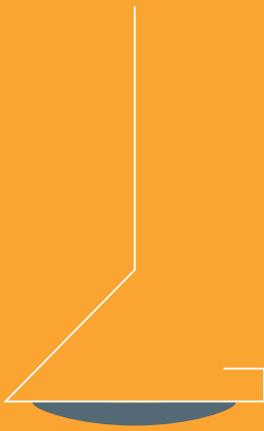


Light Collection
2017-2018

Lighting Catalogue 2017

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بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

ناردين في سطور

في ظل تطور السوق السعودي في كافة المجالات ، وتمتع المستهلك بثوق عال متميز، وتمسكه بأعلى درجات الجودة وأفضل الخدمات.....

كانت ولادة ناردين عام 1982 م في عالم الإنارة كمؤسسة تطمح إلى الكثير من التطور وإلى العديد من الأهداف الكبرى حتى غدت في عام 1987م شركة ذات مسؤولية محدودة كانت ولا زالت موضعاً للثقة وممثلاً لأشهر وأرقى وكالات الإنارة العالمية في المملكة، ولم يقتصر نشاط ناردين على تمثيل الوكالات العالمية واستيراد منتجاتها الرفيعة المستوى، بل كان من أهدافها الأساسية التقليل من حجم استيراد أجهزة الإنارة والعمل على انتاجها محلياً بمستوى الطموح الذي كانت له ، حتى أثمرت جهودها المتواصلة لمواكبة مسيرة التطور في المملكة بإقامة مصنع ضخم على مساحة 25 ألف متر مربع لإنتاج جميع وحدات إنارة الفلوريسنت بكافة مزاياها وأرقى مستوياتها..... وكان عام 1987م أيضاً هو تاريخ إنشاء هذا المصنع بطاقة إنتاجية مقدارها 75.000 وحدة سنوياً، تزايدت عاماً بعد عام حتى أصبحت 2.700.000 وحدة تصنع وفق أحدث ما توصلت إليه تقنية الإنارة مع مطابقة تامة لمواصفات ومعايير الهيئة العربية السعودية للمواصفات والمقاييس (SASO) والمواصفات العالمية، وتوافق جميع مشاريع الإنارة في المملكة من عامة أو خاصة وجودة عالية ومتطورة، ويفضل الله وعونه فقد حازت ناردين في عام 1999م على شهادة الجودة العالمية (BS EN ISO 9001)، وفي عام 2004م حازت على شهادة مختبرات هيئة السلامة الأمريكية (UL).

وفضلاً عن تغطية منتجات ناردين لكافة أنحاء المملكة العربية السعودية، فإننا نصدر لجميع دول الخليج العربي بالإضافة لمعظم الدول العربية الأخرى.

كما لا زلنا بعون الله نسعى إلى المزيد من العطاء المتقن في عالم الإنارة و إلى التطلع الأمل نحو الأسمى والأرقى والبحث المتواصل عن أحدث التقنيات في هذا المجال.

Introduction

Founded in 1982, our company has left no issue in the lighting business without addressing it in depth. At Nardeen Lighting we are committed to our customers and we have focused our corporate life on the quality of both our products and our services. Although we manufacture a wide range of lighting fixtures to meet most expectations, we never say no to special requirements by Architects, Consultants and Specifiers. Customization is a must in our business, and our engineering department is constantly developing and improving designs. The keywords of our manufacturing strategy are:

Safety: Our models are built to meet National/International Standards.

Quality: Our fixtures are tested at several steps of the manufacturing process.

Durability: We design for a long lasting product.

Product performance: To give more value to our customers.

With these four pillars - offering holistic lighting solutions and a full customers service commitment - we are further consolidating our aim of lighting the way as your partner of choice. It is the ability to offer perfect lighting solutions based on advanced technologies, competent system planning and intelligent lighting management that makes Nardeen your partner of choice for professional lighting. Nardeen obtained in 1999 the BS EN ISO 9001 certification that recognizes quality procedures, which are consistently aimed at improving customer satisfaction by means of optimization of the company internal system, and in 2004 the Underwriters Laboratories (UL) safety mark. Thus assuring to our customers a reliable and hassle-free service and product that extends to export markets in other Gulf Countries and the Middle East region as well. Our factory is equipped with modern machinery and the most up-to-date production facilities, which create with the backing of our qualified electrical and mechanical engineers a fine line of high products presented in this edition, manufactured in accordance with international standards and in full con-formity with Saudi Arabian Standard Organization (SASO).



Nardeen Luminaires are designed to be architectural building elements, providing outstanding lighting performance with good visual comfort. They are durable, easy to install and maintain. They can be used under demand environments. They incorporate only high grade, efficacious materials and components. Nardeen indoor luminaires undergo tight quality controls and comply with existing international standards.



FINISH

To measure a long lasting protection of the luminaires, utmost care is brought to the coating process, particularly treatments operations of the surface and powdering. This involves a multistage treatment of:
Degreasing and preparation of all surfaces.
Treatment with phosphates.
Electrostatically applied epoxy base polyester powder finishing.
Powder enamelling in stove ovens.

ELECTRICAL EQUIPMENT

The light fittings are commonly supplied with 127/220V 60Hz, normal or rapid start, HPF electrical circuits. LPF can be supplied on request.
Other voltages 120/277V 60Hz rapid start, 220-240V 50Hz normal start, are available on request.
Electronic, electronic dimmable ballast, RIS capacitor and electronic starter also available on request.
Special electrical wiring for countries with particular standards are available on request.



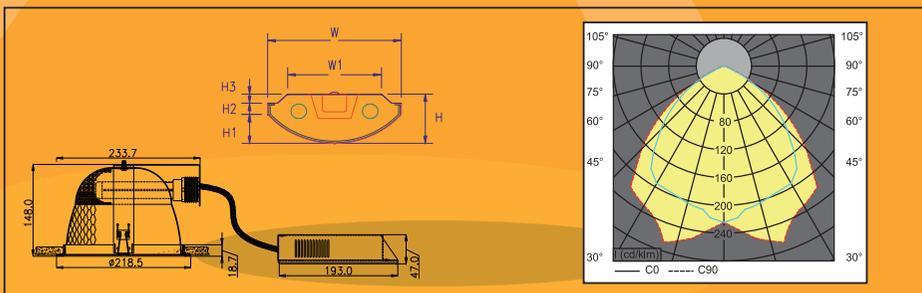
PHOTOMETRIC LABORATORY AND SOFTWARE

- Luminaire optical design is supported by an opto-mechanical software for pre-design and testing in our laboratory to ensure its optical data.
- Polar, cone and cartesian intensity curves, isolux curves, fast calculation table, illuminance distribution, intensity table, utilisation factors, luminance curves, light output ratios, luminance classification.
- The intensity data can be exported to any lighting software design as «eulumdat» or «ies» files.

CUSTOMIZATION

- To respond to most client demands, either in:
 - Lighting results
 - Aesthetic design
 - Mechanical or dimensions adaptation
 - New concept creation

We dispose of technical department «new product» which design, develop, and industrialize on demand of lighting solutions, in relation with the clients.





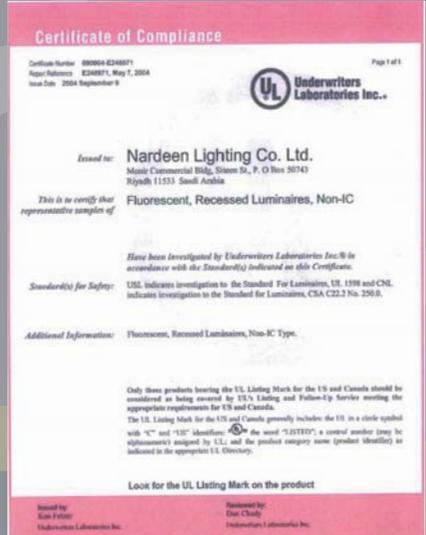
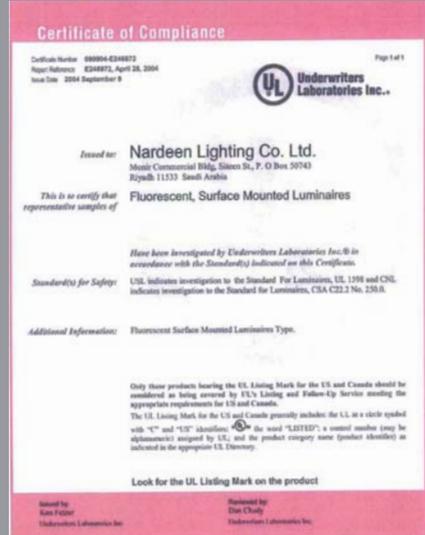
ISO QUALITY ASSURANCE

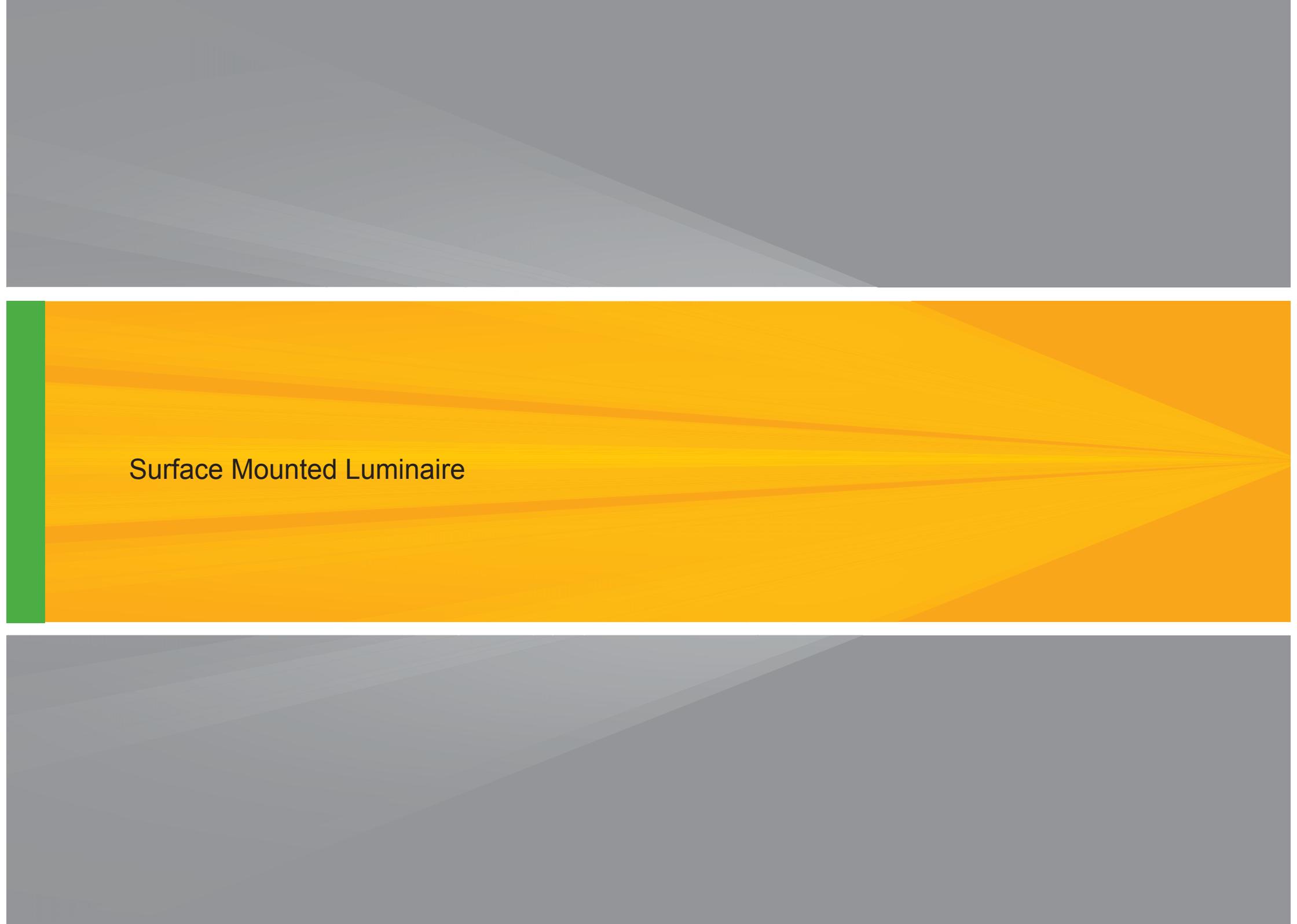


SASO QUALITY CERTIFICATE



UL COMPLIANCE MARK





Surface Mounted Luminaire

Rectangular Opal/Prismatic

SURFACE OPAL



SMO 18-19

SURFACE PRISMATIC



SMP 20-21

WHITE BASE OPAL



WBO 22-23

WHITE BASE PRISMATIC



WBP 24-25

RECTANGULAR FLAT OPAL



RSO 26-27

RECTANGULAR FLAT PRISMATIC



RSP 28-29

RECTANGULAR WRAP-AROUND OPAL



RWO 30-31

RECTANGULAR WRAP-AROUND PRISMATIC



RWP 32-33

RECTANGULAR HEMI-SPHERICAL PRISMATIC



RHP 34-35

RECTANGULAR HEMI-SPHERICAL DISHED LOUVERS



RHF 36-37

ABOVE MIRROR LUMINAIRE OPAL



CWO 38-39

ABOVE MIRROR LUMINAIRE PRISMATIC



CWP 40-41

Rectangular Louvers

RECTANGULAR ALUMINIUM V-LOUVERS



RSA 42-43

ROUND CORNER ALUMINIUM V-LOUVERS



RSAR 44-45

RECTANGULAR PLAIN ALUMINIUM PARABOLIC V-LOUVERS



RSS 46-47

ROUND CORNER PLAIN ALUMINIUM PARABOLIC V-LOUVERS



RSSR 48-49

RECTANGULAR WHITE STEEL V-LOUVERS



RSW 50-51

ROUND CORNER WHITE STEEL V-LOUVERS



RSWR 52-53

RECTANGULAR ROUND ALUMINIUM V-LOUVERS



RRA 54-55

DOUBLE PARABOLIC MATT ALUMINIUM LOUVERS



SDPM 56-57

DOUBLE PARABOLIC SPECULAR ALUMINIUM LOUVERS



SDPS 58-59

DEEP DOUBLE PARABOLIC MATT ALUMINIUM LOUVERS



SDDPM 60-61

DEEP DOUBLE PARABOLIC SEMI-SPECULAR ALUMINIUM LOUVERS



SDDPS 62-63

Rectangular Opal/Prismatic

FLAT WHITE PLASTIC LOUVERS



RSL 64-65

SILVER PLASTIC LOUVERS



RSLS 66-67

GOLDEN PLASTIC LOUVERS



RSLG 68-69

Hygienic Luminaires

HYGIENIC OPAL



SFOH 70-71

HYGIENIC PRISMATIC



SFPH 72-73

HYGIENIC ALUMINIUM V-LOUVERS



RSAH 74-75

HYGIENIC PLAIN ALUMINIUM PARABOLIC LOUVERS



RSSH 76-77

HYGIENIC WHITE STEEL V-LOUVERS



RSWH 78-79

Circular Opal

CIRCULAR OPAL



SOC 80-81

Surface Opal

SERIES : SMO



Applications	Suitable to be used in: offices, clinics, education premises, circulation area & general indoor application.
Housing	Made of press welded Cold Rolled Steel "CRS" sheet of tight construction to prevent light leakage, all metal parts pre-treated with a full degreasing and phosphate process, painted in stove enameled white baked epoxy polyester mix-powder to ensure high reflectance of painted surfaces. Other color finishes upon request.
Light Controller	Molded from one piece metacrylate opal sheet with sharply defined rigid edges and corners. Diffuser is held to the body by means of clamps.
Mounting	Surface.
Control Gear	High Power Factor "HPF" (≥ 90%) Conventional Control Gear "CCG". High Frequency Electronic Control Gear "ECG". High Frequency Dimmable Electronic Control Gear "ECG".
Voltage / Frequency	220 - 240V , 50 / 60 Hz "Other Voltages upon request"
Cable Entry	1x22 mm Ø hole on top. "Extra knock-out holes upon request"
Lamps	18, 36 & 58 watt T8/T26 Fluorescent for Normal Start "NS", Electronic Start "DEOS" or Electronic High Frequency "HF" Ballast "EB". 17 & 32 watt T8 Fluorescent for Electronic High Frequency "HF" Ballast "EB". 14, 28 & 35 watt FH T5/T16 Fluorescent for Electronic High Frequency "HF" Ballast "EB". 24, 49, 54 & 80 watt FQ T5/T16 Fluorescent for Electronic High Frequency "HF" Ballast "EB". "Other lamps (T5/T16 – T8/T26 – TCL - TC-DE – TC-TE) upon request & fitting housing dimensions subject to changes accordingly"
Emergency Unit	3 Hours duration Emergency Unit "EMU" with battery pack Maintained "/M" or Non-Maintained "/NM" for one lamp, and for various lamp types and voltage networks combinations. "Additional Emergency Units to operate more than one lamp on request"

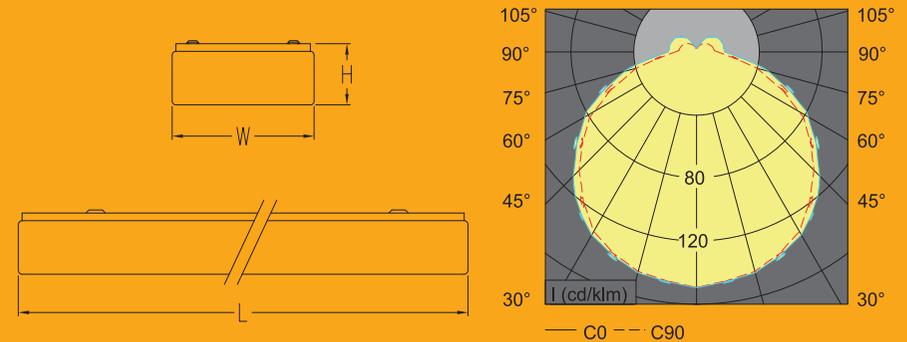
Technical Data

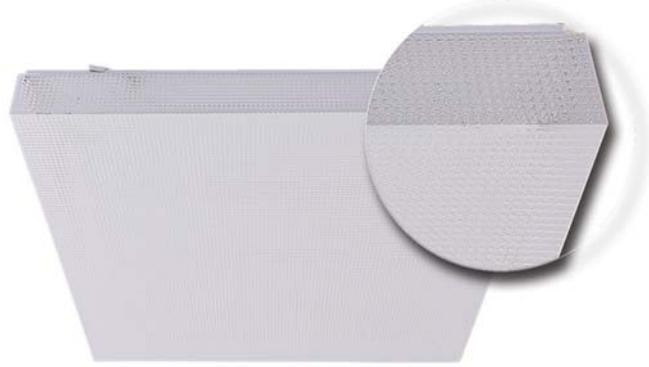
To Order : follow the sequence mr - ln / ls - cgt - v/h - pf - acc - emu

Model Reference	Lamp Number	Lamp Size watt	Control Gear Type	Voltage / Frequency V / Hz	Power Factor	Optional Accessories	Emergency Unit	Physical Characteristics		
								L	W	H
								mm	mm	mm
SMP	1	18	NS Normal Start	220 - 240V 50 / 60 Hz	HPF High Power Factor	FTB Fused Terminal Block TRW Temperature Resistant Wire	3/NM 3 hours Non-Maintained	655	105	104
	1	36						1260	105	104
	1	58	DEOS Electronic Starter					1560	105	104
	2	18	EB Electronic High Frequency					665	190	84
	2	36						1260	190	84
	2	58	EBD Dimmable Electronic High Frequency					1560	190	84
	4	18						3/M 3 hours Maintained	665	665
	4	36	1260						430	87

Photometrics & Dimensions

SMO 4/18w





Applications	Suitable to be used in: offices, clinics, education premises, circulation area & general indoor application.
Housing	Made of press welded Cold Rolled Steel "CRS" sheet of tight construction to prevent light leakage. All metal parts treated with full degreasing and phosphating process, painted in stove enameled white baked epoxy polyester mix powder to ensure high reflectance of painted surfaces. <i>Other color finishes upon request.</i>
Light Controller	Molded from one piece metacrylate prismatic sheet with sharply defined rigid edges and corners. Diffuser is held to the body by means of clamps.
Mounting	Surface.
Control Gear	High Power Factor "HPF" ($\geq 90\% - 0.9$) Conventional Control Gear "CCG". High Frequency Electronic Control Gear "ECG". High Frequency Dimmable Electronic Control Gear "ECG".
Voltage / Frequency	220 - 240V , 50 / 60 Hz <i>"Other Voltages upon request"</i>
Cable Entry	1x22 mm \varnothing hole on top. <i>Extra knockout holes upon request.</i>
Lamps	18, 36 & 58 watt T8/T26 Fluorescent for Normal Start "NS", Electronic Start "DEOS" or Electronic High Frequency "HF" Ballast "EB". 17,32 watt T8 Fluorescent for Electronic High Frequency "HF" Ballast "EB". 14,28 & 35 watt FH T5/T16 Fluorescent for Electronic High Frequency "HF" Ballast "EB". 24, 49, 54 & 80 watt FQ T5/T16 Fluorescent for Electronic High Frequency "HF" Ballast "EB". <i>Other lamps (T5/T16 – T8/T26 – TCL - TC-DE – TC-TE) upon request & fittings housing dimensions subject to changes accordingly."</i>
Emergency Unit	3 hours duration Emergency Unit "EMU" with batteries pack Maintained "M" or Non Maintained "NM" for various lamp combinations and voltage networks. Additional Emergency additional Emergency. <i>Additional Emergency Units to operate more than one lamp on request.</i>

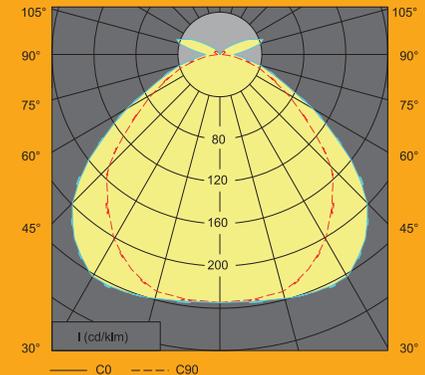
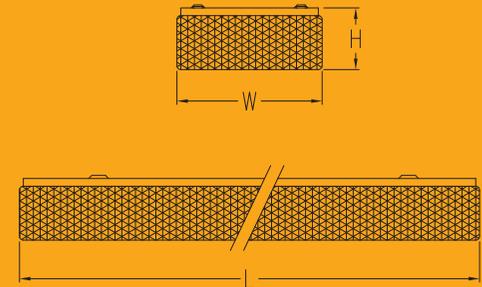
Technical Data

To Order : follow the sequence mr - ln / ls - cgt - v/h - pf - acc - emu

Model Reference	Lamp Number	Lamp Size watt	Control Gear Type	Voltage / Frequency V / Hz	Power Factor	Optional Accessories	Emergency Unit	Physical Characteristics		
								L	W	H
								mm	mm	mm
SMP	1	18	NS Normal Start	220 - 240V 50 / 60 Hz	HPF High Power Factor	FTB Fused Terminal Block TRW Temperature Resistant Wire	3/NM 3 hours Non-Maintained	655	105	104
	1	36						1260	105	104
	1	58	1560					105	104	
	2	18	665					190	84	
	2	36	EB Electronic High Frequency				3/M 3 hours Maintained	1260	190	84
	2	58						1560	190	84
	4	18	EBD Dimmable Electronic High Frequency					665	665	87
	4	36						1260	430	87

Photometrics & Dimensions

SMP 4/18W



White Base Opal

SERIES : WBO



Applications	Suitable to be used in: offices, clinics, education premises, circulation area & general indoor application.
Housing	Made of press welded Cold Rolled Steel "CRS" sheet of tight construction to prevent light leakage, all metal parts pre-treated with a full degreasing and phosphate process, painted in stove enameled white baked epoxy polyester mix-powder to ensure high reflectance of painted surfaces. "Other color finishes upon request"
Light Controller	Metacrylate opal sheet with strong extruded opal profile and sharply defined rigid edges and corners. Diffuser is held to the body by means of special springs allowing easy opening and diffuser suspension during maintenance.
Mounting	Surface.
Control Gear	High Power Factor "HPF" ($\geq 90\%$) Conventional Control Gear "CCG". High Frequency Electronic Control Gear "ECG". High Frequency Dimmable Electronic Control Gear "ECG".
Voltage / Frequency	220 - 240V , 50 / 60 Hz "Other Voltages upon request"
Cable Entry	1x22 mm \varnothing hole on top. "Extra knock-out holes upon request"
Lamps	18, 36 & 58 watt T8/T26 Fluorescent for Normal Start "NS", Electronic Start "DEOS" or Electronic High Frequency "HF" Ballast "EB". 17 & 32 watt T8 Fluorescent for Electronic High Frequency "HF" Ballast "EB". 14, 28 & 35 watt FH T5/T16 Fluorescent for Electronic High Frequency "HF" Ballast "EB". 24, 49, 54 & 80 watt FQ T5/T16 Fluorescent for Electronic High Frequency "HF" Ballast "EB". "Other lamps (T5/T16 – T8/T26 – T12/T38 – TCL - TC-DE – TC-TE) upon request & fitting housing dimensions subject to changes accordingly"
Emergency Unit	3 Hours duration Emergency Unit "EMU" with battery pack Maintained "M" or Non-Maintained "NM" for one lamp, and for various lamp types and voltage networks combinations. "Additional Emergency Units to operate more than one lamp on request"

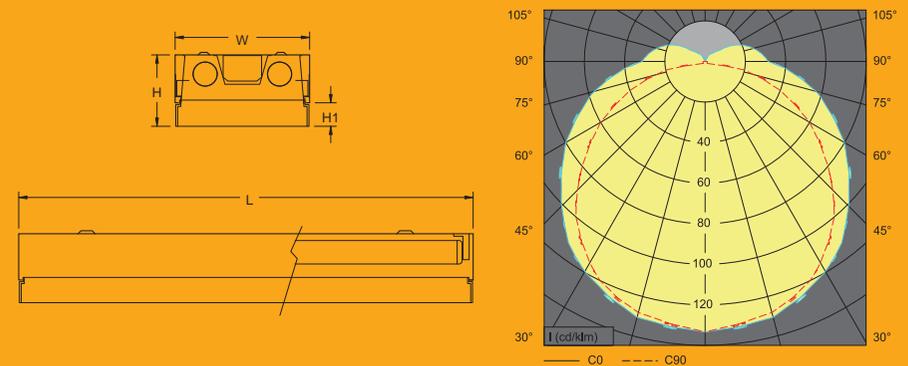
Technical Data

To Order : follow the sequence **mr - ln / ls - cgt - v/h - pf - acc - emu**

Model Reference	Lamp Number	Lamp Size watt	Control Gear Type	Voltage / Frequency V / Hz	Power Factor	Optional Accessories	Emergency Unit	Physical Characteristics								
								L	W	H - H1						
								mm	mm	mm						
WBO	1	14	NS Normal Start	220 - 240V 50 / 60 Hz	HPF High Power Factor	FTB Fused Terminal Block	3/NM 3 hours Non-Maintained	623	175	35 - 110						
	2	17						623	210	35 - 110						
	3	18						623	300	35 - 110						
	4	24						623	623	35 - 110						
	1	28	DEOS Electronic Starter					HPF High Power Factor	TRW Temperature Resistant Wire	3/M 3 hours Maintained	623	175	35 - 110			
	2	32									1233	210	35 - 110			
	3	36									1233	300	35 - 110			
	4	54									1233	623	35 - 110			
	1	35	EBD Dimmable Electronic High Frequency								HF High Frequency	TW Through Wire	3/M 3 hours Maintained	1533	175	35 - 110
	2	49												1533	210	35 - 110
	3	58												1533	300	35 - 110
	4	80												1533	623	35 - 110

Photometrics & Dimensions

WBO 2/36W



White Base Prismatic

SERIES : WBP



Applications	Suitable to be used in: offices, clinics, education premises, circulation area & general indoor application.
Housing	Made of press welded Cold Rolled Steel "CRS" sheet of tight construction to prevent light leakage, all metal parts pre-treated with a full degreasing and phosphate process, painted in stove enameled white baked epoxy polyester mix-powder to ensure high reflectance of painted surfaces. "Other color finishes upon request"
Light Controller	Metacrylate prismatic sheet with transparent extruded profile sharply defined with rigid edges and corners. Diffuser is held to the body by means of special springs allowing easy opening and diffuser suspension during maintenance.
Mounting	Surface.
Control Gear	High Power Factor "HPF" (≥ 90%) Conventional Control Gear "CCG". High Frequency Electronic Control Gear "ECG". High Frequency Dimmable Electronic Control Gear "ECG".
Voltage / Frequency	220 - 240V , 50 / 60 Hz "Other Voltages upon request"
Cable Entry	1x22 mm Ø hole on top. "Extra knock-out holes upon request"
Lamps	18, 36 & 58 watt T8/T26 Fluorescent for Normal Start "NS", Electronic Start "DEOS" or Electronic High Frequency "HF" Ballast "EB". 17 & 32 watt T8 Fluorescent for Electronic High Frequency "HF" Ballast "EB". 14, 28 & 35 watt FH T5/T16 Fluorescent for Electronic High Frequency "HF" Ballast "EB". 24, 49, 54 & 80 watt FQ T5/T16 Fluorescent for Electronic High Frequency "HF" Ballast "EB". "Other lamps (T5/T16 – T8/T26 – T12/T38 – TCL - TC-DE – TC-TE) upon request & fitting housing dimensions subject to changes accordingly"
Emergency Unit	3 Hours duration Emergency Unit "EMU" with battery pack Maintained "M" or Non-Maintained "NM" for one lamp, and for various lamp types and voltage networks combinations. "Additional Emergency Units to operate more than one lamp on request"

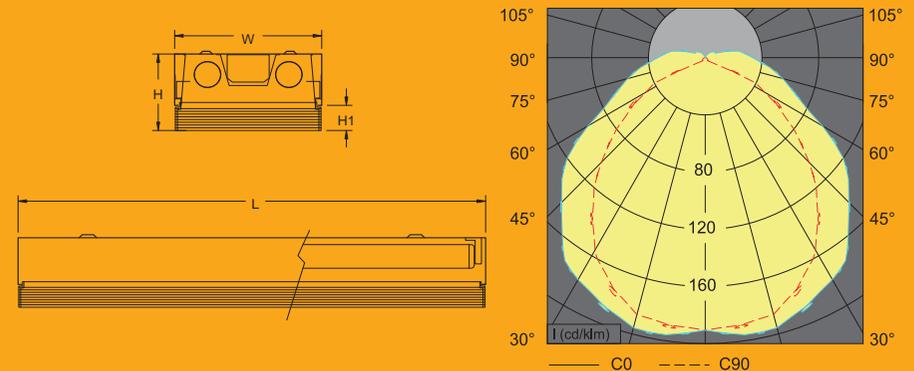
Technical Data

To Order : follow the sequence mr - ln / ls - cgt - v/h - pf - acc - emu

Model Reference	Lamp Number	Lamp Size	Control Gear Type	Voltage / Frequency	Power Factor	Optional Accessories	Emergency Unit	Physical Characteristics			
		watt						L	W	H - H1	
								mm	mm	mm	
WBP	1	14	NS Normal Start	240V - 220 50 / 60 Hz	HPF High Power Factor	FTB Fused Terminal Block TRW Temperature Resistant Wire TW Through Wire	3/NM 3 hours Non-Maintained	623	175	35 - 110	
	2	17						623	210	35 - 110	
	3	18						623	300	35 - 110	
	4	24						623	623	35 - 110	
	1	28	DEOS Electronic Starter					623	175	35 - 110	
	2	32						1233	210	35 - 110	
	3	36					1233	300	35 - 110		
	4	54					1233	623	35 - 110		
	1	35	EBD Dimmable Electronic High Frequency				HF High Frequency	3/M 3 hours Maintained	1533	175	35 - 110
	2	49							1533	210	35 - 110
	3	58							1533	300	35 - 110
	4	80							1533	623	35 - 110

Photometrics & Dimensions

WBP 4/18W



Rectangular Flat Opal

SERIES : RSO



Applications	Suitable to be used in: offices, clinics, education premises, circulation area & general indoor application.
Housing	Made of press welded Cold Rolled Steel "CRS" sheet of tight construction to prevent light leakage, diffuser frame made of Plain Aluminum. All metal parts pre-treated with a full degreasing and phosphate process, painted in stove enameled white baked epoxy polyester mix-powder to ensure high reflectance of painted surfaces. <i>"Other color finishes upon request"</i>
Light Controller	Standard opal flat diffuser secured in an extruded aluminum frame finished in satin white. Frame is held to the body by means of special springs allowing easy opening and diffuser suspension during maintenance.
Mounting	Surface.
Control Gear	High Power Factor "HPF" (≥ 90%) Conventional Control Gear "CCG". High Frequency Electronic Control Gear "ECG". High Frequency Dimmable Electronic Control Gear "ECG".
Voltage / Frequency	220 - 240V , 50 / 60 Hz <i>"Other Voltages upon request"</i>
Cable Entry	1x22 mm Ø hole on top. <i>"Extra knock-out holes upon request"</i>
Lamps	18, 36 & 58 watt T8/T26 Fluorescent for Normal Start "NS", Electronic Start "DEOS" or Electronic High Frequency "HF" Ballast "EB". 17 & 32 watt T8 Fluorescent for Electronic High Frequency "HF" Ballast "EB". 14, 28 & 35 watt FH T5/T16 Fluorescent for Electronic High Frequency "HF" Ballast "EB". 24, 49, 54 & 80 watt FQ T5/T16 Fluorescent for Electronic High Frequency "HF" Ballast "EB". <i>"Other lamps (T5/T16 – T8/T26 – T12/T38 – TCL - TC-DE – TC-TE) upon request & fitting housing dimensions subject to changes accordingly"</i>
Emergency Unit	3 Hours duration Emergency Unit "EMU" with battery pack Maintained "M" or Non-Maintained "NM" for one lamp, and for various lamp types and voltage networks combinations. <i>"Additional Emergency Units to operate more than one lamp on request"</i>

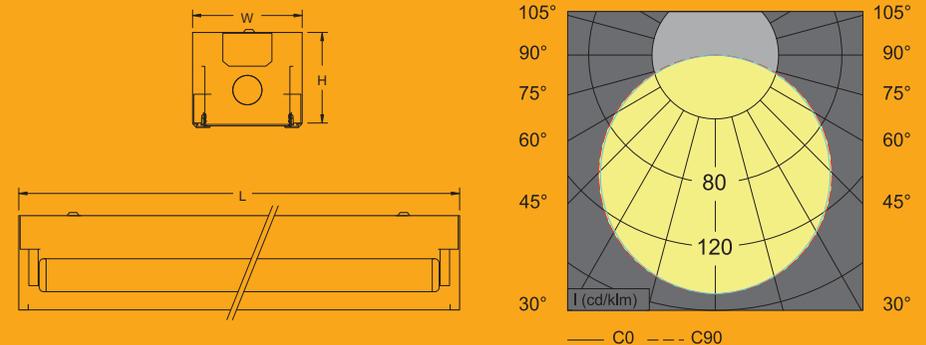
Technical Data

To Order : follow the sequence mr - ln / ls - cgt - v/h - pf - acc - emu

Model Reference	Lamp Number	Lamp Size	Control Gear Type	Voltage / Frequency	Power Factor	Optional Accessories	Emergency Unit	Physical Characteristics		
		watt						L	W	H
								mm	mm	mm
RSO	1	14	NS Normal Start	220 - 240V 50 / 60 Hz	HPF High Power Factor	FTB Fused Terminal Block TRW Temperature Resistant Wire TW Through Wire	3/NM 3 hours Non-Maintained	624	196	90
	2	17						624	305	90
	3	18						624	450	90
	4	24						624	624	90
	1	28	DEOS Electronic Starter					1226	196	90
	2	32						1226	305	90
	3	36						1226	450	90
	4	54						1226	624	90
	1	35	EB Electronic High Frequency					1526	196	90
	2	49						1526	305	90
	3	58						1526	450	90
	4	80						1526	624	90
RSOC	1	11L 13D/T 18D/T 18L 26D/T 32T 42T	EBD Dimmable Electronic High Frequency	50 / 60 Hz	HF High Frequency		3/M 3 hours Maintained	304	304	90
	2	32T 42T						304	304	304

Photometrics & Dimensions

WBP 4/18W



Rectangular Flat Prismatic

SERIES : RSP



Applications	Suitable to be used in: offices, clinics, education premises, circulation area & general indoor application.
Housing	Made of press welded Cold Rolled Steel "CRS" sheet of tight construction to prevent light leakage, diffuser frame made of Plain Aluminum, All metal parts pre-treated with a full degreasing and phosphate process, painted in stove enameled white baked epoxy polyester mix-powder to ensure high reflectance of painted surfaces. <i>"Other color finishes upon request"</i>
Light Controller	Standard prismatic flat diffuser secured in an extruded aluminum frame finished in satin white. Frame is held to the body by means of special springs allowing easy opening and diffuser suspension during maintenance.
Mounting	Surface.
Control Gear	High Power Factor "HPF" (≥ 90%) Conventional Control Gear "CCG". High Frequency Electronic Control Gear "ECG". High Frequency Dimmable Electronic Control Gear "ECG".
Voltage / Frequency	220 - 240V , 50 / 60 Hz <i>"Other Voltages upon request"</i>
Cable Entry	1x22 mm Ø hole on top. <i>"Extra knock-out holes upon request"</i>
Lamps	18, 36 & 58 watt T8/T26 Fluorescent for Normal Start "NS", Electronic Start "DEOS" or Electronic High Frequency "HF" Ballast "EB". 17 & 32 watt T8 Fluorescent for Electronic High Frequency "HF" Ballast "EB". 14, 28 & 35 watt FH T5/T16 Fluorescent for Electronic High Frequency "HF" Ballast "EB". 24, 49, 54 & 80 watt FQ T5/T16 Fluorescent for Electronic High Frequency "HF" Ballast "EB". <i>"Other lamps (T5/T16 – T8/T26 – T12/T38 – TCL - TC-DE – TC-TE) upon request & fitting housing dimensions subject to changes accordingly"</i>
Emergency Unit	3 Hours duration Emergency Unit "EMU" with battery pack Maintained "M" or Non-Maintained "NM" for one lamp, and for various lamp types and voltage networks combinations. <i>"Additional Emergency Units to operate more than one lamp on request"</i>

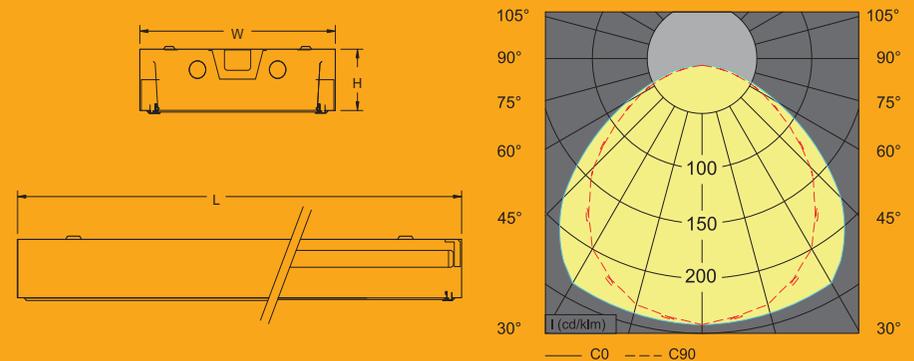
Technical Data

To Order : follow the sequence mr - ln / ls - cgt - v/h - pf - acc - emu

Model Reference	Lamp Number	Lamp Size watt	Control Gear Type	Voltage / Frequency V / Hz	Power Factor	Optional Accessories	Emergency Unit	Physical Characteristics										
								L	W	H								
								mm	mm	mm								
RSP	1	14	NS Normal Start	220 - 240V 50 / 60 Hz	HPF High Power Factor	FTB Fused Terminal Block	3/NM 3 hours Non-Maintained	624	196	90								
	2	17						624	305	90								
	3	18						624	450	90								
	4	24						624	624	90								
	1	28	DEOS Electronic Starter					220 - 240V 50 / 60 Hz	HPF High Power Factor	TRW Temperature Resistant Wire	3/M 3 hours Maintained	1226	196	90				
	2	32										1226	305	90				
	3	36										1226	450	90				
	4	54										1226	624	90				
	1	35	EB Electronic High Frequency									220 - 240V 50 / 60 Hz	HF High Frequency	TW Through Wire	3/M 3 hours Maintained	1526	196	90
	2	49														1526	305	90
	3	58														1526	450	90
	4	80														1526	624	90
RSPC	1	11L 13D/T 18D/T 18L 26D/T 32T 42T	EBD Dimmable Electronic High Frequency	220 - 240V 50 / 60 Hz	HPF High Power Factor	FTB Fused Terminal Block	3/NM 3 hours Non-Maintained									304	304	90
	2	18L 26D/T 32T 42T														304	304	90

Photometrics & Dimensions

RSP 4/18W



Rectangular Wraparound Opal



SERIES : RWO



Applications	Suitable to be used in: offices, clinics, education premises, circulation area & general indoor application.
Housing	Made of press welded Cold Rolled Steel "CRS" sheet of tight construction to prevent light leakage. All metal parts pre-treated with a full degreasing and phosphate process, painted in stove enameled white baked epoxy polyester mix-powder to ensure high reflectance of painted surfaces. "Other color finishes upon request"
Light Controller	One piece acrylic opal sheet bent into a U form. Diffuser is fixed to the body by means of two steel sheet end-cap painted white.
Mounting	Surface.
Control Gear	High Power Factor "HPF" (≥ 90%) Conventional Control Gear "CCG". High Frequency Electronic Control Gear "ECG". High Frequency Dimmable Electronic Control Gear "ECG".
Voltage / Frequency	220 - 240V , 50 / 60 Hz "Other Voltages upon request"
Cable Entry	1x22 mm Ø hole on top. "Extra knock-out holes upon request"
Lamps	18, 36 & 58 watt T8/T26 Fluorescent for Normal Start "NS", Electronic Start "DEOS" or Electronic High Frequency "HF" Ballast "EB". 17 & 32 watt T8 Fluorescent for Electronic High Frequency "HF" Ballast "EB". 14, 28 & 35 watt FH T5/T16 Fluorescent for Electronic High Frequency "HF" Ballast "EB". 24, 49, 54 & 80 watt FQ T5/T16 Fluorescent for Electronic High Frequency "HF" Ballast "EB". "Other lamps (T5/T16 – T8/T26 – T12/T38 – TCL - TC-DE – TC-TE) upon request & fitting housing dimensions subject to changes accordingly"
Emergency Unit	3 Hours duration Emergency Unit "EMU" with battery pack Maintained "M" or Non-Maintained "NM" for one lamp, and for various lamp types and voltage networks combinations. "Additional Emergency Units to operate more than one lamp on request"

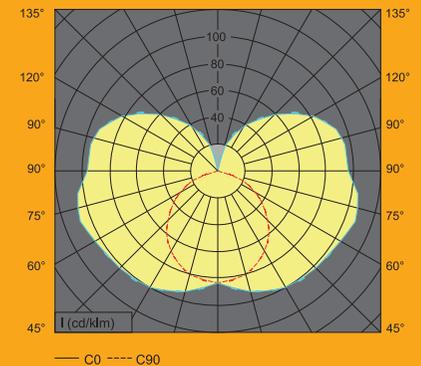
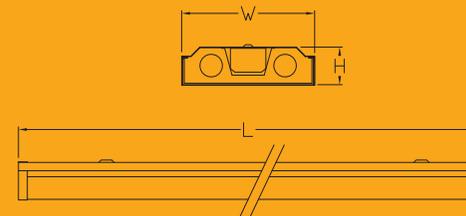
Technical Data

To Order : follow the sequence mr - ln / ls - cgt - v/h - pf - acc - emu

Model Reference	Lamp Number	Lamp Size	Control Gear Type	Voltage / Frequency	Power Factor	Optional Accessories	Emergency Unit	Physical Characteristics						
								L	W	H				
RWO		watt		V / Hz				mm	mm	mm				
	1	18	NS Normal Start	220 - 240V	HPF High Power Factor	FTB Fused Terminal Block	3/NM 3 hours Non-Maintained	620	225	64				
	1	36						1240	225	64				
	1	58						1540	225	64				
	2	18						620	225	64				
	2	36						1240	225	64				
	2	58						1540	225	64				
	3	18	DEOS Electronic Starter					50 / 60 Hz	HPF High Power Factor	TRW Temperature Resistant Wire	3/M 3 hours Maintained	620	350	64
	3	36										1240	350	64
	3	58										1540	350	64
	4	18										620	450	64
	4	36										1240	450	64
	4	58										1540	450	64
	1	14	EB Electronic High Frequency	50 / 60 Hz	HPF High Power Factor	TW Through Wire	3/M 3 hours Maintained					585	225	64
	1	28										1190	225	64
	1	80										1490	225	64
	2	14										585	225	64
	2	28										1190	225	64
	2	80										1490	225	64
	3	14	EBD Dimmable Electronic High Frequency					50 / 60 Hz	HPF High Power Factor	TW Through Wire	3/M 3 hours Maintained	585	350	64
3	28	1190										350	64	
3	80	1490										350	64	
4	14	585										450	64	
4	28	1190	450									64		

Photometrics & Dimensions

RWO 4/18W



Rectangular Wraparound Prismatic

SERIES : RWP



Applications	Suitable to be used in: offices, clinics, education premises, circulation area & general indoor application.
Housing	Made of press welded Cold Rolled Steel "CRS" sheet of tight construction to prevent light leakage. All metal parts pre-treated with a full degreasing and phosphate process, painted in stove enameled white baked epoxy polyester mix-powder to ensure high reflectance of painted surfaces. "Other color finishes upon request"
Light Controller	One piece acrylic prismatic sheet bent into a U form. Diffuser is fixed to the body by means of two steel sheet end-cap painted white.
Mounting	Surface.
Control Gear	High Power Factor "HPF" ($\geq 90\%$) Conventional Control Gear "CCG". High Frequency Electronic Control Gear "ECG". High Frequency Dimmable Electronic Control Gear "ECG".
Voltage / Frequency	220 - 240V , 50 / 60 Hz "Other Voltages upon request"
Cable Entry	1x22 mm \varnothing hole on top. "Extra knock-out holes upon request"
Lamps	18, 36 & 58 watt T8/T26 Fluorescent for Normal Start "NS", Electronic Start "DEOS" or Electronic High Frequency "HF" Ballast "EB". 17 & 32 watt T8 Fluorescent for Electronic High Frequency "HF" Ballast "EB". 14, 28 & 35 watt FH T5/T16 Fluorescent for Electronic High Frequency "HF" Ballast "EB". 24, 49, 54 & 80 watt FQ T5/T16 Fluorescent for Electronic High Frequency "HF" Ballast "EB". "Other lamps (T5/T16 - T8/T26 - T12/T38 - TCL - TC-DE - TC-TE) upon request & fitting housing dimensions subject to changes accordingly"
Emergency Unit	3 Hours duration Emergency Unit "EMU" with battery pack Maintained "M" or Non-Maintained "NM" for one lamp, and for various lamp types and voltage networks combinations. "Additional Emergency Units to operate more than one lamp on request"

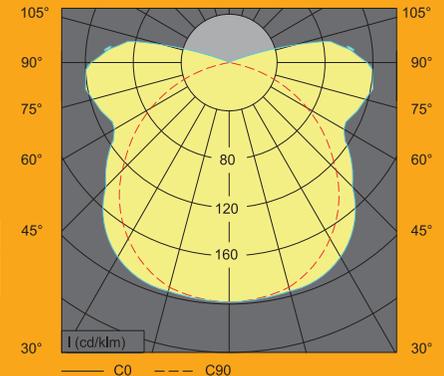
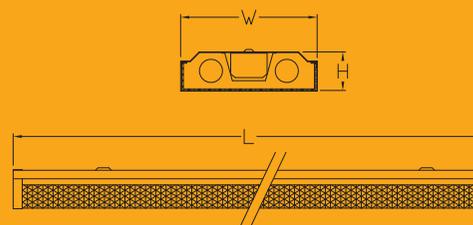
Technical Data

To Order : follow the sequence mr - ln / ls - cgt - v/h - pf - acc - emu

Model Reference	Lamp Number	Lamp Size	Control Gear Type	Voltage / Frequency	Power Factor	Optional Accessories	Emergency Unit	Physical Characteristics		
								L	W	H
RWP		watt		V / Hz				mm	mm	mm
	1	18	NS Normal Start	220 - 240V	HPF High Power Factor	FTB Fused Terminal Block	3/NM 3 hours Non-Maintained	620	225	64
	1	36						1240	225	64
	1	58						1540	225	64
	2	18						620	225	64
	2	36						1240	225	64
	2	58						1540	225	64
	3	18						620	350	64
	3	36						1240	350	64
	3	58						1540	350	64
	4	18						620	450	64
	4	36	1240	450	64					
	1	14	EB Electronic High Frequency	50 / 60 Hz	HPF High Power Factor	TRW Temperature Resistant Wire	3/M 3 hours Maintained	585	225	64
	1	28						1190	225	64
	1	80						1490	225	64
	2	14						585	225	64
	2	28						1190	225	64
	2	80						1490	225	64
	3	14						585	350	64
	3	28						1190	350	64
4	14	585	450	64						
4	28	1190	450	64						

Photometrics & Dimensions

RWP 2/36W



Rectangular Hemispherical Prismatic

SERIES : RHP



Applications	Suitable to be used in: offices, clinics, education premises, circulation area & general indoor application.
Housing	Made of press welded Cold Rolled Steel "CRS" sheet of tight construction to prevent light leakage. All metal parts pre-treated with a full degreasing and phosphate process, painted in stove enameled white baked epoxy polyester mix-powder to ensure high reflectance of painted surfaces. "Other color finishes upon request"
Light Controller	One piece translucent acrylic molded in a hemispherical shape. Diffuser is fixed to the body by means of two clicking lateral grooves.
Mounting	Surface.
Control Gear	High Power Factor "HPF" ($\geq 90\%$) Conventional Control Gear "CCG". High Frequency Electronic Control Gear "ECG". High Frequency Dimmable Electronic Control Gear "ECG".
Voltage / Frequency	220 - 240V , 50 / 60 Hz "Other Voltages upon request"
Cable Entry	1x22 mm \varnothing hole on top. "Extra knock-out holes upon request"
Lamps	18, 36 & 58 watt T8/T26 Fluorescent for Normal Start "NS", Electronic Start "DEOS" or Electronic High Frequency "HF" Ballast "EB". 17 & 32 watt T8 Fluorescent for Electronic High Frequency "HF" Ballast "EB". 14, 28 & 35 watt FH T5/T16 Fluorescent for Electronic High Frequency "HF" Ballast "EB". 24, 49, 54 & 80 watt FQ T5/T16 Fluorescent for Electronic High Frequency "HF" Ballast "EB". "Other lamps (T5/T16 - T8/T26 - T12/T38 - TCL - TC-DE - TC-TE) upon request & fitting housing dimensions subject to changes accordingly"
Emergency Unit	3 Hours duration Emergency Unit "EMU" with battery pack Maintained "M" or Non-Maintained "NM" for one lamp, and for various lamp types and voltage networks combinations. "Additional Emergency Units to operate more than one lamp on request"

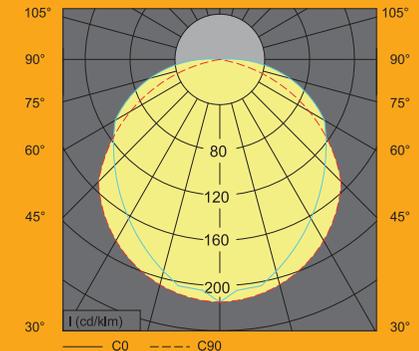
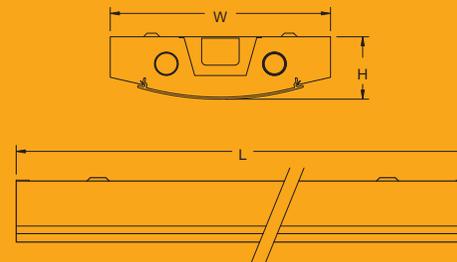
Technical Data

To Order : follow the sequence **mr - ln / ls - cgt - v/h - pf - acc - emu**

Model Reference	Lamp Number	Lamp Size watt	Control Gear Type	Voltage / Frequency V / Hz	Power Factor	Optional Accessories	Emergency Unit	Physical Characteristics		
								L	W	H
								mm	mm	mm
RHP	2	14 17 18 24	EB Electronic High Frequency	220 - 240V	HPF High Power Factor	FTB Fused Terminal Block TRW Temperature Resistant Wire	3/NM 3 hours Non- Maintained	616	240	75
		28 32 36 54	EBD Dimmable Electronic High Frequency	50 / 60 Hz	HF High Frequency	TW Through Wire	3/M 3 hours Maintained	1226	240	75

Photometrics & Dimensions

RHP 2/36W



Rectangular Hemispherical Dished Louvers

SERIES : RHF



Applications	Suitable to be used in: offices, clinics, education premises, circulation area & general indoor application.
Housing	Made of press welded Cold Rolled Steel "CRS" sheet of tight construction to prevent light leakage. All metal parts pre-treated with a full degreasing and phosphating process, painted in stove enamelled white baked epoxy polyester mix-powder to ensure high reflectance of painted surfaces. <i>"Other color finishes upon request"</i>
Light Controller	Dished plate white metallic concaved louvers. Diffuser is fixed to the body by means of two clicking lateral grooves.
Mounting	Surface.
Control Gear	High Power Factor "HPF" (≥ 90%) Conventional Control Gear "CCG". High Frequency Electronic Control Gear "ECG". High Frequency Dimmable Electronic Control Gear "ECG".
Voltage / Frequency	220 - 240V , 50 / 60 Hz <i>"Other Voltages upon request"</i>
Cable Entry	1x22 mm Ø hole on top. <i>"Extra knock-out holes upon request"</i>
Lamps	18, 36 & 58 watt T8/T26 Fluorescent for Normal Start "NS", Electronic Start "DEOS" or Electronic High Frequency "HF" Ballast "EB". 17& 32 watt T8 Fluorescent for Electronic High Frequency "HF" Ballast "EB". 14, 28 & 35 watt FH T5/T16 Fluorescent for Electronic High Frequency "HF" Ballast "EB". 24, 49, 54 & 80 watt FQ T5/T16 Fluorescent for Electronic High Frequency "HF" Ballast "EB". <i>"Other lamps (T5/T16 – T8/T26 – T12/T38 – TCL - TC-DE – TC-TE) upon request & fitting housing dimensions subject to changes accordingly"</i>
Emergency Unit	3 Hours duration Emergency Unit "EMU" with battery pack Maintained "M" or Non-Maintained "NM" for one lamp, and for various lamp types and voltage networks combinations. <i>"Additional Emergency Units to operate more than one lamp on request"</i>

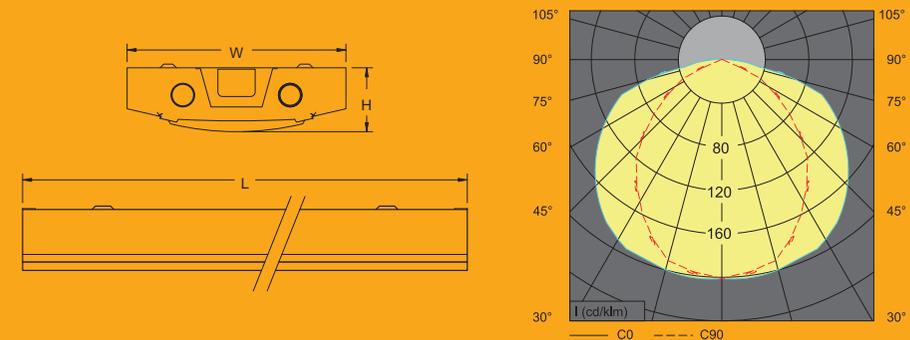
Technical Data

To Order : follow the sequence mr - ln / ls - cgt - v/h - pf - acc - emu

Model Reference	Lamp Number	Lamp Size watt	Control Gear Type	Voltage / Frequency V / Hz	Power Factor	Optional Accessories	Emergency Unit	Physical Characteristics		
								L	W	H
								mm	mm	mm
RHF	2	14 17 18 24	EB Electronic High Frequency	220 - 240V	HPF High Power Factor	FTB Fused Terminal Block TRW Temperature Resistant Wire	3/NM 3 hours Non- Maintained	616	240	75
	2	28 32 36 54	EBD Dimmable Electronic High Frequency	50 / 60 Hz	HF High Frequency	TW Through Wire	3/M 3 hours Maintained	1226	240	75

Photometrics & Dimensions

RSF 2/18W



Above Mirror Luminaire Opal



SERIES : CWO



Applications	Suitable to be used in: offices, clinics, education premises, circulation area & general indoor application.
Housing	Made of press welded Cold Rolled Steel "CRS" sheet of tight construction to prevent light leakage. All metal parts pre-treated with a full degreasing and phosphate process, painted in stove enameled white baked epoxy polyester mix-powder to ensure high reflectance of painted surfaces. <i>"Other color finishes upon request"</i>
Light Controller	One piece acrylic opal sheet bent into an L form. Diffuser is fixed to the body by means of two steel sheet end-cap painted white.
Mounting	Surface.
Control Gear	High Power Factor "HPF" (≥ 90%) Conventional Control Gear "CCG". High Frequency Electronic Control Gear "ECG". High Frequency Dimmable Electronic Control Gear "ECG".
Voltage / Frequency	220 - 240V , 50 / 60 Hz <i>"Other Voltages upon request"</i>
Cable Entry	1x22 mm Ø hole on top. <i>"Extra knock-out holes upon request"</i>
Lamps	18, 36 & 58 watt T8/T26 Fluorescent for Normal Start "NS", Electronic Start "DEOS" or Electronic High Frequency "HF" Ballast "EB". 17& 32 watt T8 Fluorescent for Electronic High Frequency "HF" Ballast "EB". 14, 28 & 35 watt FH T5/T16 Fluorescent for Electronic High Frequency "HF" Ballast "EB". 24, 49, 54 & 80 watt FQ T5/T16 Fluorescent for Electronic High Frequency "HF" Ballast "EB". <i>"Other lamps (T5/T16 – T8/T26 – T12/T38 – TCL - TC-DE – TC-TE) upon request & fitting housing dimensions subject to changes accordingly"</i>
Emergency Unit	3 Hours duration Emergency Unit "EMU" with battery pack Maintained "M" or Non-Maintained "NM" for one lamp, and for various lamp types and voltage networks combinations. <i>"Additional Emergency Units to operate more than one lamp on request"</i>
Optional Accessories	<i>"Can be provide with pull-switch, rocker-switch, normal socket outlet and socket outlet with isolator transformer on request"</i>

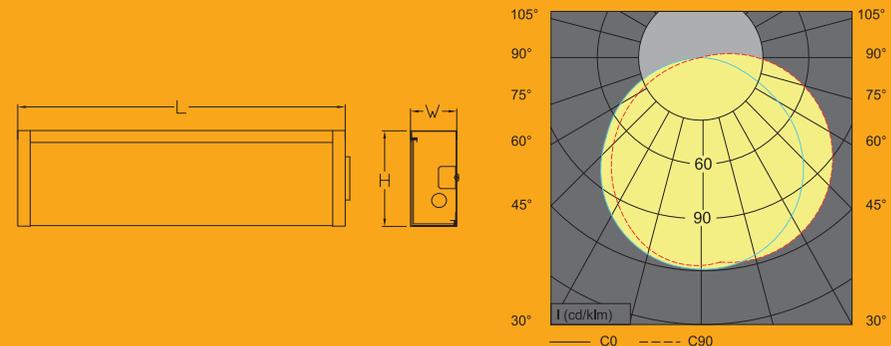
Technical Data

To Order : follow the sequence mr - ln / ls - cgt - v/h - pf - acc - emu

Model Reference	Lamp Number	Lamp Size / watt	Control Gear Type	Voltage / Frequency / V / Hz	Power Factor	Optional Accessories	Emergency Unit	Physical Characteristics				
								L (T8)	L (T5)	W	H	
								mm	mm	mm	mm	
CWO	1	14	NS Normal Start	220 - 240V 50 / 60 Hz	HPF High Power Factor	Pull Switch	3/NM 3 hours Non-Maintained	633	595	77	127	
	2	18						633	595	77	177	
	1	28	DEOS Electronic Starter					Rocker Switch	--	--	--	--
	2	36	EB Electronic High Frequency						1240	1195	77	127
	1	58 80	EBD Dimmable Electronic High Frequency			Normal Socket Outlet		--	--	--	--	
								1540	1495	77	127	
								--	--	--	--	
								1540	1495	77	177	
	--	--	--			--						

Photometrics & Dimensions

CWO 2/36W



Above Mirror Luminaire Prismatic

SERIES : CWP



Applications	Suitable to be used in: offices, clinics, education premises, circulation area & general indoor application.
Housing	Made of press welded Cold Rolled Steel "CRS" sheet of tight construction to prevent light leakage. All metal parts pre-treated with a full degreasing and phosphate process, painted in stove enameled white baked epoxy polyester mix-powder to ensure high reflectance of painted surfaces. <i>"Other color finishes upon request"</i>
Light Controller	One piece acrylic prismatic sheet bent into an L form. Diffuser is fixed to the body by means of two steel sheet end-cap painted white.
Mounting	Surface.
Control Gear	High Power Factor "HPF" ($\geq 90\%$) Conventional Control Gear "CCG". High Frequency Electronic Control Gear "ECG". High Frequency Dimmable Electronic Control Gear "ECG".
Voltage / Frequency	220 - 240V , 50 / 60 Hz <i>"Other Voltages upon request"</i>
Cable Entry	1x22 mm \varnothing hole on top. <i>"Extra knock-out holes upon request"</i>
Lamps	18, 36 & 58 watt T8/T26 Fluorescent for Normal Start "NS", Electronic Start "DEOS" or Electronic High Frequency "HF" Ballast "EB". 20 & 40 watt T12/T38 Fluorescent for Rapid Start "RS". 17& 32 watt T8 Fluorescent for Electronic High Frequency "HF" Ballast "EB". 14, 28 & 35 watt FH T5/T16 Fluorescent for Electronic High Frequency "HF" Ballast "EB". 24, 49, 54 & 80 watt FQ T5/T16 Fluorescent for Electronic High Frequency "HF" Ballast "EB". <i>"Other lamps (T5/T16 - T8/T26 - T12/T38 - TCL - TC-DE - TC-TE) upon request & fitting housing dimensions subject to changes accordingly"</i>
Emergency Unit	3 Hours duration Emergency Unit "EMU" with battery pack Maintained "M" or Non-Maintained "NM" for one lamp, and for various lamp types and voltage networks combinations. <i>"Additional Emergency Units to operate more than one lamp on request"</i>
Optional Accessories	<i>"Can be provided with pull-switch, rocker-switch, normal socket outlet and socket outlet with isolator transformer on request"</i>

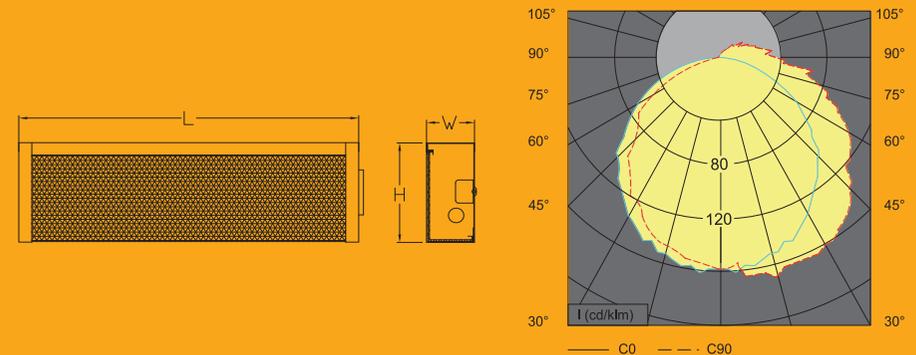
Technical Data

To Order : follow the sequence mr - ln / ls - cgt - v/h - pf - acc - emu

Model Reference	Lamp Number	Lamp Size / watt	Control Gear Type	Voltage / Frequency / V / Hz	Power Factor	Optional Accessories	Emergency Unit	Physical Characteristics			
								L (T8)	L (T5)	W	H
								mm	mm	mm	mm
CWP	1	14 18	NS Normal Start	220 - 240V 50 / 60 Hz	HPF High Power Factor	Pull Switch	3/NM 3 hours Non-Maintained	633	595	77	127
								633	595	77	177
	--	--	--					--			
	--	--	--					--			
	2	28 36	DEOS Electronic Starter			Rocker Switch		1240	1195	77	127
								1240	1195	77	177
	--	--	--			--					
	--	--	--			--					
	1	58 80	EB Electronic High Frequency			Normal Socket Outlet		1540	1495	77	127
								--	--	--	--
2	58 80	EBD Dimmable Electronic High Frequency	Normal Socket Outlet	1540	1495	77	177				
				--	--	--	--				
--	--	--	--								
--	--	--	--								

Photometrics & Dimensions

CWP 2/36W



Rectangular Aluminium V-Louvers

SERIES : RSA



Applications	Suitable to be used in: offices, clinics, education premises, circulation area & general indoor application.
Housing	Made of press welded Cold Rolled Steel "CRS" sheet of tight construction to prevent light leakage. All metal parts pre-treated with a full degreasing and phosphating process, painted in stove enameled white baked epoxy polyester mix-powder to ensure high reflectance of painted surfaces. R- models characterized with chamfered edges and plastic corners. <i>"Other color finishes upon request"</i>
Light Controller	V shaped specular anodized aluminum louvers, with stepped surface strip aluminum cross-baffle. Louvers are held to the body by means of special steel springs allowing easy opening and diffuser suspension during maintenance.
Mounting	Surface.
Control Gear	High Power Factor "HPF" (≥ 90%) Conventional Control Gear "CCG". High Frequency Electronic Control Gear "ECG". High Frequency Dimmable Electronic Control Gear "ECG".
Voltage / Frequency	220 - 240V , 50 / 60 Hz <i>"Other Voltages upon request"</i>
Cable Entry	1x22 mm Ø hole on top. <i>"Extra knock-out holes upon request"</i>
Lamps	18, 36 & 58 watt T8/T26 Fluorescent for Normal Start "NS", Electronic Start "DEOS" or Electronic High Frequency "HF" Ballast "EB". 17& 32 watt T8 Fluorescent for Electronic High Frequency "HF" Ballast "EB". 14, 28 & 35 watt FH T5/T16 Fluorescent for Electronic High Frequency "HF" Ballast "EB". 24, 49, 54 & 80 watt FQ T5/T16 Fluorescent for Electronic High Frequency "HF" Ballast "EB". <i>"Other lamps (T5/T16 – T8/T26 – T12/T38 – TCL - TC-DE – TC-TE) upon request & fitting housing dimensions subject to changes accordingly"</i>
Emergency Unit	3 Hours duration Emergency Unit "EMU" with battery pack Maintained "M" or Non-Maintained "NM" for one lamp, and for various lamp types and voltage networks combinations. <i>"Additional Emergency Units to operate more than one lamp on request"</i>

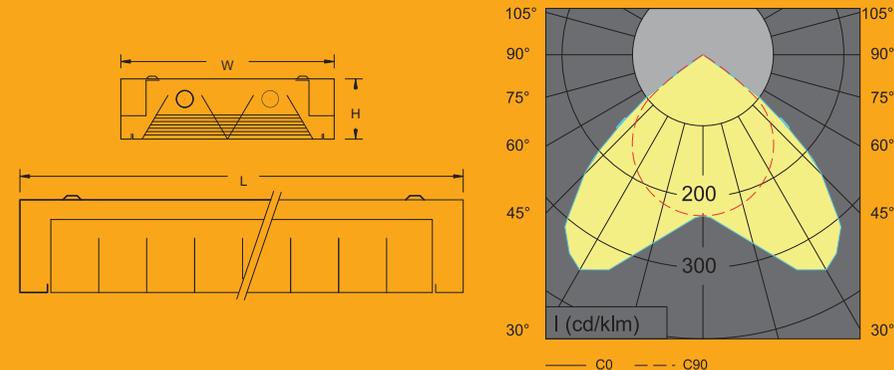
Technical Data

To Order : follow the sequence mr - ln / ls - cgt - v/h - pf - acc - emu

Model Reference	Lamp Number	Lamp Size watt	Control Gear Type	Voltage / Frequency V / Hz	Power Factor	Optional Accessories	Emergency Unit	Physical Characteristics		
								L	W	H
								mm	mm	mm
RSA	1	14	NS Normal Start	220 - 240V 50 / 60 Hz	HPF High Power Factor	FTB Fused Terminal Block TRW Temperature Resistant Wire TW Through Wire	3/NM 3 hours Non-Maintained	624	196	90
	2	17						624	305	90
	3	18						624	450	90
	4	24						624	624	90
	1	28	DEOS Electronic Starter					1226	196	90
	2	32						1226	305	90
	3	36						1226	450	90
	4	54						1226	624	90
	1	35	EB Electronic High Frequency					1526	196	90
	2	49						1526	305	90
	3	58						1526	450	90
	4	80						1526	624	90
RSAC	1	11L 13D/T 18D/T 18L	EBD Dimmable Electronic High Frequency		HF High Frequency		3/M 3 hours Maintained	304	304	90
	2	26D/T 32T 42T						304	304	90

Photometrics & Dimensions

RSA 4/36W



Round Corner Aluminium V-Louvers

SERIES : RSAR



Applications	Suitable to be used in: offices, clinics, education premises, circulation area & general indoor application.
Housing	Made of press welded Cold Rolled Steel "CRS" sheet of tight construction to prevent light leakage. All metal parts pre-treated with a full degreasing and phosphating process, painted in stove enameled white baked epoxy polyester mix-powder to ensure high reflectance of painted surfaces. R- models characterized with chamfered edges and plastic corners. <i>"Other color finishes upon request"</i>
Light Controller	V shaped specular anodized aluminum louvers, with stepped surface strip aluminum cross-baffle. Louvers are held to the body by means of special steel springs allowing easy opening and diffuser suspension during maintenance.
Mounting	Surface.
Control Gear	High Power Factor "HPF" (≥ 90%) Conventional Control Gear "CCG". High Frequency Electronic Control Gear "ECG". High Frequency Dimmable Electronic Control Gear "ECG".
Voltage / Frequency	220 - 240V , 50 / 60 Hz <i>"Other Voltages upon request"</i>
Cable Entry	1x22 mm Ø hole on top. <i>"Extra knock-out holes upon request"</i>
Lamps	18, 36 & 58 watt T8/T26 Fluorescent for Normal Start "NS", Electronic Start "DEOS" or Electronic High Frequency "HF" Ballast "EB". 17& 32 watt T8 Fluorescent for Electronic High Frequency "HF" Ballast "EB". 14, 28 & 35 watt FH T5/T16 Fluorescent for Electronic High Frequency "HF" Ballast "EB". 24, 49, 54 & 80 watt FQ T5/T16 Fluorescent for Electronic High Frequency "HF" Ballast "EB". <i>"Other lamps (T5/T16 – T8/T26 – T12/T38 – TCL - TC-DE – TC-TE) upon request & fitting housing dimensions subject to changes accordingly"</i>
Emergency Unit	3 Hours duration Emergency Unit "EMU" with battery pack Maintained "M" or Non-Maintained "NM" for one lamp, and for various lamp types and voltage networks combinations. <i>"Additional Emergency Units to operate more than one lamp on request"</i>

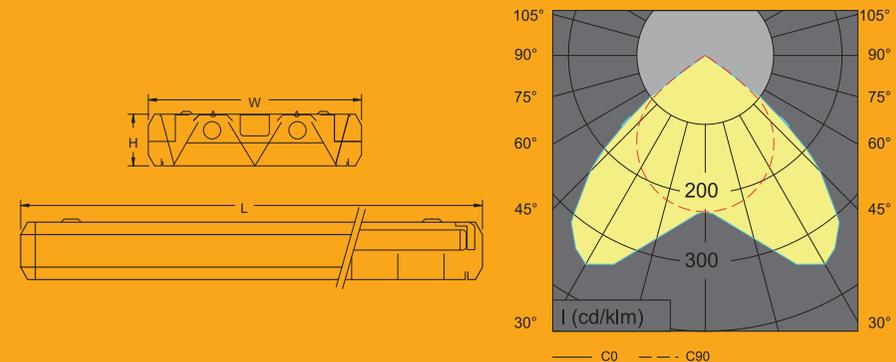
Technical Data

To Order : follow the sequence mr - ln / ls - cgt - v/h - pf - acc - emu

Model Reference	Lamp Number	Lamp Size watt	Control Gear Type	Voltage / Frequency V / Hz	Power Factor	Optional Accessories	Emergency Unit	Physical Characteristics		
								L	W	H
								mm	mm	mm
RSAR	1	14	NS Normal Start DEOS Electronic Starter EB Electronic High Frequency EBD Dimmable Electronic High Frequency	220 - 240V 50 / 60 Hz	HPF High Power Factor HF High Frequency	FTB Fused Terminal Block TRW Temperature Resistant Wire TW Through Wire	3/NM 3 hours Non-Maintained 3/M 3 hours Maintained	--	--	--
	2	17						624	310	75
	3	18						--	--	--
	4	24						630	630	75
	1	28						--	--	--
	2	32						1242	310	75
	3	36						--	--	--
	4	54						1242	630	75
	1	35						--	--	--
	2	49						1526	305	75
	3	58						--	--	--
	4	80						--	--	--
RSARC	1	11L 13D/T 18D/T 18L 26D/T						304	304	90
	2	32T 42T						304	304	90

