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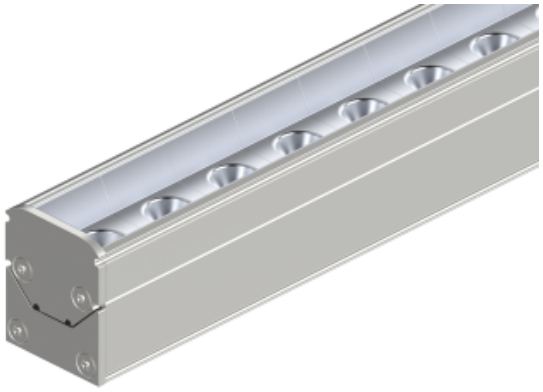
LED LINEAR™
A Fagerhult Group Company

XOOLUM IP20

XOOLUM TW UHC20 2765 _ 65 ___ _ _ IP20

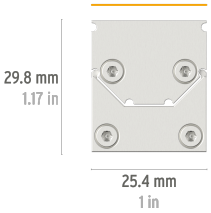


Project name

Company

Phase / Luminaire type for tech. spec. document

Date



- Luminaire configuration: Stand-alone luminaire
- Light color / light source: Tunable White (TW)
- BS — Cable outlet position: Back Side
- FS — Cable outlet position: Front Side
- Color rendering and efficiency: UHC - CRI > 97, sunlike spectrum
- LED pitch / density: Low Density
- B — Profile color: Black
- S — Profile color: Silver (Anodized)
- Power supply position: 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
- Cable / connector configuration: OT - Open cable both sides
- IP20 — Protection class: IP20
- 24V — Input voltage [V]: 24V DC

POWERFUL LIGHTING SYSTEM IN A COMPACT ARCHITECTURAL FORM.

The XOOLUM IP40 family is a compact linear lighting system designed for high lighting performance in indoor architectural applications. Despite its reduced form factor, it delivers high lumen output using external drivers and supports flexible configuration with Static White, Tunable White and RGBW light engines. Reduced to a clear system logic, XOOLUM IP40 supports versatile lighting concepts across offices, educational facilities, public buildings and museums, where performance and restrained architectural integration must align.

CERTIFICATES

- Conformité Européenne (CE)
- Ecodesign Directive
- ETL certified
- Protection Class III
- WEEE

ELECTRICAL & OUTPUT DATA [1]

Power [W/m]	20
Efficiency [lm/W]	82.8
Max. daisy chain length [m]	2
CRI / R9	95/87
Rf / Rg	96/104
Ambient temperature [°C] max	40
Housing Temperature [°C] max	70

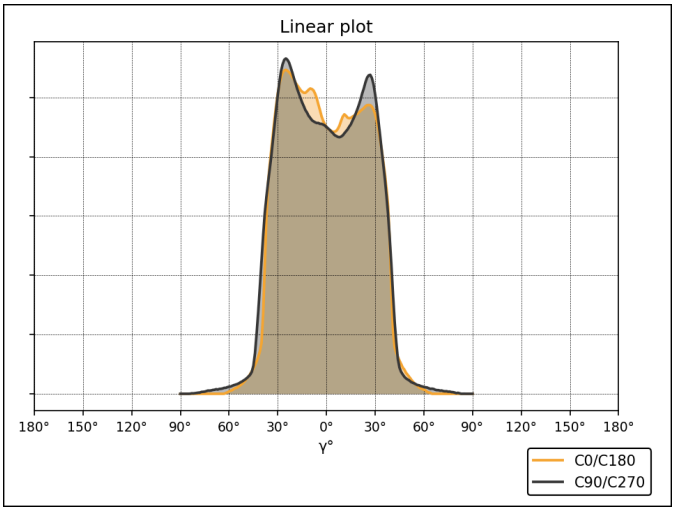
Power [W/m]	20
	Luminous flux [lm/m]
2765	1660

