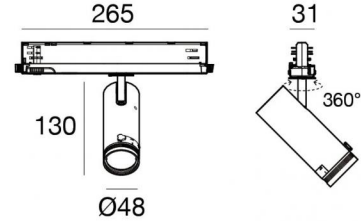




Projectors | 176-264 V  
1 arrayLED 13 W DC - 15.5 W AC | CRI 90  
**81987W85**



Technical data	
Type	Track
Installation position	Ceiling
Installation environment	Indoor
Light Source	LED
Circuit structure	arrayLED
Optics	Adjustable Focus
Light emission direction	frontal
Nominal power	13 W DC
Total Power	15.5 W
Source lumens	1771 lm
Nominal input voltage	220 - 240 V AC
Input voltage range	176 - 264 V AC
Frequency	50 - 60 Hz
CCT / Tone	3000 K
Colour rendering index	90 Ra
C.C. / C.V.	AC
Safety class	2
IP	IP20
Glow wire test	850°
Direct mounting on normally flammable surfaces	Yes
CE	Yes
Driver included	Driver
Dimmable article	DALI-2 - PUSH DIM
Directional	Swivelling
total angle (vertical plane)	90 °
total angle (horizontal plane)	360 °
Tilting	No
Walk-over	No
Drive-over	No
Cable included	No
Resin potting	No
Type of light emission	Single emission
Net weight	0.390 Kg
Electrostatic discharge protection	Yes
Surge protection	2 KV
Optics technology	Anti - Glare

Finishing casing	
Material	Die-cast Aluminium EN AB - 46100
Colour	White
Processing	Powder coating



Projectors | 176-264 V | 1 arrayLED 13 W DC - 15.5 W AC | CRI 90 | Angle Max  
81987W85

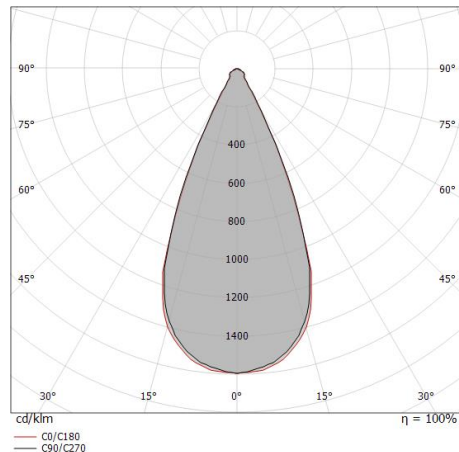
Single emission projectors for indoor application. The warm white LED light source with a adjustable focus light distribution is composed of 1 arrayed LEDs with CCT of 3000 K and a CRI 90; the source luminous flux is 1771 lm, with a 136.2 lm/W nominal luminous efficacy.

The device body is made of die-cast aluminium en ab - 46100 and features a white finish, processed by means of powder coating. The ingress protection degree is IP20; the total weight is of 0.390 kg.

The total absorbed power is 15.5 W.

The device features protection class II and can be ceiling-mounted.

Compliant with the EN 60598-1 standard and its specific provisions.



Distance [m]	Cone diameter [m]	E(0°)	E(C90)	E(C0)	Illuminance [lx]
0.5	0.43 0.43	3045	1184	1188	
1.0	0.86 0.85	761	296	297	
1.5	1.29 1.28	338	132	132	
2.0	1.72 1.71	190	74	74	
2.5	2.15 2.13	122	47	48	
3.0	2.58 2.56	85	33	33	

— C0/C180 (Half-peak divergence: 46.2°)  
— C90/C270 (Half-peak divergence: 46.6°)

### Energy efficiency class

This product contains a light source of energy efficiency class E.

