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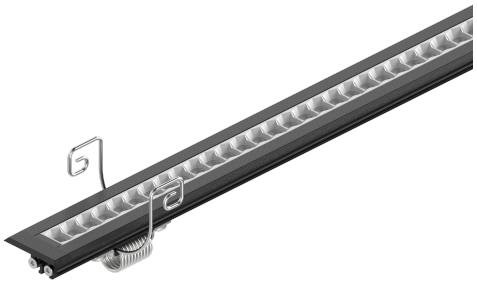
LED LINEAR™
A Fagerhult Group Company

ULTIMA Recessed IP40

ULTIMA SW HC_ _ ___ _ _R _ IP40



Project name

Company

Phase / Luminaire type for tech. spec. document

Date

Luminaire configuration: S - Stand-alone luminaire	Color of integrated glare control: B - Integrated anti-glare black	Color of integrated glare control: W - Integrated anti-glare white	Light color / light source: Static White (SW)	Color rendering and efficiency: HC - CRI > 90, standard efficacy	LED pitch / density: Low Density
LED pitch / density: High Density	LED pitch / density: Ultra High Density	Profile color: B - Black	Profile color: W - White (RAL9003)	Power supply position: E - External PSU	Cable / connector configuration: MO - Male connector one side
Cable / connector configuration: DC - Daisy chain	Cable / connector configuration: OO - Open cable one side only	Protection class: IP40	Input voltage [V]: 24V DC		

CERTIFICATES

Conformité Européenne (CE)

Ecodesign Directive

Environmental Product Declaration (EPD)

ETL certified

IECEE CB Scheme

Protection Class III

WEEE

ELECTRICAL & OUTPUT DATA [1]

Power [W/m]	6	10	15	20	25
Efficiency [lm/W]	102.7	116	125.3	102	116.5
Max. daisy chain length [m]	7.5	5	5	3.5	3
CRI / R9	86/18	86/18	86/18	86/18	86/18
Rf / Rg	83/97	83/97	83/97	83/97	83/97
Ambient temperature [°C] max	50	45	35	30	25
Housing Temperature [°C] max	60	60	65	70	75

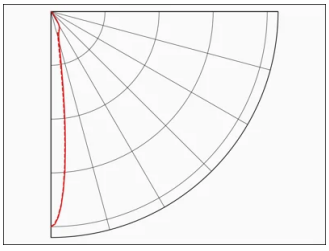
Power [W/m]	6	10	15	20	25
			Luminous flux [lm/m]		
W822	500	900	1480	1700	2190
W927	460	840	1390	1560	2150
W930	490	870	1420	1620	2240
W935	500	910	1450	1670	2280
W940	530	940	1480	1700	2330
W850	620	1160	1880	2040	2910

(1): Light engine family: VarioLED Flex NEXUS HD HC ; Light distribution: 25° x 25° - nano optics ; Light color / light source: Static White (SW) ; Profile color: B - Black ; Color of integrated glare control: W - Integrated anti-glare white ; Optional glare control accessory: No Accessories

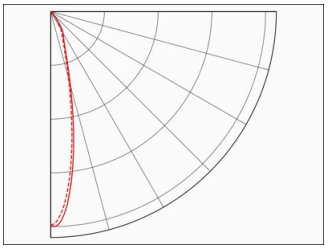
PRODUCT INFORMATION

Product family	ULTIMA Recessed IP40	**Protection class**	IP40
Luminaire type (rigid / flexible)	Rigid luminaire	**Luminaire profile size**	Standard
Mounting type and accessory	R - Recessed with trim	**Light color / light source**	Static White (SW)
Color rendering and efficiency	HC - CRI > 90, standard efficacy	**Width of fixture incl. mounting accessory [mm]**	90
Lumen maintenance (LED manufacturer specification)	L80/B10	**ANSI LED binning**	3 SDCM
Cable outlet position	X - Not relevant	**Optional glare control accessory**	No Accessories
Power supply position	E - External PSU	**Control technology**	XX - No PSU with No Control Controller
Input voltage [V]	24V DC	**Luminaire configuration**	S - Stand-alone luminaire
DarkSky certification	Not DarkSky certified	**Storage temperature [°C]**	TS(min): -30°, TS(max): 85°
Lifespan [h]	102,000	**fixed luminaire section [mm]**	17.00

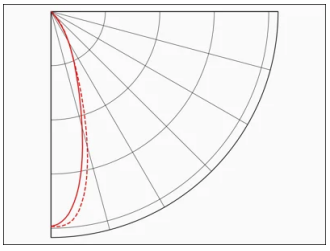
AVAILABLE OPTICS



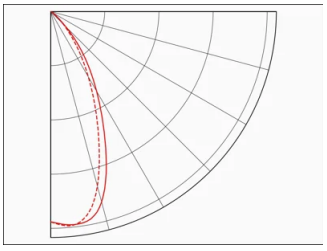
15° x 15° - nano optics



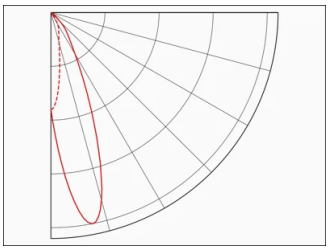
25° x 25° - nano optics

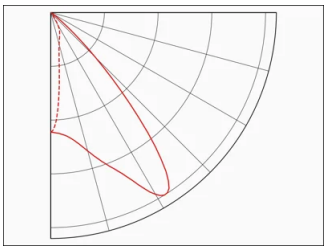


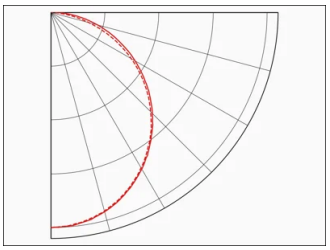
40° x 40° - nano optics



60° x 60° - nano optics







ASYM - asymmetric wall wash
BW - Batwing
OL - Opal low (sealed or cover)