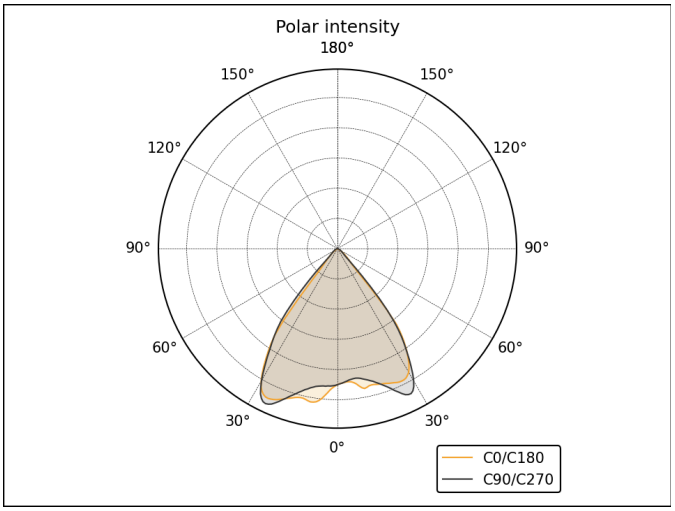
(1): Light engine family: VarioLED Flex IQ White SOL LD UHC ; Light distribution: 65 - 65° x 65° - nano optics | reflector ; Light color / light source: Tunable White (TW) ; Profile color: Black ; Integrated anti-glare: No integrated anti-glare ; Optional glare control accessory: No Accessories

