



LED Lighting Solutions

LED MODULE CATALOGUE



ABOUT US

TD Lighting Solutions, TLS Technology Corp, is established in 2008 to serve, fast, reliable, longevity and unique designs and production of semi-finished lighting modules, optics and light engines. To do so, TD Lighting Solutions are invested in in-line fully automatic SMT lines, injection machines and robots, testing lab with fully equipped ESD protection according to EN standards.

TD Lighting Solutions services are designing and manufacturing of optics, electrical systems, and lighting engines for LED lighting luminaire. We do only focus to deliver better lighting solutions for lighting system manufacturers.

From top to bottom line on the organization of TD and TLS are hardly working with our customers as real partners. Therefore, we prefer to use word partners instead of customers. TD Elektronik is a leader in demand creation and sees that his partners' success is his success. TD and TLS keep searching for the best, highest quality and reliable products to be able to supply his partners every single day.



1

Listen

We do listen and discover your needs.
Then we do design your request on our software.
We start from scratch for custom solutions



2

Design

Then prototype it within our own prototype builder system for your approval.



3

Prototype

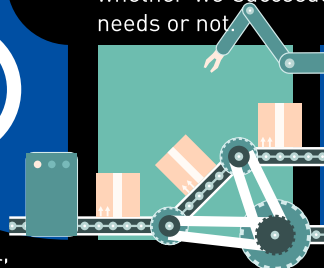
Next, we measure the first sample to see whether we succeeded accomplishing your needs or not.



4

Qualification

We do test electrical, thermal, photometrical conditions. If all gone well, including your concurrence, time gets to mass production



5

Mass Production

Testing never ends! We measure every single unit produced and label them with detailed QR codes which enables you to track your product.





We make custom optic design for you!

Our R&D Design Center completes the appropriate design according to your optical requirements in 10 days and shares it with you. If the structural and optical design is approved, the mold is produced within 20-35 working days. After approval of sample products, mass production will take around 2 weeks.

We can design the LED module for you!

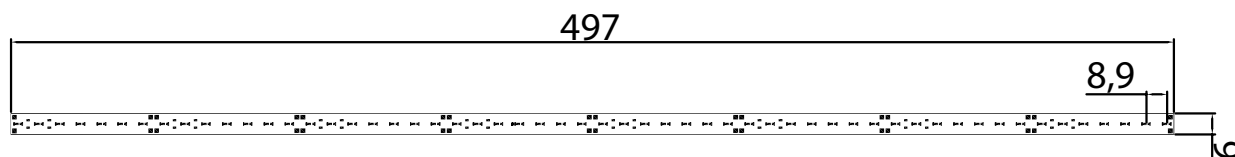
TLS can design any sort of PCB layout. The design process takes around 5-7 days. The prototype process takes around 5-7 days. After the approval of the prototype, mass production takes around 3 weeks.

We do accredited laboratory measurements!

We are able to perform photometrical, electrical, thermal and IP tests in our headquarters.

We make perform lighting simulations!

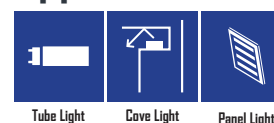
We obtain IES file of your luminaires in the laboratory. We evaluate your project concept. Depending on you project traits, we simulate your lighting application. Finalize it with the best option which is meeting your needs best!



Specifications:

- Default driving method is constant voltage input
- CCT Range from 2000°K up to 6500°K
- This module is optional and can be connected as 8 Series 7 Parallel.
- Luminous flux range from 2650 lm to 3600 lm
- Efficacy of the module up to 150 lm/W
- CRI 80 is standart, CRI 70 and CRI 90 are available
- Outstanding system color tolerance MacAdam 3 over the full operating area
- Simple installation (e.g. screw)
- Long life-time > 60,000 hours
- 5 years guarantee at specified conditions

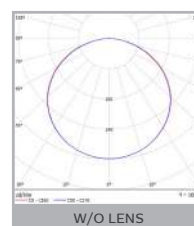
Applications



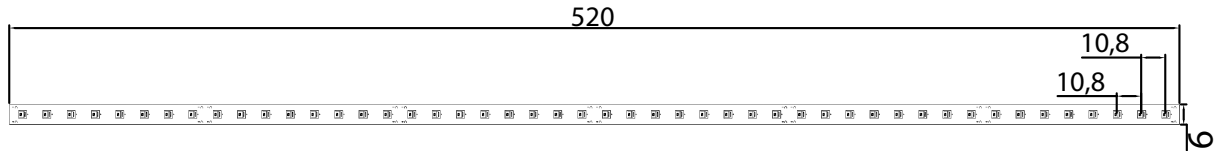
Driving Current vs Lumen Output Specification