### Illuminotechnical Features

Light Output Ratio (LOR)	26 %
Source lumens	1771 lm
Delivered lumens	478 lm
Consumption	15.5 W
Luminaire efficacy	30 lm/W
Colour temperature	3000 K
Standard Deviation of Colour Matching	2 Step MacAdam
Colour rendering index	90 Ra
Colour Rendering Index	60 R9
Black Body Locus	On
Standard Operating Ambient Temperature	-20 / +50°C
Ordinary temperature on the glass	40°C

### LED Life / Failure Ratio

L70 B10 C0 252000h (at Tj 65 Ta 25)

### UGR

UGR axial	22.9
UGR transversal	22.7
X=4H   Y=8H	S=0.25H
Reflection factor	70/50/20

### OPTICAL

C0/C180 optics	46°
Light distribution simmetry	Symmetrical

### COLOR VECTOR GRAPHIC





Projectors | 176-264 V | 1 arrayLED 13 W DC - 15.5 W AC | CRI 90 | Angle Min

**81987W85**

Single emission projectors for indoor application. The warm white LED light source with a adjustable focus light distribution is composed of 1 arrayed LEDs with CCT of 3000 K and a CRI 90; the source luminous flux is 1771 lm, with a 136.2 lm/W nominal luminous efficacy.

The device body is made of die-cast aluminium en ab - 46100 and features a white finish, processed by means of powder coating. The ingress protection degree is IP20; the total weight is of 0.390 kg.

The total absorbed power is 15.5 W.

The device features protection class II and can be ceiling-mounted.

Compliant with the EN 60598-1 standard and its specific provisions.

### Energy efficiency class

This product contains a light source of energy efficiency class E.

### Illuminotechnical Features

Light Output Ratio (LOR)	11 %
Source lumens	1771 lm
Delivered lumens	207 lm
Consumption	15.5 W
Luminaire efficacy	13 lm/W
Colour temperature	3000 K
Standard Deviation of Colour Matching	2 Step MacAdam
Colour rendering index	90 Ra
Colour Rendering Index	60 R9
Black Body Locus	On
Standard Operating Ambient Temperature	-20 / +50°C
Ordinary temperature on the glass	40°C

### LED Life / Failure Ratio

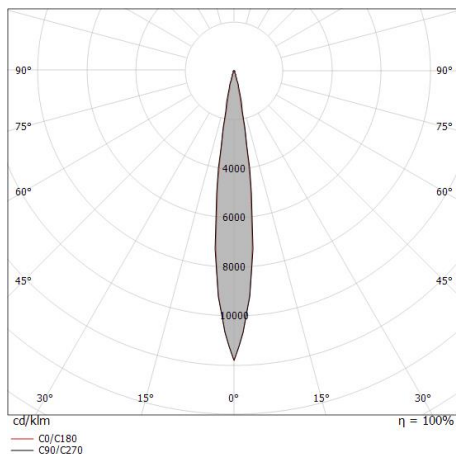
L70 B10 C0 252000h (at Tj 65 Ta 25 )

### UGR

UGR axial	16.6
UGR transversal	16
X=4H   Y=8H	S=0.25H
Reflection factor	70/50/20

### OPTICAL

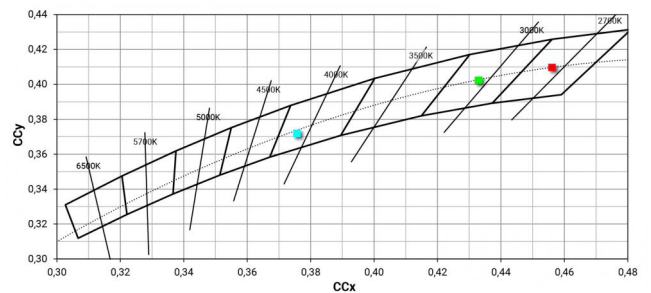
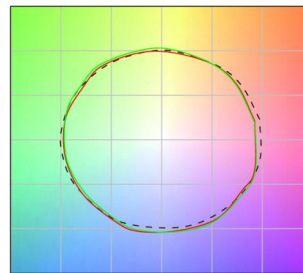
C0/C180 optics	14°
Light distribution simmetry	Symmetrical

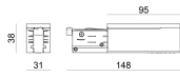


Distance [m]	Cone diameter [m]	illuminance [lx]
0.5	0.13 0.12	E(0°) 9734 E(C90) 4791 E(C0) 4784
1.0	0.25 0.25	E(0°) 2434 E(C90) 1198 E(C0) 1196
1.5	0.38 0.37	E(0°) 1082 E(C90) 532 E(C0) 532
2.0	0.51 0.48	E(0°) 608 E(C90) 299 E(C0) 299
2.5	0.63 0.61	E(0°) 389 E(C90) 192 E(C0) 191
3.0	0.76 0.74	E(0°) 270 E(C90) 133 E(C0) 133

— C0/C180 (Half-peak divergence: 14.0°)  
— C90/C270 (Half-peak divergence: 14.4°)

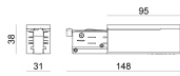
### COLOR VECTOR GRAPHIC





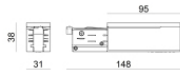
Power supply - White Right power supply header (9001/W)  
Material:PC, colour:white.

