# DIGITAL LIGHT SYSTEMS

The standard for color communication.



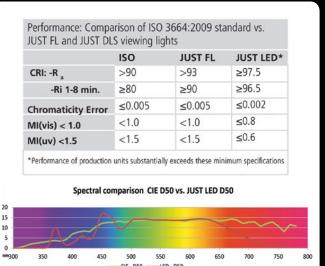
## JUST DIGITAL LIGHT SYSTEMS. INNOVATIVE LED-TECHNOLOGY.

#### Cost-Effective, Scalable, Calibratable,

JUST Normlicht GmbH has been a leading supplier of standardized lighting solutions for controlled viewing and color matching environments for over 40 years. The patented\* LED-based technology found in Digital Light Systems (DLS) is widely used in industrial, print and graphic arts industries. DLS is available in a variety of configurations such as Color Viewing Stations, Light tables, Color Proof Lights as well as custom solutions. All DLS systems well exceed the stringent requirements of the ISO 3664 and 3668 viewing standards.

Fortunately, ISO 3664 and 3668 viewing standards define precise, measurable specifications for viewing environments, incorporating CIE D50 and D65 standard reference illuminants. Although JUST fluorescent tubes meet these standards, the new RoHS directives prevent the manufacture and sale of tubes containing mercury since September 2023.

JUST's patented\* LED-based technology substantially exceeds ISO requirements, offers a wealth of additional functions, and is far more cost effective over the product life. Additionally, light output is stable throughout the long expected operating life (50,000 hours). The key differences really shine, especially for quality-oriented, standard-compliant companies with multiple viewing areas and/or locations throughout their supply chain.





#### Unmatched in features.

All JUST DLS luminaires are dimmable without any color shifts, ideal for soft proof applications. Their UV-content can be switched off/on, to match ISO 3664:2000 and ISO 3664:2009 standards, and to view the impact of substrate optical brighteners or other fluorescing agents. Programmable presets memorize user-defined conditions. There is no warm-up time, and switching between CIE D50, D50 no UV, CIE D65, D65 no UV and UV-A illuminants is instantaneous. All these features are standard with every DLS lighting solution, at no extra charge.













#### Accuracy that matters for critical color decisions.

JUST Digital Light Systems (DLS), achieve the highest conformance to the ISO standards available today, insuring accurate color judgements. Employing arrays of multiple-colored LEDs, each individually controlled, calibrated and compensated for its unique characteristics, the result is a more harmonious and complete light spectrum as shown in the spectral comparison, and performance figures above.



Best consistency over time. No tubes to change. Patented JUST LED technology is stable out-of-the-box and remains that way throughout its 50,000-hour rated life. It can be serviced and, if needed, recalibrated. In contrast, fluorescent tubes conform to standards for 2,500 hours and constantly change over that time. Each batch or lot of tubes is different, and all tubes have both a >100 hour burn-in
Period as well as 20 minute warm-up time.
Relamping is expensive, time consuming, contains toxic mercury, and is a maintenance and disposal headache.



#### Superior uniformity across viewing areas.

Not only does JUST achieve day-to-day color consistency, but the evenness or uniformity of light over the entire viewing area is guaranteed to exceed ISO, from desktop viewers to entire color viewing rooms.



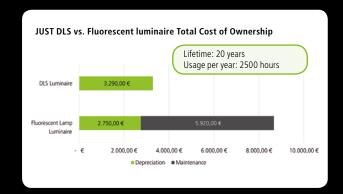
#### Repeatable, anytime, anywhere.

Within a supply chain, all stakeholders evaluate colors and appearances with their specific viewing conditions. When those conditions and their light sources are accurate, repeatable, and compliant to ISO and other industry standards, everyone can speak the same visual language. One more variable is eliminated. JUST DLS Digital Light Systems achieve that. Every single LED module and luminaire is calibrated to the same standard using traceable high precision spectrometers. The result is 100% repeatable viewing conditions, every day, around the world, easily verifiable.



#### Cost effective.

JUST LED solutions save costs during the product's useful life, compared with fluorescent tube-based solutions. That means the DLS luminaire, with a slightly higher purchase price, easily pays for itself over its lifetime. At the cost of maintaining one fluorescent tube-based unit you could purchase almost three DLS luminaires. This does not assign any monetary value to the improved accuracy, repeatability, and feature set.