PRODUCT INFORMATION

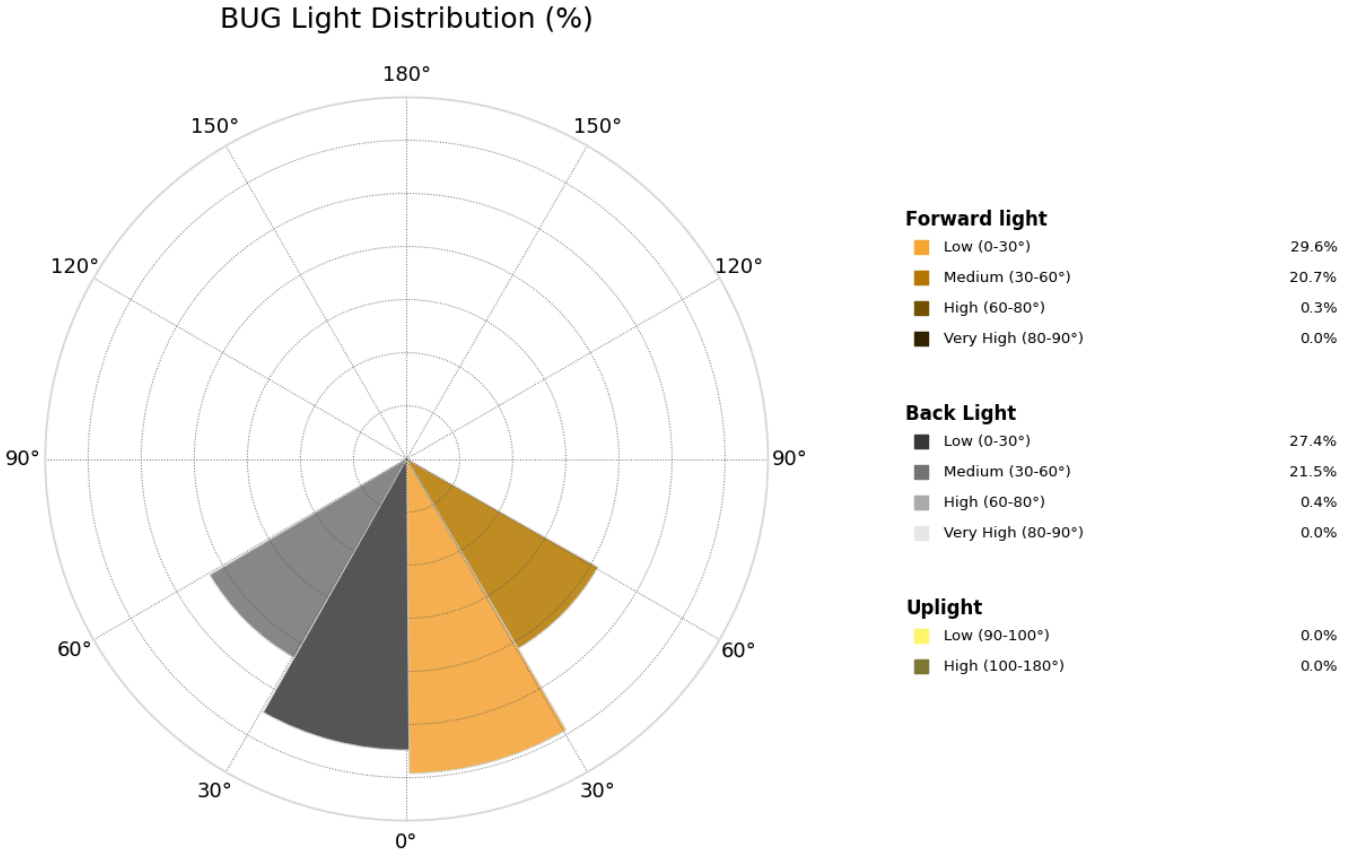
Product family	XOOLUM IP20	**Protection class**	IP20
Luminaire type (rigid / flexible)	Rigid luminaire	**Luminaire profile size**	Standard
Light distribution	65 - 65° x 65° - nano optics | reflector	**Light color / light source**	Tunable White (TW)
Color rendering and efficiency	UHC - CRI > 97, sunlike spectrum	**Color temperature (ANSI CCT)**	2700K - 6500K
Measured color temperature (CCT)	2790K / 6570K	**Power/channel [W/m]**	W: 10 W/m, W: 10 W/m
Luminous flux/channel [lm/m]	W: 920 lm/m, W: 736 lm/m	**Color rendering index (CRI/Ra)**	95
Color rendering index (R9)	87	**TM30 - Rf**	96
TM30 - Rg	104	**Light engine family**	VarioLED Flex IQ White SOL LD UHC
Light engine designation	VarioLED Flex IQ White SOL LD 20	**Lumen maintenance (LED manufacturer specification)**	L80/B10
LED pitch / density	Low Density	**ANSI LED binning**	3 SDCM
Integrated anti-glare	No integrated anti-glare	**Optional glare control accessory**	No Accessories
Power supply position	External PSU	**Control technology**	No PSU with No Control Controller
Input voltage [V]	24V DC	**Luminaire configuration**	Stand-alone luminaire
DarkSky certification	Not DarkSky certified	**Case temperature [°C]**	TC(min): -25°, TC(max): 70°
Ambient temperature [°C]	TA(min): -25°, TA(max): 40°	**Storage temperature [°C]**	TS(min): -30°, TS(max): 85°
Lifespan [h]	60,000	**fixed luminaire section [mm]**	10
LED step length [mm]	250		