**Code**  
81033



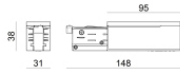
Power supply - White left power supply header (9002/W)  
Material:PC, colour:white.

**Code**  
81036



Power supply - Black left power supply header (9002/B)  
Material:PC, colour:black.

**Code**  
81037



Power supply - Black Right power supply header (9001/B)  
Material:PC, colour:black.

**Code**  
81034



Closing cap - White end cap 9004/W  
Material:PC, colour:white.

**Code**  
80999



Closing cap - Black end cap 9004/B  
Material:PC, colour:black.

**Code**  
81000



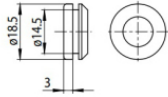
Closing cap - Recessed white end cap 9004-R/W  
Material:PC, colour:white.

**Code**  
81002



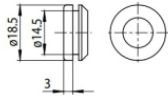
Closing cap - Recessed black end cap 9004-R/B  
Material:PC, colour:black.

**Code**  
81003



Closing cap - White gasket (S-9001/115-W)  
Material:white.

**Code**  
81084



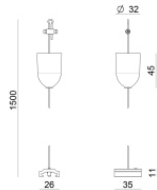
Closing cap - Black gasket (S-9001/115-B)  
Material:black, colour:black.

**Code**  
81085



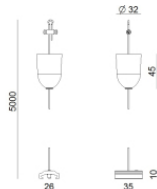
Ceiling rose - 1.5m white pendant luminaire kit + bracket (9000-KIT5-1,5-W)  
Material:plastic, colour:white.

**Code**  
81012



Ceiling rose - 1.5m black pendant luminaire kit + bracket ((9000-KIT5-1,5-B)  
Material:plastic, colour:black.

**Code**  
81014



Ceiling rose - 5m white pendant luminaire kit + bracket (9000-KIT5-5-W)  
Material:plastic, colour:white.

**Code**  
81013



Ceiling rose - 5m black pendant luminaire kit + bracket (9000-KIT5-5-B)  
Material:plastic, colour:black.

**Code**  
81015



Bracket - Anodized fixing bracket (S-9000/131)  
L=35mm, H=14mm, D=24mm.  
Material:Aluminium, colour:translucent.

**Finish**    **Code**  
Anod. Al.    81086



Bracket - Anodized stiffening bracket (S-9000/333)  
L=180mm, H=24mm, D=26mm.

Material:Aluminium, colour:Anodised Aluminum, processing:Anodisation.