#### **Environmentally friendly.**

Fluorescent tubes contain the toxic heavy metal mercury and are classified as toxic waste. This requires special recycling measures at an additional expense. In many countries, fluorescent lamps are already banned or will be banned in the near future because of their mercury content. JUST DLS arrays contain only non-toxic materials that can be recycled with regular electrical components.

03



#### **Retrofit and Upgrade Solutions**

With DLS Upgrade Solutions, you can replace the fluorescent lamp luminaire of your color viewing station with our LEDbased DLS systems.

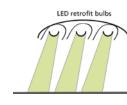
JUST also offers to equip color viewing stations and press consoles from third-party providers with a DLS system as a retrofit solution.

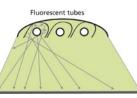
You can find the DLS Upgrade Solutions in the respective product tables in this brochure. All upgrades and retrofit solutions are also available on the JUST website.

Feel free to contact us to inquire about your individual upgrade from fluorescent tubes to DLS/LED technology.

#### WHY LED REPLACEMENT TUBES DON'T WORK IN EXISITING FL FIXTURES

Replacing a fluorescent tube with an LED tube creates many problems and doesn't achieve ISO standards. Existing FL booths rely on the 360° light output from a flourescent tube. LEDs have a very narrow light distribution, creating light and dark sbands unless fixtures are optimized from the ground up.





LED replacement lamps are not controlled or calibrated, recreating the same issues as fluorescent tubes, just using a different technology. No matching between tubes, batches, or locations. Not serviceable, not controlled over time, and expensive relamping is still required.

Patented JUST LED technology uses special reflectors, lenses and controls to exceed the illumination quality of even our own ISO-rated fluorescent fixtures. The results speak for themselves.

## LED DESKTOP VIEWERS

LED colorFrame – the affordable entry into CIE D50 viewing technology – functional design, easy operation, and excellent illumination. Ideal for photographers, advertising agencies, and prepress studios.













LED COLOR MASTER

## Item No. Type ISO Illumination Area (W x D cm) Type LED colorFrame 203809 LED colorFrame 64 x 43 69 x 58 x 37 104752 colorFrame side walls LED colorMaster 203811 LED colorMaster 64 x 61 69 x 75 x 18 92221 colorMaster side walls

## SOFTPROOF SOLUTIONS



DLS colorCommunicator is dimmable without any change in color temperature. Therefore, the device is ideal for soft proofing applications. When used with soft proofing software\* and a measurement device for monitor calibration, the DLS Color Communicator can be measured and controlled via the USB interface to perfectly match the monitor's brightness.



\* adJUST, Remote Director, Dalim ES6, a.o.



Item No. 220 V	Туре	ISO Illumination Area (W x D cm)	Outside dimensions (W x H x D cm)
DLS colo	rCommunicator 2		
202166	DLS colorCommunicator 2	58 x 51	61,2 x 63 x 45
DLS Virt	ual proofStation		
201459	DLS Virtual proofStation	100 x 70	145 x 221 x 117
201487	DLS Virtual proofStation Side-by-Side BASIC	100 x 70	145 x 221 x 117
201489	DLS Virtual proofStation Side-by-Side XT	100 x 70	145 x 221 x 117
200236	Monitor mount XT for 2 monitors		

#### adJUST Software

/11/X5G	adJust Light+Monitor
	(control&calibration Software)



201493 DLS Upgrade Virtual proofStation

#### The adJUST Light+Monitor Software

allows measurement and calibration of a DLS Viewing System in a digitally controlled workflow.





#### DLS VIRTUAL PROOFSTATION

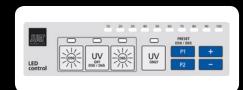
Soft proofing from prepress to pressroom control. The new DLS Virtual proofStation provides the ability to directly align soft proof monitors and standardized lighting at the printing press, controlled by software and measured for accuracy.



## DLS COLOR VIEWING BOOTHS

To avoid surprises with color in an industrial production environment, color viewing devices with multiple light sources can be used for visually assessing surfaces and materials such as paints, fabrics, ceramics, plastics, or paper. DLS Color Viewing Booths are useful in all industries where quality assurance adheres to international standards.

