WILA Lichttechnik GmbH Postfach 26 11 D 58596 Iserlohn Vödeweg 9-11 D 58638 Iserlohn

T +49 2371 823 0 F +49 2371 823 200 wila@wila.com WILA Lighting Limited 8-10 The Quadrangle Grove Technology Park Wantage Oxfordshire OX12 9FA

T +44 1235 773 500 F +44 1235 773 533 wila@wila.co.uk αbet focus

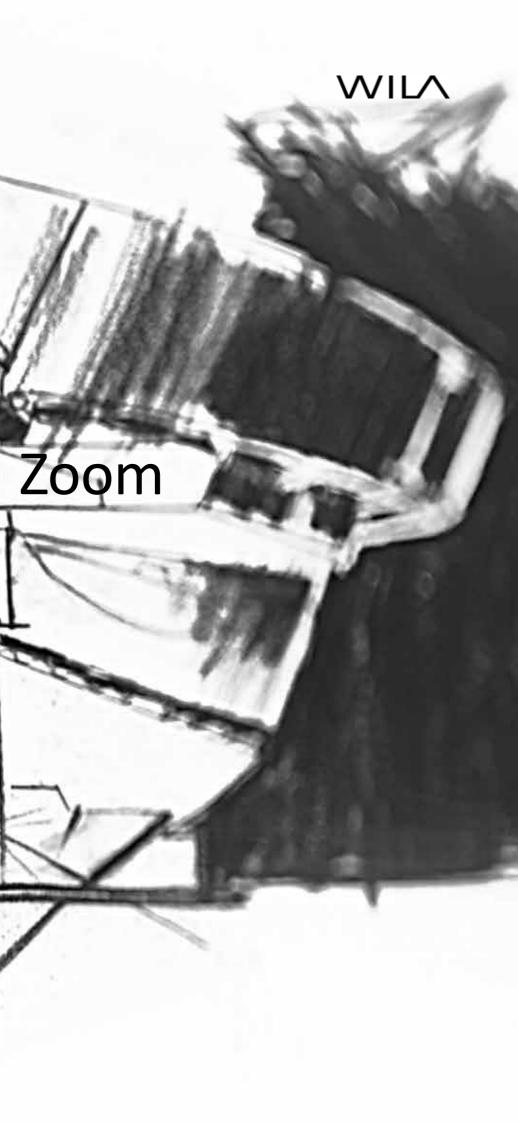
Z8

n.se

www.wila.con



Fox Design AB Telefonplan +46 84408540, info@foxdesign.se, www.foxdesign



172 mm R15

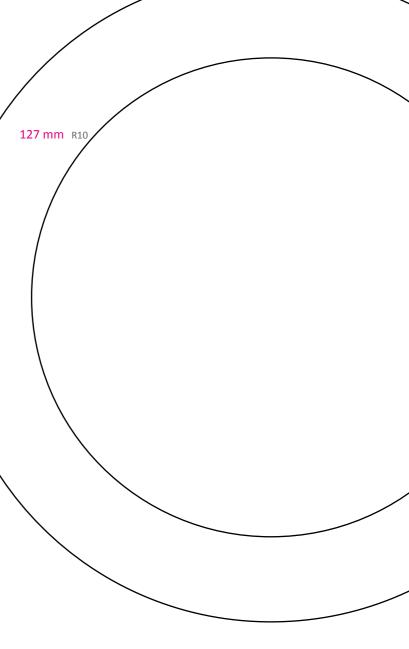
abet focus

Product Data from Page 24

177 mm Q15

127 mm Q10

Fox Design AB Telefonplan +46 84408540, info@foxdesign.se, www.foxdesign.se

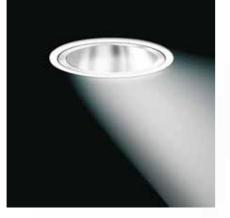


The Language of Light

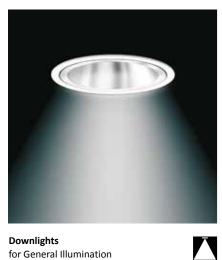
Words, the basis of verbal communication, are formed from correctly combined graphic symbols. In lighting terms, visual communication is the result of the design-driven and functional integration of the appropriate luminaires in an architectural context. WILA's alphabet product family provides the "Tools of Light" so as to achieve lighting perfection.

Precise Quality of Light

High-quality light is the prerequisite for an appropriate visual perception. Precisely attuned qualities of light allow surroundings to be used effectively and enhance their architectural qualities. Homogeneous light output, excellent colour rendering and individual adjustment are the key features of this outstanding range.



Wallwasher for homogeneous Wall Illumination



Downlights for General Illumination



for Accent Illumination

Τ



PLT Precision Lens Technology

Individually and precisely focusable - the centrepiece of the new photometric system is the variable focusing unit. Comparable a camera lens, the unit can be infinitely varied so as to achieve various beam angles, even retroactively. In this way illumination of objects and surfaces can be designed individually and with maximum precision.



Focus α 9° Brilliant spot focuses attention on the essentials



Accent Lighting $14^{\circ} < \alpha < 25^{\circ}$ Narrow beam to direct the attention to the object



Accent Lighting 24° < α < 40° Objects and pictures are deliberately highlighted



Ambient Lighting 35° < α < 60° Absolutely uniform illumination, UGR < 19



Design Quality in Detail

Good Design improves both the visual environment and the functional use. The minimalist design of the f3 mounting system with only 2 mm surface mounting height provides for unobtrusive ceiling integration.