Photometrics & Dimensions

RSAR 4/18W



Rectangular Plain Aluminium Parabolic V-Louvers

SERIES : RSS



Applications	Suitable to be used in: offices, clinics, education premises, circulation area & general indoor application.
Housing	Made of press welded Cold Rolled Steel "CRS" sheet of tight construction to prevent light leakage. All metal parts pre-treated with a full degreasing and phosphating process, painted in stove enameled white baked epoxy polyester mix-powder to ensure high reflectance of painted surfaces. R- models characterized with chamfered edges and plastic corners. <i>"Other color finishes upon request"</i>
Light Controller	V shaped matt anodized aluminum louvers, with strip plain aluminum cross-baffle. Louvers are held to the body by means of special steel springs allowing easy opening and diffuser suspension during maintenance.
Mounting	Surface.
Control Gear	High Power Factor "HPF" (≥ 90%) Conventional Control Gear "CCG". High Frequency Electronic Control Gear "ECG". High Frequency Dimmable Electronic Control Gear "ECG".
Voltage / Frequency	220 - 240V , 50 / 60 Hz <i>"Other Voltages upon request"</i>
Cable Entry	1x22 mm Ø hole on top. <i>"Extra knock-out holes upon request"</i>
Lamps	18, 36 & 58 watt T8/T26 Fluorescent for Normal Start "NS", Electronic Start "DEOS" or Electronic High Frequency "HF" Ballast "EB". 17& 32 watt T8 Fluorescent for Electronic High Frequency "HF" Ballast "EB". 14, 28 & 35 watt FH T5/T16 Fluorescent for Electronic High Frequency "HF" Ballast "EB". 24, 49, 54 & 80 watt FQ T5/T16 Fluorescent for Electronic High Frequency "HF" Ballast "EB". <i>"Other lamps (T5/T16 – T8/T26 – T12/T38 – TCL - TC-DE – TC-TE) upon request & fitting housing dimensions subject to changes accordingly"</i>
Emergency Unit	3 Hours duration Emergency Unit "EMU" with battery pack Maintained "M" or Non-Maintained "NM" for one lamp, and for various lamp types and voltage networks combinations. <i>"Additional Emergency Units to operate more than one lamp on request"</i>

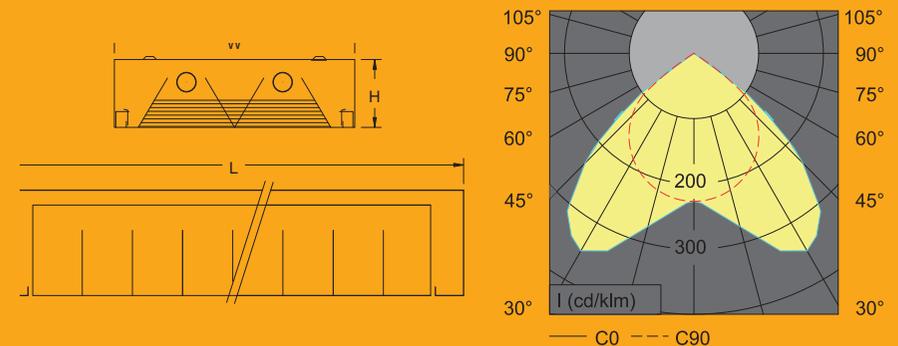
Technical Data

To Order : follow the sequence mr - ln / ls - cgt - v/h - pf - acc - emu

Model Reference	Lamp Number	Lamp Size watt	Control Gear Type	Voltage / Frequency V / Hz	Power Factor	Optional Accessories	Emergency Unit	Physical Characteristics					
								L	W	H			
								mm	mm	mm			
RSS	1	14	NS Normal Start	220 - 240V 50 / 60 Hz	HPF High Power Factor	FTB Fused Terminal Block TRW Temperature Resistant Wire	3/NM 3 hours Non-Maintained	624	196	90			
	2	17						624	305	90			
	3	18						624	450	90			
	4	24						624	624	90			
	1	28	DEOS Electronic Starter					1226	196	90			
	2	32						1226	305	90			
	3	36						1226	450	90			
	4	54						1226	624	90			
	1	35	EB Electronic High Frequency					HF High Frequency	TW Through Wire	3/M 3 hours Maintained	1526	196	90
	2	49									1526	305	90
	3	58									1526	450	90
	4	80									1526	624	90
RSSC	1	11L 13D/T 18D/T 18L 26D/T	EBD Dimmable Electronic High Frequency				304				304	90	
	2	32T 42T					304				304	90	

Photometrics & Dimensions

RSS 4/18w



Round Corner Plain Aluminium Parabolic V-Louvers

SERIES : RSSR



Applications	Suitable to be used in: offices, clinics, education premises, circulation area & general indoor application.
Housing	Made of press welded Cold Rolled Steel "CRS" sheet of tight construction to prevent light leakage. All metal parts pre-treated with a full degreasing and phosphating process, painted in stove enameled white baked epoxy polyester mix-powder to ensure high reflectance of painted surfaces. R- models characterized with chamfered edges and plastic corners. <i>"Other color finishes upon request"</i>
Light Controller	V shaped matt anodized aluminum louvers, with strip plain aluminum cross-baffle. Louvers are held to the body by means of special steel springs allowing easy opening and diffuser suspension during maintenance.
Mounting	Surface.
Control Gear	High Power Factor "HPF" (≥ 90%) Conventional Control Gear "CCG". High Frequency Electronic Control Gear "ECG". High Frequency Dimmable Electronic Control Gear "ECG".
Voltage / Frequency	220 - 240V , 50 / 60 Hz <i>"Other Voltages upon request"</i>
Cable Entry	1x22 mm Ø hole on top. <i>"Extra knock-out holes upon request"</i>
Lamps	18, 36 & 58 watt T8/T26 Fluorescent for Normal Start "NS", Electronic Start "DEOS" or Electronic High Frequency "HF" Ballast "EB". 17& 32 watt T8 Fluorescent for Electronic High Frequency "HF" Ballast "EB". 14, 28 & 35 watt FH T5/T16 Fluorescent for Electronic High Frequency "HF" Ballast "EB". 24, 49, 54 & 80 watt FQ T5/T16 Fluorescent for Electronic High Frequency "HF" Ballast "EB". <i>"Other lamps (T5/T16 – T8/T26 – T12/T38 – TCL - TC-DE – TC-TE) upon request & fitting housing dimensions subject to changes accordingly"</i>
Emergency Unit	3 Hours duration Emergency Unit "EMU" with battery pack Maintained "M" or Non-Maintained "NM" for one lamp, and for various lamp types and voltage networks combinations. <i>"Additional Emergency Units to operate more than one lamp on request"</i>

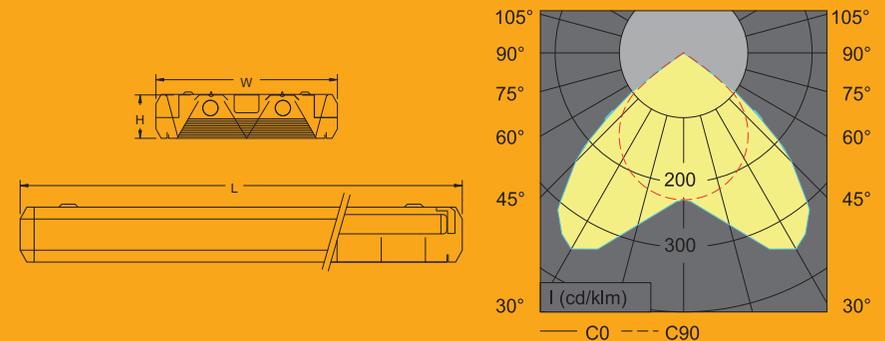
Technical Data

To Order : follow the sequence mr - ln / ls - cgt - v/h - pf - acc - emu

Model Reference	Lamp Number	Lamp Size watt	Control Gear Type	Voltage / Frequency V / Hz	Power Factor	Optional Accessories	Emergency Unit	Physical Characteristics											
								L	W	H									
								mm	mm	mm									
RSSR	1	14	NS Normal Start	220 - 240V 50 / 60 Hz	HPF High Power Factor	FTB Fused Terminal Block	3/NM 3 hours Non-Maintained	--	--	--									
	2	17						624	310	75									
	3	18						--	--	--									
	4	24						630	630	75									
	2	28	DEOS Electronic Starter					50 / 60 Hz	HF High Frequency	TRW Temperature Resistant Wire	3/M 3 hours Maintained	--	--	--					
		32										1242	310	75					
		3										36	--	--	--				
		4										54	1242	630	75				
	1	35	EB Electronic High Frequency									50 / 60 Hz	HF High Frequency	TW Through Wire	3/M 3 hours Maintained	--	--	--	
		49														1526	305	75	
		3														58	--	--	--
		4														80	--	--	--
RSSRC	1	11L 13D/T 18D/T 18L	EBD Dimmable Electronic High Frequency	50 / 60 Hz	HF High Frequency	TW Through Wire	3/M 3 hours Maintained									304	304	75	
	2	26D/T 32T 42T														304	304	75	

Photometrics & Dimensions

RSSR 2/36W



Rectangular White Steel V Louvers

SERIES : RSW



Applications	Suitable to be used in: offices, clinics, education premises, circulation area & general indoor application.
Housing	Made of press welded Cold Rolled Steel "CRS" sheet of tight construction to prevent light leakage. All metal parts pre-treated with a full degreasing and phosphating process, painted in stove enameled white baked epoxy polyester mix-powder to ensure high reflectance of painted surfaces. R- models characterized with chamfered edges and plastic corners. <i>"Other color finishes upon request"</i>
Light Controller	V shaped steel sheets louvers, with strip cross-baffle all painted white. Louvers are held to the body by means of special steel springs allowing easy opening and diffuser suspension during maintenance.
Mounting	Surface.
Control Gear	High Power Factor "HPF" (≥ 90%) Conventional Control Gear "CCG". High Frequency Electronic Control Gear "ECG". High Frequency Dimmable Electronic Control Gear "ECG".
Voltage / Frequency	220 - 240V , 50 / 60 Hz <i>"Other Voltages upon request"</i>
Cable Entry	1x22 mm Ø hole on top. <i>"Extra knock-out holes upon request"</i>
Lamps	18, 36 & 58 watt T8/T26 Fluorescent for Normal Start "NS", Electronic Start "DEOS" or Electronic High Frequency "HF" Ballast "EB". 17& 32 watt T8 Fluorescent for Electronic High Frequency "HF" Ballast "EB". 14, 28 & 35 watt FH T5/T16 Fluorescent for Electronic High Frequency "HF" Ballast "EB". 24, 49, 54 & 80 watt FQ T5/T16 Fluorescent for Electronic High Frequency "HF" Ballast "EB". <i>"Other lamps (T5/T16 – T8/T26 – T12/T38 – TCL - TC-DE – TC-TE) upon request & fitting housing dimensions subject to changes accordingly"</i>
Emergency Unit	3 Hours duration Emergency Unit "EMU" with battery pack Maintained "M" or Non-Maintained "NM" for one lamp, and for various lamp types and voltage networks combinations. <i>"Additional Emergency Units to operate more than one lamp on request"</i>

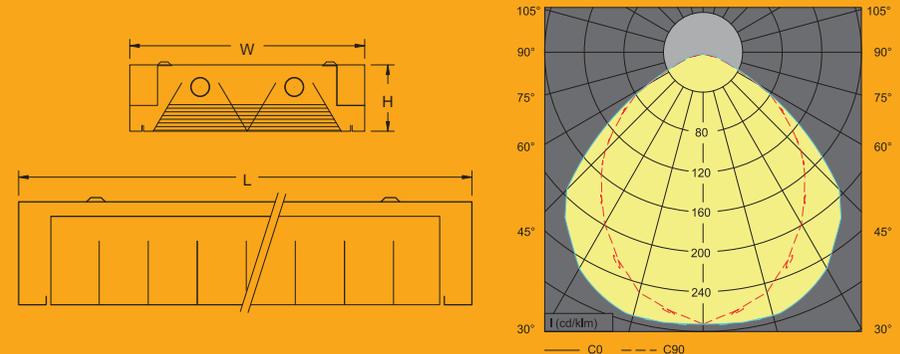
Technical Data

To Order : follow the sequence mr - ln / ls - cgt - v/h - pf - acc - emu

Model Reference	Lamp Number	Lamp Size watt	Control Gear Type	Voltage / Frequency V / Hz	Power Factor	Optional Accessories	Emergency Unit	Physical Characteristics											
								L	W	H									
								mm	mm	mm									
RSW	1	14	NS Normal Start	220 - 240V 50 / 60 Hz	HPF High Power Factor	FTB Fused Terminal Block TRW Temperature Resistant Wire TW Through Wire	3/NM 3 hours Non-Maintained	624	196	90									
	2	17						624	305	90									
	3	18						624	450	90									
	4	24						624	624	90									
	1	28	DEOS Electronic Starter					220 - 240V 50 / 60 Hz	HPF High Power Factor	FTB Fused Terminal Block TRW Temperature Resistant Wire TW Through Wire	3/NM 3 hours Non-Maintained	1226	196	90					
	2	32										1226	305	90					
	3	36										1226	450	90					
	4	54										1226	624	90					
	SMWC	1	11L									EBD Dimmable Electronic High Frequency	220 - 240V 50 / 60 Hz	HPF High Power Factor	FTB Fused Terminal Block TRW Temperature Resistant Wire TW Through Wire	3/M 3 hours Maintained	304	304	90
			13D/T														304	304	90
			18D/T														304	304	90
			18L														304	304	90
2		26D/T	EBD Dimmable Electronic High Frequency	220 - 240V 50 / 60 Hz	HPF High Power Factor	FTB Fused Terminal Block TRW Temperature Resistant Wire TW Through Wire	3/M 3 hours Maintained					304					304	90	
		32T										304					304	90	
		42T										304					304	90	
		42T										304					304	90	

Photometrics & Dimensions

RSW 4/18W



Round Corner White Steel V Louvers

SERIES : RSWR



Applications	Suitable to be used in: offices, clinics, education premises, circulation area & general indoor application.
Housing	Made of press welded Cold Rolled Steel "CRS" sheet of tight construction to prevent light leakage. All metal parts pre-treated with a full degreasing and phosphating process, painted in stove enameled white baked epoxy polyester mix-powder to ensure high reflectance of painted surfaces. R- models characterized with chamfered edges and plastic corners. <i>"Other color finishes upon request"</i>
Light Controller	V shaped steel sheets louvers, with strip cross-baffle all painted white. Louvers are held to the body by means of special steel springs allowing easy opening and diffuser suspension during maintenance.
Mounting	Surface.
Control Gear	High Power Factor "HPF" (≥ 90%) Conventional Control Gear "CCG". High Frequency Electronic Control Gear "ECG". High Frequency Dimmable Electronic Control Gear "ECG".
Voltage / Frequency	220 - 240V , 50 / 60 Hz <i>"Other Voltages upon request"</i>
Cable Entry	1x22 mm Ø hole on top. <i>"Extra knock-out holes upon request"</i>
Lamps	18, 36 & 58 watt T8/T26 Fluorescent for Normal Start "NS", Electronic Start "DEOS" or Electronic High Frequency "HF" Ballast "EB". 17& 32 watt T8 Fluorescent for Electronic High Frequency "HF" Ballast "EB". 14, 28 & 35 watt FH T5/T16 Fluorescent for Electronic High Frequency "HF" Ballast "EB". 24, 49, 54 & 80 watt FQ T5/T16 Fluorescent for Electronic High Frequency "HF" Ballast "EB". <i>"Other lamps (T5/T16 – T8/T26 – T12/T38 – TCL - TC-DE – TC-TE) upon request & fitting housing dimensions subject to changes accordingly"</i>
Emergency Unit	3 Hours duration Emergency Unit "EMU" with battery pack Maintained "M" or Non-Maintained "NM" for one lamp, and for various lamp types and voltage networks combinations. <i>"Additional Emergency Units to operate more than one lamp on request"</i>

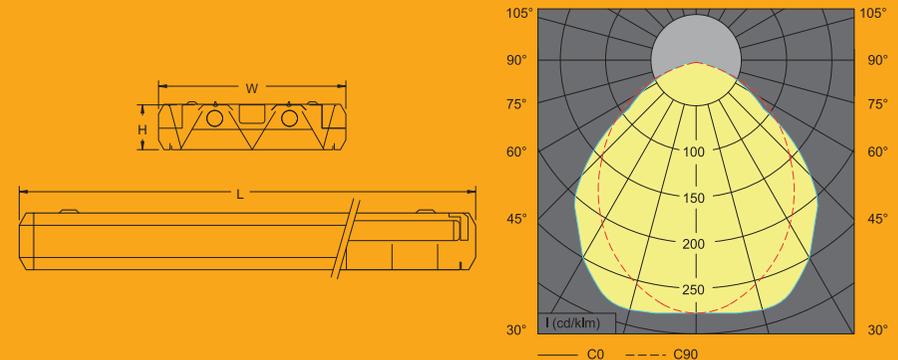
Technical Data

To Order : follow the sequence mr - ln - ls - cgt - v/h - pf - acc - emu

Model Reference	Lamp Number	Lamp Size watt	Control Gear Type	Voltage / Frequency V / Hz	Power Factor	Optional Accessories	Emergency Unit	Physical Characteristics										
								L	W	H								
								mm	mm	mm								
RSWR	1	14	NS Normal Start	220 - 240V 50 / 60 Hz	HPF High Power Factor HF High Frequency	FTB Fused Terminal Block TRW Temperature Resistant Wire TW Through Wire	NM/3 hours 3 Non-Maintained	--	--	--								
	2	17						624	310	75								
	3	18						--	--	--								
	4	24						630	630	75								
	1	28	DEOS Electronic Starter					220 - 240V 50 / 60 Hz	HPF High Power Factor HF High Frequency	FTB Fused Terminal Block TRW Temperature Resistant Wire TW Through Wire	NM/3 hours 3 Non-Maintained	--	--	--				
	2	32										1242	310	75				
	3	36										--	--	--				
	4	54										1242	630	75				
	1	35	EB Electronic High Frequency									220 - 240V 50 / 60 Hz	HPF High Power Factor HF High Frequency	FTB Fused Terminal Block TRW Temperature Resistant Wire TW Through Wire	NM/3 hours 3 Non-Maintained	--	--	--
	2	49														1526	305	75
	3	58														--	--	--
	4	80														--	--	--
SMWRC	1	11L 13D/T 18D/T 18L 26D/T	EBD Dimmable Electronic High Frequency	220 - 240V 50 / 60 Hz	HPF High Power Factor HF High Frequency	FTB Fused Terminal Block TRW Temperature Resistant Wire TW Through Wire	M/3 hours 3 Maintained									304	304	75
	2	32T 42T														304	304	75

Photometrics & Dimensions

RSWR 2/36W



Rectangular Round Aluminium V-Louvers

SERIES : RRA



Applications	Suitable to be used in: offices, clinics, education premises, circulation area & general indoor application.
Housing	Made of press welded Cold Rolled Steel "CRS" sheet of tight construction to prevent light leakage. All metal parts pre-treated with a full degreasing and phosphating process, painted in stove enamelled white baked epoxy polyester mix-powder to ensure high reflectance of painted surfaces. <i>"Other color finishes upon request"</i>
Light Controller	Made of high brightened anodized aluminum V louvers. Louvers are held to the body by means of special steel springs allowing easy opening and diffuser suspension during maintenance.
Mounting	Surface.
Control Gear	High Power Factor "HPF" (≥ 90%) Conventional Control Gear "CCG". High Frequency Electronic Control Gear "ECG". High Frequency Dimmable Electronic Control Gear "ECG".
Voltage / Frequency	220 - 240V , 50 / 60 Hz <i>"Other Voltages upon request"</i>
Cable Entry	1x22 mm Ø hole on top. <i>"Extra knock-out holes upon request"</i>
Lamps	18, 36 & 58 watt T8/T26 Fluorescent for Normal Start "NS", Electronic Start "DEOS" or Electronic High Frequency "HF" Ballast "EB". 17& 32 watt T8 Fluorescent for Electronic High Frequency "HF" Ballast "EB". 14, 28 & 35 watt FH T5/T16 Fluorescent for Electronic High Frequency "HF" Ballast "EB". 24, 49, 54 & 80 watt FQ T5/T16 Fluorescent for Electronic High Frequency "HF" Ballast "EB". <i>"Other lamps (T5/T16 – T8/T26 – TCL - TC-DE – TC-TE) upon request & fitting housing dimensions subject to changes accordingly"</i>
Emergency Unit	3 Hours duration Emergency Unit "EMU" with battery pack Maintained "M" or Non-Maintained "NM" for one lamp, and for various lamp types and voltage networks combinations. <i>"Additional Emergency Units to operate more than one lamp on request"</i>

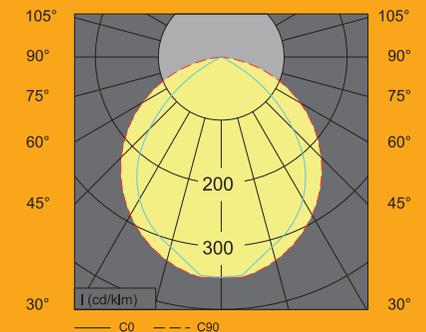
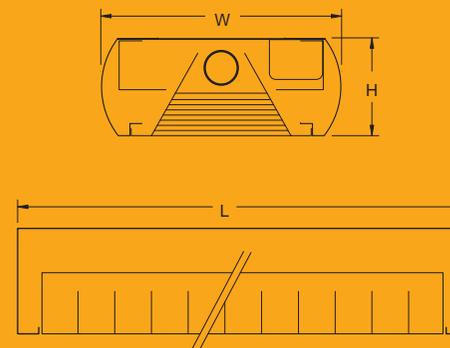
Technical Data

To Order : follow the sequence mr - ln / ls - cgt - v/h - pf - acc - emu

Model Reference	Lamp Number	Lamp Size watt	Control Gear Type	Voltage / Frequency V / Hz	Power Factor	Optional Accessories	Emergency Unit	Physical Characteristics											
								L	W	H									
								mm	mm	mm									
RRA	1	14	NS Normal Start	220 - 240V 50 / 60 Hz	HPF High Power Factor	FTB Fused Terminal Block	3/NM 3 hours Non-Maintained	622	190	75									
	2	17						622	290	75									
	3	18						--	--	--									
	4	24	DEOS Electronic Starter					HPF High Power Factor	TRW Temperature Resistant Wire	3/M 3 hours Maintained	1232	190	75						
	1	28									1232	290	75						
	2	32									--	--	--						
	3	36	EB Electronic High Frequency								HF High Frequency	TW Through Wire	3/M 3 hours Maintained	--	--	--			
	4	54												--	--	--			
	1	35												1532	190	75			
	2	49	EBD Dimmable Electronic High Frequency											HF High Frequency	TW Through Wire	3/M 3 hours Maintained	1532	290	75
	3	58															--	--	--
	4	80															--	--	--

Photometrics & Dimensions

RRA 1/36W



Double Parabola Matt Aluminium Louvers

SERIES : SDPM



Applications	Suitable to be used in: offices, clinics, education premises, circulation area & general indoor application.
Housing	Made of press welded Cold Rolled Steel "CRS" sheet of tight construction to prevent light leakage. All metal parts pre-treated with a full degreasing and phosphating process, painted in stove enamelled white baked epoxy polyester mix-powder to ensure high reflectance of painted surfaces. <i>"Other color finishes upon request"</i>
Light Controller	Double parabolic matt anodized aluminum louvers, with cut-off angle less than 60°. Louvers are held to the body by means of special steel springs allowing easy opening and diffuser suspension during maintenance.
Mounting	Surface.
Control Gear	High Power Factor "HPF" (≥ 90%) Conventional Control Gear "CCG". High Frequency Electronic Control Gear "ECG". High Frequency Dimmable Electronic Control Gear "ECG".
Voltage / Frequency	220 - 240V , 50 / 60 Hz <i>"Other Voltages upon request"</i>
Cable Entry	1x22 mm Ø hole on top. <i>"Extra knock-out holes upon request"</i>
Lamps	18, 36 & 58 watt T8/T26 Fluorescent for Normal Start "NS", Electronic Start "DEOS" or Electronic High Frequency "HF" Ballast "EB". 17 & 32 watt T8 Fluorescent for Electronic High Frequency "HF" Ballast "EB". 14, 28 & 35 watt FH T5/T16 Fluorescent for Electronic High Frequency "HF" Ballast "EB". 24, 49, 54 & 80 watt FQ T5/T16 Fluorescent for Electronic High Frequency "HF" Ballast "EB". <i>"Other lamps (T5/T16 – T8/T26 – T12/T38 – TCL - TC-DE – TC-TE) upon request & fitting housing dimensions subject to changes accordingly"</i>
Emergency Unit	3 Hours duration Emergency Unit "EMU" with battery pack Maintained "M" or Non-Maintained "NM" for one lamp, and for various lamp types and voltage networks combinations. <i>"Additional Emergency Units to operate more than one lamp on request"</i>

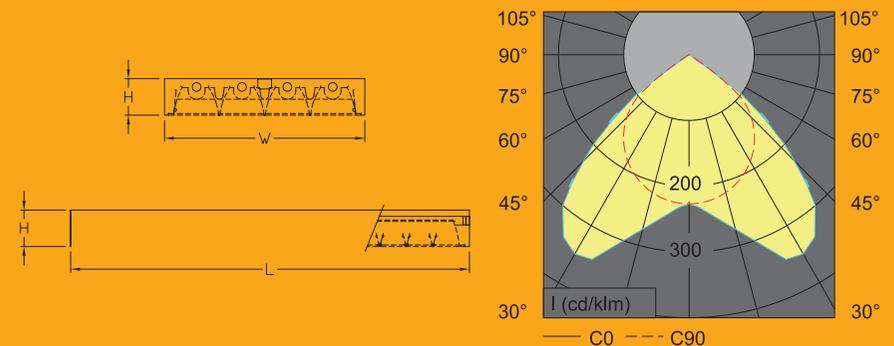
Technical Data

To Order : follow the sequence mr - ln / ls - cgt - v/h - pf - acc - emu

Model Reference	Lamp Number	Lamp Size watt	Control Gear Type	Voltage / Frequency V / Hz	Power Factor	Optional Accessories	Emergency Unit	Physical Characteristics			
								L	W	H	
								mm	mm	mm	
SDPM	1	18	NS Normal Start	220 - 240V 50 / 60 Hz	HPF High Power Factor	FTB Fused Terminal Block TRW Temperature Resistant Wire	3/NM 3 hours Non-Maintained	624	196	110	
	1	36						1224	196	110	
	1	58						1524	196	110	
	2	18	624					305	110		
	2	36	1224					305	110		
	2	58	1524					305	110		
	3	18	EB Electronic High Frequency				3/M 3 hours Maintained	620	620	110	
	3	36						1224	620	110	
	3	58						1524	620	110	
	4	18	EBD Dimmable Electronic High Frequency					HF High Frequency TW Through Wire	620	620	110
	4	36							1224	620	110
	4	58							1524	620	110

Photometrics & Dimensions

SDPM 4/18W



Double Parabolic Specular Aluminium Louvers

SERIES : SDPS



Applications	Suitable to be used in: offices, clinics, education premises, circulation area & general indoor application.
Housing	Made of press welded Cold Rolled Steel "CRS" sheet of tight construction to prevent light leakage. All metal parts pre-treated with a full degreasing and phosphating process, painted in stove enamelled white baked epoxy polyester mix-powder to ensure high reflectance of painted surfaces. <i>"Other color finishes upon request"</i>
Light Controller	Double parabolic semi-specular anodized aluminum louvers, with cut-off angle less than 60°. Louvers are held to the body by means of special steel springs allowing easy opening and diffuser suspension during maintenance.
Mounting	Surface.
Control Gear	High Power Factor "HPF" (≥ 90%) Conventional Control Gear "CCG". High Frequency Electronic Control Gear "ECG". High Frequency Dimmable Electronic Control Gear "ECG".
Voltage / Frequency	220 - 240V , 50 / 60 Hz <i>"Other Voltages upon request"</i>
Cable Entry	1x22 mm Ø hole on top. <i>"Extra knock-out holes upon request"</i>
Lamps	18, 36 & 58 watt T8/T26 Fluorescent for Normal Start "NS", Electronic Start "DEOS" or Electronic High Frequency "HF" Ballast "EB". 17& 32 watt T8 Fluorescent for Electronic High Frequency "HF" Ballast "EB". 14, 28 & 35 watt FH T5/T16 Fluorescent for Electronic High Frequency "HF" Ballast "EB". 24, 49, 54 & 80 watt FQ T5/T16 Fluorescent for Electronic High Frequency "HF" Ballast "EB". <i>"Other lamps (T5/T16 – T8/T26 – T12/T38 – TCL - TC-DE – TC-TE) upon request & fitting housing dimensions subject to changes accordingly"</i>
Emergency Unit	3 Hours duration Emergency Unit "EMU" with battery pack Maintained "M" or Non-Maintained "NM" for one lamp, and for various lamp types and voltage networks combinations. <i>"Additional Emergency Units to operate more than one lamp on request"</i>

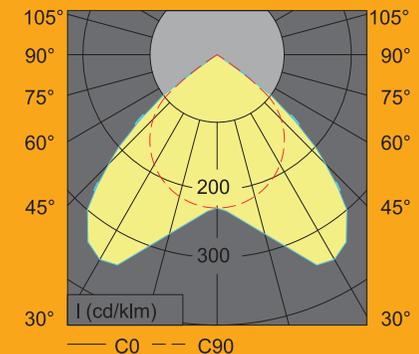
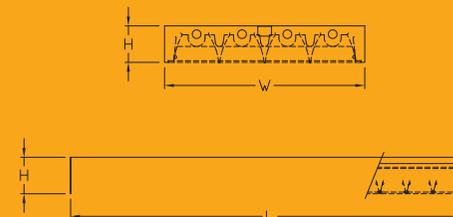
Technical Data

To Order : follow the sequence mr - ln / ls - cgt - v/h - pf - acc - emu

Model Reference	Lamp Number	Lamp Size watt	Control Gear Type	Voltage / Frequency V / Hz	Power Factor	Optional Accessories	Emergency Unit	Physical Characteristics		
								L	W	H
								mm	mm	mm
SDPS	1	18	NS Normal Start	220 - 240V 50 / 60 Hz	HPF High Power Factor	FTB Fused Terminal Block	3/NM 3 hours Non-Maintained	624	196	110
	1	36						1224	196	110
	1	58						1524	196	110
	2	18	624					305	110	
	2	36	1224					305	110	
	2	58	1524					305	110	
	3	18	EB Electronic High Frequency				3/M 3 hours Maintained	620	620	110
	3	36						1224	620	110
	3	58						1524	620	110
	4	18						620	620	110
	4	36						1224	620	110
	4	58						1524	620	110

Photometrics & Dimensions

SDPS 4/36W



Deep Double Parabolic Matt Aluminium Louvers

SERIES : SDDPM



Applications	Suitable to be used in: offices, clinics, education premises, circulation area & general indoor application.
Housing	Made of press welded Cold Rolled Steel "CRS" sheet of tight construction to prevent light leakage. All metal parts pre-treated with a full degreasing and phosphating process, painted in stove enamelled white baked epoxy polyester mix-powder to ensure high reflectance of painted surfaces. <i>"Other color finishes upon request"</i>
Light Controller	Deep double parabolic matt anodized aluminum louvers, with cut-off angle less than 55°. Louvers are held to the body by means of special steel springs allowing easy opening and diffuser suspension during maintenance.
Mounting	Surface.
Control Gear	High Power Factor "HPF" (≥ 90%) Conventional Control Gear "CCG". High Frequency Electronic Control Gear "ECG". High Frequency Dimmable Electronic Control Gear "ECG".
Voltage / Frequency	220 - 240V , 50 / 60 Hz <i>"Other Voltages upon request"</i>
Cable Entry	1x22 mm Ø hole on top. <i>"Extra knock-out holes upon request"</i>
Lamps	18, 36 & 58 watt T8/T26 Fluorescent for Normal Start "NS", Electronic Start "DEOS" or Electronic High Frequency "HF" Ballast "EB". 17& 32 watt T8 Fluorescent for Electronic High Frequency "HF" Ballast "EB". 14, 28 & 35 watt FH T5/T16 Fluorescent for Electronic High Frequency "HF" Ballast "EB". 24, 49, 54 & 80 watt FQ T5/T16 Fluorescent for Electronic High Frequency "HF" Ballast "EB". <i>"Other lamps (T5/T16 – T8/T26 – T12/T38 – TCL - TC-DE – TC-TE) upon request & fitting housing dimensions subject to changes accordingly"</i>
Emergency Unit	3 Hours duration Emergency Unit "EMU" with battery pack Maintained "M" or Non-Maintained "NM" for one lamp, and for various lamp types and voltage networks combinations. <i>"Additional Emergency Units to operate more than one lamp on request"</i>

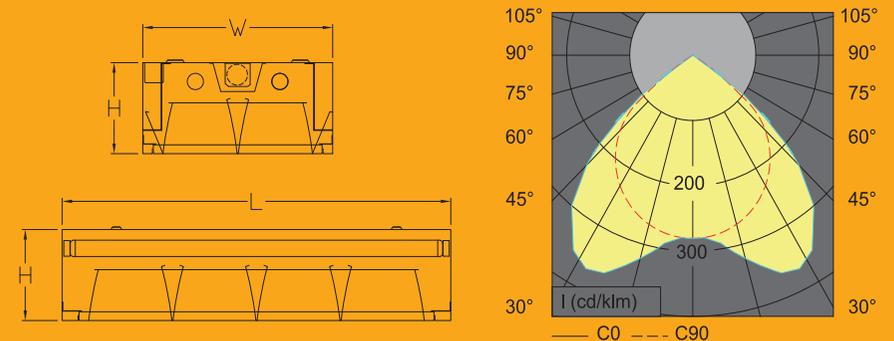
Technical Data

To Order : follow the sequence **mr - ln / ls - cgt - v/h - pf - acc - emu**

Model Reference	Lamp Number	Lamp Size watt	Control Gear Type	Voltage / Frequency V / Hz	Power Factor	Optional Accessories	Emergency Unit	Physical Characteristics		
								L	W	H
								mm	mm	mm
SDDPM	2	18	NS Normal Start	220 - 240V 50 / 60 Hz	HPF High Power Factor	FTB Fused Terminal Block TRW Temperature Resistant Wire	3/NM 3 hours Non-Maintained	624	305	145
	2	36	DEOS Electronic Starter					1226	305	145
	2	58	EB Electronic High Frequency					1526	305	145
	4	18	EBD Dimmable Electronic High Frequency					624	624	145
	4	36						1226	624	145
	4	58						1526	624	145

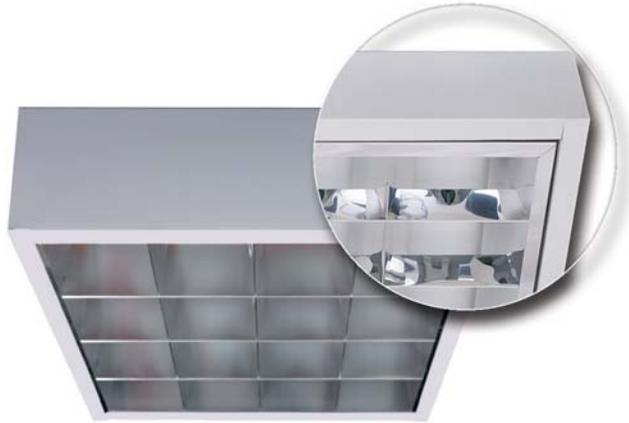
Photometrics & Dimensions

SDDPM 4/36W



Deep Double Parabolic Semi-Specular Aluminium Louvers

SERIES : SDDPS



Applications	Suitable to be used in: offices, clinics, education premises, circulation area & general indoor application.
Housing	Made of press welded Cold Rolled Steel "CRS" sheet of tight construction to prevent light leakage. All metal parts pre-treated with a full degreasing and phosphating process, painted in stove enamelled white baked epoxy polyester mix-powder to ensure high reflectance of painted surfaces. <i>"Other color finishes upon request"</i>
Light Controller	Deep double parabolic semi-specular anodized aluminum louvers, with cut-off angle less than 55°. Louvers are held to the body by means of special steel springs allowing easy opening and diffuser suspension during maintenance.
Mounting	Surface.
Control Gear	High Power Factor "HPF" (≥ 90%) Conventional Control Gear "CCG". High Frequency Electronic Control Gear "ECG". High Frequency Dimmable Electronic Control Gear "ECG".
Voltage / Frequency	220 - 240V , 50 / 60 Hz <i>"Other Voltages upon request"</i>
Cable Entry	1x22 mm Ø hole on top. <i>"Extra knock-out holes upon request"</i>
Lamps	18, 36 & 58 watt T8/T26 Fluorescent for Normal Start "NS", Electronic Start "DEOS" or Electronic High Frequency "HF" Ballast "EB". 17& 32 watt T8 Fluorescent for Electronic High Frequency "HF" Ballast "EB". 14, 28 & 35 watt FH T5/T16 Fluorescent for Electronic High Frequency "HF" Ballast "EB". 24, 49, 54 & 80 watt FQ T5/T16 Fluorescent for Electronic High Frequency "HF" Ballast "EB". <i>"Other lamps (T5/T16 – T8/T26 – T12/T38 – TCL - TC-DE – TC-TE) upon request & fitting housing dimensions subject to changes accordingly"</i>
Emergency Unit	3 Hours duration Emergency Unit "EMU" with battery pack Maintained "M" or Non-Maintained "NM" for one lamp, and for various lamp types and voltage networks combinations. <i>"Additional Emergency Units to operate more than one lamp on request"</i>

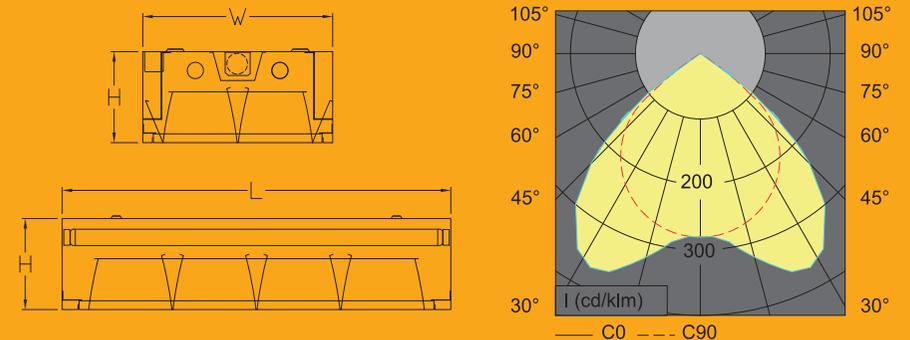
Technical Data

To Order : follow the sequence **mr - ln / ls - cgt - v/h - pf - acc - emu**

Model Reference	Lamp Number	Lamp Size watt	Control Gear Type	Voltage / Frequency V / Hz	Power Factor	Optional Accessories	Emergency Unit	Physical Characteristics		
								L	W	H
								mm	mm	mm
SDDPS	2	18	NS Normal Start	220 - 240V	HPF High Power Factor	FTB Fused Terminal Block	3/NM 3 hours Non-Maintained	624	305	145
	2	36	DEOS Electronic Starter					1226	305	145
	2	58	EB Electronic High Frequency	1526	305	145				
	4	18	EBD Dimmable Electronic High Frequency	50 / 60 Hz	HF High Frequency	TRW Temperature Resistant Wire	3/M 3 hours Maintained	624	624	145
	4	36	EBD Dimmable Electronic High Frequency					1226	624	145
	4	58	EBD Dimmable Electronic High Frequency	1526	624	145				

Photometrics & Dimensions

SDDPS 4/18W



Flat White Plastic Louvers

SERIES : RSL



Applications	Suitable to be used in: offices, clinics, education premises, circulation area & general indoor application.
Housing	Made of press welded Cold Rolled Steel "CRS" sheet of tight construction to prevent light leakage, diffuser frame made of Plain Aluminum. All metal parts pre-treated with a full degreasing and phosphate process, painted in stove enameled white baked epoxy polyester mix-powder to ensure high reflectance of painted surfaces. <i>"Other color finishes upon request"</i>
Light Controller	Flat half-inch styrene plastic silver louvers, secured in an extruded aluminum frame painted white. Frame is held to the body by means of special steel springs allowing easy opening and diffuser suspension during maintenance.
Mounting	Surface.
Control Gear	High Power Factor "HPF" (≥ 90%) Conventional Control Gear "CCG". High Frequency Electronic Control Gear "ECG". High Frequency Dimmable Electronic Control Gear "ECG".
Voltage / Frequency	220 - 240V , 50 / 60 Hz <i>"Other Voltages upon request"</i>
Cable Entry	1x22 mm Ø hole on top. <i>"Extra knock-out holes upon request"</i>
Lamps	18, 36 & 58 watt T8/T26 Fluorescent for Normal Start "NS", Electronic Start "DEOS" or Electronic High Frequency "HF" Ballast "EB". 14, 28 & 35 watt FH T5/T16 Fluorescent for Electronic High Frequency "HF" Ballast "EB". 24, 49, 54 & 80 watt FQ T5/T16 Fluorescent for Electronic High Frequency "HF" Ballast "EB". <i>"Other lamps (T5/T16 - T8/T26 - T12/T38 - TCL - TC-DE - TC-TE) upon request & fitting housing dimensions subject to changes accordingly"</i>
Emergency Unit	3 Hours duration Emergency Unit "EMU" with battery pack Maintained "M" or Non-Maintained "NM" for one lamp, and for various lamp types and voltage networks combinations. <i>"Additional Emergency Units to operate more than one lamp on request"</i>

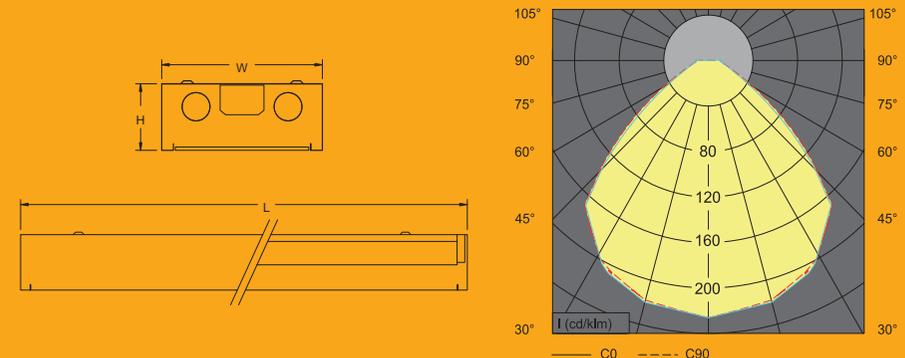
Technical Data

To Order : follow the sequence mr - ln / ls - cgt - v/h - pf - acc - emu

Model Reference	Lamp Number	Lamp Size watt	Control Gear Type	Voltage / Frequency V / Hz	Power Factor	Optional Accessories	Emergency Unit	Physical Characteristics										
								L	W	H								
								mm	mm	mm								
RSL	1	14	NS Normal Start	220 - 240V 50 / 60 Hz	HPF High Power Factor	FTB Fused Terminal Block	3/NM 3 hours Non-Maintained	624	196	90								
	2	17						624	305	90								
	3	18						624	450	90								
	4	24						624	624	90								
	1	28	DEOS Electronic Starter					50 / 60 Hz	HF High Frequency	TRW Temperature Resistant Wire	3/M 3 hours Maintained	1226	196	90				
	2	32										1226	305	90				
	3	36										1226	450	90				
	4	54										1226	624	90				
	1	35	EB Electronic High Frequency									50 / 60 Hz	HF High Frequency	TW Through Wire	3/M 3 hours Maintained	1526	196	90
	2	49														1526	305	90
	3	58														1526	450	90
	4	80														1526	624	90
RSLC	1	11L 13D/T 18D/T 18L 26D/T	EBD Dimmable Electronic High Frequency													304	304	90
	2	32T 42T														304	304	90

Photometrics & Dimensions

RSL 4/18W



Silver Plastic Louvers

SERIES : RSLs



Applications	Suitable to be used in: offices, clinics, education premises, circulation area & general indoor application.
Housing	Made of press welded Cold Rolled Steel "CRS" sheet of tight construction to prevent light leakage, diffuser frame made of Plain Aluminum. All metal parts pre-treated with a full degreasing and phosphate process, painted in stove enameled white baked epoxy polyester mix-powder to ensure high reflectance of painted surfaces. <i>"Other color finishes upon request"</i>
Light Controller	Flat half-inch styrene plastic silver louvers, secured in an extruded aluminum frame painted white. Frame is held to the body by means of special steel springs allowing easy opening and diffuser suspension during maintenance.
Mounting	Surface.
Control Gear	High Power Factor "HPF" (≥ 90%) Conventional Control Gear "CCG". High Frequency Electronic Control Gear "ECG". High Frequency Dimmable Electronic Control Gear "ECG".
Voltage / Frequency	220 - 240V , 50 / 60 Hz <i>"Other Voltages upon request"</i>
Cable Entry	1x22 mm Ø hole on top. <i>"Extra knock-out holes upon request"</i>
Lamps	18, 36 & 58 watt T8/T26 Fluorescent for Normal Start "NS", Electronic Start "DEOS" or Electronic High Frequency "HF" Ballast "EB". 17& 32 watt T8 Fluorescent for Electronic High Frequency "HF" Ballast "EB". 14, 28 & 35 watt FH T5/T16 Fluorescent for Electronic High Frequency "HF" Ballast "EB". 24, 49, 54 & 80 watt FQ T5/T16 Fluorescent for Electronic High Frequency "HF" Ballast "EB". <i>"Other lamps (T5/T16 – T8/T26 – T12/T38 – TCL - TC-DE – TC-TE) upon request & fitting housing dimensions subject to changes accordingly"</i>
Emergency Unit	3 Hours duration Emergency Unit "EMU" with battery pack Maintained "M" or Non-Maintained "NM" for one lamp, and for various lamp types and voltage networks combinations. <i>"Additional Emergency Units to operate more than one lamp on request"</i>

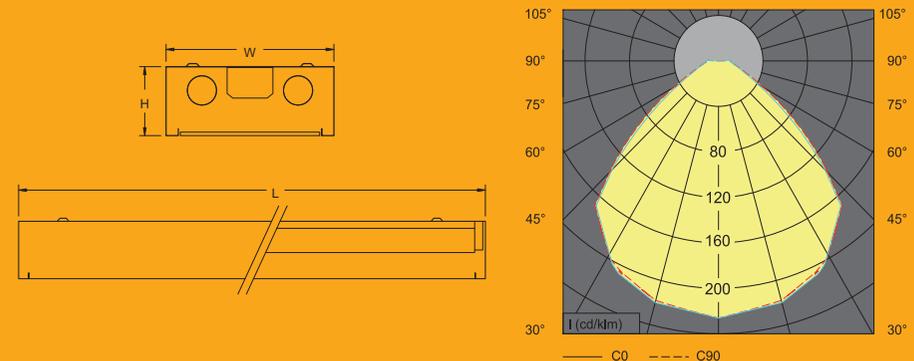
Technical Data

To Order : follow the sequence **mr - ln - ls - cgt - v/h - pf - acc - emu**

Model Reference	Lamp Number	Lamp Size watt	Control Gear Type	Voltage Frequency V / Hz	Power Factor	Optional Accessories	Emergency Unit	Physical Characteristics		
								L	W	H
								mm	mm	mm
RSLs	1	14	NS Normal Start	220 - 240V 50 / 60 Hz	HPF High Power Factor	FTB Fused Terminal Block TRW Temperature Resistant Wire	3/NM 3 hours Non-Maintained	624	196	90
	2	17						624	305	90
	3	18						624	450	90
	4	24						624	624	90
	1	28	1226					196	90	
	2	32	1226					305	90	
	3	36	1226					450	90	
	4	54	1226					624	90	
	1	35	EB Electronic High Frequency				3/M 3 hours Maintained	1526	196	90
	2	49						1526	305	90
	3	58						1526	450	90
	4	80						1526	624	90
RSLsC	1	11L 13D/T 18D/T 18L 26D/T	EBD Dimmable Electronic High Frequency		HF High Frequency	TW Through Wire		304	304	90
	2	32T 42T						304	304	90

Photometrics & Dimensions

RSLs 4/18W



Golden Plastic Louvers

SERIES : RSLG



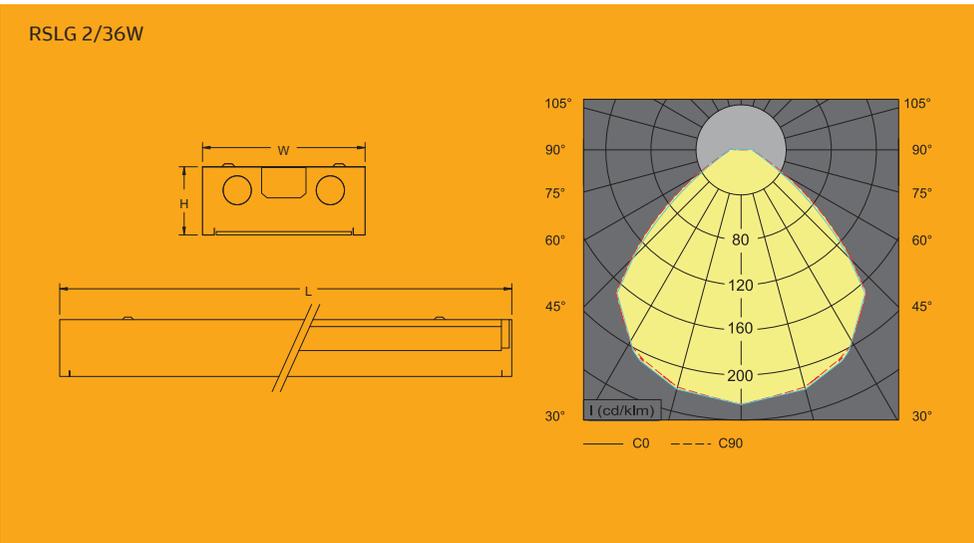
Applications	Suitable to be used in: offices, clinics, education premises, circulation area & general indoor application.
Housing	Made of press welded Cold Rolled Steel "CRS" sheet of tight construction to prevent light leakage, diffuser frame made of Plain Aluminum. All metal parts pre-treated with a full degreasing and phosphate process, painted in stove enameled white baked epoxy polyester mix-powder to ensure high reflectance of painted surfaces. <i>"Other color finishes upon request"</i>
Light Controller	Flat half-inch styrene plastic golden louvers, secured in an extruded aluminum frame painted white. Frame is held to the body by means of special steel springs allowing easy opening and diffuser suspension during maintenance.
Mounting	Surface.
Control Gear	High Power Factor "HPF" (≥ 90%) Conventional Control Gear "CCG". High Frequency Electronic Control Gear "ECG". High Frequency Dimmable Electronic Control Gear "ECG".
Voltage / Frequency	220 - 240V , 50 / 60 Hz <i>"Other Voltages upon request"</i>
Cable Entry	1x22 mm Ø hole on top. <i>"Extra knock-out holes upon request"</i>
Lamps	18, 36 & 58 watt T8/T26 Fluorescent for Normal Start "NS", Electronic Start "DEOS" or Electronic High Frequency "HF" Ballast "EB". 17& 32 watt T8 Fluorescent for Electronic High Frequency "HF" Ballast "EB". 14, 28 & 35 watt FH T5/T16 Fluorescent for Electronic High Frequency "HF" Ballast "EB". 24, 49, 54 & 80 watt FQ T5/T16 Fluorescent for Electronic High Frequency "HF" Ballast "EB". <i>"Other lamps (T5/T16 – T8/T26 - T12/T38 – TCL - TC-DE – TC-TE) upon request & fitting housing dimensions subject to changes accordingly"</i>
Emergency Unit	3 Hours duration Emergency Unit "EMU" with battery pack Maintained "M" or Non-Maintained "NM" for one lamp, and for various lamp types and voltage networks combinations. <i>"Additional Emergency Units to operate more than one lamp on request"</i>

Technical Data

To Order : follow the sequence **mr - ln - ls - cgt - v/h - pf - acc - emu**

Model Reference	Lamp Number	Lamp Size watt	Control Gear Type	Voltage / Frequency V / Hz	Power Factor	Optional Accessories	Emergency Unit	Physical Characteristics			
								L	W	H	
								mm	mm	mm	
RSLG	1	14 24	NS Normal Start	220 - 240V 50 / 60 Hz	HPF High Power Factor	FTB Fused Terminal Block	3/NM 3 hours Non- Maintained	624	196	90	
	2							624	305	90	
	3							624	450	90	
	4							624	624	90	
	1	28	DEOS Electronic Starter					1226	196	90	
	2							1226	305	90	
	3	35 80	EB Electronic High Frequency				TRW Temperature Resistant Wire	1226	450	90	
	4							1226	624	90	
	1	EBD Dimmable Electronic High Frequency	HF High Frequency					TW Through Wire	1526	196	90
	2								1526	305	90
	3								1526	450	90
	4								1526	624	90
RSLGC	1	11L 13D/T 18D/T 18L 26D/T 32T 42T					3/M 3 hours Maintained		304	304	90
	2								304	304	90

Photometrics & Dimensions



Hygienic Opal

SERIES : SFOH



Applications	Suitable to be used in: Hygienic areas with low dust particles and germ counts, e.g. hospital, operating theaters, pharmacies, laboratories, pharmaceutical, food processing, patients rooms, etc.
Housing	Made of press welded Cold Rolled Steel "CRS" sheet of tight construction to prevent light leakage, diffuser frame made of Plain Aluminum. All metal parts pre-treated with a full degreasing and phosphate process, painted in stove enamelled white baked epoxy polyester mix-powder to ensure high reflectance of painted surfaces. "Other color finishes upon request"
Light Controller	Standard opal flat diffuser secured in an extruded aluminum frame finished in satin white. Louvers fixed on white aluminum frame incorporates tempered glass or polycarbonate hygienic layer, special UV resistant gasket seal ensures tight fit between body and diffuser, suspension kit supplied for easy maintenance, also for easy installation, a suspension system consisting of a special kit adjustable from inside the luminaire can be supplied on request. Hygienic layer features UV resistant, High resistant for mechanical impact and high resistant for most of the disinfectant chemicals used in operation theatre rooms, delivery rooms, etc...
Mounting	Surface.
Control Gear	High Power Factor "HPF" (≥ 90%) Conventional Control Gear "CCG". High Frequency Electronic Control Gear "ECG". High Frequency Dimmable Electronic Control Gear "ECG".
Voltage / Frequency	220 - 240V , 50 / 60 Hz "Other Voltages upon request"
Cable Entry	1x22 mm Ø hole on top. "Extra knock-out holes upon request"
Lamps	18, 36 & 58 watt T8/T26 Fluorescent for Normal Start "NS", Electronic Start "DEOS" or Electronic High Frequency "HF" Ballast "EB". 17& 32 watt T8 Fluorescent for Electronic High Frequency "HF" Ballast "EB" 14, 28 & 35 watt FH T5/T16 Fluorescent for Electronic High Frequency "HF" Ballast "EB". 24, 49, 54 & 80 watt FQ T5/T16 Fluorescent for Electronic High Frequency "HF" Ballast "EB". "Other lamps (T5/T16 – T8/T26 – T12/T38 – TCL - TC-DE – TC-TE) upon request & fitting housing dimensions subject to changes accordingly"
Emergency Unit	3 Hours duration Emergency Unit "EMU" with battery pack Maintained "M" or Non-Maintained "NM" for one lamp, and for various lamp types and voltage networks combinations. "Additional Emergency Units to operate more than one lamp on request"

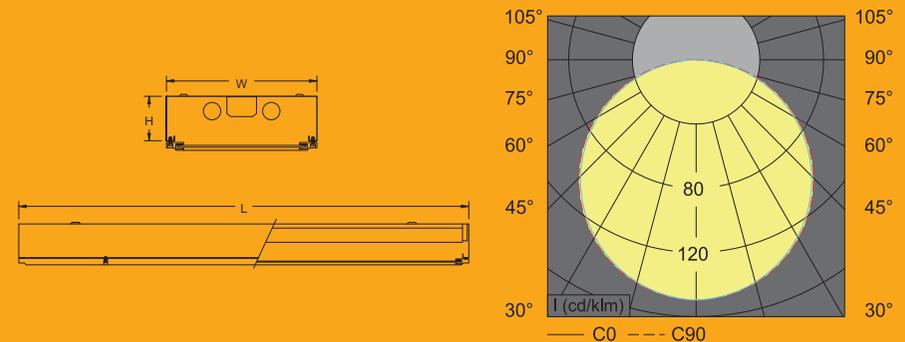
Technical Data

To Order : follow the sequence mr - ln / ls - cgt - v/h - pf - acc - emu

Model Reference	Lamp Number	Lamp Size watt	Control Gear Type	Voltage Frequency V / Hz	Power Factor	Optional Accessories	Emergency Unit	Physical Characteristics							
								L	W	H					
								mm	mm	mm					
SFOH	1	14	NS Normal Start	220 - 240V	HPF High Power Factor	FTB Fused Terminal Block	3/NM 3 hours Non-Maintained	635	196	90					
	2	17						635	250	90					
	3	18						635	450	90					
	4	24						635	500	90					
	1	28	DEOS Electronic Starter					50 / 60 Hz	TRW Temperature Resistant Wire	1240	196	90			
	2	32								1240	250	90			
	3	36								1240	450	90			
	4	54								1240	500	90			
	SOHC	1	35	EB Electronic High Frequency	50 / 60 Hz	HF High Frequency	TW Through Wire	3/M 3 hours Maintained	1540	196	90				
		2	49						1540	250	90				
		3	58						1540	450	90				
		4	80						1540	500	90				
SOHC		1	11L 13D/T 18D/T 18L	EBD Dimmable Electronic High Frequency									250	250	107
		2	26D/T 32T 42T										250	250	107

Photometrics & Dimensions

SFOH 2/36W



Hygienic Prismatic

SERIES : SFPH



Applications	Suitable to be used in: Hygienic areas with low dust particles and germ counts, e.g. hospital, operating theaters, pharmacies, laboratories, pharmaceutical, food processing, patients rooms, etc.
Housing	Made of press welded Cold Rolled Steel "CRS" sheet of tight construction to prevent light leakage, diffuser frame made of Plain Aluminum, All metal parts pre-treated with a full degreasing and phosphate process, painted in stove enamelled white baked epoxy polyester mix-powder to ensure high reflectance of painted surfaces. "Other color finishes upon request"
Light Controller	Standard prismatic flat diffuser secured in an extruded aluminum frame finished in satin white. Louvers fixed on white aluminum frame incorporates tempered glass or polycarbonate hygienic layer, special UV resistant gasket seal ensures tight fit between body and diffuser, suspension kit supplied for easy maintenance. also for easy installation, a suspension system consisting of a special kit adjustable from inside the luminaire can be supplied on request. Hygienic layer features UV resistant, High resistant for mechanical impact and high resistant for most of the disinfectant chemicals used in operation theatre rooms, delivery rooms, etc.
Mounting	Surface.
Control Gear	High Power Factor "HPF" (≥ 90%) Conventional Control Gear "CCG". High Frequency Electronic Control Gear "ECG". High Frequency Dimmable Electronic Control Gear "ECG".
Voltage / Frequency	220 - 240V , 50 / 60 Hz "Other Voltages upon request"
Cable Entry	1x22 mm Ø hole on top. "Extra knock-out holes upon request"
Lamps	18, 36 & 58 watt T8/T26 Fluorescent for Normal Start "NS", Electronic Start "DEOS" or Electronic High Frequency "HF" Ballast "EB". 17& 32 watt T8 Fluorescent for Electronic High Frequency "HF" Ballast "EB" 14, 28 & 35 watt FH T5/T16 Fluorescent for Electronic High Frequency "HF" Ballast "EB". 24, 49, 54 & 80 watt FQ T5/T16 Fluorescent for Electronic High Frequency "HF" Ballast "EB". "Other lamps (T5/T16 – T8/T26 – T12/T38 – TCL - TC-DE – TC-TE) upon request & fitting housing dimensions subject to changes accordingly"
Emergency Unit	3 Hours duration Emergency Unit "EMU" with battery pack Maintained "M" or Non-Maintained "NM" for one lamp, and for various lamp types and voltage networks combinations. "Additional Emergency Units to operate more than one lamp on request"

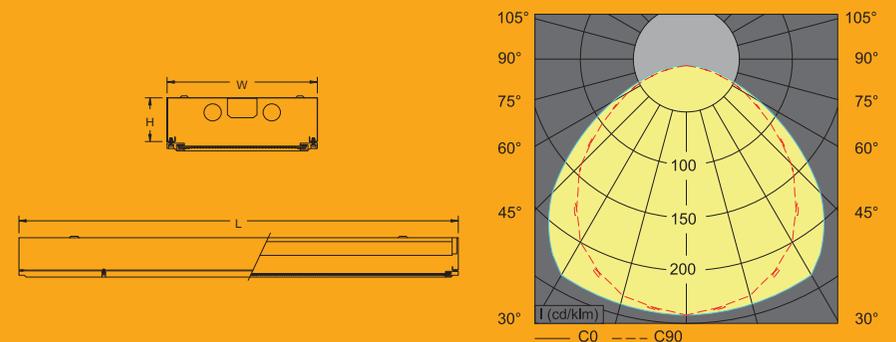
Technical Data

To Order : follow the sequence **mr - ln / ls - cgt - v/h - pf - acc - emu**

Model Reference	Lamp Number	Lamp Size watt	Control Gear Type	Voltage / Frequency V / Hz	Power Factor	Optional Accessories	Emergency Unit	Physical Characteristics		
								L	W	H
								mm	mm	mm
SFPH	1	14	NS Normal Start	220 - 240V 50 / 60 Hz	HPF High Power Factor	FTB Fused Terminal Block TRW Temperature Resistant Wire	3/NM 3 hours Non-Maintained	635	196	90
	2	17						635	250	90
	3	18						635	450	90
	4	24						635	500	90
	1	28	1240					196	90	
	2	32	1240					250	90	
	3	36	1240				450	90		
	4	54	1240				500	90		
	1	35	EB Electronic High Frequency				3/M 3 hours Maintained	1540	196	90
	2	49						1540	250	90
	3	58						1540	450	90
	4	80						1540	500	90
SPHC	1	11L 13D/T 18D/T 18L 26D/T	EBD Dimmable Electronic High Frequency	HF High Frequency	TW Through Wire			250	250	107
	2	32T 42T						250	250	107

Photometrics & Dimensions

SFPH 4/18W



Hygienic Aluminium V-Louvers

SERIES : RSAH



Applications	Suitable to be used in: Hygienic areas with low dust particles and germ counts, e.g. hospital, operating theaters, pharmacies, laboratories, pharmaceutical, food processing, patients rooms, etc.
Housing	Made of press welded Cold Rolled Steel "CRS" sheet of tight construction to prevent light leakage, diffuser frame made of Plain Aluminum. All metal parts pre-treated with a full degreasing and phosphating process, painted in stove enameled white baked epoxy polyester mix-powder to ensure high reflectance of painted surfaces. R- models characterized with chamfered edges and plastic corners. "Other color finishes upon request"
Light Controller	V shaped specular anodized aluminum mirror louvers, with stepped surface strip aluminum cross-blades. Louvers fixed on white aluminum frame incorporates tempered glass or polycarbonate hygienic layer, special UV resistant gasket seal ensures tight fit between body and diffuser, suspension kit supplied for easy maintenance, also for easy installation, a suspension system consisting of a special kit adjustable from inside the luminaire can be supplied on request. Hygienic layer features UV resistant, High resistant for mechanical impact and high resistant for most of the disinfectant chemicals used in operation theatre rooms, delivery rooms, etc.
Mounting	Surface.
Control Gear	High Power Factor "HPF" (≥ 90%) Conventional Control Gear "CCG". High Frequency Electronic Control Gear "ECG". High Frequency Dimmable Electronic Control Gear "ECG".
Voltage / Frequency	220 - 240V , 50 / 60 Hz "Other Voltages upon request"
Cable Entry	1x22 mm Ø hole on top. "Extra knock-out holes upon request"
Lamps	18, 36 & 58 watt T8/T26 Fluorescent for Normal Start "NS", Electronic Start "DEOS" or Electronic High Frequency "HF" Ballast "EB". 17&32 watt T8 Fluorescent for Electronic High Frequency HF Ballast EB 14, 28 & 35 watt FH T5/T16 Fluorescent for Electronic High Frequency "HF" Ballast "EB". 24, 49, 54 & 80 watt FQ T5/T16 Fluorescent for Electronic High Frequency "HF" Ballast "EB". "Other lamps (T5/T16 – T8/T26 – T12/T38 – TCL - TC-DE – TC-TE) upon request & fitting housing dimensions subject to changes accordingly"
Emergency Unit	3 Hours duration Emergency Unit "EMU" with battery pack Maintained "M" or Non-Maintained "NM" for one lamp, and for various lamp types and voltage networks combinations. "Additional Emergency Units to operate more than one lamp on request"

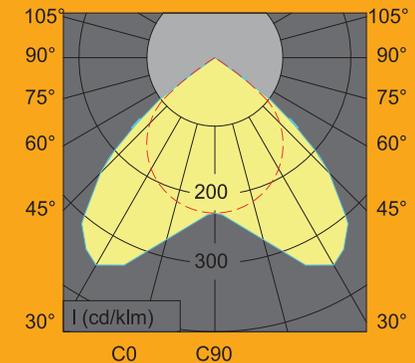
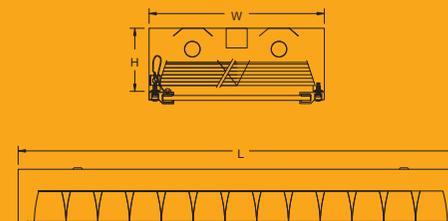
Technical Data

To Order : follow the sequence mr - ln / ls - cgt - v/h - pf - acc - emu

Model Reference	Lamp Number	Lamp Size watt	Control Gear Type	Voltage / Frequency V / Hz	Power Factor	Accessories	Emergency Unit	Physical Characteristics		
								L	W	H
								mm	mm	mm
RSAH	1	14	NS Normal Start	220 - 240V 50 / 60 Hz	HPF High Power Factor HF High Frequency	FTB Fused Terminal Block TRW Temperature Resistant Wire TW Through Wire	3/NM 3 hours Non-Maintained	630	196	90
	2	17						630	250	90
	3	18						630	450	90
	4	20						630	500	90
	4	24	1226					196	90	
	1	28	1226					250	90	
	2	32	1226				450	90		
	3	36	1226				500	90		
	4	40	1526				196	90		
	1	35	1526				250	90		
	2	49	1526				450	90		
	3	58	1526				500	90		
4	80	1526	500	90						
SAHC	1	11L 13D/T 18D/T 18L 26D/T 32T 42T	EBD Dimmable Electronic High Frequency				3/M 3 hours Maintained	250	250	107
	2							250	250	107

Photometrics & Dimensions

RSAH 4/18W



Hygienic Plain Aluminium V-Louvers

SERIES : RSSH



Applications	Suitable to be used in: Hygienic areas with low dust particles and germ counts, e.g. hospital, operating theaters, pharmacies, laboratories, pharmaceutical, food processing, patients rooms, etc.
Housing	Made of press welded Cold Rolled Steel "CRS" sheet of tight construction to prevent light leakage, diffuser frame made of Plain Aluminum, all metal parts pre-treated with a full degreasing and phosphating process, painted in stove enameled white baked epoxy polyester mix-powder to ensure high reflectance of painted surfaces. <i>"Other color finishes upon request"</i>
Light Controller	V shaped matt anodized aluminum louvers, with strip plain aluminum cross-baffle. Louvers fixed on white aluminum frame incorporates tempered glass or polycarbonate hygienic layer, special UV resistant gasket seal ensures tight fit between body and diffuser, suspension kit supplied for easy maintenance, also for easy installation, a suspension system consisting of a special kit adjustable from inside the luminaire can be supplied on request. Hygienic layer features UV resistant, High resistant for mechanical impact and high resistant for most of the disinfectant chemicals used in operation theatre rooms, delivery rooms, etc...
Mounting	Surface.
Control Gear	High Power Factor "HPF" (≥ 90%) Conventional Control Gear "CCG". High Frequency Electronic Control Gear "ECG". High Frequency Dimmable Electronic Control Gear "ECC".
Voltage / Frequency	220 - 240V , 50 / 60 Hz <i>"Other Voltages upon request"</i>
Cable Entry	1x22 mm Ø hole on top. <i>"Extra knock-out holes upon request"</i>
Lamps	18, 36 & 58 watt T8/T26 Fluorescent for Normal Start "NS", Electronic Start "DEOS" or Electronic High Frequency "HF" Ballast "EB". 17& 32 watt T8 Fluorescent for Electronic High Frequency "HF" Ballast "EB" 14, 28 & 35 watt FH T5/T16 Fluorescent for Electronic High Frequency "HF" Ballast "EB". 24, 49, 54 & 80 watt FQ T5/T16 Fluorescent for Electronic High Frequency "HF" Ballast "EB". <i>"Other lamps (T5/T16 – T8/T26 – T12/T38 – TCL - TC-DE – TC-TE) upon request & fitting housing dimensions subject to changes accordingly"</i>
Emergency Unit	3 Hours duration Emergency Unit "EMU" with battery pack Maintained "M" or Non-Maintained "NM" for one lamp, and for various lamp types and voltage networks combinations. <i>"Additional Emergency Units to operate more than one lamp on request"</i>

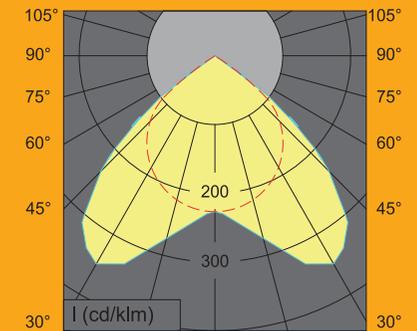
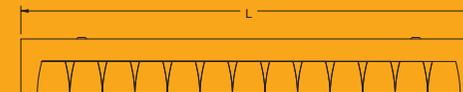
Technical Data

To Order : follow the sequence **mr - ln / ls - cgt - v/h - pf - acc - emu**

Model Reference	Lamp Number	Lamp Size watt	Control Gear Type	Voltage / Frequency V / Hz	Power Factor	Optional Accessories	Emergency Unit	Physical Characteristics									
								L	W	H							
								mm	mm	mm							
RSSH	1	14	NS Normal Start	220 - 240V	HPF High Power Factor	FTB Fused Terminal Block	3/NM 3 hours Non-Maintained	630	196	90							
	2	17						630	250	90							
	3	18						630	450	90							
	4	24						630	500	90							
	1	28	DEOS Electronic Starter					50 / 60 Hz	HF High Frequency	TRW Temperature Resistant Wire	3/M 3 hours Maintained	1226	196	90			
	2	32										1226	250	90			
	3	36										1226	450	90			
	4	54										1226	500	90			
	1	35	EB Electronic High Frequency									EBD Dimmable Electronic High Frequency	TW Through Wire	3/M 3 hours Maintained	1526	196	90
	2	49													1526	250	90
	3	58													1526	450	90
	4	80													1526	500	90
SSHC	1	11L 13D/T 18D/T 18L 26D/T 32T 42T													250	250	107
	2														250	250	107

Photometrics & Dimensions

RSSH 4/18W



Hygienic White Steel V-Louvers



SERIES : RSWH



Applications	Suitable to be used in: Hygienic areas with low dust particles and germ counts, e.g. hospital, operating theaters, pharmacies, laboratories, pharmaceutical, food processing, patients rooms, etc.
Housing	Made of press welded Cold Rolled Steel "CRS" sheet of tight construction to prevent light leakage, diffuser frame made of Plain Aluminum, all metal parts pre-treated with a full degreasing and phosphating process, painted in stove enameled white baked epoxy polyester mix-powder to ensure high reflectance of painted surfaces. R- models characterized with chamfered edges and plastic corners. "Other color finishes upon request"
Light Controller	V shaped steel sheets louvers, with strip cross-baffle all painted white. Louvers fixed on white aluminum frame incorporates tempered glass or polycarbonate hygienic layer, special UV resistant gasket seal ensures tight fit between body and diffuser, suspension kit supplied for easy maintenance, also for easy installation, a suspension system consisting of a special kit adjustable from inside the luminaire can be supplied on request. Hygienic layer features UV resistant, High resistant for mechanical impact and high resistant for most of the disinfectant chemicals used in operation theatre rooms, delivery rooms, etc.
Mounting	Surface.
Control Gear	High Power Factor "HPF" (≥ 90%) Conventional Control Gear "CCG". High Frequency Electronic Control Gear "ECG". High Frequency Dimmable Electronic Control Gear "ECG".
Voltage / Frequency	220 - 240V , 50 / 60 Hz "Other Voltages upon request"
Cable Entry	1x22 mm Ø hole on top. "Extra knock-out holes upon request"
Lamps	18, 36 & 58 watt T8/T26 Fluorescent for Normal Start "NS", Electronic Start "DEOS" or Electronic High Frequency "HF" Ballast "EB". 17 & 32 watt T8 Fluorescent for Electronic High Frequency "HF" Ballast "EB" 14, 28 & 35 watt FH T5/T16 Fluorescent for Electronic High Frequency "HF" Ballast "EB". 24, 49, 54 & 80 watt FQ T5/T16 Fluorescent for Electronic High Frequency "HF" Ballast "EB". "Other lamps (T5/T16 – T8/T26 – T12/T38 – TCL - TC-DE – TC-TE) upon request & fitting housing dimensions subject to changes accordingly"
Emergency Unit	3 Hours duration Emergency Unit "EMU" with battery pack Maintained "M" or Non-Maintained "NM" for one lamp, and for various lamp types and voltage networks combinations. "Additional Emergency Units to operate more than one lamp on request"

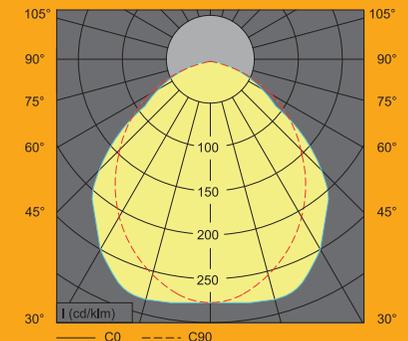
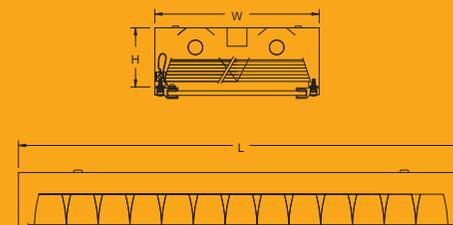
Technical Data

To Order : follow the sequence mr - ln / ls - cgt - v/h - pf - acc - emu

Model Reference	Lamp Number	Lamp Size watt	Control Gear Type	Voltage / Frequency V / Hz	Power Factor	Optional Accessories	Emergency Unit	Physical Characteristics		
								L	W	H
								mm	mm	mm
RSWH	1	14	NS Normal Start	220 - 240V 50 / 60 Hz	LFB LOW Power Factor HF High Frequency	FTB Fused Terminal Block TRW Temperature Resistant Wire TW Through Wire	3/NM 3 hours Non-Maintained 3/M 3 hours Maintained	630	196	90
	2	17						630	250	90
	3	18						630	450	90
	4	24						630	500	90
	1	28	DEOS Electronic Starter					1226	196	90
	2	32						1226	250	90
	3	36						1226	450	90
	4	54						1226	500	90
	1	35	EB Electronic High Frequency					1526	196	90
	2	49						1526	250	90
	3	58						1526	450	90
	4	80						1526	500	90
SWHC	1	11L 13D/T 18D/T 18L 26D/T	EBD Dimmable Electronic High Frequency					250	250	107
	2	32T 42T						250	250	107