AVAILABLE PROFILE COLORS

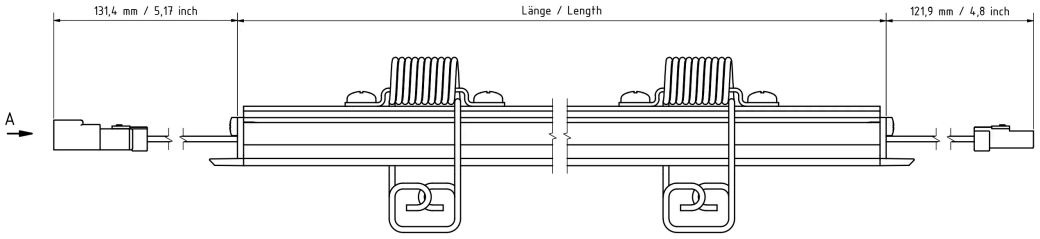
B - Black

W - White (RAL9003)

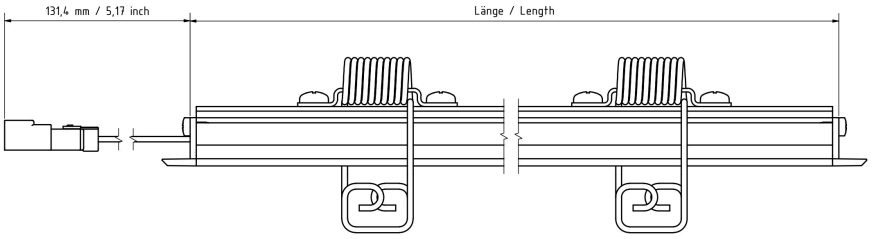
TECHNICAL SPECIFICATIONS

For general tolerances, including length tolerances, please refer to the technical drawing.

Standard ULTIMA IP40
Einbau mit Rahmen / Recessed with Trim (R)
mit zwei Steckverbindern / with two connectors (DC)



Standard ULTIMA IP40
Einbau mit Rahmen / Recessed with Trim (R)
mit einem Steckverbinder / with one connector (MO)



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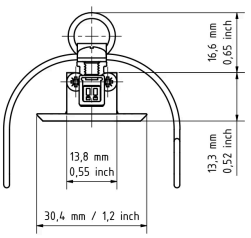
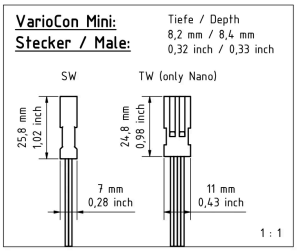
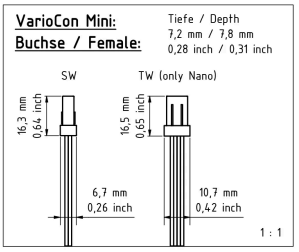






1 ULTIMA RECESSED IP40 WITH VARIOLED FLEX NEXUS HD HC

VarioLED™ Flex NEXUS HD combines advanced CSP LED technology with excellent thermal performance and color stability, delivering high efficacy while ensuring highly uniform light and color consistency across all viewing angles. Designed for demanding architectural lighting applications, it offers outstanding reliability, Reel-to-Reel production quality, and premium light output in a compact high-density LED format.

Electrical & Output Data

Power [W/m]	6	10	15	20	25
Efficiency [lm/W]	102.7	116	125.3	102	116.5
Max. daisy chain length [m]	7.5	5	5	3.5	3
CRI / R9	86/18	86/18	86/18	86/18	86/18
Rf / Rg	83/97	83/97	83/97	83/97	83/97
Ambient temperature [°C] max	50	45	35	30	25
Housing Temperature [°C] max	60	60	65	70	75

Power [W/m]	6	10	15	20	25
			Luminous flux [lm/m]		
W822	500	900	1480	1700	2190
W927	460	840	1390	1560	2150
W930	490	870	1420	1620	2240
W935	500	910	1450	1670	2280
W940	530	940	1480	1700	2330
W850	620	1160	1880	2040	2910

Light engine family: VarioLED Flex NEXUS HD HC ; Light distribution: 25° x 25° - nano optics ; Light color / light source: Static White (SW) ; Profile color: B - Black ; Color of integrated glare control: W - Integrated anti-glare white ; Optional glare control accessory: No Accessories

Order code structure

ULTIMA SW HC _____R ___ IP40

Light color / light source	Class	Power [W/m]	Color temperature (ANSI CCT)	Profile color	Color of integrated glare control	Light distribution	Cable / connector configuration	Mounting type and accessory	Length [mm]	Protection class
Static White (SW)	High CRI	6	2200K	B - Black	B - Integrated anti-glare black	15° x 15° - nano optics	MO - Male connector one side	R - Recessed with trim	142	IP40
		10	2700K	W - White (RAL9003)	W - Integrated anti-glare white	25° x 25° - nano optics	DC - Daisy chain		205	
		15	3000K			40° x 40° - nano optics	OO - Open cable one side only		267	
		20	3500K			60° x 60° - nano optics			...	
		25	4000K			BW - Batwing			3,892	
			5000K						3,955	
									4,017	

NOTE: The order code table shows all available options for each product. However some combinations are not possible, due to product design. Please use our online configurator to specify your final product order code.