Technical and Economical Quality

The asymmetrical shape of the cooling sink reduces the recessed depth while a smart housing design extends LED lamp life.

Mounting Technology f3 - flat, flexible, functional The new f3 mounting system permits unobtrusive ceiling integration with as little as 2 mm surface mounting height while reflector and mounting ring are flush.

Safety and Diffusing Screen IP44 -

Higher Protection Rating and Flush Alignment Flexible reflector height adjustment ensures that safety or diffusing screens are flush with the lower edge of the f3 mounting system. This means that the application spectrum extends as far as areas where IP44 from below is required. Alterations can be easily carried out later on if the room is put to a different use.









Mounted flush with the ceiling on request







Temperature Management for maximum Efficiency

Performance and service life of LED luminaires depend largely on temperature management. The distinctive shape of the new heat sink is an expression of optimum heat dissipation by maximizing the surface area. Use of materials was reduced to a minimum by using a thermal simulation programme and borrowing the honeycomb structure found in nature.



Lighting Solutions for every Flavour - the alphabet Family of Products performs a wide Variety of Lighting Tasks with a single uniform Design Look.

Project: Gruner + Jahr, Company Restaurant, Hamburg, Germany Lighting Design: Assmann Beraten + Planen, Berlin Luminaires: alphabet zono Downlights, Page 161, alphabet focus Wallwasher, Page 149 und Recessed Adjustable Spotlights, Page 148 Photography: Werner Huthmacher, Berlin







Wallwasher - "Space-defining"

Walls are the decisive peripheries defining rooms. This is why they are also of key importance for illumination. Only perfectly engineered wallwashers are capable of emitting homogeneous light allowing rooms to appear bigger. Even highlighting individual wall panels or any objects attached to them such as paintings looks more perfect that way. _

a 6

αbet focus







The second of th





Wallwasher Sophisticated Lighting Technology

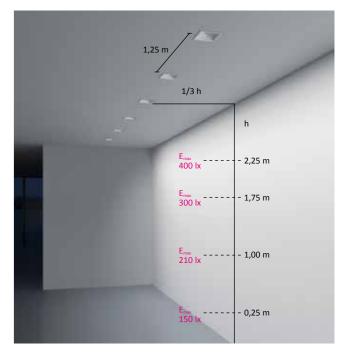
The wallwashers of the alphabet focus product range use Precision Lens Technology (PLT) for even and glare-free illumination of walls.

> High Wall Coverage and even Brightness on the vertical surface

Reduces backward stray light in the room

PLT System

The lighting technology system of this wall washer is based on WILA's Precision Lens Technology. As with all products in the alphabet focus range, the primary lens ensures optimal light focusing. On a second plane the precisely calculated secondary lens system makes for precise and homogeneous light direction onto vertical surfaces. Moreover, the PLT System reduces backward stray light into the room to a minimum.



The Right Positioning

The optimum distance between wallwashers and the wall is at least 1/3 of the room height. The distance between centres, i.e. the offset between individual luminaires, is defined in line with the project. This allows for an individual adjustment of brightness levels and evenness. To ensure a harmonious overall impression, evenness on the vertical surface should amount to $U_0 > 0.4$.

Planning Example: AF2105108-33-30 (38 W, Q15) Room Height: 3 m Distance between centres: 1.25 m Uniformity: $U_0 > 0.4$



Lighting Corridors

Corridors can also be lit with wallwashers. This emphasis exclusively on vertical surfaces creates an appeal of its own

Accentuating Spotlights

Spotlights accentuate objects or structures in the room and create an exciting overall impression. At the same time, they direct the gaze at the object, e.g. in stores or museums. For optimal results, pictures must be illuminated homogeneously. Shadow effects make objects three dimensional and bring them to life.

7

Chain system for a tidy ceiling appearance Because of the modular chain frame, luminaires of the alphabet family can be mounted individually or arranged in groups. For more details about integration, refer to the section entitled "Individual Product Solutions" on Page 256. 1211 27

~ ~ ~

12 -



Fully Recessed Adjustable Spotlights flexible and extremely luminous

The lower light centre of the recessed luminaires makes for a tilting range of up to 40°. Due to this the light can be directed to an extremely high point on the wall.

Recessed adjustable Spotlights Lighting Technology with a consistent Design

361° Rotating

The lighting module can be rotated up to 361°. A rotation lock prevents over rotating the electrical connections and provides safety. The direction of light can be precisely adjusted from below using the scale

40° Tilting

The inclination angle of the adjustable spotlight allows infinitely variable adjustments from 0-40° when installed. These adjustments can also be made retrospectively from below.



9° - 40° focusable

The focusing unit is available with beam spread angles of α 9°, 14-25° or 24-40°. With the adjustable versions the focusing unit can be locked mechanically to keep so as to retain the adjusted value. This avoids inadvertent resetting.

Seen from below the directional Downlights look exactly the same as the conventional Downlights. So thanks to this "family design" homogeneous ceiling layouts can even be achieved with combinations.