Photometrics & Dimensions

RSWH 2/36W



Circular Opal

SERIES : SOC



Applications	Suitable to be used in: circulation area, stairs, general indoor applications.
Housing	Made of press welded Cold Rolled Steel "CRS" sheet of tight construction to prevent light leakage, diffuser frame made of Plain Aluminum, all metal parts pre-treated with a full degreasing and phosphate process, painted in stove enameled white baked epoxy polyester mix-powder to ensure high reflectance of painted surfaces. *Other color finishes upon request*
Light Controller	One piece, non glued, molded metacrylate opal, UV resistant. Diffuser is held to the body by means of special springs allowing easy opening and suspension during maintenance.
Mounting	Surface.
Control Gear	High Power Factor "HPF" (≥ 90%) Conventional Control Gear "CCG". High Frequency Electronic Control Gear "ECG". High Frequency Dimmable Electronic Control Gear "ECG".
Voltage / Frequency	220 - 240V , 50 / 60 Hz *Other Voltages upon request*
Cable Entry	1x22 mm Ø hole on top. *Extra knock-out holes upon request*
Lamps	22, 32 & 40 watt T8/T26 Circular Fluorescent for Normal Start "NS", Electronic Start "DEOS" or Electronic High Frequency "HF" Ballast "EB". 22, 40 & 55 watt FC T5/T16 Circular Fluorescent for Electronic High Frequency "HF" Ballast "EB". *Other lamps (T5/T16 – T8/T26 – T12/T38 – TCL - TC-DE – TC-TE) upon request & fitting housing dimensions subject to changes accordingly*
Emergency Unit	3 Hours duration Emergency Unit "EMU" with battery pack Maintained "M" or Non-Maintained "NM" for one lamp, and for various lamp types and voltage networks combinations. *Additional Emergency Units to operate more than one lamp on request*

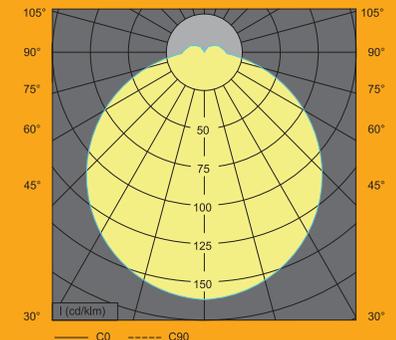
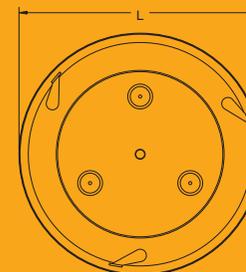
Technical Data

To Order : follow the sequence mr - ln / ls - cgt - v/h - pf - acc - emu

Model Reference	Lamp Number	Lamp Size watt	Control Gear Type	Voltage / Frequency V / Hz	Power Factor	Optional Accessories	Emergency Unit	Physical Characteristics						
								L	W	H				
								mm	mm	mm				
SOC	1	32	NS Normal Start	220 - 240V 50 / 60 Hz	HPF High Power Factor	FTB Fused Terminal Block	3/NM 3 hours Non-Maintained	337	--	90				
								--	--	--				
								--	--	--				
	1	40	DEOS Electronic Starter					HF High Frequency	TRW Temperature Resistant Wire	3/M 3 hours Maintained	452	--	90	
											--	--	--	
											--	--	--	
		60	EB Electronic High Frequency				TW Through Wire				3/M 3 hours Maintained	--	--	--
												--	--	--
												--	--	--
		40 + 32	EBD Dimmable Electronic High Frequency							TW Through Wire		3/M 3 hours Maintained	--	--
	452			--	90									
	--			--	--									
	60 + 32	EBD Dimmable Electronic High Frequency	TW Through Wire	3/M 3 hours Maintained	--	--					--			
					452	--		90						
					--	--		--						

Photometrics & Dimensions

SOC 1/32W



Recessed Mounted Luminaire

Recessed Flat Sheet Opal / Prismatic

LAY-IN OPAL



NO 86-87

LAY-IN FLAT PRISMATIC



NP 88-89

HINGED FRAME FLAT OPAL



TO 90-91

HINGED FRAME PRISMATIC



TP 92-93

Recessed Drop Opal / Prismatic

DROP OPAL



DO 94-95

DROP PRISMATIC



DP 96-97

Recessed Louvers

ALUMINIUM V-LOUVERS



NA 98-99

MATT ALUMINIUM V-LOUVERS



NS 100-101

WHITE STEEL V-LOUVERS



NW 102-103

ALUMINIUM V-LOUVERS



VA 104-105

MATT ALUMINIUM V-LOUVERS



VS 106-107

WHITE STEEL V-LOUVERS



VW 108-109

DOUBLE PARABOLIC MATT ALUMINIUM LOUVERS



DPM 110-111

DOUBLE PARABOLIC SPECULAR ALUMINIUM LOUVERS



DPS 112-113

DEEP DOUBLE PARABOLIC SEMI-SPECULAR ALUMINIUM LOUVERS



DDP 114-115

T5 SPECULAR



R5S 116-117

WHITE PLASTIC LOUVERS



NL 118-119

SILVER PLASTIC LOUVERS



NLS 120-121

GOLDEN PLASTIC LOUVERS



NLG 122-123

Recessed Louvers

WHITE PLASTIC LOUVERS



TL 124-125

SILVER PLASTIC LOUVERS



TLS 126-127

GOLDEN PLASTIC LOUVERS



TLG 128-129

METALIZED PLASTIC LOUVERS



NRI 130-131

Recessed Indirect

MELLOW



RCE 132-133

TWIN MELLOW



RT 134-135

Recessed Hygienic

HYGIENIC OPAL



TOH 136-137

HYGIENIC PRISMATIC



TPH 138-139

HYGIENIC ALUMINIUM V-LOUVERS



VAH 140-141

HYGIENIC PLAIN ALUMINIUM V-LOUVERS



VSH 142-143

HYGIENIC WHITE STEEL V-LOUVERS



VWH 144-145

Recessed Mounted - Strip Ceiling

PANEL OPAL



POC 146-147

PANEL PRISMATIC



PPC 148-149

PANEL WHITE DISHED PLATE



PWC 150-151

Hinged Frame Flat Opal



SERIES : TOM/TOI/TOC/TOCM



Applications	Suitable to be used in: offices, clinics, education premises, circulation area & general indoor application.
Housing	Made of press welded Cold Rolled Steel "CRS" sheet of tight construction to prevent light leakage, all metal parts pre-treated with a full degreasing and phosphate process, painted in stove enameled white baked epoxy polyester mix-powder to ensure high reflectance of painted surfaces. Other color finishes upon request.
Light Controller	Standard opal flat diffuser secured in an extruded aluminum frame finished in satin white. Frame is held to the body by means of special hinges and latches allow easy opening and diffuser suspension during maintenance. A special gasket led on the back of the frame reduces penetration of dust particles.
Mounting	Recessed lay-in or universal. Suitable for fix in Metric or Imperial or Universal Concealed standard T-profile false ceiling.
Control Gear	High Power Factor "HPF" (≥ 90%) Conventional Control Gear "CCG". High Frequency Electronic Control Gear "ECG". High Frequency Dimmable Electronic Control Gear "ECG".
Voltage / Frequency	220 - 240V , 50 / 60 Hz "Other Voltages upon request"
Cable Entry	1x22 mm Ø hole on top. "Extra knock-out holes upon request"
Lamps	18, 36 & 58 watt T8/T26 Fluorescent for Normal Start "NS", Electronic Start "DEOS" or Electronic High Frequency "HF" Ballast "EB". 17& 32 watt T8 Fluorescent for Electronic High Frequency "HF" Ballast "EB". 14, 28 & 35 watt FH T5/T16 Fluorescent for Electronic High Frequency "HF" Ballast "EB". 24, 49, 54 & 80 watt FQ T5/T16 Fluorescent for Electronic High Frequency "HF" Ballast "EB". "Other lamps (T5/T16 – T8/T26 – T12/T38 – TCL – TC-D – TC-DE – TC-TE) upon request & fitting housing dimensions subject to changes accordingly"
Emergency Unit	3 Hours duration Emergency Unit "EMU" with battery pack Maintained "M" or Non-Maintained "NM" for one lamp, and for various lamp types and voltage networks combinations. "Additional Emergency Units to operate more than one lamp on request"

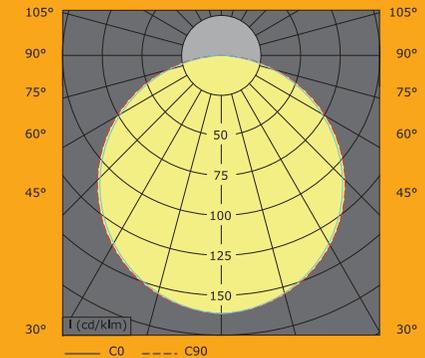
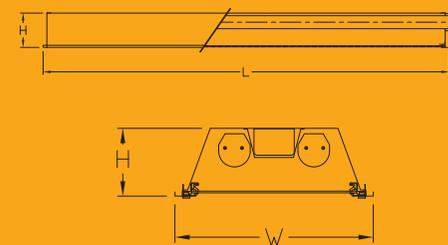
Technical Data

To Order : follow the sequence **mr+gt+ht - ln / ls - cgt - vh - cgm - emu**

Model Reference	Physical Characteristics										Housing Type	Lamp Number	Lamp Size	Control Gear Type	Voltage / Frequency	Power Factor	Optional Accessories	Emergency Unit									
	Grid Type																										
	M (metric)		I (imperial)		C (concealed)		CM (concealed metric)																				
	L	W	L	W	L	W	L	W	H																		
										watt		V / Hz															
TO	595	295	605	300	624	324	600	300			None (standard plastic end-caps)	1	14	NS Normal Start	220 - 240V	HPF High Power Factor	FTB Fused Terminal Block	3/NM 3 hours Non-Maintained									
	595	295	605	300	624	324	600	300				2	17														
	595	595	605	605	624	624	600	600				3	18														
	595	595	605	605	624	624	600	600				4	24														
	1195	295	1215	300	1226	324	1200	300				1	28														
	1195	295	1215	300	1226	324	1200	300				2	32														
	1195	595	1215	605	1226	624	1200	600				3	36														
	1195	595	1215	605	1226	624	1200	600				4	54														
	1495	295	1515	300	1526	324	1500	300				G (for CRS end-box)	1	35					EB Electronic High Frequency	50 / 60 Hz	HF High Frequency	TRW Temperature Resistant Wire	3/M 3 hours Maintained				
	1495	295	1515	300	1526	324	1500	300					2	49													
	1495	595	1515	605	1526	624	1500	600					3	58													
	1495	595	1515	605	1526	624	1500	600					4	80													
	595	295	605	300	624	324	600	300				CRS end-box	1	36L					EBD Dimmable Electronic High Frequency					220 - 240V	HPF High Power Factor	FTB Fused Terminal Block	3/NM 3 hours Non-Maintained
	595	295	605	300	624	324	600	300					2	40L													
	595	595	605	605	624	624	600	600					3	55L													
	595	595	605	605	624	624	600	600					4	80L													

Photometrics & Dimensions

TO 4/18W



Hinged Frame Flat Prismatic



SERIES : TPM/TPI/TPC/TPCM



Applications	Suitable to be used in: offices, clinics, education premises, circulation area & general indoor application.
Housing	Made of press welded Cold Rolled Steel "CRS" sheet of tight construction to prevent light leakage, all metal parts pre-treated with a full degreasing and phosphate process, painted in stove enameled white baked epoxy polyester mix-powder to ensure high reflectance of painted surfaces. Other color finishes upon request.
Light Controller	Standard prismatic flat diffuser secured in an extruded aluminum frame finished in satin white. Frame is held to the body by means of special hinges and latches allow easy opening and diffuser suspension during maintenance. A special gasket led on the back of the frame reduces penetration of dust particles
Mounting	Recessed lay-in or concealed. Suitable for fix in Metric or Imperial or Concealed standard T-profile false ceiling.
Control Gear	High Power Factor "HPF" (≥ 90%) Conventional Control Gear "CCG". High Frequency Electronic Control Gear "ECG". High Frequency Dimmable Electronic Control Gear "ECG".
Voltage / Frequency	220 - 240V , 50 / 60 Hz "Other Voltages upon request"
Cable Entry	1x22 mm Ø hole on top. "Extra knock-out holes upon request"
Lamps	18, 36 & 58 watt T8/T26 Fluorescent for Normal Start "NS", Electronic Start "DEOS" or Electronic High Frequency "HF" Ballast "EB". 17& 32 watt T8 Fluorescent for Electronic High Frequency "HF" Ballast "EB". 14, 28 & 35 watt FH T5/T16 Fluorescent for Electronic High Frequency "HF" Ballast "EB". 24, 49, 54 & 80 watt FQ T5/T16 Fluorescent for Electronic High Frequency "HF" Ballast "EB". "Other lamps (T5/T16 – T8/T26 – T12/T38 – TCL – TC-D – TC-DE – TC-TE) upon request & fitting housing dimensions subject to changes accordingly"
Emergency Unit	3 Hours duration Emergency Unit "EMU" with battery pack Maintained "M" or Non-Maintained "NM" for one lamp, and for various lamp types and voltage networks combinations. "Additional Emergency Units to operate more than one lamp on request"

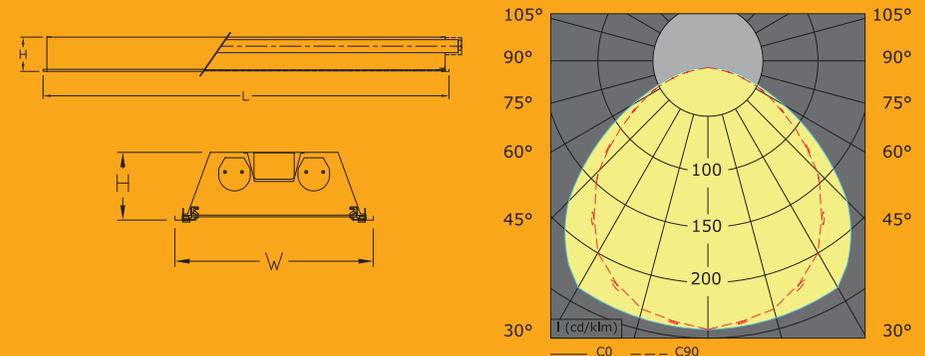
Technical Data

To Order : follow the sequence **mr+gt+ht - ln / ls – cgt – vh – cgm - emu**

Model Reference	Physical Characteristics								Housing Type	Lamp Number	Lamp Size	Control Gear Type	Voltage / Frequency	Power Factor	Accessories	Emergency Unit
	Grid Type															
	M (metric)		I (imperial)		C (concealed)		CM (concealed metric)									
	L	W	L	W	L	W	L	W								
TP	595	295	605	300	624	324	600	300	100	None (standard plastic end-caps)	1	NS Normal Start	220 - 240V	HPF High Power Factor	FTB Fused Terminal Block	3/NM 3 hours Non-Maintained
	595	295	605	300	624	324	600	300								
	595	595	605	605	624	624	600	600								
	595	595	605	605	624	624	600	600								
	1195	295	1215	300	1226	324	1200	300								
	1195	295	1215	300	1226	324	1200	300								
	1195	595	1215	605	1226	624	1200	600								
	1195	595	1215	605	1226	624	1200	600								
	G (for CRS end-box)	1	EB Electronic High Frequency	50 / 60 Hz	HF High Frequency	TW Through Wire	3/M 3 hours Maintained									
								1495		295	1515	300	1526	324	1500	300
								1495		295	1515	300	1526	324	1500	300
								1495		595	1515	605	1526	624	1500	600
								1495		595	1515	605	1526	624	1500	600
								595		295	605	300	624	324	600	300
								595		295	605	300	624	324	600	300
								595		595	605	605	624	624	600	600
CRS end-box	1	EBD Dimmable Electronic High Frequency	50 / 60 Hz	HF High Frequency	TW Through Wire	3/M 3 hours Maintained										
							595	295	605	300	624	324	600	300		
							595	595	605	605	624	624	600	600		
							595	595	605	605	624	624	600	600		

Photometrics & Dimensions

TP 4/18W



Drop Opal



SERIES : DOM/DO/DOC/DOCM



Applications	Suitable to be used in: offices, clinics, education premises, circulation area & general indoor application.
Housing	Made of press welded Cold Rolled Steel "CRS" sheet of tight construction to prevent light leakage, all metal parts pre-treated with a full degreasing and phosphate process, painted in stove enameled white baked epoxy polyester mix-powder to ensure high reflectance of painted surfaces. Other color finishes upon request.
Light Controller	Drop opal metacrylate diffuser with strong extruded sides Frame is held to the body by means of special springs allowing easy opening and diffuser suspension during maintenance.
Mounting	Recessed lay-in or concealed. Suitable for fix in Metric or Imperial or Concealed standard T-profile false ceiling.
Control Gear	High Power Factor "HPF" (≥ 90%) Conventional Control Gear "CCG". High Frequency Electronic Control Gear "ECG". High Frequency Dimmable Electronic Control Gear "ECG".
Voltage / Frequency	220 - 240V , 50 / 60 Hz "Other Voltages upon request"
Cable Entry	1x22 mm Ø hole on top. "Extra knock-out holes upon request"
Lamps	18, 36 & 58 watt T8/T26 Fluorescent for Normal Start "NS", Electronic Start "DEOS" or Electronic High Frequency "HF" Ballast "EB". 17& 32 watt T8 Fluorescent for Electronic High Frequency "HF" Ballast "EB". 14, 28 & 35 watt FH T5/T16 Fluorescent for Electronic High Frequency "HF" Ballast "EB". 24, 49, 54 & 80 watt FQ T5/T16 Fluorescent for Electronic High Frequency "HF" Ballast "EB". "Other lamps (T5/T16 – T8/T26 – T12/T38 – TCL – TC-D – TC-DE – TC-TE) upon request & fitting housing dimensions subject to changes accordingly"
Emergency Unit	3 Hours duration Emergency Unit "EMU" with battery pack Maintained "M" or Non-Maintained "NM" for one lamp, and for various lamp types and voltage networks combinations. "Additional Emergency Units to operate more than one lamp on request"

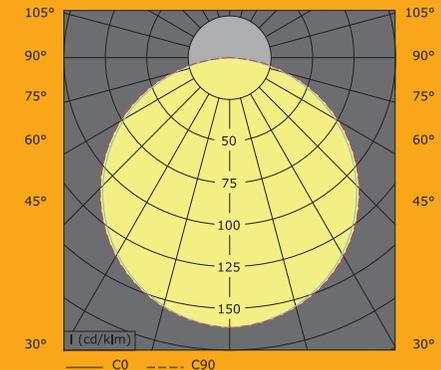
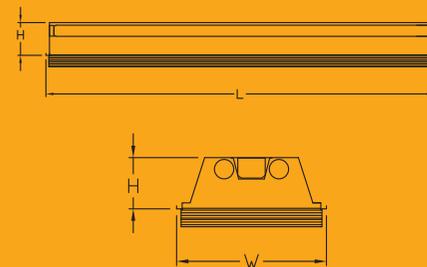
Technical Data

To Order : follow the sequence **mr+gt+ht - ln / ls - cgt - vh - cgm - emu**

Model Reference	Physical Characteristics										Housing Type	Lamp Number	Lamp Size	Control Gear Type	Voltage / Frequency	Power Factor	Optional Accessories	Emergency Unit											
	Grid Type																												
	M (metric)		I (imperial)		C (concealed)		CM (concealed) (metric)		L	H																			
	L	W	L	W	L	W	L	W																					
DO	595	295	605	300	624	324	600	300	100	None standard) plastic (end-caps	1	14	NS Normal Start	220 - 240V	HPF High Power Factor	FTB Fused Terminal Block	NM/3 hours 3 Non-Maintained												
	595	295	605	300	624	324	600	300										2	17										
	595	595	605	605	624	624	600	600										3	18										
	595	595	605	605	624	624	600	600										4	24										
	1195	295	1215	300	1226	324	1200	300										1	28										
	1195	295	1215	300	1226	324	1200	300										2	32										
	1195	595	1215	605	1226	624	1200	600										3	36										
	1195	595	1215	605	1226	624	1200	600										4	54										
	1495	295	1515	300	1526	324	1500	300										G for CRS) (end-box	1	35	EB Electronic High Frequency	50 / 60 Hz	HF High Frequency	TW Through Wire	M/3 hours 3 Maintained				
	1495	295	1515	300	1526	324	1500	300																		2	49		
	1495	595	1515	605	1526	624	1500	600																		3	58		
	1495	595	1515	605	1526	624	1500	600																		4	80		
	595	295	605	300	624	324	600	300																		CRS end-box	1	36L	EBD Dimmable Electronic High Frequency
	595	295	605	300	624	324	600	300																					
	595	595	605	605	624	624	600	600										3	55L										
	595	595	605	605	624	624	600	600										4	80L										

Photometrics & Dimensions

DO 4/18W



Drop Prismatic



SERIES : DPM/DPI/DPC/DPCM



Applications	Suitable to be used in: offices, clinics, education premises, circulation area & general indoor application.
Housing	Made of press welded Cold Rolled Steel "CRS" sheet of tight construction to prevent light leakage, all metal parts pre-treated with a full degreasing and phosphate process, painted in stove enameled white baked epoxy polyester mix-powder to ensure high reflectance of painted surfaces. <i>Other color finishes upon request.</i>
Light Controller	Drop prismatic metacrylate diffuser with strong extruded sides Frame is held to the body by means of special springs allowing easy opening and diffuser suspension during maintenance.
Mounting	Recessed lay-in or concealed. Suitable for fix in Metric or Imperial or Concealed standard T-profile false ceiling.
Control Gear	High Power Factor "HPF" (≥ 90%) Conventional Control Gear "CCG". High Frequency Electronic Control Gear "ECG". High Frequency Dimmable Electronic Control Gear "ECG".
Voltage / Frequency	220 - 240V , 50 / 60 Hz <i>"Other Voltages upon request"</i>
Cable Entry	1x22 mm Ø hole on top. <i>"Extra knock-out holes upon request"</i>
Lamps	18, 36 & 58 watt T8/T26 Fluorescent for Normal Start "NS", Electronic Start "DEOS" or Electronic High Frequency "HF" Ballast "EB". 17& 32 watt T8 Fluorescent for Electronic High Frequency "HF" Ballast "EB". 14, 28 & 35 watt FH T5/T16 Fluorescent for Electronic High Frequency "HF" Ballast "EB". 24, 49, 54 & 80 watt FQ T5/T16 Fluorescent for Electronic High Frequency "HF" Ballast "EB". <i>"Other lamps (T5/T16 – T8/T26 – T12/T38 – TCL – TC-D – TC-DE – TC-TE) upon request & fitting housing dimensions subject to changes accordingly"</i>
Emergency Unit	3 Hours duration Emergency Unit "EMU" with battery pack Maintained "M" or Non-Maintained "NM" for one lamp, and for various lamp types and voltage networks combinations. <i>"Additional Emergency Units to operate more than one lamp on request"</i>

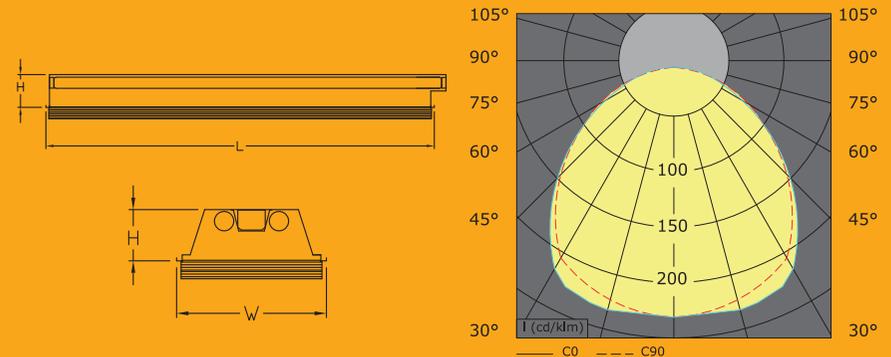
Technical Data

To Order : follow the sequence **mr+gt+ht - ln / ls - cgt - vh - cgm - emu**

Model Reference	Physical Characteristics										Housing Type	Lamp Number	Lamp Size	Control Gear Type	Voltage Frequency	Power Factor	Optional Accessories	Emergency Unit
	Grid Type																	
	M (metric)		I (imperial)		C (concealed)		CM (concealed metric)		H									
	L	W	L	W	L	W	L	W										
										mm	watt	V / Hz						
DP	595	295	605	300	624	324	600	300	100	None standard) plastic (end-caps	G for CRS) (end-box	NS Normal Start	220 - 240V	HPF High Power Factor	FTB Fused Terminal Block	3/NM 3 hours Non-Maintained	1	14
	595	295	605	300	624	324	600	300									2	17
	595	595	605	605	624	624	600	600									3	18
	595	595	605	605	624	624	600	600									4	24
	1195	295	1215	300	1226	324	1200	300									1	28
	1195	295	1215	300	1226	324	1200	300									2	32
	1195	595	1215	605	1226	624	1200	600									3	36
	1195	595	1215	605	1226	624	1200	600									4	54
	1495	295	1515	300	1526	324	1500	300		CRS end-box	EBD Dimmable Electronic High Frequency	50 / 60 Hz	HF High Frequency	TW Through Wire	3/M 3 hours Maintained	1	35	
	1495	295	1515	300	1526	324	1500	300								2	49	
	1495	595	1515	605	1526	624	1500	600								3	58	
	1495	595	1515	605	1526	624	1500	600								4	80	
	595	295	605	300	624	324	600	300								1	36L	
	595	295	605	300	624	324	600	300								2	40L	
	595	595	605	605	624	624	600	600								3	55L	
	595	595	605	605	624	624	600	600								4	80L	

Photometrics & Dimensions

DP 4/36W



Aluminium V-Louvers

SERIES : NAM/NAI



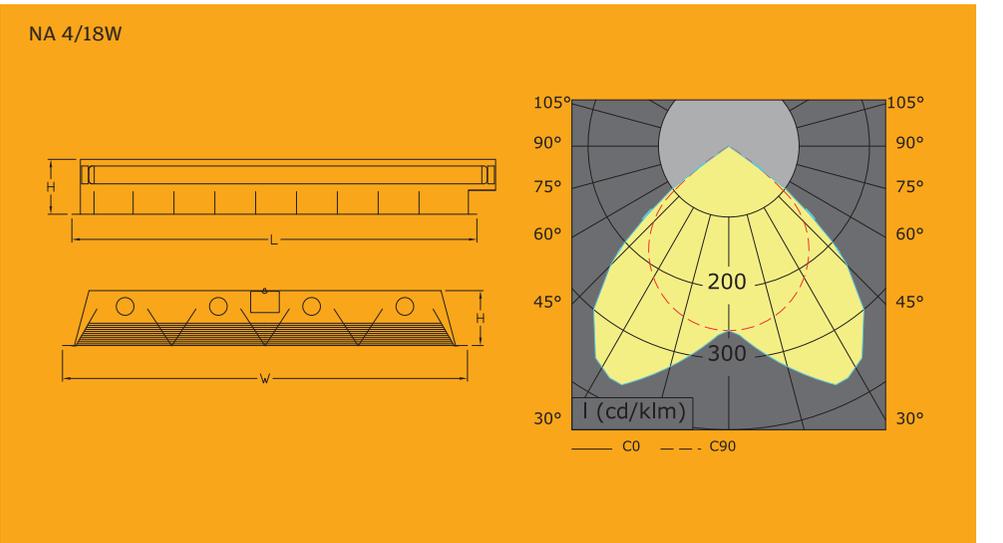
Applications	Suitable to be used in: offices, clinics, education premises, circulation area & general indoor application.
Housing	Made of press welded Cold Rolled Steel "CRS" sheet of tight construction to prevent light leakage, all metal parts pre-treated with a full degreasing and phosphate process, painted in stove enameled white baked epoxy polyester mix-powder to ensure high reflectance of painted surfaces. <i>Other color finishes upon request.</i>
Light Controller	V shaped specular anodized aluminum louvers, with strip plain aluminum cross-baffle. Louvers are held to the body by means of special steel springs.
Mounting	Recessed lay-in or universal. Suitable for fix in Metric or Imperial or Universal Concealed standard T-profile false ceiling.
Control Gear	High Power Factor "HPF" (≥ 90%) Conventional Control Gear "CCG". High Frequency Electronic Control Gear "ECG". High Frequency Dimmable Electronic Control Gear "ECG".
Voltage / Frequency	220 - 240V , 50 / 60 Hz <i>"Other Voltages upon request"</i>
Cable Entry	1x22 mm Ø hole on top. <i>"Extra knock-out holes upon request"</i>
Lamps	18, 36 & 58 watt T8/T26 Fluorescent for Normal Start "NS", Electronic Start "DEOS" or Electronic High Frequency "HF" Ballast "EB". 17& 32 watt T8 Fluorescent for Electronic High Frequency "HF" Ballast "EB". 14, 28 & 35 watt FH T5/T16 Fluorescent for Electronic High Frequency "HF" Ballast "EB". 24, 49, 54 & 80 watt FQ T5/T16 Fluorescent for Electronic High Frequency "HF" Ballast "EB". <i>"Other lamps (T5/T16 – T8/T26 – T12/T38 – TCL – TC-D – TC-DE – TC-TE) upon request & fitting housing dimensions subject to changes accordingly"</i>
Emergency Unit	3 Hours duration Emergency Unit "EMU" with battery pack Maintained "M" or Non-Maintained "NM" for one lamp, and for various lamp types and voltage networks combinations. <i>"Additional Emergency Units to operate more than one lamp on request"</i>

Technical Data

To Order : follow the sequence **mr+gt+ht - ln / ls - cgt - vh - cgm - emu**

Model Reference	Physical Characteristics											Housing Type	Lamp Number	Lamp Size	Control Gear Type	Voltage / Frequency	Power Factor	Optional Accessories	Emergency Unit
	Grid Type										H								
	M (Metric)		I (Imperial)		U (Universal)		UC (Universal Compact)		H										
	L mm	W mm	L mm	W mm	L mm	W mm	L mm	W mm	T8 mm	T5 mm									
NA	595	293	605	300	620	315						None (standard plastic end-caps)	1	14	NS Normal Start	220 - 240V	HPF High Power Factor	FTB Fused Terminal Block	3/M 3 hours Non-Maintained
	595	293	605	300	620	315							2	17					
	595	595	605	605	620	620							3	18					
	595	595	605	605	620	620							4	24					
	1195	293	1215	300	1230	315						1	28						
	1195	293	1215	300	1230	315						2	32						
	1195	595	1215	605	1230	620						3	36						
	1195	595	1215	605	1230	620						4	54						
	1495	293	1515	300	1530	315	-	-	80	70		1	35	DEOS Electronic Starter	50 / 60 Hz	HF High Frequency	TRW Temperature Resistant Wire	3/M 3 hours Non-Maintained	
	1495	293	1515	300	1530	315						2	49						
	1495	595	1515	605	1530	620						3	58						
	1495	595	1515	605	1530	620						4	80						
	595	293	605	300	620	315						CRS end-box	11L 18L/D/T 26D/T 32T 42T 70T	EBD Dimmable Electronic High Frequency	HF High Frequency	TW Through Wire	3/M 3 hours Maintained		
	595	293	605	300	620	315												1	36L
	595	595	605	605	620	620												2	40L
	595	595	605	605	620	620												3	55L
595	595	605	605	620	620						4	80L							
-	-	-	-	-	-	312	312	90				1	11L 18L/D/T 26D/T 32T 42T 70T						
-	-	-	-	-	-	312	312	90				2	11L 18L/D/T 26D/T 32T 42T 70T						

Photometrics & Dimensions



Matt Aluminium V-Louvers

SERIES : NSM/NSI



Applications	Suitable to be used in: offices, clinics, education premises, circulation area & general indoor application.
Housing	Made of press welded Cold Rolled Steel "CRS" sheet of tight construction to prevent light leakage, all metal parts pre-treated with a full degreasing and phosphate process, painted in stove enameled white baked epoxy polyester mix-powder to ensure high reflectance of painted surfaces. <i>Other color finishes upon request.</i>
Light Controller	V shaped matt anodized aluminum louvers, with strip plain aluminum cross-baffle. Louvers are held to the body by means of special steel springs.
Mounting	Recessed lay-in or universal. Suitable for fix in Metric or Imperial or Universal Concealed standard T-profile false ceiling.
Control Gear	High Power Factor "HPF" (≥ 90%) Conventional Control Gear "CCG". High Frequency Electronic Control Gear "ECG". High Frequency Dimmable Electronic Control Gear "ECG".
Voltage / Frequency	220 - 240V , 50 / 60 Hz <i>"Other Voltages upon request"</i>
Cable Entry	1x22 mm Ø hole on top. <i>"Extra knock-out holes upon request"</i>
Lamps	18, 36 & 58 watt T8/T26 Fluorescent for Normal Start "NS", Electronic Start "DEOS" or Electronic High Frequency "HF" Ballast "EB". 17& 32 watt T8 Fluorescent for Electronic High Frequency "HF" Ballast "EB". 14, 28 & 35 watt FH T5/T16 Fluorescent for Electronic High Frequency "HF" Ballast "EB". 24, 49, 54 & 80 watt FQ T5/T16 Fluorescent for Electronic High Frequency "HF" Ballast "EB". <i>"Other lamps (T5/T16 – T8/T26 – T12/T38 – TCL – TC-D – TC-DE – TC-TE) upon request & fitting housing dimensions subject to changes accordingly"</i>
Emergency Unit	3 Hours duration Emergency Unit "EMU" with battery pack Maintained "M" or Non-Maintained "NM" for one lamp, and for various lamp types and voltage networks combinations. <i>"Additional Emergency Units to operate more than one lamp on request"</i>

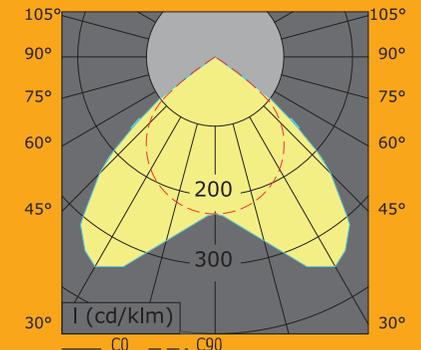
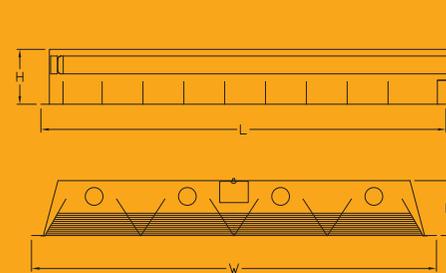
Technical Data

To Order : follow the sequence **mr+gt+ht - ln / ls - cgt - vh - cgm - emu**

Model Reference	Physical Characteristics											Housing Type	Lamp Number	Lamp Size	Control Gear Type	Voltage / Frequency	Power Factor	Optional Accessories	Emergency Unit	
	Grid Type										H									
	M (Metric)		I (Imperial)		U (Universal)		UC (Universal Compact)		H											
	L mm	W mm	L mm	W mm	L mm	W mm	L mm	W mm	T8 mm	T5 mm										
NA	595	293	605	300	620	315							None (standard plastic end-caps)	1	14	NS Normal Start	220 - 240V	HPF High Power Factor	FTB Fused Terminal Block	3/NM 3 hours Non-Maintained
	595	293	605	300	620	315								2	17					
	595	595	605	605	620	620								3	18					
	595	595	605	605	620	620								4	24					
	1195	293	1215	300	1230	315							G (for CRS end-box)	1	28	DEOS Electronic Starter	50 / 60 Hz	HF High Frequency	TRW Temperature Resistant Wire	3/M 3 hours Non-Maintained
	1195	293	1215	300	1230	315								2	32					
	1195	595	1215	605	1230	620			80	70				3	36					
	1195	595	1215	605	1230	620								4	54					
	1495	293	1515	300	1530	315							CRS end-box	1	35	EBD Dimmable Electronic High Frequency	50 / 60 Hz	HF High Frequency	TW Through Wire	3/M 3 hours Maintained
	1495	293	1515	300	1530	315								2	49					
	1495	595	1515	605	1530	620								3	58					
	1495	595	1515	605	1530	620								4	80					
	595	293	605	300	620	315								1	36L					
	595	293	605	300	620	315							2	40L						
	595	595	605	605	620	620							3	55L						
	595	595	605	605	620	620							4	80L						
	-	-	-	-	-	-	312	312	90					1	11L 18L/D/T 26D/T 32T 42T 70T					
														2						

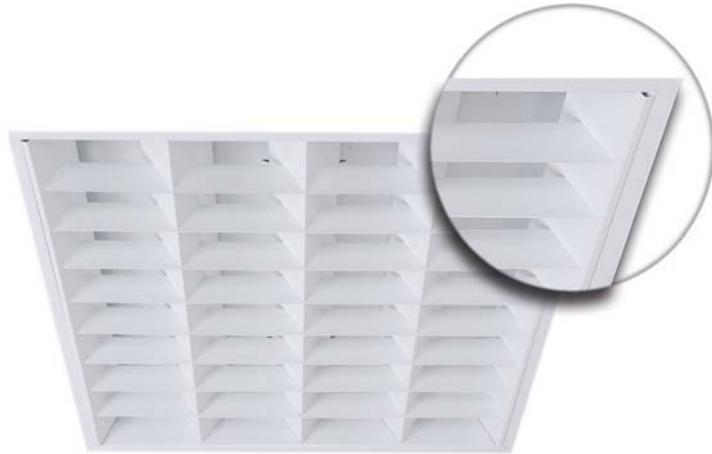
Photometrics & Dimensions

NS 4/36W



White Steel V-Louvers

SERIES : NWM/NWI



Applications	Suitable to be used in: offices, clinics, education premises, circulation area & general indoor application.
Housing	Made of press welded Cold Rolled Steel "CRS" sheet of tight construction to prevent light leakage, all metal parts pre-treated with a full degreasing and phosphate process, painted in stove enameled white baked epoxy polyester mix-powder to ensure high reflectance of painted surfaces. Other color finishes upon request.
Light Controller	V shaped steel sheets louvers, with strip cross-baffle all painted white. Louvers are held to the body by means of special steel springs.
Mounting	Recessed lay-in or universal. Suitable for fix in Metric or Imperial or Universal Concealed standard T-profile false ceiling.
Control Gear	High Power Factor "HPF" (≥ 90%) Conventional Control Gear "CCG". High Frequency Electronic Control Gear "ECG". High Frequency Dimmable Electronic Control Gear "ECG".
Voltage / Frequency	220 - 240V , 50 / 60 Hz "Other Voltages upon request"
Cable Entry	1x22 mm Ø hole on top. "Extra knock-out holes upon request"
Lamps	18, 36 & 58 watt T8/T26 Fluorescent for Normal Start "NS", Electronic Start "DEOS" or Electronic High Frequency "HF" Ballast "EB". 17& 32 watt T8 Fluorescent for Electronic High Frequency "HF" Ballast "EB". 14, 28 & 35 watt FH T5/T16 Fluorescent for Electronic High Frequency "HF" Ballast "EB". 24, 49, 54 & 80 watt FQ T5/T16 Fluorescent for Electronic High Frequency "HF" Ballast "EB". "Other lamps (T5/T16 – T8/T26 – T12/T38 – TCL - TC-DE – TC-TE) upon request & fitting housing dimensions subject to changes accordingly"
Emergency Unit	3 Hours duration Emergency Unit "EMU" with battery pack Maintained "M" or Non-Maintained "NM" for one lamp, and for various lamp types and voltage networks combinations. "Additional Emergency Units to operate more than one lamp on request"

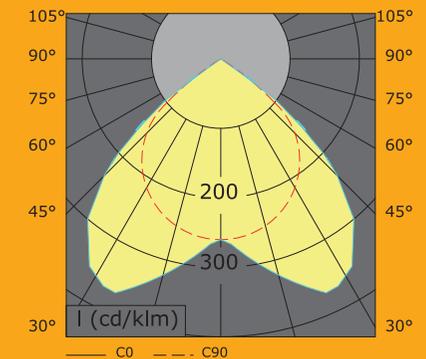
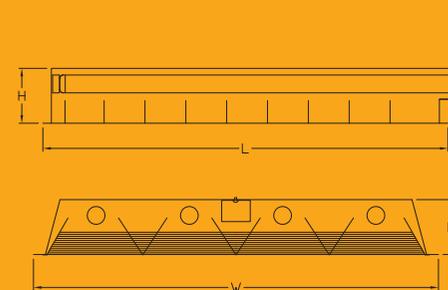
Technical Data

To Order : follow the sequence **mr+gt+ht - ln / ls – cgt – vh – cgm – emu**

Model Reference	Physical Characteristics											Housing Type	Lamp Number	Lamp Size watt	Control Gear Type	Voltage / Frequency v / Hz	Power Factor	Optional Accessories	Emergency Unit		
	Grid Type										H										
	M (Metric)		I (Imperial)		U (Universal)		UC (Universal Compact)		H												
	L mm	W mm	L mm	W mm	L mm	W mm	L mm	W mm	T8 mm	T5 mm											
NA	595	293	605	300	620	315							None (standard plastic end-caps)	1	14	NS Normal Start	220 - 240V	HPF High Power Factor	FTB Fused Terminal Block	3/NM 3 hours Non-Maintained	
	595	293	605	300	620	315								2	17						
	595	595	605	605	620	620									3						18
	595	595	605	605	620	620									4						24
	1195	293	1215	300	1230	315									1						28
	1195	293	1215	300	1230	315									2						32
	1195	595	1215	605	1230	620									3						36
	1195	595	1215	605	1230	620									4						54
	1495	293	1515	300	1530	315	-	-	80	70					1						35
	1495	293	1515	300	1530	315									2						49
	1495	595	1515	605	1530	620								3	58						
	1495	595	1515	605	1530	620								4	80						
	595	293	605	300	620	315								CRS end-box	1	36L	EBD Dimmable Electronic High Frequency	50 / 60 Hz	HF High Frequency	TW Through Wire	3/M 3 hours Maintained
	595	293	605	300	620	315							2		40L						
	595	595	605	605	620	620									3	55L					
	595	595	605	605	620	620									4	80L					
	-	-	-	-	-	-	312	312	90					1	11L 18L/D/T 26D/T 32T 42T 70T						
														2							

Photometrics & Dimensions

NW 4/18W



Aluminium V-Louvers

SERIES : VAM/VAI/VAC/VACM



Applications	Suitable to be used in: offices, clinics, education premises, circulation area & general indoor application.
Housing	Made of press welded Cold Rolled Steel "CRS" sheet of tight construction to prevent light leakage, all metal parts pre-treated with a full degreasing and phosphate process, painted in stove enameled white baked epoxy polyester mix-powder to ensure high reflectance of painted surfaces. Other color finishes upon request.
Light Controller	V shaped specular anodized aluminum mirror louvers, with stepped surface strip aluminum cross-blades. Louvers are held to the body by means of special steel springs.
Mounting	Recessed lay-in or universal. Suitable for fix in Metric or Imperial or Universal Concealed standard T-profile false ceiling.
Control Gear	High Power Factor "HPF" (≥ 90%) Conventional Control Gear "CCG". High Frequency Electronic Control Gear "ECG". High Frequency Dimmable Electronic Control Gear "ECG".
Voltage / Frequency	220 - 240V , 50 / 60 Hz "Other Voltages upon request"
Cable Entry	1x22 mm Ø hole on top. "Extra knock-out holes upon request"
Lamps	18, 36 & 58 watt T8/T26 Fluorescent for Normal Start "NS", Electronic Start "DEOS" or Electronic High Frequency "HF" Ballast "EB". 17 & 32 watt T8 Fluorescent for Electronic High Frequency "HF" Ballast "EB". 14, 28 & 35 watt FH T5/T16 Fluorescent for Electronic High Frequency "HF" Ballast "EB". 24, 49, 54 & 80 watt FQ T5/T16 Fluorescent for Electronic High Frequency "HF" Ballast "EB". "Other lamps (T5/T16 – T8/T26 – T12/T38 – TCL - TC-DE – TC-TE) upon request & fitting housing dimensions subject to changes accordingly"
Emergency Unit	3 Hours duration Emergency Unit "EMU" with battery pack Maintained "M" or Non-Maintained "NM" for one lamp, and for various lamp types and voltage networks combinations. "Additional Emergency Units to operate more than one lamp on request"

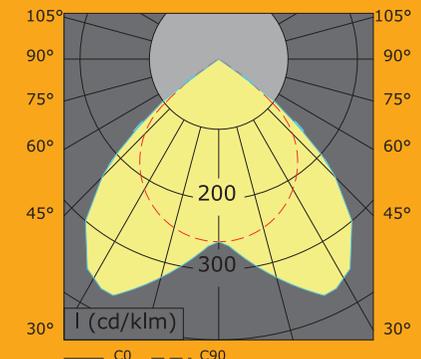
Technical Data

To Order : follow the sequence **mr+gt+ht - ln / ls - cgt - vh - cgm - emu**

Model Reference	Physical Characteristics										Housing Type	Lamp Number	Lamp Size	Control Gear Type	Voltage / Frequency	Power Factor	Optional Accessories	Emergency Unit							
	Grid Type																								
	M (metric)		I (imperial)		C (concealed)		CM (concealed metric)		L	H															
	L	W	L	W	L	W	L	W																	
VA	595	295	605	300	624	324	600	300	100	None standard plastic (end-caps)	1	14	NS Normal Start	220 - 240V	HPF High Power Factor	FTB Fused Terminal Block	3/NM 3 hours Non-Maintained								
	595	295	605	300	624	324	600	300										2	17						
	595	595	605	605	624	624	600	600										3	18						
	595	595	605	605	624	624	600	600										4	24						
	1195	295	1215	300	1226	324	1200	300			1	28	DEOS Electronic Starter												
	1195	295	1215	300	1226	324	1200	300			2	32													
	1195	595	1215	605	1226	624	1200	600			3	36													
	1195	595	1215	605	1226	624	1200	600			4	54													
	1195	595	1215	605	1226	624	1200	600			100	G for CRS (end-box)	1					35	EB Electronic High Frequency	50 / 60 Hz	HF High Frequency	TRW Temperature Resistant Wire	3/M 3 hours Maintained		
	1495	295	1515	300	1526	324	1500	300																2	49
	1495	595	1515	605	1526	624	1500	600																3	58
	1495	595	1515	605	1526	624	1500	600																4	80
	595	295	605	300	624	324	600	300	CRS end-box	1	36L	EBD Dimmable Electronic High Frequency													
	595	295	605	300	624	324	600	300					2	40L											
	595	595	605	605	624	624	600	600					3	55L											
	595	595	605	605	624	624	600	600					4	80L											

Photometrics & Dimensions

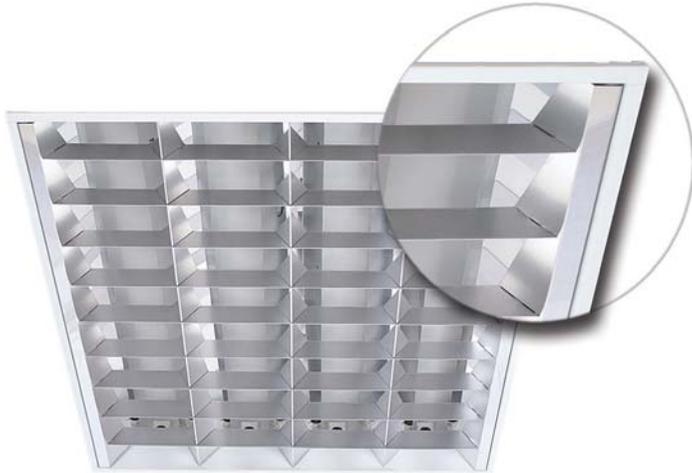
VA 4/18W



Matt Aluminium V-Louvers



SERIES : VSM/VS/VSVC/VSCM



Applications	Suitable to be used in: offices, clinics, education premises, circulation area & general indoor application.
Housing	Made of press welded Cold Rolled Steel "CRS" sheet of tight construction to prevent light leakage, all metal parts pre-treated with a full degreasing and phosphate process, painted in stove enameled white baked epoxy polyester mix-powder to ensure high reflectance of painted surfaces. Other color finishes upon request.
Light Controller	V shaped matt anodized aluminum louvers, with strip plain aluminum cross-baffle. Louvers are held to the body by means of special steel springs.
Mounting	Recessed lay-in or concealed. Suitable for fix in Metric or Imperial or Concealed standard T-profile false ceiling.
Control Gear	High Power Factor "HPF" (≥ 90%) Conventional Control Gear "CCG". High Frequency Electronic Control Gear "ECG". High Frequency Dimmable Electronic Control Gear "ECG".
Voltage / Frequency	220 - 240V , 50 / 60 Hz "Other Voltages upon request"
Cable Entry	1x22 mm Ø hole on top. "Extra knock-out holes upon request"
Lamps	18, 36 & 58 watt T8/T26 Fluorescent for Normal Start "NS", Electronic Start "DEOS" or Electronic High Frequency "HF" Ballast "EB". 17& 32 watt T8 Fluorescent for Electronic High Frequency "HF" Ballast "EB". 14, 28 & 35 watt FH T5/T16 Fluorescent for Electronic High Frequency "HF" Ballast "EB". 24, 49, 54 & 80 watt FQ T5/T16 Fluorescent for Electronic High Frequency "HF" Ballast "EB". "Other lamps (T5/T16 – T8/T26 – T12/T38 – TCL – TC-DE – TC-TE) upon request & fitting housing dimensions subject to changes accordingly"
Emergency Unit	3 Hours duration Emergency Unit "EMU" with battery pack Maintained "M" or Non-Maintained "NM" for one lamp, and for various lamp types and voltage networks combinations. "Additional Emergency Units to operate more than one lamp on request"

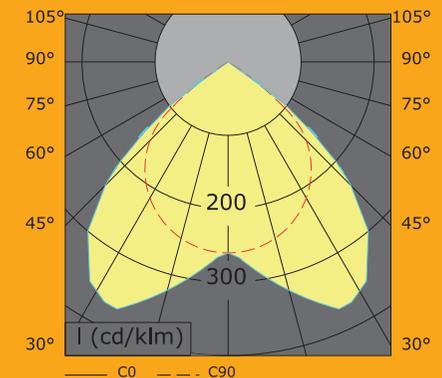
Technical Data

To Order : follow the sequence **mr+gt+ht - ln / ls - cgt - vh - cgm - emu**

Model Reference	Physical Characteristics										Housing Type	Lamp Number	Lamp Size	Control Gear Type	Voltage Frequency	Power Factor	Optional Accessories	Emergency Unit					
	Grid Type																						
	M (metric)		I (Imperial)		C (concealed)		CM (concealed metric)		H														
	L mm	W mm	L mm	W mm	L mm	W mm	L mm	W mm	mm	mm													
VS	595	295	605	300	624	324	600	300			None standard) plastic (end-caps	1	14	NS Normal Start	220 - 240V	HPF High Power Factor	FTB Fused Terminal Block	3/NM 3 hours Non-Maintained					
	595	295	605	300	624	324	600	300				2	17										
	595	595	605	605	624	624	600	600				3	18										
	595	595	605	605	624	624	600	600				4	24										
	1195	295	1215	300	1226	324	1200	300				1	28	DEOS Electronic Starter									
	1195	295	1215	300	1226	324	1200	300				2	32										
	1195	595	1215	605	1226	624	1200	600				3	36										
	1195	595	1215	605	1226	624	1200	600				4	54										
	1495	295	1515	300	1526	324	1500	300				G for CRS) (end-box	1	35					EB Electronic High Frequency	50 / 60 Hz	HF High Frequency	TW Through Wire	3/M 3 hours Maintained
	1495	295	1515	300	1526	324	1500	300					2	49									
	1495	595	1515	605	1526	624	1500	600					3	58									
	1495	595	1515	605	1526	624	1500	600					4	80									
	595	295	605	300	624	324	600	300				CRS end-box	1	36L					EBD Dimmable Electronic High Frequency				
	595	295	605	300	624	324	600	300					2	40L									
	595	595	605	605	624	624	600	600					3	55L									
	595	595	605	605	624	624	600	600					4	80L									

Photometrics & Dimensions

VS 4/18W



White Steel V-Louvers



SERIES : VWM/VWI/VWC/VWCM



Applications	Suitable to be used in: offices, clinics, education premises, circulation area & general indoor application.
Housing	Made of press welded Cold Rolled Steel "CRS" sheet of tight construction to prevent light leakage, all metal parts pre-treated with a full degreasing and phosphate process, painted in stove enameled white baked epoxy polyester mix-powder to ensure high reflectance of painted surfaces. Other color finishes upon request.
Light Controller	V shaped steel sheets louvers, with strip cross-baffle all painted white. Louvers are held to the body by means of special steel springs.
Mounting	Recessed lay-in or concealed. Suitable for fix in Metric or Imperial or Concealed standard T-profile false ceiling.
Control Gear	High Power Factor "HPF" (≥ 90%) Conventional Control Gear "CCG". High Frequency Electronic Control Gear "ECG". High Frequency Dimmable Electronic Control Gear "ECG".
Voltage / Frequency	220 - 240V , 50 / 60 Hz "Other Voltages upon request"
Cable Entry	1x22 mm Ø hole on top. "Extra knock-out holes upon request"
Lamps	18, 36 & 58 watt T8/T26 Fluorescent for Normal Start "NS", Electronic Start "DEOS" or Electronic High Frequency "HF" Ballast "EB". 17 & 32 watt T8 Fluorescent for Electronic High Frequency "HF" Ballast "EB". 14, 28 & 35 watt FH T5/T16 Fluorescent for Electronic High Frequency "HF" Ballast "EB". 24, 49, 54 & 80 watt FQ T5/T16 Fluorescent for Electronic High Frequency "HF" Ballast "EB". "Other lamps (T5/T16 – T8/T26 – T12/T38 – TCL - TC-DE – TC-TE) upon request & fitting housing dimensions subject to changes accordingly"
Emergency Unit	3 Hours duration Emergency Unit "EMU" with battery pack Maintained "M" or Non-Maintained "NM" for one lamp, and for various lamp types and voltage networks combinations. "Additional Emergency Units to operate more than one lamp on request"

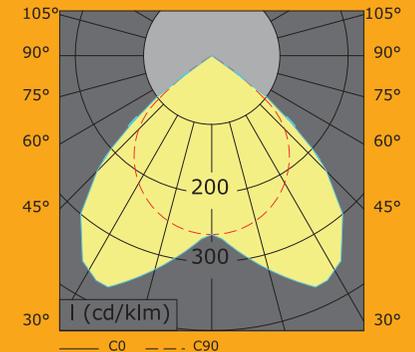
Technical Data

To Order : follow the sequence **mr+gt+ht - ln / ls - cgt - vh - cgm - em**

Model Reference	Physical Characteristics										Housing Type	Lamp Number	Lamp Size	Control Gear Type	Voltage / Frequency	Power Factor	Optional Accessories	Emergency Unit																																																			
	Grid Type																																																																				
	M (metric)		I (imperial)		C (concealed)		CM (concealed metric)																																																														
	L	W	L	W	L	W	L	W	L	H																																																											
mm										mm										watt										V / Hz																																							
VW	595	295	605	300	624	324	600	300			None (standard plastic end-caps)	1	14	NS Normal Start	220 - 240V	HPF High Power Factor	FTB Fused Terminal Block	3/NM 3 hours Non-Maintained																																																			
	595	295	605	300	624	324	600	300				2	17																																																								
	595	595	605	605	624	624	600	600				3	18																																																								
	595	595	605	605	624	624	600	600				4	24																																																								
	1195	295	1215	300	1226	324	1200	300				1	28																																																								
	1195	295	1215	300	1226	324	1200	300				2	32																																																								
	1195	595	1215	605	1226	624	1200	600				3	36																																																								
	1195	595	1215	605	1226	624	1200	600				4	54																																																								
	1495	295	1515	300	1526	324	1500	300			G (for CRS end-box)	1	35	EB Electronic High Frequency	50 / 60 Hz	HF High Frequency	TRW Temperature Resistant Wire	3/M 3 hours Maintained																																																			
	1495	295	1515	300	1526	324	1500	300				2	49																																																								
	1495	595	1515	605	1526	624	1500	600				3	58																																																								
	1495	595	1515	605	1526	624	1500	600				4	80																																																								
	595	295	605	300	624	324	600	300			CRS end-box	1	36L	EBD Dimmable Electronic High Frequency																																																							
	595	295	605	300	624	324	600	300				2	40L																																																								
	595	595	605	605	624	624	600	600				3	55L																																																								
	595	595	605	605	624	624	600	600				4	80L																																																								

Photometrics & Dimensions

VW 4/18W



Double Parabolic Matt Aluminium Louver

SERIES : DPMM/DPM/DPMC/DPMC/M



Applications	Suitable to be used in: offices, clinics, education premises, circulation area & general indoor application.
Housing	Made of press welded Cold Rolled Steel "CRS" sheet of tight construction to prevent light leakage, all metal parts pre-treated with a full degreasing and phosphate process, painted in stove enameled white baked epoxy polyester mix-powder to ensure high reflectance of painted surfaces. Other color finishes upon request.
Light Controller	Double parabolic matt anodized aluminum louvers, with cut-off angle less than 60°. Louvers are held to the body by means of special steel springs allowing easy opening and diffuser suspension during maintenance.
Mounting	Recessed lay-in or concealed. Suitable for fix in Metric or Imperial or Concealed standard T-profile false ceiling.
Control Gear	High Power Factor "HPF" (≥ 90%) Conventional Control Gear "CCG". High Frequency Electronic Control Gear "ECG". High Frequency Dimmable Electronic Control Gear "ECG".
Voltage / Frequency	220 - 240V , 50 / 60 Hz "Other Voltages upon request"
Cable Entry	1x22 mm Ø hole on top. "Extra knock-out holes upon request"
Lamps	18, 36 & 58 watt T8/T26 Fluorescent for Normal Start "NS", Electronic Start "DEOS" or Electronic High Frequency "HF" Ballast "EB". 17 & 32 watt T8 Fluorescent for Electronic High Frequency "HF" Ballast "EB". 14, 28 & 35 watt FH T5/T16 Fluorescent for Electronic High Frequency "HF" Ballast "EB". 24, 49, 54 & 80 watt FQ T5/T16 Fluorescent for Electronic High Frequency "HF" Ballast "EB". "Other lamps (T5/T16 – T8/T26 – T12/T38 – TCL - TC-DE – TC-TE) upon request & fitting housing dimensions subject to changes accordingly"
Emergency Unit	3 Hours duration Emergency Unit "EMU" with battery pack Maintained "M" or Non-Maintained "NM" for one lamp, and for various lamp types and voltage networks combinations. "Additional Emergency Units to operate more than one lamp on request"

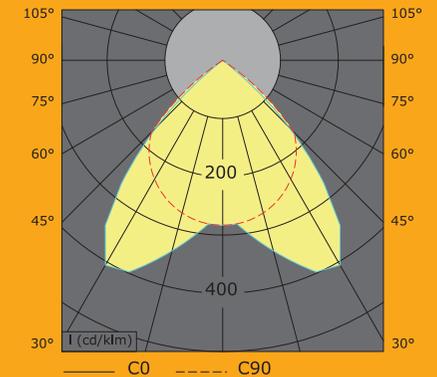
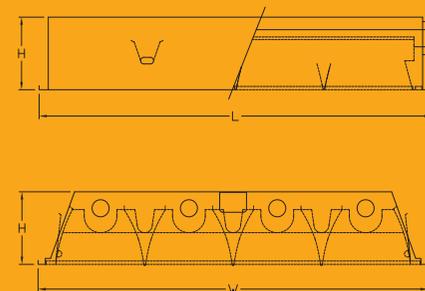
Technical Data

To Order : follow the sequence **mr+gt+ht - ln / ls – cgt – vh – cgm - emu**

Model Reference	Physical Characteristics										Housing Type	Lamp Number	Lamp Size	Control Gear Type	Voltage / Frequency	Power Factor	Optional Accessories	Emergency Unit	
	Grid Type																		
	M (metric)		I (imperial)		C (concealed)		CM (concealed metric)		H										
L	W	L	W	L	W	L	W	L	W	H									
DPM	595	295	605	300	624	324	600	300				None (standard plastic end-caps)	1	14	NS Normal Start	220 - 240V	HPF High Power Factor	FTB Fused Terminal Block	3/NM 3 hours Non-Maintained
	595	295	605	300	624	324	600	300			2		17						
	595	595	605	605	624	624	600	600			3		18						
	595	595	605	605	624	624	600	600			4		24						
	1195	295	1215	300	1226	324	1200	300			1		28						
	1195	295	1215	300	1226	324	1200	300			2		32						
	1195	595	1215	605	1226	624	1200	600			3		36						
	1195	595	1215	605	1226	624	1200	600			4		54						
	1495	295	1515	300	1526	324	1500	300			1		35						
	1495	295	1515	300	1526	324	1500	300			2		49						
	1495	595	1515	605	1526	624	1500	600			3	58							
	1495	595	1515	605	1526	624	1500	600			4	80							
	595	295	605	300	624	324	600	300			CRS end-box	1	36L	EBD Dimmable Electronic High Frequency	50 / 60 Hz	HF High Frequency	TW Through Wire	3/M 3 hours Maintained	
	595	295	605	300	624	324	600	300				2	40L						
	595	595	605	605	624	624	600	600				3	55L						
	595	595	605	605	624	624	600	600				4	80L						

Photometrics & Dimensions

DPM 4/18W



Double Parabolic Specular Aluminium Louver

SERIES : DPSM/DPSI/DPSC/DPSCM



Applications	Suitable to be used in: offices, clinics, education premises, circulation area & general indoor application.
Housing	Made of press welded Cold Rolled Steel "CRS" sheet of tight construction to prevent light leakage, all metal parts pre-treated with a full degreasing and phosphate process, painted in stove enameled white baked epoxy polyester mix-powder to ensure high reflectance of painted surfaces. Other color finishes upon request.
Light Controller	Double parabolic specular anodized aluminum louvers, with cut-off angle less than 60°. Louvers are held to the body by means of special steel springs allowing easy opening and diffuser suspension during maintenance.
Mounting	Recessed lay-in or concealed. Suitable for fix in Metric or Imperial or Concealed standard T-profile false ceiling.
Control Gear	High Power Factor "HPF" (≥ 90%) Conventional Control Gear "CCG". High Frequency Electronic Control Gear "ECG". High Frequency Dimmable Electronic Control Gear "ECG".
Voltage / Frequency	220 - 240V , 50 / 60 Hz "Other Voltages upon request"
Cable Entry	1x22 mm Ø hole on top. "Extra knock-out holes upon request"
Lamps	18, 36 & 58 watt T8/T26 Fluorescent for Normal Start "NS", Electronic Start "DEOS" or Electronic High Frequency "HF" Ballast "EB". 17& 32 watt T8 Fluorescent for Electronic High Frequency "HF" Ballast "EB". 14, 28 & 35 watt FH T5/T16 Fluorescent for Electronic High Frequency "HF" Ballast "EB". 24, 49, 54 & 80 watt FQ T5/T16 Fluorescent for Electronic High Frequency "HF" Ballast "EB". "Other lamps (T5/T16 – T8/T26 – T12/T38 – TCL - TC-DE – TC-TE) upon request & fitting housing dimensions subject to changes accordingly"
Emergency Unit	3 Hours duration Emergency Unit "EMU" with battery pack Maintained "M" or Non-Maintained "NM" for one lamp, and for various lamp types and voltage networks combinations. "Additional Emergency Units to operate more than one lamp on request"

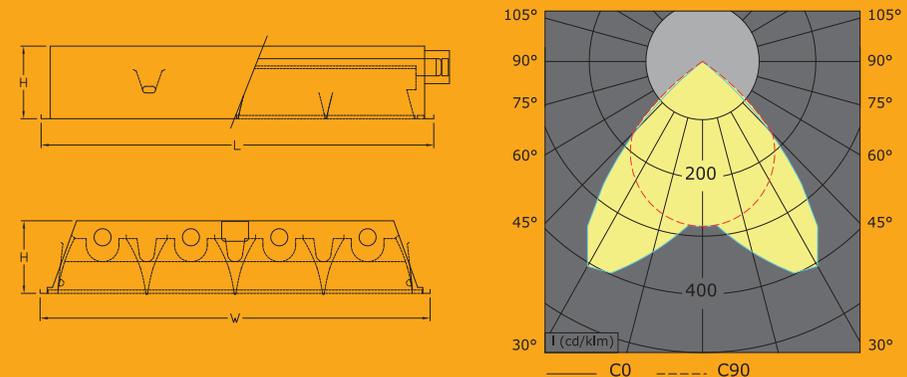
Technical Data

To Order : follow the sequence mr+gt+ht - ln / ls - cgt - vh - cgm - emu

Model Reference	Physical Characteristics										Housing Type	Lamp Number	Lamp Size	Control Gear Type	Voltage / Frequency	Power Factor	Optional Accessories	Emergency Unit																																									
	Grid Type																																																										
	M (metric)		I (imperial)		C (concealed)		CM (concealed metric)		H																																																		
	L	W	L	W	L	W	L	W	L	W																																																	
mm										mm										watt										V / Hz																													
DPS	595	295	605	300	624	324	600	300			None (standard plastic end-caps)	1	14	NS Normal Start	220 - 240V	HPF High Power Factor	FTB Fused Terminal Block																																										
	595	295	605	300	624	324	600	300				2	17																																														
	595	595	605	605	624	624	600	600				3	18																																														
	595	595	605	605	624	624	600	600				4	24																																														
	1195	295	1215	300	1226	324	1200	300				1	28																																														
	1195	295	1215	300	1226	324	1200	300				2	32																																														
	1195	595	1215	605	1226	624	1200	600				3	36																																														
	1195	595	1215	605	1226	624	1200	600				4	54																																														
	1495	295	1515	300	1526	324	1500	300			G (for CRS end-box)	1	35	EB Electronic High Frequency	50 / 60 Hz	HF High Frequency	TRW Temperature Resistant Wire	3/NM 3 hours Non-Maintained																																									
	1495	295	1515	300	1526	324	1500	300				2	49																																														
	1495	595	1515	605	1526	624	1500	600				3	58																																														
	1495	595	1515	605	1526	624	1500	600				3	80																																														
	1495	595	1515	605	1526	624	1500	600				4																																															
	595	295	605	300	624	324	600	300				CRS end-box	1						36L	EBD Dimmable Electronic High Frequency																																							
	595	295	605	300	624	324	600	300					2						40L																																								
	595	595	605	605	624	624	600	600					3						55L																																								
595	595	605	605	624	624	600	600			4	80L																																																

Photometrics & Dimensions

DPS 4/18W



Deep Double Parabolic Semi-Specular Aluminium Louvers

SERIES : DDP/DDPI/DDPC/DDPCM



Applications	Suitable to be used in: offices, clinics, education premises, circulation area & general indoor application.
Housing	Made of press welded Cold Rolled Steel "CRS" sheet of tight construction to prevent light leakage, all metal parts pre-treated with a full degreasing and phosphate process, painted in stove enameled white baked epoxy polyester mix-powder to ensure high reflectance of painted surfaces. Other color finishes upon request.
Light Controller	Deep double parabolic semi-specular anodized aluminum louvers, with cut-off angle less than 55°. Louvers are held to the body by means of special steel springs allowing easy opening and diffuser suspension during maintenance.
Mounting	Recessed lay-in or concealed. Suitable for fix in Metric or Imperial or Concealed standard T-profile false ceiling.
Control Gear	High Power Factor "HPF" (≥ 90%) Conventional Control Gear "CCG". High Frequency Electronic Control Gear "ECG". High Frequency Dimmable Electronic Control Gear "ECG".
Voltage / Frequency	220 - 240V , 50 / 60 Hz "Other Voltages upon request"
Cable Entry	1x22 mm Ø hole on top. "Extra knock-out holes upon request"
Lamps	18, 36 & 58 watt T8/T26 Fluorescent for Normal Start "NS", Electronic Start "DEOS" or Electronic High Frequency "HF" Ballast "EB". 17& 32 watt T8 Fluorescent for Electronic High Frequency "HF" Ballast "EB". 14, 28 & 35 watt FH T5/T16 Fluorescent for Electronic High Frequency "HF" Ballast "EB". 24, 49, 54 & 80 watt FQ T5/T16 Fluorescent for Electronic High Frequency "HF" Ballast "EB". "Other lamps (T5/T16 – T8/T26 – T12/T38 – TCL - TC-DE – TC-TE) upon request & fitting housing dimensions subject to changes accordingly"
Emergency Unit	3 Hours duration Emergency Unit "EMU" with battery pack Maintained "M" or Non-Maintained "NM" for one lamp, and for various lamp types and voltage networks combinations. "Additional Emergency Units to operate more than one lamp on request"

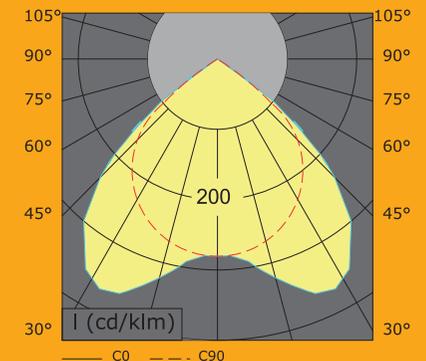
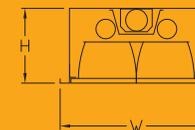
Technical Data

To Order : follow the sequence **mr+gt+ht - ln / ls - cgt - vh - cgm - emu**

Model Reference	Physical Characteristics								Housing Type	Lamp Number	Lamp Size	Control Gear Type	Voltage / Frequency	Power Factor	Optional Accessories	Emergency Unit		
	Grid Type																	
	M (metric)		I (imperial)		C (concealed)		CM (concealed metric)											
	L	W	L	W	L	W	L	W									H	
mm									watt		V / Hz							
DDP	595	295	605	300	624	324	600	300	None (standard plastic end-caps)	145	G (for CRS end-box)	NS Normal Start	220 - 240V	HPF High Power Factor	FTB Fused Terminal Block	3/NM 3 hours Non-Maintained		
	595	295	605	300	624	324	600	300									1	14
	595	295	605	300	624	324	600	300									2	17
	595	595	605	605	624	624	600	600									3	18
	595	595	605	605	624	624	600	600		4	24							
	1195	295	1215	300	1226	324	1200	300		145	G (for CRS end-box)	DEOS Electronic Starter	220 - 240V	HPF High Power Factor	TRW Temperature Resistant Wire	3/M 3 hours Non-Maintained		
	1195	295	1215	300	1226	324	1200	300									1	28
	1195	295	1215	300	1226	324	1200	300									2	32
	1195	595	1215	605	1226	624	1200	600									3	36
	1195	595	1215	605	1226	624	1200	600		145	G (for CRS end-box)	EB Electronic High Frequency	50 / 60 Hz	HF High Frequency	TW Through Wire	3/M 3 hours Maintained		
	1495	295	1515	300	1526	324	1500	300									4	54
	1495	295	1515	300	1526	324	1500	300									1	35
	1495	295	1515	300	1526	324	1500	300									2	49
	1495	595	1515	605	1526	624	1500	600		145	G (for CRS end-box)	EBD Dimmable Electronic High Frequency	50 / 60 Hz	HF High Frequency	TW Through Wire	3/M 3 hours Maintained		
	1495	595	1515	605	1526	624	1500	600									3	58
	1495	595	1515	605	1526	624	1500	600									4	80
1495	595	1515	605	1526	624	1500	600	1	36L									
595	295	605	300	624	324	600	300	CRS end-box	CRS end-box	EBD Dimmable Electronic High Frequency	50 / 60 Hz	HF High Frequency	TW Through Wire	3/M 3 hours Maintained				
595	295	605	300	624	324	600	300								2	40L		
595	595	605	605	624	624	600	600								3	55L		
595	595	605	605	624	624	600	600								4	80L		

Photometrics & Dimensions

DDP 4/36W



Spaced T5 Matt



SERIES : NRS5MM/NRS5MI/NRS5MC/NRS5MCM



Applications	Suitable to be used in: offices, clinics, education premises, circulation area & general indoor application.
Housing	Made of press welded Cold Rolled Steel "CRS" sheet of tight construction to prevent light leakage, all metal parts pre-treated with a full degreasing and phosphate process, painted in stove enameled white baked epoxy polyester mix-powder to ensure high reflectance of painted surfaces. <i>Other color finishes upon request.</i>
Light Controller	Parabolic matt anodized aluminum spaced louvers, with cut-off angle less than 65°. Louvers are held to the body by means of special steel springs allowing easy opening and diffuser suspension during maintenance.
Mounting	Recessed lay-in or concealed. Suitable for fix in Metric or Imperial or Concealed standard T-profile false ceiling.
Control Gear	High Frequency Electronic Control Gear "ECG". High Frequency Dimmable Electronic Control Gear "ECG".
Voltage / Frequency	220 - 240V , 50 / 60 Hz <i>"Other Voltages upon request"</i>
Cable Entry	1x22 mm Ø hole on top. <i>"Extra knock-out holes upon request"</i>
Lamps	14, 28 & 35 watt FH T5/T16 Fluorescent for Electronic High Frequency "HF" Ballast "EB". 24, 49, 54 & 80 watt FQ T5/T16 Fluorescent for Electronic High Frequency "HF" Ballast "EB".
Emergency Unit	3 Hours duration Emergency Unit "EMU" with battery pack Maintained "M" or Non-Maintained "NM" for one lamp, and for various lamp types and voltage networks combinations. <i>"Additional Emergency Units to operate more than one lamp on request"</i>

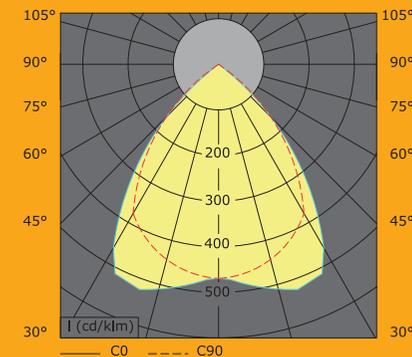
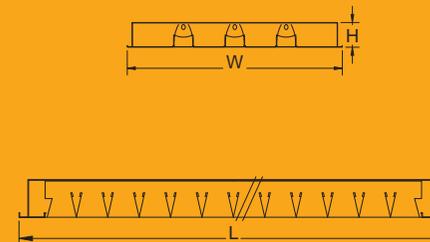
Technical Data

