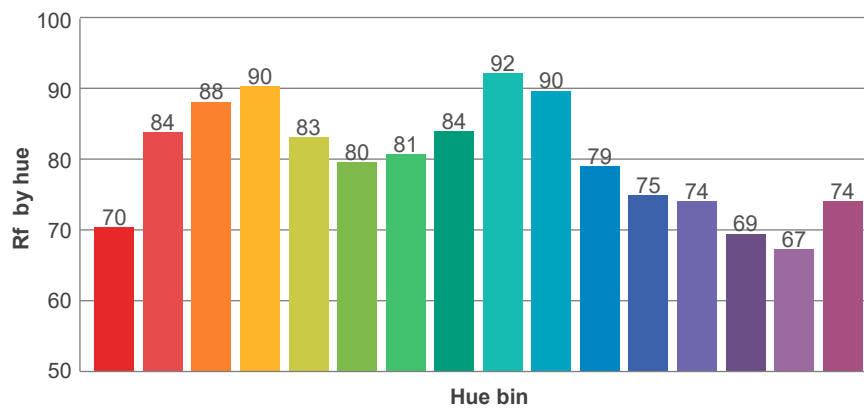
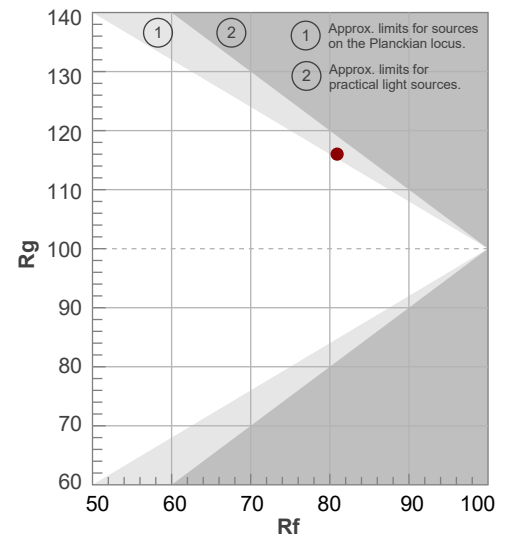
Rf 80,9

Fidelity index Rf

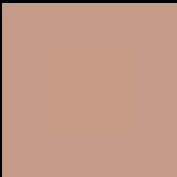
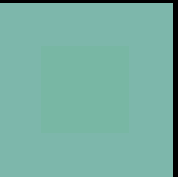
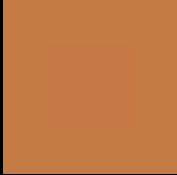
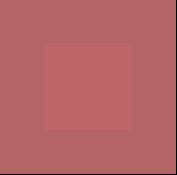
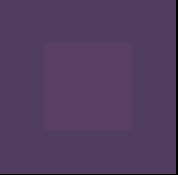
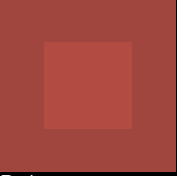
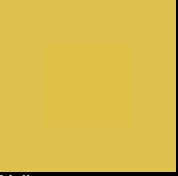
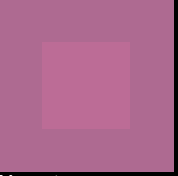
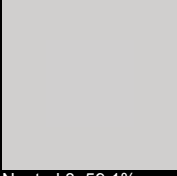
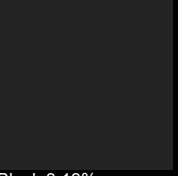
Rg 116,0

Gamut index Rg

Hue Bin	R _f	Shifts (%)	
		Chroma	Hue
1	70	16%	-3%
2	84	8%	-7%
3	88	5%	-3%
4	90	1%	6%
5	83	6%	7%
6	80	13%	7%
7	81	13%	-2%
8	84	8%	-5%
9	92	1%	-5%
10	90	-3%	2%
11	79	-1%	13%
12	75	-1%	18%
13	74	5%	23%
14	69	11%	17%
15	67	26%	18%
16	74	15%	0%



TLCI 66

					
Dark skin	Light skin	Blue sky	Foliage	Blue flower	Bluis green
					
Orange	Purplish blue	Moderate red	Purple	Yellow green	Orange yellow
					
Blue	Green	Red	Yellow	Magenta	Cyan
					
White 90.01%	Neutral 8, 59.1%	Neutral 6.5, 36.2%	Neutral 5, 19.77%	Neutral 3.5, 9%	Black 3.13%

 DISCLAIMER

Errors and omissions for all information given in this specification sheet are possible. All information is subject to change without prior notice.