PHOTOMETRIC GRAPHS





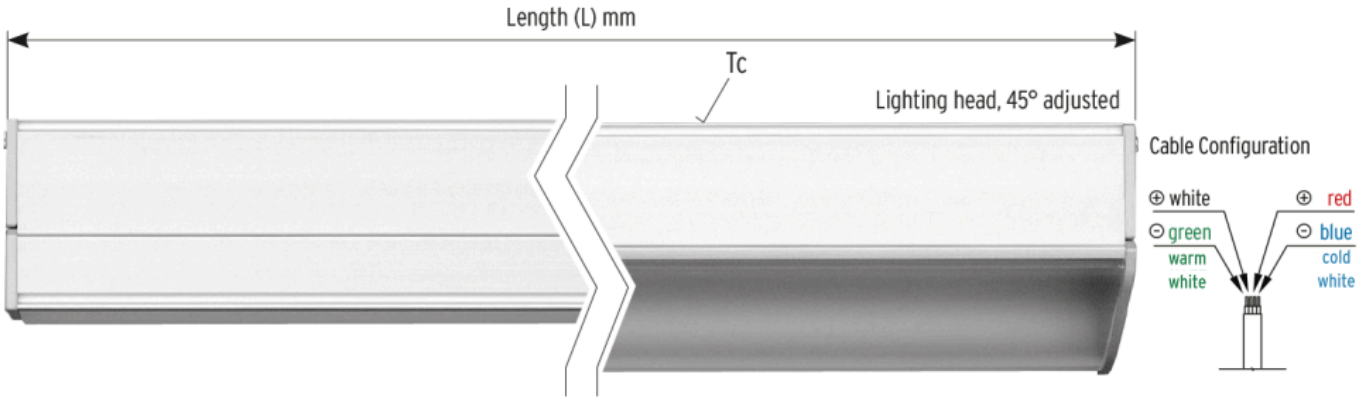
BUG LIGHT DISTRIBUTION



Light engine family: VarioLED Flex IQ White SOL LD UHC ; Light distribution: 65 - 65° x 65° - nano optics | reflector ; Light color / light source: Tunable White (TW) ; Profile color: Black ; Integrated anti-glare: No integrated anti-glare ; Optional glare control accessory: No Accessories

TECHNICAL SPECIFICATIONS

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

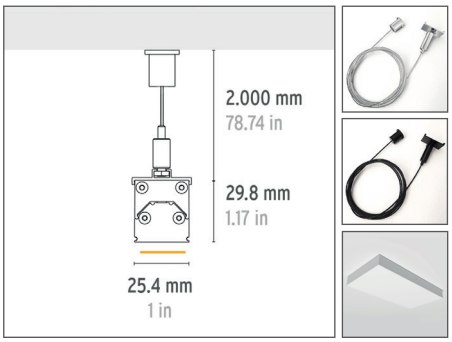
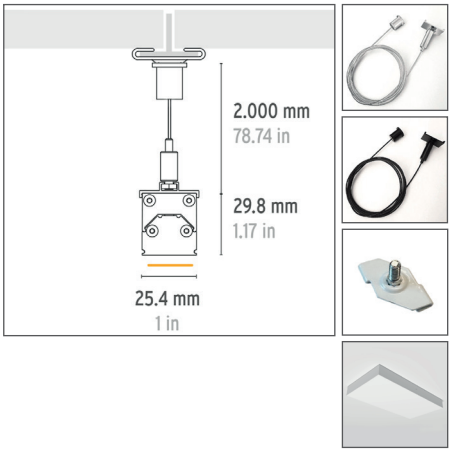
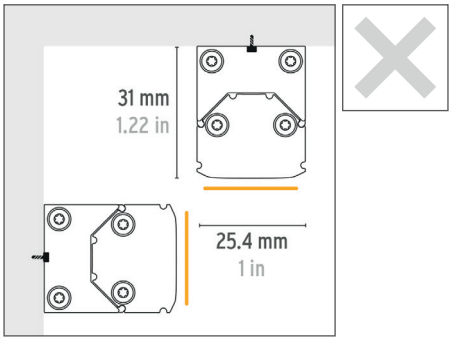
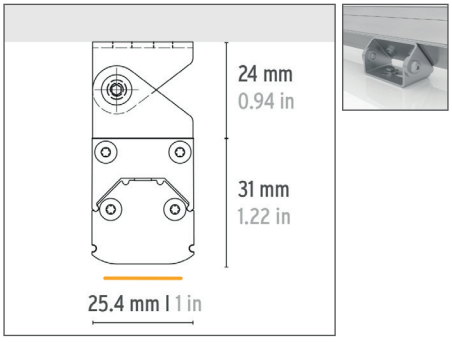


Extruded and anodized aluminum housing

Tc-point (Case temp.) on the rear side of the module

MOUNTING ACCESSORIES (SELECTABLE WITH ORDER CODE)

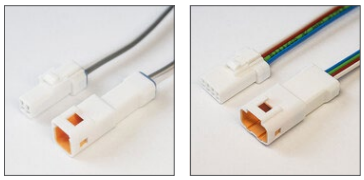
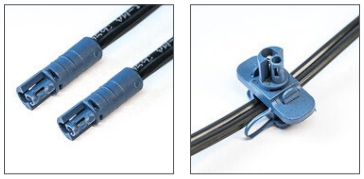
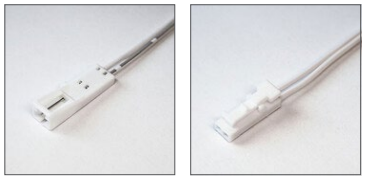
Please note: Mounting accessories are automatically included with the luminaire with the required amount of clips or the correct length of the mounting profile when chosen as part of the order code - see the digits in the order code below.