Common Characteristic [@Tj : 85°C] ;				
Module Code	X-ML09497LMxx-3014-56			
PCB Material	FR4		Electrical Connection	
Operating Temperature (°C)	-40 ~ +85		Parallel	8
Storage Temperature (°C)	-40 ~ +55		Series	7
Thermal Conductivity (W/m-K)	1>		LED Quantity	56
LED	3014			
Correlated Color Temperature (CCT)	4000K			
Color Rendering Index (CRI)	80+			
Module Operating Voltage (V)	24,00			
Module Operating Current (mA)	500	700	800	
Branch Operating Current (mA)	63	88	100	
Module Power (W)	12,00	16,80	19,20	
Module Light Output (lm)	3.600	2.335	2.650	
Module Efficiency (lm/W)	150	139	138	

Photometry



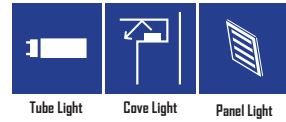
Lumen Output Multiplier					
LED	2700°K (CRI 80)	3000°K (CRI 80)	4000°K (CRI 80)	5000°K (CRI 80)	6500°K (CRI 80)
3014	0,81	0,92	1	0,97	0,95



Specifications:

- Default driving method is constant current input
- CCT Range from 2000°K up to 6500°K
- Luminous flux range from 143 lm to 513 lm
- Efficacy of the module up to 158 lm/W
- CRI 80 is standart, CRI 70 and CRI 90 are available
- Outstanding system color tolerance MacAdam 3 over the full operating area
- Simple installation (e.g. screw)
- Long life-time > 60,000 hours
- 5 years guarantee at specified conditions

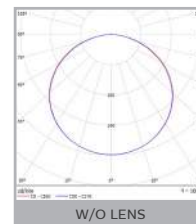
Applications



Driving Current vs Lumen Output Specification

Common Characteristic [Tj : 85°C] ;			
Module Code	X-ML09520NCxx-NFSW757H-48		
PCB Material	ALU	Electrical Connection	
Operating Temperature (°C)	-40 ~ +85	Parallel	6
Storage Temperature (°C)	-40 ~ +55	Series	8
Thermal Conductivity (W/m-K)	1>	LED Quantity	48
LED		NFSW757H_R8000	
Correlated Color Temperature (CCT)		4000K	
Color Rendering Index (CRI)		80+	
Module Operating Voltage (V)	21,76	22,40	23,20
Module Operating Current (mA)	350	500	700
Branch Operating Current (mA)	58	83	117
Module Power (W)	7,62	11,20	16,24
Module Light Output (lm)	1.371	1.926	2.566
Module Efficiency (lm/W)	180	172	158
LED		NF2W757H-F1_R8000	
Correlated Color Temperature (CCT)		4000K	
Color Rendering Index (CRI)		80+	
Module Operating Voltage (V)	21,44	22,32	22,88
Module Operating Current (mA)	350	500	700
Branch Operating Current (mA)	58	83	117
Module Power (W)	7,50	11,16	16,02
Module Light Output (lm)	1.426	2.009	2.723
Module Efficiency (lm/W)	190	180	170

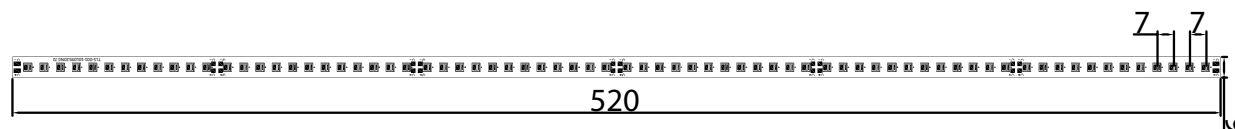
Photometry



Lumen Output Multiplier					
LED	2700°K (CRI 80)	3000°K (CRI 80)	4000°K (CRI 80)	5000°K (CRI 80)	6500°K (CRI 80)
NFSW757H_R8000	0,875	0,916	1	1	1
NF2W757H-F1_R8000	0,67	0,75	0,82	0,82	0,82