2 ULTIMA RECESSED IP40 WITH VARIOLED FLEX NEXUS LD HC

VarioLED™ Flex NEXUS LD combines advanced CSP LED technology with excellent thermal performance and color stability, delivering high efficacy while ensuring highly uniform light and color consistency across all viewing angles. Designed for demanding architectural lighting applications, it offers outstanding reliability, Reel-to-Reel production quality, and premium light output in a low-density LED format.

Electrical & Output Data

Power [W/m]	5	10	15	25
Efficiency [lm/W]	97.3	95.9	94.7	91.1
Max. daisy chain length [m]	7.5	5	5	3
CRI / R9	86/18	86/18	86/18	86/18
Rf / Rg	83/97	83/97	83/97	83/97
Ambient temperature [°C] max	50	45	35	25
Housing Temperature [°C] max	60	60	65	75

Power [W/m]	5	10	15	25
		Luminous flux [lm/m]		
W822	390	700	1120	1670
W927	370	690	1050	1600
W930	390	710	1090	1640
W935	390	720	1120	1700
W940	420	730	1140	1750
W850	500	960	1420	2280

Light engine family: VarioLED Flex NEXUS LD HC ; Light distribution: ASYM - asymmetric wall wash ; Light color / light source: Static White (SW) ; Profile color: B - Black ; Color of integrated glare control: W - Integrated anti-glare white ; Optional glare control accessory: No Accessories

Order code structure

ULTIMA SW HC _____R ___ IP40

Light color / light source	Class	Power [W/m]	Color temperature (ANSI CCT)	Profile color	Color of integrated glare control	Light distribution	Cable / connector configuration	Mounting type and accessory	Length [mm]	Protection class
Static White (SW)	High CRI	5	2200K	B - Black	B - Integrated anti-glare black	ASYM - asymmetric wall wash	MO - Male connector one side	R - Recessed with trim	142	IP40
		10	2700K	W - White (RAL9003)	W - Integrated anti-glare white		DC - Daisy chain		267	
		15	3000K				OO - Open cable one side only		392	
		25	3500K						...	
			4000K						3,767	
			5000K						3,892	
									4,017	

NOTE: The order code table shows all available options for each product. However some combinations are not possible, due to product design. Please use our online configurator to specify your final product order code.

3 ULTIMA RECESSED IP40 WITH VARIOLED FLEX NEXUS UHD HC

VarioLED™ Flex NEXUS UHD combines advanced CSP LED technology with excellent thermal performance and color stability, delivering high efficacy while ensuring highly uniform light and color consistency across all viewing angles. Designed for demanding architectural lighting applications, it offers outstanding reliability, Reel-to-Reel production quality, and premium light output in a compact ultra high-density LED format.

Electrical & Output Data

Power [W/m]	**6**	**10**	**15**	**25**
Efficiency [lm/W]	95.3	90.3	81.9	106.3
Max. daisy chain length [m]	6	4	4	3
CRI / R9	86/18	86/18	86/18	86/18
Rf / Rg	83/97	83/97	83/97	83/97
Ambient temperature [°C] max	50	45	35	25
Housing Temperature [°C] max	60	60	65	75

Power [W/m]	**6**	**10**	**15**	**25**
		Luminous flux [lm/m]		
W822	490	850	1170	2050
W927	460	790	1070	1890
W930	460	850	1120	2020
W935	490	870	1170	2040
W940	550	880	1210	2060
W850	570	900	1230	2660

Light engine family: VarioLED Flex NEXUS UHD HC ; Light distribution: OL - Opal low (sealed or cover) ; Light color / light source: Static White (SW) ; Profile color: W - White (RAL9003) ; Color of integrated glare control: X - No integrated anti-glare ; Optional glare control accessory: No Accessories

Order code structure

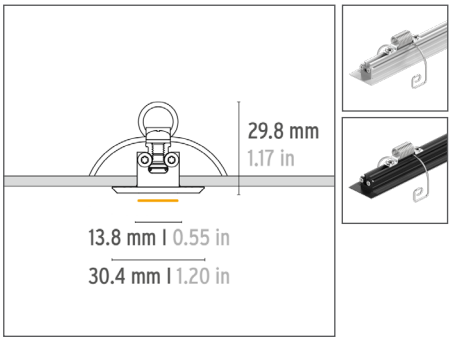
ULTIMA SW HC _____R ___ IP40

Light color / light source	Class	Power [W/m]	Color temperature (ANSI CCT)	Profile color	Color of integrated glare control	Light distribution	Cable / connector configuration	Mounting type and accessory	Length [mm]	Protection class
Static White (SW)	High CRI	6	2200K	B - Black	X - No integrated anti-glare	OL - Opal low (sealed or cover)	MO - Male connector one side	R - Recessed with trim	142	IP40
		10	2700K	W - White (RAL9003)			DC - Daisy chain		184	
		15	3000K				OO - Open cable one side only		225	
		25	3500K						...	
			4000K						3,934	
			5000K						3,975	
									4,017	

NOTE: The order code table shows all available options for each product. However some combinations are not possible, due to product design. Please use our online configurator to specify your final product order code.

MOUNTING ACCESSORIES (SELECTABLE WITH ORDER CODE)

Please note: Mounting accessories are automatically included with the luminaire with the required amount of clips or the correct length of the mounting profile when chosen as part of the order code - see the digits in the order code below.



Mounting accessories

RECESSED WITH TRIM
Digits in order code: R

Description

Recessed installation with trim of individual luminaires in plasterboard ceiling or other boards.