To detect metamerism, two products or color samples must always be viewed and matched under different lighting environments. The CIE illuminants D65 (northern sky daylight), A (home lighting), TL84/F11 (store lighting) and D50 (noon daylight) are very often used for this purpose.



#### Keypad v7

The DLS Color Viewing Light v7 series features two light sources, D65 / D50 plus UV-A, which are most commonly needed in daily industrial color matching applications. The v7 is directly tailored to meet the needs of industrial color assessment.



#### Keynad v

In addition to D50, D65 and UV-A light sources, the DLS Color Viewing Light v8 allows for selection of two additional CIE specified LED light sources. These options include light sources CIE B1 (A-2733K), CIE B2 (F12-2998K) or CIE B3 (F11-4103K). Additionally, UV content can be filtered on/off and automated color matching sequences can be programmed



Accessories for DLS Color Viewing Booths can be found on our website www.just-normlicht.com



tem No. Type ISO Illumination Outside dimensions 220 V Area (W x D cm) (W x H x D cm)

#### DLS Color Viewing Light v7

202347	DLS Color Viewing Light v7 S	64 x 36	70 x 71 x 43
202686	DLS Color Viewing Light v7 L	125 x 54	132 x 97 x 60
202539	DLS Color Viewing Light v7 XL	155 x 54	162 x 95 x 60
202912	DLS Color Viewing Light v7 XXL	125 x 74	132 x 97 x 80

#### **DLS Color Viewing Light v8**

203278	DLS Color Viewing Light v8 S	64 x 36	70 x 71 x 43
203280	DLS Color Viewing Light v8 L	125 x 54	132 x 97 x 60
203282	DLS Color Viewing Light v8 XL	155 x 54	162 x 95 x 60
203404	DLS Color Viewing Light v8 XXL	125 x 74	132 x 97 x 80

LED LIGHT TABLES

JUST LED Light Tables are adjustable in color temperature from 2800-6500K, dimmable, and provide flexible working on a scratch-resistant surface. They feature a color-neutral acrylic lens and reflectors for uniform illumination and high light output. Choice of a manual or motorized base is available for height adjustment. Optional slope adaptor allows for the adjustment surface angle.

### **Light Table Base ST** fixed, height adjustable upon installation



Light Table Base HO motorized for height adjustment



Base HO
additional accessory,
with spring-assisted
85° tilt adjustment



Additional accessories can be found on our website www.just-normlicht.com



Item No. 220 V	Туре	ISO Illumination Area (W x D cm)	Outside dimensions (W x H x D cm)	Height adjustable range (cm)
LED Light	Tables			
203813	LED Light Table 80-123	116 x 73	123 x 80	
203815	LED Light Table 80-153	146 x 73	153 x 80	
203817	LED Light Table 100-123	116 x 93	123 x 100	
203819	LED Light Table 100-153	146 x 93	153 x 100	
203821	LED Light Table 123-153	146 x 116	153 x 123	
203823	LED Light Table - custom made			

#### Bases frame for LED Light Tables

14043	LED Light Table Base ST	75 - 110
202933	LED Light Table Base HO	77 - 143
2451	Slope Adapter for Base HO only	77 - 143

DLS MODULIGHT

Whether it's a small meeting room or a complete press room, DLS moduLight's flexibly adapts to your room situation and creates standardized lighting conditions where they are needed.

DLS moduLight's are unparalleled in light quality, illuminance, and uniformity of illumination. The special lenses in DLS moduLights effectively eliminate glare and reflection. Each DLS luminaire features a USB interface and the optional adJUST Light + Monitor software allows for precise control and calibration in soft proofing



Keypad v7 The DLS Color Viewing Light v7 series features two light sources, D50, D65 with UV-A. The UV content in D50 and D65 can be turned on/off to recognize OBA's in substrates or inks. The v7 series not only meets the current ISO standard, is backward compatible to previous standards and prepared for any future changes in ISO Viewing standards.