30° Tilting

The inclination angle of the recessed directional projector allows infinitely variable adjustments from 0° to 30°. These adjustments can also be made retrospectively from below.

Downlights

Flexible Accent and Surface Illumination

Thanks to the modular layout of alphabet focus comprising various designs, dimensions and the individually adjustable lens technology these luminaires offer sufficient flexibility for those occasions when the furnishings change or rooms are used for different purposes.

1

K TA

1.20

information

6.3

0

100

1000

-HEDRY



Focusing Unit for Ultimate Visual Comfort

The variable focusing unit is the centrepiece of the photometric system as with the Downlight. Thanks to the printed scale, the beam spread angle can be fine-tuned, while the black anti-glare cone makes for ultimate visual comfort and reduces backward stray light into the room.

24°- 60°



Accent Lighting $24^{\circ} < \alpha < 40^{\circ}$ Objects and pictures are deliberately highlighted.

Optimal Visual Comfort_ from the anti-glare cone

Precise Light Projection through Precise Lens Technology (PLT)



Ambient Lighting 35° < α < 60° Absolutely uniform illumination, UGR < 19.



Downli	ight, 3000 K	, Light distributio			5 (rd) 1,0 2,0 3,0 4,0 3,0 7,0 7,00 (dd) 33- 342 (d) 6d0 33-	0,42 1971 1 10,29 920 2 1,23 173 3 1,70 23 2 2,13 66 3	n jm) ⊅(m) Em (n) 1,0 0,55 10 41 2,0 1,17 280 3,0 1,17 118 3,0 23 m 1,0 2,32 m 1,0 2,32 40 1,0 2,530 (n)µm +100)	- 1,0 - 2,0 - 2,0 - 2,0 - 3,0	0,48 1010. 0,68 268. 1,28 112. 1,70 67. 2,13 46.	E 1P20
w	α°	Llm	Llm/W	RD mm	Luminaire	Driver				Mounting
			max.			standard	standard-DV	DALI	DALI-DV	Box
CRI 90										
1.1		' mm, CO 120x12	1 - C							
17W	24 - 40	410 - 870	45	150	AF2101002-3		83761-DV	83761-DD	83761-DD-DV	88084Q10
17W	35 - 60	510 - 810	42	150	AF2101003-3		83761-DV	83761-DD	83761-DD-DV	88084Q10
24W	24 - 40	590 - 1260	47	150	AF2101005-3		83762-DV	83762-DD	83762-DD-DV	88084Q10
24W	35 - 60	740 - 1190	45	150	AF2101006-3		83762-DV	83762-DD	83762-DD-DV	88084Q10
36W	24 - 40	790 - 1660	42	200	AF2101008-3	3-30 83766	83766-DV	83766-DD	83766-DD-DV	88088Q10
36W	35 - 60	1000 - 1610	40	200	AF2101009-3	3-30 83766	83766-DV	83766-DD	83766-DD-DV	88088Q10
47W	24 - 40	1020 - 2170	42	200	AF2101011-3	3-30 83767	83767-DV	83767-DD	83767-DD-DV	88088Q10
47W	35 - 60	1290 - 2070	40	200	AF2101012-3	3-30 83767	83767-DV	83767-DD	83767-DD-DV	88088Q10
Q15, L	kW 177x177	' mm, CO 170x17	70 mm, OH	115 mm						
17W	24 - 40	410 - 870	45	150	AF2101102-3	3-30 83761	83761-DV	83761-DD	83761-DD-DV	88084Q15
17W	35 - 60	510 - 810	42	150	AF2101103-3	3-30 83761	83761-DV	83761-DD	83761-DD-DV	88084Q15
24W	24 - 40	590 - 1260	47	150	AF2101105-3	3-30 83762	83762-DV	83762-DD	83762-DD-DV	88084Q15
24W	35 - 60	740 - 1190	45	150	AF2101106-3	3-30 83762	83762-DV	83762-DD	83762-DD-DV	88084Q15
36W	24 - 40	790 - 1660	42	200	AF2101108-3	3-30 83766	83766-DV	83766-DD	83766-DD-DV	88088Q15
36W	35 - 60	1000 - 1610	40	200	AF2101109-3	3-30 83766	83766-DV	83766-DD	83766-DD-DV	88088Q15
47W	24 - 40	1020 - 2170	42	200	AF2101111-3	3-30 83767	83767-DV	83767-DD	83767-DD-DV	88088Q15
47W	35 - 60	1290 - 2070	40	200	AF2101112-3	3-30 83767	83767-DV	83767-DD	83767-DD-DV	88088Q15

Use index -30 (3000 K) or -40 (4000 K), photometric data in the "products" on www.wila.com



h (m)	മിസ	Em (x)	h (m)	⊿(m)	Em (x)	h (m)	⊿(m)	Em (x)	
	a	1858.	.,û		11.13	.,û	425	2598	
20	0,33	414	-2,0	0,39	218	-20	4.51	599.	
20	1,52	134	20	1,32	124	20	0, тө	268	
<u>4</u> 0	I, TĤ	105	<u>40</u>	і, т а	τù	<u>4</u> 0	1,01	(ھر	
<u>20</u>	2,20		<u>3</u> 0	2,20	-	3 0	1,28		wila663-30
AP2104105	-31-30 (Apro-M	N)	AP2 104 102	-31-30 (Apte-A	NO	AP2 104 101	-SI-SE (/Upter-M	N)	WIId003-30