**Finish**    **Code**  
Anod. Al.    81024



		<p>Bracket - White stiffening bracket (S-9000/333-W) L=180mm, H=24mm, D=20mm. Material:Aluminium, colour:white RAL 9010, processing:Coating.</p>	<table border="1"> <thead> <tr> <th>Finish</th> <th>Code</th> </tr> </thead> <tbody> <tr> <td>White</td> <td>81025</td> </tr> </tbody> </table>	Finish	Code	White	81025
Finish	Code						
White	81025						
		<p>Bracket - Black stiffening bracket (S-9000/333-B) L=180mm, H=24mm, D=20mm. Material:Aluminium, colour:black RAL 9005, processing:Coating.</p>	<table border="1"> <thead> <tr> <th>Finish</th> <th>Code</th> </tr> </thead> <tbody> <tr> <td>Black</td> <td>81026</td> </tr> </tbody> </table>	Finish	Code	Black	81026
Finish	Code						
Black	81026						
		<p>Bracket - White fixing bracket (S-9000/131-W) L=35mm, H=14mm, D=24mm. Material:Aluminium, colour:white, processing:Coating.</p>	<table border="1"> <thead> <tr> <th>Finish</th> <th>Code</th> </tr> </thead> <tbody> <tr> <td>White</td> <td>81087</td> </tr> </tbody> </table>	Finish	Code	White	81087
Finish	Code						
White	81087						
		<p>Bracket - Black fixing bracket (S-9000/131-B) L=35mm, H=14mm, D=24mm. Material:Aluminium, colour:Black, processing:Coating.</p>	<table border="1"> <thead> <tr> <th>Finish</th> <th>Code</th> </tr> </thead> <tbody> <tr> <td>Black</td> <td>81088</td> </tr> </tbody> </table>	Finish	Code	Black	81088
Finish	Code						
Black	81088						
		<p>Junction - White electrical junction - internal (9003/W) Type linear. Material:PC, colour:white.</p>	<table border="1"> <thead> <tr> <th>Finish</th> <th>Code</th> </tr> </thead> <tbody> <tr> <td>White</td> <td>81039</td> </tr> </tbody> </table>	Finish	Code	White	81039
Finish	Code						
White	81039						
		<p>Junction - Black electrical junction - internal (9003/B) Type linear. Material:PC, colour:black.</p>	<table border="1"> <thead> <tr> <th>Finish</th> <th>Code</th> </tr> </thead> <tbody> <tr> <td>Black</td> <td>81040</td> </tr> </tbody> </table>	Finish	Code	Black	81040
Finish	Code						
Black	81040						
		<p>Junction - White power supply junction - central (9010/W) Type linear. Material:PC, colour:white.</p>	<table border="1"> <thead> <tr> <th>Finish</th> <th>Code</th> </tr> </thead> <tbody> <tr> <td>White</td> <td>81042</td> </tr> </tbody> </table>	Finish	Code	White	81042
Finish	Code						
White	81042						
		<p>Junction - White L junction - internal (9011/W) Type linear. Material:PC, colour:white.</p>	<table border="1"> <thead> <tr> <th>Finish</th> <th>Code</th> </tr> </thead> <tbody> <tr> <td>White</td> <td>81045</td> </tr> </tbody> </table>	Finish	Code	White	81045
Finish	Code						
White	81045						



		<p>Junction - White L junction - external (9012/W) Type linear. Material:PC, colour:white.</p>	<p><b>Finish</b> White</p>	<p><b>Code</b> 81048</p>
		<p>Junction - Flexible white junction (9018/W) Type flexible curve. Material:PC, colour:white.</p>	<p><b>Finish</b> White</p>	<p><b>Code</b> 81066</p>
		<p>Junction - White X junction (9017/W) Type linear. Material:PC, colour:white.</p>	<p><b>Finish</b> White</p>	<p><b>Code</b> 81063</p>
		<p>Junction - Left white T junction - external (9013/W) Type linear. Material:PC, colour:white.</p>	<p><b>Finish</b> White</p>	<p><b>Code</b> 81051</p>
		<p>Junction - Right white T junction - external (9014/W) Type linear. Material:PC, colour:white.</p>	<p><b>Finish</b> White</p>	<p><b>Code</b> 81054</p>
		<p>Junction - Left white T junction - internal (9015/W) Type linear. Material:PC, colour:white.</p>	<p><b>Finish</b> White</p>	<p><b>Code</b> 81057</p>
		<p>Junction - Right White T junction - internal (9016/W) Type linear. Material:PC, colour:white.</p>	<p><b>Finish</b> White</p>	<p><b>Code</b> 81060</p>
		<p>Junction - Black power supply junction - centrale (9010/B) Type linear. Material:PC, colour:black.</p>	<p><b>Finish</b> Black</p>	<p><b>Code</b> 81043</p>



		<p>Junction - Black L junction - internal (9011/B) Type linear. Material:PC, colour:black.</p>	<p><b>Finish</b> Black</p>	<p><b>Code</b> 81046</p>
		<p>Junction - Black L junction - external (9012/B) Type linear. Material:PC, colour:black.</p>	<p><b>Finish</b> Black</p>	<p><b>Code</b> 81049</p>
		<p>Junction - Flexible black junction (9018/B) Type flexible curve. Material:PC, colour:black.</p>	<p><b>Finish</b> Black</p>	<p><b>Code</b> 81067</p>
		<p>Junction - Black X junction (9017/B) Type linear. Material:PC, colour:black.</p>	<p><b>Finish</b> Black</p>	<p><b>Code</b> 81064</p>
		<p>Junction - Black left T junction - external (9013/B) Type linear. Material:PC, colour:black.</p>	<p><b>Finish</b> Black</p>	<p><b>Code</b> 81052</p>
		<p>Junction - Right black T junction - external (9014/B) Type linear. Material:PC, colour:black.</p>	<p><b>Finish</b> Black</p>	<p><b>Code</b> 81055</p>
		<p>Junction - Left black T junction - internal (9015/B) Type linear. Material:PC, colour:black.</p>	<p><b>Finish</b> Black</p>	<p><b>Code</b> 81058</p>
		<p>Junction - Right black T junction - internal (9016/B) Type linear. Material:PC, colour:black.</p>	<p><b>Finish</b> Black</p>	<p><b>Code</b> 81061</p>