To Order : follow the sequence **mr+gt+ht - ln / ls - cgt - vh - cgm - emu**

Model Reference	Physical Characteristics										Housing Type	Lamp Number	Lamp Size	Control Gear Type	Voltage / Frequency	Power Factor	Optional Accessories	Emergency Unit
	Grid Type																	
	M (metric)		I (imperial)		C (concealed)		CM (concealed metric)		H									
	L	W	L	W	L	W	L	W	mm									
NRS5M	-	-	-	-	-	-	-	-	-	-	CRS end-box	-	-	EB Electronic High Frequency	220 - 240V	HF High Frequency	FTB Fused Terminal Block	3/NM 3 hours Non-Maintained
	595	295	605	300	-	-	-	-	-	-		2	14					
	595	595	605	605	-	-	-	-	-	-		3	24					
	595	595	605	605	-	-	-	-	-	-		4						
	-	-	-	-	-	-	-	-	-	-		-	-				TRW Temperature Resistant Wire	3/M 3 hours Maintained
	1195	295	1215	300	-	-	-	-	-	-		2	28					
	1195	595	1215	605	-	-	-	-	-	-		3	54				EBD Dimmable Electronic High Frequency	50 / 60 Hz
	1195	595	1215	605	-	-	-	-	-	-		4						
	-	-	-	-	-	-	-	-	-	-		-	-				TW Through Wire	3/M 3 hours Maintained
	1495	295	1515	300	-	-	-	-	-	-		2	35					
	1495	595	1515	605	-	-	-	-	-	-		3	49					
	1495	595	1515	605	-	-	-	-	-	-		4	80					

Photometrics & Dimensions

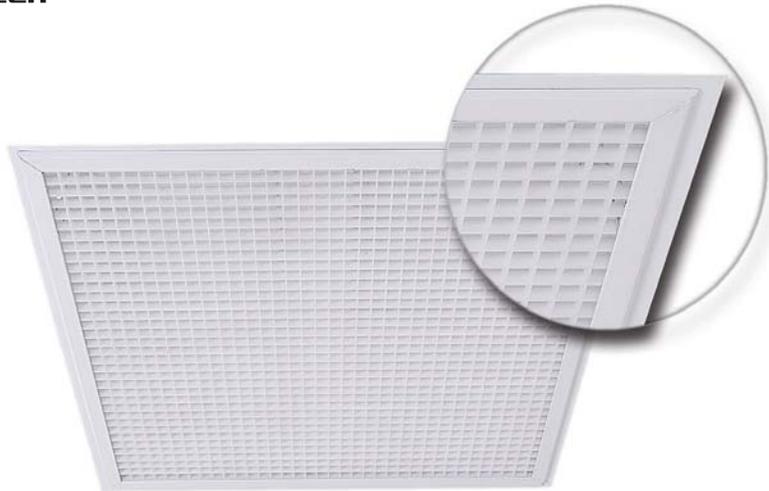
NRS5M 2/28W



White Plastic Louvers



SERIES : NLM/NLI



Applications	Suitable to be used in: offices, clinics, education premises, circulation area & general indoor application.
Housing	Made of press welded Cold Rolled Steel "CRS" sheet of tight construction to prevent light leakage, all metal parts pre-treated with a full degreasing and phosphate process, painted in stove enameled white baked epoxy polyester mix-powder to ensure high reflectance of painted surfaces. <i>Other color finishes upon request.</i>
Light Controller	Flat half-inch styrene plastic white louvers, secured in an extruded aluminum frame painted white. Frame is held to the body by means of special steel springs allowing easy opening and diffuser suspension during maintenance.
Mounting	Recessed lay-in or universal. Suitable for fix in Metric or Imperial or Universal Concealed standard T-profile false ceiling.
Control Gear	High Power Factor "HPF" (≥ 90%) Conventional Control Gear "CCG". High Frequency Electronic Control Gear "ECG". High Frequency Dimmable Electronic Control Gear "ECG".
Voltage / Frequency	220 - 240V , 50 / 60 Hz <i>"Other Voltages upon request"</i>
Cable Entry	1x22 mm Ø hole on top. <i>"Extra knock-out holes upon request"</i>
Lamps	18, 36 & 58 watt T8/T26 Fluorescent for Normal Start "NS", Electronic Start "DEOS" or Electronic High Frequency "HF" Ballast "EB". 17& 32 watt T8 Fluorescent for Electronic High Frequency "HF" Ballast "EB". 14, 28 & 35 watt FH T5/T16 Fluorescent for Electronic High Frequency "HF" Ballast "EB". 24, 49, 54 & 80 watt FQ T5/T16 Fluorescent for Electronic High Frequency "HF" Ballast "EB". <i>"Other lamps (T5/T16 – T8/T26 – T12/T38 – TCL – TC-D – TC-DE – TC-TE) upon request & fitting housing dimensions subject to changes accordingly"</i>
Emergency Unit	3 Hours duration Emergency Unit "EMU" with battery pack Maintained "M" or Non-Maintained "NM" for one lamp, and for various lamp types and voltage networks combinations. <i>"Additional Emergency Units to operate more than one lamp on request"</i>

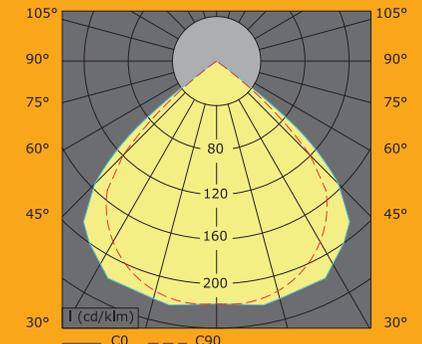
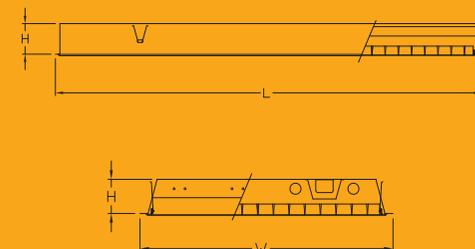
Technical Data

To Order : follow the sequence **mr+gt+ht - ln / ls - cgt - vh - cgm - emu**

Model Reference	Physical Characteristics											Housing Type	Lamp Number	Lamp Size	Control Gear Type	Voltage / Frequency	Power Factor	Optional Accessories	Emergency Unit
	Grid Type																		
	M (Metric)		I (Imperial)		U (Universal)		UC (Universal Compact)		L	W	H								
	L	W	L	W	L	W	L	W											
											watt		v / Hz						
NL	595	293	605	300	620	315						None (standard plastic end-caps)	1	14	NS Normal Start	220 - 240V	HPF High Power Factor	FTB Fused Terminal Block	3/NM 3 hours Non-Maintained
	595	293	605	300	620	315							2	17					
	595	595	605	605	620	620							3	18					
	595	595	605	605	620	620							4	24					
	1195	293	1215	300	1230	315							1	28					
	1195	293	1215	300	1230	315							2	32					
	1195	595	1215	605	1230	620							3	36					
	1195	595	1215	605	1230	620							4	54					
	1495	293	1515	300	1530	315							1	35					
	1495	293	1515	300	1530	315							2	49					
	1495	595	1515	605	1530	620						3	58						
	1495	595	1515	605	1530	620						4	80						
	595	293	605	300	620	315						CRS end-box	1	36L	EB Electronic High Frequency	50 / 60 Hz	HF High Frequency	TW Through Wire	3/M 3 hours Maintained
	595	293	605	300	620	315							2	40L					
	595	595	605	605	620	620							3	55L					
	595	595	605	605	620	620							4	80L					
	-	-	-	-	-	-	312	312	90				1	11L 18L/D/T 26D/T 32T 42T 70T					
	-	-	-	-	-	-							2						

Photometrics & Dimensions

NL 2/36W



Silver Plastic Louvers



SERIES : NLSM/NLSI



Applications	Suitable to be used in: offices, clinics, education premises, circulation area & general indoor application.
Housing	Made of press welded Cold Rolled Steel "CRS" sheet of tight construction to prevent light leakage, all metal parts pre-treated with a full degreasing and phosphate process, painted in stove enameled white baked epoxy polyester mix-powder to ensure high reflectance of painted surfaces. <i>Other color finishes upon request.</i>
Light Controller	Flat half-inch styrene plastic silver louvers, secured in an extruded aluminum frame painted white. Frame is held to the body by means of special steel springs allowing easy opening and diffuser suspension during maintenance.
Mounting	Recessed lay-in or universal. Suitable for fix in Metric or Imperial or Universal Concealed standard T-profile false ceiling.
Control Gear	High Power Factor "HPF" (≥ 90%) Conventional Control Gear "CCG". High Frequency Electronic Control Gear "ECG". High Frequency Dimmable Electronic Control Gear "ECG".
Voltage / Frequency	220 - 240V , 50 / 60 Hz <i>"Other Voltages upon request"</i>
Cable Entry	1x22 mm Ø hole on top. <i>"Extra knock-out holes upon request"</i>
Lamps	18, 36 & 58 watt T8/T26 Fluorescent for Normal Start "NS", Electronic Start "DEOS" or Electronic High Frequency "HF" Ballast "EB". 17& 32 watt T8 Fluorescent for Electronic High Frequency "HF" Ballast "EB". 14, 28 & 35 watt FH T5/T16 Fluorescent for Electronic High Frequency "HF" Ballast "EB". 24, 49, 54 & 80 watt FQ T5/T16 Fluorescent for Electronic High Frequency "HF" Ballast "EB". <i>"Other lamps (T5/T16 – T8/T26 – T12/T38 – TCL – TC-D – TC-DE – TC-TE) upon request & fitting housing dimensions subject to changes accordingly"</i>
Emergency Unit	3 Hours duration Emergency Unit "EMU" with battery pack Maintained "M" or Non-Maintained "NM" for one lamp, and for various lamp types and voltage networks combinations. <i>"Additional Emergency Units to operate more than one lamp on request"</i>

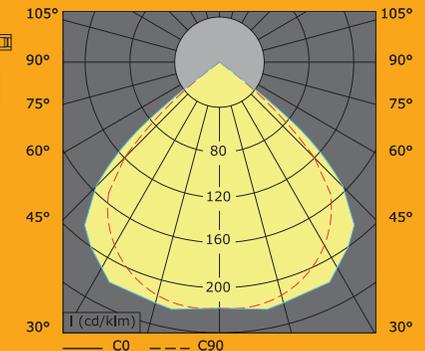
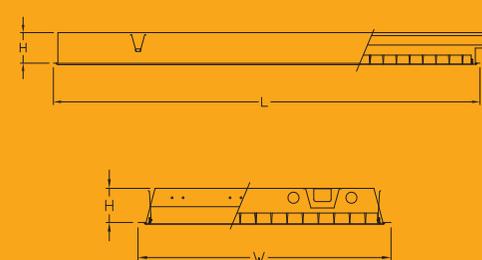
Technical Data

To Order : follow the sequence **mr+gt+ht - ln / ls – cgt – vh – cgm – emu**

Model Reference	Physical Characteristics										Housing Type	Lamp Number	Lamp Size	Control Gear Type	Voltage Frequency	Power Factor	Optional Accessories	Emergency Unit							
	Grid Type																								
	M (Metric)		I (Imperial)		U (Universal)		UC (Universal Compact)		L	W									H						
	L	W	L	W	L	W	L	W																	
NLS	595	293	605	300	620	315						None (standard plastic end-caps)	1	14	NS Normal Start	220 - 240V	HPF High Power Factor	FTB Fused Terminal Block	3/NM 3 hours Non-Maintained						
	595	293	605	300	620	315							2	17											
	595	595	605	605	620	620							3	18											
	595	595	605	605	620	620							4	24											
	1195	293	1215	300	1230	315							1	28											
	1195	293	1215	300	1230	315							2	32											
	1195	595	1215	605	1230	620							3	36											
	1195	595	1215	605	1230	620							4	54											
	1495	293	1515	300	1530	315							G (for CRS end-box)	1						35	DEOS Electronic Starter	50 / 60 Hz	HF High Frequency	TRW Temperature Resistant Wire	3/M 3 hours Non-Maintained
	1495	293	1515	300	1530	315								2						49					
	1495	595	1515	605	1530	620								3						58					
	1495	595	1515	605	1530	620								4						80					
		595	293	605	300	620	315						CRS end-box	1	36L	EBD Dimmable Electronic High Frequency	50 / 60 Hz	HF High Frequency	TW Through Wire	3/M 3 hours Maintained					
		595	293	605	300	620	315							2	40L										
		595	595	605	605	620	620							3	55L										
		595	595	605	605	620	620							4	80L										
		-	-	-	-	-	-	312	312	90				1	11L 18L/D/T 26D/T 32T 42T 70T										
														2											

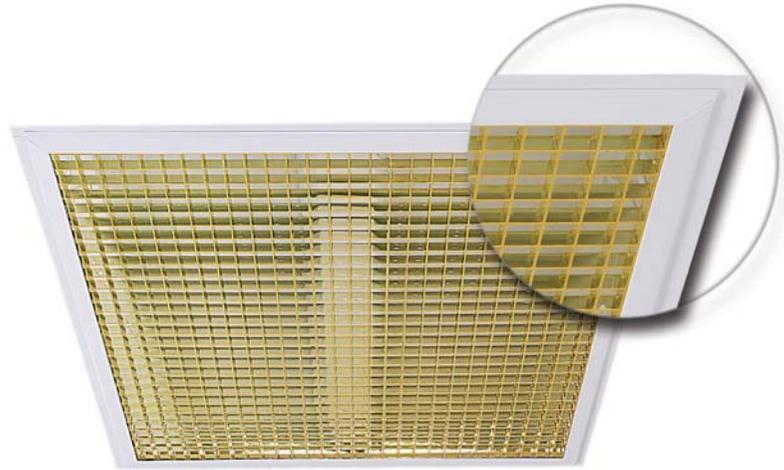
Photometrics & Dimensions

NLS 2/36W



Golden Plastic Louvers

SERIES : NLGM/NLGI



Applications	Suitable to be used in: offices, clinics, education premises, circulation area & general indoor application.
Housing	Made of press welded Cold Rolled Steel "CRS" sheet of tight construction to prevent light leakage, all metal parts pre-treated with a full degreasing and phosphate process, painted in stove enameled white baked epoxy polyester mix-powder to ensure high reflectance of painted surfaces. Other color finishes upon request.
Light Controller	Flat half-inch styrene plastic golden louvers, secured in an extruded aluminum frame painted white. Frame is held to the body by means of special steel springs allowing easy opening and diffuser suspension during maintenance.
Mounting	Recessed lay-in or universal. Suitable for fix in Metric or Imperial or Universal Concealed standard T-profile false ceiling.
Control Gear	High Power Factor "HPF" (≥ 90%) Conventional Control Gear "CCG". High Frequency Electronic Control Gear "ECG". High Frequency Dimmable Electronic Control Gear "ECG".
Voltage / Frequency	220 - 240V , 50 / 60 Hz "Other Voltages upon request"
Cable Entry	1x22 mm Ø hole on top. "Extra knock-out holes upon request"
Lamps	18, 36 & 58 watt T8/T26 Fluorescent for Normal Start "NS", Electronic Start "DEOS" or Electronic High Frequency "HF" Ballast "EB". 17& 32 watt T8 Fluorescent for Electronic High Frequency "HF" Ballast "EB". 14, 28 & 35 watt FH T5/T16 Fluorescent for Electronic High Frequency "HF" Ballast "EB". 24, 49, 54 & 80 watt FQ T5/T16 Fluorescent for Electronic High Frequency "HF" Ballast "EB". "Other lamps (T5/T16 – T8/T26 – T12/T38 – TCL – TC-D – TC-DE – TC-TE) upon request & fitting housing dimensions subject to changes accordingly"
Emergency Unit	3 Hours duration Emergency Unit "EMU" with battery pack Maintained "M" or Non-Maintained "NM" for one lamp, and for various lamp types and voltage networks combinations. "Additional Emergency Units to operate more than one lamp on request"

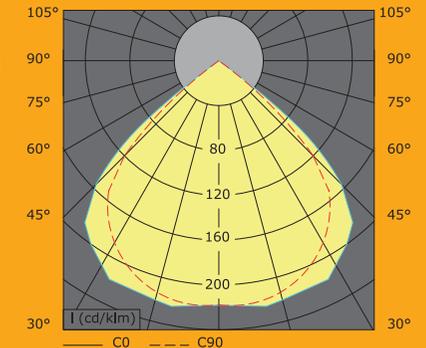
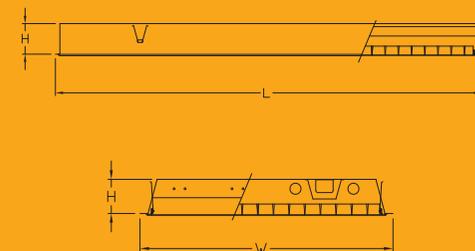
Technical Data

To Order : follow the sequence **mr+gt+ht - ln / ls – cgt – vh – cgm – emu**

Model Reference	Physical Characteristics										Housing Type	Lamp Number	Lamp Size	Control Gear Type	Voltage Frequency	Power Factor	Optional Accessories	Emergency Unit						
	Grid Type																							
	M (Metric)		I (Imperial)		U (Universal)		UC (Universal Compact)																	
	L	W	L	W	L	W	L	W	H															
mm										watt		v / Hz												
NLG	595	293	605	300	620	315					None (standard plastic end-caps)	1	14	NS Normal Start	220 - 240V	HPF High Power Factor	FTB Fused Terminal Block	3/NM 3 hours Non-Maintained						
	595	293	605	300	620	315						2	17											
	595	595	605	605	620	620						3	18											
	595	595	605	605	620	620						4	24											
	1195	293	1215	300	1230	315						1	28											
	1195	293	1215	300	1230	315						2	32											
	1195	595	1215	605	1230	620						3	36											
	1195	595	1215	605	1230	620						4	54											
	1495	293	1515	300	1530	315						G (for CRS end-box)	1						35	DEOS Electronic Starter	50 / 60 Hz	HF High Frequency	TRW Temperature Resistant Wire	3/M 3 hours Maintained
	1495	293	1515	300	1530	315							2						49					
	1495	595	1515	605	1530	620							3						58					
	1495	595	1515	605	1530	620							4						80					
	595	293	605	300	620	315						CRS end-box	1						36L	EBD Dimmable Electronic High Frequency	50 / 60 Hz	HF High Frequency	TW Through Wire	3/M 3 hours Maintained
	595	293	605	300	620	315							2						40L					
	595	595	605	605	620	620							3						55L					
	595	595	605	605	620	620							4						80L					
	-	-	-	-	-	-	312	312	90				1	11L 18L/D/T 26D/T 32T 42T 70T										
													2											

Photometrics & Dimensions

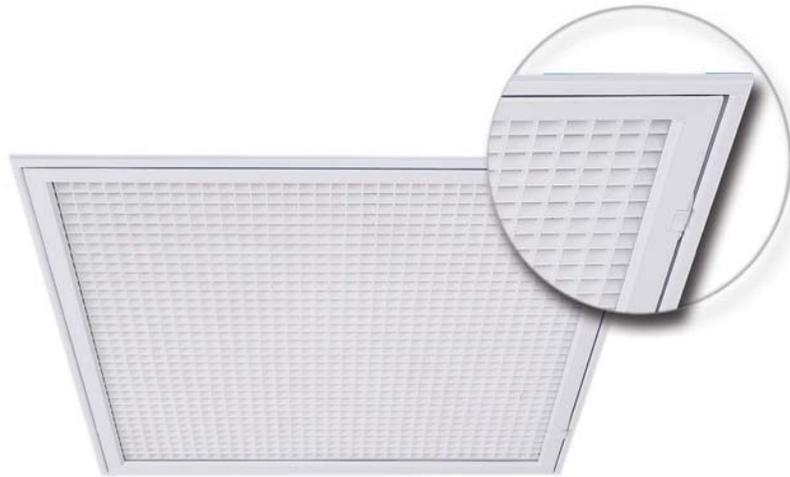
NLG 2/36W



White Plastic Louvers



SERIES : TLM/TLI/TLC/TLCM



Applications	Suitable to be used in: offices, clinics, education premises, circulation area & general indoor application.
Housing	Made of press welded Cold Rolled Steel "CRS" sheet of tight construction to prevent light leakage, all metal parts pre-treated with a full degreasing and phosphate process, painted in stove enameled white baked epoxy polyester mix-powder to ensure high reflectance of painted surfaces. <i>Other color finishes upon request.</i>
Light Controller	Flat half-inch styrene plastic white louvers, secured in an extruded aluminum frame painted white. Frame is held to the body by means of special hinges and latches allow easy opening and diffuser suspension during maintenance.
Mounting	Recessed lay-in or concealed. Suitable for fix in Metric or Imperial or Concealed standard T-profile false ceiling.
Control Gear	High Power Factor "HPF" (≥ 90%) Conventional Control Gear "CCG". High Frequency Electronic Control Gear "ECG". High Frequency Dimmable Electronic Control Gear "ECG".
Voltage / Frequency	220 - 240V , 50 / 60 Hz <i>"Other Voltages upon request"</i>
Cable Entry	1x22 mm Ø hole on top. <i>"Extra knock-out holes upon request"</i>
Lamps	18, 36 & 58 watt T8/T26 Fluorescent for Normal Start "NS", Electronic Start "DEOS" or Electronic High Frequency "HF" Ballast "EB". 17& 32 watt T8 Fluorescent for Electronic High Frequency "HF" Ballast "EB". 14, 28 & 35 watt FH T5/T16 Fluorescent for Electronic High Frequency "HF" Ballast "EB". 24, 49, 54 & 80 watt FQ T5/T16 Fluorescent for Electronic High Frequency "HF" Ballast "EB". <i>"Other lamps (T5/T16 – T8/T26 – T12/T38 – TCL – TC-D – TC-DE – TC-TE) upon request & fitting housing dimensions subject to changes accordingly"</i>
Emergency Unit	3 Hours duration Emergency Unit "EMU" with battery pack Maintained "M" or Non-Maintained "NM" for one lamp, and for various lamp types and voltage networks combinations. <i>"Additional Emergency Units to operate more than one lamp on request"</i>

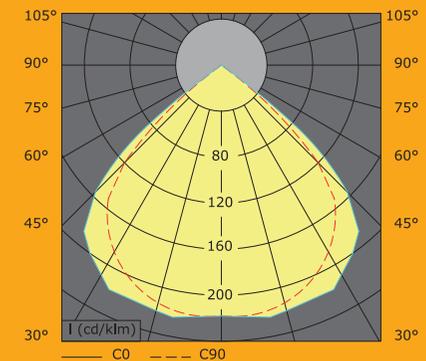
Technical Data

To Order : follow the sequence **mr+gt+ht - ln / ls - cgt - vh - cgm - emu**

Model Reference	Physical Characteristics										Housing Type	Lamp Number	Lamp Size	Control Gear Type	Voltage / Frequency	Power Factor	Optional Accessories	Emergency Unit					
	Grid Type																						
	M (metric)		I (imperial)		C (concealed)		CM (concealed metric)																
	L	W	L	W	L	W	L	W	H														
mm											watt		V / Hz										
TL	595	295	605	300	624	324	600	300			None (standard plastic end-caps)	1	14	NS Normal Start	220 - 240V	HPF High Power Factor	FTB Fused Terminal Block	3/NM 3 hours Non-Maintained					
	595	295	605	300	624	324	600	300				2	17										
	595	595	605	605	624	624	600	600				3	18										
	595	595	605	605	624	624	600	600				4	24										
	1195	295	1215	300	1226	324	1200	300				1	28	DEOS Electronic Starter									
	1195	295	1215	300	1226	324	1200	300				2	32										
	1195	595	1215	605	1226	624	1200	600				3	36										
	1195	595	1215	605	1226	624	1200	600				4	54										
	1495	295	1515	300	1526	324	1500	300				G (for CRS end-box)	1	35					EB Electronic High Frequency	50 / 60 Hz	HF High Frequency	TW Through Wire	3/M 3 hours Maintained
	1495	295	1515	300	1526	324	1500	300					2	49									
	1495	595	1515	605	1526	624	1500	600					3	58									
	1495	595	1515	605	1526	624	1500	600					4	80									
	595	295	605	300	624	324	600	300				CRS end-box	1	36L					EBD Dimmable Electronic High Frequency				
	595	295	605	300	624	324	600	300					2	40L									
	595	595	605	605	624	624	600	600					3	55L									
	595	595	605	605	624	624	600	600					4	80L									

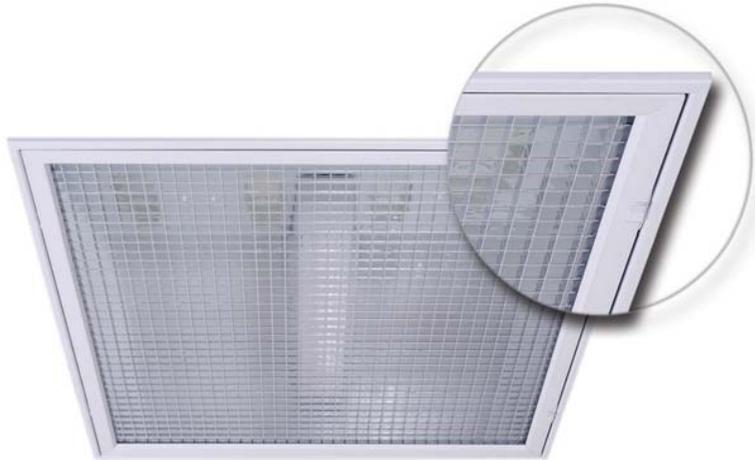
Photometrics & Dimensions

TL 2/36W



Silver Plastic Louvers

SERIES : TLSM/TLSI/TLSC/TLSCM



Applications	Suitable to be used in: offices, clinics, education premises, circulation area & general indoor application.
Housing	Made of press welded Cold Rolled Steel "CRS" sheet of tight construction to prevent light leakage, all metal parts pre-treated with a full degreasing and phosphate process, painted in stove enameled white baked epoxy polyester mix-powder to ensure high reflectance of painted surfaces. <i>Other color finishes upon request.</i>
Light Controller	Flat half-inch styrene plastic silver louvers, secured in an extruded aluminum frame painted white. Frame is held to the body by means of special hinges and latches allow easy opening and diffuser suspension during maintenance.
Mounting	Recessed lay-in or concealed. Suitable for fix in Metric or Imperial or Concealed standard T-profile false ceiling.
Control Gear	High Power Factor "HPF" (≥ 90%) Conventional Control Gear "CCG". High Frequency Electronic Control Gear "ECG". High Frequency Dimmable Electronic Control Gear "ECG".
Voltage / Frequency	220 - 240V , 50 / 60 Hz <i>"Other Voltages upon request"</i>
Cable Entry	1x22 mm Ø hole on top. <i>"Extra knock-out holes upon request"</i>
Lamps	18, 36 & 58 watt T8/T26 Fluorescent for Normal Start "NS", Electronic Start "DEOS" or Electronic High Frequency "HF" Ballast "EB". 17& 32 watt T8 Fluorescent for Electronic High Frequency "HF" Ballast "EB". 14, 28 & 35 watt FH T5/T16 Fluorescent for Electronic High Frequency "HF" Ballast "EB". 24, 49, 54 & 80 watt FQ T5/T16 Fluorescent for Electronic High Frequency "HF" Ballast "EB". <i>"Other lamps (T5/T16 – T8/T26 – T12/T38 – TCL – TC-D – TC-DE – TC-TE) upon request & fitting housing dimensions subject to changes accordingly"</i>
Emergency Unit	3 Hours duration Emergency Unit "EMU" with battery pack Maintained "M" or Non-Maintained "NM" for one lamp, and for various lamp types and voltage networks combinations. <i>"Additional Emergency Units to operate more than one lamp on request"</i>

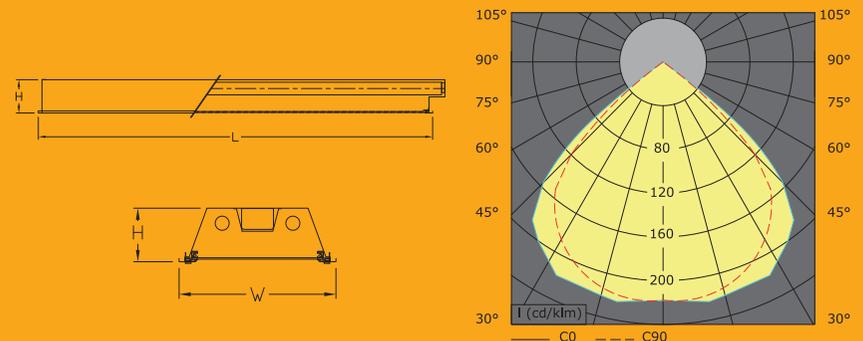
Technical Data

To Order : follow the sequence **mr+gt+ht - ln / ls - cgt - vh - cgm - emu**

Model Reference	Physical Characteristics									Housing Type	Lamp Number	Lamp Size	Control Gear Type	Voltage Frequency	Power Factor	Optional Accessories	Emergency Unit						
	Grid Type																						
	M (metric)		I (imperial)		C (concealed)		CM (concealed metric)		H														
	L	W	L	W	L	W	L	W															
									mm	watt		V / Hz											
TLS	595	295	605	300	624	324	600	300	100	None (standard plastic end-caps)	1	14	NS Normal Start	220 - 240V	HPF High Power Factor	FTB Fused Terminal Block	3/NM 3 hours Non-Maintained						
	595	295	605	300	624	324	600	300			2	17											
	595	595	605	605	624	624	600	600			3	18											
	595	595	605	605	624	624	600	600			4	24											
	1195	295	1215	300	1226	324	1200	300			1	28											
	1195	295	1215	300	1226	324	1200	300			2	32											
	1195	595	1215	605	1226	624	1200	600			3	36											
	1195	595	1215	605	1226	624	1200	600			4	54											
	1495	295	1515	300	1526	324	1500	300		G (for CRS end-box)	1	35	EB Electronic High Frequency	50 / 60 Hz	HF High Frequency	TRW Temperature Resistant Wire	3/M 3 hours Maintained						
	1495	295	1515	300	1526	324	1500	300			2	49											
	1495	595	1515	605	1526	624	1500	600			3	58											
	1495	595	1515	605	1526	624	1500	600			4	80											
	595	295	605	300	624	324	600	300			CRS end-box	1						36L	EBD Dimmable Electronic High Frequency				
	595	295	605	300	624	324	600	300				2						40L					
	595	595	605	605	624	624	600	600				3						55L					
	595	595	605	605	624	624	600	600				4						80L					

Photometrics & Dimensions

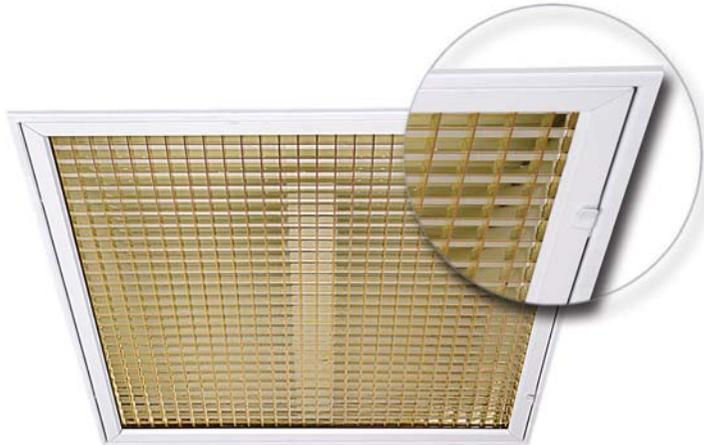
TLS 2/36W



Golden Plastic Louvers



SERIES : TLGM/TLGI/TLGC/TLGCM



Applications	Suitable to be used in: offices, clinics, education premises, circulation area & general indoor application.
Housing	Made of press welded Cold Rolled Steel "CRS" sheet of tight construction to prevent light leakage, all metal parts pre-treated with a full degreasing and phosphate process, painted in stove enameled white baked epoxy polyester mix-powder to ensure high reflectance of painted surfaces. <i>Other color finishes upon request.</i>
Light Controller	Flat half-inch styrene plastic silver louvers, secured in an extruded aluminum frame painted white. Frame is held to the body by means of special hinges and latches allow easy opening and diffuser suspension during maintenance.
Mounting	Recessed lay-in or concealed. Suitable for fix in Metric or Imperial or Concealed standard T-profile false ceiling.
Control Gear	High Power Factor "HPF" (≥ 90%) Conventional Control Gear "CCG". High Frequency Electronic Control Gear "ECG". High Frequency Dimmable Electronic Control Gear "ECG".
Voltage / Frequency	220 - 240V , 50 / 60 Hz <i>"Other Voltages upon request"</i>
Cable Entry	1x22 mm Ø hole on top. <i>"Extra knock-out holes upon request"</i>
Lamps	18, 36 & 58 watt T8/T26 Fluorescent for Normal Start "NS", Electronic Start "DEOS" or Electronic High Frequency "HF" Ballast "EB". 17& 32 watt T8 Fluorescent for Electronic High Frequency "HF" Ballast "EB". 14, 28 & 35 watt FH T5/T16 Fluorescent for Electronic High Frequency "HF" Ballast "EB". 24, 49, 54 & 80 watt FQ T5/T16 Fluorescent for Electronic High Frequency "HF" Ballast "EB". <i>"Other lamps (T5/T16 – T8/T26 – T12/T38 – TCL – TC-D – TC-DE – TC-TE) upon request & fitting housing dimensions subject to changes accordingly"</i>
Emergency Unit	3 Hours duration Emergency Unit "EMU" with battery pack Maintained "M" or Non-Maintained "NM" for one lamp, and for various lamp types and voltage networks combinations. <i>"Additional Emergency Units to operate more than one lamp on request"</i>

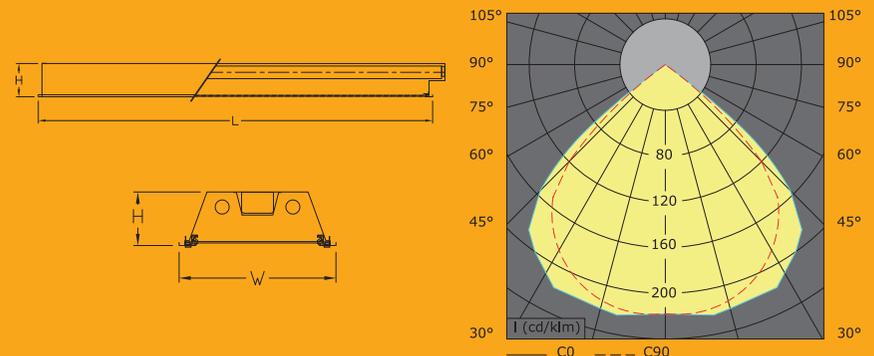
Technical Data

To Order : follow the sequence **mr+gt+ht - ln / ls - cgt - vh - cgm - emu**

Model Reference	Physical Characteristics								Housing Type	Lamp Number	Lamp Size	Control Gear Type	Voltage / Frequency	Power Factor	Optional Accessories	Emergency Unit									
	Grid Type																								
	M (metric)		I (imperial)		C (concealed)		CM (concealed metric)																		
	L	W	L	W	L	W	L	W									H								
mm									watt		V / Hz														
TLG	595	295	605	300	624	324	600	300	None (standard plastic end-caps)	100	G (for CRS end-box)	NS Normal Start	220 - 240V	HPF High Power Factor	FTB Fused Terminal Block	3/NM 3 hours Non-Maintained									
	595	295	605	300	624	324	600	300									1	14							
	595	295	605	300	624	324	600	300									2	17							
	595	595	605	605	624	624	600	600									3	18							
	595	595	605	605	624	624	600	600									4	24							
	1195	295	1215	300	1226	324	1200	300									1	28							
	1195	295	1215	300	1226	324	1200	300									2	32							
	1195	595	1215	605	1226	624	1200	600									3	36							
	1195	595	1215	605	1226	624	1200	600									4	54							
	1495	295	1515	300	1526	324	1500	300									1	35							
	1495	295	1515	300	1526	324	1500	300									2	49							
	1495	595	1515	605	1526	624	1500	600									3	58							
	1495	595	1515	605	1526	624	1500	600									4	80							
	595	295	605	300	624	324	600	300									CRS end-box		EB Electronic High Frequency	50 / 60 Hz	HF High Frequency	TW Through Wire	3/M 3 hours Maintained		
	595	295	605	300	624	324	600	300																1	36L
	595	295	605	300	624	324	600	300																2	40L
595	595	605	605	624	624	600	600	3	55L																
595	595	605	605	624	624	600	600	4	80L	EBD Dimmable Electronic High Frequency															

Photometrics & Dimensions

TLG 2/36W



Metalized Plastic Louvers



SERIES : NRM/NRI/NRC/NRCM



Applications	Suitable to be used in: offices, clinics, education premises, circulation area & general indoor application.
Housing	Made of press welded Cold Rolled Steel "CRS" sheet of tight construction to prevent light leakage, all metal parts pre-treated with a full degreasing and phosphate process, painted in stove enameled white baked epoxy polyester mix-powder to ensure high reflectance of painted surfaces. <i>Other color finishes upon request.</i>
Light Controller	Parabolic shaped specular anodized aluminum louvers and transversal vanes with translucent ribbed prisms polycarbonate sheet. Louvers are held to the body by means of special steel springs. <i>"The patented optic gives precise light control, discomfort reflectance's And glare are avoided by use of transversal vanes with precise prisms, And the use of batwing mirrors avoids glare on the horizontal plane."</i>
Mounting	Recessed lay-in or concealed. Suitable for fix in Metric or Imperial or Concealed standard T-profile false ceiling.
Control Gear	High Power Factor "HPF" (≥ 90%) Conventional Control Gear "CCG". High Frequency Electronic Control Gear "ECG". High Frequency Dimmable Electronic Control Gear "ECG".
Voltage / Frequency	220 - 240V , 50 / 60 Hz <i>"Other Voltages upon request"</i>
Cable Entry	1x22 mm Ø hole on top. <i>"Extra knock-out holes upon request"</i>
Lamps	18, 36 & 58 watt T8/T26 Fluorescent for Normal Start "NS", Electronic Start "DEOS" or Electronic High Frequency "HF" Ballast "EB". 17 & 32 watt T8 Fluorescent for Electronic High Frequency "HF" Ballast "EB". 14, 28 & 35 watt FH T5/T16 Fluorescent for Electronic High Frequency "HF" Ballast "EB". 24, 49, 54 & 80 watt FQ T5/T16 Fluorescent for Electronic High Frequency "HF" Ballast "EB". <i>"Other lamps (T5/T16 - T8/T26 - T12/T38 - TCL) upon request & fitting housing dimensions subject to changes accordingly"</i>
Emergency Unit	3 Hours duration Emergency Unit "EMU" with battery pack Maintained "M" or Non-Maintained "NM" for one lamp, and for various lamp types and voltage networks combinations. <i>"Additional Emergency Units to operate more than one lamp on request"</i>

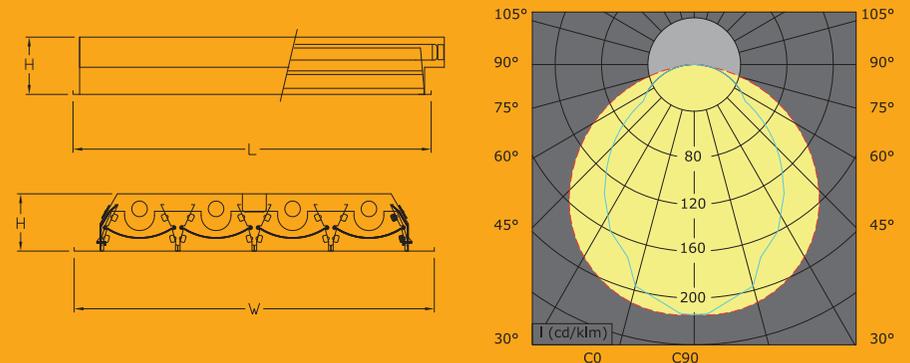
Technical Data

To Order : follow the sequence **mr+gt+ht - ln / ls - cgt - vh - cgm - emu**

Model Reference	Physical Characteristics										Housing Type	Lamp Number	Lamp Size	Control Gear Type	Voltage / Frequency	Power Factor	Optional Accessories	Emergency Unit		
	Grid Type																			
	M (metric)		I (imperial)		C (concealed)		CM (concealed metric)		H											
	L	W	L	W	L	W	L	W												
mm	mm	mm	mm	mm	mm	mm	mm	mm	mm											
NR	600	595	605	605	624	624	600	600	95	None (standard plastic end-caps)	4	14	EB Electronic High Frequency	220 - 240V 50 / 60 Hz	HF High Frequency	FTB Fused Terminal Block TRW Temperature Resistant Wire	3/NM 3 hours Non-Maintained 3/M 3 hours Maintained			
	600	595	605	605	624	624	600	600										24	EBD Dimmable Electronic High Frequency	TW Through Wire
	600	595	605	605	624	624	600	600												

Photometrics & Dimensions

NRI 4/18W



Mellow

SERIES : RCE



Applications	Suitable to be used in: offices, clinics, education premises, circulation area & general indoor application.
Housing	Made of press welded Cold Rolled Steel "CRS" sheet of tight construction to prevent light leakage, all metal parts pre-treated with a full degreasing and phosphate process, painted in stove enameled white baked epoxy polyester mix-powder to ensure high reflectance of painted surfaces. <i>Other color finishes upon request.</i>
Light Controller	Involute reflector comprises two sheet steel elements accurately profiled to a precision curve, finish with a special white paint to obscure the reflected lamp images and ensure a slow rate of change of luminance on the reflector surface. The die-cast end pieces rigidly hold the perforated white steel refractor and opal backing diffuser in place.
Mounting	Concealed. Suitable for fix in Metric or Imperial or Concealed standard T-profile false ceiling.
Control Gear	High Power Factor "HPF" (≥ 90%) Conventional Control Gear "CCG". High Frequency Electronic Control Gear "ECG". High Frequency Dimmable Electronic Control Gear "ECG".
Voltage / Frequency	220 - 240V , 50 / 60 Hz <i>"Other Voltages upon request"</i>
Cable Entry	1x22 mm Ø hole on top. <i>"Extra knock-out holes upon request"</i>
Lamps	36, 40 & 55 watt TC-L Compact Fluorescent for Electronic High Frequency "HF" Ballast "EB".
Emergency Unit	3 Hours duration Emergency Unit "EMU" with battery pack Maintained "M" or Non-Maintained "NM" for one lamp, and for various lamp types and voltage networks combinations. <i>"Additional Emergency Units to operate more than one lamp on request"</i>

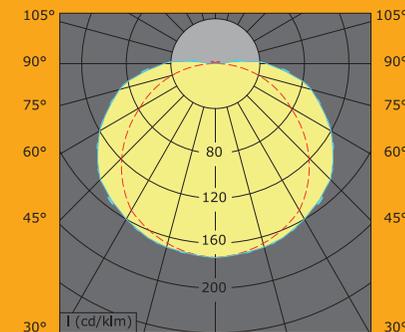
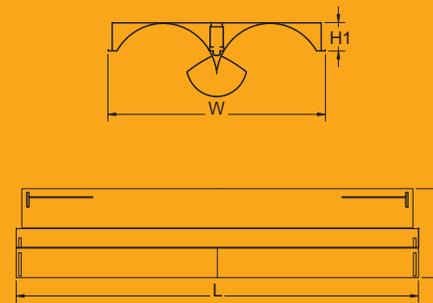
Technical Data

To Order : follow the sequence **mr+gt+ht - ln / ls - cgt - vh - cgm - emu**

Model Reference	Physical Characteristics										Housing Type	Lamp Number	Lamp Size	Control Gear Type	Voltage / Frequency	Power Factor	Optional Accessories	Emergency Unit			
	Grid Type																				
	M (metric)		I (imperial)		C (concealed)		CM (concealed metric)		H												
	L	W	L	W	L	W	L	W	H												
mm		mm		mm		mm		mm		watt		V / Hz									
RCE	-	-	-	-	-	-	-	-	-	-	167	CRS end-box	1	36L	NS Normal Start	220 - 240V	HPF High Power Factor	FTB Fused Terminal Block	3/NM 3 hours Non-Maintained		
	-	-	-	-	-	-	-	-	-	-			2								
	-	-	-	-	-	-	-	-	-	-			-								
	-	-	-	-	-	-	-	-	-	-			-								
	598	598	-	-	-	-	-	-	-	-			1	40L				EB Electronic High Frequency	50 / 60 Hz	TRW Temperature Resistant Wire	3/M 3 hours Maintained
	-	-	-	-	-	-	-	-	-	-			2								
	-	-	-	-	-	-	-	-	-	-			-	55L				EBD Dimmable Electronic High Frequency	HF High Frequency	TW Through Wire	
	-	-	-	-	-	-	-	-	-	-			1								
	-	-	-	-	-	-	-	-	-	-			2								
	-	-	-	-	-	-	-	-	-	-			-								

Photometrics & Dimensions

RCE 2/55W



Twin Mellow

SERIES : RTM/RTI/RTC/RTCM



Applications	Suitable to be used in: offices, clinics, education premises, circulation area & general indoor application.
Housing	Made of press welded Cold Rolled Steel "CRS" sheet of tight construction to prevent light leakage, all metal parts pre-treated with a full degreasing and phosphate process, painted in stove enameled white baked epoxy polyester mix-powder to ensure high reflectance of painted surfaces. <i>Other color finishes upon request.</i>
Light Controller	Vault reflector made of quality sheet steel accurately profiled to a precision curve, finish with a special white paint to obscure the reflected lamp images and ensure a slow rate of change of luminance on the reflector surface. Two sideward perforated or plain white steel reflectors with or without opal backing diffuser in place.
Mounting	Recessed lay-in or concealed. Suitable for fix in Metric or Imperial or Concealed standard T-profile false ceiling.
Control Gear	High Power Factor "HPF" (≥ 90%) Conventional Control Gear "CCG". High Frequency Electronic Control Gear "ECG". High Frequency Dimmable Electronic Control Gear "ECG".
Voltage / Frequency	220 - 240V , 50 / 60 Hz <i>"Other Voltages upon request"</i>
Cable Entry	1x22 mm Ø hole on top. <i>"Extra knock-out holes upon request"</i>
Lamps	36, 40 & 55 watt TC-L Compact Fluorescent for Electronic High Frequency "HF" Ballast "EB".
Emergency Unit	3 Hours duration Emergency Unit "EMU" with battery pack Maintained "M" or Non-Maintained "NM" for one lamp, and for various lamp types and voltage networks combinations. <i>"Additional Emergency Units to operate more than one lamp on request"</i>

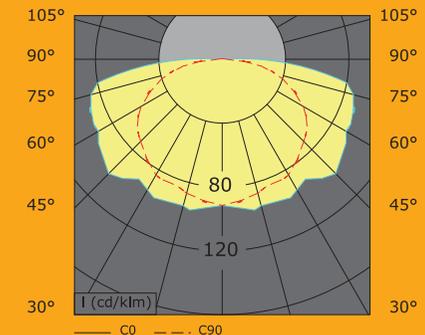
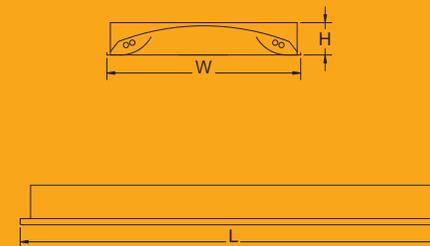
Technical Data

To Order : follow the sequence **mr+gt+ht - ln / ls - cgt - vh - cgm - emu**

Model Reference	Physical Characteristics										Housing Type	Lamp Number	Lamp Size	Control Gear Type	Voltage / Frequency	Power Factor	Optional Accessories	Emergency Unit	
	Grid Type																		
	M (metric)		I (imperial)		C (concealed)		CM (concealed metric)												
	L	W	L	W	L	W	L	W	H										
mm		mm		mm		mm		mm											
RT	-	-	-	-	-	-	-	-	-	-	100	CRS end-box	-	36L	NS Normal Start	220 - 240V	HPF High Power Factor	FTB Fused Terminal Block	3/NM 3 hours Non-Maintained
	-	-	-	-	-	-	-	-	-	-									
	-	-	-	-	-	-	-	-	-	-									
	-	-	-	-	-	-	-	-	-	-									
	595	595	605	605	624	624	600	600	-	-									
	-	-	-	-	-	-	-	-	-	-									
	-	-	-	-	-	-	-	-	-	-									
	-	-	-	-	-	-	-	-	-	-									
	-	-	-	-	-	-	-	-	-	-									
	-	-	-	-	-	-	-	-	-	-									
-	-	-	-	-	-	-	-	-	-	2	40L	EB Electronic High Frequency	50 / 60 Hz	HPF High Power Factor	TRW Temperature Resistant Wire	3/M 3 hours Maintained			
-	-	-	-	-	-	-	-	-	-	-	-	EBD Dimmable Electronic High Frequency	-	TW Through Wire					
-	-	-	-	-	-	-	-	-	-	-	-	-	-	HF High Frequency	-	-			
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			

Photometrics & Dimensions

RT 2/36W



Hygienic Opal

SERIES : TOHM/TOHI/TOHC/TOHCM



Applications	Suitable to be used in: Hygienic areas with low dust particles and germ counts, e.g. hospital, operating theaters, pharmacies, laboratories, pharmaceutical, food processing, patients rooms, etc...
Housing	Made of press welded Cold Rolled Steel "CRS" sheet of tight construction to prevent light leakage, diffuser frame made of Plain Aluminum, all metal parts pre-treated with a full degreasing and phosphate process painted in stove enameled white baked epoxy polyester mix-powder to ensure high reflectance of painted surfaces. *Other color finishes upon request*
Light Controller	Standard opal flat diffuser secured in an extruded aluminum frame finished in satin white. Louvers fixed on white aluminum frame incorporates tempered glass or polycarbonate hygienic layer, special UV resistant gasket seal ensures tight fit between body and diffuser, suspension kit supplied for easy maintenance, also for easy installation, a suspension system consisting of a special kit adjustable from inside the luminaire can be supplied on request. Hygienic layer features UV resistant, High resistant for mechanical impact and high resistant for most of the disinfectant chemicals used in operation theatre rooms, delivery rooms, etc...
Mounting	Concealed. Suitable for fix in Metric or Imperial or Concealed standard T-profile false ceiling.
Control Gear	High Power Factor "HPF" (≥ 90%) Conventional Control Gear "CCG". High Frequency Electronic Control Gear "ECG". High Frequency Dimmable Electronic Control Gear "ECG".
Voltage / Frequency	220 - 240V , 50 / 60 Hz *Other Voltages upon request*
Cable Entry	1x22 mm Ø hole on top. *Extra knock-out holes upon request*
Lamps	18, 36 & 58 watt T8/T26 Fluorescent for Normal Start "NS", Electronic Start "DEOS" or Electronic High Frequency 17& 32 watt T8 Fluorescent for Electronic High Frequency "HF" Ballast "EB". 14, 28 & 35 watt FH T5/T16 Fluorescent for Electronic High Frequency "HF" Ballast "EB". 24, 49, 54 & 80 watt FQ T5/T16 Fluorescent for Electronic High Frequency "HF" Ballast "EB". *Other lamps (T5/T16 - T8/T26 - T12/T38 - TCL - TC-DE - TC-TE upon request & fitting housing dimensions subject to changes accordingly*
Emergency Unit	3 Hours duration Emergency Unit "EMU" with battery pack Maintained "M" or Non-Maintained "NM" for one lamp, and for various lamp types and voltage networks combinations. *Additional Emergency Units to operate more than one lamp on request*

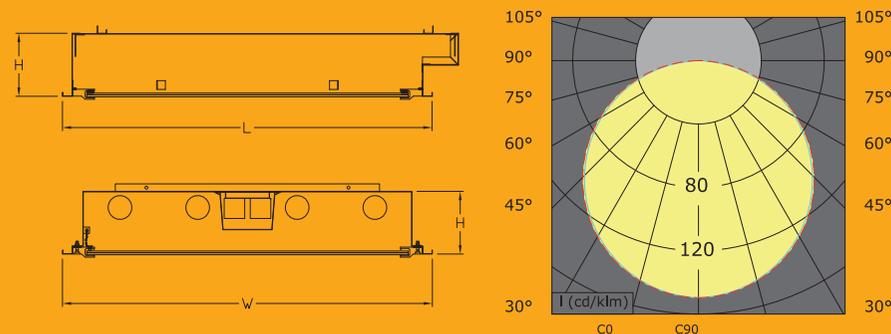
Technical Data

To Order : follow the sequence **mr+gt+ht - ln / ls - cgt - vh - cgm - emu**

Model Reference	Physical Characteristics										Housing Type	Lamp Number	Lamp Size	Control Gear Type	Voltage / Frequency	Power Factor	Optional Accessories	Emergency Unit
	Grid Type																	
	M (metric)		I (imperial)		C (concealed)		CM (concealed metric)											
	L	W	L	W	L	W	L	W	H									
mm		mm		mm		mm		mm		watt		V / Hz						
TOH	595	295	605	300	624	324	600	300			100	None (standard plastic end-caps)	1	NS Normal Start	220 - 240V	HPF High Power Factor	FTB Fused Terminal Block	3/NM 3 hours Non-Maintained
	595	295	605	300	624	324	600	300	2	14								
	595	595	605	605	624	624	600	600	3	17								
	595	595	605	605	624	624	600	600	4	18								
	1195	295	1215	300	1226	324	1200	300	1	24								
	1195	295	1215	300	1226	324	1200	300	2	28								
	1195	595	1215	605	1226	624	1200	600	3	32								
	1195	595	1215	605	1226	624	1200	600	4	36								
	1495	295	1515	300	1526	324	1500	300	1	54								
	1495	295	1515	300	1526	324	1500	300	2	35								
	1495	595	1515	605	1526	624	1500	600	3	49								
	1495	595	1515	605	1526	624	1500	600	4	58								
	595	295	605	300	624	324	600	300	1	80								
	595	295	605	300	624	324	600	300	2	36L								
	595	595	605	605	624	624	600	600	3	40L								
	595	595	605	605	624	624	600	600	4	55L								
									80L									

Photometrics & Dimensions

TOH 2/36W



Hygienic Prismatic

SERIES : TPHM/TPHI/TPHC/TPHCM



Applications	Suitable to be used in: Hygienic areas with low dust particles and germ counts, e.g. hospital, operating theaters, pharmacies, laboratories, pharmaceutical, food processing, patients rooms, etc...
Housing	Made of press welded Cold Rolled Steel "CRS" sheet of tight construction to prevent light leakage, diffuser frame made of Plain Aluminum, all metal parts pre-treated with a full degreasing and phosphate process painted in stove enameled white baked epoxy polyester mix-powder to ensure high reflectance of painted surfaces. *Other color finishes upon request
Light Controller	Standard prismatic flat diffuser secured in an extruded aluminum frame finished in satin white. Louvers fixed on white aluminum frame incorporates tempered glass or polycarbonate hygienic layer, special UV resistant gasket seal ensures tight fit between body and diffuser, suspension kit supplied for easy maintenance, also for easy installation, a suspension system consisting of a special kit adjustable from inside the luminaire can be supplied on request. Hygienic layer features UV resistant, High resistant for mechanical impact and high resistant for most of the disinfectant chemicals used in operation theatre rooms, delivery rooms, etc...
Mounting	Concealed. Suitable for fix in Metric or Imperial or Concealed standard T-profile false ceiling.
Control Gear	High Power Factor "HPF" (≥ 90%) Conventional Control Gear "CCG". High Frequency Electronic Control Gear "ECG". High Frequency Dimmable Electronic Control Gear "ECG".
Voltage / Frequency	220 - 240V , 50 / 60 Hz *Other Voltages upon request
Cable Entry	1x22 mm Ø hole on top. *Extra knock-out holes upon request
Lamps	18, 36 & 58 watt T8/T26 Fluorescent for Normal Start "NS", Electronic Start "DEOS" or Electronic High Frequency 17& 32 watt T8 Fluorescent for Electronic High Frequency "HF" Ballast "EB". 14, 28 & 35 watt FH T5/T16 Fluorescent for Electronic High Frequency "HF" Ballast "EB". 24, 49, 54 & 80 watt FQ T5/T16 Fluorescent for Electronic High Frequency "HF" Ballast "EB". *Other lamps (T5/T16 – T8/T26 – T12/T38 – TCL – TC-DE – TC-TE upon request & fitting housing dimensions subject to changes accordingly
Emergency Unit	3 Hours duration Emergency Unit "EMU" with battery pack Maintained "M" or Non-Maintained "NM" for one lamp, and for various lamp types and voltage networks combinations. *Additional Emergency Units to operate more than one lamp on request

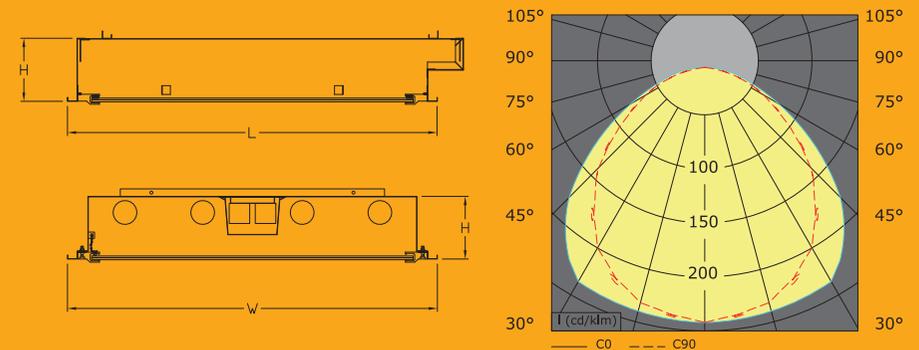
Technical Data

To Order : follow the sequence mr+gt+ht - ln / ls – cgt – vh – cgm - emu

Model Reference	Physical Characteristics										Housing Type	Lamp Number	Lamp Size	Control Gear Type	Voltage / Frequency	Power Factor	Optional Accessories	Emergency Unit									
	Grid Type																										
	M (metric)		I (imperial)		C (concealed)		CM (concealed metric)																				
	L	W	L	W	L	W	L	W	L	H																	
mm										watt		V / Hz															
TPH	595	295	605	300	624	324	600	300			None (standard plastic end-caps)	1	14	NS Normal Start	220 - 240V	HPF High Power Factor	FTB Fused Terminal Block	3/NM 3 hours Non-Maintained									
	595	295	605	300	624	324	600	300	2	17																	
	595	595	605	605	624	624	600	600	3	18																	
	595	595	605	605	624	624	600	600	4	24																	
	1195	295	1215	300	1226	324	1200	300	1	28																	
	1195	295	1215	300	1226	324	1200	300	2	32																	
	1195	595	1215	605	1226	624	1200	600	3	36																	
	1195	595	1215	605	1226	624	1200	600	4	54																	
	1495	295	1515	300	1526	324	1500	300	G (for CRS end-box)	1		35	EB Electronic High Frequency						50 / 60 Hz	HF High Frequency	TRW Temperature Resistant Wire	3/M 3 hours Maintained					
	1495	295	1515	300	1526	324	1500	300		2		49															
	1495	595	1515	605	1526	624	1500	600		3		58															
	1495	595	1515	605	1526	624	1500	600		4		80															
	595	295	605	300	624	324	600	300		CRS end-box		1											36L	EBD Dimmable Electronic High Frequency			
	595	295	605	300	624	324	600	300				2											40L				
	595	595	605	605	624	624	600	600				3											55L				
	595	595	605	605	624	624	600	600				4											80L				

Photometrics & Dimensions

TPH 2/36W



Hygienic Aluminium V-Louvers

SERIES : VAHC/VAHCM



Applications	Suitable to be used in: Hygienic areas with low dust particles and germ counts, e.g. hospital, operating theaters, pharmacies, laboratories, pharmaceutical, food processing, patients rooms, etc...
Housing	Made of press welded Cold Rolled Steel "CRS" sheet of tight construction to prevent light leakage, diffuser frame made of Plain Aluminum, all metal parts pre-treated with a full degreasing and phosphate process painted in stove enameled white baked epoxy polyester mix-powder to ensure high reflectance of painted surfaces. <i>*Other color finishes upon request*</i>
Light Controller	V shaped specular anodized aluminum mirror louvers, with stepped surface strip aluminum cross-blades. Louvers fixed on white aluminum frame incorporates tempered glass or polycarbonate hygienic layer, special UV resistant gasket seal ensures tight fit between body and diffuser, suspension kit supplied for easy maintenance, also for easy installation, a suspension system consisting of a special kit adjustable from inside the luminaire can be supplied on request. Hygienic layer features UV resistant, High resistant for mechanical impact and high resistant for most of the disinfectant chemicals used in operation theatre rooms, delivery rooms, etc...
Mounting	Concealed. Suitable for fix in Metric or Imperial or Concealed standard T-profile false ceiling.
Control Gear	High Power Factor "HPF" (≥ 90%) Conventional Control Gear "CCG". High Frequency Electronic Control Gear "ECG". High Frequency Dimmable Electronic Control Gear "ECG".
Voltage / Frequency	220 - 240V , 50 / 60 Hz <i>*Other Voltages upon request*</i>
Cable Entry	1x22 mm Ø hole on top. <i>*Extra knock-out holes upon request*</i>
Lamps	18, 36 & 58 watt T8/T26 Fluorescent for Normal Start "NS", Electronic Start "DEOS" or Electronic High Frequency 17& 32 watt T8 Fluorescent for Electronic High Frequency "HF" Ballast "EB". 14, 28 & 35 watt FH T5/T16 Fluorescent for Electronic High Frequency "HF" Ballast "EB". 24, 49, 54 & 80 watt FQ T5/T16 Fluorescent for Electronic High Frequency "HF" Ballast "EB". <i>*Other lamps (T5/T16 – T8/T26 – T12/T38 – TCL - TC-DE – TC-TE upon request & fitting housing dimensions subject to changes accordingly*</i>
Emergency Unit	3 Hours duration Emergency Unit "EMU" with battery pack Maintained "M" or Non-Maintained "NM" for one lamp, and for various lamp types and voltage networks combinations. <i>*Additional Emergency Units to operate more than one lamp on request*</i>

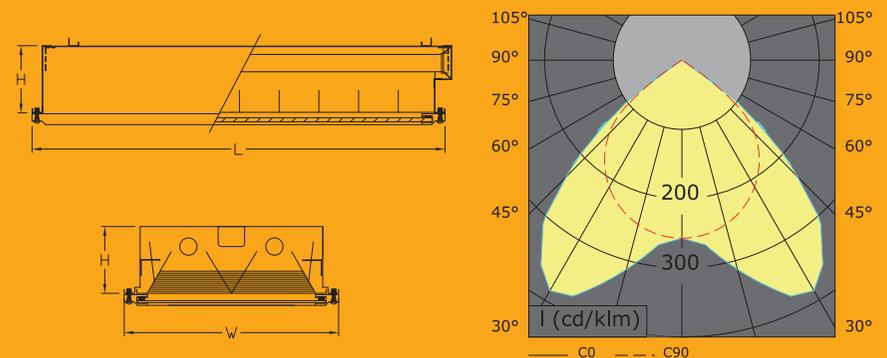
Technical Data

To Order : follow the sequence **mr+gt+ht - ln / ls – cgt – vh – cgm - emu**

Model Reference	Physical Characteristics										Housing Type	Lamp Number	Lamp Size	Control Gear Type	Voltage / Frequency	Power Factor	Optional Accessories	Emergency Unit											
	Grid Type																												
	M (metric)		I (imperial)		C (concealed)		CM (concealed metric)																						
	L	W	L	W	L	W	L	W	H																				
mm										watt										V / Hz									
VAH	-	-	-	-	624	324	600	300			None (standard plastic end-caps)	1	14	NS Normal Start	220 - 240V	HPF High Power Factor	FTB Fused Terminal Block	3/NM 3 hours Non-Maintained											
	-	-	-	-	624	324	600	300				2	17																
	-	-	-	-	624	624	600	600				3	18																
	-	-	-	-	624	624	600	600				4	24																
	-	-	-	-	1226	324	1200	300				1	28																
	-	-	-	-	1226	324	1200	300				2	32																
	-	-	-	-	1226	624	1200	600				3	36																
	-	-	-	-	1226	624	1200	600				4	54																
	-	-	-	-	1226	624	1200	600			G (for CRS end-box)	1	35	EB Electronic High Frequency	50 / 60 Hz	HF High Frequency	TW Through Wire	3/M 3 hours Maintained											
	-	-	-	-	1526	324	1500	300				2	49																
	-	-	-	-	1526	624	1500	600				3	58																
	-	-	-	-	1526	624	1500	600				4	80																
	-	-	-	-	624	324	600	300			CRS end-box	1	35	EBD Dimmable Electronic High Frequency	50 / 60 Hz	HF High Frequency	TW Through Wire	3/M 3 hours Maintained											
	-	-	-	-	624	324	600	300				2	49																
	-	-	-	-	624	624	600	600				3	58																
	-	-	-	-	624	624	600	600				4	80																

Photometrics & Dimensions

VAH 4/36W



Hygienic Plain Aluminium V-Louvers



SERIES : VSHC/VSHCM



Applications	Suitable to be used in: Hygienic areas with low dust particles and germ counts, e.g. hospital, operating theaters, pharmacies, laboratories, pharmaceutical, food processing, patients rooms, etc...
Housing	Made of press welded Cold Rolled Steel "CRS" sheet of tight construction to prevent light leakage, diffuser frame made of Plain Aluminium, all metal parts pre-treated with a full degreasing and phosphate process painted in stove enameled white baked epoxy polyester mix-powder to ensure high reflectance of painted surfaces. <i>*Other color finishes upon request*</i>
Light Controller	V shaped matt anodized aluminum louvers, with strip plain aluminum cross-baffle. Louvers fixed on white aluminum frame incorporates tempered glass or polycarbonate hygienic layer, special UV resistant gasket seal ensures tight fit between body and diffuser, suspension kit supplied for easy maintenance, also for easy installation, a suspension system consisting of a special kit adjustable from inside the luminaire can be supplied on request. Hygienic layer features UV resistant, High resistant for mechanical impact and high resistant for most of the disinfectant chemicals used in operation theatre rooms, delivery rooms, etc...
Mounting	Concealed. Suitable for fix in Metric or Imperial or Concealed standard T-profile false ceiling.
Control Gear	High Power Factor "HPF" (≥ 90%) Conventional Control Gear "CCG". High Frequency Electronic Control Gear "ECG". High Frequency Dimmable Electronic Control Gear "ECG".
Voltage / Frequency	220 - 240V , 50 / 60 Hz <i>*Other Voltages upon request*</i>
Cable Entry	1x22 mm Ø hole on top. <i>*Extra knock-out holes upon request*</i>
Lamps	18, 36 & 58 watt T8/T26 Fluorescent for Normal Start "NS", Electronic Start "DEOS" or Electronic High Frequency 17& 32 watt T8 Fluorescent for Electronic High Frequency "HF" Ballast "EB". 14, 28 & 35 watt FH T5/T16 Fluorescent for Electronic High Frequency "HF" Ballast "EB". 24, 49, 54 & 80 watt FQ T5/T16 Fluorescent for Electronic High Frequency "HF" Ballast "EB". <i>*Other lamps (T5/T16 – T8/T26 – T12/T38 – TCL – TC-DE – TC-TE upon request & fitting housing dimensions subject to changes accordingly*</i>
Emergency Unit	3 Hours duration Emergency Unit "EMU" with battery pack Maintained "M" or Non-Maintained "NM" for one lamp, and for various lamp types and voltage networks combinations. <i>*Additional Emergency Units to operate more than one lamp on request*</i>

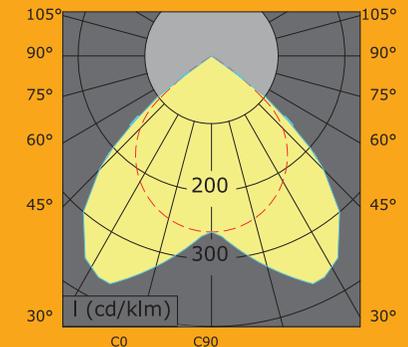
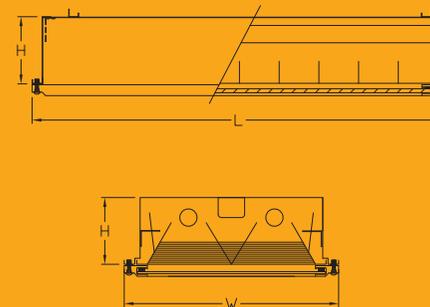
Technical Data

To Order : follow the sequence **mr+gt+ht - ln / ls - cgt - vh - cgm - emu**

Model Reference	Physical Characteristics										Housing Type	Lamp Number	Lamp Size	Control Gear Type	Voltage / Frequency	Power Factor	Optional Accessories	Emergency Unit																																									
	Grid Type																																																										
	M (metric)		I (imperial)		C (concealed)		CM (concealed metric)																																																				
	L	W	L	W	L	W	L	W	H																																																		
mm										mm										watt										V / Hz																													
VSH	-	-	-	-	624	324	600	300			None (standard plastic end-caps)	1	14	NS Normal Start	220 - 240V	HPF High Power Factor	FTB Fused Terminal Block	3/NM 3 hours Non-Maintained																																									
	-	-	-	-	624	324	600	300				2	17																																														
	-	-	-	-	624	624	600	600				3	18																																														
	-	-	-	-	624	624	600	600				4	20																																														
	-	-	-	-	624	624	600	600				4	24																																														
	-	-	-	-	1226	324	1200	300				1	28																																														
	-	-	-	-	1226	324	1200	300				2	32																																														
	-	-	-	-	1226	624	1200	600				3	36																																														
	-	-	-	-	1226	624	1200	600			4	40																																															
	-	-	-	-	1226	624	1200	600			4	54																																															
	-	-	-	-	1526	324	1500	300			G (for CRS end-box)	1	35	EB Electronic High Frequency	50 / 60 Hz	HF High Frequency	TRW Temperature Resistant Wire	3/M 3 hours Maintained																																									
	-	-	-	-	1526	324	1500	300				2	49																																														
	-	-	-	-	1526	624	1500	600				3	58																																														
	-	-	-	-	1526	624	1500	600				4	80																																														
	-	-	-	-	624	324	600	300			CRS end-box	1	35	EBD Dimmable Electronic High Frequency	50 / 60 Hz	HF High Frequency	TW Through Wire	3/M 3 hours Maintained																																									
	-	-	-	-	624	324	600	300				2	49																																														
-	-	-	-	624	624	600	600			3		58																																															
-	-	-	-	624	624	600	600			4		80																																															

Photometrics & Dimensions

VSH 2/36W



Hygienic White Steel V-Louvers

SERIES : VWHC/VWHCM



Applications	Suitable to be used in: Hygienic areas with low dust particles and germ counts, e.g. hospital, operating theaters, pharmacies, laboratories, pharmaceutical, food processing, patients rooms, etc...
Housing	Made of press welded Cold Rolled Steel "CRS" sheet of tight construction to prevent light leakage, diffuser frame made of Plain Aluminum, all metal parts pre-treated with a full degreasing and phosphate process painted in stove enameled white baked epoxy polyester mix-powder to ensure high reflectance of painted surfaces. <i>"Other color finishes upon request"</i>
Light Controller	V shaped steel sheets louvers, with strip cross-baffle all painted white. Louvers fixed on white aluminum frame incorporates tempered glass or polycarbonate hygienic layer, special UV resistant gasket seal ensures tight fit between body and diffuser, suspension kit supplied for easy maintenance, also for easy installation, a suspension system consisting of a special kit adjustable from inside the luminaire can be supplied on request. Hygienic layer features UV resistant, High resistant for mechanical impact and high resistant for most of the disinfectant chemicals used in operation : theatre rooms, delivery rooms, etc...
Mounting	Concealed. Suitable for fix in Metric or Imperial or Concealed standard T-profile false ceiling.
Control Gear	High Power Factor "HPF" (≥ 90%) Conventional Control Gear "CCG". High Frequency Electronic Control Gear "ECG". High Frequency Dimmable Electronic Control Gear "ECG".
Voltage / Frequency	220 - 240V , 50 / 60 Hz <i>"Other Voltages upon request"</i>
Cable Entry	1x22 mm Ø hole on top. <i>"Extra knock-out holes upon request"</i>
Lamps	18, 36 & 58 watt T8/T26 Fluorescent for Normal Start "NS", Electronic Start "DEOS" or Electronic High Frequency 17& 32 watt T8 Fluorescent for Electronic High Frequency "HF" Ballast "EB", 14, 28 & 35 watt FH T5/T16 Fluorescent for Electronic High Frequency "HF" Ballast "EB", 24, 49, 54 & 80 watt FQ T5/T16 Fluorescent for Electronic High Frequency "HF" Ballast "EB". <i>"Other lamps (T5/T16 – T8/T26 – T12/T38 – TCL – TC-DE – TC-TE upon request & fitting housing dimensions subject to changes accordingly"</i>
Emergency Unit	3 Hours duration Emergency Unit "EMU" with battery pack Maintained "M" or Non-Maintained "NM" for one lamp, and for various lamp types and voltage networks combinations. <i>"Additional Emergency Units to operate more than one lamp on request"</i>

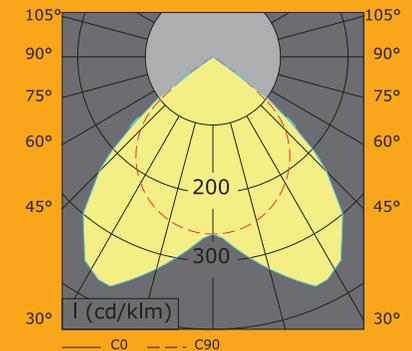
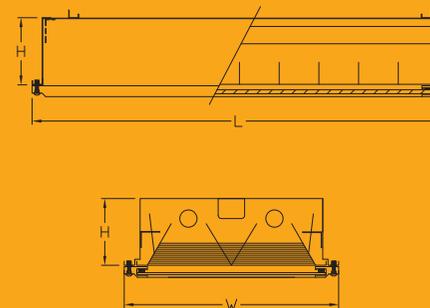
Technical Data