Recessed Adjustable Spotlight, 3000 K, Light distribution direct

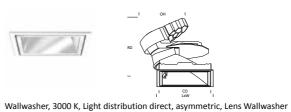
W	α°	Llm	Llm/W	RD mm	Luminaire	Driver				Mounting
			max.			standard	standard-DV	DALI	DALI-DV	Box
CRI 90										
Q15, Lx	W 177x177	mm, CO 170x17	'0 mm							
18W	9	1130	57	160	AF2104120-31-30	83761	83761-DV	83761-DD	83761-DD-DV	88084Q15
18W	14 - 24	350 - 730	37	160	AF2104101-31-30	83761	83761-DV	83761-DD	83761-DD-DV	88084Q15
17W	24 - 40	420 - 810	42	160	AF2104102-31-30	83761	83761-DV	83761-DD	83761-DD-DV	88084Q15
24W	24 - 40	660 - 1250	53	160	AF2104105-31-30	83762	83762-DV	83762-DD	83762-DD-DV	88084Q15
36W	24 - 40	870 - 1650	42	160	AF2104108-31-30	83766	83766-DV	83766-DD	83766-DD-DV	88088Q15
47W	24 - 40	1090 - 2190	43	160	AF2104111-31-30	83767	83767-DV	83767-DD	83767-DD-DV	88088Q15

Use index -30 (3000 K) or -40 (4000 K), photometric data in the "products" on www.wila.com



W	α°	Llm	Llm/W	RD mm	Luminaire	Driver				Mounting
			max.			standard	standard-DV	DALI	DALI-DV	Box
CRI 90										
Q10, Lx	W 127x127	mm, CO 120x120	0 mm, OH 1	15 mm						
18W	9	1130	57	200	AF2103020-33-30	83761	83761-DV	83761-DD	83761-DD-DV	88084Q10
18W	14 - 24	340 - 710	36	200	AF2103001-33-30	83761	83761-DV	83761-DD	83761-DD-DV	88084Q10
17W	24 - 40	410 - 780	41	200	AF2103002-33-30	83761	83761-DV	83761-DD	83761-DD-DV	88084Q10
24W	24 - 40	640 - 1200	45	200	AF2103005-33-30	83762	83762-DV	83762-DD	83762-DD-DV	88084Q10
36W	24 - 40	830 - 1590	40	200	AF2103008-33-30	83766	83766-DV	83766-DD	83766-DD-DV	88088Q10
47W	24 - 40	1050 - 2110	41	200	AF2103011-33-30	83767	83767-DV	83767-DD	83767-DD-DV	88088Q10

Use index -30 (3000 K) or -40 (4000 K), photometric data in the "products" on www.wila.com

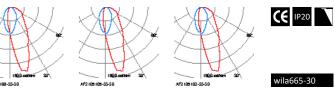


W	Llm	Llm/W	RD mm	Luminaire	Driver				Mounting
					standard	standard-DV	DALI	DALI-DV	Box
CRI 90									
Q15, Lx\	N 177x17	7 mm, CO 1	70x170 mm, OH 145 mm						
17W	950	49	200	AF2105102-33-30	83761	83761-DV	83761-DD	83761-DD-DV	88088Q15
24W	1460	62	200	AF2105105-33-30	83762	83762-DV	83762-DD	83762-DD-DV	88088Q15
36W	1910	49	200	AF2105108-33-30	83766	83766-DV	83766-DD	83766-DD-DV	88088Q15
47W	2450	49	200	AF2105111-33-30	83767	83767-DV	83767-DD	83767-DD-DV	88088Q15
Lico inde		00 K) or -40	(4000 K) photometric data in the "products" o	n www.wila.com					

w	Llm	Llm/W	RD mm	Luminaire	Driver				Mounting
					standard	standard-DV	DALI	DALI-DV	Box
CRI 90									
Q15, D	W 177x1	77 mm, CO 3	170x170 mm, OH 145 mm						
17W	950	49	200	AF2105102-33-30	83761	83761-DV	83761-DD	83761-DD-DV	88088Q15
24W	1460	62	200	AF2105105-33-30	83762	83762-DV	83762-DD	83762-DD-DV	88088Q15
36W	1910	49	200	AF2105108-33-30	83766	83766-DV	83766-DD	83766-DD-DV	88088Q15
47W	2450	49	200	AF2105111-33-30	83767	83767-DV	83767-DD	83767-DD-DV	88088Q15
Lico inc	lov -30 (2)	000 K) or -40	(4000 K) photometric data in the "products"	on www.wila.com					



(E IP20	Em (x)	⊿(m)	հիմ	Em (x)	¢(m)	հիշվ	Em (x)	۵(m)
	23.18	0,25	_ _	10172	0,44	-1 ,û	1802	Q.44
	ST2	4,51	-2,0	268	0,89	-2,0	+00	0,38
	253	<u>ц, тө</u>	20	112	1,52	<u>30</u>	113	1,52
	145	1,01	40	ÊT	I, TB	<u>-40</u>	100	ι, τά
	25	1,28	30	- 46	2,20	30	64	2,20
vila661-30	• •0	-35-30 (Npto-IV	AP2 (0500)	(W N)	02-33-30 (Mpto-	AP2 (050	4 /8 4)	otqu) 02-22-2002
Mounting						er	Drive	2
Box	ALI-DV	D	DALI	rd-DV	standa	dard	stand	
88084Q10	3761-DD-DV	DD 8	83761-I	DV	83761-	1	8376	20-33-30