ltem No. 220 V	Туре	ISO Illumination Area (W x D cm)	Outside dimensions (W x H x D cm)
201620	DLS moduLight 1-800	70 x 40	94 x 9 x 16
201622	DLS moduLight 2-800	70 x 80	94 x 11,5 x 39
201416	DLS moduLight 1-1200	100 x 40	133,5 x 9 x 16
201291	DLS moduLight 2-1200	100 x 70	133,5 x 11,5 x 39
201846	DLS moduLight 3-1200	100 x 120	133,5 x 11,5 x 62,5
202987	DLS moduLight 4-1200	100 x 140	133,5 x 11,5 x 84,5
202126	DLS moduLight 1-1700	160 x 40	174 x 11,5 x 16
201847	DLS moduLight 2-1700	160 x 80	174 x 11,5 x 51,5
201849	DLS moduLight 3-1700	160 x 140	174 x 11,5 x 86,5
202951	DLS moduLight 1-800/1200 Movable Stand		
202952	DLS moduLight 2-800/1200 Movable Stand		

## DLS WALL ILLUMINATION



DLS Wall Illumination systems are the professional solution for color critical visual assessments of large format prints, posters, and plots as well as complete layouts of multi-page jobs. All systems contain both CIE D50 and D65 illuminants and conform to the ISO 3664:2009 international viewing standard. These turn-key solutions include luminaires, magnetic wall panels, mounting hardware, and an external remote control.



**Additional accessories** can be found on our website www.just-normlicht.com



The DLS Wall Illuminator starts where other sample stations end. Due to its size and accessibility, it is ideally suited for the color evaluation of large format prints Whether trade fair banners or advertising posters – standards compliant illumination is guaranteed over the entire rear wall.

WALL ILLUMINATOR

Item No. 220 V	Туре	ISO Illumination Area (W x D cm)	Outside dimensions (W x H x D cm)
DLS Wall	Illumination		
202413	DLS Wall Illumination 1,2m x 1,5m	120 x 150	
202415	DLS Wall Illumination 1,5m x 1,5m	150 x 150	
202208	DLS Wall Illumination 2m x 2m	200 x 200	
202209	DLS Wall Illumination 3m x 2,4m	300 x 240	
202210	DLS Wall Illumination 4m x 2,4m	400 x 240	
202211	DLS Wall Illumination 5m x 2,4m	500 x 240	
202212	DLS Wall Illumination 6m x 2,4m	600 x 240	
DLS Wall	Illuminator		
202600	DICAM Hall 1 1	400 345	200 255 442

## DLS PROOFTOP / CHALLENGE



The economic proofing station for 3B and 6B formats is the entry-level solution for our LED based stations. With the proven JUST DLS/LED technology, proofs can be matched under D50 and D65, while the UV component can be switched on and off. The special prismatic lens provides an even, glare and reflection free illumination.

Entry level proofing station featuring JUST DLS/LED technology. Visual inspection of small formats up to 50x70 cm. Available as a desktop unit or with wheeled trolley to create a portable proofing station.



Item No. 220 V	Туре	ISO Illumination Area (W x D cm)	Outside dimensions (W x H x D cm)
DLS pro	ofTop 0B		
202839	DLS proofTop 0B	70 x 50	81 x 101 x 74
20453	proofTop Trolley		81 x 94 x 60
20461	proofTop side walls		
DLS Cha	llenge 3B		
202727	DLS Challenge 3B	100 x 70	128 x 230 x 218,5
203189	DLS Challenge 3B side walls		
DLS Cha	llenge 6B		
202831	DLS Challenge 6B	140 x 100	160 x 230 x 128,5
203190	DLS Challenge 6B side walls		
DLS/LED	Upgrade from Fluorescent lamp		
202776	DLS Upgrade proofTop 0B		

DLS Upgrade Challenge 3B
DLS Upgrade Challenge 6B

## DLS PROOFSTATION

DLS proofStation – Next Generation of LED based Viewing Stations. The DLS proofStation is setting standards in light technology, design, functionality, and ergonomics.

DLS proofStation is unparalleled in light quality, illuminance, and uniformity of illumination. The Fresnel and Prismatic lenses in DLS moduLight effectively eliminate glare and reflections.