LINEAR LED MODULE SERIES

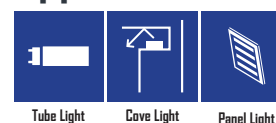
X-ML09520NCxx-NFSW757H-72



Specifications:

- Default driving method is constant current input
- CCT Range from 2000°K up to 6500°K
- This module is optional and can be connected as 12 Series 6 Parallel.
- Luminous flux range from 2056 lm to 4084 lm
- Efficacy of the module up to 190 lm/W
- CRI 80 is standart, CRI 70 and CRI 90 are available
- Outstanding system color tolerance MacAdam 3 over the full operating area
- Simple installation (e.g. screw)
- Long life-time > 60,000 hours
- 5 years guarantee at specified conditions

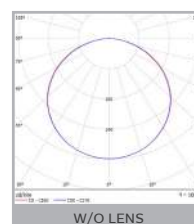
Applications



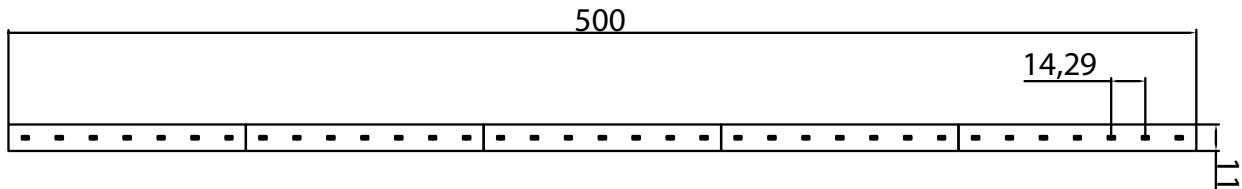
Driving Current vs Lumen Output Specification

Common Characteristic [@Tj : 85°C] ;			
Module Code	X-ML09520NCxx-NFSW757H-72		
PCB Material	ALU	Electrical Connection	
Operating Temperature (°C)	-40 ~ +85	Parallel	6
Storage Temperature (°C)	-40 ~ +55	Series	12
Thermal Conductivity (W/m-K)	1>	LED Quantity	72
LED	NFSW757H_R8000		
Correlated Color Temperature (CCT)	4000K		
Color Rendering Index (CRI)	80+		
Module Operating Voltage (V)	32,64	33,60	34,80
Module Operating Current (mA)	350	500	700
Branch Operating Current (mA)	58	83	117
Module Power (W)	11,42	16,80	24,36
Module Light Output (lm)	2.056	2.890	3.849
Module Efficiency (lm/W)	180	172	158
LED	NF2W757H-F1_R8000		
Correlated Color Temperature (CCT)	4000K		
Color Rendering Index (CRI)	80+		
Module Operating Voltage (V)	32,16	33,48	34,32
Module Operating Current (mA)	350	500	700
Branch Operating Current (mA)	58	83	117
Module Power (W)	11,26	16,74	24,02
Module Light Output (lm)	2.139	3.013	4.084
Module Efficiency (lm/W)	190	180	170

Photometry



Lumen Output Multiplier					
LED	2700°K (CRI 80)	3000°K (CRI 80)	4000°K (CRI 80)	5000°K (CRI 80)	6500°K (CRI 80)
NFSW757H_R8000	0,875	0,916	1	1	1
NF2W757H-F1_R8000	0,67	0,75	0,82	0,82	0,82



Specifications:

- Default driving method is constant voltage input
- CCT Range from 2000°K up to 6500°K
- This module is Standard and can be connected as 7 Series 5 Parallel.
- Luminous flux range from 1656 lm to 3600 lm
- Efficacy of the module up to 150 lm/W
- CRI 80 is standart, CRI 70 and CRI 90 are available
- Outstanding system color tolerance MacAdam 3 over the full operating area
- Simple installation (e.g. screw)
- Long life-time > 60,000 hours
- 5 years guarantee at specified conditions

Applications

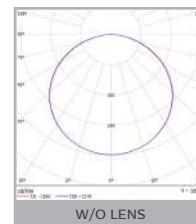


Indoor

Driving Current vs Lumen Output Specification

Common Characteristic [@Tj : 85°C] ;				
Module Code	X-ML11500LMxx-3014-35-24V-R			
PCB Material	FR4		Electrical Connection	
Operating Temperature (°C)	-40 ~ +85		Parallel	5
Storage Temperature (°C)	-40 ~ +55		Series	7
Thermal Conductivity (W/m-K)	1>		LED Quantity	35
LED	3014			
Correlated Color Temperature (CCT)	4000K			
Color Rendering Index (CRI)	80+			
Module Operating Voltage (V)	24,00			
Module Operating Current (mA)	250	350	500	
Branch Operating Current (mA)	50	70	100	
Module Power (W)	6,00	8,40	12,00	
Module Light Output (lm)	900	1.168	1.656	
Module Efficiency (lm/W)	150	139	138	