		50 2.18 AFT 101.005-53-50 (April - 4	<u>82</u>	30 AFT 101 005-3	2,02 25-30 (Alpta-ANN)	<u></u>	<u>30</u> Aft 101.002-	2,20 -35-30 (Alpta -AMP	42	wila667-30
Downlight, 3000 K, Light distribut W α° Llm	ion direct Llm/W RD mm	Luminaire	Driver							Mounting

vv	u	LIIII		KD IIIII	Luiilindire	Driver				wounting
			max.			standard	standard-DV	DALI	DALI-DV	Box
CRI 90										
R10, D	127 mm, C	O 120 mm, OH 1	15 mm							
17W	24 - 40	410 - 850	44	150	AF1101002-33-30	83761	83761-DV	83761-DD	83761-DD-DV	88084R10
17W	35 - 60	510 - 820	43	150	AF1101003-33-30	83761	83761-DV	83761-DD	83761-DD-DV	88084R10
24W	24 - 40	630 - 1290	49	150	AF1101005-33-30	83762	83762-DV	83762-DD	83762-DD-DV	88084R10
24W	35 - 60	790 - 1260	47	150	AF1101006-33-30	83762	83762-DV	83762-DD	83762-DD-DV	88084R10
36W	24 - 40	800 - 1660	42	200	AF1101008-33-30	83766	83766-DV	83767-DD	83767-DD-DV	88089R10
36W	35 - 60	1030 - 1640	41	200	AF1101009-33-30	83766	83766-DV	83766-DD	83766-DD-DV	88089R10
47W	24 - 40	1070 - 2250	44	200	AF1101011-33-30	83767	83767-DV	83767-DD	83767-DD-DV	88089R10
47W	35 - 60	1320 - 2100	41	200	AF1101012-33-30	83767	83767-DV	83767-DD	83767-DD-DV	88089R10
R15, D	172 mm, C	O 165 mm, OH 1	15 mm							
17W	24 - 40	410 - 850	44	150	AF1101102-33-30	83761	83761-DV	83761-DD	83761-DD-DV	88084R15
17W	35 - 60	510 - 820	43	150	AF1101103-33-30	83761	83761-DV	83761-DD	83761-DD-DV	88084R15
24W	24 - 40	630 - 1290	49	150	AF1101105-33-30	83762	83762-DV	83762-DD	83762-DD-DV	88084R15
24W	35 - 60	790 - 1260	47	150	AF1101106-33-30	83762	83762-DV	83762-DD	83762-DD-DV	88084R15
36W	24 - 40	800 - 1660	42	200	AF1101108-33-30	83766	83766-DV	83766-DD	83766-DD-DV	88089R15
36W	35 - 60	1030 - 1640	41	200	AF1101109-33-30	83766	83766-DV	83766-DD	83766-DD-DV	88089R15
47W	24 - 40	1070 - 2250	44	200	AF1101111-33-30	83767	83767-DV	83767-DD	83767-DD-DV	88089R15
47W	35 - 60	1320 - 2100	41	200	AF1101112-33-30	83767	83767-DV	83767-DD	83767-DD-DV	88089R15
lse ind	dex -30 (300	0 K) or -40 (400(() K) nhotom	netric data in the "nr	roducts" on www.wila.com					

Use index -30 (3000 K) or -40 (4000 K), photometric data in the "products" on www.wila.com



h (m)	⊿(m)	Em (x)	h (m)	۵(m)	Em (x)	h (m)	⊿(m)	Em (x)	
.,ů	Q.45	1972		Q.4S	ISBT.		425	28 17	
20	0,38	395	-2,0	0,38	\$42	-2,0	4.51	T IS	
20	1,30	113	20	1,30	152	20	й, тө	\$20	
40	1,73	- 22	<u>40</u>	1,73	an a	40	1,01	130	
3Û	2,18	85	30	2,18		30	1,28	113	wile(71.20
AFT DATES	-\$1-\$0 (Mate -M	ND .	AFT 104 102	-31-30 (Mate-W	ND .	AFT DATIO	-\$1-\$0 (Mate -M	ND .	wila671-30

Recessed Adjustable Spotlight, 3000 K, Light distribution direct

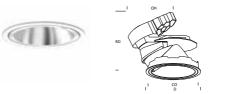
W	α°	Llm	Llm/W	RD mm	Luminaire	Driver				Mounting
			max.			standard	standard-DV	DALI	DALI-DV	Box
CRI 90										
R15, D	172 mm, C	O 165 mm								
18W	9	1130	57	160	AF1104120-31-30	83761	83761-DV	83761-DD	83761-DD-DV	88084R15
18W	14 - 24	420 - 910	46	160	AF1104101-31-30	83761	83761-DV	83761-DD	83761-DD-DV	88084R15
17W	24 - 40	510 - 1020	53	160	AF1104102-31-30	83761	83761-DV	83761-DD	83761-DD-DV	88084R15
24W	24 - 40	630 - 1270	48	160	AF1104105-31-30	83762	83762-DV	83762-DD	83762-DD-DV	88084R15
36W	24 - 40	870 - 1780	45	160	AF1104108-31-30	83766	83766-DV	83766-DD	83766-DD-DV	88089R15
47W	24 - 40	1110 - 2230	43	160	AF1104111-31-30	83767	83767-DV	83767-DD	83767-DD-DV	88089R15
Lleo ind	100 20 1200	0 1/) 40 (4000) K) nhatan	atria data in the "products"	on ununuuilo com					