Profile is powder-coated white or black (RAL 9003 and 9004) and mounting springs are pre-mounted. The color of the mounting profile and the color of the anti-glare of the luminaire can be selected independently of one another.

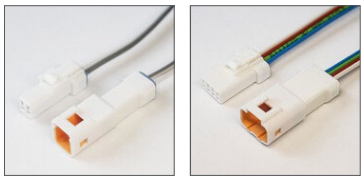
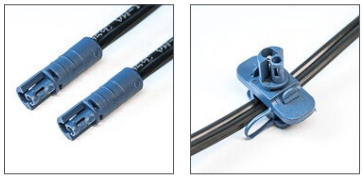
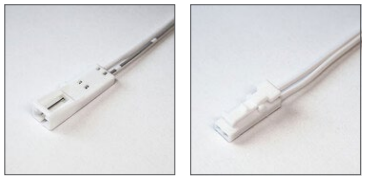
The luminaire length refers to the length of the required ceiling cutout, excluding the flange.

Use according to the mounting instruction.

CABLING ACCESSORIES

Cables & Connectors: A complete overview of all extension cables and connectors and additional cabling accessory can be found on the global website: https://www.led-linear.com/products/cables-connectors

Not every product can be extended and used with every cable and connector system. Please contact your local sales team for further information.

PRODUCT FAMILY	CABLE ACCESSORY	INFORMATION	EXAMPLE
VENUS TC Family IP67 AMOR IP67 VARIO LED FLEX IP67 XOOLINE IP40 / IP67 ULTIMA Family IP40 LUNA IP40	VarioConnect IP67 Mini	Single shielded, flat, white cable IP67 connector male / female Different lengths for 2 up to 5 wires 2 wires = 0.34 mm² / 4 wires = 0.25 mm² 5 wires = 0.2 mm²	
VENUS Family IP67 ADONIS IP67* FUSION IP67 XOOLUM IP40 / IP67* XOOLIGHT IP67 VARIOLED IP67	VarioConnect IP67	Double shielded, oval, black, IP68 cable IP67 connector male / female w/o nut Different lengths for 2 up to 4 wires 2 wires = 0.34 mm² / 4 wires = 0.25 mm²	
XOOCOVE IP40	VarioConnect IP20 Cove	IP20 connector system with 2 x 0.75mm²	
OCEANOS IP67	VarioCon Oceanos	IP67 connector system with 4 x 0.75mm² Stainless Steel Newton-Meter Clutch	
VARIO CABLE	Most products can be ordered with a open lead cable. Use the configurator „cable and connector configuration" to choose between „00" (open one side) and „0T"(open two side) cables, if possible.		
Assembled Solutions (North America only)	VarioConnect IP20 Mini	Single shielded, flate, white cable IP20 connector male / female Different lengths for 2 wires 2 wires = 0.34 mm²	

*RGBW cable is always a flat ribbon IP67 Mini cable and connector system.

POWER SUPPLY UNIT (PSU) & CONTROLS

Recommended PSU: A complete overview of all PSUs and controls with different power ratings can be found on the website:

GLOBAL https://www.led-linear.com/products/drivers-controls
USA https://www.ledlinearusa.com/products/drivers-controllers

Recommended controls: A complete overview of all controls can be found on the website:

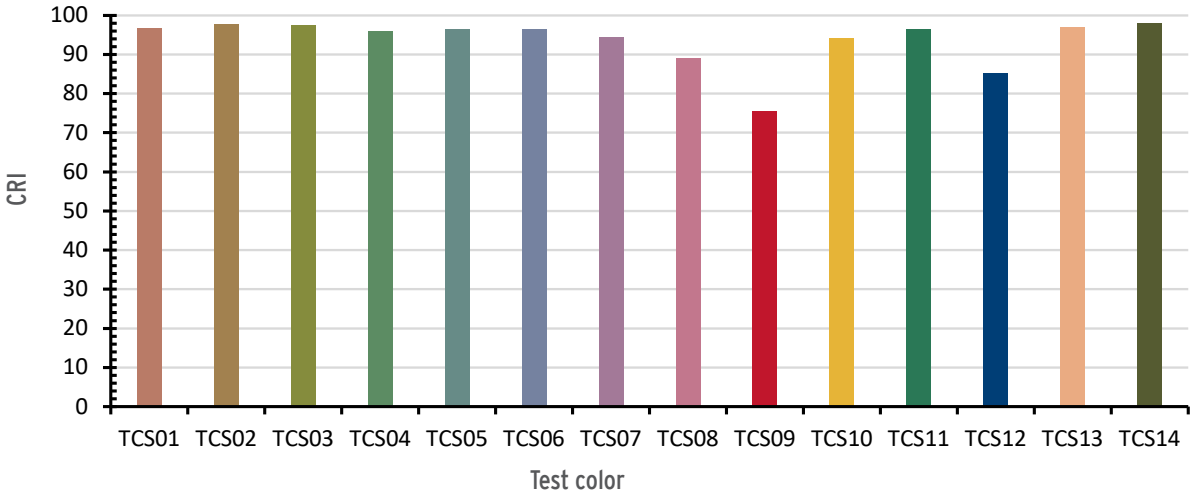
GLOBAL https://www.led-linear.com/products/smart-lighting
USA https://www.ledlinearusa.com/products/drivers-controllers

Smart Lighting accessory: A complete overview of all smart lighting accessories and controls can be found on the website:

GLOBAL https://www.led-linear.com/products/smart-lighting

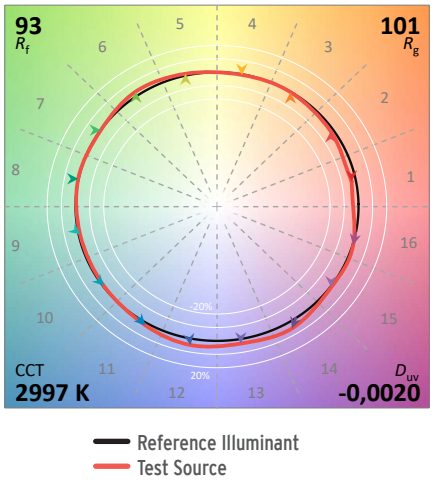
Example for „NEXUS HD and LD“ at 3.000K

CRI

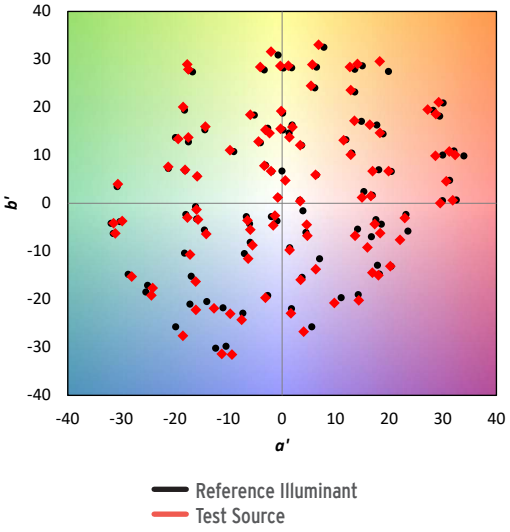


TM-30-18

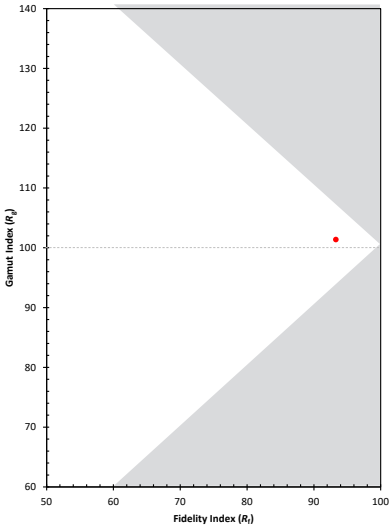
Color Vector Graphig

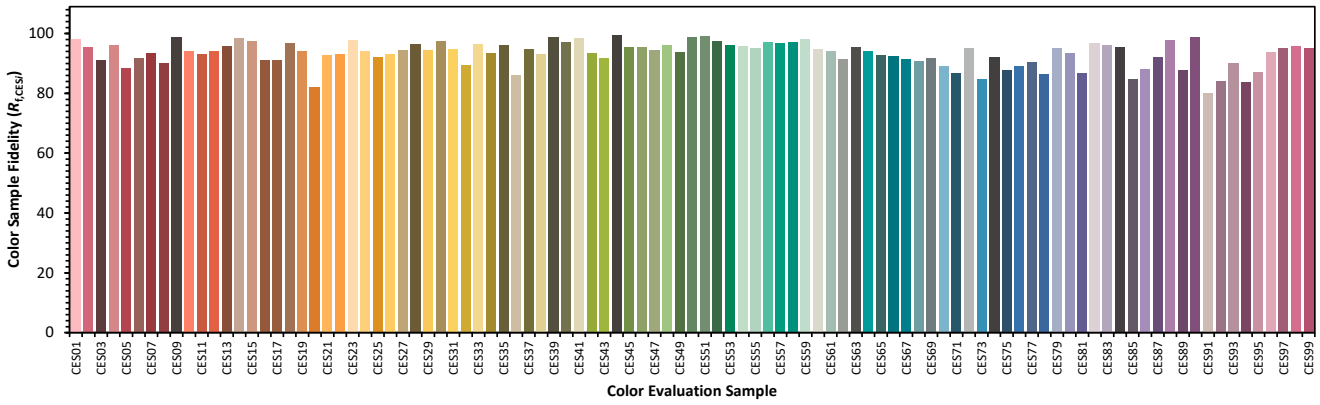


Shift in Hue-Chroma Plane



Gamut Index vs. Fidelity Index

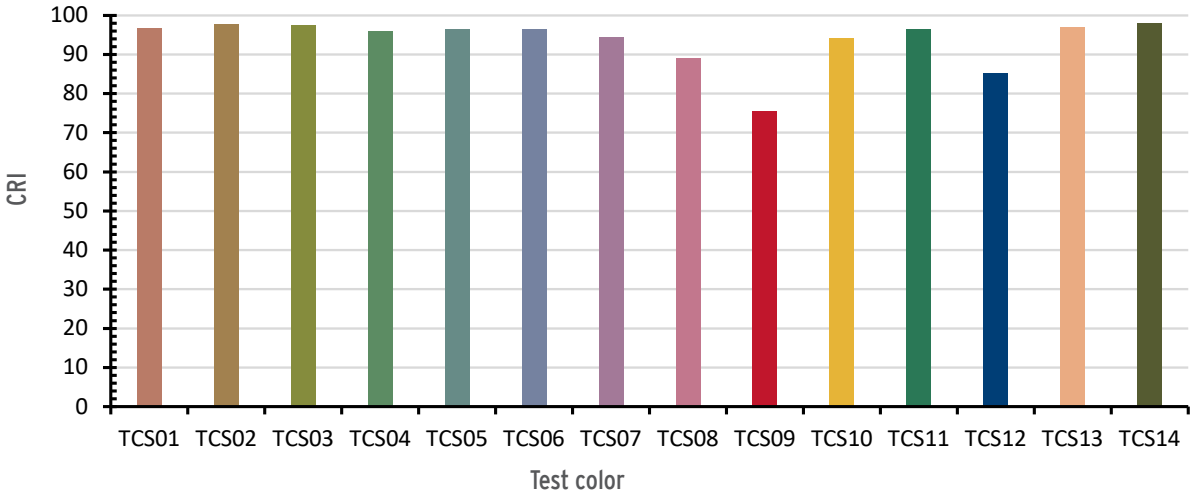




The Fidelity Index chart shows the color fidelity index for each of the 99 reference colors. The reference colors are arranged under the 5000 K reference source, which was also used to determine the color of each bar. The colors are approximate and depend on the correct monitor calibration. Some colors may be outside the color gamut of the monitor used and will not be displayed accurately.