To Order : follow the sequence **mr+gt+ht - ln / ls – cgt – vh – cgm - emu**

Model Reference	Physical Characteristics										Housing Type	Lamp Number	Lamp Size	Control Gear Type	Voltage / Frequency	Power Factor	Optional Accessories	Emergency Unit						
	Grid Type																							
	M (metric)		I (imperial)		C (concealed)		CM (concealed metric)																	
	L	W	L	W	L	W	L	W	H															
										watt			V / Hz											
VWH	-	-	-	-	624	324	600	300			None (standard plastic end-caps)	1	14	NS Normal Start	220 - 240V	HPF High Power Factor	FTB Fused Terminal Block	3/NM 3 hours Non-Maintained						
	-	-	-	-	624	324	600	300				2	17											
	-	-	-	-	624	624	600	600				3	18											
	-	-	-	-	624	624	600	600				4	24											
	-	-	-	-	1226	324	1200	300				1	28											
	-	-	-	-	1226	324	1200	300				2	32											
	-	-	-	-	1226	624	1200	600				3	36											
	-	-	-	-	1226	624	1200	600				4	54											
	-	-	-	-	1226	624	1200	600				G (for CRS end-box)	1						50 / 60 Hz	DEOS Electronic Starter	HF High Frequency	TRW Temperature Resistant Wire	3/M 3 hours Maintained	
	-	-	-	-	1526	324	1500	300					2											35
	-	-	-	-	1526	324	1500	300					3											49
	-	-	-	-	1526	624	1500	600					4											80
	-	-	-	-	624	324	600	300				CRS end-box	1						50 / 60 Hz	EB Dimmable Electronic High Frequency	HF High Frequency	TW Through Wire	3/M 3 hours Maintained	
	-	-	-	-	624	324	600	300					2											35
	-	-	-	-	624	624	600	600					3											49
	-	-	-	-	624	624	600	600					4											80

Photometrics & Dimensions

VWH 2/36W



Panel Opal

SERIES : POC



Applications	Suitable to be used in: Toilets, washing and ablution areas and general lighting application.
Housing	Made of press welded Cold Rolled Steel "CRS" sheet of tight construction to prevent light leakage, all metal parts pre-treated with a full degreasing and phosphate process, painted in stove enameled white baked epoxy polyester mix-powder to ensure high reflectance of painted surfaces. <i>"Other color finishes upon request"</i>
Light Controller	.One piece extruded methacrylate opal diffuser
Mounting	Recessed, suitable for fix in Strip ceiling.
Control Gear	High Power Factor "HPF" (≥ 90%) Conventional Control Gear "CCG". High Frequency Electronic Control Gear "ECG". High Frequency Dimmable Electronic Control Gear "ECG".
Voltage / Frequency	220 - 240V , 50 / 60 Hz <i>"Other Voltages upon request"</i>
Cable Entry	1x22 mm Ø hole on top. <i>"Extra knock-out holes upon request"</i>
Lamps	18, 36 & 58 watt T8/T26 Fluorescent for Normal Start "NS", Electronic Start "DEOS" or Electronic High Frequency "HF" Ballast "EB". 17& 32 watt T8 Fluorescent for Electronic High Frequency "HF" Ballast "EB". 14, 28 & 35 watt FH T5/T16 Fluorescent for Electronic High Frequency "HF" Ballast "EB". 24, 49, 54 & 80 watt FQ T5/T16 Fluorescent for Electronic High Frequency "HF" Ballast "EB". <i>"Other lamps (T5/T16 – T8/T26 – T12/T38 – TCL - TC-DE – TC-TE upon request & fitting housing dimensions subject to changes accordingly"</i>
Emergency Unit	3 Hours duration Emergency Unit "EMU" with battery pack Maintained "M" or Non-Maintained "NM" for one lamp, and for various lamp types and voltage networks combinations. <i>"Additional Emergency Units to operate more than one lamp on request"</i>

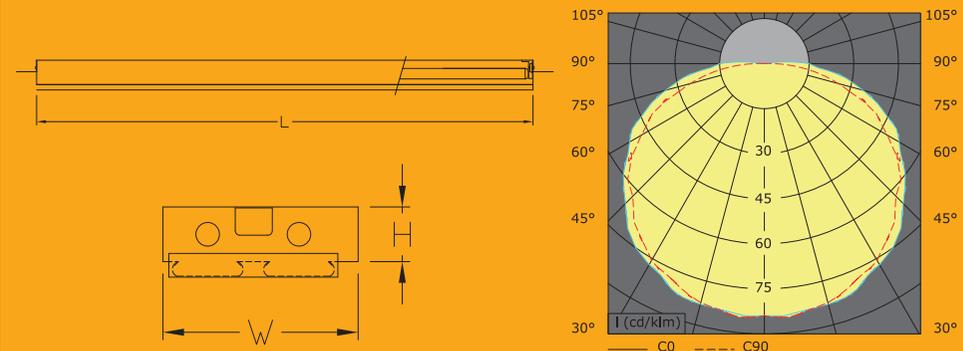
Technical Data

To Order : follow the sequence **mr - ln / ls - cgt - v/h - pf - emu**

Model Reference	Lamp Number	Lamp Size	Housing Type	Control Gear Type	Voltage / Frequency	Power Factor	Emergency Unit	Physical Characteristics		
		watt						L	W	H
								mm	mm	mm
POC	1	14	CRS end-box	NS Normal Start	220 - 240V	HPF High Power Factor	3/NM 3 hours Non-Maintained	615	115	92
		17						615	216	60
	18	1224						115	92	
	24									
	2	28						1224	216	60
		32								
	2	36		50 / 60 Hz	HF High Frequency	3/M 3 hours Maintained	1524	115	92	
		54					1524	216	60	
	1	35					615	115	92	
		49								
	2	58					1524	216	60	
		80								
1	36L	615	115	92						
	40L									
2	55L	615	216	60						

Photometrics & Dimensions

POC 1/36W



Panel Prismatic

SERIES : PPC



Applications	Suitable to be used in: Toilets, washing and ablution areas and general lighting application.
Housing	Made of press welded Cold Rolled Steel "CRS" sheet of tight construction to prevent light leakage, all metal parts pre-treated with a full degreasing and phosphate process, painted in stove enameled white baked epoxy polyester mix-powder to ensure high reflectance of painted surfaces. *Other color finishes upon request
Light Controller	One piece extruded methacrylate prismatic diffuser.
Mounting	Recessed, suitable for fix in strip ceiling.
Control Gear	High Power Factor "HPF" (≥ 90%) Conventional Control Gear "CCG". High Frequency Electronic Control Gear "ECG". High Frequency Dimmable Electronic Control Gear "ECG".
Voltage / Frequency	220 - 240V , 50 / 60 Hz *Other Voltages upon request
Cable Entry	1x22 mm Ø hole on top. *Extra knock-out holes upon request
Lamps	18, 36 & 58 watt T8/T26 Fluorescent for Normal Start "NS", Electronic Start "DEOS" or Electronic High Frequency "HF" Ballast "EB". 17& 32 watt T8 Fluorescent for Electronic High Frequency "HF" Ballast "EB". 14, 28 & 35 watt FH T5/T16 Fluorescent for Electronic High Frequency "HF" Ballast "EB". 24, 49, 54 & 80 watt FQ T5/T16 Fluorescent for Electronic High Frequency "HF" Ballast "EB". *Other lamps (T5/T16 – T8/T26 – T12/T38 – TCL - TC-DE – TC-TE upon request & fitting housing dimensions subject to changes accordingly)
Emergency Unit	3 Hours duration Emergency Unit "EMU" with battery pack Maintained "M" or Non-Maintained "NM" for one lamp, and for various lamp types and voltage networks combinations. *Additional Emergency Units to operate more than one lamp on request

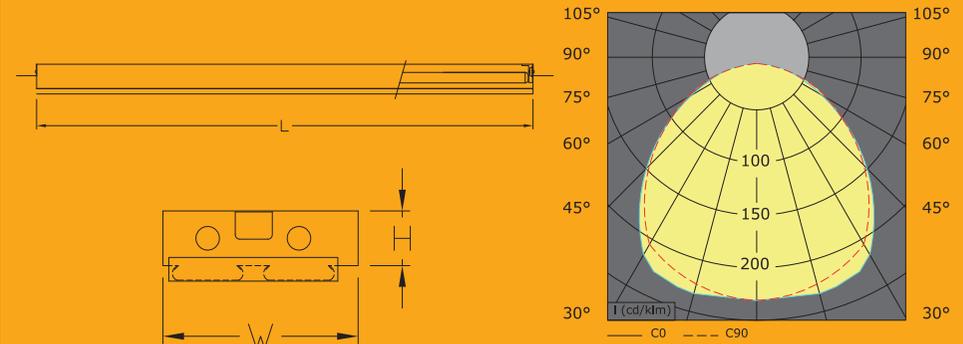
Technical Data

To Order : follow the sequence mr - ln / ls - cgt - v/h - pf - emu

Model Reference	Lamp Number	Lamp Size watt	Housing Type	Control Gear Type	Voltage / Frequency V / Hz	Power Factor	Emergency Unit	Physical Characteristics										
								L	W	H								
								mm	mm	mm								
PPC	1	14	CRS end-box	NS Normal Start	220 - 240V	HPF High Power Factor	3/NM 3 hours Non-Maintained	615	115	92								
		17						615	216	60								
	2	18						1224	115	92								
		20						1224	216	60								
	1	28						EB Electronic High Frequency	50 / 60 Hz	HF High Frequency	3/M 3 hours Maintained	1524	115	92				
		2										32	1524	216	60			
	1											36L	EBD Dimmable Electronic High Frequency	50 / 60 Hz	HF High Frequency	3/M 3 hours Maintained	615	115
		2										49					615	216
	1											58	EBD Dimmable Electronic High Frequency	50 / 60 Hz	HF High Frequency	3/M 3 hours Maintained	615	115
		2										80					615	216
1	40L		EBD Dimmable Electronic High Frequency	50 / 60 Hz	HF High Frequency	3/M 3 hours Maintained	615					115	92					
	2	55L					615					216	60					

Photometrics & Dimensions

PPC 2/18W



Panel White Dished Plate



SERIES : PWC



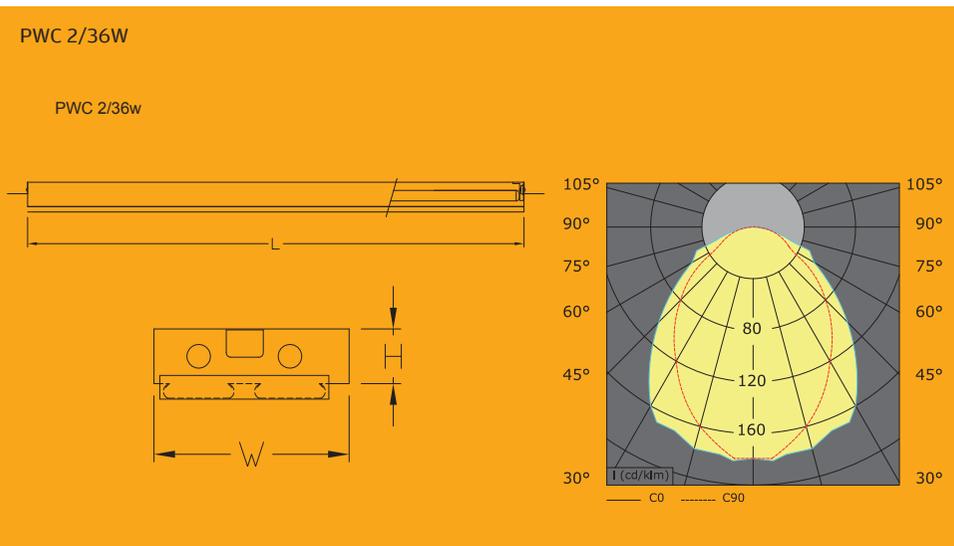
Applications	Suitable to be used in: Toilets, washing and ablution areas and general lighting application.
Housing	Made of press welded Cold Rolled Steel "CRS" sheet of tight construction to prevent light leakage, all metal parts pre-treated with a full degreasing and phosphate process, painted in stove enameled white baked epoxy polyester mix-powder to ensure high reflectance of painted surfaces. *Other color finishes upon request
Light Controller	Dished plate white finish metallic louvers.
Mounting	Recessed, suitable for fix in panel ceiling.
Control Gear	High Power Factor "HPF" (≥ 90%) Conventional Control Gear "CCG". High Frequency Electronic Control Gear "ECG". High Frequency Dimmable Electronic Control Gear "ECG".
Voltage / Frequency	220 - 240V , 50 / 60 hz *Other Voltages upon request
Cable Entry	1x22 mm Ø hole on top. *Extra knock-out holes upon request
Lamps	18, 36 & 58 watt T8/T26 Fluorescent for Normal Start "NS", Electronic Start "DEOS" or Electronic High Frequency "HF" Ballast "EB". 17& 32 watt T8 Fluorescent for Electronic High Frequency "HF" Ballast "EB". 14, 28 & 35 watt FH T5/T16 Fluorescent for Electronic High Frequency "HF" Ballast "EB". 24, 49, 54 & 80 watt FQ T5/T16 Fluorescent for Electronic High Frequency "HF" Ballast "EB". *Other lamps (T5/T16 – T8/T26 – T12/T38 – TCL - TC-DE – TC-TE upon request & fitting housing dimensions subject to changes accordingly)
Emergency Unit	3 Hours duration Emergency Unit "EMU" with battery pack Maintained "M" or Non-Maintained "NM" for one lamp, and for various lamp types and voltage networks combinations. *Additional Emergency Units to operate more than one lamp on request

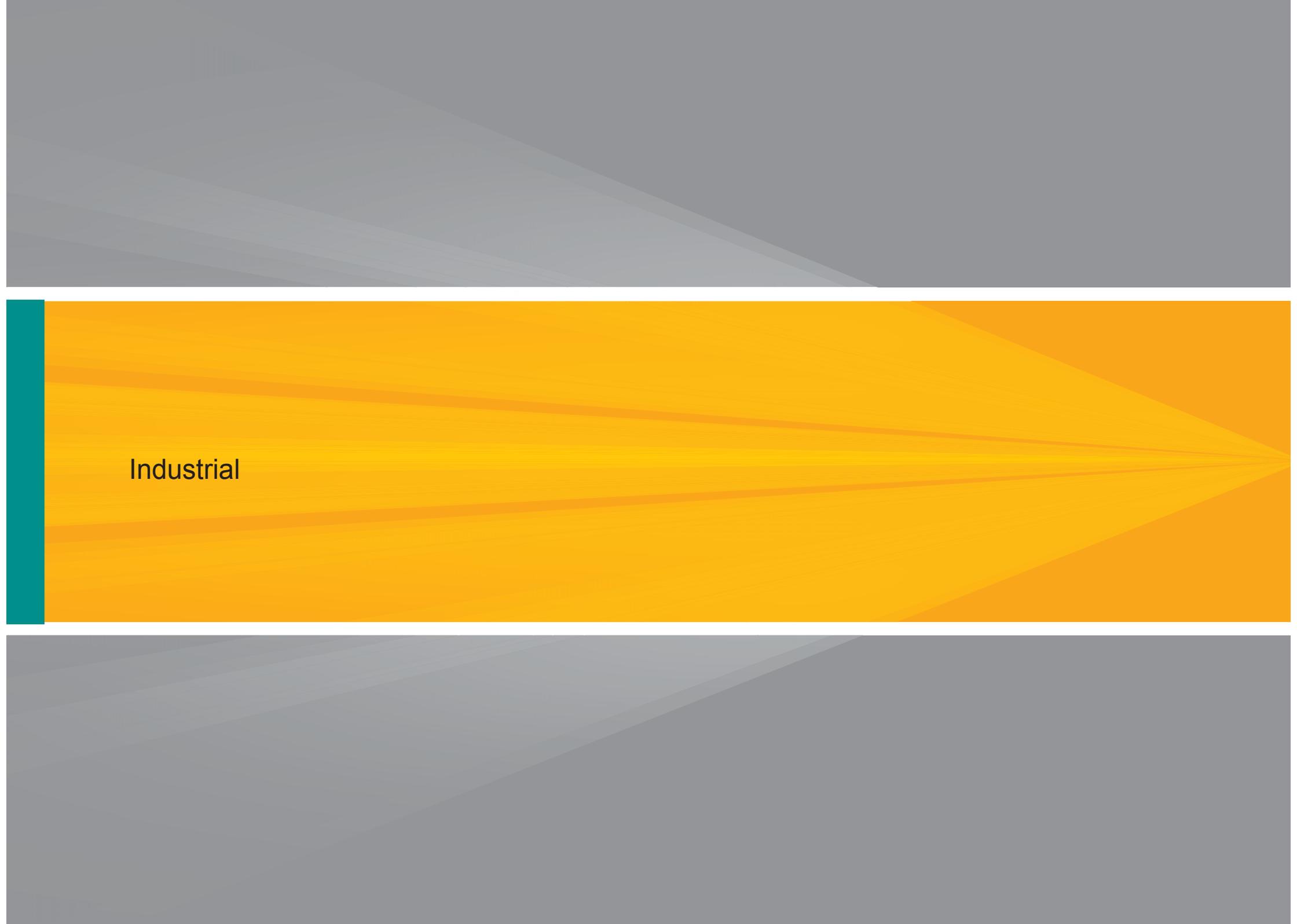
Technical Data

To Order : follow the sequence mr - ln / ls - cgt - v/h - pf - emu

Model Reference	Lamp Number	Lamp Size watt	Housing Type	Control Gear Type	Voltage / Frequency V / Hz	Power Factor	Emergency Unit	Physical Characteristics				
								L	W	H		
								mm	mm	mm		
PWC	1	14	CRS end-box	NS Normal Start	220 - 240V	HPF High Power Factor	3/NM 3 hours Non-Maintained	615	115	60		
		17						615	216	90		
	18	1224		115				60				
	24	1224		216				90				
	2	28		1524				115	60			
		32		1524				216	90			
	1	35		EB Electronic High Frequency			50 / 60 Hz	HF High Frequency	3/M 3 hours Maintained	615	115	60
		49								615	216	90
	58	1224		115				60				
	80	1224		216				90				
1	36L	EBD Dimmable Electronic High Frequency	50 / 60 Hz	HF High Frequency	3/M 3 hours Maintained	615		115		60		
	40L					615		216		90		
2	55L	1524		115		60						
	55L	1524		216		90						

Photometrics & Dimensions





Industrial

Rectangular Batten

RECTANGULAR BATTEN



SB 156-157

RECTANGULAR BATTEN REFLECTOR



SBR 158-159

WATERPROOF STRIP



SWB 160-161

Aluminium Profile

CONICAL ALUMINIUM



RAP 162-163

INDUSTRIAL HIGHBAY ALUMINIUM



QNE 164-165

INDUSTRIAL HIGHBAY ALUMINIUM



HB1 166-167

ORNAMENTAL HIGHBAY ALUMINIUM



HB100 168-169

ORNAMENTAL HIGHBAY ALUMINIUM



HBP 170-171

ORNAMENTAL LOWBAY ALUMINIUM



LB100 172-173

ORNAMENTAL LOWBAY PRISMATIC



LBP 174-175

Rectangular Batten

SERIES : SB



Applications Suitable to be used in: offices, clinics, education premises, circulation area, cove lighting & general indoor application.

Housing Made of press welded Cold Rolled Steel "CRS" sheet of tight construction to prevent light leakage, all metal parts pre-treated with a full degreasing and phosphate process, painted in stove enameled white baked epoxy polyester mix-powder to ensure high reflectance of painted surfaces.
*Other color finishes upon request

Light Controller N/A

Mounting Surface

Control Gear High Power Factor "HPF" (≥ 90%) Conventional Control Gear "CCG".
High Frequency Electronic Control Gear "ECG".
High Frequency Dimmable Electronic Control Gear "ECG".

Voltage / Frequency 220 - 240V , 50 / 60 hz
*Other Voltages upon request

Cable Entry 1x22 mm Ø hole on top.
*Extra knock-out holes upon request

Lamps 18, 36 & 58 watt T8/T26 Fluorescent for Normal Start "NS", Electronic Start "DEOS" or Electronic High Frequency "HF" Ballast "EB".
17& 32 watt T8 Fluorescent for Electronic High Frequency "HF" Ballast "EB".
14, 28 & 35 watt FH T5/T16 Fluorescent for Electronic High Frequency "HF" Ballast "EB".
24, 49, 54 & 80 watt FQ T5/T16 Fluorescent for Electronic High Frequency "HF" Ballast "EB".
*Other lamps (T5/T16 – T8/T26 – T12/T38 – TCL - TC-DE – TC-TE upon request & fitting housing dimensions subject to changes accordingly

Emergency Unit 3 Hours duration Emergency Unit "EMU" with battery pack Maintained "M" or Non-Maintained "NM" for one lamp, and for various lamp types and voltage networks combinations.
*Additional Emergency Units to operate more than one lamp on request

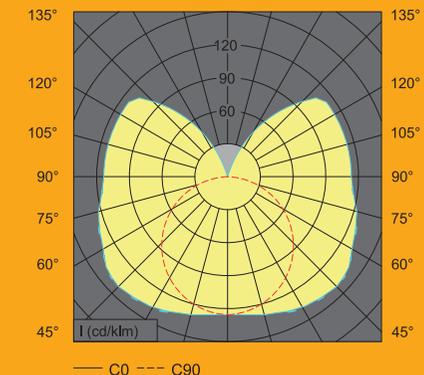
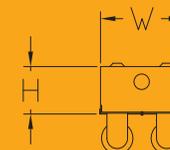
Technical Data

To Order : follow the sequence mr - ln / ls - cgt - v/h - pf - acc - emu

Model Reference	Lamp Number	Lamp Size watt	Control Gear Type	Voltage / Frequency V / Hz	Power Factor	Optional Accessories	Emergency Unit	Physical Characteristics														
								L	W	H												
SB	1	14	NS Normal Start	220 - 240V	HPF High Power Factor	FTB Fused Terminal Block	3/NM 3 hours Non-Maintained	575	46	40												
	2	14						575	78	40												
	1	18						622	75	57												
	2	18						622	305	57												
	4	18	622					210	57													
	1	24	DEOS Electronic Starter					50 / 60 Hz	HF High Frequency	TRW Temperature Resistant Wire	3/M 3 hours Maintained	575	46	40								
	2	24										575	78	40								
	1	28	EB Electronic High Frequency									50 / 60 Hz	HF High Frequency	TW Through Wire	3/M 3 hours Maintained	1175	46	40				
	2	28		1175	78	40																
	1	36	EBD Dimmable Electronic High Frequency	50 / 60 Hz	HF High Frequency	TW Through Wire	3/M 3 hours Maintained									1233	75	57				
	2	36														1233	101	57				
	3	36	EBD Dimmable Electronic High Frequency													50 / 60 Hz	HF High Frequency	TW Through Wire	3/M 3 hours Maintained	1233	140	57
	4	36																		1233	210	57
	1	58	EBD Dimmable Electronic High Frequency					50 / 60 Hz	HF High Frequency	TW Through Wire	3/M 3 hours Maintained									1533	75	57
	2	58																		1533	101	57
	1	54	EBD Dimmable Electronic High Frequency									50 / 60 Hz	HF High Frequency	TW Through Wire	3/M 3 hours Maintained					1175	46	40
2	54	1175																		78	40	

Photometrics & Dimensions

SB 2/36W



Rectangular Batten Reflector

SERIES : SBR



Applications	Suitable to be used in: offices, clinics, education premises, circulation area, general indoor application.
Housing	Made of press welded Cold Rolled Steel "CRS" sheet of tight construction to prevent light leakage, all metal parts pre-treated with a full degreasing and phosphate process, painted in stove enameled white baked epoxy polyester mix-powder to ensure high reflectance of painted surfaces. <i>"Other color finishes upon request"</i>
Light Controller	CRS Painted in white
Mounting	Surface
Control Gear	High Power Factor "HPF" (≥ 90%) Conventional Control Gear "CCG". High Frequency Electronic Control Gear "ECG". High Frequency Dimmable Electronic Control Gear "ECG".
Voltage / Frequency	220 - 240V , 50 / 60 hz <i>"Other Voltages upon request"</i>
Cable Entry	1x22 mm Ø hole on top. <i>"Extra knock-out holes upon request"</i>
Lamps	18, 36 & 58 watt T8/T26 Fluorescent for Normal Start "NS", Electronic Start "DEOS" or Electronic High Frequency "HF" Ballast "EB". 17& 32 watt T8 Fluorescent for Electronic High Frequency "HF" Ballast "EB". 14, 28 & 35 watt FH T5/T16 Fluorescent for Electronic High Frequency "HF" Ballast "EB". 24, 49, 54 & 80 watt FQ T5/T16 Fluorescent for Electronic High Frequency "HF" Ballast "EB". <i>"Other lamps (T5/T16 – T8/T26 – T12/T38 – TCL - TC-DE – TC-TE upon request & fitting housing dimensions subject to changes accordingly"</i>
Emergency Unit	3 Hours duration Emergency Unit "EMU" with battery pack Maintained "M" or Non-Maintained "NM" for one lamp, and for various lamp types and voltage networks combinations. <i>"Additional Emergency Units to operate more than one lamp on request"</i>

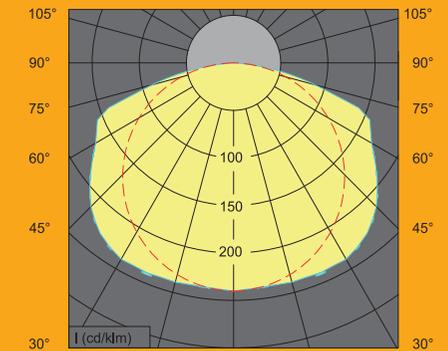
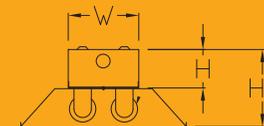
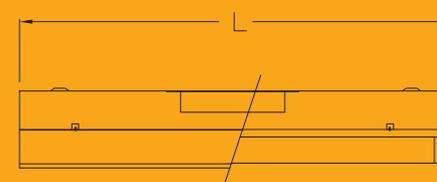
Technical Data

To Order : follow the sequence mr - ln / ls - cgt - v/h - pf - acc - emu

Model Reference	Lamp Number	Lamp Size watt	Control Gear Type	Voltage / Frequency V / Hz	Power Factor	Optional Accessories	Emergency Unit	Physical Characteristics			
								L	W	H	H1
								mm	mm	mm	mm
SBR	1	14	NS Normal Start	220 - 240V 50 / 60 Hz	HPF High Power Factor HF High Frequency	FTB Fused Terminal Block TRW Temperature Resistant Wire TW Through Wire	3/NM 3 hours Non-Maintained	575	46	40	95
	2	14						575	78	40	95
	1	18						622	75	57	112
	2	18						622	305	57	112
	4	18	622					210	57	112	
	1	24	575					46	40	95	
	2	24	575				78	40	95		
	1	28	1175				46	40	95		
	2	28	1175				78	40	95		
	1	36	1233				75	57	112		
	2	36	1233				101	57	112		
	3	36	1233				140	57	112		
	4	36	1233				210	57	112		
	1	58	1533				75	57	112		
	2	58	1533				101	57	112		
	1	54	1175				46	40	95		
	2	54	1175				78	40	95		

Photometrics & Dimensions

SBR 2/36W



— C0 - - - C90

Weatherproof Strip



SERIES : SWB



Applications	Suitable to be used in: offices, clinics, education premises, circulation area, warehouses & general indoor and outdoor application.
Housing	Made of grey fiberglass reinforced polyester resin. Body with sealed grommet at each end. Cover-plate supporting the electrical equipment and held by self retaining nuts. Sealing gasket made of durable high density polyurethane poured on the body. Turret lamp holder with sealing screw grip collars.
Light Controller	"Optional protection tube (40mm) made of polycarbonate"
Mounting	Surface
Control Gear	High Power Factor "HPF" (≥ 90%) Conventional Control Gear "CCG". High Frequency Electronic Control Gear "ECG". High Frequency Dimmable Electronic Control Gear "ECG".
Voltage / Frequency	220 - 240V , 50 / 60 hz "Other Voltages upon request"
Cable Entry	Two holes at each side.
Lamps	18, 36 & 58 watt T8/T26 Fluorescent for Normal Start "NS", Electronic Start "DEOS" or Electronic High Frequency "HF" Ballast "EB".

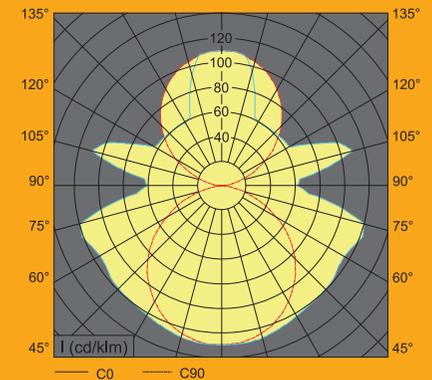
Technical Data

To Order : follow the sequence mr - ln / ls - cgt - v/h - pf - acc - emu

Model Reference	Lamp Number	Lamp Size watt	Control Gear Type	Voltage Frequency V / Hz	Power Factor	Optional Accessories	Emergency Unit	Physical Characteristics		
								L	W	H
								mm	mm	mm
SWB	1	17	NS Normal Start	220 - 240V	HPF High Power Factor		---	645	65	135
	2	18	DEOS Electronic Starter					645	155	135
	1	32	EB Electronic High Frequency	50 / 60 Hz	HF High Frequency			1255	65	135
	2	36	EBD Dimmable Electronic High Frequency					1255	155	135
	1	58	EBD Dimmable Electronic High Frequency	50 / 60 Hz	HF High Frequency			1555	65	135
	2							1555	155	135

Photometrics & Dimensions

SWB 2/36W



Conical Aluminium

SERIES : RAP



Applications	Suitable to be used in: offices, clinics, education premises, circulation area & general indoor application.
Housing	Made of anodized aluminum in natural finish. Aluminum end-plates and steel gear tray treated with a full degreasing and phosphating process and finish in white stove backing enamel ensuring high reflectance of painted surfaces. "Other color finishes upon request" " WG " can be supplied with Wire Guard upon request
Light Controller	" G " one piece clear or obscured toughened tempered glass vandal proof. " L " one piece clear or opal lexan sheet. Diffuser is inserted into the body by mean of two lateral grooves and secured by two aluminum end-plates. Specular aluminum reflector
Mounting	Surface on wall or ceiling, or with adjustable aluminum or galvanized bracket
Control Gear	High Power Factor "HPF" (≥ 90%) Conventional Control Gear "CCG". High Frequency Electronic Control Gear "ECG". High Frequency Dimmable Electronic Control Gear "ECG".
Voltage / Frequency	220 - 240V , 50 / 60 hz "Other Voltages upon request"
Cable Entry	1x22 mm Ø hole on top. "Extra knock-out holes upon request"
Lamps	18, 36 & 58 watt T8/T26 Fluorescent for Normal Start "NS", Electronic Start "DEOS" or Electronic High Frequency "HF" Ballast "EB". 17& 32 watt T8 Fluorescent for Electronic High Frequency "HF" Ballast "EB". 14, 28 & 35 watt FH T5/T16 Fluorescent for Electronic High Frequency "HF" Ballast "EB". 24, 49, 54 & 80 watt FQ T5/T16 Fluorescent for Electronic High Frequency "HF" Ballast "EB". "Other lamps (T5/T16 – T8/T26 – T12/T38 – TCL - TC-DE – TC-TE) upon request & fitting housing dimensions subject to changes accordingly"
Emergency Unit	3 Hours duration Emergency Unit "EMU" with battery pack Maintained "M" or Non-Maintained "NM" for one lamp, and for various lamp types and voltage networks combinations. "Additional Emergency Units to operate more than one lamp on request"

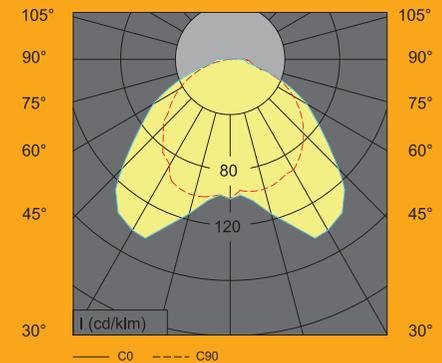
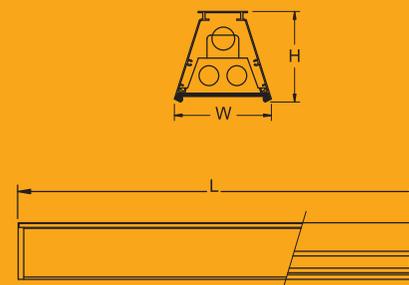
Technical Data

To Order : follow the sequence mr - ln / ls - cgt - v/h - pf - acc - emu

Model Reference	Lamp Number	Lamp Size	Control Gear Type	Voltage / Frequency	Power Factor	Optional Accessories	Emergency Unit	Physical Characteristics			
								L	W	H	
								mm	mm	mm	
RAP	1	14	NS Normal Start	220 - 240V	HPF High Power Factor	FTB Fused Terminal Block	3/NM 3 hours Non-Maintained	628	133	121	
		17						628	133	121	
	18	1238	133					121			
	24	1238	133					121			
	2	28	DEOS Electronic Starter					3 hours Maintained	1538	133	121
		32							1538	133	121
	1	36	EB Electronic High Frequency				3/M 3 hours Maintained	183	133	121	
		54						224	133	121	
	2	58	EBD Dimmable Electronic High Frequency								
		18D									
1	26D										

Photometrics & Dimensions

RAP 2/36W



Industrial Highbay Aluminium



SERIES : QNE



Applications	Suitable to be used in: Gyms, sport centers, commercial premises, warehouses and stores, etc...
Housing	Made of press welded Cold Rolled Steel "CRS" sheet of tight construction all metal parts pre-treated with a full degreasing and phosphating process, painted in stove enameled white baked epoxy polyester mix-powder. Screw type ceramic lamp holder *Other color finishes upon request*
Light Controller	Reflector is made of high purity aluminum anodized matt silver. Tempered safety glass for high protection degree is available on request, The glass is tenable to the reflector with UV balanced silicon gasket by means of stainless steel ring and fixing screw. " / CG " Clear tempered glass " / FG " Frosted tempered glass
Mounting	Surface / Pendant.
Control Gear	High Power Factor "HPF" (≥ 90%) Conventional Control Gear "CCG".
Voltage / Frequency	220 - 240V , 50 / 60 Hz *Other Voltages upon request*
Cable Entry	1x22 mm Ø hole on top.
Lamps	125w, 175w, 250w , 400w High Pressure Mercury HME (MBF) Mercury-Tungsten blended self ballasted (no control gear required) 150w, 175w, 250w, 400w Metal Halide HIE/HIT (Edison Base) 150w, 250w, 400w High Pressure Sodium HSE/HST (Edison Base) *Other HID lamps upon request*

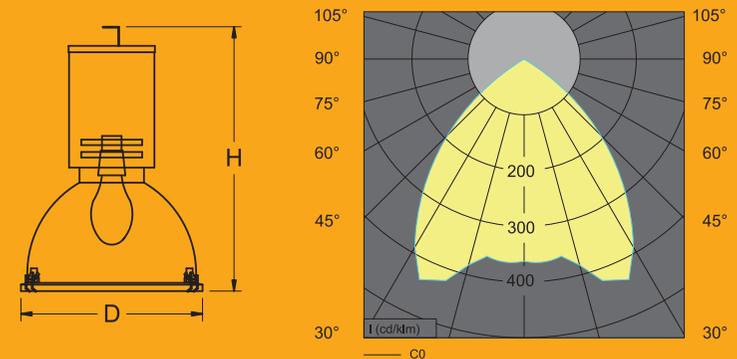
Technical Data

To order : follow the sequence mr - ln - ls - lt - lsr - v/h - pf - acc - emu

Model Reference	Lamp Number	Lamp Size watt	Lamp Type	Lamp Screw Reference	Control Gear Type	Voltage / Frequency V / Hz	Power Factor	Optional Accessories	Emergency Unit	Physical Characteristics							
										D	W	H					
										mm	mm	mm					
QNE	1	50	HME (high pressure mercury) (elliptic)	E27	Conventional Control Gear constructed of - choke ballast for (mercury vapor)	220 - 240V	LPF Low Power Factor	ASL Auxiliary Startup Lamp (max 230w) (B15d / E27)	- remote -	3/NM 50w 12v GY6,35 3 hours Non-Maintained	420	--	584				
		70	HIE (metal halide) (elliptic)								E40	- choke ballast + igniter for (metal halide) & (sodium vapor)	50 / 60 Hz	HPF High Power Factor	400	--	579
		80	HIE (metal halide) (elliptic)														
		100	HIT (Metal halide) (tubular)														
125	HIT (Metal halide) (tubular)																
QNEG	1	150	HSE (high pressure sodium) (elliptic)	E40	- choke ballast + igniter for (metal halide) & (sodium vapor)	50 / 60 Hz	HPF High Power Factor	ASL Auxiliary Startup Lamp (max 230w) (B15d / E27)	- remote -	3/NM 50w 12v GY6,35 3 hours Non-Maintained	400	--	579				
		175	HSE (high pressure sodium) (elliptic)														
		250	HST (high pressure sodium) (tubular)														
		400	HST (high pressure sodium) (tubular)														

Photometrics & Dimensions

QNE 400W HIE



Industrial Highbay Prismatic

SERIES : QNEP



Applications	Suitable to be used in: Gyms, sport centers, commercial premises, warehouses and stores, etc...
Housing	Made of press welded Cold Rolled Steel "CRS" sheet of tight construction all metal parts pre-treated with a full degreasing and phosphating process, painted in stove enameled white baked epoxy polyester mix-powder. Screw type ceramic lamp holder "Other color finishes upon request"
Light Controller	Reflector is made of UV stabilized prismatic polycarbonate. Protection prismatic polycarbonate cover available on request.
Mounting	Surface / Pendant.
Control Gear	High Power Factor "HPF" (≥ 90%) Conventional Control Gear "CCG".
Voltage / Frequency	220v - 240v, 50 / 60Hz. "Other Voltages upon request"
Cable Entry	1x22 mm Ø hole on top.
Lamps	125w, 175w, 250w 160w, 250w Mercury-Tungsten blended self ballasted (no control gear required) 150w, 175w, 250w 150w, 250w "Other HID lamps upon request"

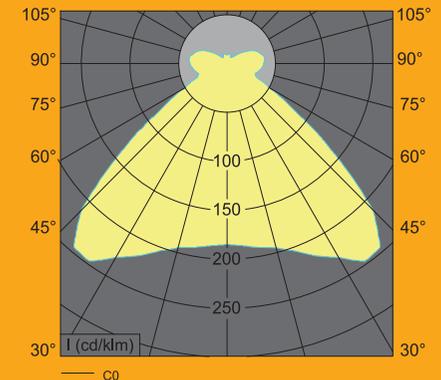
Technical Data

To order : follow the sequence mr - ln / ls - lt - lsr - v/h - pf - acc - emu

Model Reference	Lamp Number	Lamp Size watt	Lamp Type	Lamp Screw Reference	Control Gear Type	Voltage / Frequency V / Hz	Power Factor	Accessories	Emergency Unit	Physical Characteristics		
										D mm	W mm	H mm
QNEP	1	50	HME (high pressure mercury) (elliptic)	E27	Conventional Control Gear	220 - 240V 50 / 60Hz	HPF High Power Factor	-	-	410	-	584
		70	HIE (metal halide) (elliptic)		constructed of							
		80			- choke ballast for (mercury vapor)							
		100	HIT (Metal halide) (tubular)	E40	- choke ballast + igniter for (metal halide) & (sodium vapor)							
		125	HSE (high pressure sodium) (elliptic)									
		150	HST (high pressure sodium) (tubular)									
		175										
250												

Photometrics & Dimensions

QNEP 250W HSE



Industrial Highbay Aluminium

SERIES : HB1



Applications	Suitable to be used in: Gyms, sport centers, commercial premises, warehouses and stores, etc...
Housing	Made of die-cast aluminum –appliance body- with cooling fins on top-cover, Painted black "Other color finishes upon request"
Light Controller	Shaped reflector in 99.8% s aluminum oxidized, anode process polished for high light output. Tempered safety glass heat resistant and shock-proof for high protection. The glass is tenable to the reflector with UV balanced silicon gasket by means of securing nickel coated steel ring with locking latch .
Mounting	Surface / Pendant.
Control Gear	High Power Factor "HPF" (≥ 90%) Conventional Control Gear "CCG".
Voltage / Frequency	220v - 240v, 50 / 60Hz. "Other Voltages upon request"
Cable Entry	1x22 mm Ø hole on top.
Lamps	125w, 175w, 250w , 400w High Pressure Mercury HME (MBF) 160w, 250w, 500w High Pressure Mercury HME (MBF) Mercury-Tungsten blended self ballasted (no control gear required) 150w, 175w, 250w, 400w Metal Halide HIE/HIT (Edison Base) 150w, 250w, 400w High Pressure Sodium HSE/HST (Edison Base) "Other HID lamps upon request"

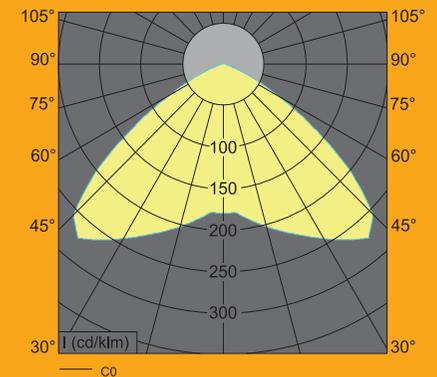
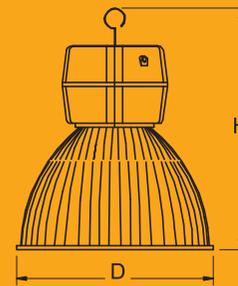
Technical Data

To order : follow the sequence mr - ln / ls - lt - lsr - v/h - pf – acc - emu

Model Reference	Lamp Number	Lamp Size watt	Lamp Type	Lamp Screw Reference	Control Gear Type	Voltage Frequency V / Hz	Power Factor	Accessories	Emergency Unit	Physical Characteristics		
										D mm	W mm	H mm
HB1	1	50	HME (high pressure mercury) (elliptic)	E27	Conventional Control Gear	220 - 240V 50 / 60Hz	LPF Low Power Factor	ASL Auxiliary Startup Lamp (max 230w) (B15d / E27)	- remote - 3/NM 50w 12v GY6,35 3 hours Non-Maintained	490	--	510
		70	HIE (metal halide) (elliptic)		- choke ballast for (mercury vapor)							
		80	HIE (metal halide) (elliptic)		- choke ballast + igniter for (metal halide) & (sodium vapor)							
		100	HIT (Metal halide) (tubular)									
		125	HIT (Metal halide) (tubular)									
		150	HIT (Metal halide) (tubular)									
175	HSE (high pressure sodium) (elliptic)	E40										
250	HSE (high pressure sodium) (elliptic)											
		400	HST (high pressure sodium) (tubular)									

Photometrics & Dimensions

HB1 400W HIE



Ornamental Highbay Aluminium

SERIES : HB100



W/O Cover



Applications	Suitable to be used in: Gyms, sport centers, commercial premises, warehouses and stores, etc...
Housing	Made of die-cast aluminum –appliance body- with cooling fins on top-cover, Painted Grey "Other color finishes upon request"
Light Controller	Shaped reflector in 99.8% s aluminum oxidized, anode process polished for high light output. Tempered safety glass for high protection degree is available on request, The glass is tenable to the reflector with UV balanced silicon gasket by means of stainless steel ring and fixing screw. " / CG " Clear tempered glass " / FG " Frosted tempered glass
Mounting	Surface / Pendant.
Control Gear	High Power Factor "HPF" (≥ 90%) Conventional Control Gear "CCG".
Voltage / Frequency	220v - 240v, 50 / 60Hz. "Other Voltages upon request"
Cable Entry	1x22 mm Ø hole on top.
Lamps	125w, 175w, 250w , 400w High Pressure Mercury HME (MBF) 160w, 250w, 500w High Pressure Mercury HME (MBF) Mercury-Tungsten blended self ballasted (no control gear required) 150w, 175w, 250w, 400w Metal Halide HIE/HIT (Edison Base) 150w, 250w, 400w High Pressure Sodium HSE/HST (Edison Base) "Other HID lamps upon request"

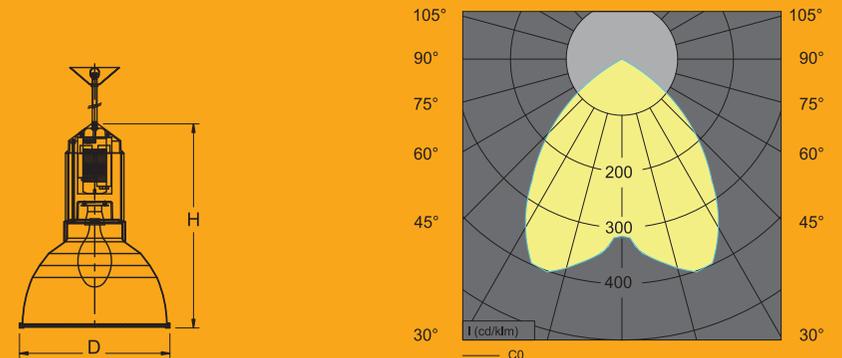
Technical Data

To order : follow the sequence mr - ln / ls - lt - lsr - v/h - pf – acc - emu

Model Reference	Lamp Number	Lamp Size watt	Lamp Type	Lamp Screw Reference	Control Gear Type	Voltage Frequency V / Hz	Power Factor	Accessories	Emergency Unit	Physical Characteristics		
										D	W	H
										mm	mm	mm
HB100	1	50	HME (high pressure mercury) (elliptic)	E27	Conventional Control Gear	220 - 240V 50 / 60Hz	HPF High Power Factor	ASL Auxiliary Startup Lamp (max 230w) (B15d / E27)	- remote - 3/NM 50w 12v GY6,35 3 hours Non-Maintained	413	--	665
		70			constructed of							
		80	HIE (metal halide) (elliptic)		- choke ballast for (mercury vapor)							
		100										
HB100G	1	125	HIT (Metal halide) (tubular)	E40	- choke ballast + igniter for (metal halide) & (sodium vapor)	220 - 240V 50 / 60Hz	HPF High Power Factor	ASL Auxiliary Startup Lamp (max 230w) (B15d / E27)	- remote - 3/NM 50w 12v GY6,35 3 hours Non-Maintained	420	--	665
		150										
		175	HSE (high pressure sodium) (elliptic)									
		250										
		400	HST (high pressure sodium) (tubular)									

Photometrics & Dimensions

HB100 400W HIE



Ornamental Highbay Prismatic

SERIES : HB100P



Applications	Suitable to be used in: Gyms, sport centers, commercial premises, warehouses and stores, etc...
Housing	Made of die-cast aluminum –appliance body- with cooling fins on top-cover, Painted grey "Other color finishes upon request"
Light Controller	Reflector is made of UV stabilized prismatic polycarbonate. Protection prismatic polycarbonate cover available on request.
Mounting	Surface / Pendant.
Control Gear	High Power Factor "HPF" (≥ 90%) Control Gear.
Voltage / Frequency	220v - 240v, 50 / 60Hz. "Other Voltages upon request"
Cable Entry	1x22 mm Ø hole on top.
Lamps	125w, 175w, 250w 160w, 250w Mercury-Tungsten blended self ballasted (no control gear required) 150w, 175w, 250w 150w, 250w "Other HID lamps upon request"

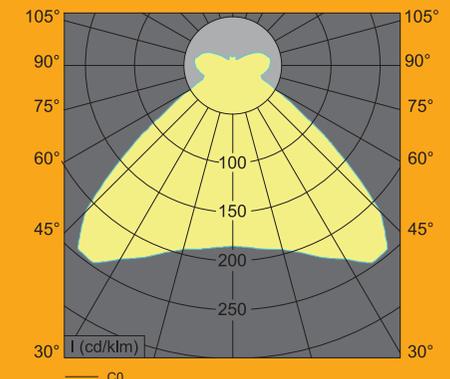
Technical Data

to order : follow the sequence mr - ln / ls - lt - lsr - v/h - pf – acc - emu

Model Reference	Lamp Number	Lamp Size watt	Lamp Type	Lamp Screw Reference	Control Gear Type	Voltage / Frequency V / Hz	Power Factor	Accessories	Emergency Unit	Physical Characteristics		
										D mm	W mm	H mm
HB100P	1	50	HME (high pressure mercury) (elliptic)	E27	Conventional Control Gear	220 - 240V 50 / 60Hz	HPF High Power Factor	-	-	410	-	675
		70			constructed of							
		80	HIE (metal halide) (elliptic)		- choke ballast for (mercury vapor)							
		100										
		125	HIT (Metal halide) (tubular)									
		150		- choke ballast + igniter for (metal halide) & (sodium vapor)								
175	HSE (high pressure sodium) (elliptic)											
250	HST (high pressure sodium) (tubular)	E40										

Photometrics & Dimensions

HB100P 400W HIE



Ornamental Lowbay Aluminium

SERIES : LB100



Applications	Suitable to be used in: Gyms, sport centers, commercial premises, warehouses and stores, etc...
Housing	Made of die-cast aluminum –appliance body- with cooling fins on top-cover, Painted grey "Other color finishes upon request"
Light Controller	Shaped reflector in 99.8% s aluminum oxidized, anode process polished for high light output. Tempered safety glass for high protection degree is available on request, The glass is tenable to the reflector with UV balanced silicon gasket by means of stainless steel ring and fixing screw. " / CG " Clear tempered glass " / FG " Frosted tempered glass
Mounting	Surface / Pendant.
Control Gear	High Power Factor "HPF" (≥ 90%) Control Gear .
Voltage / Frequency	220v - 240v, 50 / 60Hz. "Other Voltages upon request"
Cable Entry	1x22 mm Ø hole on top.
Lamps	26w TC-D – TC-DE, 32w, 42w TC-TE Compact Fluorescent 80w, 125w High Pressure Mercury HME (MBF) 70w, 150w Metal Halide HIE/HIT (Edison Base) 50w, 70w, 150w Pressure Sodium HSE/HST (Edison Base)

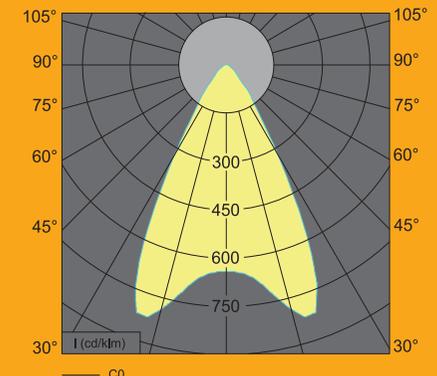
Technical Data

To order : follow the sequence mr - ln / ls - lt - lsr - v/h - pf - acc - emu

Model Reference	Lamp Number	Lamp Size watt	Lamp Type	Lamp Screw Reference	Control Gear Type	Voltage / Frequency V / Hz	Power Factor	Accessories	Emergency Unit	Physical Characteristics		
										D	W	H
										mm	mm	mm
LB100	1	26D/T	CFL (compact fluorescent)	G24d-3	EB Electronic High Frequency	220 - 240V 50 / 60Hz	HPF High Power Factor	-	- remote - 3/NM 3 hours Non- Maintained	350	-	480
		32T	HME (high pressure mercury) (elliptic)	G24q-3	EBD Dimmable Electronic High Frequency							
		42T	HIE (metal halide) (elliptic)	GX24q-3								
		57T	HIE (metal halide) (elliptic)	GX24q-4								
		70T	HIT (Metal halide) (tubular)	GX24q-5	Conventional Control Gear constructed of: - choke ballast for (mercury vapor) - choke ballast + igniter for (metal halide) & (sodium vapor)							
		70	HIT (Metal halide) (tubular)	GX24q-6								
		100	HSE (high pressure sodium) (elliptic)	E27								
		125	HSE (high pressure sodium) (elliptic)	E27								
150	HST (high pressure sodium) (tubular)	E27										

Photometrics & Dimensions

LB100 150W HIT



Ornamental Lowbay Prismatic

SERIES : LBP



Applications	Suitable to be used in: Gyms, sport centers, commercial premises, warehouses and stores, etc...
Housing	Made of die-cast aluminum –appliance body- with cooling fins on top-cover, Painted grey "Other color finishes upon request"
Light Controller	Reflector is made of UV stabilized prismatic polycarbonate. Protection prismatic polycarbonate cover available on request.
Mounting	Surface / Pendant.
Control Gear	High Power Factor "HPF" (≥ 90%) Control Gear .
Voltage / Frequency	220v - 240v, 50 / 60Hz. "Other Voltages upon request"
Cable Entry	1x22 mm Ø hole on top.
Lamps	26w TC-D – TC-DE, 32w, 42w TC-TE Compact Fluorescent 80w, 125w High Pressure Mercury HME (MBF) 70w, 150w Metal Halide HIE/HIT (Edison Base) 50w, 70w, 150w Pressure Sodium HSE/HST (Edison Base)

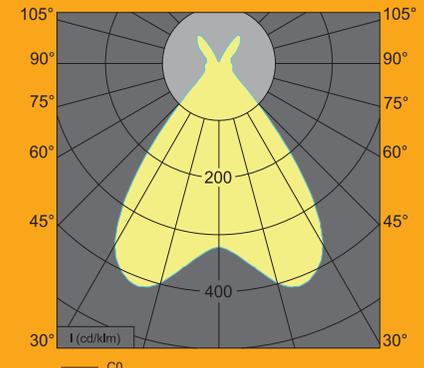
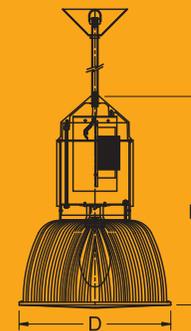
Technical Data

To order : follow the sequence mr - ln / ls - lt - lsr - v/h - pf – acc - emu

Model Reference	Lamp Number	Lamp Size watt	Lamp Type	Lamp Screw Reference	Control Gear Type	Voltage / Frequency V / Hz	Power Factor	Accessories	Emergency Unit	Physical Characteristics		
										D	W	H
										mm	mm	mm
LBP	1	26D/T	CFL (compact fluorescent)	G24d-3	EB Electronic High Frequency	220 - 240V 50 / 60Hz	HPF High Power Factor	-	- remote - 3/NM 3 hours Non- Maintained	320	-	450
		32T	HME (high pressure mercury) (elliptic)	G24q-3	EBD Dimmable Electronic High Frequency							
		42T	HIE (metal halide) (elliptic)	GX24q-3								
		57T	HIT (Metal halide) (tubular)	GX24q-4								
		70T	HIT (Metal halide) (tubular)	GX24q-5	Conventional Control Gear constructed of: - choke ballast for (mercury vapor) + igniter for (metal halide) & (sodium vapor)							
		70	HIT (Metal halide) (tubular)	GX24q-6								
		80	HSE (high pressure sodium) (elliptic)	E27								
		100	HST (high pressure sodium) (tubular)									
125												
150												

Photometrics & Dimensions

LBP 2/42W TC-TE





Hazard Location Luminaires

Moisture Proof

SQUARE LUMINAIRE



SQL 223-222

SQUARE PRISMATIC



SQP 225-224

WEATHERPROOF OPAL



WPO 227-226

WEATHERPROOF PRISMATIC



WPP 229-228

CIRCULAR LUMINAIRE
OPAL



CLO 231-230

WEATHERPROOF
FITTING (ACRYLIC +
POLYESTER)



WPZM 233-232

MOISTUREPROOF
EXTRA PROTECTION
(PC+PC)



WPLN 237-236

Square Luminaire

SERIES : SQL



Applications	Suitable to be used in: corridors, circulation area & general indoor and outdoor application.
Housing	Molded polycarbonate base suitable for energy savings compact lamps.
Light Controller	Molded opal polycarbonate, with self-tight locking between base and diffuser making it dust and water protected type
Mounting	Surface.
Control Gear	High Power Factor "HPF" (≥ 90%) Conventional Control Gear "CCG". High Frequency Electronic Control Gear "ECG". High Frequency Dimmable Electronic Control Gear "ECG".
Voltage / Frequency	220v - 240v, 50 / 60Hz. "Other Voltages upon request"
Cable Entry	1x22 mm Ø hole on top.
Lamps	9w, 11w TC-S Compact Fluorescent for Normal Start "NS", Electronic Start "DEOS" or Electronic High Frequency "HF" Ballast "EB". 16w, 26w, 38w TC-DD Compact Fluorescent for Normal Start "NS", Electronic Start "DEOS" or Electronic High Frequency "HF" Ballast "EB". 22w T-R Circular Fluorescent for Normal Start "NS", Electronic Start "DEOS" or Electronic High Frequency "HF" Ballast "EB"
Emergency Unit	3 Hours duration -remote- Emergency Unit "EMU" with battery pack Maintained "M" or Non-Maintained "NM" for one lamp, and for various lamp types and voltage networks combinations. "Additional Emergency Units to operate more than one lamp on request"

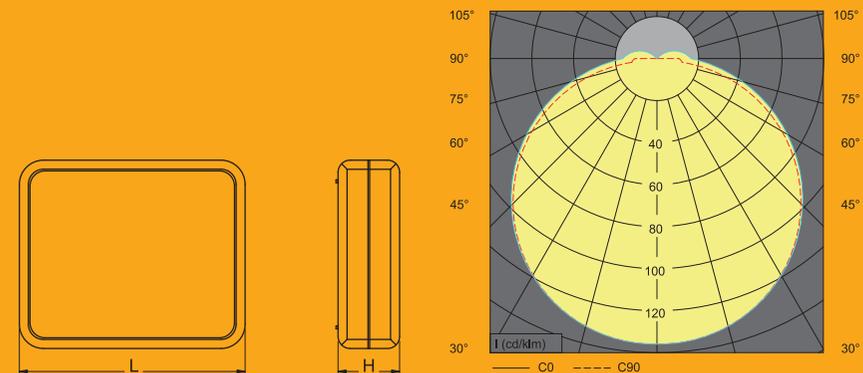
Technical Data

To Order : follow the sequence mr - ln / ls - cgt - v/h - pf - acc - emu

Model Reference	Lamp Number	Lamp Size watt	Control Gear Type	Voltage / Frequency V / Hz	Power Factor	Optional Accessories	Emergency Unit	Physical Characteristics		
								L	W	H
								mm	mm	mm
SQL	1	11S	NS Normal Start	220 - 240V 50 / 60Hz	HPF High Power Factor HF High Frequency	--	--	300	300	83
	2	18L								
	1	16DD 28DD 38DD	DEOS Electronic Starter							
	1	22LC 22FC	EB Electronic High Frequency							
	1	9S	EBD Dimmable Electronic High Frequency							
	2									

Photometrics & Dimensions

SQL 2/11W TC-S



Weatherproof Opal

SERIES : WPO



Applications	Suitable to be used in: corridors, circulation area & general indoor and outdoor application.
Housing	Base-plate is made of grey fiberglass reinforced polyester
Light Controller	One piece injected methacrylate opal diffuser, providing good light distribution and ensures uniformity of luminance and good ceiling lighting. Special UV resistant is gasket made of durable high density polyurethane Poured on the base-plate seal with locking latches, ensures tight fit between the body and diffuser
Mounting	Surface.
Control Gear	High Power Factor "HPF" (≥ 90%) Conventional Control Gear "CCG". High Frequency Electronic Control Gear "ECG". High Frequency Dimmable Electronic Control Gear "ECG".
Voltage / Frequency	220v - 240v, 50 / 60Hz. "Other Voltages upon request"
Cable Entry	1x22 mm Ø hole on top.
Lamps	18, 36 & 58 watt T8/T26 Fluorescent for Normal Start "NS", Electronic Start "DEOS" or Electronic High Frequency "HF" Ballast "EB". 17 & 32 watt T8 Fluorescent for Electronic High Frequency "HF" Ballast "EB". 14, 28 & 35 watt FH T5/T16 Fluorescent for Electronic High Frequency "HF" Ballast "EB". 24, 49, 54 & 80 watt FQ T5/T16 Fluorescent for Electronic High Frequency "HF" Ballast "EB". "Other lamps (T5/T16 – T8/T26 – T12/T38 – TC-L) upon request & fitting housing dimensions subject to changes accordingly"
Emergency Unit	3 Hours duration -remote- Emergency Unit "EMU" with battery pack Maintained "M" or Non-Maintained "NM" for one lamp, and for various lamp types and voltage networks combinations. "Additional Emergency Units to operate more than one lamp on request"

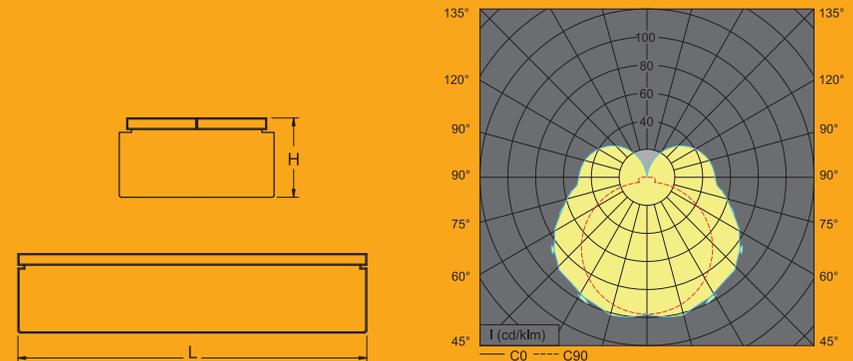
Technical Data

To Order : follow the sequence mr - ln / ls - cgt - v/h - pf - acc - emu

Model Reference	Lamp Number	Lamp Size watt	Control Gear Type	Voltage / Frequency V / Hz	Power Factor	Optional Accessories	Emergency Unit	Physical Characteristics		
								L	W	H
								mm	mm	mm
WPO	1	14 17 18 24	NS Normal Start DEOS Electronic Starter	220 - 240V 50 / 60Hz	HPF High Power Factor	FTB Fused Terminal Block	NM/3 hours 3 Non- Maintained	665	103	116
	2							640	640	110
	3							640	640	110
	4							640	640	110
	1	28 32 36 54	EB Electronic High Frequency		HF High Frequency	TRW Temperature Resistant Wire	M/3 hours 3 Maintained	1260	103	116
	2							1260	190	98
	1	35 49 58 80	EBD Dimmable Electronic High Frequency		AR Aluminum Reflector			1560	103	116
	2							1560	190	98

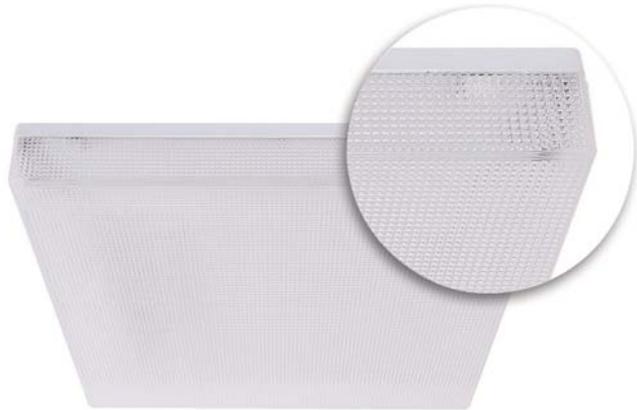
Photometrics & Dimensions

WPO 2/36W



Weatherproof Prismatic

SERIES : WPP



Applications	Suitable to be used in: corridors, circulation area & general indoor and outdoor application.
Housing	Base-plate is made of grey fiberglass reinforced polyester
Light Controller	One piece injected methacrylate prismatic diffuser, providing good light distribution and ensuring a partial upward light intensity towards the ceiling, thus avoiding unpleasant glare characterizes the diffuser. Special UV resistant is gasket made of durable high density polyurethane Poured on the base-plate seal with locking latches, ensures tight fit between the body and diffuser
Mounting	Surface.
Control Gear	High Power Factor "HPF" (≥ 90%) Conventional Control Gear "CCG". High Frequency Electronic Control Gear "ECG". High Frequency Dimmable Electronic Control Gear "ECG".
Voltage / Frequency	220v - 240v, 50 / 60Hz. "Other Voltages upon request"
Cable Entry	1x22 mm Ø hole on top.
Lamps	18, 36 & 58 watt T8/T26 Fluorescent for Normal Start "NS", Electronic Start "DEOS" or Electronic High Frequency "HF" Ballast "EB". 17& 32 watt T8 Fluorescent for Electronic High Frequency "HF" Ballast "EB". 14, 28 & 35 watt FH T5/T16 Fluorescent for Electronic High Frequency "HF" Ballast "EB". 24, 49, 54 & 80 watt FQ T5/T16 Fluorescent for Electronic High Frequency "HF" Ballast "EB". "Other lamps (T5/T16 – T8/T26 – T12/T38 – TC-L) upon request & fitting housing dimensions subject to changes accordingly"
Emergency Unit	3 Hours duration -remote- Emergency Unit "EMU" with battery pack Maintained "M" or Non-Maintained "NM" for one lamp, and for various lamp types and voltage networks combinations. "Additional Emergency Units to operate more than one lamp on request"

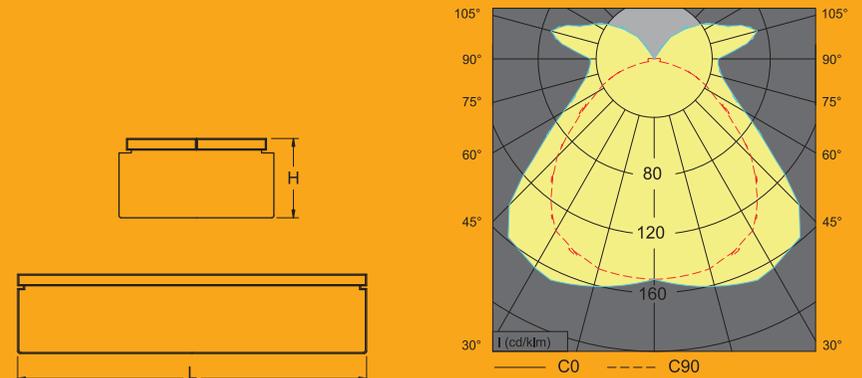
Technical Data

To Order : follow the sequence mr - ln / ls - cgt - v/h - pf - acc - emu

Model Reference	Lamp Number	Lamp Size watt	Control Gear Type	Voltage / Frequency V / Hz	Power Factor	Optional Accessories	Emergency Unit	Physical Characteristics			
								L	W	H	
								mm	mm	mm	
WPP	1	14 17 18 24	NS Normal Start DEOS Electronic Starter	220 - 240V 50 / 60Hz	HPF High Power Factor	FTB Fused Terminal Block TRW Temperature Resistant Wire	3/NM 3 hours Non- Maintained	665	103	116	
	2							640	640	110	
	3							640	640	110	
	4							640	640	110	
	1	28 32 36 54	EB Electronic High Frequency EBD Dimmable Electronic High Frequency		HF High Frequency	AR Aluminum Reflector	3/M 3 hours Maintained	1260	103	116	
	2							1260	190	98	
	1	35 49 58 80							1560	103	116
	2								1560	190	98

Photometrics & Dimensions

WPP 2/36W



Circular Luminaire Opal

SERIES : CLO



Applications	Suitable to be used in: corridors, circulation area & general indoor and outdoor application.
Housing	Molded polycarbonate base suitable for energy savings compact lamps.
Light Controller	Molded opal polycarbonate, with self-tight locking between base and diffuser making it dust and water protected type
Mounting	Surface.
Control Gear	High Power Factor "HPF" (≥ 90%) Conventional Control Gear "CCG". High Frequency Electronic Control Gear "ECG". High Frequency Dimmable Electronic Control Gear "ECG".
Voltage / Frequency	220v - 240v, 50 / 60Hz. "Other Voltages upon request"
Cable Entry	1x22 mm Ø hole on top.
Lamps	9w, 11w TC-S Compact Fluorescent for Normal Start "NS", Electronic Start "DEOS" or Electronic High Frequency "HF" Ballast "EB". 16w, 26w, 38w TC-DD Compact Fluorescent for Normal Start "NS", Electronic Start "DEOS" or Electronic High Frequency "HF" Ballast "EB". 22w T-R Circular Fluorescent for Normal Start "NS", Electronic Start "DEOS" or Electronic High Frequency "HF" Ballast "EB"
Emergency Unit	3 Hours duration -remote- Emergency Unit "EMU" with battery pack Maintained "M" or Non-Maintained "NM" for one lamp, and for various lamp types and voltage networks combinations. "Additional Emergency Units to operate more than one lamp on request"

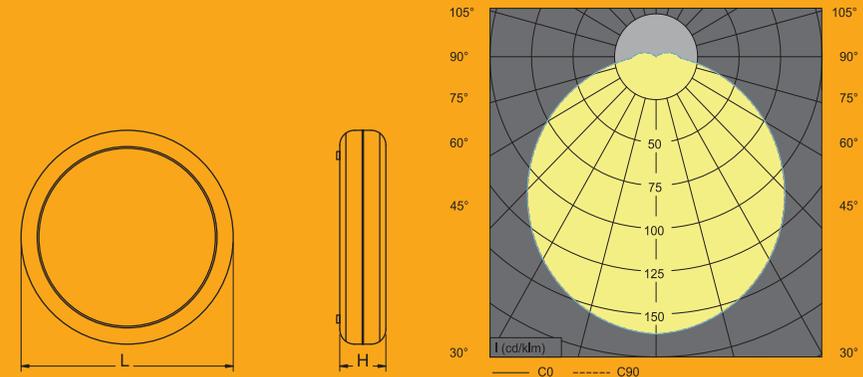
Technical Data

To Order : follow the sequence mr - ln / ls - cgt - v/h - pf - acc - emu

Model Reference	Lamp Number	Lamp Size	Control Gear Type	Voltage / Frequency	Power Factor	Optional Accessories	Emergency Unit	Physical Characteristics										
		watt						L	W	H								
								mm	mm	mm								
CLO	1	11S	NS Normal Start	220 - 240V 50 / 60Hz	HPF High Power Factor	-	-	380	-	83								
	2	18L																
	1	16DD	DEOS Electronic Starter															
		28DD																
	1	38DD	EB Electronic High Frequency								220 - 240V 50 / 60Hz	HPF High Power Factor	-	-	380	-	83	
		22LC																
		22FC																EBD Dimmable Electronic High Frequency
		32LC																
1	40FC	EBD Dimmable Electronic High Frequency	220 - 240V 50 / 60Hz	HPF High Power Factor	-	-	380	-	83									
	55FC																	

Photometrics & Dimensions

CLO 2/18W TC-L



Weatherproof Fitting (Acrylic+Polyester)

SERIES : WPZM



Applications	Suitable to be used in: stores and cold stores rooms, warehouses, parking area and general outdoor application....
Housing	Base-plate is made of self extinguishing grey fiberglass reinforced polyester
Light Controller	Clear acrylic injected UV stable diffuser, Reflector of steel plating, degreased and treated and coated with powder epoxy-polyester heat-hardened, stable against UV radiation. Diffuser is tightened to the body by mean of expandable polyurethane seal and closing (polycarbonate or stainless steel) clips to ensure perfect tightness.
Mounting	Surface.
Control Gear	High Power Factor "HPF" (≥ 90%) Conventional Control Gear "CCG". High Power Factor "HPF" (≥ 90%) Pre-Heat Rapid Start "RS". High Frequency Electronic Control Gear "ECG". High Frequency Dimmable Electronic Control Gear "ECG".
Voltage / Frequency	220v - 240v, 50 / 60Hz. "Other Voltages upon request"
Cable Entry	1x22 mm Ø hole on top.
Lamps	18, 36 & 58 watt T8/T26 Fluorescent for Normal Start "NS", Electronic Start "DEOS" or Electronic High Frequency "HF" Ballast "EB". 17& 32 watt T8 Fluorescent for Electronic High Frequency "HF" Ballast "EB". 14, 28 & 35 watt FH T5/T16 Fluorescent for Electronic High Frequency "HF" Ballast "EB". 24, 49, 54 & 80 watt FQ T5/T16 Fluorescent for Electronic High Frequency "HF" Ballast "EB". "Other lamps (T5/T16 – T8/T26 – T12/T38 – TC-L) upon request & fitting housing dimensions subject to changes accordingly"
Emergency Unit	3 Hours duration -remote- Emergency Unit "EMU" with battery pack Maintained "M" or Non-Maintained "NM" for one lamp, and for various lamp types and voltage networks combinations. "Additional Emergency Units to operate more than one lamp on request"

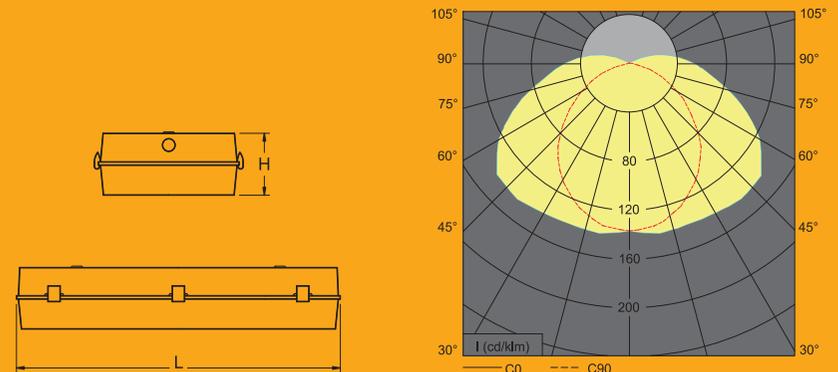
Technical Data

To Order : follow the sequence mr - ln / ls - cgt - v/h - pf - acc - emu

Model Reference	Lamp Number	Lamp Size watt	Control Gear Type	Voltage / Frequency V / Hz	Power Factor	Optional Accessories	Emergency Unit	Physical Characteristics		
								L	W	H
								mm	mm	mm
WPZM	1	14 17	NS Normal Start	220 - 240V 50 / 60Hz	HPF High Power Factor	FTB Fused Terminal Block	3/NM 3 hours Non- Maintained	680	112	120
	2	24	DEOS Electronic Starter					680	182	120
	1	28 32	EB Electronic High Frequency					1280	112	120
	2	36 54	EB Electronic High Frequency					1280	182	120
	1	35 49	EBD Dimmable Electronic High Frequency					1580	112	120
	2	58 80	EBD Dimmable Electronic High Frequency					1580	182	120

Photometrics & Dimensions

WPZM 2/36w



Moistureproof Extra Protection (PC+PC)

SERIES : WPLV



Applications	Suitable to be used in: stores and cold stores rooms, warehouses, parking area and general outdoor application....
Housing	Made of grey impact resistant polycarbonate body
Light Controller	Clear polycarbonate injected UV stable diffuser, Reflector of steel plating, degreased and treated and coated with powder epoxy-polyester heat-hardened, stable against UV radiation. To narrow the luminous flux down it is possible to use specular aluminum reflector placed under the lamps. Diffuser is tightened to the body by mean of expandable polyurethane seal and closing (polycarbonate or stainless steel) clips to ensure perfect tightness.
Mounting	Surface.
Control Gear	High Power Factor "HPF" (≥ 90%) Conventional Control Gear "CCG". High Frequency Electronic Control Gear "ECG". High Frequency Dimmable Electronic Control Gear "ECG".
Voltage / Frequency	220v - 240v, 50 / 60Hz. "Other Voltages upon request"
Cable Entry	1x22 mm Ø hole on top. 2x22 mm Ø knock-out holes at each side for continuous row.
Lamps	18, 36 & 58 watt T8/T26 Fluorescent for Normal Start "NS", Electronic Start "DEOS" or Electronic High Frequency "HF" Ballast "EB". 17& 32 watt T8 Fluorescent for Electronic High Frequency "HF" Ballast "EB". 14, 28 & 35 watt FH T5/T16 Fluorescent for Electronic High Frequency "HF" Ballast "EB". 24, 49, 54 & 80 watt FQ T5/T16 Fluorescent for Electronic High Frequency "HF" Ballast "EB". "Other lamps (T5/T16 – T8/T26 – T12/T38 – TC-L) upon request & fitting housing dimensions subject to changes accordingly"
Emergency Unit	3 Hours duration -remote- Emergency Unit "EMU" with battery pack Maintained "M" or Non-Maintained "NM" for one lamp, and for various lamp types and voltage networks combinations. "Additional Emergency Units to operate more than one lamp on request"

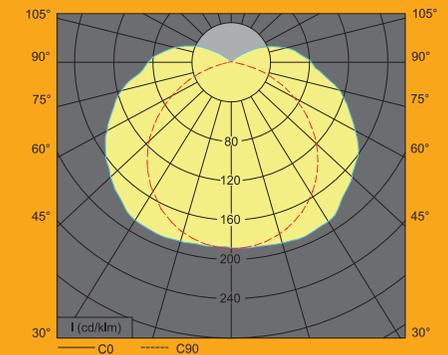
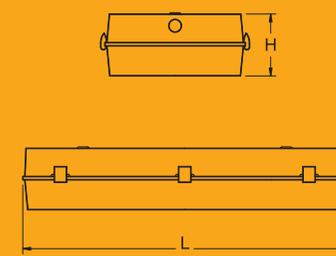
Technical Data

To Order : follow the sequence mr - ln / ls - cgt - v/h - pf - acc - emu

Model Reference	Lamp Number	Lamp Size watt	Control Gear Type	Voltage / Frequency V / Hz	Power Factor	Optional Accessories	Emergency Unit	Physical Characteristics							
								L	W	H					
								mm	mm	mm					
WPLV	1	14	NS Normal Start	220 - 240V 50 / 60Hz	HPF High Power Factor	FTB Fused Terminal Block TRW Temperature Resistant Wire	3/NM 3 hours Non-Maintained	660	86	90					
		17						660	136	90					
	18	1270	86					90							
	24														
	2	28	DEOS Electronic Starter					36	EB Electronic High Frequency	HF High Frequency	TW Through Wire	3/M 3 hours Maintained	1270	136	90
		32											1570	86	90
54	1570	136	90												

Photometrics & Dimensions

WPLC 2/36w





Emergency - Exit Signs

Ceiling / Wall

EMERGENCY SURFACE
- DOUBLE SIDE



VX - VXD 198-199

EMERGENCY
RECESSED



VXR 200-201

EMERGENCY SURFACE
SINGLE - DOUBLE SIDE



VXP - VXPD 202-203

EMERGENCY RECESSED
SINGLE - DOUBLE SIDE



VXPR - VXPRD 204-205

EMERGENCY SINGLE
- DOUBLE SIDE



SE - SED 206-207

EMERGENCY SINGLE
- DOUBLE SIDE



NEU - NEUD 208-209

EMERGENCY SURFACE
SINGLE - DOUBLE SIDE



NEUP - NEUPD 210-211

EMERGENCY RECESSED
SINGLE - DOUBLE SIDE



NEUPR - NEUPDR 212-213

Emergency Surface Single - Double Side

SERIES : VX - VXD



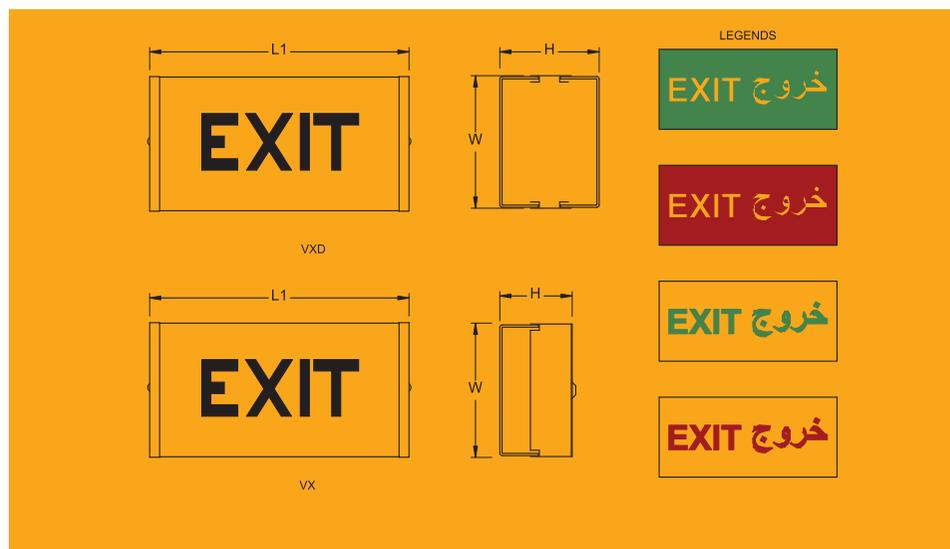
Applications	Suitable to be used in: offices, premises, rooms-doorways, corridors & passages and other alike directional use.
Housing	Made of press welded Cold Rolled Steel "CRS" sheet of tight construction to prevent light leakage, all metal parts pre-treated with a full degreasing and phosphate process, painted in stove enameled white baked epoxy polyester mix-powder to ensure high reflectance of painted surfaces. "Other color finishes upon request" The unit can be supplied in single sided, double sided and recessed versions. The double sided version has an increase height.
Light Controller	Opal polycarbonate diffuser.
Mounting	Surface or suspended .
Control Gear	High Power Factor "HPF" (≥ 90%) Conventional Control Gear "CCG". High Frequency Electronic Control Gear "ECG".
Voltage / Frequency	220v - 240v, 50 / 60Hz. "Other Voltages upon request"
Cable Entry	1x22 mm Ø hole on top. "Extra knock-out holes upon request"
Lamps	6 & 8 watt T5/T16 Fluorescent for Normal Start "NS" or Electronic High Frequency "HF" Ballast "EB".
Legend Kits	Various legends and pictographs can be supplied upon request. - White color for pictographs with directional arrows and text (Arabic & English) on green or red background according to international NORMS (NFPA, BSC, ...) - Green or red text color in Arabic and English with directional arrows on white background.
Emergency Unit	Excluding slave version, all fixtures are supplied with emergency converter unit, maintenance-free sealed battery, fully automatic constant current charging system, charge monitoring LED and system-test reset switch. Types of emergency systems : - Non-maintained, where emergency lighting is systems in W/C emergency lamp (lamps) are in operation only when the normal lighting or main AC power fails. - Maintained, where emergency lighting is systems in W/C emergency lamp (lamps) are in operation at all times, lamp (lamps) operated from AC mains and from the battery on mains failure. - Sustained, where emergency lighting luminaire contains two or more lamps, one of which is energized from the AC mains supply and the others from the battery on mains failure. Emergency operation is for 3 hours duration.