	Mounting accessories	Description
	**PENDANT FOR CONCRETE CEILING** Digits in order code: P	Pendant set for installations directly on the ceiling. Two meter wire is cutable on site. Matching the profile color.
	CANOPY SQUARE MOUNTING SET Art.-#: 16000347	Square canopy set for pendant ceiling installations on concrete ceiling. Use according to the mounting instructions.
	**PENDANT FOR GRID CEILING** Digits in order code: PGC	Pendant set for installations on grid ceiling. Two meter wire is cutable on site. Matching the profile color. With grid ceiling clip in white. Square canopy set for pendant ceiling installations on concrete ceiling. Use according to the mounting instructions.
	CANOPY SQUARE MOUNTING SET Art.-#: 16000347	
	**SURFACE MOUNTING, FIXED** Digits in order code: S	Specially designed mounting profile for surface mounting options. Holes have to be drilled at site. Cables can be placed inside of the mounting profile. No additional mounting accessory is needed. Luminaire can be tilted in 45° angle to each side within the mounting profile. Use according to the mounting instructions.
	**SURFACE MOUNTING, ADJUSTABLE** Digits in order code: TMC	Tiltable mounting brackets allow free aiming of the luminaire. The range is approx. -40° to +90°. The brackets are made out of stainless steel and are screwed to the back of the luminaire. Holes can be drilled where suitable. Only available in silver. Use according to the mounting instructions.

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:

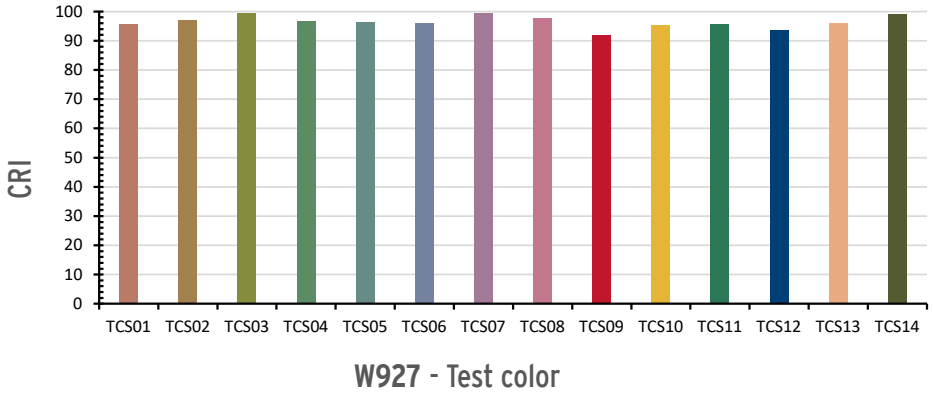
GLOBAL https://www.led-linear.com/products/smart-lighting
USA https://www.ledlinearusa.com/products/drivers-controllers

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

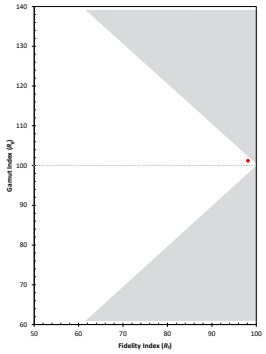
Example for „IQW SOL HD and LD“ at 2700 K and 6500 K