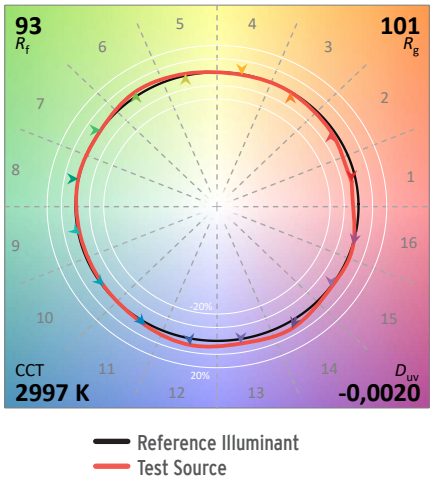
Example for „NEXUS HD and LD“ at 3.000K

CRI

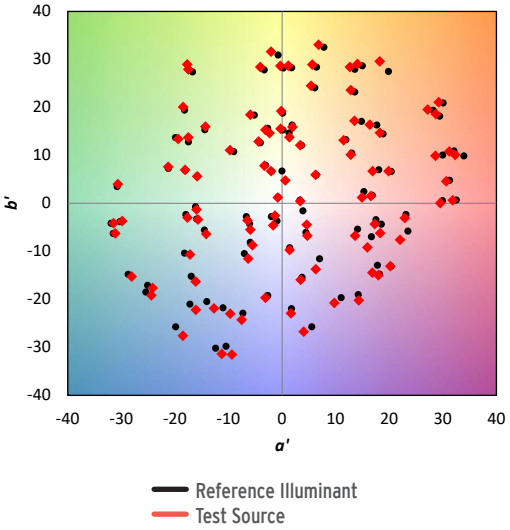


TM-30-18

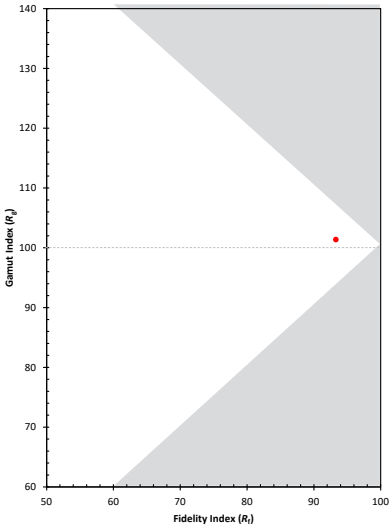
Color Vector Graphig

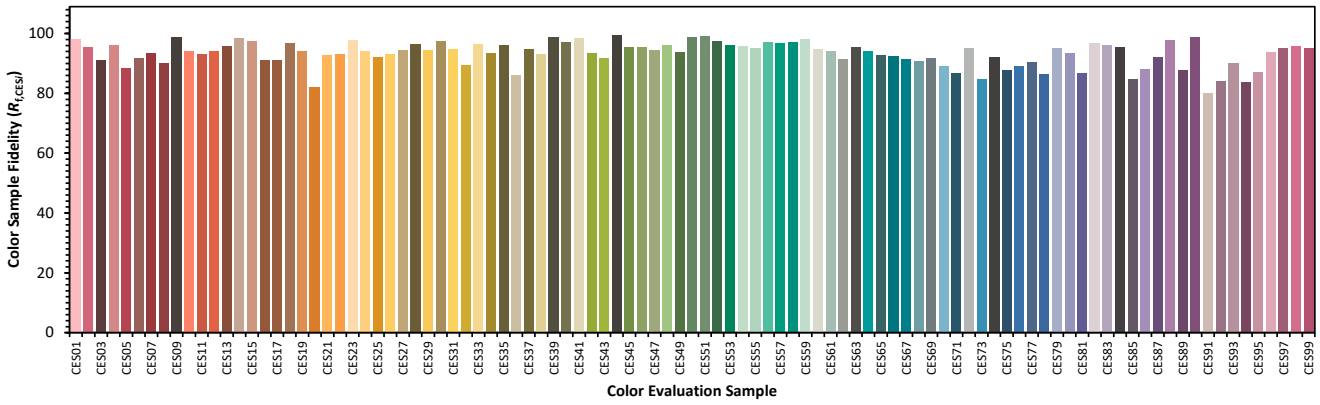


Shift in Hue-Chroma Plane



Gamut Index vs. Fidelity Index

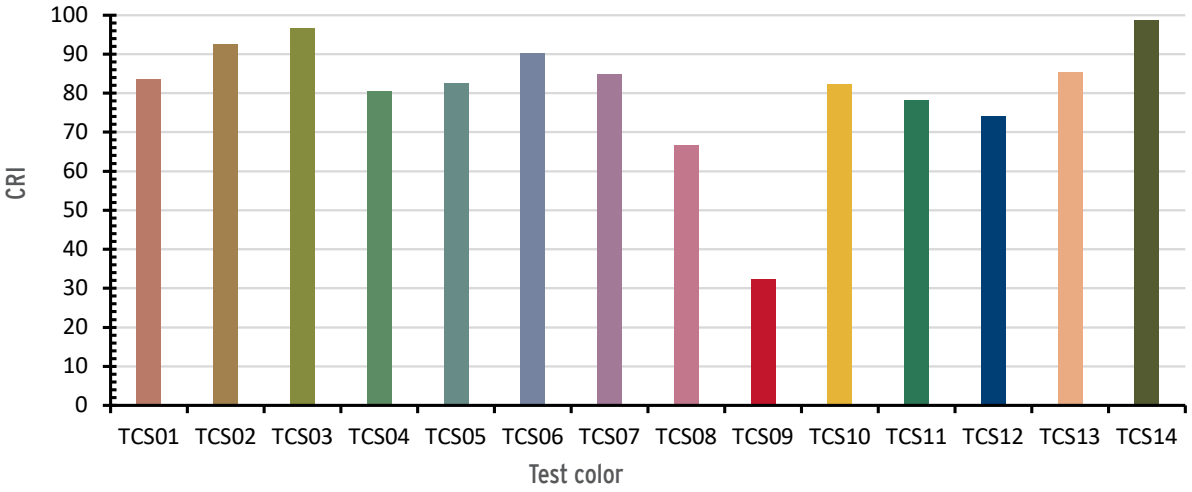




The Fidelity Index chart shows the color fidelity index for each of the 99 reference colors. The reference colors are arranged under the 5000 K reference source, which was also used to determine the color of each bar. The colors are approximate and depend on the correct monitor calibration. Some colors may be outside the color gamut of the monitor used and will not be displayed accurately.