Technical Data

To Order : follow the sequence mr – In Is / d – et – v/h

Model Reference	Lamp Number	Lamp Size	Duration	Emergency Type	Voltage / Frequency	Physical Characteristics		
						L1	W	H
		watt	hour		V / Hz	mm	mm	mm
VX	1	6	1	Mains	220 - 240V 50 / 60Hz	290	130	83
		8				365	130	83
	2	6		290		130	83	
		8		365		130	83	
VXD	1	6	3	Maintained	220 - 240V 50 / 60Hz	290	130	170
		8		365		130	170	
	2	6	Sustained	290		130	170	
		8	365	130		170		

Photometrics & Dimensions



Emergency Recessed

SERIES : VXR



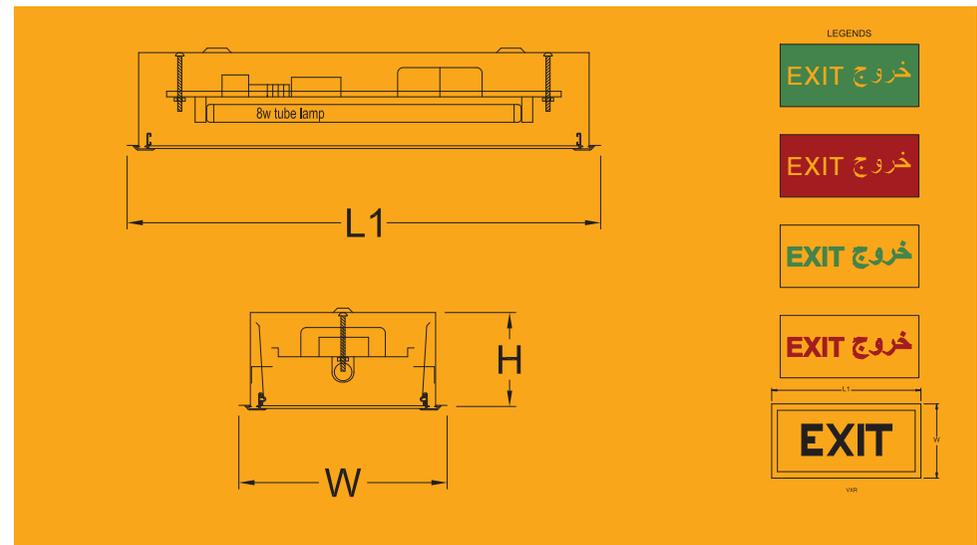
Applications	Suitable to be used in: offices, premises, rooms-doorways, corridors & passages and other alike directional use.
Housing	Made of press welded Cold Rolled Steel "CRS" sheet of tight construction to prevent light leakage, all metal parts pre-treated with a full degreasing and phosphate process, painted in stove enameled white baked epoxy polyester mix-powder to ensure high reflectance of painted surfaces. "Other color finishes upon request" The unit can be supplied in single sided, double sided and recessed versions. The double sided version has an increase height.
Light Controller	Opal polycarbonate diffuser.
Mounting	Recessed.
Control Gear	High Power Factor "HPF" (≥ 90%) Conventional Control Gear "CCG". High Frequency Electronic Control Gear "ECG".
Voltage / Frequency	220v - 240v, 50 / 60Hz. "Other Voltages upon request"
Cable Entry	1x22mm Ø hole on top. "Extra knock-out holes upon request"
Lamps	6 & 8 watt T5/T16 Fluorescent for Normal Start "NS" or Electronic High Frequency "HF" Ballast "EB".
Legend Kits	Various legends and pictographs can be supplied upon request. - White color for pictographs with directional arrows and text (Arabic & English) on green or red background according to international NORMS (NFPA, BSC,) - Green or red text color in Arabic and English with directional arrows on white background.
Emergency Unit	Excluding slave version, all fixtures are supplied with emergency converter unit, maintenance-free sealed battery, fully automatic constant current charging system, charge monitoring LED and system-test reset switch. Types of emergency systems : - Non-maintained, where emergency lighting is systems in W/C emergency lamp (lamps) are in operation only when the normal lighting or main AC power fails. - Maintained, where emergency lighting is systems in W/C emergency lamp (lamps) are in operation at all times, lamp (lamps) operated from AC mains and from the battery on mains failure. - Sustained, where emergency lighting luminaire contains two or more lamps, one of which is energized from the AC mains supply and the others from the battery on mains failure. Emergency operation is for 3 hours duration.

Technical Data

To Order : follow the sequence mr - In Is / d - et - v/h

Model Reference	Lamp Number	Lamp Size	Duration	Emergency Type	Voltage Frequency	Physical Characteristics			
		watt				hour	L1	W	H
						V / Hz	mm	mm	mm
VXR	1	6	1	Mains	220 - 240V 50 / 60Hz	432	190	85	
				Non-Maintained					
	2	8	3	Maintained					
				Sustained					

Photometrics & Dimensions



Emergency Surface Single - Double Side

SERIES : VXP - VXPD



Applications	Suitable to be used in: offices, premises, rooms-doorways, corridors & passages and other alike directional use.
Housing	Made of press welded Cold Rolled Steel "CRS" sheet of tight construction to prevent light leakage, all metal parts pre-treated with a full degreasing and phosphate process, painted in stove enameled white baked epoxy polyester mix-powder to ensure high reflectance of painted surfaces. "Other color finishes upon request" The unit can be supplied in single sided, double sided and recessed versions. The double sided version has an increase height.
Light Controller	Polycarbonate diffuser.
Mounting	Surface or suspended.
Control Gear	High Power Factor "HPF" (≥ 90%) Conventional Control Gear "CCG". High Frequency Electronic Control Gear "ECG".
Voltage / Frequency	220v - 240v, 50 / 60Hz. "Other Voltages upon request"
Cable Entry	1x22mm Ø hole on top. "Extra knock-out holes upon request"
Lamps	8 watt T5/T16 Fluorescent for Normal Start "NS" or Electronic High Frequency "HF" Ballast "EB".
Legend Kits	Various legends and pictographs can be supplied upon request. - White color for pictographs with directional arrows and text (Arabic & English) on green or red background according to international NORMS (NFPA, BSC,) - Green or red text color in Arabic and English with directional arrows on white background.
Emergency Unit	Excluding slave version, all fixtures are supplied with emergency converter unit, maintenance-free sealed battery, fully automatic constant current charging system, charge monitoring LED and system-test reset switch. Types of emergency systems : - Non-maintained, where emergency lighting is systems in W/C emergency lamp (lamps) are in operation only when the normal lighting or main AC power fails. - Maintained, where emergency lighting is systems in W/C emergency lamp (lamps) are in operation at all times, lamp (lamps) operated from AC mains and from the battery on mains failure. - Sustained, where emergency lighting luminaire contains two or more lamps, one of which is energized from the AC mains supply and the others from the battery on mains failure. Emergency operation is for 3 hours duration.

Technical Data

To Order : follow the sequence mr – In Is / d – et – v/h

Model Reference	Lamp Number	Lamp Size	Duration	Emergency Type	Voltage / Frequency	Physical Characteristics					
						L1	L2	W	H	X	Y
		watt	hour			mm	mm	mm	mm	mm	mm
VXP	1	8	1	Mains	220 - 240V 50 / 60Hz	380	350	80	80	200	100
VXPD			3	Maintained							

Photometrics & Dimensions

VXP – VXPD

LEGENDS



Emergency Recessed Single - Double Side



SERIES : VXPR - VXPDR



Applications	Suitable to be used in: offices, premises, rooms-doorways, corridors & passages and other alike directional use.
Housing	Made of press welded Cold Rolled Steel "CRS" sheet of tight construction to prevent light leakage, all metal parts pre-treated with a full degreasing and phosphate process, painted in stove enameled white baked epoxy polyester mix-powder to ensure high reflectance of painted surfaces. "Other color finishes upon request" The unit can be supplied in single sided, double sided and recessed versions. The double sided version has an increase height.
Light Controller	Opal or clear polycarbonate diffuser.
Mounting	Ceiling Recessed.
Control Gear	High Power Factor "HPF" (≥ 90%) Conventional Control Gear "CCG". High Frequency Electronic Control Gear "ECG".
Voltage / Frequency	220v - 240v, 50 / 60Hz. "Other Voltages upon request"
Cable Entry	1x22 mm Ø hole on top. "Extra knock-out holes upon request"
Lamps	8 watt T5/T16 Fluorescent for Normal Start "NS" or Electronic High Frequency "HF" Ballast "EB".
Legend Kits	Various legends and pictographs can be supplied upon request. - White color for pictographs with directional arrows and text (Arabic & English) on green or red background according to international NORMS (NFPA, BSC,) - Green or red text color in Arabic and English with directional arrows on white background.
Emergency Unit	Excluding slave version, all fixtures are supplied with emergency converter unit, maintenance-free sealed battery, fully automatic constant current charging system, charge monitoring LED and system-test reset switch. Types of emergency systems : - Non-maintained, where emergency lighting is systems in W/C emergency lamp (lamps) are in operation only when the normal lighting or main AC power fails. - Maintained, where emergency lighting is systems in W/C emergency lamp (lamps) are in operation at all times, lamp (lamps) operated from AC mains and from the battery on mains failure. - Sustained, where emergency lighting luminaire contains two or more lamps, one of which is energized from the AC mains supply and the others from the battery on mains failure. Emergency operation is for 3 hours duration.

Technical Data

To Order : follow the sequence mr - In Is / d - et - v/h

Model Reference	Lamp Number	Lamp Size	Duration	Emergency Type	Voltage / Frequency	Physical Characteristics					
						L1	L2	W	H	X	Y
VXPR	1	8	1	Mains	220 - 240V 50 / 60Hz	405	350	80	80	200	150
VXPDR			3	Non-Maintained							
				Maintained							

Photometrics & Dimensions

VXPR - VXPDR

LEGENDS

EXIT خروج

EXIT خروج

EXIT خروج

EXIT خروج



Emergency Single - Double Side

SERIES : SE - SED



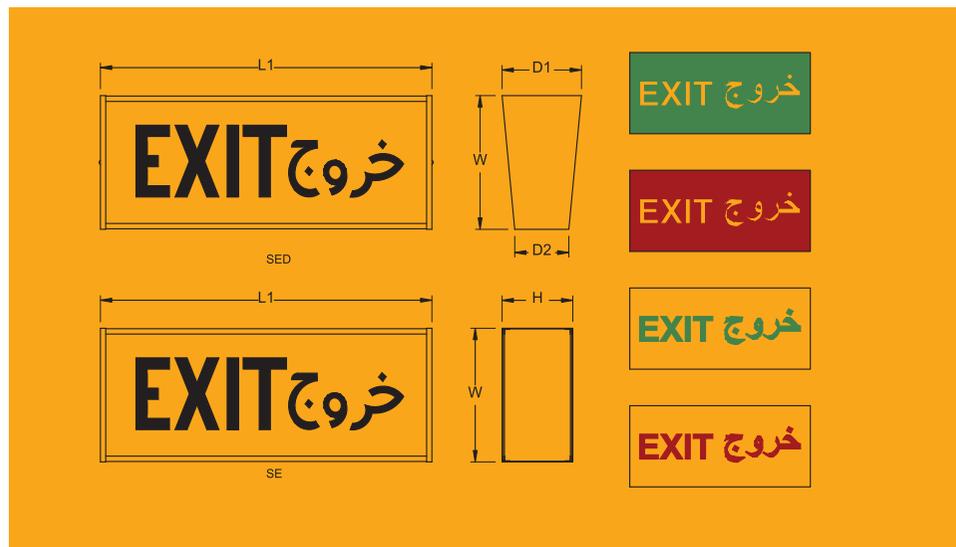
Applications	Suitable to be used in: offices, premises, rooms-doorways, corridors & passages and other alike directional use.
Housing	Made of press welded Cold Rolled Steel "CRS" sheet of tight construction to prevent light leakage, all metal parts pre-treated with a full degreasing and phosphate process, painted in stove enameled white baked epoxy polyester mix-powder to ensure high reflectance of painted surfaces. "Other color finishes upon request" The unit can be supplied in single sided, double sided and recessed versions. The double sided version has an increase height.
Light Controller	Opal polycarbonate diffuser.
Mounting	Surface or suspended .
Control Gear	High Power Factor "HPF" (≥ 90%) Conventional Control Gear "CCG". High Frequency Electronic Control Gear "ECG".
Voltage / Frequency	220v - 240v, 50 / 60Hz. "Other Voltages upon request"
Cable Entry	1x22 mm Ø hole on top. "Extra knock-out holes upon request"
Lamps	8 watt T5/T16 Fluorescent for Normal Start "NS" or Electronic High Frequency "HF" Ballast "EB".
Legend Kits	Various legends and pictographs can be supplied upon request. - White color for pictographs with directional arrows and text (Arabic & English) on green or red background according to international NORMS (NFPA, BSC,) - Green or red text color in Arabic and English with directional arrows on white background.
Emergency Unit	Excluding slave version, all fixtures are supplied with emergency converter unit, maintenance-free sealed battery, fully automatic constant current charging system, charge monitoring LED and system-test reset switch. Types of emergency systems : - Non-maintained, where emergency lighting is systems in W/C emergency lamp (lamps) are in operation only when the normal lighting or main AC power fails. - Maintained, where emergency lighting is systems in W/C emergency lamp (lamps) are in operation at all times, lamp (lamps) operated from AC mains and from the battery on mains failure. - Sustained, where emergency lighting luminaire contains two or more lamps, one of which is energized from the AC mains supply and the others from the battery on mains failure. Emergency operation is for 3 hours duration.

Technical Data

To Order : follow the sequence mr – In Is / d – et – v/h

Model Reference	Lamp Number	Lamp Size watt	Duration hour	Emergency Type	Voltage / Frequency V / Hz	Physical Characteristics				
						L1 mm	D1 mm	D2 mm	W mm	H mm
SE	1	8	1	Mains Non-Maintained	220 - 240V 50 / 60Hz	490	--	--	244	65
SED	2		3	Maintained Sustained		490	105	75	244	--

Photometrics & Dimensions



Emergency Single - Double Side

SERIES : NEU - NEUD



Applications	Suitable to be used in: offices, premises, rooms-doorways, corridors & passages and other alike directional use.
Housing	Made of press welded Cold Rolled Steel "CRS" sheet of tight construction to prevent light leakage, all metal parts pre-treated with a full degreasing and phosphate process, painted in stove enameled white baked epoxy polyester mix-powder to ensure high reflectance of painted surfaces. "Other color finishes upon request" The unit can be supplied in single sided, double sided and recessed versions. The double sided version has an increase height.
Light Controller	Opal polycarbonate diffuser.
Mounting	Surface or suspended .
Control Gear	High Power Factor "HPF" (≥ 90%) Conventional Control Gear "CCG". High Frequency Electronic Control Gear "ECG".
Voltage / Frequency	220v - 240v, 50 / 60Hz. "Other Voltages upon request"
Cable Entry	1x22 mm Ø hole on top. "Extra knock-out holes upon request"
Lamps	18 watt T8/T26 Fluorescent for Normal Start "NS" or Electronic High Frequency "HF" Ballast "EB".
Legend Kits	Various legends and pictographs can be supplied upon request. - White color for pictographs with directional arrows and text (Arabic & English) on green or red background according to international NORMS (NFPA, BSC,) - Green or red text color in Arabic and English with directional arrows on white background.
Emergency Unit	Excluding slave version, all fixtures are supplied with emergency converter unit, maintenance-free sealed battery, fully automatic constant current charging system, charge monitoring LED and system-test reset switch. Types of emergency systems : - Non-maintained, where emergency lighting is systems in W/C emergency lamp (lamps) are in operation only when the normal lighting or main AC power fails. - Maintained, where emergency lighting is systems in W/C emergency lamp (lamps) are in operation at all times, lamp (lamps) operated from AC mains and from the battery on mains failure. - Sustained, where emergency lighting luminaire contains two or more lamps, one of which is energized from the AC mains supply and the others from the battery on mains failure. Emergency operation is for 3 hours duration.

Technical Data

To Order : follow the sequence mr - In Is / d - et - v/h

Model Reference	Lamp Number	Lamp Size	Duration	Emergency Type	Voltage / Frequency	Physical Characteristics		
						L	W	H
		watt	hour			mm	mm	mm
NEU	1	18	1	Mains	220 - 240V 50 / 60Hz	642	112	212
	2		3	Non-Maintained				
NEUD				Maintained		642	212	212
				Sustained				

Photometrics & Dimensions

LEGENDS

- EXIT خروج (Green background)
- EXIT خروج (Red background)
- EXIT خروج (White background)



Emergency Surface Single - Double Side

SERIES : NEUP - NEUPD



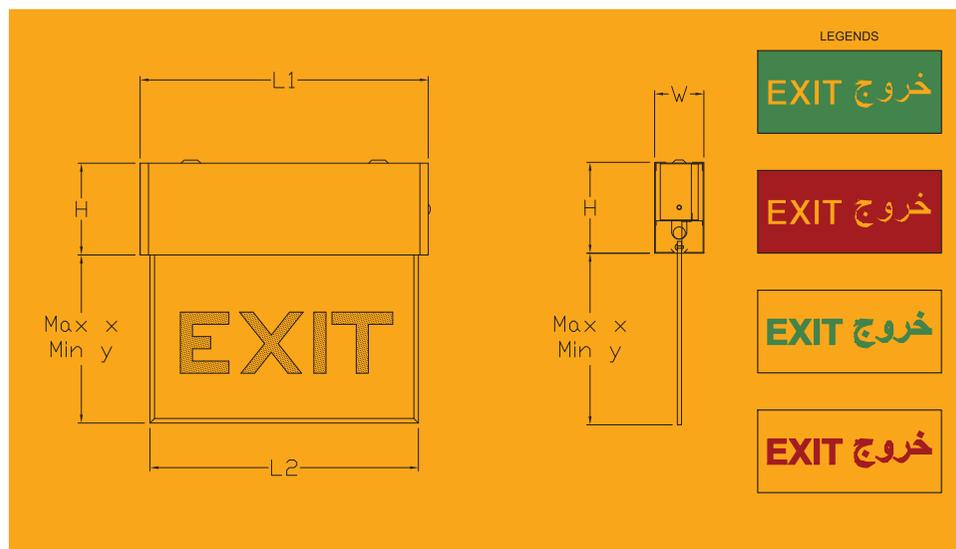
Applications	Suitable to be used in: offices, premises, rooms-doorways, corridors & passages and other alike directional use.
Housing	Made of press welded Cold Rolled Steel "CRS" sheet of tight construction to prevent light leakage, all metal parts pre-treated with a full degreasing and phosphate process, painted in stove enameled white baked epoxy polyester mix-powder to ensure high reflectance of painted surfaces. "Other color finishes upon request" The unit can be supplied in single sided, double sided and recessed versions. The double sided version has an increase height.
Light Controller	Opal or clear polycarbonate diffuser.
Mounting	Surface or suspended .
Control Gear	High Power Factor "HPF" (≥ 90%) Conventional Control Gear "CCG". High Frequency Electronic Control Gear "ECG".
Voltage / Frequency	220v - 240v, 50 / 60Hz. "Other Voltages upon request"
Cable Entry	1x22mm Ø hole on top. "Extra knock-out holes upon request"
Lamps	18 watt T8/T26 Fluorescent for Normal Start "NS" or Electronic High Frequency "HF" Ballast "EB".
Legend Kits	Various legends and pictographs can be supplied upon request. - White color for pictographs with directional arrows and text (Arabic & English) on green or red background according to international NORMS (NFPA, BSC,) - Green or red text color in Arabic and English with directional arrows on white background.
Emergency Unit	Excluding slave version, all fixtures are supplied with emergency converter unit, maintenance-free sealed battery, fully automatic constant current charging system, charge monitoring LED and system-test reset switch. Types of emergency systems : - Non-maintained, where emergency lighting is systems in W/C emergency lamp (lamps) are in operation only when the normal lighting or main AC power fails. - Maintained, where emergency lighting is systems in W/C emergency lamp (lamps) are in operation at all times, lamp (lamps) operated from AC mains and from the battery on mains failure. - Sustained, where emergency lighting luminaire contains two or more lamps, one of which is energized from the AC mains supply and the others from the battery on mains failure. Emergency operation is for 3 hours duration.

Technical Data

To Order : follow the sequence mr - In Is / d - et - v/h

Model Reference	Lamp Number	Lamp Size	Duration	Emergency Type	Voltage / Frequency	Physical Characteristics					
						L1	L2	W	H	X	Y
		watt	hour			mm	mm	mm	mm	mm	mm
NEUP	1	18	1	Mains	220 - 240V 50 / 60Hz	656	625	65	160	200	100
			3	Non-Maintained							
NEUPD				Maintained							

Photometrics & Dimensions



Emergency Recessed Single - Double Side



SERIES : NEUPR - NEUPRD



Applications	Suitable to be used in: offices, premises, rooms-doorways, corridors & passages and other alike directional use.
Housing	Made of press welded Cold Rolled Steel "CRS" sheet of tight construction to prevent light leakage, all metal parts pre-treated with a full degreasing and phosphate process, painted in stove enameled white baked epoxy polyester mix-powder to ensure high reflectance of painted surfaces. "Other color finishes upon request" The unit can be supplied in single sided, double sided and recessed versions. The double sided version has an increase height.
Light Controller	Opal or clear polycarbonate diffuser.
Mounting	Recessed
Control Gear	High Power Factor "HPF" (≥ 90%) Conventional Control Gear "CCG". High Frequency Electronic Control Gear "ECG".
Voltage / Frequency	220v - 240v, 50 / 60Hz. "Other Voltages upon request"
Cable Entry	1x22mm Ø hole on top. "Extra knock-out holes upon request"
Lamps	18 watt T8/T26 Fluorescent for Normal Start "NS" or Electronic High Frequency "HF" Ballast "EB".
Legend Kits	Various legends and pictographs can be supplied upon request. - White color for pictographs with directional arrows and text (Arabic & English) on green or red background according to international NORMS (NFPA, BSC,) - Green or red text color in Arabic and English with directional arrows on white background.
Emergency Unit	Excluding slave version, all fixtures are supplied with emergency converter unit, maintenance-free sealed battery, fully automatic constant current charging system, charge monitoring LED and system-test reset switch. Types of emergency systems : - Non-maintained, where emergency lighting is systems in W/C emergency lamp (lamps) are in operation only when the normal lighting or main AC power fails. - Maintained, where emergency lighting is systems in W/C emergency lamp (lamps) are in operation at all times, lamp (lamps) operated from AC mains and from the battery on mains failure. - Sustained, where emergency lighting luminaire contains two or more lamps, one of which is energized from the AC mains supply and the others from the battery on mains failure. Emergency operation is for 3 hours duration.

Technical Data

To Order : follow the sequence mr - In Is / d - et - v/h

Model Reference	Lamp Number	Lamp Size	Duration	Emergency Type	Voltage / Frequency	Physical Characteristics					
						L1	L2	W	H	X	Y
		watt	hour		V / Hz	mm	mm	mm	mm	mm	mm
NEUPR	1	18	1	Mains	220 - 240V	640	600	110	113	200	100
NEUPRD			3	Maintained	50 / 60Hz						

Photometrics & Dimensions

LEGENDS





Bed Head Unit

Wall Mounted

BEDHEAD UNIT



BHU200

218-219

Bedhead Unit

SERIES : BHU200



Applications	Suitable to be used in: patient's rooms and wards, clinics, emergency rooms, ICU.
Housing	Made of high quality extruded aluminum, painted in stove enameled white baked epoxy polyester mix-powder. "Other color finishes upon request"
Light Controller	Opal or prismatic metacrylate diffuser.
Mounting	Surface wall-mounted.
Control Gear	High Power Factor "HPF" (≥ 90%) Conventional Control Gear "CCG". High Frequency Electronic Control Gear "ECG".
Voltage / Frequency	220v - 240v, 50 / 60Hz. "Other Voltages upon request"
Cable Entry	1x22 mm Ø hole on back-side. "Extra knock-out holes upon request"
Lamps	18 watt T8/T26 Fluorescent for Normal Start "NS" or Electronic High Frequency "HF" Ballast "EB".
Legend Kits	18 & 36 watt T8/T26 Fluorescent for Normal Start "NS", Electronic Start "DEOS" or Electronic High Frequency "HF" Ballast "EB". 20 & 40 watt T12/T38 Fluorescent for Rapid Start "RS". 17 & 32 watt T8 Fluorescent for Electronic High Frequency "HF" Ballast "EB". 14 & 28 watt FH T5/T16 Fluorescent for Electronic High Frequency "HF" Ballast "EB". 24 & 49 watt FQ T5/T16 Fluorescent for Electronic High Frequency "HF" Ballast "EB". 18, 24, 36, 40, 55 & 80 watt TC-L Compact Fluorescent for Normal Start "NS", or Electronic High Frequency "HF" Ballast "EB".
Emergency Unit	"Various types and models for medical accessories can be provided upon request through third party (i.e. gas outlets, nurse call switch, receptacle & switches, ..)"

Technical Data

To Order : follow the sequence mr - ln / ls + ln / ls - cgt - v/h - pf - acc - emu

Model Reference	Lamp Number	Lamp Size watt	Control Gear Type	Voltage Frequency V / Hz	Power Factor	Accessories	Emergency Unit	Physical Characteristics		
								L	W	H
								mm	mm	mm
BHU200	1	14	NS Normal Start	220 - 240V 50 / 60Hz	LPF Low Power Factor	FTB Fused Terminal Block TRW Temperature Resistant Wire	3/NM 3 hours Non-Maintained	1300	260	160
		17								
		18L								
		18								
		24L								
		24								
	2	28	EB Electronic High Frequency	HPF High Power Factor	Switches Receptacles Nurse Call Accessories Upon request	3/M 3 hours Maintained				
		32	EBD Dimmable Electronic High Frequency	HF High Frequency						
		36								
		36L								
		40L								
		54								
55L	Upon request									
80L										

Photometrics & Dimensions



BHU100





Downlight

Recessed Spotlight

FIXED RECESSED SPOTLIGHT



AR4100 224-225

ADJUSTABLE RECESSED SPOTLIGHT



AR4102 226-227

DEEP RECESSED SPOTLIGHT



AR4106 228-229

Recessed Downlight

RECESSED DEEP REFLECTOR DOWNLIGHT



DL100 230-231

RECESSED SHALLOW REFLECTOR DOWNLIGHT



DL110 232-233

RECESSED SHALLOW REFLECTOR DOWNLIGHT



DL200 234-235

RECESSED SHALLOW REFLECTOR DOWNLIGHT



DL201 236-237

RECESSED SHALLOW REFLECTOR DOWNLIGHT



DL202 238-239

RECESSED SHALLOW REFLECTOR DOWNLIGHT



DL203 240-241

RECESSED SHALLOW REFLECTOR DOWNLIGHT



DL300 242-243

RECESSED SHALLOW REFLECTOR DOWNLIGHT



DL310 244-245

RECESSED DEEP REFLECTOR DOWNLIGHT



AR430 246-247

RECESSED DEEP REFLECTOR DOWNLIGHT



AR435 248-249

RECESSED DEEP REFLECTOR DOWNLIGHT



AR437 250-251

RECESSED GLASS DIFFUSER



NSOFT 252-253

Surface Downlight

SURFACE DEEP REFLECTOR DOWNLIGHT



S100 254-255

SURFACE SHALLOW REFLECTOR DOWNLIGHT



SS100 256-257

SURFACE CYLINDRICAL DOWNLIGHT



301 258-259

SURFACE SQUARE DOWNLIGHT



501 260-261

Surface Wall Up-Downlight

SURFACE CYLINDRICAL DOWNLIGHT



303 262-263

SURFACE CYLINDRICAL UP-DOWNLIGHT



304 264-265

Fixed Recessed Spotlight

SERIES : AR4100



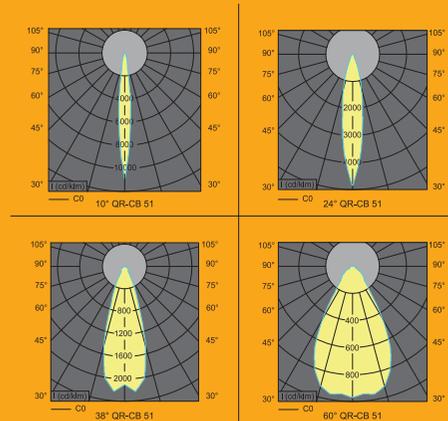
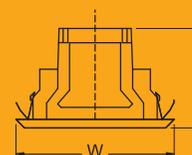
Applications	Suitable to be used in: offices, lobbies, entrances, showrooms, corridors, circulation areas, stairs, waiting area in clinics, banks governmental premises, general lighting application, ...
Housing	Made of die-cast aluminum, metal parts treated with a full degreasing and phosphate process. painted in stove enameled baked epoxy polyester mix-powder. Zinc plated steel springs for fixing to the false ceiling. - AR41001 – White rim - AR41002 – Black rim - AR41003 – Golden rim - AR41004 – Chrome rim
Light Controller	Clear tempered glass.
Mounting	Recessed in false ceiling.
Control Gear	High quality Magnetic Transformer. High quality Electronic Transformer. High quality Dimmable Electronic Transformer.
Voltage / Frequency	220v - 240v, 50 / 60Hz. "Other Voltages upon request"
Cable Entry	Direct connection.
Lamps	20, 35, 50 & 75 watt Halogen QR-CB 51, 12v.
Emergency Unit	3 Hours duration Emergency Unit "EMU" with battery pack Maintained "M" or Non-Maintained "NM" for Halogen lamp, and various voltage networks combinations.

Technical Data

Model Reference	Lamp Number	Lamp Size watt	Transformer Type	Voltage / Frequency V / Hz	Power Factor	Accessories	Emergency Unit	Physical Characteristics			
								W mm	H mm	C mm	
AR4100	1	20 QR- CB51	MT (Magnetic)	220 - 240V 50 / 60Hz	-----	-----	3/NM 3 hours Non-Maintained	83	58	70	
		35 QR- CB51	ET (Electronic)								3/M 3 hours Maintained
		50 QR- CB51									

Photometrics & Dimensions

AR4100



Adjustable Recessed Spotlight

SERIES : AR4102



Applications	Suitable to be used in: offices, lobbies, entrances, showrooms, corridors, circulation areas, stairs, waiting area in clinics, banks governmental premises, general lighting application, ...
Housing	Made of die-cast aluminum, metal parts treated with a full degreasing and phosphate process. painted in stove enameled baked epoxy polyester mix-powder. Zinc plated steel springs for fixing to the false ceiling. - AR41021 – White rim - AR41022 – Black rim - AR41023 – Golden rim
Light Controller	Clear tempered glass.
Mounting	Recessed in false ceiling.
Control Gear	High quality Magnetic Transformer. High quality Electronic Transformer. High quality Dimmable Electronic Transformer.
Voltage / Frequency	220v - 240v, 50 / 60Hz. "Other Voltages upon request"
Cable Entry	Direct connection.
Lamps	20, 35, 50 & 75 watt Halogen QR-CB 51 , 12v.
Emergency Unit	3 Hours duration Emergency Unit "EMU" with battery pack Maintained "/M" or Non-Maintained "/NM" for Halogen lamp, and various voltage networks combinations.

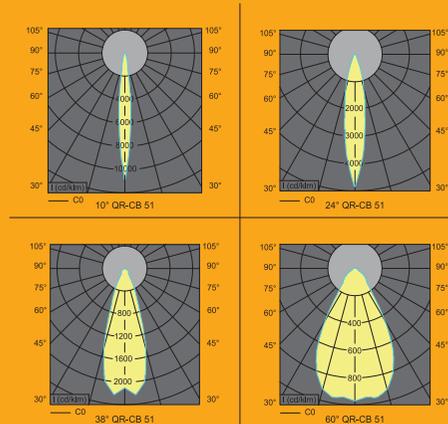
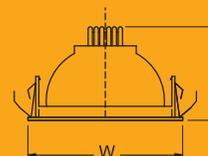
Technical Data

To Order : follow the sequence mr - ls - tt - v/h - emu

Model Reference	Lamp Number	Lamp Size watt	Transformer Type	Voltage / Frequency V / Hz	Power Factor	Accessories	Emergency Unit	Physical Characteristics			
								W	H	C	
								mm	mm	mm	
AR4102	1	20 QR-CB51	MT (Magnetic)	220 - 240V 50 / 60Hz	-----	-----	3/NM 3 hours Non-Maintained	100	58	87	
		35 QR-CB51	ET (Electronic)								3/M 3 hours Maintained
		50 QR-CB51									

Photometrics & Dimensions

AR4102



Deep Recessed Spotlight

SERIES : AR4106



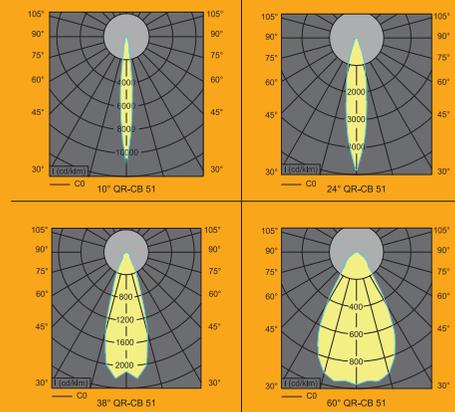
Applications	Suitable to be used in: offices, lobbies, entrances, showrooms, corridors, circulation areas, stairs, waiting area in clinics, banks governmental premises, general lighting application, ...
Housing	Made of die-cast aluminum, metal parts treated with a full degreasing and phosphate process. painted in stove enameled baked epoxy polyester mix-powder. Zinc plated steel springs for fixing to the false ceiling. - AR41061 – White rim - AR41062 – Black rim - AR41063 – Golden rim
Light Controller	Clear tempered glass.
Mounting	Recessed in false ceiling.
Control Gear	High quality Magnetic Transformer. High quality Electronic Transformer. High quality Dimmable Electronic Transformer.
Voltage / Frequency	220v - 240v, 50 / 60Hz. "Other Voltages upon request"
Cable Entry	Direct connection.
Lamps	20, 35, 50 & 75 watt Halogen QR-CB 51, 12v.
Emergency Unit	3 Hours duration Emergency Unit "EMU" with battery pack Maintained "/M" or Non-Maintained "/NM" for Halogen lamp, and various voltage networks combinations.

Technical Data

Model Reference	Lamp Number	Lamp Size watt	Transformer Type	Voltage / Frequency V / Hz	Power Factor	Accessories	Emergency Unit	Physical Characteristics		
								W mm	H mm	C mm
AR4106	1	20 QR-CB51	MT (Magnetic)	220 - 240V 50 / 60Hz	----	----	3/NM 3 hours Non-Maintained	90	72	77
		35 QR-CB51	ET (Electronic)							
		50 QR-CB51								

Photometrics & Dimensions

AR4106



Recessed Deep Reflector Downlight

SERIES : DL100



Applications	Suitable to be used in: offices, lobbies, entrances, showrooms, corridors, circulation areas, stairs, waiting area in clinics, banks governmental premises, general lighting application, ...
Housing	Made of high quality aluminum, painted in stove enameled white baked epoxy polyester mix-powder. "Other color finishes upon request"
Light Controller	Vacuum metalized pure oxidized anode-process-polished aluminum reflector, with or without protection tempered glass. - DL100/ A – without glass - DL100/AB – frosted (Sand Blasted) glass - DL100/AG – clear glass - DL100/AC – semi frosted - DL100/AP – printed / dot
Mounting	Recessed in false ceiling.
Control Gear	High Power Factor "HPF" (≥ 90%) Conventional Control Gear "CCG". High Frequency Electronic Control Gear "ECG". High Frequency Dimmable Electronic Control Gear "ECG".
Voltage / Frequency	220v - 240v, 50 / 60Hz. "Other Voltages upon request"
Cable Entry	1x22 mm Ø hole on the side of the control gear box. "Extra knock-out holes upon request"
Lamps	13,18 & 26 watt TC-D/TC-T Compact Fluorescent for Normal Start "NS", or TC-DE/TC-TE for Electronic High Frequency "HF" Ballast "EB".
Emergency Unit	3 Hours duration Emergency Unit "EMU" with battery pack Maintained "/M" or Non-Maintained "/NM" for one lamp, and for various lamps types and voltage networks combinations. "Additional Emergency Units to operate more than one lamp on request"

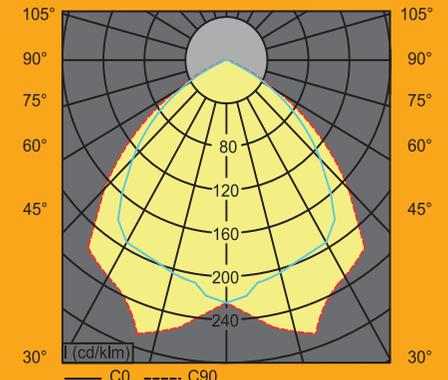
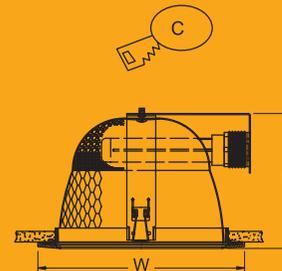
Technical Data

To Order : follow the sequence mr/at - ln/lS - cgt - v/h - pf - acc -emu

Model Reference	Attachment	Lamp Number	Lamp Size watt	Control Gear Type	Voltage Frequency V / Hz	Power Factor	Optional Accessories	Emergency Unit	Physical Characteristics			
									W	H	C	
									mm	mm	mm	
DL100	---	1	13	EB Electronic High Frequency	220 - 240V 50 / 60Hz	HPF High Power Factor	FTB Fused Terminal Block	3/NM 3 hours Non-Maintained	229	148	215	
	AB								18	EBD Dimmable Electronic High Frequency		RISC Radio Interference Suppression Capacitor
	AG	2	26			HF High Frequency				236	153	
	AC											
	AP											

Photometrics & Dimensions

DL100 /2/26w



Recessed Shallow Reflector Downlight

SERIES : DL110



Applications	Suitable to be used in: offices, lobbies, entrances, showrooms, corridors, circulation areas, stairs, waiting area in clinics, banks governmental premises, general lighting application, ...
Housing	Made of high quality aluminum, painted in stove enameled white baked epoxy polyester mix-powder. "Other color finishes upon request"
Light Controller	Vacuum metalized pure oxidized anode-process-polished aluminum reflector, with or without protection tempered glass. - DL110/A – without glass - DL110/CB – frosted (sand blasted) glass - DL110/CC – semi frosted glass - DL110/CG – clear glass - DL110/CP – printed / dot
Mounting	Recessed in false ceiling.
Control Gear	High Power Factor "HPF" (≥ 90%) Conventional Control Gear "CCG". High Frequency Electronic Control Gear "ECG". High Frequency Dimmable Electronic Control Gear "ECG".
Voltage / Frequency	220v - 240v, 50 / 60Hz. "Other Voltages upon request"
Cable Entry	1x22 mm Ø hole on the side of the control gear box. "Extra knock-out holes upon request"
Lamps	15, 20 & 23 watt E27 Energy Saving Compact Fluorescent direct voltage lamps 13,18 & 26 watt TC-D/TC-T Compact Fluorescent for Normal Start "NS", or TC-DE/TC-TE for Electronic High Frequency "HF" Ballast "EB". 32 & 42 watt TC-TE for Electronic High Frequency "HF" Ballast "EB".
Emergency Unit	3 Hours duration Emergency Unit "EMU" with battery pack Maintained "M" or Non-Maintained "NM" for one lamp, and for various lamps types and voltage networks combinations. "Additional Emergency Units to operate more than one lamp on request"

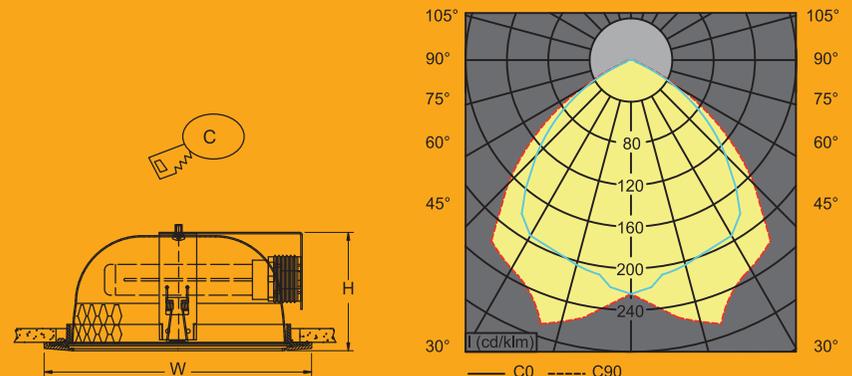
Technical Data

To Order : follow the sequence mr/at - ln/lr - cgt - v/h - pf - acc -emu

Model Reference	Attachment	Lamp Number	Lamp Size watt	Control Gear Type	Voltage Frequency V / Hz	Power Factor	Optional Accessories	Emergency Unit	Physical Characteristics		
									W mm	H mm	C mm
DL110	----	1	13D/T	NS Normal Start	220 - 240V 50 / 60Hz	HPF High Power Factor	FTB Fused Terminal Block	3/NM 3 hours Non-Maintained	229	116	215
			18D/T	DEOS Electronic Starter							
	CB CC CG CP	2	26D/T	RS Rapid Start					236	116	
			32T	EB Electronic High Frequency							
42T	EBD Dimmable Electronic High Frequency										

Photometrics & Dimensions

DL110 2/42W



Recessed Shallow Reflector Downlight

SERIES : DL200



Applications	Suitable to be used in: offices, lobbies, entrances, showrooms, corridors, circulation areas, stairs, waiting area in clinics, banks governmental premises, general lighting application, ...
Housing	Made of high quality aluminum, painted in stove enameled white baked epoxy polyester mix-powder. "Other color finishes upon request"
Light Controller	Vacuum metalized pure oxidized anode-process-polished aluminum reflector, with protection tempered glass - DL200/CB – frosted (sand blasted) glass - DL200/CC – semi frosted - DL200/CG – clear - DL200/CP – printed / dot
Mounting	Recessed in false ceiling.
Control Gear	Direct connection to the mains
Voltage / Frequency	220v - 240v, 50 / 60Hz. "Other Voltages upon request"
Cable Entry	1x22 mm Ø hole on the side.
Lamps	15, 20 & 23 watt E27 Energy Saving Compact Fluorescent direct voltage lamps.

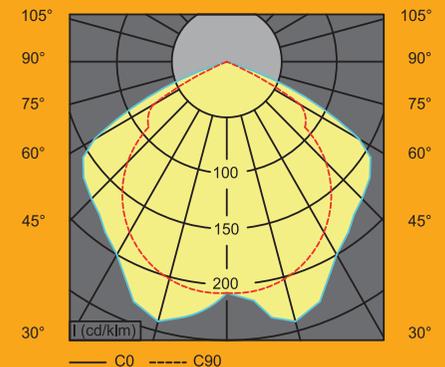
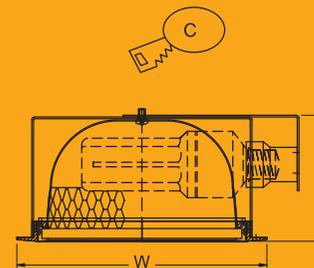
Technical Data

To Order : follow the sequence mr/at - ln/lS - v/h

Model Reference	Attachment	Lamp Number	Lamp Size	Control Gear Type	Voltage Frequency	Power Factor	Accessories	Emergency Unit	Physical Characteristics		
									W	H	C
									watt	V / Hz	mm
DL200	CB	1	15EL								
	CC		20EL	-----	220 - 240V 50 / 60Hz	-----	-----	-----	220	116	200
	CG		23EL								
	CP	2									

Photometrics & Dimensions

DL200 2/23w



Recessed Shallow Reflector Downlight

SERIES : DL201



Applications	Suitable to be used in: offices, lobbies, entrances, showrooms, corridors, circulation areas, stairs, waiting area in clinics, banks governmental premises, general lighting application, ...
Housing	Made of high quality aluminum, painted in stove enameled white baked epoxy polyester mix-powder. "Other color finishes upon request"
Light Controller	Vacuum metalized pure oxidized anode-process-polished aluminum reflector, with protection tempered glass - DL201/MB – frosted (sand blasted) glass - DL201/MG – clear - DL201/MP – printed / dot - DL201/MC – semi frosted
Mounting	Recessed in false ceiling.
Control Gear	High Power Factor "HPF" (≥ 90%) Conventional Control Gear "CCG". High Frequency Electronic Control Gear "ECG".
Voltage / Frequency	220v - 240v, 50 / 60Hz. "Other Voltages upon request"
Cable Entry	1x22 mm Ø hole on the side of the control gear box. "Extra knock-out holes upon request"
Lamps	70 watt RX7s Metal Halide double-ended lamp.

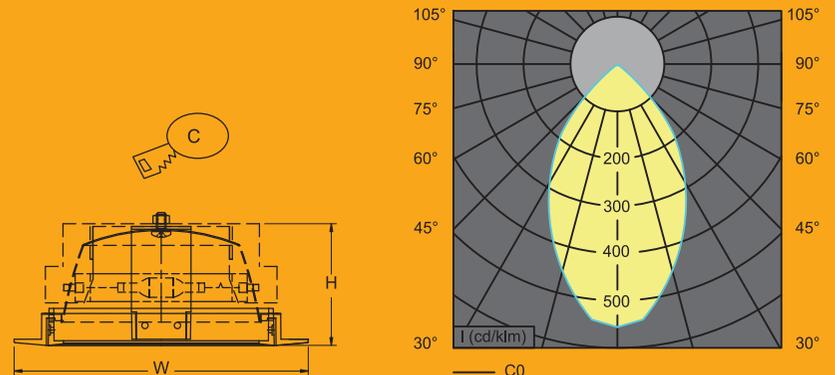
Technical Data

To Order : follow the sequence mr/at - ln/lis - cgt - v/h - pf - acc -emu

Model Reference	Attachment	Lamp Number	Lamp Size watt	Control Gear Type	Voltage / Frequency V / Hz	Power Factor	Optional Accessories	Physical Characteristics		
								W mm	H mm	C mm
DL201	MB	1	70	CCG (Ballast+Igniter+Capacitor)	220 - 240V 50 / 60Hz	HPF High Power Factor	FTB Fused Terminal Block	163	67	144
	MG									
	MP									
	MC									

Photometrics & Dimensions

DL201 70w



Recessed Shallow Reflector Downlight

SERIES : DL202



Applications	Suitable to be used in: offices, lobbies, entrances, showrooms, corridors, circulation areas, stairs, waiting area in clinics, banks governmental premises, general lighting application, ...
Housing	Made of high quality aluminum, painted in stove enameled white baked epoxy polyester mix-powder. "Other color finishes upon request"
Light Controller	Vacuum metalized pure oxidized anode-process-polished aluminum reflector, with protection tempered glass - DL202/MB – frosted (sand blasted) glass - DL202/MG – clear - DL202/MP – printed / dot - DL202/MC – semi frosted
Mounting	Recessed in false ceiling.
Control Gear	High Power Factor "HPF" (≥ 90%) Conventional Control Gear "CCG". High Frequency Electronic Control Gear "ECG".
Voltage / Frequency	220v - 240v, 50 / 60Hz. "Other Voltages upon request"
Cable Entry	1x22 mm Ø hole on the side of the control gear box. "Extra knock-out holes upon request"
Lamps	70 & 150 watt RX7s Metal Halide double-ended lamp.

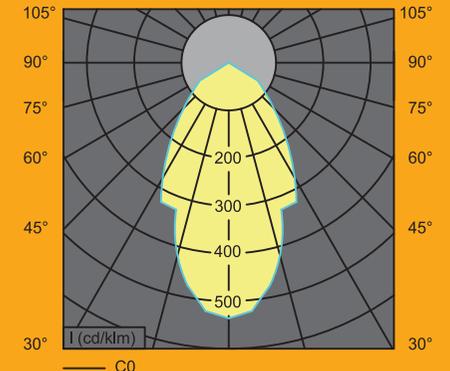
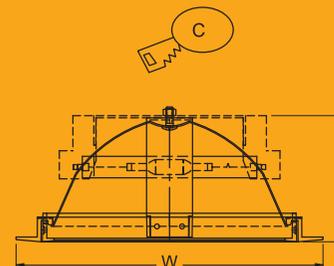
Technical Data

To Order : follow the sequence mr/at - ln/lr - cgt - v/h - pf - acc -emu

Model Reference	Attachment	Lamp Number	Lamp Size watt	Control Gear Type	Voltage / Frequency V / Hz	Power Factor	Accessories	Physical Characteristics		
								W mm	H mm	C mm
DL202	MB	1	70	CCG (Ballast+Igniter+Capacitor)	220 - 240V 50 / 60Hz	HPF High Power Factor	FTB Fused Terminal Block	220	90	200
	MG									
	MP									
	MC	150	ECG (Electronic)							

Photometrics & Dimensions

DL202 150w



Recessed Shallow Reflector Downlight

SERIES : DL203



Applications	Suitable to be used in: offices, lobbies, entrances, showrooms, corridors, circulation areas, stairs, waiting area in clinics, banks governmental premises, general lighting application, ...
Housing	Made of high quality aluminum, painted in stove enameled white baked epoxy polyester mix-powder. "Other color finishes upon request"
Light Controller	Vacuum metalized pure oxidized anode-process-polished aluminum reflector. with protection tempered glass. - DL203/CB – frosted (sand blasted) glass - DL203/CC – semi frosted - DL203/CG – clear - DL203/CP – printed / dot
Mounting	Recessed in false ceiling.
Control Gear	High Power Factor "HPF" (≥ 90%) Conventional Control Gear "CCG". High Frequency Electronic Control Gear "ECG". High Frequency Dimmable Electronic Control Gear "ECG".
Voltage / Frequency	220v - 240v, 50 / 60Hz. "Other Voltages upon request"
Cable Entry	1x22 mm Ø hole on the side of the control gear box. "Extra knock-out holes upon request"
Lamps	15, 20 & 23 watt E27 Energy Saving Compact Fluorescent direct voltage lamps 13,18 & 26 watt TC-D/TC-T Compact Fluorescent for Normal Start "NS", or TC-DE/TC-TE for Electronic High Frequency "HF" Ballast "EB". 32 & 42 watt TC-TE for Electronic High Frequency "HF" Ballast "EB".
Emergency Unit	3 Hours duration Emergency Unit "EMU" with battery pack Maintained "M" or Non-Maintained "NM" for one lamp, and for various lamps types and voltage networks combinations. "Additional Emergency Units to operate more than one lamp on request"

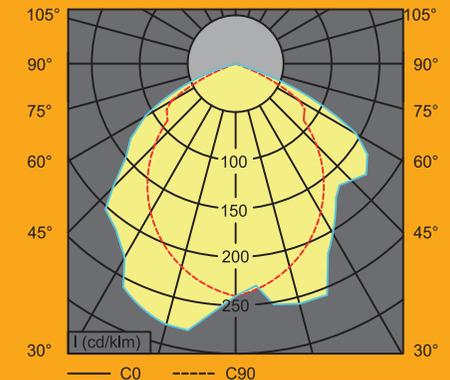
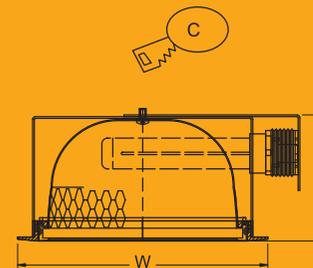
Technical Data

To Order : follow the sequence mr/at - ln/ls - cgt - v/h - pf - acc -emu

Model Reference	Attachment	Lamp Number	Lamp Size	Control Gear Type	Voltage / Frequency	Power Factor	Optional Accessories	Emergency Unit	Physical Characteristics		
									W	H	C
									watt	V / Hz	mm
DL203	CB	1	13D/T	EB Electronic High Frequency	220 - 240V 50 / 60Hz	HPF High Power Factor	FTB Fused Terminal Block	3/NM 3 hours Non- Maintained	220	116	200
			18D/T								
	CG	2	26D/T	EBD Dimmable Electronic High Frequency	HF High Frequency	RISC Radio Interference Suppression Capacitor	3/M 3 hours Maintained				
			32T								
	CP	42T									

Photometrics & Dimensions

DL203 2/32w



Recessed Shallow Reflector Downlight

SERIES : DL300



Applications	Suitable to be used in: offices, lobbies, entrances, showrooms, corridors, circulation areas, stairs, waiting area in clinics, banks governmental premises, general lighting application, ...
Housing	Made of high quality die-cast aluminum with mechanical bracket for fixing glass diffuser, painted in stove enameled white baked epoxy polyester mix-powder. "Other color finishes upon request"
Light Controller	Vacuum metalized pure oxidized anode-process polished aluminum reflector, with protection tempered glass. - DL300/AB – frosted (sand blasted) glass - DL300/AC – semi frosted - DL300/AG – clear - DL300/AP – printed / dot
Mounting	Recessed in false ceiling.
Control Gear	High Power Factor "HPF" (≥ 90%) Conventional Control Gear "CCG". High Frequency Electronic Control Gear "ECG". High Frequency Dimmable Electronic Control Gear "ECG".
Voltage / Frequency	220v - 240v, 50 / 60Hz. "Other Voltages upon request"
Cable Entry	1x22 mm Ø hole on the side of the control gear box. "Extra knock-out holes upon request"
Lamps	13,18 & 26 watt TC-D/TC-T Compact Fluorescent for Normal Start "NS", or TC-DE/TC-TE for Electronic High Frequency "HF" Ballast "EB".
Emergency Unit	3 Hours duration Emergency Unit "EMU" with battery pack Maintained "M" or Non-Maintained "NM" for one lamp, and for various lamps types and voltage networks combinations. "Additional Emergency Units to operate more than one lamp on request"

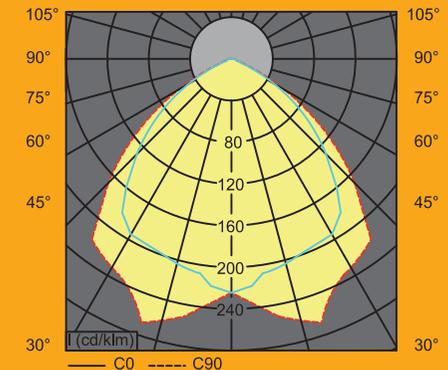
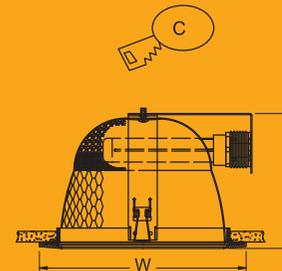
Technical Data

To Order : follow the sequence mr/at - ln/lS - cgt - v/h - pf - acc -emu

Model Reference	Attachment	Lamp Number	Lamp Size	Control Gear Type	Voltage / Frequency	Power Factor	Optional Accessories	Emergency Unit	Physical Characteristics					
									W	H	C			
			watt		V / Hz				mm	mm	mm			
DL300	AB	1	13D/T	EB Electronic High Frequency	220 - 240V 50 / 60Hz	HPF High Power Factor	FTB Fused Terminal Block	3/NM 3 hours Non-Maintained	236	153	215			
	AC		18D/T											
	AG		26D/T											
	AP	2	32T	EBD Dimmable Electronic High Frequency								HF High Frequency	RISC Radio Interference Suppression Capacitor	3/M 3 hours Maintained
			42T											

Photometrics & Dimensions

DL300 2/18w



Recessed Shallow Reflector Downlight

SERIES : DL310



Applications	Suitable to be used in: offices, lobbies, entrances, showrooms, corridors, circulation areas, stairs, waiting area in clinics, banks governmental premises, general lighting application, ...
Housing	Made of high quality aluminum, painted in stove enameled white baked epoxy polyester mix-powder. "Other color finishes upon request"
Light Controller	Vacuum metalized pure oxidized anode-process-polished aluminum reflector, with or without protection tempered glass. - DL310 – without protection glass - DL310/AB – frosted (sand blasted) - DL310/AC – semi frosted - DL310/AG – clear - DL310/AP – printed / dot
Mounting	Recessed in false ceiling.
Control Gear	High Power Factor "HPF" (≥ 90%) Conventional Control Gear "CCG". High Frequency Electronic Control Gear "ECG". High Frequency Dimmable Electronic Control Gear "ECG".
Voltage / Frequency	220v - 240v, 50 / 60Hz. "Other Voltages upon request"
Cable Entry	1x22 mm Ø hole on the side of the control gear box. "Extra knock-out holes upon request"
Lamps	15, 20 & 23 watt E27 Energy Saving Compact Fluorescent direct voltage lamps 13,18 & 26 watt TC-D/TC-T Compact Fluorescent for Normal Start "NS", or TC-DE/TC-TE for Electronic High Frequency "HF" Ballast "EB". 32 & 42 watt TC-TE for Electronic High Frequency "HF" Ballast "EB".
Emergency Unit	3 Hours duration Emergency Unit "EMU" with battery pack Maintained "M" or Non-Maintained "NM" for one lamp, and for various lamps types and voltage networks combinations. "Additional Emergency Units to operate more than one lamp on request"

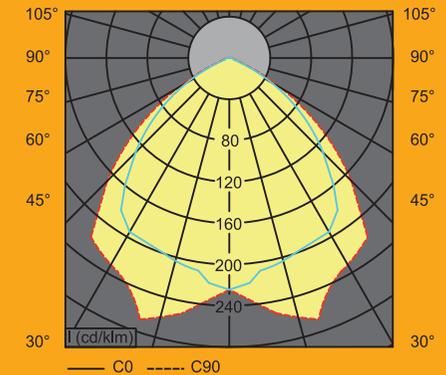
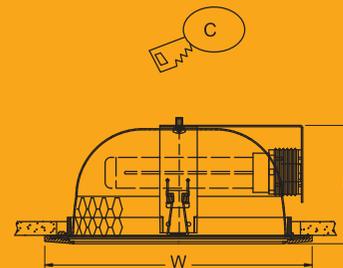
Technical Data

To Order : follow the sequence mr/at - ln/lr - cgt - v/h - pf - acc -emu

Model Reference	Attachment	Lamp Number	Lamp Size	Control Gear Type	Voltage / Frequency	Power Factor	Optional Accessories	Emergency Unit	Physical Characteristics		
									W	H	C
			watt	V / Hz					mm	mm	mm
DL310	AB	1	13D/T	EB Electronic High Frequency	220 - 240V 50 / 60Hz	HPF High Power Factor	FTB Fused Terminal Block	3/NM 3 hours Non-Maintained	236	153	215
	AC		18D/T	EBD Dimmable Electronic High Frequency							
	AG				HF High Frequency	RISC Radio Interference Suppression Capacitor	3/M 3 hours Maintained				
	AP	2	26D/T								

Photometrics & Dimensions

DL310 2/32w



Recessed Deep Reflector Downlight

SERIES : AR430



Applications	Suitable to be used in: offices, lobbies, entrances, showrooms, corridors, circulation areas, stairs, waiting area in clinics, banks governmental premises, general lighting application, ...
Housing	Made of die-cast aluminum, metal parts treated with a full degreasing and phosphate process. painted in stove enameled baked epoxy (white, black, golden and chrome) polyester mix-powder. Equipped with mechanism for adjusting lamp holder position, allowing the use of lamps of different shapes and sizes. Zinc plated steel springs for fixing to the false ceiling.
Light Controller	Pure aluminum reflector. AR4301 Golden Aluminum Reflector: - AR43011 – Golden Reflector with White Rim. - AR43012 – Golden Reflector with Black Rim. - AR43013 – Golden Reflector with Golden Rim. - AR43014 – Golden Reflector with Chrome Rim. AR4302 Silver Aluminum Reflector: - AR43021 – Silver Reflector with White Rim. - AR43022 – Silver Reflector with Black Rim. - AR43023 – Silver Reflector with Golden Rim. - AR43024 – Silver Reflector with Chrome Rim.
Mounting	Recessed in false ceiling.
Control Gear	High Power Factor "HPF" (≥ 90%) Conventional Control Gear "CCG". High Frequency Electronic Control Gear "ECG". High Frequency Dimmable Electronic Control Gear "ECG".
Voltage / Frequency	220v - 240v, 50 / 60Hz. "Other Voltages upon request"
Cable Entry	1x22 mm Ø hole on the side of the control gear box. "Extra knock-out holes upon request"
Lamps	150 watt Incandescent GLS E27 – Max 100 watt QT-32 Quartz Tube E27 – Max 15, 20 & 23 watt EL Energy Saving E27 13 & 18 watt TC-D Compact Fluorescent for Normal Start "NS", or TC-DE for Electronic High Frequency "HF" Ballast "EB". 50 & 80 watt HME High Pressure Mercury Vapor E27. 70 watt HIE/HIT Metal Halide E27. 50 & 70 watt HSE/HST High Pressure Sodium E27.
Emergency Unit	3 Hours duration Emergency Unit "EMU" with battery pack Maintained "M" or Non-Maintained "NM" for CF lamps, and various voltage networks combinations.

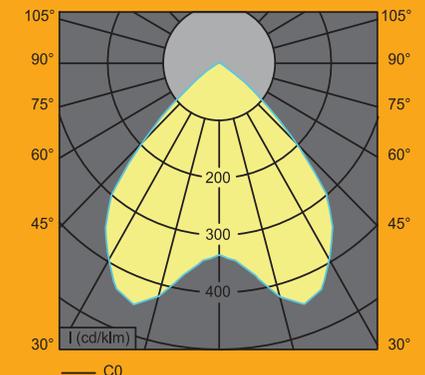
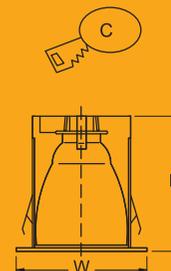
Technical Data

To Order : follow the sequence mr/rrc - ln/lis - cgt - v/h - pf - acc - emu

Model Reference	Reflector Rim Color	Lamp Number	Lamp Size	Control Gear Type	Voltage / Frequency	Power Factor	Optional Accessories	Emergency Unit	Physical Characteristics		
									W	H	C
									mm	mm	mm
AR430	11	1	40GLS 60GLS 75GLS 100GLS 150GLS	EB Electronic High Frequency	220 - 240V 50 / 60Hz	LPF Low Power Factor	FTB Fused Terminal Block	3/NM 3 hours Non- Maintained	195	200	185
	12		60QT32 75QT32 100QT32								
	13		15EL 20EL 23EL								
	14		50HM 80HM								
	21		70HL								
	22		50HS 70HS								
	23										
	24										

Photometrics & Dimensions

AR430 150w



Recessed Deep Reflector Downlight

SERIES : AR435



Applications	Suitable to be used in: offices, lobbies, entrances, showrooms, corridors, circulation areas, stairs, waiting area in clinics, banks governmental premises, general lighting application, ...
Housing	Made of die-cast aluminum, metal parts treated with a full degreasing and phosphate process. painted in stove enameled baked epoxy (white, black, golden and chrome) polyester mix-powder. Equipped with mechanism for adjusting lamp holder position, allowing the use of lamps of different shapes and sizes. Zinc plated steel springs for fixing to the false ceiling.
Light Controller	Pure aluminum reflector. AR4351 Golden Aluminum Reflector: - AR43511 – Golden Reflector with White Rim. - AR43512 – Golden Reflector with Black Rim. - AR43513 – Golden Reflector with Golden Rim. - AR43514 – Golden Reflector with Chrome Rim. AR4352 Silver Aluminum Reflector: - AR43521 – Silver Reflector with White Rim. - AR43522 – Silver Reflector with Black Rim. - AR43523 – Silver Reflector with Golden Rim. - AR43524 – Silver Reflector with Chrome Rim.
Mounting	Recessed in false ceiling.
Control Gear	High Power Factor "HPF" (≥ 90%) Conventional Control Gear "CCG". High Frequency Electronic Control Gear "ECG". High Frequency Dimmable Electronic Control Gear "ECG".
Voltage / Frequency	220v - 240v, 50 / 60Hz. "Other Voltages upon request"
Cable Entry	1x22 mm Ø hole on the side of the control gear box. "Extra knock-out holes upon request"
Lamps	100 watt Incandescent GLS E27 – Max 75 watt QT-32 Quartz Tube E27 – Max 15 & 20 watt EL Energy Saving E27 13 watt TC-D Compact Fluorescent for Normal Start "NS", or TC-DE for Electronic High Frequency "HF" Ballast "EB". 50 watt HME High Pressure Mercury Vapor E27. 50 watt HSE/HST High Pressure Sodium E27.
Emergency Unit	3 Hours duration Emergency Unit "EMU" with battery pack Maintained "M" or Non-Maintained "NM" for CF lamps, and various voltage networks combinations.

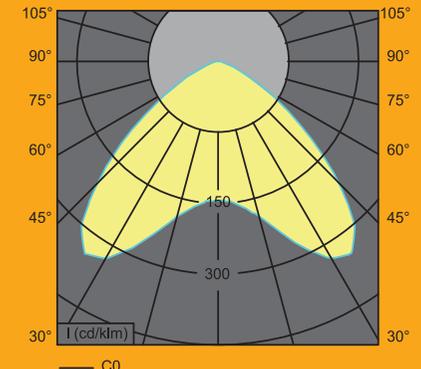
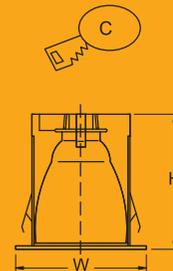
Technical Data

To Order : follow the sequencem mr/rrc - ln/l/s - cgt - v/h - pf - acc -emu

Model Reference	Reflector Rim Color	Lamp Number	Lamp Size	Control Gear Type	Voltage Frequency	Power Factor	Optional Accessories	Emergency Unit	Physical Characteristics								
									W	H	C						
									mm	mm	mm						
AR435	11	1	watt	EB Electronic High Frequency	220 - 240V 50 / 60Hz	LPF Low Power Factor	FTB Fused Terminal Block	3/NM 3 hours Non- Maintained	168	180	165						
	12																
	13																
	14																
	21											60QT32 75QT32	EBD Dimmable Electronic High Frequency	HPF High Power Factor	RISC Radio Interference Suppression Capacitor	3/M 3 hours Maintained	
	22											15EL 20EL		HF High Frequency			
	23											13D 18D		LF Low Frequency			
	24																

Photometrics & Dimensions

AR435 100w GLS



Recessed Deep Reflector Downlight

SERIES : AR437



Applications	Suitable to be used in: offices, lobbies, entrances, showrooms, corridors, circulation areas, stairs, waiting area in clinics, banks governmental premises, general lighting application, ...
Housing	Made of die-cast aluminum, metal parts treated with a full degreasing and phosphate process. painted in stove enameled baked epoxy (white, black, golden and chrome) polyester mix-powder. Equipped with mechanism for adjusting lamp holder position, allowing the use of lamps of different shapes and sizes. Zinc plated steel springs for fixing to the false ceiling.
Light Controller	Pure aluminum reflector. AR4371 Golden Aluminum Reflector: - AR43711 – Golden Reflector with White Rim. - AR43712 – Golden Reflector with Black Rim. - AR43713 – Golden Reflector with Golden Rim. - AR43714 – Golden Reflector with Chrome Rim. AR4372 Silver Aluminum Reflector: - AR43721 – Silver Reflector with White Rim. - AR43722 – Silver Reflector with Black Rim. - AR43723 – Silver Reflector with Golden Rim. - AR43724 – Silver Reflector with Chrome Rim.
Mounting	Recessed in false ceiling.
Control Gear	High Power Factor "HPF" (≥ 90%) Conventional Control Gear "CCG". High Frequency Electronic Control Gear "ECG". High Frequency Dimmable Electronic Control Gear "ECG".
Voltage / Frequency	220v - 240v, 50 / 60Hz. "Other Voltages upon request"
Cable Entry	1x22 mm Ø hole on the side of the control gear box. "Extra knock-out holes upon request"
Lamps	40 watt Incandescent GLS E27 -- Max 15 watt EL Energy Saving E27 5, 7 & 9 watt TC-S Compact Fluorescent for Normal Start "NS", or TC-SE for Electronic High Frequency "HF" Ballast "EB".
Emergency Unit	3 Hours duration Emergency Unit "EMU" with battery pack Maintained "M" or Non-Maintained "NM" for CF lamps, and various voltage networks combinations.