Use index -30 (3000 K) or -40 (4000 K), photometric data in the "products" on www.wila.com



l	Iy	Recessed	Adjustable	e Spotlight,	, 3000 K,	Light	distribution	direct

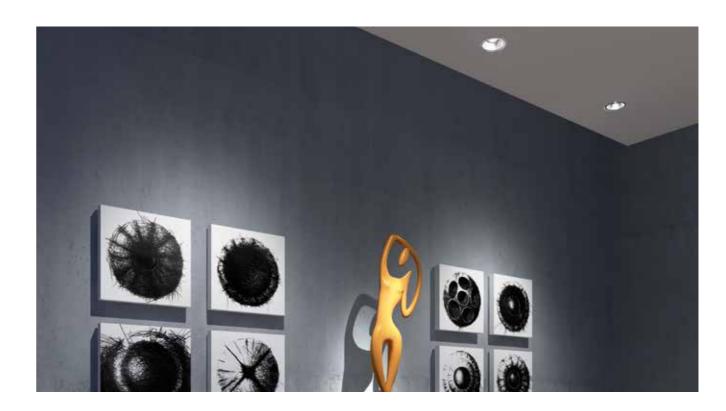
Fully Re	ecessed Adj	یں - ﴿ ustable Spotlight		ght distribution direct	1,0 0,44 2,0 0,07 3,0 1,51 4,0 1,74 3,0 2,18 3,61 105005-3250 (Aptro-Antro)	En (1-) h (n) 1404. 1.0 374. 2.0 186. 2.0 00 4.0 00 4.0 AFT 100	2 (m) Em (v) 0,42 1300 0,38 527 1,50 1,42 1,75 22 2,16 52 2,16 52 2,16 52 2,16 52	n (m) 6 1,0 0,4 2,0 0,4 2,0 0,4 2,0 1,7 3,0 1,	2797. 992. 9.211. 1	(E) IP20
W	α°	Llm	Llm/W	RD mm	Luminaire	Driver				Mounting
			max.			standard	standard-DV	DALI	DALI-DV	Box
CRI 90										
R10, D	127 mm, C(O 120 mm, OH 1	15 mm							
18W	9	1130	57	200	AF1103020-33-30	83761	83761-DV	83761-DD	83761-DD-DV	88084R10
18W	14 - 24	400 - 880	45	200	AF1103001-33-30	83761	83761-DV	83761-DD	83761-DD-DV	88084R10
17W	24 - 40	490 - 990	51	200	AF1103002-33-30	83761	83761-DV	83761-DD	83761-DD-DV	88084R10
24W	24 - 40	610 - 1220	46	200	AF1103005-33-30	83762	83762-DV	83762-DD	83762-DD-DV	88084R10
36W	24 - 40	850 - 1710	43	200	AF1103008-33-30	83766	83766-DV	83767-DD	83767-DD-DV	88089R10
47W	24 - 40	1070 - 2160	42	200	AF1103011-33-30	83767	83767-DV	83767-DD	83767-DD-DV	88089R10
Use ind	lex -30 (300	00 K) or -40 (4000) K), photon	netric data in the "pro	oducts" on www.wila.com					



wila673-30 EL 105 105-3 Wallwasher, 3000 K, Light distribution direct, asymmetric, Lens Wallwasher Driver Mounting standard standard-DV DALI DALI-DV Box

W	Llm	Llm/W	RD mm	Luminaire
CRI 90				
R15, D 1	72 mm, C	O 165 mm,	OH 145 mm	
17W	940	49	200	AF110510

			mm, OH 145 mm	AE1105103 33 30	02764	02761 DV	02764 00	027(1 DD DV	00000045
17W	940	49	200	AF1105102-33-30	83761	83761-DV	83761-DD	83761-DD-DV	88089R15
24W	1450	55	200	AF1105105-33-30	83762	83762-DV	83762-DD	83762-DD-DV	88089R15
36W	1890	47	200	AF1105108-33-30	83766	83766-DV	83766-DD	83766-DD-DV	88089R15
47W	2420	47	200	AF1105111-33-30	83767	83767-DV	83767-DD	83767-DD-DV	88089R15
Use inc	dex -30 (3	000 К) о	or -40 (4000 K), photome	tric data in the "products" on www.wila.com					



Definitions / Details

Luminaire Luminous Flux Llm

The luminaire luminous flux (Llm) defines the usable light of the luminaire and is the decisive value in lighting design. As opposed to the lamp luminous flux (lm), the luminaire luminous flux (Llm) accounts for losses due to the design of the luminaire and thermal losses associated with LED systems. WILA defines only the Llm value for all LED lamps at operating temperature. This value can be found both in data sheets and in the relevant EULUMDAT file.