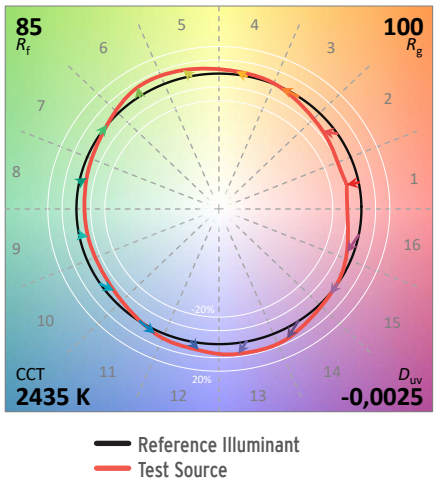
Example for „NEXUS UHD“ at 3.000K

CRI

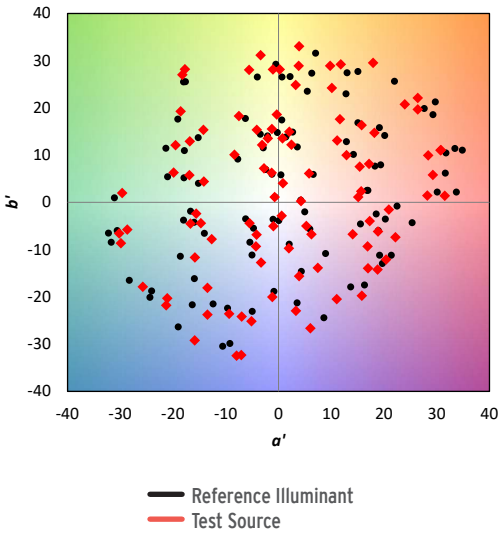


TM-30-18

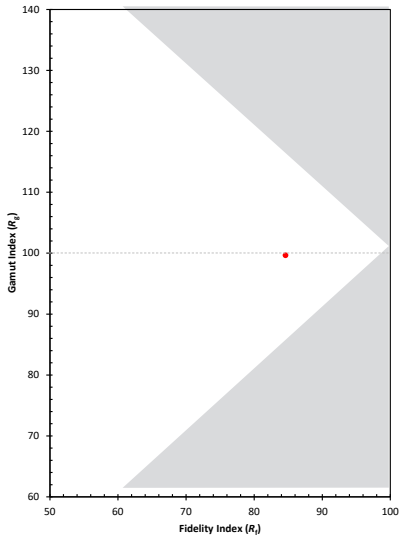
Color Vector Graphig

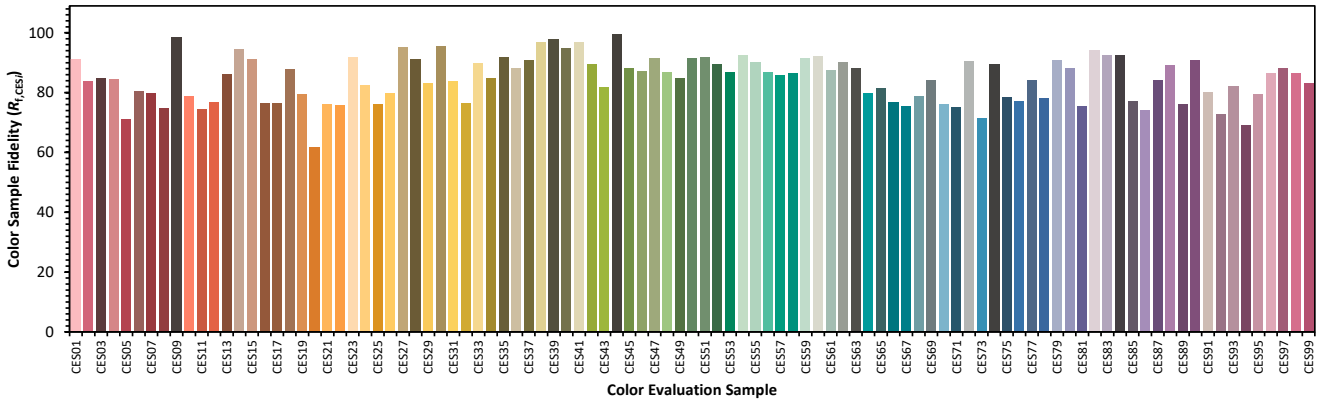


Shift in Hue-Chroma Plane



Gamut Index vs. Fidelity Index





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VOLTAGE DROP INFORMATION FOR THE FEED-IN LINE (EXTERNAL PSU / CONTROL TO FIXTURE)

Cable cross section	mm²						
	0.25	0.34	0.5	0.75	1.0	1.5	2.5
Total wattage of light line* [W]	MAX. CABLE LENGTH BETWEEN PSU / CONTROL UNIT AND THE LUMINAIRE						
	m						
0 - 5	29	39	58	87	116	174	291
0 - 10	14	19	29	43	58	87	145
10 - 15	9.7	13	19	29	38	58	97
15 - 20	7.2	9.9	14	21	29	43	72
20 - 25	5.8	7.9	11	17	23	34	58
25 - 30	4.8	6.6	9.7	14	19	29	48
30 - 35	4.1	5.6	8.3	12	16	24	41
35 - 40	3.6	4.9	7.2	10	14	21	36
40 - 45	3.2	4.4	6.4	9.7	12	19	32
45 - 50	2.9	3.9	5.8	8.7	11	17	29
50 - 60	2.4	3.3	4.8	7.2	9.7	14	24
60 - 70	2.0	2.8	4.1	6.2	8.3	12	20
70 - 80	1.8	2.4	3.6	5.4	7.2	10	18
80 - 90	1.6	2.2	3.2	4.8	6.4	9.7	16
90 - 100	1.4	1.9	2.9	4.3	5.8	8.7	14
100 - 110	1.3	1.8	2.6	3.9	5.2	7.9	13
110 - 120	1.2	1.6	2.4	3.6	4.8	7.2	12.
120 - 130	1.1	1.5	2.2	3.3	4.4	6.7	11
130 - 140	1.0	1.4	2.0	3.1	4.1	6.2	10
140 - 150	0.9	1.3	1.9	2.9	3.8	5.8	9.7
150 - 160	0.9	1.2	1.8	2.7	3.6	5.4	9.1
170 - 180	0.8	1.1	1.6	2.4	3.2	4.8	8.0
180 - 190	0.7	1.0	1.5	2.3	3.0	4.6	7.6
190 - 200	0.7	0.9	1.4	2.1	2.9	4.3	7.2

Cable cross section	AWG						
	24	22	21	19	18	16	14
Total wattage of light line* [W]	MAX. CABLE LENGTH BETWEEN PSU / CONTROL UNIT AND THE LUMINAIRE						
	ft						
0 - 5	95	130	191	286	382	573	956
0 - 10	47	65	95	143	191	286	478
10 - 15	31	43	63	95	127	191	318
15 - 20	23	32	47	71	95	143	239
20 - 25	19	26	38	57	76	114	191
25 - 30	15	21	31	47	63	95	159
30 - 35	13	18	27	40	54	81	136
35 - 40	11	16	23	35	47	71	119