	<p>Suspensions - 1.5m white pendant luminaires kit (9000-KIT3-1,5-W) Material:plastic, colour:white.</p>	<p><b>Code</b> <u>81006</u></p>
	<p>Suspensions - 5m white pendant luminaires kit (9000-KIT3-5-W) Material:plastic, colour:white.</p>	<p><b>Code</b> <u>81007</u></p>
	<p>Suspensions - 1.5m black pendant luminaires kit (9000-KIT3-1,5-B) Material:plastic, colour:black.</p>	<p><b>Code</b> <u>81008</u></p>
	<p>Suspensions - 5m black pendant luminaires kit (9000-KIT3-5-B) Material:plastic, colour:black.</p>	<p><b>Code</b> <u>81009</u></p>
	<p>Suspensions - White rigid suspension clip (S-9000-P2-W) Material:plastic, colour:white.</p>	<p><b>Code</b> <u>81018</u></p>
	<p>Suspensions - Black rigid suspension clip (S-9000-P2-B) Material:plastic, colour:black.</p>	<p><b>Code</b> <u>81019</u></p>
	<p>Suspensions - White rigid suspension 1m (S-9000-P3-W) Material:plastic, colour:white.</p>	<p><b>Code</b> <u>81021</u></p>
	<p>Suspensions - Black rigid suspension 1m (S-9000-P3-B) Material:plastic, colour:black.</p>	<p><b>Code</b> <u>81022</u></p>



		<p>Cable cover - White recessed cover (S-9001-R/6-W)            Material:PC, colour:white.</p>	<p><b>Code</b>  <u>81069</u></p>
		<p>Cable cover - White cover for recessed junction (S-9010-R/6-W)            Material:PC, colour:white.</p>	<p><b>Code</b>  <u>81072</u></p>
		<p>Cable cover - White cover for recessed L junction (S-9011-R/6-W)            Material:PC, colour:white.</p>	<p><b>Code</b>  <u>81075</u></p>
		<p>Cable cover - White cover for recessed T junction (S-9013-R/6-W)            Material:PC, colour:white.</p>	<p><b>Code</b>  <u>81078</u></p>
		<p>Cable cover - White cover for recessed X junction (S-9017-R/6-W)            Material:PC, colour:white.</p>	<p><b>Code</b>  <u>81081</u></p>
		<p>Cable cover - Black recessed cover (S-9001-R/6-B)            Material:PC, colour:black.</p>	<p><b>Code</b>  <u>81070</u></p>
		<p>Cable cover - Black cover for recessed junction (S-9010-R/6-B)            Material:PC, colour:black.</p>	<p><b>Code</b>  <u>81073</u></p>
		<p>Cable cover            Material:PC, colour:black.</p>	<p><b>Code</b>  <u>81076</u></p>



		<p>Cable cover - Black cover for recessed T junction (S-9013-R/6-B) Material:PC, colour:black.</p>	<p><b>Code</b> <u>81079</u></p>
		<p>Cable cover - Black cover for recessed X junction (S-9017-R/6-B) Material:PC, colour:black.</p>	<p><b>Code</b> <u>81082</u></p>
		<p>Cable cover Material:white.</p>	<p><b>Code</b> <u>83249</u></p>
		<p>Cable cover Material:black, colour:black.</p>	<p><b>Code</b> <u>83250</u></p>
		<p>White three-phase/DALI adapter (9009/W)</p>	<p><b>Code</b> <u>81094</u></p>
		<p>White three-phase adapter (9009-4/W)</p>	<p><b>Code</b> <u>81091</u></p>
		<p>Black three-phase/DALI adapter (9009/B)</p>	<p><b>Code</b> <u>81095</u></p>
		<p>Black three-phase adapter (9009-4/B)</p>	<p><b>Code</b> <u>81093</u></p>