System Efficiency Llm/W

System efficiency defines the ratio of luminaire luminous flux (Llm) to power input (W). Efficiency losses due to gear boxes have already been taken into account by WILA in the Llm/W value.

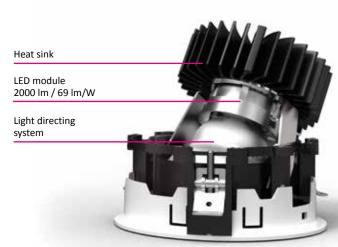
System Photometric Data

For a qualified comparison between LED luminaires and luminaires with compact fluorescent lamps, it is important to ensure first that the products to be compared share approximately the same photometric data. Sample calculation:

LED luminous flux 2000 lm (100%) - system losses (light output ratio) = luminaire luminous flux 1720 Llm

LED efficiency 2000 lm : 29 W = 69 lm/W

System efficiency 1720 Llm : 31 W (29 W LED module + 2 W driver) = 55 Llm/W



alphabet spectra Luminaire luminous flux 1720 Llm System efficiency 55 Llm/W

Cut-off Angle

The cut-off angle of luminaires is defined as the angle between the horizontal plane and the point from which the light source is not yet directly visible. The increased visual comfort offered by shielded light sources is clearly perceivable. The Downlights of the α bet zono family of products, for example, is due to their very good cut-off angle of 30°.

Half-peak Divergence Angle α

For accent lighting, the half-peak divergence angle α is given rather than the beam spread angle. The half-peak divergence angle is defined as the angle of the rotationally symmetrical luminous intensity distribution at which the luminous intensity equals half of its maximum value. The half-peak divergence angle is given as a full angle: super spot < 10°, spot 10°-20°, flood 21°-45°, wide flood 46°-55° and very wide flood > 55°

Beam Spread Angle y

The beam spread angle γ is defined as the angle at which the luminous intensity drops to 1% of the maximum value lmax. It is measured from the vertical (see luminous intensity distribution curve) and is an important measurement for glare reduction.

Limits of the average luminance of screens with a beam angle of > 65°

	Screen high	Screen average
	illuminance \geq 200 cd/m ²	illuminance ≤ 200 cd/m ²
Positive polarity and		
usual requirements 1)	≤ 3000 cd/m ²	≤ 1500 cd/m ²
Negative polarity and		
high requirements 2)	≤ 1500 cd/m ²	≤ 1000 cd/m ²
1) Example Office programme	, dark text on bright background	
2) Example CAD programme,	bright lines on dark background	

Light Output Ratio of a luminaire η_{LB}

The light output ratio of a luminaire is the ratio of the luminous flux of the luminaire to the luminous flux of the light source. It includes the optical, light directing properties of the luminaire and the thermal properties of the light source. A special feature of office luminaires with T16 lamps is that the maximum light flux of the T16 lamp is achieved at 33-37°C. The value measured and stated in the catalogues is much lower at 25°C. For example, OSRAM gives a correction factor (F) for this of 0.9 and, with FQ, of 0.88. You can use the formula ϕ_{max} = ϕ/F to calculate the maximum light flux. Important: with our luminaires, you can use the list light flux at 25°C because we have already included the additional benefit in $\eta_{\rm LB}$.

UGR

The UGR method takes into account the layout of the luminaires in the room and evaluates the glare produced by the entire lighting system for a specific observer's position. WILA provides UGR values where the observer's position is parallel to the longitudinal axis of the luminaire and the lamp/luminaire axis is parallel to the longer side of the room. The UGR method is implemented on the basis of simple tables. A low UGR value indicates that glare is negligible or non-existent. Suitability examples of maximum UGR values: 16 for drafting rooms, 19 for offices and control rooms, 22 for precision industrial tasks, 25 for light industrial tasks and 28 for heavy industrial tasks.

Luminous Intensity Distribution

In order to give a clearer overview, the luminous intensity distribution curves have been divided into groups. Shown are the planes from 0° to 180° (red line) and from 90° to 270° (blue line). The 0° plane is on the right.

Beam Chart

For accent luminaires beam charts are shown. The angle of the spread out beam corresponds to the half-peak divergence angle of the luminous intensity. Diameter and average illuminance Em [lx] can be read from the chart for each corresponding height.

Planning Grid Room

The chart is intended as a means of calculating the approximate illuminance required for ceiling grids in rooms and corridors. For the 600 grid, the illuminances should be multiplied by a factor of 0.9.

Colour Rendering Index CRI

The colour rendering index CRI documents the quality of the colour rendering of light sources on the basis of eight defined test colours (R1-R8).

Colour temperature K

2700K super warm white 3000K warm white 4000K neutral white

MacAdams ellipses

The deviation from the target chromaticity coordinate, is given in the SDCM (Standard Deviation of Colour Matching). Deviations of < 2 SDCM are classified as being 'imperceptible to the eye'.

