

HandRail 930XX LED

Safety Luminaires for Escape Route Lighting



When confronted with emergency lighting applications where a ceiling or post top mounting is not possible, Eaton offer a broad innovative low power hand rail mounted emergency luminaire. The hand rail luminaire has an outstanding performance with superior photometric and spacing.

The flexible hand rail luminaire mounts within a tube, options for 42mm or 51mm (outer diameter) to provide a compact, slim and unobtrusive design with smooth edging to eliminate finger trap hazards.

Available with a fully monitored CG-S solution or suitable for use with third party drivers as a un-monitored solution.

It is ideally suited as a compensation measure for escape route/safe egress lighting and architectural decorative lighting.

Features

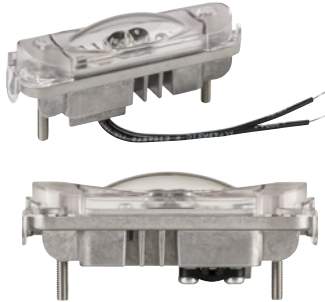
- Selection of special optics for a variety of applications
- Selection of drivers to optimise performance requirements minimising energy consumption
- Monitored and un-monitored options for design flexibility
- High IP and IK rating for indoor and outdoor applications



HandRail 930XX LED

- Safety luminaire in LED technology for mounting into handrail
- Can be mounted in stainless steel, galvanized steel or plastic handrail
- Discrete mounting for improved aesthetics
- Superior spacing due to optics technology and highly efficient HighPower LEDs
- Suitable for indoor and outdoor applications
- Up to 11 m from luminaire to luminaire with optics for open area illumination
- Minimum service requirement due to high service life of the LEDs (50.000 hours)

HandRail 93011 LED



Luminous flux Φ_N	350 mA: 118 lm
	490 mA: 164 lm
	700 mA: 235 lm

Luminous flux Φ_E/Φ_N at end of rated operating time	100%
--	------

Housing material	Polycarbonate, Aluminium
------------------	--------------------------

Housing colour	Aluminium
----------------	-----------

Weight	0.068 kg
--------	----------

Type of mounting	Recessed mounting into handrail
------------------	---------------------------------

Power supply	approx. 3V DC, max 700mA (constant current)
--------------	---

Permissible ambient temperature	-20°C to +50°C
---------------------------------	----------------

Light source	1 x High Power LED ($U_F = 2.8 V \dots 3.15 V$)
--------------	---

HandRail 93012 LED



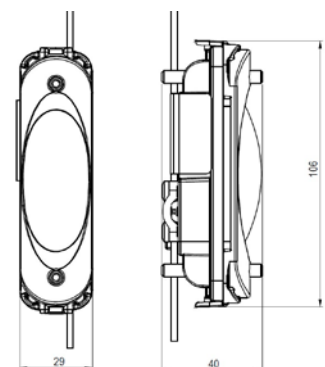
Ordering details

Type	Scope of supply	Order No.
HandRail LED 93011 LED	HandRail LED 93011 LED handrail mounting with 70° asymmetric optics for escape route illumination, indoor and outdoor applications, for installation into 42mm diameter handrail (Does not include driver)	40071355046
HandRail LED 93012 LED	HandRail LED 93012 LED handrail mounting with 45° asymmetric optics for escape route illumination, indoor and outdoor applications, for installation into 42mm diameter handrail (Does not include driver)	40071355051
HandRail LED 93015 LED	HandRail LED 93015 LED handrail mounting for escape route illumination with opal lens, indoor applications only, for installation into 42mm diameter handrail (Does not include driver)	40071355049
HandRail LED 93021 LED	HandRail LED 93021 LED handrail mounting with 70° asymmetric optics for escape route illumination, indoor and outdoor applications, for installation into 51mm diameter handrail (Does not include driver)	40071355050
HandRail LED 93022 LED	HandRail LED 93022 LED handrail mounting with 45° asymmetric optics for escape route illumination, indoor and outdoor applications, for installation into 51mm diameter handrail (Does not include driver)	40071355047
HandRail LED 93025 LED	HandRail LED 93025 LED handrail mounting for escape route illumination with opal lens, indoor applications only, for installation into 51mm diameter handrail (Does not include driver)	40071355048

HandRail 93015 LED



Dimensions in mm



* Degree of protection of the luminaire: IP66
Degree of protection of the Eaton driver housing: IP20