DLS proofStations in SP version come equipped with a VESA monitor mount for monitors up to 30" and a drawer for keyboard and mouse





Item No. 220 V	Туре	ISO Illumination Area (W x D cm)	Outside dimensions (W x H x D cm)
DLS pro	ofStation 10		
201703	DLS proofStation 10	70 x 50	98 x 211 x 90,5
201705	DLS proofStation 10 SP	70 x 50	98 x 211 x 90,5
201707	DLS proofStation 10 side walls		
DLS pro	ofStation 20		
DLS pro 201290	ofStation 20  DLS proofStation 20	100 x 70	135 x 224 x 125
		100 x 70 100 x 70	135 x 224 x 125 135 x 224 x 125

201486 DLS Upgrade proofStation 20/22 SP



## DLS COLOR PROOFSTATION

The Color proofStation product family has been used for decades for quality assurance in printing houses. Cutting-edge light technology for all printing formats (0B, 3B, 6B and 7B) and numerous equipment variations enable perfect, comfortable matching of proofs, test prints, and production runs.

#### Color proofStation

3B format (100x70cm) With optional side walls. Uniform illumination of the desk and rear wall due to the asymmetrical DLS moduLight technology – ideal for matching proof and print production.

#### The Color proofStation 0B/3B stations are available in 3 versions.









Item No.	Type	ISO Illumination	Outside dimensions
220 1/		$\Lambda rea (M \times D cm)$	(M v II v D cm)

#### DLS Color proofStation 0B

201471	DLS Color proofStation 0B 5	70 x 50	128 x 230 x 122
201473	DLS Color proofStation 0B 10	70 x 50	128 x 230 x 122
201469	DLS Color proofStation 0B 13	70 x 50	128 x 230 x 122
201475	DLS Color proofStation OR side walls		

#### **DLS Color proofStation 3B**

201478	DLS Color proofStation 3B 5	100 x 70	128 x 230 x 142
201480	DLS Color proofStation 3B 10	100 x 70	128 x 230 x 142
201476	DLS Color proofStation 3B 13	100 x 70	128 x 230 x 142
201482	DLS Color proofStation 3B side walls		

#### DLS/LED Upgrade from Fluorescent lamp

201491	DLS Upgrade Color proofStation 0B	
201492	DLS Upgrade Color proofStation 3B	





\* for ISO compliant illumination, a DLS moduLight 2-1200 (2 lamp modules) and side walls are included.

#### **DLS Duplex proofStation** DLS Color proofStations

are available as Duplex-Versions including a fixed backlit work surface.





DLS Colo	r proofStation 6B		
Item No. 220 V	Туре	ISO Illumination Area (W x D cm)	

#### DLS Color proofStation 6B 140 x 100 160 x 230 x 176 DLS Color proofStation 6B 13 140 x 100 160 x 230 x 176 DLS Color proofStation 6B side walls (included in delivery)

#### **DLS Color proofStation 7B**

202228	DLS Color proofStation 7B	160 x 120	184 x 230 x 203
202226	DLS Color proofStation 7B 13	160 x 120	184 x 230 x 203
202230	DLS Color proofStation 7B side walls (includ	ed in delivery)	

#### **DLS Duplex proofStation**

203472	DLS Duplex proofStation 6B	140 x 100	160 x 230 x 176
03474	DLS Duplex proofStation 7B	160 x 120	184 x 230 x 203

#### DLS/LED Upgrade from Fluorescent lamp

202611	DLS Upgrade Color proofStation 6B	
203377	DLS Upgrade Color proofStation 7B	



DLS PROOFSTATION LARGE FORMAT

The DLS proofStations 30 and 40 are cost-effective, wide-format solutions for color matching and quality assurance. 6B and 7B formats are illuminated with D50 or D65 lighting thanks to the switchable DLS/LED moduLight. Matching cabinets, racks or shelves can be added to suit your requirements.



Accessories can be found www.iust-normlicht.com Item No. Type

DLS proofStation 30 Large Format

DLS proofStation 40 Large Format

DLS Upgrade proofStation 30

03097 DLS Upgrade proofStation 40

201759 DLS proofStation 30 Large Format

201857 DLS proofStation 40 Large Format

**DLS/LED Upgrade from Fluorescent lamp** 

01760 DLS proofStation 30 Large Format - SP 140 x 100

201859 DLS proofStation 40 Large Format - SP 160 x 120 210 x 230 x 161



ISO Illumination Outside dimensions

169 x 230 x148

169 x 230 x148

210 x 230 x 161

Area (W x D cm) (W x H x D cm)

140 x 100

160 x 120

GL OPTIC LIGHT MEASUREMENT SOLUTIONS

The professional solution for auditing and evaluating the light output of your color proofing lights according to ISO 3664:2009

The spectrometers from GL Optic enable precise and reliable light measurements according to ISO 3664:2009 and can be utilized for the recalibration of all JUST DLS Color Viewing Systems



GL SPECTIS 1.0 touch proGraphic is a mobile spectrometer for and radiometric values. Measurements can be performed without a PC using the sensor attached to the spectrometer and displayed on the color touchscreen display. Light and LED measurements can be conveniently transferred to the PC via Wi-Fi, USB 2.0. or microSD card and analyzed with GL SPECTROSOFT proGraphic.