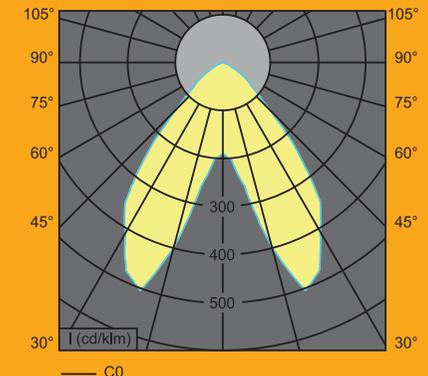
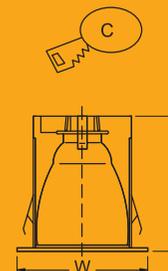
Technical Data

To Order : follow the sequence mr/rrc - ln/lr - cgt - v/h - pf - acc -emu

Model Reference	Reflector Rim Color	Lamp Number	Lamp Size	Control Gear Type	Voltage Frequency	Power Factor	Optional Accessories	Emergency Unit	Physical Characteristics		
									W	H	C
									mm	mm	mm
AR437	11	1	40GLS	NS Normal Start	220 - 240V 50 / 60Hz	LPF Low Power Factor	FTB Fused Terminal Block	3/NM 3 hours Non-Maintained	125	180	105
	12										
	13										
	14										
	21		5S/E 7S/E 9S/E			HPF High Power Factor	RISC Radio Interference Suppression Capacitor	3/M 3 hours Maintained			
	22										
	23										
	24										

Photometrics & Dimensions

AR437 15w EL



Recessed Glass Diffuser

SERIES : NSOFT



Applications	Suitable to be used in: offices, lobbies, entrances, showrooms, corridors, circulation areas, stairs, waiting area in clinics, banks governmental premises, general lighting application, ...
Housing	Made of press welded Cold Rolled Steel "CRS" sheet of tight construction to prevent light leakage, all metal parts pre-treated with a full degreasing and phosphate process, painted in stove enameled white baked epoxy polyester mix-powder to ensure high reflectance of painted surfaces. *Other color finishes upon request*
Light Controller	Drop semi-frosted tempered glass diffuser with high mechanical impact. Diffuser is held to the body by means of four stainless steel locking nut's.
Mounting	Recessed in false ceiling.
Control Gear	High Power Factor "HPF" (≥ 90%) Conventional Control Gear "CCG". High Frequency Electronic Control Gear "ECG". High Frequency Dimmable Electronic Control Gear "ECG".
Voltage / Frequency	220v - 240v, 50 / 60Hz. *Other Voltages upon request*
Cable Entry	1x22 mm Ø hole on top. *Extra knock-out holes upon request*
Lamps	13, 18 & 26 watt TC-D/TC-T Compact Fluorescent for Normal Start "NS" 13, 18 & 26 watt TC-DE/TC-TE Compact Fluorescent for Electronic High Frequency "HF" Ballast "EB". 13, 18, 26, 32, 42, 57 & 70 watt TC-TE Compact Fluorescent for Electronic High Frequency "HF" Ballast "EB". 18, 24, 36, 40, 55 & 80 watt TC-L Compact Fluorescent for Electronic High Frequency "HF" Ballast "EB". 70 & 150 watt RX7s Metal Halide double-ended lamp.
Emergency Unit	3 Hours duration Emergency Unit "EMU" with battery pack Maintained "M" or Non-Maintained "NM" for one lamp, and for various lamps types and voltage networks combinations. *Additional Emergency Units to operate more than one lamp on request*

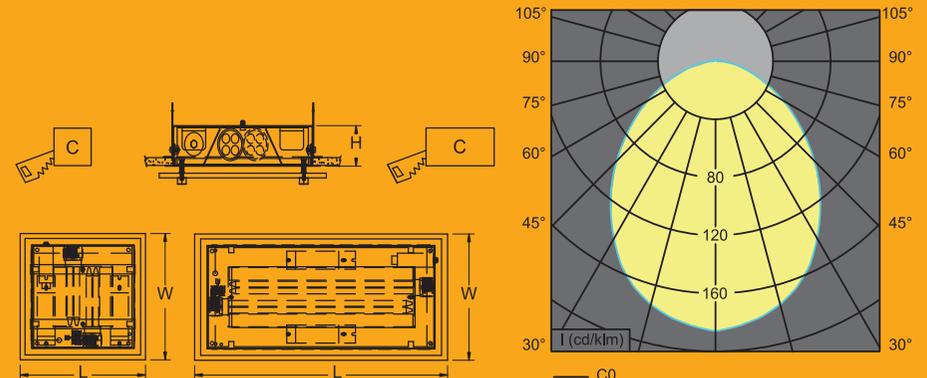
Technical Data

To Order : follow the sequence mr - ln/lr - cgt - v/h - pf - acc -emu

Model Reference	Lamp Number	Lamp Size	Control Gear Type	Voltage / Frequency	Power Factor	Optional Accessories	Emergency Unit	Physical Characteristics											
								L	W	H	C								
		watt						mm	mm	mm	mm								
NSOFT	1	13D/T	EB Electronic High Frequency	220 - 240V 50 / 60Hz	HPF High Power Factor	FTB Fused Terminal Block	3/NM 3 hours Non-Maintained	270	270	54	230x230								
		18D/T																	
	26D/T																		
	32T																		
	42T																		
	2	36L										EBD Dimmable Electronic High Frequency	HF High Frequency	LF Low Frequency	3/M 3 hours Maintained	600	160	53	590x150
		40L																	
	2	55L																	
70CCG		---	270	270	74	230x230													
150CCG																			

Photometrics & Dimensions

NSOFT 2/36wL



Surface Deep Reflector Downlight

SERIES : S100



Applications	Suitable to be used in: offices, lobbies, entrances, showrooms, corridors, circulation areas, stairs, waiting area in clinics, banks governmental premises, general lighting application, ...
Housing	Made of high quality aluminum, painted in stove enameled white baked epoxy polyester mix-powder. *Other color finishes upon request
Light Controller	Vacuum metalized pure oxidized anode-process-polished aluminum reflector, with or without protection tempered glass. - S100 – without protection glass - S100/G – clear - S100/B – frosted (sand blasted) - S100/D – semi frosted - S100/P – printed / Dot
Mounting	Surface in the ceiling.
Control Gear	High Power Factor "HPF" (≥ 90%) Conventional Control Gear "CCG". High Frequency Electronic Control Gear "ECG". High Frequency Dimmable Electronic Control Gear "ECG".
Voltage / Frequency	220v - 240v, 50 / 60Hz. *Other Voltages upon request
Cable Entry	1x22 mm Ø hole on top. *Extra knock-out holes upon request
Lamps	13,18 & 26 watt TC-D/TC-T Compact Fluorescent for Normal Start "NS", or TC-DE/TC-TE for Electronic High Frequency "HF" Ballast "EB".
Emergency Unit	3 Hours duration remote Emergency Unit "EMU" with battery pack Maintained "M" or Non-Maintained "NM" for CF lamps, and various voltage networks combinations.

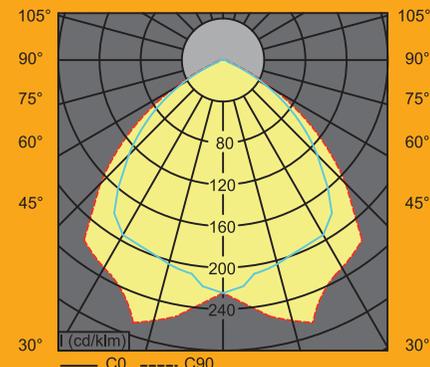
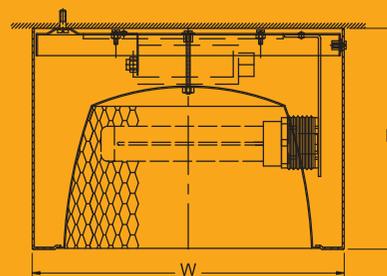
Technical Data

To Order : follow the sequence mr/at - ln/ls - cgt - v/h - pf - acc -emu

Model Reference	Attachment	Lamp Number	Lamp Size	Control Gear Type	Voltage / Frequency	Power Factor	Optional Accessories	Emergency Unit	Physical Characteristics		
									W	H	C
			watt								
				V / Hz				mm			
S100	---	1	13D/T	EB Electronic High Frequency	220 - 240V 50 / 60Hz	HPF High Power Factor	FTB Fused Terminal Block	3/NM 3 hours Non- Maintained	242	170	-
	GC		18D/T	EBD Dimmable Electronic High Frequency							
	GD	2	26D/T					Only in a remote box			
	GF										
	GS										

Photometrics & Dimensions

S 100 2/26w



Surface Shallow Reflector Downlight

SERIES : SS100



Applications	Suitable to be used in: offices, lobbies, entrances, showrooms, corridors, circulation areas, stairs, waiting area in clinics, banks governmental premises, general lighting application, ...
Housing	Made of high quality aluminum, painted in stove enameled white baked epoxy polyester mix-powder. *Other color finishes upon request
Light Controller	Vacuum metalized pure oxidized anode-process-polished aluminum reflector, with or without protection tempered glass. - SS100 – without protection glass - SS100/G – clear glass - SS100/B – frosted - SS100/D – semi frosted - SS100/P – printed
Mounting	Surface in the ceiling.
Control Gear	High Power Factor "HPF" (≥ 90%) Conventional Control Gear "CCG". High Frequency Electronic Control Gear "ECG". High Frequency Dimmable Electronic Control Gear "ECG".
Voltage / Frequency	220v - 240v, 50 / 60Hz. *Other Voltages upon request
Cable Entry	1x22 mm Ø hole on top. *Extra knock-out holes upon request
Lamps	13,18 & 26 watt TC-D/TC-T Compact Fluorescent for Normal Start "NS", or TC-DE/TC-TE for Electronic High Frequency "HF" Ballast "EB".
Emergency Unit	3 Hours duration remote Emergency Unit "EMU" with battery pack Maintained "M" or Non-Maintained "NM" for CF lamps, and various voltage networks combinations.

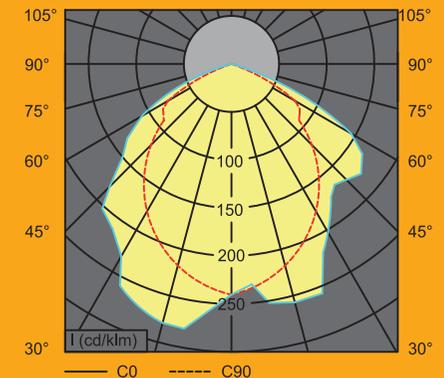
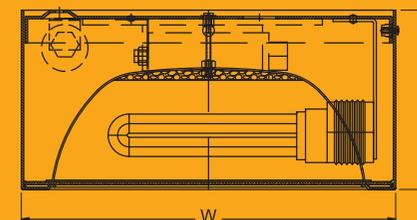
Technical Data

To Order : follow the sequence mr/at - ln/lS - cgt - v/h - pf - acc -emu

Model Reference	Attachment	Lamp Number	Lamp Size	Control Gear Type	Voltage / Frequency	Power Factor	Accessories	Emergency Unit	Physical Characteristics		
									W	H	C
									mm	mm	mm
SS100	---	1	13D/T	EB Electronic High Frequency	220 - 240V 50 / 60Hz	LPF Low Power Factor	FTB Fused Terminal Block	3/NM 3 hours Non- Maintained	242	115	--
			18D/T								
	GC	2	26D/T	EBD Dimmable Electronic High Frequency	HPF High Power Factor	RISC Radio Interference Suppression Capacitor	3/M 3 hours Maintained				
			32T								
GF	GS	42T	HF High Frequency	---	---	Only in a remote box					

Photometrics & Dimensions

SS100 2/26w



Surface Cylindrical Downlight

SERIES : 301



Applications	Suitable to be used in: offices, lobbies, entrances, showrooms, corridors, circulation areas, stairs, waiting area in clinics, banks government premises, general lighting application, ...
Housing	Made of high quality aluminum, painted in stove enameled white or black baked epoxy polyester mix-powder. Cylindrical profile with robust structure. "Other color finishes upon request"
Light Controller	Open type without reflector for PAR lamps or with high quality vacuum metalized pure oxidized anode-process-polished aluminum reflector and with or without protection tempered glass. - 301x – without reflector & glass - 301x/S – with reflector but w/out glass - 301x/SG – with reflector & safety glass - 301x/SB – with reflector & frosted safety glass - 301x/SD – with reflector & semi frosted - 301x/SP – with reflector & printed / Dot
Mounting	Surface on ceiling.
Control Gear	High Power Factor "HPF" (≥ 90%) Conventional Control Gear "CCG". High Frequency Electronic Control Gear "ECG". High Frequency Dimmable Electronic Control Gear "ECG".
Voltage / Frequency	220v - 240v, 50 / 60Hz. "Other Voltages upon request"
Cable Entry	1x22 mm Ø hole on top. "Extra knock-out holes upon request"
Lamps	3010/xx - 150 watt Incandescent GLS E27 – Max 120 watt PAR 38 E27 -- Max 100 watt QT-32 Quartz Tube E27 – Max 15, 20 & 23 watt EL Energy Saving E27 3011/xx -13,18 & 26 watt TC-D/TC-T Compact Fluorescent for Normal Start "NS", or TC-DE/TC-TE for Electronic High Frequency "HF" Ballast "EB". 32 & 42 watt TC-TE for Electronic High Frequency "HF" Ballast "EB". 50, 80 & 125 watt HME High Pressure Mercury Vapor E27, 70, 100 & 150 watt HIE/HIT Metal Halide E27. 50 & 70 watt HSE/HST High Pressure Sodium E27. 3012/xx -57 & 70 watt TC-TE for Electronic High Frequency "HF" Ballast "EB". 250 watt HME High Pressure Mercury Vapor E40, 250 watt HIE/HIT Metal Halide E40. 100, 150 & 250 watt HSE/HST High Pressure Sodium E40.
Emergency Unit	3 Hours duration remote Emergency Unit "EMU" with battery pack Maintained "M" or Non-Maintained "NM" for CF lamps, and various voltage networks combinations.

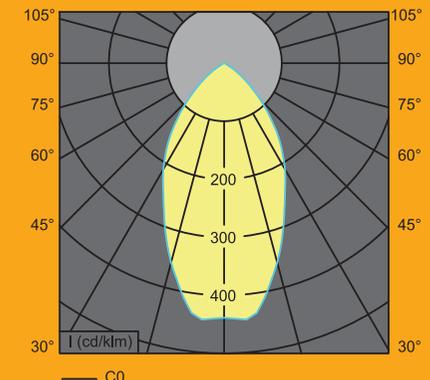
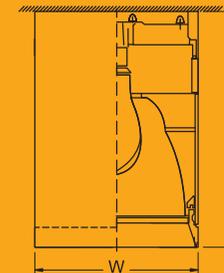
Technical Data

To Order : follow the sequence mr s/at - ln/lns - cgt - v/h - pf - emu

Model Reference	Size	Attachment	Lamp Number	Lamp Size	Control Gear Type	Voltage / Frequency	Power Factor	Accessories	Emergency Unit	Physical Characteristics	
				watt						W	H
										mm	mm
301	0	S	1	60PAR38 80PAR38 120PAR38	NS Normal Start	220 - 240V 50 / 60Hz	LPF Low Power Factor	----- 3/NM 3 hours Non-Maintained		130	200
				60GLS 75GLS 100GLS 150GLS							
	1	SG	1	60QT32 75QT32 100QT32	EB Electronic High Frequency	HPF High Power Factor	----- 3/M 3 hours Maintained		150	300	
				15EL 20EL 23EL							
	2	SP	1	70HL 100HL 150HL	EB Electronic High Frequency	LF Low Frequency	----- Only in a remote box		220	365	
				50HS 70HS							
				57T 70T							

Photometrics & Dimensions

301 250w HIE



Wall Cylindrical Up-Downlight

SERIES : 303



Applications	Suitable to be used in: offices, lobbies, entrances, showrooms, corridors, circulation areas, stairs, waiting area in clinics, banks governmental premises, general lighting application, ...
Housing	Made of high quality aluminum, painted in stove enameled white or black baked epoxy polyester mix-powder. Cylindrical profile with robust structure. "Other color finishes upon request"
Light Controller	Open type without reflector for PAR lamps or with high quality vacuum metalized pure oxidized anode-process-polished aluminum reflector and with or without protection tempered glass. - 303x – without reflector & glass - 303x/S – with reflector but w/out glass - 303x/SG – with reflector & safety glass - 303x/SB – with reflector & frosted safety glass - 303x/SD – with reflector & semi frosted - 303x/SP – with reflector & printed / Dot
Mounting	Surface wall mounted.
Control Gear	High Power Factor "HPF" (≥ 90%) Conventional Control Gear "CCG". High Frequency Electronic Control Gear "ECG". High Frequency Dimmable Electronic Control Gear "ECG".
Voltage / Frequency	220v - 240v, 50 / 60Hz. "Other Voltages upon request"
Cable Entry	1x22 mm Ø hole on top. "Extra knock-out holes upon request"
Lamps	3030/xx - 150 watt Incandescent GLS E27 – Max 120 watt PAR 38 E27 – Max 100 watt QT-32 Quartz Tube E27 – Max 15, 20 & 23 watt EL Energy Saving E27 3031/xx - 13, 18 & 26 watt TC-D/TC-T Compact Fluorescent for Normal Start "NS", or TC-DE/TC-TE for Electronic High Frequency "HF" Ballast "EB". 32 & 42 watt TC-TE for Electronic High Frequency "HF" Ballast "EB". 50, 80 & 125 watt HME High Pressure Mercury Vapor E27, 70, 100 & 150 watt HIE/HIT Metal Halide E27. 50 & 70 watt HSE/HST High Pressure Sodium E27. -3032/xx –57 & 70 watt TC-TE for Electronic High Frequency "HF" Ballast "EB". 250 watt HME High Pressure Mercury Vapor E40, 250 watt HIE/HIT Metal Halide E40. 100, 150 & 250 watt HSE/HST High Pressure Sodium E40.
Emergency Unit	Applicable only for remote mounting (indoor) with CFL lamp version

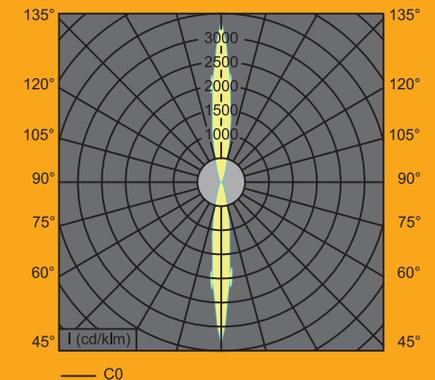
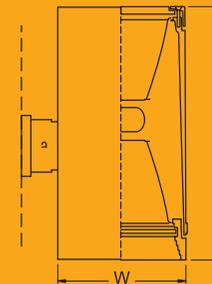
Technical Data

To Order : follow the sequence mr s/at - ln/s - cgt - v/h - pf - emu

Model Reference	Size	Attachment	Lamp Number	Lamp Size	Control Gear Type	Voltage / Frequency	Power Factor	Accessories	Emergency Unit	Physical Characteristics		
				watt						W	H	
										mm	mm	
303	0	-	2	60PAR38 80PAR38 120PAR38	NS Normal Start	220 - 240V 50 / 60Hz	LPF Low Power Factor	----- 3/NM 3 hours Non- Maintained		130	370	
				60GLS 75GLS 100GLS 150GLS								
				60QT32 75QT32 100QT32								
	1	SG	SB	2	15EL 20EL 23EL	EB Electronic High Frequency	220 - 240V 50 / 60Hz	HPF High Power Factor	----- 3/M 3 hours Maintained		150	600
					13D/T 18D/T 26D/T 32T 42T							
					50HM 80HM 125HM							
2	SP	SD	2	70HL 100HL 150HL	EB Electronic High Frequency	220 - 240V 50 / 60Hz	LF Low Frequency	----- Only in a remote box		220	700	
				50HS 70HS								
				57T 70T								

Photometrics & Dimensions

3032 2/70w HIE



Wall Cylindrical Downlight

SERIES : 304



Applications	Suitable to be used in: offices, lobbies, entrances, showrooms, corridors, circulation areas, stairs, waiting area in clinics, banks governmental premises, general lighting application, ...
Housing	Made of high quality aluminum, painted in stove enameled white or black baked epoxy polyester mix-powder. Cylindrical profile with robust structure. "Other color finishes upon request"
Light Controller	Open type without reflector for PAR lamps or with high quality vacuum metalized pure oxidized anode-process-polished aluminum reflector and with or without protection tempered glass. - 304x – without reflector & glass - 304x/S – with reflector but w/out glass - 304x/SG – with reflector & safety glass - 304x/SB – with reflector & frosted safety glass - 304x/SD – with reflector & semi frosted - 304x/SP – with reflector & printed / Dot
Mounting	Surface wall mounted.
Control Gear	High Power Factor "HPF" (≥ 90%) Conventional Control Gear "CCG". High Frequency Electronic Control Gear "ECG". High Frequency Dimmable Electronic Control Gear "ECG".
Voltage / Frequency	220v - 240v, 50 / 60Hz. "Other Voltages upon request"
Cable Entry	1x22 mm Ø hole on top. "Extra knock-out holes upon request"
Lamps	3040/xx - 150 watt Incandescent GLS E27 – Max 120 watt PAR 38 E27 -- Max 100 watt QT-32 Quartz Tube E27 – Max 15, 20 & 23 watt EL Energy Saving E27 3041/xx - 13, 18 & 26 watt TC-D/TC-T Compact Fluorescent for Normal Start "NS", or TC-DE/TC-TE for Electronic High Frequency "HF" Ballast "EB". 32 & 42 watt TC-TE for Electronic High Frequency "HF" Ballast "EB". 50, 80 & 125 watt HME High Pressure Mercury Vapor E27, 70, 100 & 150 watt HIE/HIT Metal Halide E27. 50 & 70 watt HSE/HST High Pressure Sodium E27. 3042/xx –57 & 70 watt TC-TE for Electronic High Frequency "HF" Ballast "EB". 250 watt HME High Pressure Mercury Vapor E40, 250 watt HIE/HIT Metal Halide E40, 100, 150 & 250 watt HSE/HST High Pressure Sodium E40.
Emergency Unit	Applicable only for remote mounting (indoor) with CFL lamp version

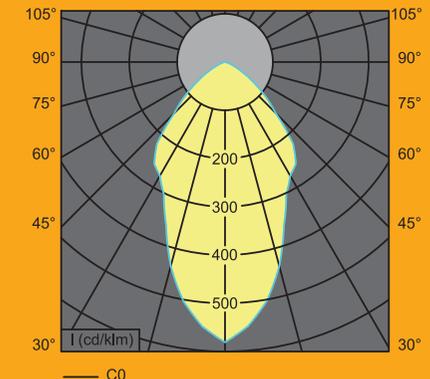
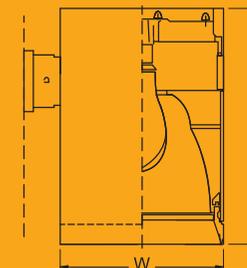
Technical Data

To Order : follow the sequence mr s/at - ln/ls - cgt - v/h - pf - emu

Model Reference	Size	Attachment	Lamp Number	Lamp Size	Control Gear type	Voltage / Frequency	Power Factor	Accessories	Emergency Unit	Physical Characteristics		
				watt						W	H	
										mm	mm	
304	0	S	1	60PAR38 80PAR38 120PAR38	NS Normal Start	220 - 240V 50 / 60Hz	HPF High Power Factor	----- 3/NM 3 hours Non-Maintained		130	200	
				60GLS 75GLS 100GLS 150GLS								
				60QT32 75QT32 100QT32								
	1	SB		15EL 20EL 23EL	EB Electronic High Frequency		HF High Frequency		----- 3/M 3 hours Maintained		150	300
				13D/T 18D/T 26D/T 32T 42T								
				50HM 80HM 125HM								
2	SP	70HL 100HL 150HL			----- Only in a remote box		220	320				
		50HS 70HS										
		57T 70T 250HM 250HL 100HS 150HS										

Photometrics & Dimensions

3042 70w HIE





Outdoor

Wall-Pack

SMALL WALLPACK



SWP 272-273

MEDIUM WALLPACK



MWP 274-275

LARGE WALLPACK



LWP 276-277

Wall Mounted

CYLINDRICAL
DIFFUSED LIGHTING



1004 278-279

SPHERICAL DIFFUSED
LIGHTING



2004 280-281

Wall Mounted

CEILING ROUND



CRM 282-283

CEILING SQUARE



CSM 284-285

Bollard Lighting

LANDSCAPE LIGHTING



100 286-287

LANDSCAPE LIGHTING



200 288-289

LANDSCAPE LIGHTING



400 290-291

LANDSCAPE LIGHTING



M-1005 292-293

Pole Lighting

LANDSCAPE LIGHTING



GL 294-295

Floodlight

SYMMETRICAL
FLOODLIGHT



FL206 296-297

ASYMMETRICAL
FLOODLIGHT



FL208 298-299

SYMMETRICAL
FLOODLIGHT



FL400 300-301

Tunnel Light

RECESSED TUNNEL
LIGHT



PTR 302-303

SURFACE TUNNEL
LIGHT



PTS 304-305

Buried Uplight

DRIVE-OVER LIGHT



607008 306-307

DRIVE-OVER LIGHT



607009 308-309

DRIVE-OVER LIGHT



GH98101 310-311

DRIVE-OVER LIGHT



GH98108 312-313

Street Light

ROAD LIGHTING



SL3 314-315

ROAD LIGHTING



AR816 316-317

Small Wallpack

SERIES : SWP



Applications	Suitable to be used in: lobbies, entrances, corridors, circulation areas, stairs, governmental premises, fence walls, general application for indoor and outdoor lighting, ...
Housing	Made of heavy duty die-cast aluminum, face frame is hinged and secured to the back box with two stainless steel screws. A silicone gasket provides weather-seal. All metal parts pre-treated with a full degreasing and phosphate process, painted in stove enameled bronze baked epoxy polyester mix-powder. <i>*Other color finishes upon request*</i>
Light Controller	Anodized pure aluminum reflector. Bowl of clear polycarbonate diffuser with ribbed lines, Special rubber gasket for high protection.
Mounting	Surface wall mounted.
Control Gear	High Power Factor "HPF" (≥ 90%) Conventional Control Gear "CCG".
Voltage / Frequency	220v - 240v, 50 / 60Hz. <i>*Other Voltages upon request*</i>
Cable Entry	1x22 mm Ø hole on back-side.
Lamps	50, 80 & 125 watt HME High Pressure Mercury Vapor E27, 70 & 100 watt HIE/HIT Metal Halide E27. 50 & 70 watt HSE/HST High Pressure Sodium E27.

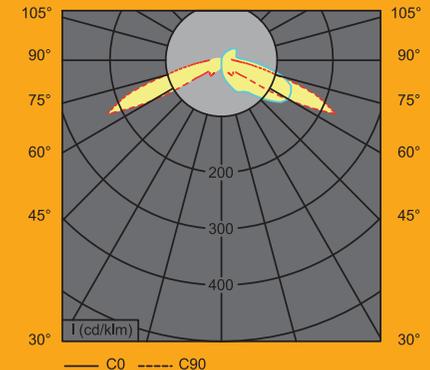
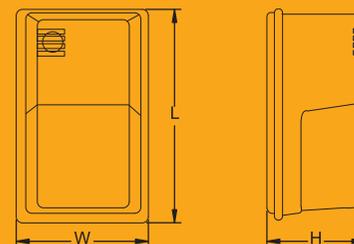
Technical Data

To Order : follow the sequence mr - ln/lr - v/h - pf

Model Reference	Lamp Number	Lamp Size watt	Control Gear Type	Voltage / Frequency V / Hz	Power Factor	Accessories	Physical Characteristics		
							L	W	H
							mm	mm	mm
SWP	1	50 HME-MBF	CCG (Ballast+Capacitor)	220 - 240V 50 / 60Hz	LPF Low Power Factor	-----	175	280	133
		50 HSE-HST							
		70 HIE-HIT	CCG (Ballast+Igniter+Capacitor)		HPF High Power Factor				
		70 HSE-HST							
80 HME-MBF									

Photometrics & Dimensions

SWP 1/70w HST



Medium Wallpack

SERIES : MWP



Applications	Suitable to be used in: lobbies, entrances, corridors, circulation areas, stairs, governmental premises, fence walls, general application for indoor and outdoor lighting, ...
Housing	Made of heavy duty die-cast aluminum, face frame is hinged and secured to the back box with two stainless steel screws. 1/2" tapped hole for securing conduit and installing a photocell (photocell are optional) A silicone gasket provides weather-seal. all metal parts pre-treated with a full degreasing and phosphate process, painted in stove enameled bronze baked epoxy polyester mix-powder. *Other color finishes upon request*
Light Controller	Anodized pure aluminum reflector. Bowl of high impact and heat resistant Borosilicate glass diffuser , for wide spread distribution. Special rubber gasket for high protection.
Mounting	Surface wall mounted.
Control Gear	High Power Factor "HPF" (≥ 90%) Conventional Control Gear "CCG".
Voltage / Frequency	220v - 240v, 50 / 60Hz. *Other Voltages upon request*
Cable Entry	1x22 mm Ø hole on back-side.
Lamps	50, 80 & 125 watt HME High Pressure Mercury Vapor E27, 70, 100 & 150 watt HIE/HIT Metal Halide E27. 50 & 70 watt HSE/HST High Pressure Sodium E27. 150 watt HSE/HST High Pressure Sodium E40

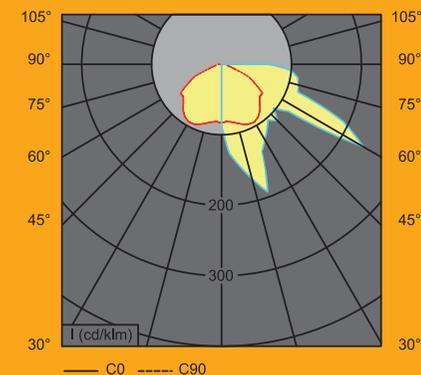
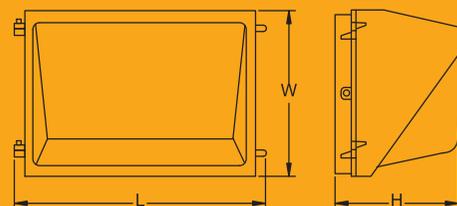
Technical Data

To Order : follow the sequence mr - ln/ls - v/h - pf - acc

Model Reference	Lamp Number	Lamp Size	Control Gear Type	Voltage / Frequency	Power Factor	Optional Accessories	Physical Characteristics		
							L	W	H
		watt							
			V / Hz			mm			
MWP	1	50 HME 50 HSE-HST 70 HIE-HIT 70 HSE-HST 80 HME 100 HIE-HIT 100 HSE-HST 125 HME 150 HIE-HIT 150 HSE-HST 175 HME 175 HIE	CCG (Ballast+Capacitor) CCG (Ballast+Igniter+Capacitor)	220 - 240V 50 / 60Hz	LPF Low Power Factor HPF High Power Factor	WG Wire Guard	367	236	181

Photometrics & Dimensions

MWP 1/150w HIT



Large Wallpack

SERIES : LWP



Applications	Suitable to be used in: lobbies, entrances, corridors, circulation areas, stairs, governmental premises, fence walls, general application for indoor and outdoor lighting, ...
Housing	Made of heavy duty die-cast aluminum, face frame is hinged and secured to the back box with two stainless steel screws. 1/2" tapped hole for securing conduit and installing a photocell (photocell are optional) A silicone gasket provides weather-seal. all metal parts pre-treated with a full degreasing and phosphate process, painted in stove enameled bronze baked epoxy polyester mix-powder. *Other color finishes upon request*
Light Controller	Anodized pure aluminum reflector. Bowl of high impact and heat resistant Borosilicate glass diffuser, for wide spread distribution. Special rubber gasket for high protection.
Mounting	Surface wall mounted.
Control Gear	High Power Factor "HPF" (≥ 90%) Conventional Control Gear "CCG".
Voltage / Frequency	220v - 240v, 50 / 60Hz. *Other Voltages upon request*
Cable Entry	1x22 mm Ø hole on back-side.
Lamps	50, 80 & 125 watt HME High Pressure Mercury Vapor E27. 250 watt HME High Pressure Mercury Vapor E40. 70, 100 & 150 watt HIE/HIT Metal Halide E27. 250 watt HIE/HIT Metal Halide E40. 50 & 70 watt HSE/HST High Pressure Sodium E27. 150 & 250 watt HSE/HST High Pressure Sodium E40

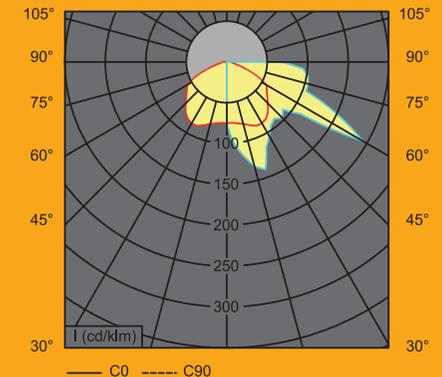
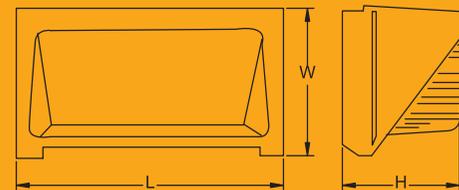
Technical Data

To Order : follow the sequence mr - ln/lr - v/h - pf - acc

Model Reference	Lamp Number	Lamp Size watt	Control Gear Type	Voltage / Frequency V / Hz	Power Factor	Optional Accessories	Physical Characteristics		
							L	W	H
							mm	mm	mm
LWP	1	50 HME	CCG (Ballast+Capacitor)	220 - 240V 50 / 60Hz	LPF Low Power Factor	WG Wire Guard	456	250	238
		50 HSE-HST							
		70 HIE-HIT							
		70 HSE-HST							
		80 HME							
		100 HIE-HIT							
		100 HSE-HST							
		125 HME							
		150 HIE-HIT							
		150 HSE-HST							
		175 HME							
		175 HIE							
			CCG (Ballast+Igniter+Capacitor)		HPF High Power Factor				
		250 HME							
		250 HIE-HIT							
		250 HSE-HST							

Photometrics & Dimensions

LWP 1/250w HME



Wall / Cylindrical Diffused Lighting

SERIES : 1004



Applications	Suitable to be used in: entrances, porches, fence walls, parking area, general application for landscape and outdoor lighting, ...
Housing	Made of heavy duty aluminum. A silicone gasket provides weather-seal. all metal parts pre-treated with a full degreasing and phosphate process, painted in stove enameled black baked epoxy polyester mix-powder. "Other color finishes upon request"
Light Controller	Cylindrical lens made of crystal glass, concentrate the light horizontally. Special rubber gasket for high protection.
Mounting	Surface wall mounted.
Control Gear	High Power Factor "HPF" (≥ 90%) Conventional Control Gear "CCG".
Voltage / Frequency	220v - 240v, 50 / 60Hz. "Other Voltages upon request"
Cable Entry	1x22 mm Ø hole on back-side of the fixing bracket.
Lamps	60, 75 & 100 watt Incandescent lamp E27 13 & 18 watt TC-D/TC-T Compact Fluorescent lamp

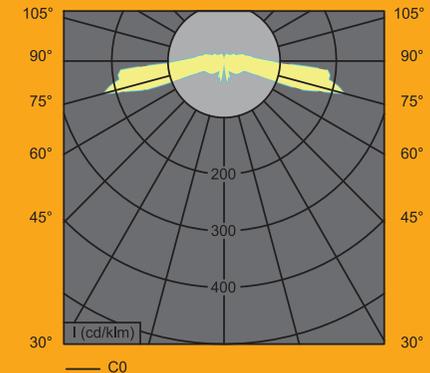
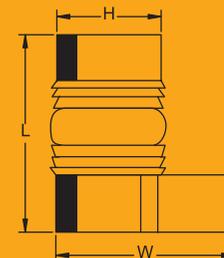
Technical Data

To Order : follow the sequence mr - ln/lr - v/h - pf

Model Reference	Lamp Number	Lamp Size	Control Gear Type	Voltage / Frequency	Power Factor	Accessories	Physical Characteristics			
							L	W	H	
		watt			V / Hz					
		mm	mm	mm						
1004	1	13D/T	NS Normal Start	220 - 240V 50 / 60Hz	LPF Low Power Factor HPF High Power Factor	-----	260	300	150	
		18D/T								
		60 GLS 75 GLS 100 GLS 60 QT32 15 EL 20 EL 23 EL	-----							

Photometrics & Dimensions

1004 1/100w GLS



Spherical Diffused Lighting

SERIES : 2004



Applications	Suitable to be used in: entrances, porches, fence walls, parking area, general application for landscape and outdoor lighting, ...
Housing	Bracket made of Made of heavy duty aluminum. Globe -base made of polycarbonate. A silicone gasket provides weather-seal, all metal parts pre-treated with a full degreasing and phosphate process, painted in stove enameled black baked epoxy polyester mix powder. *Other color finishes upon request*
Light Controller	UV stabilized acrylic opal sphere. Special rubber gasket for high protection. - 2004/25 – Opal Globe 250 mm Dia. - 2004/30 – Opal Globe 300 mm Dia. - 2004/40 – Opal Globe 400 mm Dia.
Mounting	Surface wall mounted.
Control Gear	High Power Factor "HPF" (≥ 90%) Conventional Control Gear "CCG".
Voltage / Frequency	220v - 240v, 50 / 60Hz. *Other Voltages upon request*
Cable Entry	1x22 mm Ø hole on back-side of the fixing bracket.
Lamps	- 2004/25 – 60 & 75 watt Incandescent lamp E27. - 2004/30 – 100 watt Incandescent lamp E27, 13 & 18 watt TC-D/TC-T Compact Fluorescent lamp, - 2004/40 – 26 watt TC-D/TC-T Compact Fluorescent lamp, 50, 80 & 125 watt HME High Pressure Mercury Vapor E27, 70 watt HIE/HIT Metal Halide E27. 50 & 70 watt HSE/HST High Pressure Sodium E27.

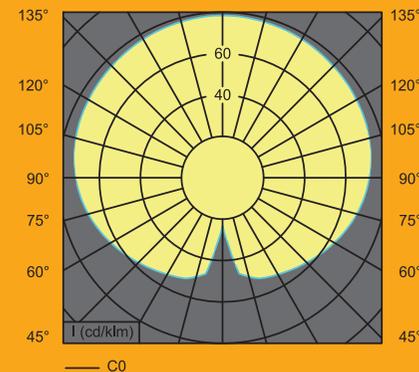
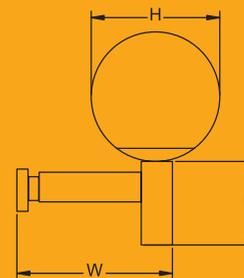
Technical Data

To Order : follow the sequence mr - ln/lr - v/h - pf

Model Reference	Lamp Number	Lamp Size	Control Gear Type	Voltage / Frequency	Power Factor	Accessories	Physical Characteristics		
							L	W	H
		watt		V / Hz			mm	mm	mm
2004	1	60 GLS 75GLS 15 EL	----	220 - 240V 50 / 60Hz	LPF Low Power Factor	----	200	270	250
		13D/T 18D/T 60 GLS 75 GLS 100 GLS 60 QT32 15 EL 20EL 23EL	NS Normal Start				200	270	300
		13D/T 18D/T 26D/T 60 GLS 75 GLS 100 GLS 150 GLS 60 QT32 80 QT32 100 QT32 15 EL 20EL 23EL 50 HME 50 HSE-HST 70 HIE-HIT 70 HSE-HST 80 HME 125 HME	NS Normal Start CCG (Ballast+Igniter+Capacitor)				250	370	400

Photometrics & Dimensions

2004 1/70w HLE



Ceiling Round

SERIES : CRM



Applications	Suitable to be used in: entrances, porches, fence walls, parking area, general application for landscape and outdoor lighting, ...
Housing	Made of heavy duty die-cast aluminum, round base with polycarbonate diffuser. A silicone gasket provides weather-seal. 1/2" tapped hole for installing photocell. (photocell are optional) all metal parts pre-treated with a full degreasing and phosphate process, painted in stove enameled bronze baked epoxy polyester mix-powder. *Other color finishes upon request
Light Controller	Anodized pure aluminum reflector. Bowl of prismatic polycarbonate round diffuser UV stabilized, Special rubber gasket for high protection.
Mounting	Surface wall / ceiling mounted.
Control Gear	High Power Factor "HPF" (≥ 90%) Conventional Control Gear "CCG".
Voltage / Frequency	220v - 240v, 50 / 60Hz. *Other Voltages upon request
Cable Entry	1x22 mm Ø hole on back-side.
Lamps	13,18 & 26 watt TC-D/TC-T Compact Fluorescent for Normal Start "NS", or TC-DE/TC-TE for Electronic High Frequency "HF" Ballast "EB". 32 & 42 watt TC-TE for Electronic High Frequency "HF" Ballast "EB". 50, 80 & 125 watt HME High Pressure Mercury Vapor E27, 70, 100 & 150 watt HIE/HIT Metal Halide E27. 50 & 70 watt HSE/HST High Pressure Sodium E27. 150 watt HSE/HST High Pressure Sodium E40
Emergency Unit	3 Hours duration Emergency Unit "EMU" with battery pack Maintained "M" or Non-Maintained "NM" for one CF lamp, and for various lamps types and voltage networks combinations. *Additional Emergency Units to operate more than one lamp on request

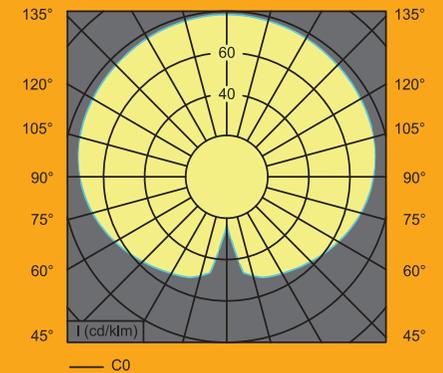
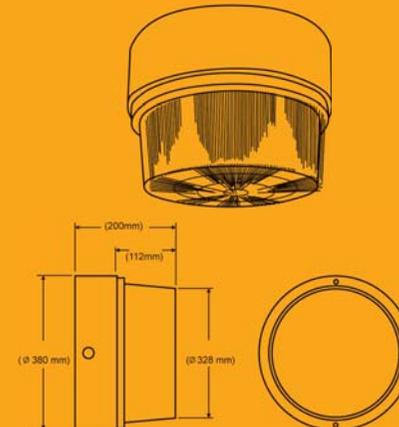
Technical Data

To Order : follow the sequence mr - ln/ls - v/h - pf

Model Reference	Lamp Number	Lamp Size	Control Gear Type	Voltage / Frequency	Power Factor	Accessories	Physical Characteristics		
							L	W	H
							mm	mm	mm
CRM	1	watt	----	V / Hz	LPF Low Power Factor	----	200	270	250
		60 GLS 75GLS 15 EL	NS Normal Start	220 - 240V 50 / 60Hz			200	270	300
		13D/T 18D/T 26D/T 60 GLS 75 GLS 100 GLS 150 GLS 60 QT32 80 QT32 100 QT32 15 EL 20EL 23EL 50 HME 50 HSE-HST 70 HIE-HIT 70 HSE-HST 80 HME 125 HME	NS Normal Start CCG (Ballast+Igniter+Capacitor)	250			370	400	

Photometrics & Dimensions

CRM 1/70w HIE



Ceiling Square

SERIES : CSM



Applications	Suitable to be used in: entrances, porches, fence walls, parking area, general application for landscape and outdoor lighting, ...
Housing	Made of heavy duty die-cast aluminum, round base with polycarbonate diffuser. A silicone gasket provides weather-seal. 1/2" tapped hole for installing photocell. (photocell are optional) all metal parts pre-treated with a full degreasing and phosphate process, painted in stove enameled bronze baked epoxy polyester mix-powder. *Other color finishes upon request
Light Controller	Anodized pure aluminum reflector. Bowl of prismatic polycarbonate round diffuser UV stabilized, Special rubber gasket for high protection.
Mounting	Surface wall / ceiling mounted.
Control Gear	High Power Factor "HPF" (≥ 90%) Conventional Control Gear "CCG".
Voltage / Frequency	220v - 240v, 50 / 60Hz. *Other Voltages upon request
Cable Entry	1x22 mm Ø hole on back-side.
Lamps	13,18 & 26 watt TC-D/TC-T Compact Fluorescent for Normal Start "NS", or TC-DE/TC-TE for Electronic High Frequency "HF" Ballast "EB". 32 & 42 watt TC-TE for Electronic High Frequency "HF" Ballast "EB". 50, 80 & 125 watt HME High Pressure Mercury Vapor E27, 70, 100 & 150 watt HIE/HIT Metal Halide E27. 50 & 70 watt HSE/HST High Pressure Sodium E27. 150 watt HSE/HST High Pressure Sodium E40
Emergency Unit	3 Hours duration Emergency Unit "EMU" with battery pack Maintained "M" or Non-Maintained "NM" for one CF lamp, and for various lamps types and voltage networks combinations. *Additional Emergency Units to operate more than one lamp on request

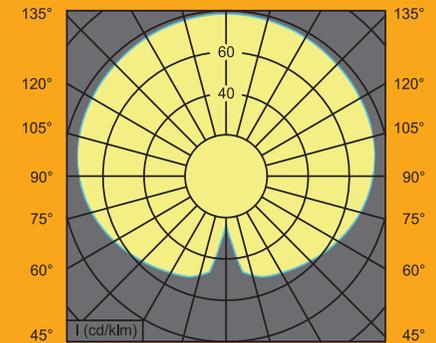
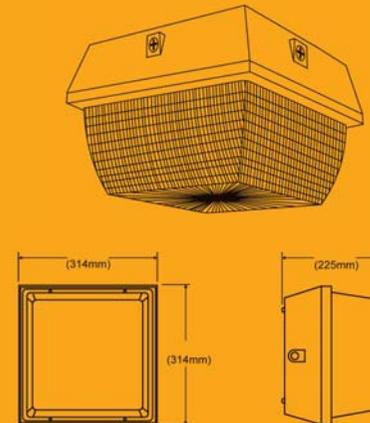
Technical Data

To Order : follow the sequence mr - ln/ls - v/h - pf

Model Reference	Lamp Number	Lamp Size	Control Gear Type	Voltage / Frequency	Power Factor	Accessories	Physical Characteristics		
							L	W	H
		watt		V / Hz			mm	mm	mm
CSM	1	60 GLS 75GLS 15 EL	----	220 - 240V 50 / 60Hz	LPF Low Power Factor	----	200	270	250
		13D/T 18D/T 60 GLS 75 GLS 100 GLS 60 QT32 15 EL 20EL 23EL	NS Normal Start				200	270	300
		13D/T 18D/T 26D/T 60 GLS 75 GLS 100 GLS 150 GLS 60 QT32 80 QT32 100 QT32 15 EL 20EL 23EL 50 HME 50 HSE-HST 70 HIE-HIT 70 HSE-HST 80 HME 125 HME	NS Normal Start CCG (Ballast+Igniter+Capacitor)				250	370	400

Photometrics & Dimensions

CSM 1/70w HIE



Landscape Lighting

SERIES : 100



Applications	Suitable to be used in: porches, gardens & general application for landscape and outdoor lighting, ...
Housing	Made of heavy duty aluminum. A silicone gasket provides weather-seal. Stainless steel fixing screws. all metal parts pre-treated with a full degreasing and phosphate process, painted in stove enameled black baked epoxy polyester mix powder. <i>*Other color finishes upon request</i>
Light Controller	Cylindrical lens made of crystal glass, concentrate the light horizontally Special rubber gasket for high protection.
Mounting	- 1001 -- Surface bollard 1200 mm height. - 1002 -- Surface bollard 800 mm height. - 1003 -- Fence-Top surface pillar 500 mm height.
Control Gear	High Power Factor "HPF" (≥ 90%) Conventional Control Gear "CCG".
Voltage / Frequency	220v - 240v, 50 / 60Hz. <i>*Other Voltages upon request</i>
Cable Entry	1x50 mm Ø hole on back-side of the fixing ground plate.
Lamps	13,18 & 26 watt TC-D/TC-T Compact Fluorescent for Normal Start "NS", Energy saving EL version E 27

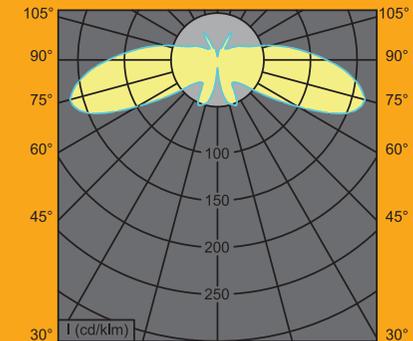
Technical Data

To Order : follow the sequence mr s/at - ln/lS - v/h - pf

Model Reference	Size	Lamp Number	Lamp Size	Control Gear Type	Voltage / Frequency	Power Factor	Accessories	Physical Characteristics		
								L	W	H
								mm	mm	mm
100	1	1	13D/T	NS Normal Start	220 - 240V 50 / 60Hz	LPF Low Power Factor	-----	1200	--	150
			18D/T							
			60 GLS							
	2	1	75 GLS	-----	HPF High Power Factor	800	500			
			100 GLS							
			60 QT32							
	3	1	15 EL	-----	-----	500	-----			
			20EL							
			23EL							

Photometrics & Dimensions

1001 1/100W GLS



Landscape Lighting

SERIES : 200



Applications	Suitable to be used in: porches, gardens & general application for landscape and outdoor lighting, ...
Housing	Made of heavy duty aluminum. A silicone gasket provides weather-seal. Stainless steel fixing screws, all metal parts pre-treated with a full degreasing and phosphate process, painted in stove enameled black baked epoxy polyester mix powder. <i>*Other color finishes upon request</i>
Light Controller	UV stabilized acrylic opal sphere. Special rubber gasket for high protection. - 200x/25 – Opal Globe 250 mm Dia. - 200x/30 – Opal Globe 300 mm Dia. - 200x/40 – Opal Globe 400 mm Dia.
Mounting	- 2001/xx -- Surface bollard 1000 mm height. - 2002/xx -- Surface bollard 500 mm height. - 2003/xx -- Fence-Top surface pillar 250 mm height. - 2003/40 -- Fence-Top surface pillar 390 mm height
Control Gear	High Power Factor "HPF" (≥ 90%) Conventional Control Gear "CCG".
Voltage / Frequency	220v - 240v, 50 / 60Hz. <i>*Other Voltages upon request</i>
Cable Entry	1x50 mm Ø hole on back-side of the fixing ground plate.
Lamps	- 200x/25 – 60 & 75 watt Incandescent lamp E27. - 200x/30 – 100 watt Incandescent lamp E27, 13 & 18 watt TC-D/TC-T Compact Fluorescent lamp, - 200x/40 -- 26 watt TC-D/TC-T Compact Fluorescent lamp, 50, 80 & 125 watt HME High Pressure Mercury Vapor E27, 70 watt HIE/HIT Metal Halide E27. 50 & 70 watt HSE/HST High Pressure Sodium E27.

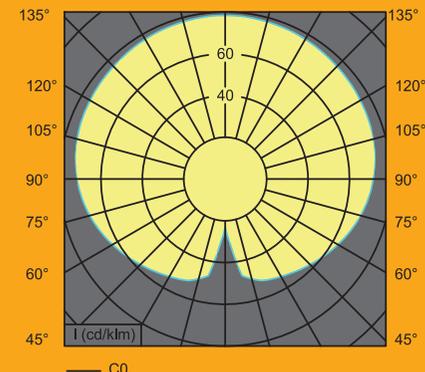
Technical Data

To Order : follow the sequence mr s - ln/lS - v/h - pf

Model Reference	Size	Lamp Number	Lamp Size	Control Gear Type	Voltage / Frequency	Power Factor	Accessories	Physical Characteristics		
								L	W	H
								mm	mm	mm
200	1	1	13D/T	NS Normal Start	220 - 240V	LPF Low Power Factor	-----	1000	--	250
			18D/T							300
			26D/T							400
	2	1	60 GLS	-----	50 / 60Hz	HPF High Power Factor	500	--	250	
			75 GLS						300	
			100 GLS						400	
	3	1	60 QT32	CCG (Ballast+Igniter+Capacitor)	220 - 240V	LPF Low Power Factor	500	--	250	
			80 QT32						300	
			100 QT32						400	
3	1	15 EL	CCG (Ballast+Igniter+Capacitor)	220 - 240V	HPF High Power Factor	500	--	250		
		20EL						300		
		23EL						400		
3	1	50 HME	CCG (Ballast+Igniter+Capacitor)	220 - 240V	HPF High Power Factor	500	--	250		
		50 HSE-HST						300		
		70 HSE-HST						400		
3	1	80 HME	CCG (Ballast+Igniter+Capacitor)	220 - 240V	HPF High Power Factor	500	--	250		
		80 HSE-HST						300		
		125 HME						400		

Photometrics & Dimensions

2001 1/100w GLS



Landscape Lighting

SERIES : 400



Applications	Suitable to be used in: porches, gardens & general application for landscape and outdoor lighting, ...
Housing	Made of heavy duty aluminum. A silicone gasket provides weather-seal. Stainless steel fixing screws. all metal parts pre-treated with a full degreasing and phosphate process, painted in stove enameled black baked epoxy polyester mix powder. <i>*Other color finishes upon request</i>
Light Controller	One piece extrusion in impact resistant PC UV stabilized polycarbonate with a smooth surface. Special rubber gasket for high protection.
Mounting	- 4001 -- Fence-Top surface pillar 450 mm height. - 4002 -- Surface bollard 750 mm height. - 4003 -- Surface bollard 1000 mm height. - 4004 -- Surface bollard 1230 mm height.
Control Gear	120v, 127v, 220v or 277v / 60Hz. 220v, 230v or 240v / 50Hz.
Voltage / Frequency	220v - 240v, 50 / 60Hz. <i>*Other Voltages upon request</i>
Cable Entry	1x50 mm Ø hole on back-side of the fixing ground plate.
Lamps	60, 75 & 100 watt Incandescent lamp E27 15 & 20 watt EL Energy Saving Compact Fluorescent lamp E27

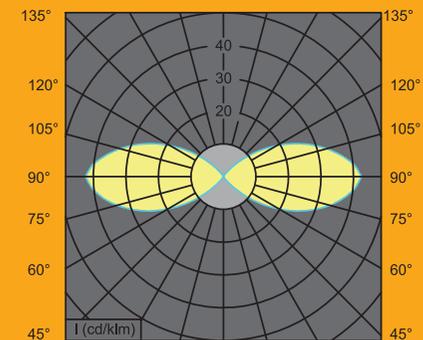
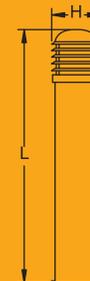
Technical Data

To Order : follow the sequence mr s - ln/lS - v/h

Model Reference	Size	Lamp Number	Lamp Size	Control Gear Type	Voltage / Frequency	Power Factor	Accessories	Physical Characteristics		
								L	W	H
			watt	V / Hz			mm	mm	mm	
400	1	1	60 GLS	-----	220 - 240V 50 / 60Hz	-----	-----	430	--	150
	2		75 GLS					750		
			100 GLS							
	3		60 QT32					15 EL		
4						1230				

Photometrics & Dimensions

4001 1/60W GLS



Landscape Lighting

SERIES : 1005



Applications	Suitable to be used in: porches, gardens & general application for landscape and outdoor lighting, ...
Housing	Made of heavy duty aluminum. Top section made of die-cast aluminum. A silicone gasket provides weather-seal. Stainless steel fixing screws. all metal parts pre-treated with a full degreasing and phosphate process, painted in stove enameled black matt-baked epoxy polyester mix-powder. *Other color finishes upon request*
Light Controller	Cylindrical lens made of matt stepped crystal glass.
Mounting	Surface bollard 1200 mm height.
Control Gear	High Power Factor "HPF" (≥ 90%) Conventional Control Gear "CCG".
Voltage / Frequency	220v - 240v, 50 / 60Hz. *Other Voltages upon request*
Cable Entry	1x50 mm Ø hole on back-side of the fixing ground plate.
Lamps	60, 75 & 100 watt Incandescent lamp E27. 15 & 20 watt EL Energy Saving Compact Fluorescent lamp E27 13, 18 & 26 watt TC-D/TC-T Compact Fluorescent lamp. 50, 80 & 125 watt HME High Pressure Mercury Vapor E27, 70 watt HIE/HIT Metal Halide E27. 50 & 70 watt HSE/HST High Pressure Sodium E27.

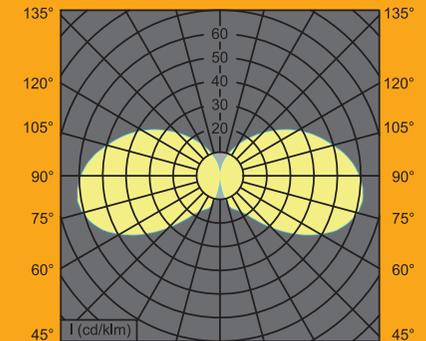
Technical Data

To Order : follow the sequence mr - ln/ls - v/h

Model Reference	Lamp Number	Lamp Size watt	Control Gear Type	Voltage / Frequency V / Hz	Power Factor	Accessories	Physical Characteristics		
							L mm	W mm	H mm
1005	1	13D/T 18D/T 26D/T 60 GLS 75 GLS 100 GLS 150 GLS 60 QT32 80 QT32 100 QT32 15 EL 20EL 23EL 50 HME 50 HSE- HST 70 HIE-HIT 70 HSE- HST 80 HME 125 HME	NS Normal Start CCG (Ballast+Igniter+Capacitor)	220 - 240V 50 / 60Hz	LPF Low Power Factor HPF High Power Factor	-----	1200	--	200

Photometrics & Dimensions

1005 1/18w TC-D



Landscape Lighting



SERIES : GL



Applications	Suitable to be used in: car parks, footpaths, pedestrian precincts, parks and gardens, entrances to buildings, porches, building perimeters, general application for landscape and outdoor lighting, ...
Housing	Globe-base made of polycarbonate. Pole with bracket made of aluminum or galvanized steel " upon request ". A silicone gasket provides weather-seal. all metal parts pre-treated with a full degreasing and phosphate process, painted in stove enameled black baked epoxy polyester mix-powder. *Other color finishes upon request*
Light Controller	UV stabilized acrylic opal sphere. Special rubber gasket for high protection. - GL/25 – Opal Globe 250 mm Dia. - GL/30 – Opal Globe 300 mm Dia. - GL/40 – Opal Globe 400 mm Dia.
Mounting	Surface; pole mounted.
Control Gear	High Power Factor "HPF" (≥ 90%) Conventional Control Gear "CCG".
Voltage / Frequency	220v - 240v, 50 / 60Hz. *Other Voltages upon request*
Cable Entry	1x50 mm Ø hole on back-side of the fixing ground plate.
Lamps	- GL/25 – 60 & 75 watt Incandescent lamp E27. - GL/30 – 100 watt Incandescent lamp E27, 13 & 18 watt TC-D/TC-T Compact Fluorescent lamp, - GL/40 – 26 watt TC-D/TC-T Compact Fluorescent lamp, 50, 80 & 125 watt HME High Pressure Mercury Vapor E27, 70 watt HIE/HIT Metal Halide E27. 50 & 70 watt HSE/HST High Pressure Sodium E27.
Note	POLES TO BE ORDERED SEPARATLEY

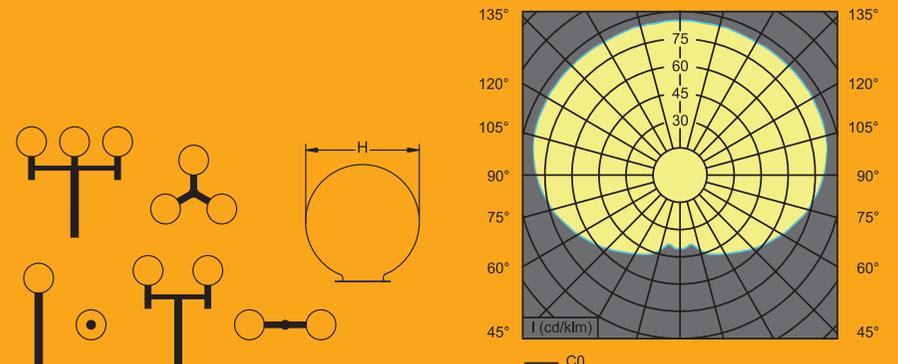
Technical Data

To Order : follow the sequence m r s - ln/l/s - v/h - pf

Model Reference	Size	Lamp Number	Lamp Size	Control Gear Type	Voltage / Frequency	Power Factor	Accessories	Physical Characteristics		
								L	W	H
			watt		V / Hz			mm	mm	mm
GL	25	1	60 GLS 75 GLS 15 EL	NS Normal Start	220 - 240V 50 / 60Hz	LPF Low Power Factor	-----	--	--	250
	30		13D/T 18D/T 60 GLS 75 GLS 100 GLS 60 QT32 80 QT32 15 EL 20EL 23EL							300
	40		13D/T 18D/T 28D/T 60 GLS 75 GLS 100 GLS 150 GLS 60 QT32 80 QT32 100 QT32 15 EL 20EL 23EL 50 HME 50 HSE-HST 70 HIE-HIT 70 HSE-HST 80 HME 125 HME							400

Photometrics & Dimensions

GL40 1/125w HME



Landscape Lighting



SERIES : FL206



Applications	Suitable to be used in: building façade, landscape lighting, sign lighting, display, fence and perimeter lighting, general safety and security lighting, ...
Housing	Durable die-cast aluminum housing construction. Die-cast aluminum door frame retains clear tempered glass. A silicone gasket provides weather-seal. all metal parts pre-treated with a full degreasing and phosphate process, painted in stove enameled black or bronze baked epoxy polyester mix-powder. *Other color finishes upon request*
Light Controller	Symmetric specular aluminum reflector. Clear tempered glass
Mounting	Surface; pole mounted.
Control Gear	High Power Factor "HPF" (≥ 90%) Conventional Control Gear "CCG".
Voltage / Frequency	220v - 240v, 50 / 60Hz. *Other Voltages upon request*
Cable Entry	1x22 mm Ø hole.
Lamps	70, 100 & 150 watt HIT Metal Halide lamp E27. 250 watt HIT Metal Halide lamp E40. 50 & 70 watt HIT High Pressure Sodium Vapor lamp E27. 150 & 250 watt HIT High Pressure Sodium Vapor lamp E40

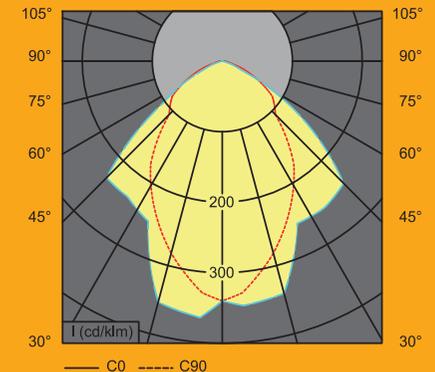
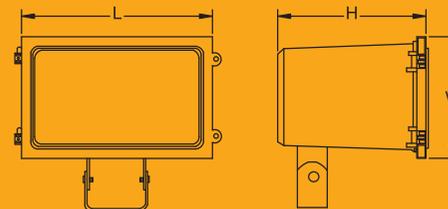
Technical Data

To Order : follow the sequence mr - ln/lr - v/h - pf

Model Reference	Lamp Number	Lamp Size	Control Gear Type	Voltage / Frequency	Power Factor	Accessories	Physical Characteristics		
							L	W	H
		watt					mm	mm	mm
FL206	1	50 HME	CCG (Ballast+Capacitor)	220 - 240V	LPF Low Power Factor	-----	377	227	282
		50 HSE-HST							
		70 HIE-HIT							
		70 HSE-HST							
		80 HME							
		100 HIE-HIT							
		100 HSE-HST							
		125 HME	CCG (Ballast+Igniter+Capacitor)	50 / 60Hz	HPF High Power Factor	-----	377	227	282
		150 HIE-HIT							
		150 HSE-HST							
		175 HME							
		175 HIE							
		250 HME							
		250 HIE-HIT							
250 HSE-HST									
400 HIE-HIT									
400 HSE-HST									

Photometrics & Dimensions

FL206 1/400w HST



Asymmetrical Floodlight

SERIES : FL208



Applications	Suitable to be used in: building façade, landscape lighting, sign lighting, display, fence and perimeter lighting, general safety and security lighting, ...
Housing	Durable die-cast aluminum housing construction. Die-cast aluminum door frame retains clear tempered glass. A silicone gasket provides weather-seal. all metal parts pre-treated with a full degreasing and phosphate process, painted in stove enameled black or bronze baked epoxy polyester mix-powder. <i>*Other color finishes upon request*</i>
Light Controller	High quality asymmetric aluminum reflector Clear tempered glass.
Mounting	Surface; pole mounted.
Control Gear	High Power Factor "HPF" (≥ 90%) Conventional Control Gear "CCG".
Voltage / Frequency	220v - 240v, 50 / 60Hz. <i>*Other Voltages upon request*</i>
Cable Entry	1x22 mm Ø hole.
Lamps	70 watt RX7s HIT-DE/HST-DE Double-Ended Metal Halide or High Pressure Sodium Vapor lamp 150 watt RX7s-24 HIT-DE/HST-DE Double-Ended Metal Halide or High Pressure Sodium Vapor lamp

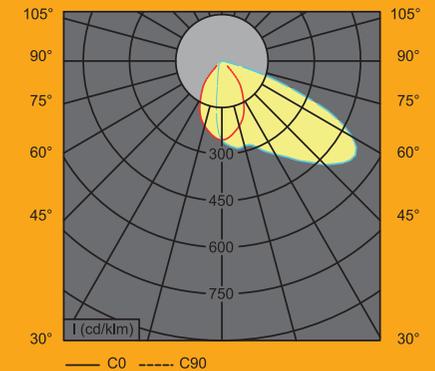
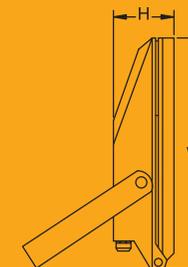
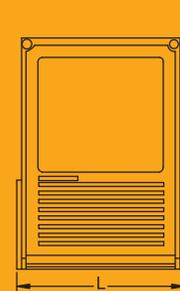
Technical Data

To Order : follow the sequence mr - ln/lr - v/h - pf - acc

Model Reference	Lamp Number	Lamp Size watt	Control Gear Type	Voltage / Frequency V / Hz	Power Factor	Accessories	Physical Characteristics		
							L mm	W mm	H mm
FL208	1	70 HIT-DE 70 HST-DE 150 HIT-DE 150 HST-DE	CCG (Ballast+Igniter+Capacitor)	220 - 240V 50 / 60Hz	LPF Low Power Factor HPF High Power Factor	----	245	355	85

Photometrics & Dimensions

FL208 1/150w HST-DE



Symmetrical Floodlight

SERIES : FL400



Applications	Suitable to be used in: porches, gardens & general application for landscape and outdoor lighting, ...
Housing	Made of heavy duty aluminum. A silicone gasket provides weather-seal. Stainless steel fixing screws, all metal parts pre-treated with a full degreasing and phosphate process, painted in stove enameled black baked epoxy polyester mix-powder. "Other color finishes upon request"
Light Controller	One piece extrusion in impact resistant PC UV stabilized polycarbonate with a smooth surface. Special rubber gasket for high protection.
Mounting	surface or trunnion bracket mounted
Control Gear	High Power Factor "HPF" (≥ 90%) Conventional Control Gear "CCG".
Voltage / Frequency	220v - 240v, 50 / 60Hz. "Other Voltages upon request"
Cable Entry	1x50 mm Ø hole on back-side of the fixing ground plate.
Lamps	60, 75 & 100 watt Incandescent lamp E27 15 & 20 watt EL Energy Saving Compact Fluorescent lamp E27

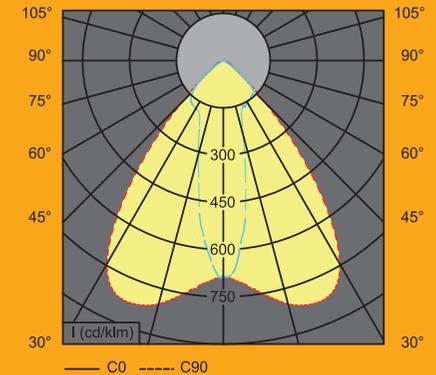
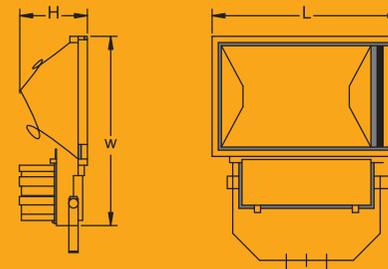
Technical Data

To Order : follow the sequence mr - ln/lr - v/h - pf

Model Reference	Lamp Number	Lamp Size watt	Control Gear Type	Voltage Frequency V / Hz	Power Factor	Accessories	Physical Characteristics		
							L mm	W mm	H mm
FL400	1	50 HME	CCG (Ballast+Capacitor)	220 - 240V 50 / 60Hz	LPF Low Power Factor	-----	414	294	165
		50 HSE-HST							
		70 HIE-HIT							
		70 HSE-HST							
		80 HME							
		100 HIE-HIT							
		100 HSE-HST							
		125 HME							
		150 HIE-HIT							
		150 HSE-HST							
		175 HME	CCG (Ballast+Igniter+Capacitor)		HPF High Power Factor				
		175 HIE							
		250 HME							
		250 HIE-HIT							
250 HSE-HST									
400 HME									
400 HIE-HIT									
400 HSE-HST									

Photometrics & Dimensions

FL400 1/400w HIE



Recessed Tunnel Light

SERIES : PTR



Applications	Suitable to be used in: offices, clinics, education premises, circulation area & general indoor application.
Housing	Made of press welded Cold Rolled Steel "CRS" sheet of tight construction to prevent light leakage, all metal parts pre-treated with a full degreasing and phosphate process, painted in stove enameled white baked epoxy polyester mix-powder to ensure high reflectance of painted surfaces. *Other color finishes upon request*
Light Controller	- PTR/S – Symmetric specular aluminum reflector. - PTR/A – Asymmetric specular aluminum reflector. Clear tempered glass diffuser.
Mounting	Recessed, concealed in the false ceiling.
Control Gear	High Power Factor "HPF" (≥ 90%) Conventional Control Gear "CCG". High Frequency Electronic Control Gear "ECG".
Voltage / Frequency	220v - 240v, 50 / 60Hz. *Other Voltages upon request*
Cable Entry	1x22 mm Ø hole on top. *Extra knock-out holes upon request*
Lamps	50, 80 & 125 High Pressure Mercury Vapor lamp E27. 250 & 400 watt High Pressure Mercury Vapor lamp E40. 70, 100 & 150 watt HIT Metal Halide lamp E27. 250 & 400 watt HIT Metal Halide lamp E40. 50 & 70 watt HIT High Pressure Sodium Vapor lamp E27. 150, 250, 400 & 600 watt HIT High Pressure Sodium Vapor lamp E40
Accessories	Steel safety grill painted upon request.

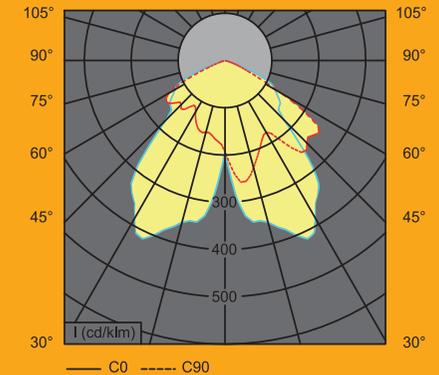
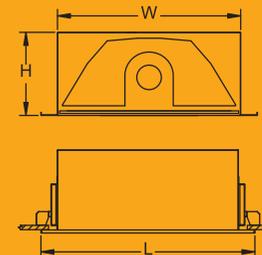
Technical Data

To Order : follow the sequence mr/r - ln/lS - v/h - pf

Model Reference	Model Reference	Lamp Number	Lamp Size watt	Control Gear Type	Voltage / Frequency V / Hz	Power Factor	Accessories	Physical Characteristics		
								L	W	H
								mm	mm	mm
PTR	S (Symmetric)	1	50 HME 50 HSE-HST 70 HIE-HIT 70 HSE-HST 80 HME 100 HIE-HIT 100 HSE-HST 125 HME	CCG (Ballast +Capacitor)	220 - 240V 50 / 60Hz	LPF Low Power Factor	-----	565	425	164
	A (Asymmetric)		150 HIE-HIT 150 HSE-HST 175 HME 175 HIE 250 HME 250 HIE-HIT 250 HSE-HST 400 HME 400 HIE-HIT 400 HSE-HST							

Photometrics & Dimensions

PTR 1/400w HIE



Surface Tunnel Light

SERIES : PTS



Applications	Suitable to be used in: offices, clinics, education premises, circulation area & general indoor application.
Housing	Made of press welded Cold Rolled Steel "CRS" sheet of tight construction to prevent light leakage, all metal parts pre-treated with a full degreasing and phosphate process, painted in stove enameled white baked epoxy polyester mix-powder to ensure high reflectance of painted surfaces. *Other color finishes upon request*
Light Controller	- PTS/S – Symmetric specular aluminum reflector. - PTS/A – Asymmetric specular aluminum reflector. Clear tempered glass diffuser.
Mounting	
Control Gear	High Power Factor "HPF" (≥ 90%) Conventional Control Gear "CCG". High Frequency Electronic Control Gear "ECG".
Voltage / Frequency	220v - 240v, 50 / 60Hz. *Other Voltages upon request*
Cable Entry	1x22 mm Ø hole on top. *Extra knock-out holes upon request*
Lamps	50, 80 & 125 High Pressure Mercury Vapor lamp E27. 250 & 400 watt High Pressure Mercury Vapor lamp E40. 70, 100 & 150 watt HIT Metal Halide lamp E27. 250 & 400 watt HIT Metal Halide lamp E40. 50 & 70 watt HIT High Pressure Sodium Vapor lamp E27. 150, 250, 400 & 600 watt HIT High Pressure Sodium Vapor lamp E40
Accessories	Steel safety grill painted upon request.