** Only with Eaton Emergency Lighting LED driver

HandRail 930XX LED

Safety Luminaires for Escape Route Lighting

V-CG-SLS xxx



V-CG-SLU xxx



Ordering details modules

LED Driver*	Constant current	Number of HandRail Luminaires		Order No.
		Minimum	Maximum	
V-CG-SLS 701	700 mA	1	1	40071352399
V-CG-SLS 501	500 mA	1	1	40071352369
V-CG-SLS 500	500 mA	2	2	40071352418
V-CG-SLS 350	350 mA	2	4	40071352417
V-CG-SLR 350	350 mA	2	4	40071352420
V-CG-SLU 700	700 mA	2	4	40071352917
V-CG-SLU 490	490 mA	2	4	40071352916
V-CG-SLU 350	350 mA	2	4	40071352915
Optional				
IP66 rated installation box suitable for 2 x V-CG-SLU xxx				40071355090

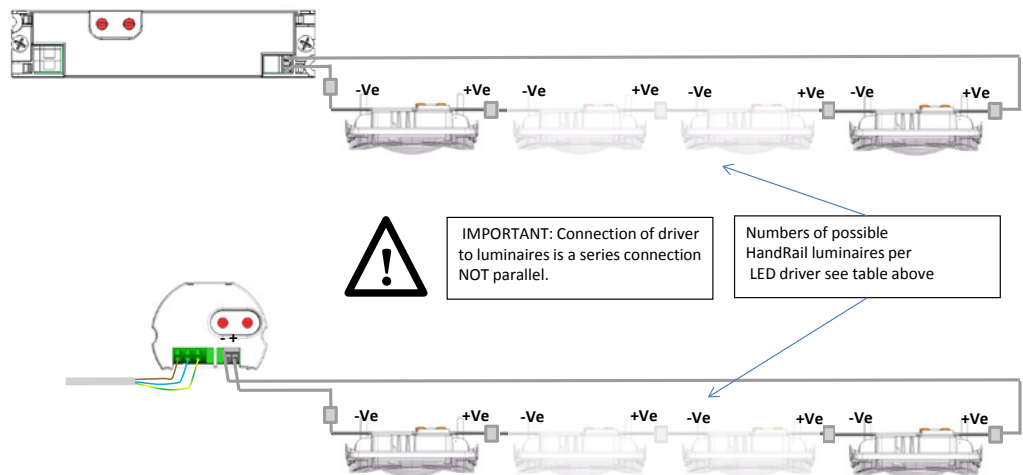
* Detailed LED driven data- see catalogue pages „Monitoring and Lamp Control Gear Modules“

Attention: V-CG-SLI is not suitable

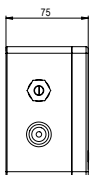
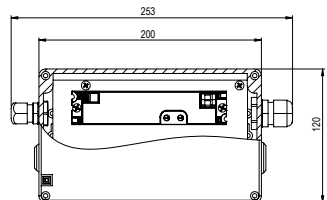
V-CG-SLR 350



Schematic drawing of driver and luminaire/s

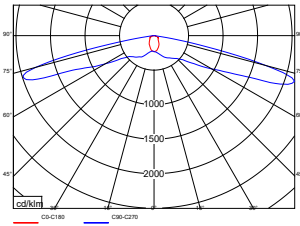


Installations Box. Dimensions in mm






Type	Suitable HandRail/ Pipe diameter	Optic	Recommended application
93011 LED	42.4 x 2.0	70° Lens	Trackside and walkways handrails (level surface)
93012 LED	42.4 x 2.0	45° Lens	Walkways and stair handrails
93015 LED	42.4 x 2.0	No optic. Opal diffuser	Walkways and stair handrails (low glare)
93021 LED	51.0 x 3.8	70° Lens	Trackside and walkways handrails (level surface)
93022 LED	51.0 x 3.8	45° Lens	Walkways and stair handrails
93025 LED	51.0 x 3.8	No optic. Opal diffuser	Walkways and stair handrails (low glare)

LED driver 700 mA

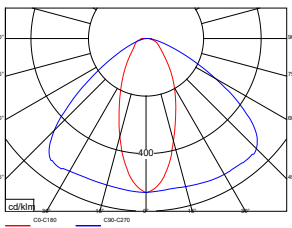


Light distribution curve
HandRail 930x1 LED

Planning assistance for HandRail 930x1 LED (70°) for E = 1.0 lx (10.8 lx)
Measuring height 0.02 m. maintenance factor MF = 80 %. battery operation




Mounting height [m]	Type of mounting	L1 	L2 	L3 
0.8	Handrail mounting	4.2 (1.6)	9.2 (5.6)	0.5 (0.5)
0.9	Escape route center	4.6 (1.9)	10.1 (7.1)	0.5 (0.5)
1		5.0 (2.6)	11.0 (8.1)	0.5 (0.5)