40 - 45	10	14	21	31	42	63	106
45 - 50	9.5	13	19	28	38	57	95
50 - 60	7.9	10	15	23	31	47	79
60 - 70	6.8	9.2	13	20	27	40	68
70 - 80	5.9	8.1	11	17	23	35	59
80 - 90	5.3	7.2	10	15	21	31	53
90 - 100	4.7	6.5	9.5	14	19	28	47
100 - 110	4.3	5.9	8.6	13	17	26	43
110 - 120	3.9	5.4	7.9	11.9	15	23	39
120 - 130	3.6	5.0	7.3	11	14	22	36
130 - 140	3.4	4.6	6.8	10	13	20	34
140 - 150	3.1	4.3	6.3	9.5	12	19	31
150 - 160	2.9	4.0	5.9	8.9	11	17	29
170 - 180	2.6	3.6	5.3	7.9	10.6	15	26
180 - 190	2.5	3.4	5.0	7.5	10	15	25
190 - 200	2.3	3.2	4.7	7.1	9.5	14	23

*** Multiply the number of lights within the light line by the wattage per m or ft to determine the total power of the light line.**

Please note, these cables are not supplied by the factory. For table calculation, the underscored power level is used.
Calculation refers to the cable configuration on site for static white applications.
For tunable white, RGB, RGBW or other multichannel luminaires, the individual wattage per channel must be considered.
This might differ due the control type used.
The information listed in the table only refers to the conductor-based voltage drop of max. 0.85V at 24V DC input voltage.

Regarding the electromagnetic combability (EMC) the maximum cable length is defined by the power supply manufacturer.
A cable length between power supply and planned product longer than indicated by the datasheet of the power supply is possible. However the electromagnetic combability can then be influenced by the conditions of the installation site. There is no data on electromagnetic compatibility for longer cable lengths, which might lead to the necessity of an evaluation of the electromagnetic compatibility by a third party.
Datasheets and mounting instructions of the components in combination with the planned product must be carefully read and followed.