	Tool - Cutter S-9000/T	<b>Code</b>	
		81005	
		Track - Three-phase Recessed White DALI Track, 1 m (9000-1/W-R) Length: 1000mm; Type of track: Standard. Material:Aluminium, colour:White, processing:Coating.	<b>Finish</b> White <b>Code</b> 80990
		Track - Three-phase Recessed White DALI Track, 2 m (9000-2/W-R) Length: 2000mm; Type of track: Standard. Material:Aluminium, colour:White, processing:Coating.	<b>Finish</b> White <b>Code</b> 80991
		Track - Three-phase Recessed White DALI Track, 3 m (9000-3/W-R) Length: 3000mm; Type of track: Standard. Material:Aluminium, colour:White, processing:Coating.	<b>Finish</b> White <b>Code</b> 80992
		Track - Three-phase Recessed Grey DALI Track, 1 m (9000-1/B-R) Length: 1000mm; Type of track: Standard. Material:Aluminium, colour:Black, processing:Coating.	<b>Finish</b> Black <b>Code</b> 80993
		Track - Three-phase Recessed Black DALI Track, 2 m (9000-1/B-R) Length: 2000mm; Type of track: Standard. Material:Aluminium, colour:Black, processing:Coating.	<b>Finish</b> Black <b>Code</b> 80994
		Track - Three-phase Recessed Black DALI Track, 3 m (9000-3/B-R) Length: 3000mm; Type of track: Standard. Material:Aluminium, colour:Black, processing:Coating.	<b>Finish</b> Black <b>Code</b> 80995
		Track Length: 1000mm; Type of track: Standard. Material:Aluminium, colour:White, processing:Coating.	<b>Finish</b> White <b>Code</b> 83336



		<p>Track Length: 2000mm; Type of track: Standard. Material:Aluminium, colour:White, processing:Coating.</p>	<table border="1"> <thead> <tr> <th>Finish</th> <th>Code</th> </tr> </thead> <tbody> <tr> <td>White</td> <td>83337</td> </tr> </tbody> </table>	Finish	Code	White	83337
Finish	Code						
White	83337						
		<p>Track Length: 3000mm; Type of track: Standard. Material:Aluminium, colour:White, processing:Coating.</p>	<table border="1"> <thead> <tr> <th>Finish</th> <th>Code</th> </tr> </thead> <tbody> <tr> <td>White</td> <td>83338</td> </tr> </tbody> </table>	Finish	Code	White	83338
Finish	Code						
White	83338						
		<p>Track Length: 1000mm; Type of track: Standard. Material:Aluminium, colour:Black, processing:Coating.</p>	<table border="1"> <thead> <tr> <th>Finish</th> <th>Code</th> </tr> </thead> <tbody> <tr> <td>Black</td> <td>83339</td> </tr> </tbody> </table>	Finish	Code	Black	83339
Finish	Code						
Black	83339						
		<p>Track Length: 2000mm; Type of track: Standard. Material:Aluminium, colour:Black, processing:Coating.</p>	<table border="1"> <thead> <tr> <th>Finish</th> <th>Code</th> </tr> </thead> <tbody> <tr> <td>Black</td> <td>83340</td> </tr> </tbody> </table>	Finish	Code	Black	83340
Finish	Code						
Black	83340						
		<p>Track Length: 3000mm; Type of track: Standard. Material:Aluminium, colour:Black, processing:Coating.</p>	<table border="1"> <thead> <tr> <th>Finish</th> <th>Code</th> </tr> </thead> <tbody> <tr> <td>Black</td> <td>83341</td> </tr> </tbody> </table>	Finish	Code	Black	83341
Finish	Code						
Black	83341						
		<p>Electronic accessory - TWIL-DALI controller for devices with DALI protocol installed on three-phase track. installation position: ceiling L=90mm, H=124mm, D=45mm. Material:ABS Plastic, colour:black.</p>	<table border="1"> <thead> <tr> <th>Code</th> </tr> </thead> <tbody> <tr> <td>C-E700008</td> </tr> </tbody> </table>	Code	C-E700008		
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