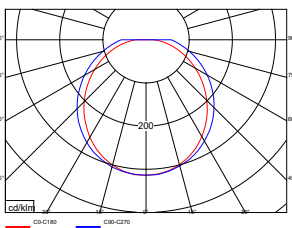
7



Light distribution curve
HandRail 930x2 LED




Planning assistance for HandRail 930x2 LED (45°) for E = 1.0 lx (10.8 lx)
Measuring height 0.02 m. maintenance factor MF = 80 %. battery operation

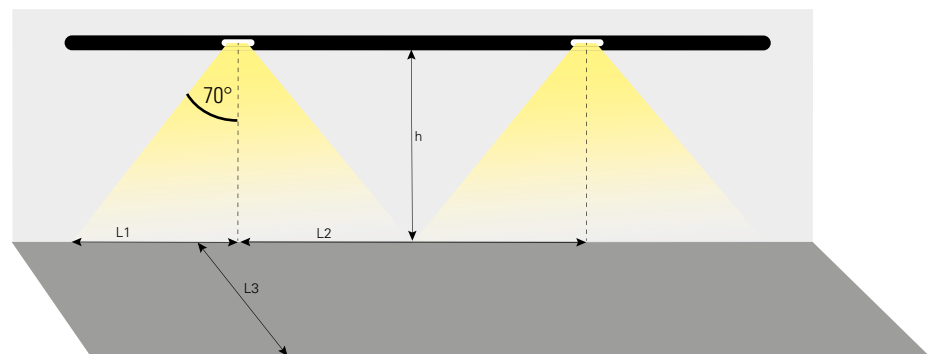
Mounting height [m]	Type of mounting	L1 	L2 	L3 
0.8	Handrail mounting	2.35 (1.75)	5.05 (3.6)	0.5 (0.5)
0.9	Escape route center	2.5 (1.85)	5.4 (3.85)	0.5 (0.5)
1		2.6 (1.95)	5.7 (4.1)	0.5 (0.5)



Light distribution curve
HandRail 930x5 LED

Planning assistance for HandRail 930x5 LED (opal) for E = 1.0 lx (10.8 lx)
Measuring height 0.02 m. maintenance factor MF = 80 %. battery operation

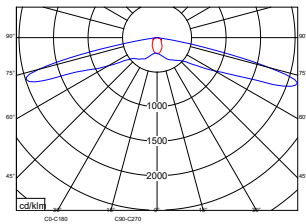
Mounting height [m]	Type of mounting	L1 	L2 	L3 
0.8	Handrail mounting	2.4 (1.7)	6.0 (4.25)	0.5 (0.5)
0.9	Escape route center	2.5 (1.8)	6.3 (4.45)	0.5 (0.5)
1		2.6 (1.8)	6.55 (4.65)	0.5 (0.5)



HandRail 930XX LED

Safety Luminaires for Escape Route Lighting

LED driver 490 mA / 500 mA

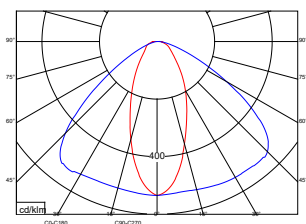


Light distribution curve
HandRail 930x1 LED

Planning assistance for HandRail 930x1 LED (70°) for E = 1.0 lx (10.8 lx)

Measuring height 0.02 m. maintenance factor MF = 80 %. battery operation

Mounting height [m]	Type of mounting	L1	L2	L3
0.8	Handrail mounting	4.05 (1.4)	8.9 (3.3)	0.5 (0.5)
0.9	Escape route center	4.4 (1.6)	9.75 (6.0)	0.5 (0.5)
1		4.75 (1.8)	10.55 (6.9)	0.5 (0.5)

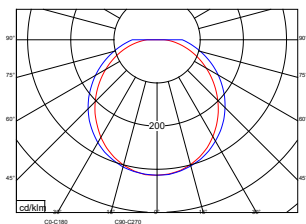


Light distribution curve
HandRail 930x2 LED

Planning assistance for HandRail 930x2 LED (45°) for E = 1.0 lx (10.8 lx)

Measuring height 0.02 m. maintenance factor MF = 80 %. battery operation

Mounting height [m]	Type of mounting	L1	L2	L3
0.8	Handrail mounting	2.2 (1.6)	4.7 (3.3)	0.5 (0.5)
0.9	Escape route center	2.3 (1.7)	5.0 (3.6)	0.5 (0.5)
1		2.45 (1.8)	5.25 (3.8)	0.5 (0.5)