CRI



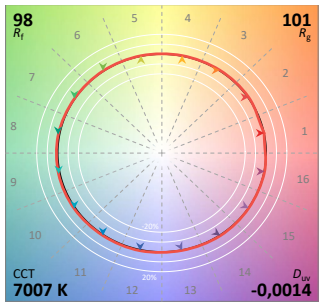
W927 - Test color

Gamut Index vs. Fidelity Index



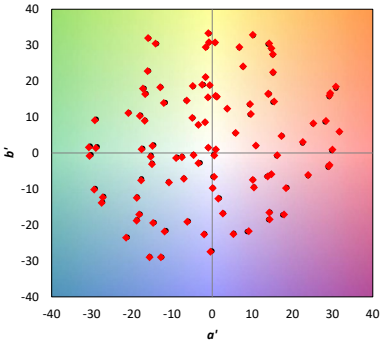
TM-30-18

Color Vector Graphig



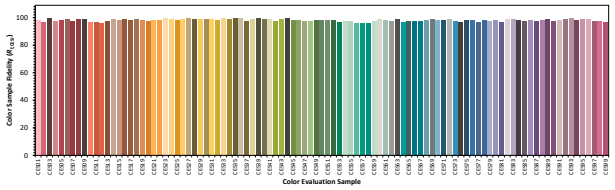
Reference Illuminant
Test Source

Shift in Hue-Chroma Plane



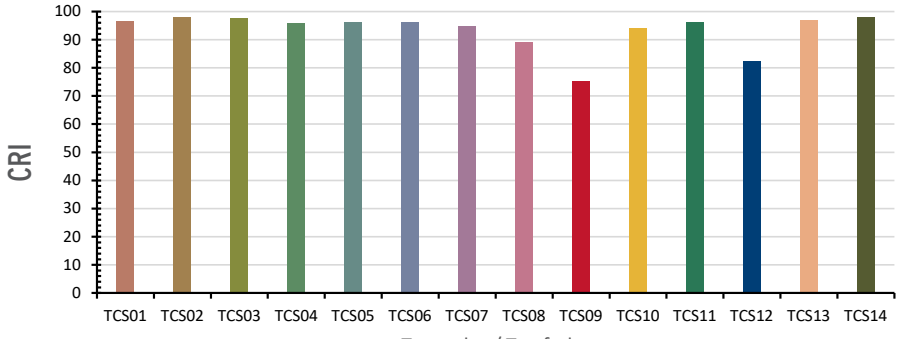
Reference Illuminant
Test Source

W927



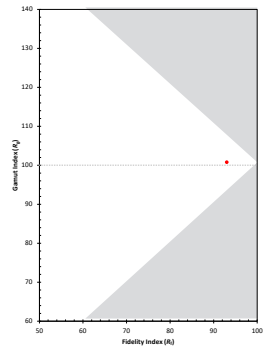
The Fidelity Index chart shows the color fidelity index for each of the 99 reference colors. The reference colors are arranged under the 5000 K reference source, which was also used to determine the color of each bar. The colors are approximate and depend on the correct monitor calibration. Some colors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

CRI



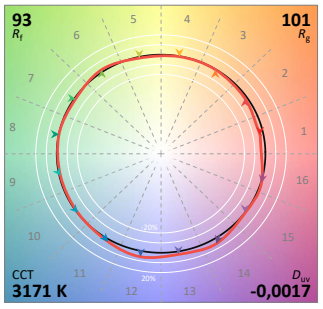
W965- Test color

Gamut Index vs. Fidelity Index



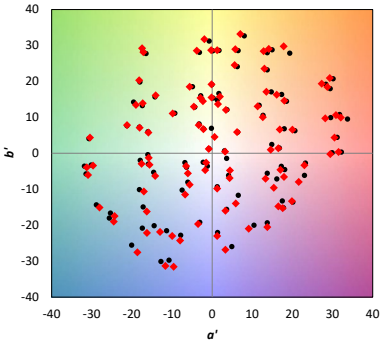
TM-30-18

Color Vector Graphig



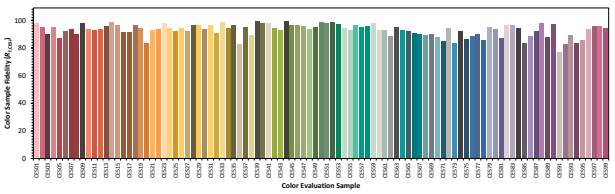
Reference Illuminant
Test Source

Shift in Hue-Chroma Plane



Reference Illuminant
Test Source

W965



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.

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.