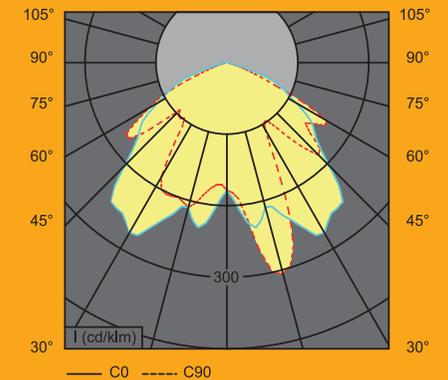
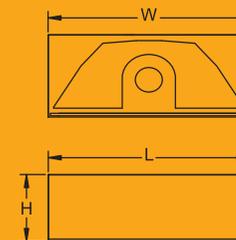
Technical Data

To Order : follow the sequence mr/r - ln/lS - v/h - pf

Model Reference	Model Reference	Lamp Number	Lamp Size	Control Gear Type	Voltage / Frequency	Power Factor	Accessories	Physical Characteristics		
								L	W	H
			watt							
			V / Hz							
			mm	mm	mm					
PTS	S (Symmetric)	1	50 HME 50 HSE-HST 70 HIE-HIT 70 HSE-HST 80 HME 100 HIE-HIT 100 HSE-HST 125 HME 150 HIE-HIT 150 HSE-HST	CCG (Ballast +Capacitor)	220 - 240V 50 / 60Hz	LPF Low Power Factor	----	500	360	173
	A (Asymmetric)		175 HME 175 HIE 250 HME 250 HIE-HIT 250 HSE-HST 400 HME 400 HIE-HIT 400 HSE-HST	CCG (Ballast +Igniter+Capacitor)						

Photometrics & Dimensions

PTS 1/250w HSE



Drive-Over Light

SERIES : 607008



Applications	Suitable to be used in: drive-over floodlight with sideward light distribution, can be embedded in gravel, lawns, flowerbeds, pathways and squares or in compacted non-combustible surfaces. Vehicles with pneumatic tires can drive over the luminaire if the installation in ground guarantees the required stability but the speed of the vehicle must not exceed 20 km/h. The luminaire may not be used for traffic lanes where are subjected to horizontal pressure from vehicles braking, accelerating and changing direction.
Housing	Made of die-cast aluminum (EN AB44100) housing (copper free) with high corrosion resistant, stainless steel fixing screws. A silicone gasket provides weather-seal, polycarbonate recessing kit, all metal parts pre-treated with a full degreasing and phosphate process, painted in stove enameled silver baked epoxy polyester mix-powder to ensure high reflectance of painted surfaces.
Light Controller	High quality symmetric aluminum reflector. Clear tempered glass.
Mounting	In - ground recessed
Control Gear	High Power Factor "HPF" (≥ 90%) Conventional Control Gear "CCG".
Voltage / Frequency	220v - 240v, 50 / 60Hz. "Other Voltages upon request"
Cable Entry	1x22 mm Ø hole
Lamps	70 watt RX7s HIT-DE/HST-DE Double-Ended Metal Halide or High Pressure Sodium Vapor lamp

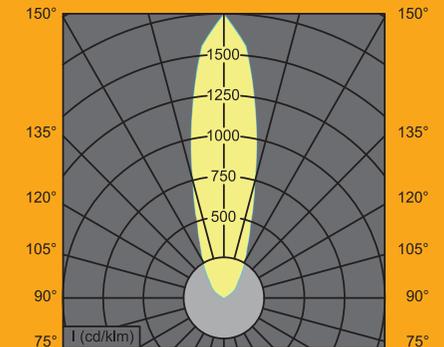
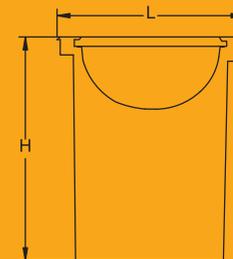
Technical Data

To Order : follow the sequence mr - ln/lr - v/h - pf

Model Reference	Lamp Number	Lamp Size watt	Control Gear Type	Voltage / Frequency V / Hz	Power Factor	Accessories	Physical Characteristics		
							L	W	H
							mm	mm	mm
607008	1	70 HIT-DE 70 HST-DE	CCG (Ballast+Igniter+Capacitor)	220 - 240V 50 / 60Hz	LPF Low Power Factor HPF High Power Factor	----	213	--	280

Photometrics & Dimensions

607008 1/70w HID



Drive-Over Light

SERIES : 607009



Applications	Suitable to be used in: drive-over floodlight with sideward light distribution, can be embedded in gravel, lawns, flowerbeds, pathways and squares or in compacted non-combustible surfaces. Vehicles with pneumatic tires can drive over the luminaire if the installation in ground guarantees the required stability but the speed of the vehicle must not exceed 20 km/h. The luminaire may not be used for traffic lanes where are subjected to horizontal pressure from vehicles braking, accelerating and changing direction.
Housing	Made of die-cast aluminum (EN AB44100) housing (copper free) with high corrosion resistant, stainless steel fixing screws. A silicone gasket provides weather-seal, polycarbonate recessing kit, all metal parts pre-treated with a full degreasing and phosphate process, painted in stove enameled silver baked epoxy polyester mix-powder to ensure high reflectance of painted surfaces.
Light Controller	High quality asymmetric aluminum reflector. Clear tempered glass.
Mounting	In - ground recessed
Control Gear	High Power Factor "HPF" (≥ 90%) Conventional Control Gear "CCG".
Voltage / Frequency	220v - 240v, 50 / 60Hz. "Other Voltages upon request"
Cable Entry	1x22 mm Ø hole
Lamps	150 watt RX7s-24 HIT-DE/HST-DE Double-Ended Metal Halide or High Pressure Sodium Vapor lamp

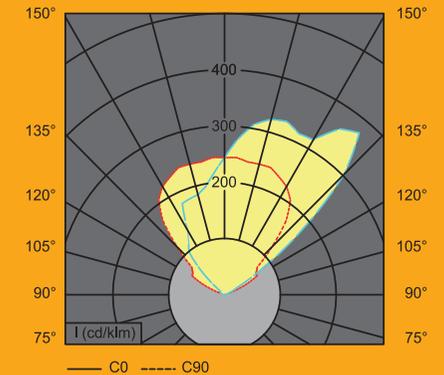
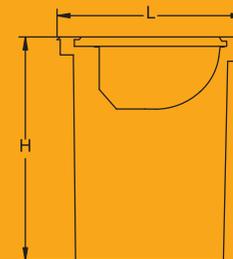
Technical Data

To Order : follow the sequence mr - ln/lr - v/h - pf

Model Reference	Lamp Number	Lamp Size watt	Control Gear Type	Voltage / Frequency V / Hz	Power Factor	Accessories	Physical Characteristics		
							L	W	H
							mm	mm	mm
607009	1	70 HIT-DE 70 HST-DE 150 HIT-DE 150 HST-DE	CCG (Ballast+Igniter+Capacitor)	220 - 240V 50 / 60Hz	LPF Low Power Factor HPF High Power Factor	----	300	--	355

Photometrics & Dimensions

607009 1/150w HID



Drive-Over Light

SERIES : GH98101



Applications	Suitable to be used in: drive-over floodlight with sideward light distribution, can be embedded in gravel, lawns, flowerbeds, pathways and squares or in compacted non-combustible surfaces. Vehicles with pneumatic tires can drive over the luminaire if the installation in ground guarantees the required stability but the speed of the vehicle must not exceed 20 km/h. The luminaire may not be used for traffic lanes where are subjected to horizontal pressure from vehicles braking, accelerating and changing direction.
Housing	Made of die-cast aluminum (EN AB44100) housing (copper free) with high corrosion resistant, stainless steel fixing screws. A silicone gasket provides weather-seal, polycarbonate recessing kit, all metal parts pre-treated with a full degreasing and phosphate process, painted in stove enameled silver baked epoxy polyester mix-powder to ensure high reflectance of painted surfaces.
Light Controller	High quality symmetric aluminum reflector. Clear tempered glass.
Mounting	In - ground recessed
Control Gear	High Power Factor "HPF" (≥ 90%) Conventional Control Gear "CCG".
Voltage / Frequency	220v - 240v, 50 / 60Hz. "Other Voltages upon request"
Cable Entry	1x22 mm Ø hole
Lamps	35 & 50 watt QR-CB 51 Halogen lamp.

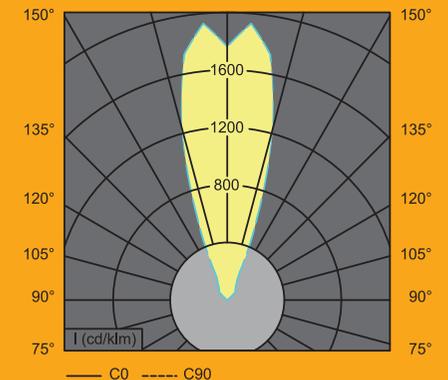
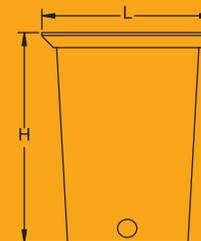
Technical Data

To Order : follow the sequence mr - ln/lr - v/h

Model Reference	Lamp Number	Lamp Size watt	Control Gear Type	Voltage / Frequency V / Hz	Power Factor	Accessories	Physical Characteristics		
							L mm	W mm	H mm
GH98101	1	35 QR-CB51 50 QR-CB51	----	220 - 240V 50 / 60Hz	----	----	175	--	253

Photometrics & Dimensions

GH98101 1/35w QR-CB51



Drive-Over Light

SERIES : GH98108



Applications	Suitable to be used in: drive-over floodlight with sideward light distribution, can be embedded in gravel, lawns, flowerbeds, pathways and squares or in compacted non-combustible surfaces. Vehicles with pneumatic tires can drive over the luminaire if the installation in ground guarantees the required stability but the speed of the vehicle must not exceed 20 km/h. The luminaire may not be used for traffic lanes where are subjected to horizontal pressure from vehicles braking, accelerating and changing direction.
Housing	Made of die-cast aluminum (EN AB44100) housing (copper free) with high corrosion resistant, stainless steel fixing screws. A silicone gasket provides weather-seal, polycarbonate recessing kit, all metal parts pre-treated with a full degreasing and phosphate process, painted in stove enameled silver baked epoxy polyester mix-powder to ensure high reflectance of painted surfaces.
Light Controller	High quality symmetric aluminum reflector. Clear tempered glass.
Mounting	In - ground recessed
Control Gear	High Power Factor "HPF" (≥ 90%) Conventional Control Gear "CCG".
Voltage / Frequency	220v - 240v, 50 / 60Hz. "Other Voltages upon request"
Cable Entry	1x22 mm Ø hole
Lamps	70 watt RX7s HIT-DE/HST-DE Double-Ended Metal Halide or High Pressure Sodium Vapor lamp 150 watt RX7s-24 HIT-DE/HST-DE Double-Ended Metal Halide or High Pressure Sodium Vapor lamp

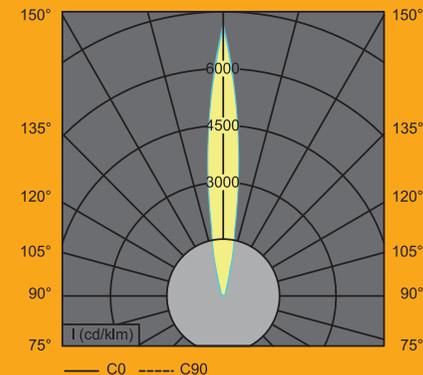
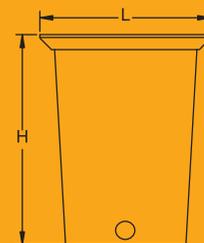
Technical Data

To Order : follow the sequence mr - ln/lr - v/h - pf

Model Reference	Lamp Number	Lamp Size watt	Control Gear Type	Voltage / Frequency V / Hz	Power Factor	Accessories	Physical Characteristics		
							L	W	H
							mm	mm	mm
GH98108	1	70 HIT-DE 70 HST-DE 150 HIT-DE 150 HST-DE	CCG (Ballast+Igniter+Capacitor)	220 - 240V 50 / 60Hz	LPF Low Power Factor HPF High Power Factor	----	305	--	260

Photometrics & Dimensions

GH98108 1/70w HIT-DE



Road Lighting



SERIES : SL3



Applications	Suitable to be used in: express roads, major roads, trunk, residential & local street ...
Housing	Rugged die-cast with aluminum housing construction. Hinged cover and bowl allowing maximum ease in installation and maintenance. Hinged prismatic glass refractor bowl tempered and shockproof. A silicone gasket provides weather-seal. all metal parts pre-treated with a full degreasing and phosphate process, painted in stove enameled grey baked epoxy polyester mix-powder. <i>"Other color finishes upon request"</i>
Light Controller	High quality symmetric aluminum reflector. Prismatic glass refractor bowl tempered and shockproof.
Mounting	Surface, aluminum or steel-galvanized pole-side mounted with arm bracket.
Control Gear	High Power Factor "HPF" (≥ 90%) Conventional Control Gear "CCG". Ballast, Igniter and High Power Factor Capacitor.
Voltage / Frequency	220v - 240v, 50 / 60Hz. <i>"Other Voltages upon request"</i>
Cable Entry	1x50 mm Ø hole.
Lamps	50, 80 & 125 High Pressure Mercury Vapor lamp E27. 250 & 400 watt High Pressure Mercury Vapor lamp E40. 70, 100 & 150 watt HIT Metal Halide lamp E27. 250 & 400 watt HIT Metal Halide lamp E40. 50 & 70 watt HIT High Pressure Sodium Vapor lamp E27. 150, 250 & 400 watt HIT High Pressure Sodium Vapor lamp E40

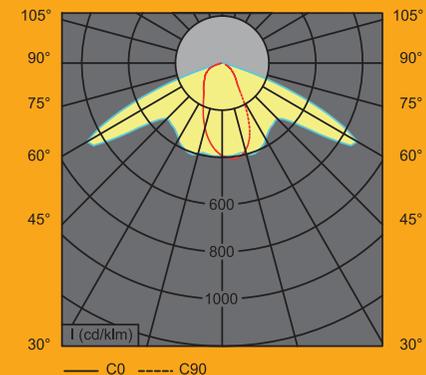
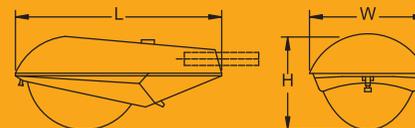
Technical Data

To Order : follow the sequence mr - ln/lr - v/h - pf

Model Reference	Lamp Number	Lamp Size	Control Gear Type	Voltage / Frequency	Power Factor	Accessories	Physical Characteristics		
							L	W	H
		watt					mm	mm	mm
SL3	1	50 HME	CCG (Ballast+Capacitor)	220 - 240V 50 / 60Hz	LPF Low Power Factor	-----	749	356	280
		50 HSE-HST							
		70 HIE-HIT							
		70 HSE-HST							
		80 HME							
		100 HIE-HIT							
		100 HSE-HST							
		125 HME							
		150 HIE-HIT	CCG (Ballast+Igniter+Capacitor)						
		150 HSE-HST							
		175 HME							
		175 HIE							
		250 HME							
		250 HIE-HIT							
250 HSE-HST									
400 HME									
400 HIE-HIT									
400 HSE-HST									

Photometrics & Dimensions

SL3 1/400W HSE



Road Lighting

SERIES : AR816



Applications	Suitable to be used in: express roads, major roads, trunk, residential & local street, tennis, handball and basketball courts ...
Housing	Rugged die-cast with aluminum housing construction. Hinged cover and frame-diffuser allowing maximum ease in installation and maintenance. Hinged clear or frosted tempered glass. A silicone gasket provides weather-seal. all metal parts pre-treated with a full degreasing and phosphate process, painted in stove enameled black or bronze baked epoxy polyester mix-powder. *Other color finishes upon request
Light Controller	High quality multi-faceted aluminum reflector on cut-off designs for a no-glare unit Clear or frosted tempered glass.
Mounting	Surface, aluminum or steel-galvanized pole-side mounted with arm bracket.
Control Gear	High Power Factor "HPF" (≥ 90%) Conventional Control Gear "CCG". Ballast, Igniter and High Power Factor Capacitor.
Voltage / Frequency	220v - 240v, 50 / 60Hz. *Other Voltages upon request
Cable Entry	1x(77x127) mm rectangular-hole.
Lamps	50, 80 & 125 High Pressure Mercury Vapor lamp E27. 250 & 400 watt High Pressure Mercury Vapor lamp E40. 70, 100 & 150 watt HIT Metal Halide lamp E27. 250 & 400 watt HIT Metal Halide lamp E40. 50 & 70 watt HIT High Pressure Sodium Vapor lamp E27. 150, 250 & 400 watt HIT High Pressure Sodium Vapor lamp E40

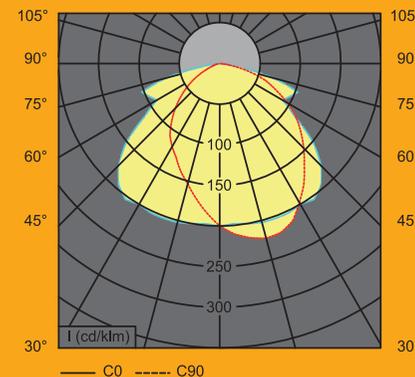
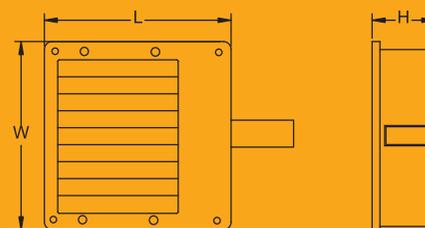
Technical Data

To Order : follow the sequence mr - ln/lr - v/h - pf

Model Reference	Lamp Number	Lamp Size watt	Control Gear Type	Voltage Frequency V / Hz	Power Factor	Accessories	Physical Characteristics		
							L	W	H
							mm	mm	mm
AR816	1	50 HME	CCG (Ballast+Capacitor)	220 - 240V	LPF Low Power Factor	-----	430	420	170
		50 HSE-HST							
		70 HIE-HIT							
		70 HSE-HST							
		80 HME							
		100 HIE-HIT							
		100 HSE-HST							
		125 HME	CCG (Ballast+Igniter+Capacitor)	50 / 60Hz	HPF High Power Factor	-----	430	420	170
		150 HIE-HIT							
		150 HSE-HST							
		175 HME							
		175 HIE							
		250 HME							
		250 HIE-HIT							
250 HSE-HST									
400 HME									
400 HIE-HIT									
400 HSE-HST									

Photometrics & Dimensions

AR816 1/250w HIE





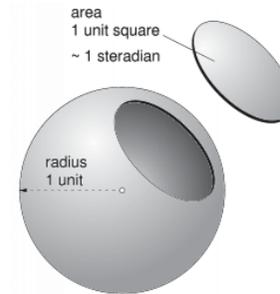
DEFINITIONS

Quantities	Symbol	Units of measure	Description	Relations
Luminous flux	Φ	Lumen (lm)	The quantity of light emitted by a light source	
Luminous Intensity	I	Candela (cd)	The luminous flux leaving a light source within an element of solid angle divided by the solid angle Ω	$I = \frac{\Phi}{\Omega}$
Illuminance	E	Lux (lx)	The luminous flux reaching a surface element divided by the area A of that element	$E = \frac{\Phi}{A}$
Luminance	L	Candela/m ² (cd/m ²)	For the surface of a source: ratio of the luminous intensity of a source in the given direction (I) to the apparent surface of a source seen from this direction.	$L = \frac{I}{A \cdot \cos\alpha}$
Solid angle	Ω	Steradian (sr)	Angular opening from the vertex to the optical centre of the source, of the spherical sector within which light emission is considered.	$\Omega = \frac{\text{surface}}{R^2}$
Light source efficiency	μ	Lumen/Watt (lm/w)	This is the ratio of the luminous flux emitted by the lamp to absorbed power.	$\mu = \frac{\Phi}{P_{\text{absorbed}}}$
Luminaire efficiency	ϵ		This is the ratio of the flux emitted by the luminaire and total flux from light sources inside the luminaire.	$\epsilon (\%) = \frac{\Phi_{\text{luminaire}}}{\Phi_{\text{light source}}}$
Colour temperature	$^{\circ}\text{K}$	Kelvin	It is the light shade that corresponds to the temperature of a standardized reference body (Planck's black body).	
Colour rendering factor	R_a		It indicates the capability of the source to restore the colored aspect of illuminated objects referenced to same temperature of standardized light source.	
Utilisation factor	U		This is the ratio of the luminous flux reaching the working plane, both directly and indirectly, to total flux emitted from the light sources inside the luminaires.	
Room index	k		This is the parameter that defines a room in function of its width (a), length (b) and the distance ceiling and working plane, (hu)	$K = \frac{a \cdot b}{h \cdot (a+b)}$
Reflection factor	ρ		This the ratio of the emitted flux to the incident flux (in %)	
Maintenance factor	M		This is the ratio of the average illuminance picked on the considered moment to the initial average illuminance.	
Depreciation factor	d		This is the inverse ratio of maintenance factor.	$d = \frac{1}{M}$
Cut off angle			Angle between the vertical and the first line where the light source can be seen from a luminaire.	
Shielding angle			Complementary angle of the cut off angle .	
Specular or brilliant surface			Surface which emits the reflected rays in a symmetrical and regular manner versus the vertical direction to the incident rays	
Matt or diffuse surface			Surface which emits the reflected rays in a scattered and irregular way (different directions and intensity) to the incident rays	

Solid Angle

(Term of *mathematics/geometry*)

The angle that, seen from the center of a sphere, includes a given area on the surface of that sphere. The value of the solid angle is numerically equal to the size of that area divided by the square of the radius of the sphere.



$= A / r^2$

Other than the diagram might suggest, the shape of the area doesn't matter at all. Any shape on the surface of the sphere that holds the same area will define a solid angle of the same size.

Also, the diagram only shows the elements that define a solid angle, not the solid angle itself. The solid angle is the quantitative aspect of the conical slice of space, that has the center of the sphere as its peak, the area on the surface of the sphere as one of its spherical cross sections, and extends to infinity.

The maximum solid angle is ~12.57, corresponding to the full area of the unit sphere, which is 4*Pi.

Standard unit of a solid angle is the **Steradian (sr)**.

(Mathematically, the solid angle is unitless, but for practical reasons, the steradian is assigned.)

ENCLOSURE PROTECTION

1 st DIGIT				2 nd DIGIT			3 rd DIGIT	
PROTECTION AGAINST SOLIDS				PROTECTION AGAINST LIQUIDS & MOISTURE			RESISTANCE AGAINST MECHANICAL IMPACT	
Class	Symbol	Physical contact	Foreign bodies	Class	Symbol	Liquids & Moisture	Class	
0	-	-	-	0	-	-	0	-
2	-	by fingers	medium size	2	☹	drip-proof	1	0,225 N x m
3	-	by tools	foreign bodies < 2.5mm	3	☹☹	rain proof	3	0,500 Nx m
4	-	by wires	foreign bodies < 1mm	4	☹☹☹	splash-proof	5	2,000 N x m
5	☹☹☹☹	fully protected	dustproof no harmful deposits	5	☹☹☹☹	jet-water proof	7	6,000 N x m
6	☹☹☹☹☹☹	highly Protected	dust-tight	7	☹☹☹☹☹	water-tight	9	20,000 N x m vandal-proof

ELECTRICAL PROTECTION

Luminaires are divided into 3 protection classes according to the various protective measures taken against the danger of electrical shock. All our luminaires are constructed and tested according to international recommendations and thus conform to nearly all national regulations.

Class	Symbol	Definition
I	⊕	Luminaires to be connected to an earthing lead
II	⊞	Luminaires Insulated and not requiring earthing
III	⊞⊞	Luminaires built exclusively for operation on safety extra-low voltage (not exceeding 42 V between conductors, therefore not for discharge lamps).

FIRE RESISTANCE

Class	Definition
M0	Not Combustible
M1	Not Flammable
M2	Hardly Flammable
M3	Flammable I
M4	Easily Flammable
M5	Highly Flammable

ENCLOSURE PROTECTION

1 st DIGIT				2 nd DIGIT			3 rd DIGIT	
PROTECTION AGAINST SOLIDS				PROTECTION AGAINST LIQUIDS & MOISTURE			RESISTANCE AGAINST MECHANICAL IMPACT	
Class	Symbol	Physical contact	Foreign bodies	Class	Symbol	Liquids & Moisture	Class	
0	-	-	-	0	-	-	0	-
2	-	by fingers	medium size	2	☹	drip-proof	1	0,225 N x m
3	-	by tools	foreign bodies < 2.5mm	3	☹☹	rain proof	3	0,500 Nx m
4	-	by wires	foreign bodies < 1mm	4	☹☹☹	splash-proof	5	2,000 N x m
5	☹☹☹☹	fully protected	dustproof no harmful deposits	5	☹☹☹☹	jet-water proof	7	6,000 N x m
6	☹☹☹☹☹☹	highly Protected	dust-tight	7	☹☹☹☹☹	water-tight	9	20,000 N x m vandal-proof

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IMPACT PROTECTION

(IK) RATING

Degrees of protection provided by enclosures for electrical equipment against external mechanical impacts in accordance with IEC 62262:2002 and IEC 60068-2-75:1997.

IK00 Not protected

IK01 Protected against 0.14 joules impact.
Equivalent to impact of 0.25kg mass dropped from 56mm above impacted surface.

IK02 Protected against 0.2 joules impact.
Equivalent to impact of 0.25kg mass dropped from 80mm above impacted surface.

IK03 Protected against 0.35 joules impact.
Equivalent to impact of 0.25kg mass dropped from 140mm above impacted surface.

IK04 Protected against 0.5 joules impact.
Equivalent to impact of 0.25kg mass dropped from 200mm above impacted surface.

IK05 Protected against 0.7 joules impact.
Equivalent to impact of 0.25kg mass dropped from 280mm above impacted surface.

IK06 Protected against 1 joules impact.
Equivalent to impact of 0.25kg mass dropped from 400mm above impacted surface.

IK07 Protected against 2 joules impact.
Equivalent to impact of 0.5kg mass dropped from 400mm above impacted surface.

IK08 Protected against 5 joules impact.
Equivalent to impact of 1.7kg mass dropped from 300mm above impacted surface.

IK09 Protected against 10 joules impact.
Equivalent to impact of 5kg mass dropped from 200mm above impacted surface.

IK10 Protected against 20 joules impact.
Equivalent to impact of 5kg mass dropped from 400mm above impacted surface.

MINIMUM REQUIREMENTS FOR LIGHTING

Room purpose or work involved	Rated illuminance (lux)	Fluorescent lamp		Remarks
		colour designation	colour index	
General Areas				
Traffic areas for personnel in buildings: stairs, corridors, entrances	80	.nw or ww	.1 or 2	For stairs avoid shadows and glare ww over mirror
Garages, car parks, loading bays...	60	.nw or ww	.3	
Dressing rooms, washrooms, toilets...	100	.nw or ww	.1 or 2	
Administration rooms and offices				
a- Office areas				
General office	500	.nw or ww	.1 or 2	
Computer work stations	300-500	.nw or ww	.1 or 2	
Conference rooms, executive offices	500	.nw or ww	.1 or 2	
Computer and data preparation rooms	500	.nw or ww	.1 or 2	
Filing rooms	300	.nw or ww	.1 or 2	
b- Drawing Offices				
General	500	.nw or ww	.1 or 2	
Drawing Boards	750	.nw or ww	.1 or 2	
Computer aided design and drafting	300-500	.nw or ww	.1 or 2	
Print Rooms	300	.nw or ww	.1 or 2	
c- Banks and Building Societies				
Counter, office area	500	.nw or ww	.1 or 2	
Public Area	300	.nw or ww	.1 or 2	
Schools				
General class and conference rooms	250	.nw or ww	.1 or 2	Extra light for blackboard (500 lux)
Libraries, laboratories, art rooms areas	500	.nw or ww	.1 or 2	
Music and lecture rooms	250	.nw or ww	.1	Higher illuminance for demonstration
Indoor game rooms, gymnasium and swimming pools	300	.nw	.1 or 2	
Places of worship / Churches				
Entrances	30	.nw or ww	.1 or 2	Coordinate the design of the system to the sacred character and special architecture of these areas.
Naves	90	.nw or ww	.1 or 2	
Orchestra or choir areas	120	.nw or ww	.1	
Multipurpose Sport Halls special rules apply				
Shops and Stores				
Shops, boutiques and salesrooms effect	300	.nw	.1	Extra spots for sales promotion
Storerooms	120	.nw or ww	.3	
Packing and dispatch	250	.nw or ww	.3	iNatural lamps for food Extra spots
Supermarkets departments	750	.nw or ww	.1 or 2	
Multiple stores	500	.nw or ww	.1 or 2	
Shop windows	1000		.1	
Specialized shops	special rules apply			

MINIMUM REQUIREMENTS FOR LIGHTING

Room purpose or work involved	Rated illuminance (lux)	Fluorescent lamp		Remarks
		colour designation	colour index	
Theatres and Concert Halls				
Cinemas and theatres	60			Coordinate with architecture
Concert halls	120			
Conference rooms and banquetting halls	300			
Hotels and Restaurants				
Refreshment rooms, self service	200	.nw or ww	.1	Extra light for showcases
Kitchens	300	.nw or ww	.1 or 2	
Hotel rooms, restaurants, cafEs	150	.ww	.1	Extra light over beds, mirrors and desks
Homes				
Bedrooms	50 to 150	.ww	.1 or 2	Extra reading light over bed heads
Bathrooms	100	.nw or ww	.1 or 2	ww over mirror
Kitchen and working areas	300	.nw or ww	.1 or 2	
Living rooms	50 to 150	.nw or ww	.1 or 2	
Studies desk	300	.nw or ww	.1 or 2	Extra table lighting
Exhibition rooms				
Museums, art galleries	300	.nw or ww	.1	Provide adequate and/or indirect vertical lighting
Showrooms, exhibition halls and trade fair halls	500	.nw or ww	.1 or 2	Extra spots
Industry				
Side rooms, entries and halls	30	.nw or ww	.1 or 2	
Semi-automatic production	100	.nw or ww	.3	
General Stores	100	.nw or ww	.1 or 2	
Average visual tasks: food, metal and plastic industries, auto garage	300	.nw	.1 or 2	
Chemical and painting industries	450	.tw or nw	.1	
Textile manufacture, workshops, central rooms	500	.nw	.1	Avoid reflection
Precision assemblies	750	.nw	.1 or 2	
Dress making	750	.nw	.1	
Graphic arts	750	.tw or nw	.1A	
Tool making	800	.tw or nw	.1	
Colour inspection	1000	.tw or nw	.1A	Special work plane lighting recommended
Testing areas				
Critical works: fine mechanics and electronics, watchmaking, fine needle work	1000	.tw or nw	.1 or 2	
	500	.tw or nw	.1 or 2	
Hospitals Special rules apply				

TUBULAR FLUORESCENT LAMPS T8 (Φ 26 mm)

a- Standard line				
Rated lamp Wattage (W)	Length (mm)	Colour	Color temperature (°K)	Luminous flux (lm)
18	590	DW	6000	1050
		NW	4000	1100
		NW	4000	1150
		WW	3000	1150
36	1200	DW	6000	2500
		NW	4000	2600
		NW	4000	2850
		WW	3000	2850
58	1500	DW	6000	4000
		NW	4000	4100
		NW	4000	4600
		WW	3000	4600
b- Improved color rendering and best efficiency (Group 1B)				
Rated lamp Wattage (W)	Length (mm)	Colour	Color temperature (°K)	Luminous flux (lm)
18	590	DW	6000	1300
		NW	4000	1350
		WW	3000	1350
		WW	2700	1350
36	1200	DW	6000	3250
		NW	4000	3350
		NW	4000	3350
		WW	3000	3350
58	1500	DW	6000	5000
		NW	4000	5200
		WW	3000	5200
		WW	2700	5200
c- Best color rendering (Group 1A)				
Rated lamp Wattage (W)	Length (mm)	Colour	Color temperature (°K)	Luminous flux (lm)
18	590	DW	5400	1000
		NW	3800	1000
		NW	3800	1000
		WW	3000	1000
36	1200	DW	5400	2350
		NW	3800	2350
		NW	3800	2350
		WW	3000	2350
58	1500	DW	5400	3700
		NW	3800	3750
		NW	3800	3750
		WW	3000	3750

Notes: Refer to DIN 5035 table for colour rendering properties

TUBULAR FLUORESCENT LAMPS T12 (Φ 38 mm)

a- Standard line

Rated lamp Wattage (W)	Length (mm)	Colour	Color temperature (°K)	Luminous flux (lm)
20	590	DL	6500	950
		W	3450	1150
		CW	4000	1150
		WW	2950	1150
		N	4050	1050
40	1200	DL	6500	2450
		W	3450	2950
		CW	4000	2950
		WW	2950	2950
		N	4050	2500
65	1500	DL	6500	3900
		W	3450	4750
		CW	4000	4750
		WW	2950	4750
		N	4050	4000

b- Improved color rendering and best efficiency (Group 1B)

Rated lamp Wattage (W)	Length (mm)	Colour	Color temperature (°K)	Luminous flux (lm)
20	590	CW	4000	1450
		WW	2950	1450
40	1200	CW	4000	3350
		WW	3950	3350
65	1500	CW	4000	5300
		WW	2950	5300

Notes: Refer to DIN 5035 table for colour rendering properties

TUBULAR FLUORESCENT LAMPS T5 (Φ 16 mm)

a- FH, GROUP 1B, G5 base

Rated lamp Wattage (W)	Length (mm)	Colour	Colour temperature (°K)	Luminous flux (lm)
14	549	DW	6000	1220
		NW	4000	1270
		WW	3000	1270
28	1149	DW	6000	2580
		NW	4000	2720
		WW	3000	2720
35	1449	DW	6000	3290
		NW	4000	3430
		WW	3000	3430

COMPACT FLUORESCENT LAMP

a- TC-L Colour rendering group 1B (Ra 80-89) (Base 2G11)

Rated lamp Wattage (W)	Length (mm)	Colour	Color temperature (°K)	Luminous flux (lm)
18	217	NW	4000	1200
		WW	3000	1200
		WW	2700	1200
24	317	NW	4000	1800
		WW	3000	1800
		WW	2700	1800
36	411	DW	6000	2900
		NW	4000	2900
		WW	3000	2900
		WW	2700	2900
40	533	NW	4000	3500
		WW	3000	3500
		WW	2700	3500
55	533	NW	4000	4800
		WW	3000	4800
		WW	2700	4800

b- TC-L Colour rendering group 1A (Ra 90-100) (Base 2G11)

Rated lamp Wattage (W)	Length (mm)	Colour	Color temperature (°K)	Luminous flux (lm)
18	217	DW	5400	750
		NW	3800	750
		WW	3000	750
24	317	DW	5400	1200
		NW	3800	1200
		WW	3000	1200
36	411	DW	5400	1900
		NW	3800	1900
		WW	3000	1900
40	533	DW	5400	2200
		DW	5400	3000
		WW	3000	3000

c- TC-D Colour rendering group 1B (Ra 80-89) (Base G24d)

Rated lamp Wattage (W)	Length (mm)	Colour	Color temperature (°K)	Luminous flux (lm)
18	153	NW	4000	1200
		WW	3000	1200
		WW	2700	1200
26	172	NW	4000	1800
		WW	3000	1800
		WW	2700	1800

Notes: Refer to DIN 5035 table for colour rendering properties

COMPACT FLUORESCENT LAMPS

Compact Fluorescent lamps TC-D (DULUX D + PLC)						
Rated lamp Wattage (W)	Length (mm)	Light colour	Color rendering index	Color number	Base	Luminous flux Lumen
10	112	Cool White	1	21	G24 d-1	600
	112	Warm White	1	31	G24 d-1	600
	112	Interna	1	41	G24 d-1	600
13	141	Cool White	1	21	G24 d-1	900
	141	Warm White	1	31	G24 d-1	900
	141	Interna	1	41	G24 d-1	900
18	171	Cool White	1	21	G24 d-2	1200
	171	Warm White	1	31	G24 d-2	1200
	171	Interna	1	41	G24 d-2	1200
26	184	Cool White	1	21	G24 d-3	1800
	184	Warm White	1	31	G24 d-3	1800
	184	Interna	1	41	G24 d-3	1800
Compact Fluorescent lamps TC (DULUX S + PLS)						
Rated lamp Wattage (W)	Length (mm)	Light colour	Color rendering index	Color number	Base	Luminous flux Lumen
5	108	Cool White	1	21	G23	250
	108	Warm White	1	31	G23	250
	108	Interna	1	41	G23	250
7	138	Cool White	1	21	G23	400
	138	Warm White	1	31	G23	400
	138	Interna	1	41	G23	400
9	168	Cool White	1	21	G23	600
	168	Warm White	1	31	G23	600
	168	Interna	1	41	G23	600
11	238	Cool White	1	21	G23	900
	238	Warm White	1	31	G23	900
	238	Interna	1	41	G23	900
Compact Fluorescent lamps TC - L (DULUX L + PLL)						
Rated lamp Wattage (W)	Length (mm)	Light colour	Color rendering index	Color number	Base	Luminous flux Lumen
18	217	Cool White	1	21	2G11	1200
	217	Warm White	1	31	2G11	1200
	217	Interna	1	41	2G11	1200
24	317	Cool White	1	21	2G11	1800
	317	Warm White	1	31	2G11	1800
	317	Interna	1	41	2G11	1800
36	411	Cool White	1	21	2G11	2900
	411	Warm White	1	31	2G11	2900
	411	Interna	1	41	2G11	2900

DISCHARGE LAMPS (Elliptical)

a- Metal halide, HQI-E, E40 base				
Rated lamp Wattage (W)	Diameter (mm)	Colour rendering factor	Luminous flux (lm)	Colour temperature (°K)
250	90	1A	19000	5200
400	120	1A	32000	5900
		2A	45000	3800
b- High pressure sodium, NAV, E40 lampholder				
Rated lamp Wattage (W)	Diameter (mm)	Colour rendering factor	Luminous flux (lm)	Colour temperature (°K)
250	90	4	25000	2000
400	120	4	47000	2000
c- High pressure sodium, NAV, E40 lampholder				
Rated lamp Wattage (W)	Diameter (mm)	Colour rendering factor	Luminous flux (lm)	Colour temperature (°K)
250	90	4	33000	2000
400	120	4	55500	2000
250	90	2B	22000	2200
400	120	2B	37500	2200
d- Mercury lamps, HQL, E40 lampholder				
Rated lamp Wattage (W)	Diameter (mm)	Colour rendering factor	Luminous flux (lm)	Colour temperature (°K)
250	90	3	13000	3900
400	120	3	22000	3800
250	90	3	14000	3100
400	120	3	24500	3000

Note: Refer to DIN 5035 table for color rendering properties

HIGH INTENSITY DISCHARGE LAMPS

a- Metal halide single ended HQI-T

Rated lamp Wattage (W)	Diameter (mm)	Length (mm)	Light Colour	Base	Luminous flux lumen
35/WDL	25	84	Warm White	G12	2400
70/NDL	25	84	Neutral White	G12	5500
70/WDL	25	84	Warm White	G12	5200
150/NDL	25	84	Neutral White	G12	12500
150/WDL	25	84	Warm White	G12	12000

b- Metal halide double ended tubular HQI-TS

Rated lamp Wattage (W)	Diameter (mm)	Length (mm)	Light Colour	Base	Luminous flux lumen
70/NDL	20	114.2	Neutral White	RX 7s	5500
70/WDL	20	114.2	Warm White	RX 7s	5000
70/WDL Plus	20	114.2	Warm White	RX 7s	6000
150/NDL	23	132	Neutral White	RX 7s-24	11250
150/WDL	23	132	Warm White	RX 7s-24	11000

c- Metal halide clear - tubular HQI-T

Rated lamp Wattage (W)	Diameter (mm)	Length (mm)	Light Colour	Base	Luminous flux lumen
250/D	46	225	Daylight	E40	19000
400/D	46	285	Daylight	E40	33000
1000/D	76	340	Daylight	E40	80000
2000/D	100	430	Daylight	E40	170000

d- Metal halide coated elliptical HQI-E

Rated lamp Wattage (W)	Diameter (mm)	Length (mm)	Light Colour	Base	Luminous flux lumen
250/D	90	226	Daylight	E40	17000
400/D	120	290	Daylight	E40	31000
400/N	120	290	Neutral White	E40	40000
400/N Clear	120	290	Neutral Clear White	E40	42000
1000/N	165	380	Neutral White	E40	80000

e- High Pressure Sodium Lamps coated elliptical son (HPS)

Rated lamp Wattage (W)	Diameter (mm)	Length (mm)	Light Colour	Base	Luminous flux lumen
50/E	70	156	-	E27	3500
70/E	70	156	-	E27	5600
150	90	226	-	E40	14000
250	90	226	-	E40	25000
400	120	290	-	E40	47000
1000	165	400	-	E40	120000

f- High pressure sodium lamps clear tubular son (HPS)

Rated lamp Wattage (W)	Diameter (mm)	Length (mm)	Light Colour	Base	Luminous flux lumen
150	46	211	-	E40	14500
250	46	257	-	E40	27000
400	46	275	-	E40	48000
1000	65	400	-	E40	130000

f- High pressure sodium lamps double ended HPS-TS

Rated lamp Wattage (W)	Diameter (mm)	Length (mm)	Light Colour	Base	Luminous flux lumen
250	23	206	-	Fc 2	25500
400	23	206	-	Fc 2	48000

TUBULAR FLUORESCENT LAMPS T5 (Φ 16 mm)

a- HO, GROUP 1B,G5 base

Rated lamp Wattage (W)	Length (mm)	Colour	Colour temperature (°K)	Luminous flux (lm)
24	549	DW	6000	1600
		NW	4000	1750
		WW	3000	1750
54	1149	DW	6000	4100
		NW	4000	4450
		WW	3000	4450
49	1449	DW	6000	4100
		NW	4000	4300
		WW	3000	4300

LV HALOGEN LAMP

b- Halospot 111, aluminium reflector, (G53 base)

Rated lamp Wattage (W)	Diameter (mm)	Beam angle (degrees)	Luminous intensity (cd)
35	111	4°	30000
		4°	45000
		8°	1000
		24°	2500
50	111	4°	50000
		8°	20000
		24°	3500

HIGH INTENSITY DISCHARGE LAMPS

Mercury vapor lamps HQL

Rated lamp Wattage (W)	Diameter (mm)	Length (mm)	Light Colour	Base	Luminous flux lumen
50	55	130	-	E27	1800
80	70	156	-	E27	3800
125	75	170	-	E27	6300
250	90	226	-	E40	13000
400	120	290	-	E40	22000
700	140	330	-	E40	40000
1000	165	390	-	E40	58000

LOW VOLTAGE HALOGEN LAMPS

Low voltage Tungsten halogen lamps with transverse filament

Rated lamp Wattage (W)	Diameter	Length (mm)	Lamp voltage volt	Beam	Base	Luminous flux lumen
10	9	31	12	-	G4	140
20	9	31	12	-	G4	350
50	12	44	12	-	GY6.35	950

Decostar 51 low voltage lamps with dichroic reflector

Rated lamp Wattage (W)	Diameter	Length (mm)	Lamp voltage volt	Beam	Base	Luminous flux lumen
20	51	45	12	12°	GU 5.3	340
	51	45	12	36°	GU 5.3	340
	51	45	12	60°	GU 5.3	340
35	51	45	12	8°	GU 5.3	670
	51	45	12	18°	GU 5.3	670
	51	45	12	38°	GU 5.3	670
	51	45	12	60°	GU 5.3	670
50	51	45	12	12°	GU 5.3	1040
	51	45	12	24°	GU 5.3	1040
	51	45	12	30°	GU 5.3	1040
	51	45	12	38°	GU 5.3	1040
	51	45	12	60°	GU 5.3	1040
75	51	45	12	14°	GU 5.3	1280
	51	45	12	24°	GU 5.3	1280
	51	45	12	38°	GU 5.3	1280

Color appearance table according to DIN 5035

Color	Temperature	T ° K
Warm white WW	T <3300 ° K	
Neutral white NW	3300 ° K <T <5000 ° K	
Daylight white DW	T >5000 ° K	

Color rendering group according to DIN 5035

Group	Ra range
1A	Ra >90
1B	80 < Ra < 90
2A	70 < Ra < 80
2B	60 < Ra < 70
3	40 < Ra < 60
4	20 < Ra < 40

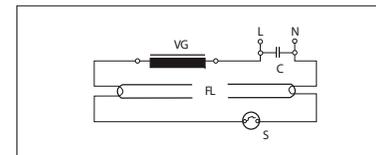
CIRCUIT DIAGRAMS - FLUORESCENT LAMPS

Normal or switchstart ballast

In this type of circuit, starting current passes through a bimetal starter connected parallel to the lamp and preheats the lamps electrode. Meanwhile, due to the difference in the nature of the alloys, the bimetal opens reducing current to zero and causing a voltage surge $dv =$ this voltage surge causes ionization and the lamp lights up.

Inductive circuit for one lamp

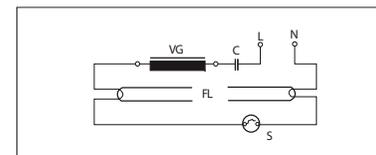
Not compensated P.F. ~ 0.5 lagging



Capacitive circuit for one lamp

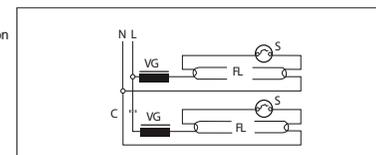
Capacitive P.F. ~ 0.5 leading

Ballast and capacitor arranged in series. Circuit suitable for ripple frequency control.



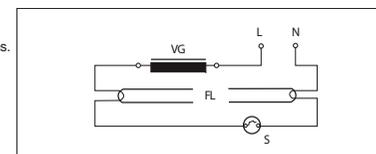
Duo circuit - compensated P.F. ~ 1

By combining one inductive and one capacitive circuit, lead/lag power factor correction is attained. Stroboscopic effects are largely eliminated, and the circuit is suitable for ripple frequency control.



Compensated circuit - P.F. ~ 0.90

The power factor is corrected by means of a capacitor connected parallel to the mains.

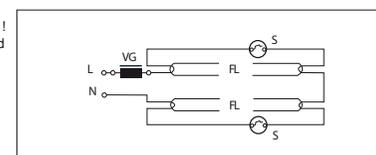


Tandem circuit - not compensated P.F. ~ 0.5

Two lamps wired in series are operated with only one ballast. 110 V starters required ! In cases of excessive ignition time with tandem circuits, one of the two starters should be reversed (i.e. turned through 180°).

Tandem circuit are suitable with following lamps:

Lamp	Length
T26/18 W	590 mm
T 38/20 W	590 mm



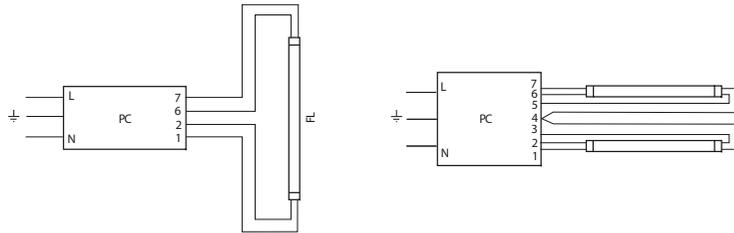
Key : VG = ballast; FL = Fluorescent lamp; L = phase; N = Neutral

Quick starting with electronic starters is possible by using one ballast per lamp.

PC electronic ballasts

Single lamp - P.F.- 0.95

Twin Lamp - P.F.- 0.95

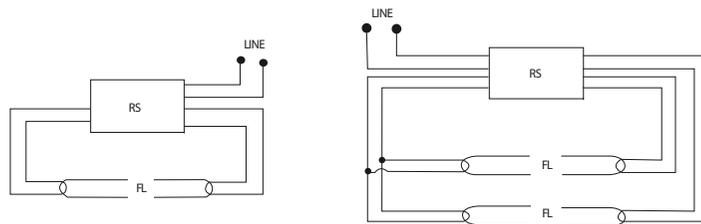


Rapid start ballast

Two types of rapid start ballasts are available. One is to be used with rapid start lamps having a strip along their length, the other to be used with normal fluorescent lamps and is called: trigger start ballast. In the first case, ballast has built-in filament windings which energize the low voltage cathode in the rapid start lamp. A stream of ions emitted from the cathodes prepares the gaz in the lamp for lighting. The high open circuit voltage supplied by the ballast then strikes on arc through the lamp causing it to light. Trigger start ballast contains preheat winding which enable regular lamp filaments to be heated in one second. They operate similarly to rapid start ballasts, but they require higher open circuit voltage.

Rapid start single lamp circuit - P.F. = 0.9
Capacitor is built in ballast housing.
This circuit is the same for trigger and rapid start ballast.

Rapid start twin lamp circuit - P.F. = 0.9
Capacitor is built in ballast housing.
This circuit is the same for trigger and rapid start ballast.



Noise

Ballasts are manufactured from laminated sheet steel and the constant reversal of the magnetic field sets up harmonic vibrations in the steel cores that can sometimes be heard. However all ballasts used by Nardeen have their noise levels complying with standards mainly IEC, VDE, DIN, BSS, SASO, etc...

Power Factor Correction

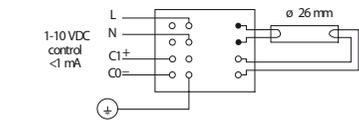
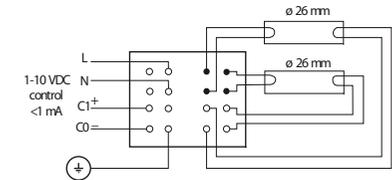
Since a ballast is mainly a coil, the fluorescent lamp circuit will be inductive, and a capacitor is required to improve the power factor from a typical figure of 0.5 to 0.9. The capacitor can be connected either in serie or in parallel to the circuit. A better solution would be the use of the lead/lag duo circuit i.e. connecting to one electrical circuit two types of wiring, one having an inductive non compensated circuit, and the other a capacitive over-compensated circuit. This duo circuit has also the advantage of reducing stroboscopic effects. Following values are nominal for a corrected power factor cos (0.90 to 0.95).

Voltage	Wattage									
	1x18w	2x18w	4x18w	6x18w	1x36w	2x36w	3x36w	4x36w	1x58w	2x58w
220V 50/60Hz Parallel	4m F 220 V	4m F 220 V	8m F 220 V	12.5m F 220 V	4m F 220 V	8m F 220 V	12.5m F 220 V	2x8m F 220 V	8m F 220 V	12.5m F 220 V
220V 50/60Hz Series	2.9m F 440 V	3.6m F 420 V	3.6m F 420 V	2x3.6m F 420 V	3.6m F 420 V	3.6m F 420 V	2x3.6m F 420 V	2x3.6m F 420 V	5.7m F 420 V	5.7m F 420 V

Dimming with fluorescent lamps

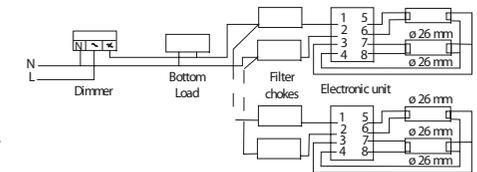
(Electronic 1-10VDC Digital Dimming
Features:

- 1- Control voltage 1-10VDC
- 2- Dimming Range 0-100%
- 3- Low starting Level
- 4- Optimum Efficacy over the whole dimming range
- 5- Flicker free light
- 6- No blinking or noise
- 7- Very low magnetic field
- 8- Very low mains current harmonics
- 9- Stabilized output
- 10- High number of tubes per dimmer
- 11- High power factor
- 12- No starting aids as earthed metal surface or strips on the lamps needed.
- 13- Energy savings 15-30% at 100% light.



Electronic Phase-Shift Dimming
Features:

- 1- Dimming range 10-100%
- 2- Low starting level
- 3- Optimum efficacy over the whole dimming range
- 4- Flicker free light
- 5- No blinking or noise
- 6- Very low magnetic field
- 7- Very low mains current harmonics
- 8- Stabilized output
- 9- High number of tubes per dimmer
- 10- High power factor
- 11- No starting aids as earthed metal surface or strips on the lamps needed.
- 12- Energy savings 15-30% at 100% light.



Capacitor Calculations for High Power Factor in Ballast Operated Lighting Fixtures

U (Ballast Voltage) = V
 λ (Ballast Power Factor) =
 f (Ballast Frequency) = Hz
 I (Load Current) = A

P Consumed Power = $U \times I \times \lambda$ = Watt

λ (Initial Power Factor) =
 ϕ (Desired Power Factor) = 0.9 or higher value

$\theta_1^0 = \text{Cos}^{-1}(\lambda)$
 $\theta_d^0 = \text{Cos}^{-1}(\phi)$

Q_c (Required Vars to Change Power Factor) = $P \times (\tan \theta_1^0 - \tan \theta_d^0)$ = Var

C_r (Required Capacitor to Enhance Power Factor) = $\frac{Q_c \times 10^6}{2 \times \pi \times f \times (U)^2}$ = $\mu\text{F} \approx \mu\text{F}$

Ballast Information

Calculations

Round the resulted value to nearest value that commercially available

Notes:

- 1- Ballast information can be taken from ballast technical sheet
- 2- The Scientific Calculator of Windows can be used or can run the calculation by using EXCEL

Example :

U (Ballast Voltage) = 220 V
 λ (Ballast Power Factor) = 0.49
 f (Ballast Frequency) = 50 Hz
 I (Load Current) = 0.43 A

P Consumed Power = $U \times I \times \lambda$ = 46.354 Watt

λ (Initial Power Factor) = 0.49 $\Rightarrow \theta_1 = 60.6594^\circ \Rightarrow \tan \theta_1 = 1.7790$
 ϕ (Desired Power Factor) = 0.9 $\Rightarrow \theta_d = 25.8419^\circ \Rightarrow \tan \theta_d = 0.4843$

Q_c (Required Vars to Change Power Factor) = $P \times (\tan \theta_1 - \tan \theta_d)$ = 60.0147 Var

C_r (Required Capacitor to Enhance Power Factor) = $\frac{Q_c}{2 \times \pi \times f \times (U)^2}$ = 3.9469554680 μF

1,562244

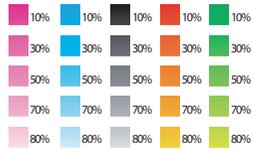
BALLASTS & CAPACITORS TECHNICAL DATA FOR HID LAMPS

High Pressure Sodium (HPS)							
Type of Ballast and Wattage	Circuit Voltage V	Current A	Standard power Factor	Weight Kg	F + 10% Power Factor	Current A	Weight Kg
70	220	1.00	0.36	1.50	8		0.46 0.12
100	220	1.20	0.40	2.20	10	More	0.68 0.13
150	220	1.80	0.40	2.00	18	Than	0.74 0.15
250	220	3.00	0.37	4.90	30	90%	1.30 0.20
400	220	4.45	0.40	6.20	40		1.60 0.25
1000	220	10.3/95	0.45	14.20	85/75		3.20 0.52

High Pressure Mercury (HPM)							
Type of Ballast and Wattage	Circuit Voltage V	Current A	Standard power Factor	Weight Kg	F + 10% Power Factor	Current A	Weight Kg
50	220	0.61	0.44	0.90	6		0.30 0.08
80	220	0.80	0.51	1.10	6		0.45 0.10
125	220	1.15	0.58	1.40	10	More	0.70 0.12
175	220	1.45	0.58	1.40	10	Than	0.92 0.12
250	220	2.13	0.58	2.00	15	90%	1.34 0.15
400	220	3.25	0.60	5.00	25		2.00 0.18
1000	220	7.50	0.63	10.00	60		4.62 0.30

Metal Halide (MH)							
Type of Ballast and Wattage	Circuit Voltage V	Current A	Standard power Factor	Weight Kg	F + 10% Power Factor	Current A	Weight Kg
250	220	2.13	0.37	4.90	30		1.30 0.20
400	220	3.25	0.37	6.20	30		1.60 0.20
1000	220	7.50	0.45	14.20	85/75	More	3.20 0.52
2000	220	8/8.8	0.45	19.00	100	Than	3.40 0.60
2000	380	10.3/88	0.46	19.00	40	90%	1.8 0.25

REFLECTION FACTORS OF VARIOUS MATERIALS AND COLOURS



Material	Reflection Factor
Birch	0,60
Brick, red	0,05 - 0,25
Concrete	0,15 - 0,40
Oak, light	0,40
Oak, dark	0,15 - 0,20
Enamel, white	0,65 - 0,75

Material	Reflection Factor
Glass, clear	0,06 - 0,08
Glazed tiles, white	0,60 - 0,75
Walnut, dark	0,15 - 0,20
Plaster	0,80
Carbon black or velvet	0,02 - 0,10
Glass/Aluminium mirror	0,95

MAINTENANCE FACTOR

Maintenance factor depends on various parameters:

- Lamp life (for example for tubular fluorescent T26 is 8000 hours)
- Frequency for maintenance (for example every year for cleaning and every 3 years for replacing lamps)
- Lamp factor (flux decrease and lamp survival)
- Luminaire factor (depends if it is closed, opened, IP,.)
- Local factor (frequency of cleaning the room, level of dust, direct/indirect illuminance, local index)

To maintain a level of illuminance, the following table gives values for a pre-project:

Environment	Open fitting	Fitting suitable for the environment
Clean	0.8	0.9
Average	0.672	0.8
Dirty	0.64	0.7

LUMINAIRE CLASSIFICATION ACCORDING TO LUMINOUS FLUX

DIN 5040

- Luminaire photometry classification as per standard is composed of one letter and two figures(ex:A60). The letter (A, B, C, D, E) indica the percentage of luminous flux emitted in the upper and lower hemispheres. The closer it is to the letter A, the higher is the percentag the flux emitted in the lower hemisphere. The figures that follow refer to the flux directed onto the working plane and the ceiling, respectively, in the typical configuration provided for by the standard.

UTE C71-121

- Luminaire photometry classification is composed of the efficiency in the lower hemisphere followed by a letter plus the efficiency in the upper hemisphere followed by another letter (ex: 0.5D+0.24T). Letters range from "A" to "J" and represent the luminous flux percentag inside given solid angles. If the letter T is present, this means that part of the luminous flux is emitted into the upper hemisphere.

CIBSE TM5

- Luminaire photometry classification is divided into ten categories (BZ1 to BZ10). Each category refers to the percentage of luminous flt emitted in the lower hemisphere that directly reaches the working plane in a standard configuration. This is why this classification also depends upon room index. For example, luminaires classified as BZ1 emit a greater amount of luminous flux onto the working plane ft BZ2 to BZ10 luminaires.

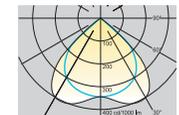
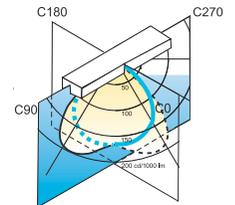
CIE publications

- Luminaire photometry classification as per CIE is composed of five ratios N1, N2, N3, N4, N5 represent the luminous flux percentage efficiency inside given solid angles.

PHOTOMETRIC CURVES

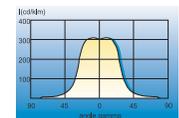
POLAR CURVE

- The whole of the measured of luminous intensities emitted by a luminaire in all directions forms the photometric solid. Usually not all information regarding the photometric solid is given, but only as regards two vertical planes normal to each other that cross the optical centre of the luminaire. (C0-C180, C90-C270)
- Luminous intensity values represented in polar coordinates on a plane define a line that is called (photometric curve). They are generally expressed as cd/klm, referred to a source emitting a luminous flux equal to a 1000lm.
- To obtain the actual value, you should multiply the value shown on the diagram by the actual flux of the lamp used.



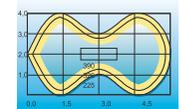
CARTESIAN CURVE

- For the luminaires with intensive distribution, and having revolution axis, the luminous intensity is usually represented in these coordinates for more precision.



ISOLUX CURVE

- This curve connects points on the plane having same light density E(lux).



Candela to LUX Conversion Law

To derive LUX value from photometric polar curve plotted in cd/klm (read candela per kilo lumen), use the following formula:

$$E = \frac{I \times \text{Cos}^3 \alpha}{h^2}$$

Where:

E – Luminance (LUX)

I – Luminous intensity (Candela)

F – Opening angle in relation to the vertical Axis of the luminaire (Degree)

h – Height between the luminaire and the working plane (Meter)

Example:

To calculate LUX value @ 30° angle,
 1- from the polar curve we consider the vertical axis plane C0 curve and the corresponding value in cd/klm is less a little bit than 200 the accurate value can be found from the table below is 196.4 cd/klm, now I value in candela can be calculated from the formula

$$I = \frac{V \times n \times \Phi}{1000}$$

V – value from the polar curve

n – number of tubes in the luminaire

Φ – lumen flux of one tube

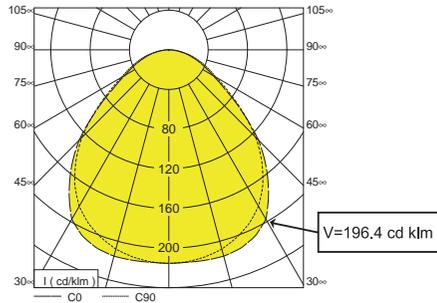
$$I = \frac{196.4 \times 2 \times 1900}{1000} = 746 \text{ cd}$$

2- assuming $h=(3-0.85)=2.15$ meter

3- calculating $\text{Cos}^3(30^\circ) = 0.64$

4- putting all values in the formula

$$E = \frac{746 \times 0.64}{(2.15)^2} = 103 \text{ Lux}$$



gamma	C 0.0	C 15.0	C 30.0	C 45.0	C 60.0	C 75.0	C 90.0
0.0°	215.40	215.40	215.40	215.40	215.40	215.40	215.40
5.0°	215.10	215.80	215.50	215.00	215.80	214.30	214.60
10.0°	215.50	216.00	215.20	213.90	213.20	211.70	212.10
15.0°	215.50	215.30	214.20	211.70	210.20	207.50	208.10
20.0°	213.10	212.20	211.50	207.90	205.70	201.00	201.50
25.0°	207.50	205.80	206.10	201.00	199.10	192.90	193.30
30.0°	197.40	194.00	196.40	190.50	190.00	181.60	182.20
35.0°	176.80	173.10	180.10	175.00	174.30	164.90	166.60
40.0°	154.00	149.10	157.60	149.40	155.20	144.30	147.10
45.0°	129.00	120.20	125.40	118.70	124.90	118.00	125.00
50.0°	97.30	91.90	100.60	92.80	99.70	92.50	98.60
55.0°	69.80	67.20	72.50	66.20	73.70	70.60	74.30
60.0°	51.30	46.10	47.60	41.00	48.40	49.30	55.10
65.0°	39.70	32.50	29.00	22.40	29.70	34.60	43.50
70.0°	29.70	24.10	20.20	16.80	20.50	25.70	33.10
75.0°	21.10	17.80	15.20	13.90	16.40	19.30	24.10
80.0°	12.40	11.30	12.40	10.80	13.70	13.60	14.40
85.0°	5.50	3.70	6.20	5.10	7.40	5.80	7.70
90.0°	0.40	0.30	0.40	0.30	0.40	0.30	0.40

GLARE CONTROL

LOW / VERY LOW LUMINANCE

The new definitions permit the clarification of features that characterize the luminance distribution of luminaires. These terms which have been used currently don't respond to precise values, but follow some standards or requirements, such as Bodman-Solner diagram, CIBSE LG3, DIN5035 part 7, cut-off angles...

Bodman-Solner diagrams

Glare can be caused by lamps or luminaires (direct glare) as well as by high luminance reflected by bright surfaces(reflected glare).

Average luminance of each luminaire should not exceed luminance restriction curve shown in the figures with respect to the glare critical angle $45^\circ < \alpha < 85^\circ$. The luminaire luminance curve should be positioned in the left side of the threshold in function of the position of the observer, dimension of the room, required system quality class and level of the illuminance.

Luminance restriction curves apply:

to general room lighting and general oriented lighting at working stations

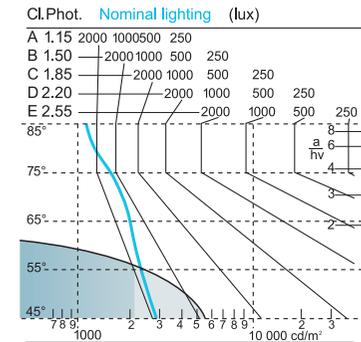
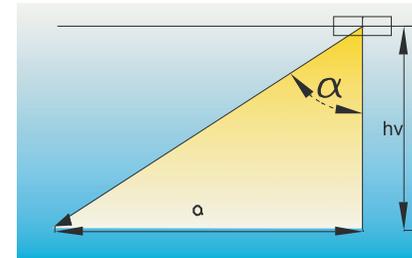
to rooms having a parallelepiped shape

when room reflection factors are as follows:0.7/0.8 for the ceiling, 0.4/0.6 for the walls and 0.1/0.2 for the floor.

The luminances in the horizontal axe are graduated in logarithmic scale. The angles of observation in the left vertical axe are graduated in linear scale. These angles are defined by the axe of vision to the luminaire and the vertical axe. It could be defined also by the tangent to $\alpha = a/hv$; a is the horizontal distance between the observer and the luminaire, hv is the height difference between the eye of the observer and the luminaire. The tangent values are reported to the right vertical axe, in correspondence with the angles.

Class quality table

Glare	Class of quality	Activity
Inexistent	A	Execution of very exigent visual task, ex: electronic assembly
	B	Execution of particularly exigent visual task, ex: fine control. Execution of moderated visual task, but demanding important and continuous concentration, ex: office work, small pieces assembly.
Light	C	Execution of moderated visual task, ex: normal task for seated worker, normal size pieces assembly for a worker in stand up position.
	D	Execution of simple visual task, with a normal concentration for workers who are moving frequently in a limited zone, mounting of important dimension pieces.
Severe	E	Locals where people don't have fixed task position, moving for execution of low visual task. Locals where tasks aren't done continuously by the same people.



GLARE CONTROL

CIBSE LIGHTING GUIDE LG3

(the chartered institute of building services engineers lighting guide No.3 areas for visual display terminals)

- English CIBSE standards classify luminaires into three categories CAT1, CAT2 and CAT3. LG3 takes into account how the computer is used, when it is used and how the space in which it is placed is designed.

Very low luminance cat1:

- Luminaires have the average luminance above the 55° elevation angle restricted to less than 200cd/m², and a maximum patch luminance of 500cd/m² above the same angle.

Very low luminance cat2:

- Luminaires have the average luminance above the 65° elevation angle restricted to less than 200cd/m², and a maximum patch luminance of 500cd/m² above the same angle.

Low luminance cat3:

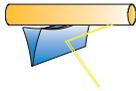
- Luminaires have the average luminance above the 75° elevation angle restricted to less than 200cd/m², and a maximum patch luminance of 500cd/m² above the same angle.

DIN 5035 PART 7

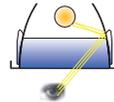
(German standard, lighting of rooms with VDU work stations or VDU assisted workplaces).

- In accordance with DIN 5035, part 7, the mean luminance of surfaces that reflect in a VDU, including furnishing and windows, must be not higher than 200cd/m², while maximum luminance must be limited to 400cd/m². In the case of luminaires that reflect in a VDU, the provisions of DIN5035 are as follows: beyond the luminance limit angle, the angle at which a luminaire starts to become visible to the operator in a VDU, mean luminance of the luminous surfaces in the planes C0-C180 and C90-C270 must not exceed 200cd/m².
- The use of special VDU luminaires, with a luminaire limit angle of 50°, only makes real sense for large offices. In smaller rooms luminance at the emission angle provided with these luminaires would not in any case be visible in the computer. Therefore, the use of luminaires with a 60° luminance limit angle is to be recommended.

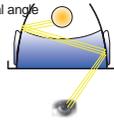
Optimal reflection at any point



patch luminances above critical angle



No patch luminances above critical angle

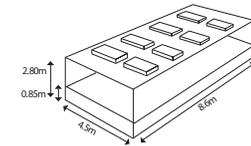


T5 LUMINAIRE OPTICS

- These luminaires offers high levels of light output. To control the glare, without decreasing the luminaire efficiency, we have developed special optics for the T5 tubular lamps.

Ladder effect

- Ladder effect is series of high luminance patches which can appear along the length of the reflectors. This patch luminance must not exceed 500 cd/m² at any angle above the luminance limit angle.
- To avoid this effect which is remarkable for the T5 lamps, we have developed special transversal parabolic blades, curved in the upper part to minimize it. Their partial closed upper side, optimized parabolic ray, upper transversal opening size and height contribute to keep the high efficiency of the luminaire.



DETERMINATION OF LUMINAIRES NUMBERS

$$\text{Room index } K = \frac{8.6 \times 4.5}{(2.80 - 0.85) \times (8.6 + 4.5)}$$

$$K = 1.51 \text{ say } 1.50$$

The resulting illuminance on the working plane of a room (0.85m above floor level) is a function of the following parameters:

- The luminous flux emitted by the lamps
- The luminaire in which the lamps are enclosed
- The shape of the room, referred to as the Room Index
- The reflective properties of the ceiling, walls and floor, referred to as the Reflection Factors.
- The maintenance factor which takes into account the aging of the installation

Combining parameters 2,3 and 4, results into the Utilisation Factor of an installation, i.e. a specific luminaire installed in a given room having fixed reflection factors.

The Room Index is given by the formula: $K = \frac{L \times W}{h(L + W)}$

Where L x W are the length and width of the room and h is the distance between the fittings and the working plane located at 0.85m above floor level.

See tables page 121 to 127 for determining parameters 1, 4 and 5

The number of fittings is calculated from: $N = \frac{E \times L \times W}{n \times \Phi \times U \times M}$

where: E = Average required illuminance on the working plane. See Tables page (121-122)

n = Number of tubes per fitting
 U = Utilization factor given for every type of fitting
 Φ = Lumen flux of one tube
 M = Maintenance factor

Example:

Find the required number of RMA 2/36 fittings to illuminate an office

Dimensions:

$$L = 8.6 \text{ m}$$

$$W = 4.5 \text{ m}$$

$$H = 2.8 \text{ m}$$

Lamps are 36 w - Neutral White, Flux per lamp: 2600 m

Maintenance factor:

environment is clean, fitting is open type, and lamps are replaced at 80% of their rated life: M = 0.80

Utilization factor:

assuming reflection factors of Ceiling 70% - Walls 50%

Utilization factor U is given by the photometric data of the RMA 2/36 fittings:

U = 0.55

Therefore:

$$N = \frac{500 \times 8.6 \times 4.5}{2 \times 2600 \times 0.55 \times 0.80} = 8.46 \text{ fittings}$$

With 8 fittings installed, the illuminance level will be:

$$E = \frac{N \times h \times F \times U \times M}{L \times W} = \frac{8 \times 2 \times 2600 \times 0.55 \times 0.80}{8.6 \times 4.5}$$

This value is still acceptable since it differs about 5% from the requested value E = 473 lux.

Illuminance calculations by points

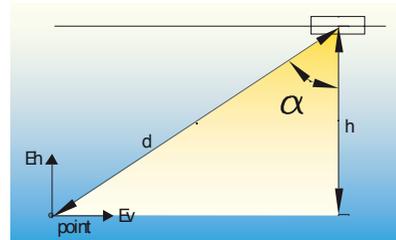
- Horizontal or vertical illuminance at a given point can be calculated from luminous intensity and the relevant geometrical conditions:
 - E_h is horizontal illuminance (in lux)
 - d : is the distance between the luminaire and the considered point, (in m)
 - I_a : is the intensity of the luminaire in the direction luminaire to point, (in cd).
 - E_v is vertical illuminance (in lux).
 - a : is the angle between the vertical axe and the direction luminaire-point (in degree)
 - h : is the height between luminaire point, (in m).

The formula is as follow:

$$E_h = \frac{I_a \cdot \cos a}{d^2} = \frac{I_a \cdot \cos^3 a}{h^2}$$

$$E_v = \frac{I_a \cdot \cos^3 (90 - a)}{d^2} = \frac{I_a \cdot \cos^2 a \cdot \sin a}{h^2}$$

- Example: the intensity of a luminaire picked from the polar curve at an angle of 30° is 540cd, light source flux is 3000lm. The height of the luminaires is 6m from the working plane.
- The illuminance at the working area at an angle of 30° is:
 $E_h = (3 \cdot 540 \cdot 0.64) / 36 = 28.8 \text{ lux}$.



Luminance calculations

- The average luminance formula can be used to verify luminaires for compliance with the 200 cd/m^2 limit. The calculation is performed using the highest intensity value given, from the series of azimuth angles at the elevation angle in question ($55,65$ or 75°).
 - L : is Average Luminance cd/m^2
 - N : is number of lamps
 - I : luminous length(m)
 - F_0 : initial lamp lumen output
 - W : luminous width(m)
 - I_{1000} : is the intensity per 1000 lumens at elevation angle of ($55,65$ or 75°).
- The formula is as follow:
- $$L = \frac{1000 \cdot I \cdot W \cdot \cos(55,65 \text{ or } 75^\circ)}{1000 \cdot N \cdot F_0}$$
- Example: luminous dimension of the luminaire is $1.4 \text{ m} \cdot 0.5 \text{ m}$. The intensity of a luminaire picked from the polar curve at an angle of 65° is 18cd, light source flux is 3000lm for 1 lamp. $L = (18 \cdot 1 \cdot 3000) / (1000 \cdot 1.4 \cdot 0.5 \cdot 0.42) = 183.6 \text{ cd/m}^2$.



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