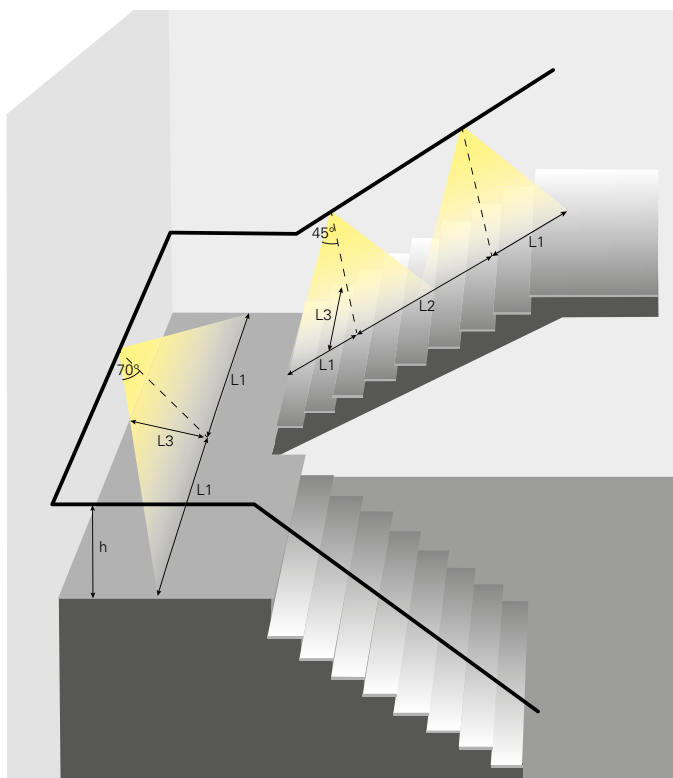


Light distribution curve
HandRail 930x5 LED

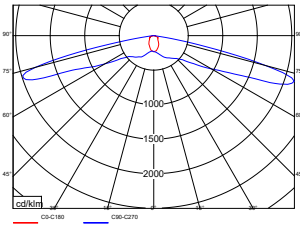
Planning assistance for HandRail 930x5 LED (opal) for E = 1.0 lx (10.8 lx)

Measuring height 0.02 m. maintenance factor MF = 80 %. battery operation

Mounting height [m]	Type of mounting	L1	L2	L3
0.8	Handrail mounting	2.15 (1.4)	5.4 (3.7)	0.5 (0.5)
0.9	Escape route center	2.25 (1.5)	5.6 (3.9)	0.5 (0.5)
1		2.35 (1.55)	5.85 (4.1)	0.5 (0.5)



LED driver 350 mA

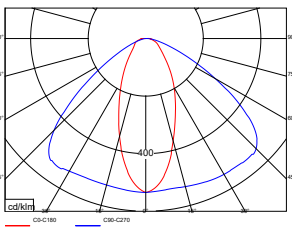


Light distribution curve
HandRail 930x1 LED

Planning assistance for HandRail 930x1 LED (70°) for E = 1.0 lx (10.8 lx)
Measuring height 0.02 m. maintenance factor MF = 80 %. battery operation

Mounting height [m]	Type of mounting	L1	L2	L3
0.8	Handrail mounting	3.9	8.55	0.5 (0.5)
0.9	Escape route center	4.2	9.35	0.5 (0.5)
1		4.55	10.1	0.5 (0.5)

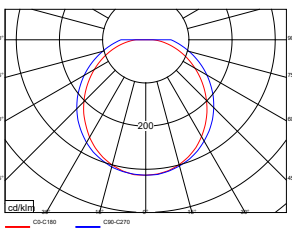
7



Light distribution curve
HandRail 930x2 LED

Planning assistance for HandRail 930x2 LED (45°) for E = 1.0 lx (10.8 lx)
Measuring height 0.02 m. maintenance factor MF = 80 %. battery operation

Mounting height [m]	Type of mounting	L1	L2	L3
0.8	Handrail mounting	2.05	4.53	0.5 (0.5)
0.9	Escape route center	2.15	4.65	0.5 (0.5)
1		2.3	4.9	0.5 (0.5)



Light distribution curve
HandRail 930x5 LED

Planning assistance for HandRail 930x5 LED (opal) for E = 1.0 lx (10.8 lx)
Measuring height 0.02 m. maintenance factor MF = 80 %. battery operation

Mounting height [m]	Type of mounting	L1	L2	L3
0.8	Handrail mounting	1.95	4.85	0.5 (0.5)
0.9	Escape route center	2.0	5.05	0.5 (0.5)
1		2.1	5.25	0.5 (0.5)