ISO 3664:2009 and CIE. The software allows, among other things, the determination of correlated color temperature (CCT), color coordinates (x,y), color rendering index (Ra), as well as metamerism indices MI<sub>VIS</sub>

is a universal and professional It is suitable for evaluation and analysis of light sources according to

all common standards such as

Alternatively, an entry-level solution GL Spectrosoft Connect software with limited functionality is available as a free download.

GL Spectrolux The Spectrolux is ideal for instant measurement of illuminance or intensity a diffuser for highest accuracy and repeatability. The best price for highest precision for the



(W x H x D cm)

#### GL Optic - Light Measurement Solutions

200445	GL Spectis 1.0 touch pro graphic	14,55 x 7,45 x 3,66
201438	Spectrolux	7,2 x 15,5 x 2,53
93047	GL OPTI PROBE 1.0.10 Luminance	6,2 x 4,4 x 1,4
102095	GL Spectrosoft proGraphic	
	GL Spectrosoft Connect (freeware)	

COLOR CONTROL CENTER/ HARMONY ROOM

Further solutions in different formats can be found on our website www.just-normlicht.com

> DLS COLOR **CONTROL CENTER**



DLS HARMONY ROOM

DLS COLOR CONTROL CENTY



GL Opti Probe 1.0.12 Luminance

Luminance measuring telescope with optic fiber ensures perfectly parallel beam of observation. Can be fitted on tripod. Spot diameter 8 mm at distance 0.5 m. Spectra range 400-1050 nm. For measurement of flat displays. LCD, LED and OLED panels and other projection displays The set includes a measuring probe, a fiber optic cable as well as an adapter with a coder for GL SPECTIS 1.0 spectrometers. Probe can be fitted on tripod.



### RETROFITS

Our DLS Retrofit solutions have been specifically designed for third-party stations and consoles with mercury-containing fluorescent lamps. The systems aim to simplify the upgrade process. Old fluorescent fixtures are replaced with state-of-the-art LED-based DLS Digital Light Systems, which are designed specifically for your station and tailored to your requirements. The conversion from a fluorescent-based fixture to a DLS Retrofit solution can be completed in minutes.

With JUST's DLS Retrofit solutions, owners of third-party stations such as GTI, KBA, Manroland, Heidelberger Druckmaschinen, Komori, Megastahl, and others can now also benefit from all the advantages of the patented DLS solution.

**KBA PRESS** 

CONSOLE





after



KBA RA 142-145

### GTI COLOR VIEWING STATIONS



EVS 2540



Discover all the DLS
Retrofit solutions already
available on our website
or contact us to discuss your
individual Retrofit solution.

#### MANROLAND PRESS CONSOLE

#### DLS Retrofit are already available for:

- Heidelberger Druck from 2000
- König+Bauer KBA from 2004
- manroland from 2004
- Komori - GTI
- 611
- Whitescreen
- More available upon request

#### Headquarter

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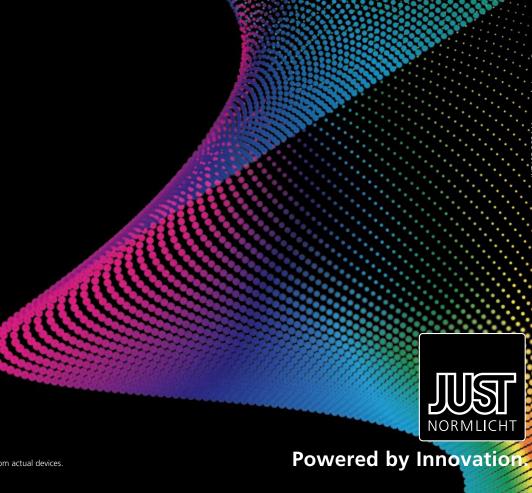
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