Index

-DV = loop-in/loop-out function -DD = dimmable, DALI -DD-DV = DALI dimmable with loop-in/loop-out function -PT = integrated luminaire controller with Daylight control and Presence detector

Abbreviations/Dimensions

OH = overhang, max. length of luminaire from the centre of reflector W, W1 = width information D = diameter CO = ceiling, wall or floor cut-out for recessed luminaires CO W = width of ceiling or wall cut-out for recessed luminaires CO L = length of ceiling or wall cut-out for recessed luminaires RD = required installation depth for recessed luminaires under consideration of F conditions H, H1= height information K = colour temperature in Kelvin L, L1 = length information Q = reflector size, square R = reflector size, round CRI = colour rendering index W = electrical power α = half-peak divergence angle γ = beam spread angle

Reflector sizes

With the reflector size Q or R results the following ceiling cut-out CO (in mm) of the luminaire:

- Q
 01
 03
 05
 08
 10
 15
 18
 21

 CO
 32x32
 51x51
 68x68
 95x95
 120x120
 170x170
 200x200
 235x235
- R
 01
 03
 05
 08
 10
 13
 15
 18
 23
 27
 37

 CO
 32
 51
 68
 95
 120
 140
 165
 195
 240
 280
 380

Quick Code

The Quick Link takes you from the printed catalogue to your desired project on the WILA website right away. Simply enter the black-highlighted code into the search box of the WILA homepage. You will then be directed to the same product group and just have to select the desired control gears, e.g. DALI at the end of the column. One click will then take you to the product data sheet.

Needless to say, you can also enter the complete article number in the search box on the WILA website to access the desired product.

Planning Data

This brochure gives a concise overview of the current WILA product ranges. All necessary data and specifications for planning and product ordering as well as article numbers can be found up to date on our homepage www.wila.com

Information and Tolerance

Many luminaires are protected by comprehensive design registrations, patents and trademark protections. We reserve the right to change material, design and programme without notice. Statements are not warranted characteristics. Photometric data is subject to a tolerance of +/- 10%. Optical attachments also impact IP values. Pictures and drawings are for illustrative purposes only. Our terms and conditions of sale and delivery apply.

F Mark

All WILA luminaires are suitable for use in or on ceilings of normal flammability and have so far been labelled with the F marking. With the publication of the EN 60598 standard, date of issue 09/2009, this marking is no longer applicable. After the end of the transitional phase on 12.04.2012, all luminaires without labelling are suitable for use in or on a ceiling of normal flammability. Luminaires that do not fulfil the thermal requirements are marked with a new pictogram.

Information about Maintenance

The illuminance for a room/property must satisfy the published values according to EN 12464-1 over the entire period of usage; this corresponds to the maintenance value. The electrical planner is responsible for determining the maintenance factor dependent upon the lighting system and the spatial conditions used and ensuring this with a maintenance schedule. Further details about maintenance can be found in the "Knowledge" section on our homepage www.wila.com

									772 MILL
-	-							- (- 100
5			2011					. ><	\frown
		1	<u>e</u>	-				100	
	~	1						1 Contest	-
••	Contrast Sec	where, 400	DR. Melter		Rest/infect, Lanes	in towns which and	+4		10
1	anna an	Market, 400	VERST	10.8	Best/Indext, Lores Earliester	into formating halfsafad possib Driver			
-	Line .	Jan/W	9 8 100 A	108	Beechindreet, Larent Lardinitit	Shine Shine stanlart, Safara 30	Terribed, Subproduct (1)	Int, totes its	
-	Libr	indat ex	99.5ght di 99.85° 1609°	10.8	Breat/Indirect, Larrest Larrisoliti	Shine Shine stanlart, Saflara 3V	net meters between its	INC. Server IN	(sel por
	124040 1284	index.	94, 5g64 al- 94, 657 56597	108	Brest/Indexst, Larrent Earning	Driver Standard, Surface 310		Int, totes its	
	286 286 136540 4051	Vilue, 400	94.55 94.65 5650'	100 H	Beech/Indirect, Larrest Earthouter TRESC/INSE 46-40	Brian Sector y Salar al profit Driver Standard, Sanhara DV 81727 DV	winded, independent (iv Billion / iv	Int, totes its	NUT IN COLONY
	tite tite tite tite tite tite tite	where, 600 Jan/W		10.0	Bret/Indext, Lanas Landsolf			Int. Seter IV	BAU, POTA IN
	1300 (00) 1300 (00) 40,50 140,50 140,50	Notice:		10	Breat/Indirect, Larrest Lardenine TRESC/DEL 46-40 TRESC/DEL 46-40	#1711.0V		Int. Seter IV	NAU, PORTO DA

1. Find the code for this Quick Link above the product chart

- 2. Enter the code. For alternative product versions replace the index in the footer line below the printed chart, e.g. wila583-40 by wila583-30 for 3000 K
- **3.** Select control gear ("Details") and you will be directed to the product data sheet

- 649 (1404)	in a second of	NEDA EPHICI COVANIP	a and		WILA
-	Transporters	6			
17	agendorers) inva	n (get Den hanse derschledens Get refactionsdassi			\frown
	Lankali (12 haatte	of energy of the			
	Long Walkyr	(Additional of a	family Means	in the second se	we have
		10010	40 (se)/er		10 . [A]
	whether Salacian	10 mm, 10 mm			
	Long Halter	Langest Langest Tax	here there	LINE AND AND A	108 0000
		lation lation. The	in contra	"THE OWN	
	**	100.01	41 (Sec.) 4	1000 1010	(1) (1)