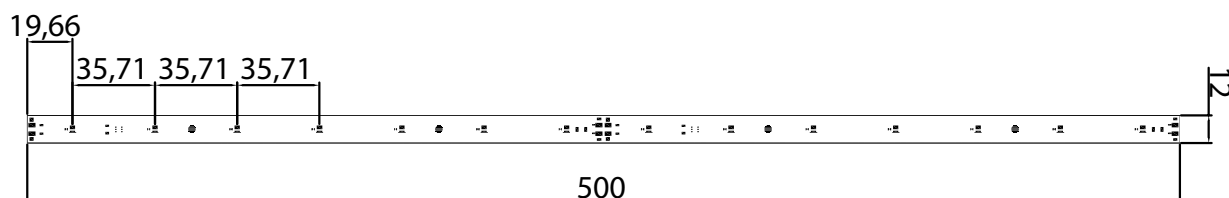
Photometry



Lumen Output Multiplier					
LED	2700°K (CRI 80)	3000°K (CRI 80)	4000°K (CRI 80)	5000°K (CRI 80)	6500°K (CRI 80)
3014	0,81	0,92	1	0,97	0,95

LINEAR LED MODULE SERIES

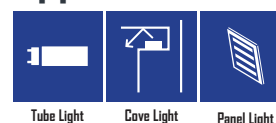
X-ML12500NCxx-NFSW757H-14-24V-IC



Specifications:

- Default driving method is constant voltage input
- CCT Range from 2000°K up to 6500°K
- This module is optional and can be connected as 7 Series 2 Parallel.
- Luminous flux range from 648 lm to 876 lm
- Efficacy of the module up to 163 lm/W
- CRI 80 is standart, CRI 70 and CRI 90 are available
- Outstanding system color tolerance MacAdam 3 over the full operating area
- Simple installation (e.g. screw)
- Long life-time > 60,000 hours
- 5 years guarantee at specified conditions

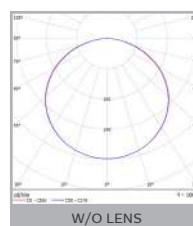
Applications



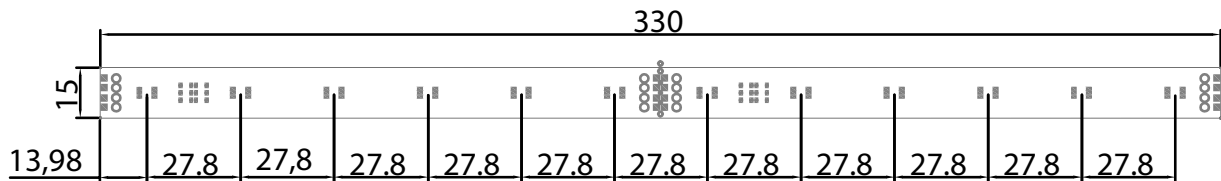
Driving Current vs Lumen Output Specification

Common Characteristic [@Tj : 85°C] ;			
Module Code	X-ML12500NCxx-NFSW757H-14-24V-IC		
PCB Material	ALU	Electrical Connection	
Operating Temperature (°C)	-40 ~ +85	Parallel	2
Storage Temperature (°C)	-40 ~ +55	Series	7
Thermal Conductivity (W/m-K)	1>	LED Quantity	14
LED	NFSW757H_R8000		
Correlated Color Temperature (CCT)	4000K		
Color Rendering Index (CRI)	80+		
Module Operating Voltage (V)	24,00		
Module Operating Current (mA)	180	240	350
Branch Operating Current (mA)	90	120	175
Module Power (W)	4,32	5,76	NA
Module Light Output (lm)	648	835	NA
Module Efficiency (lm/W)	150	145	NA
LED	NF2W757H-F1_R8000		
Correlated Color Temperature (CCT)	4000K		
Color Rendering Index (CRI)	80+		
Module Operating Voltage (V)	24,00		
Module Operating Current (mA)	180	240	350
Branch Operating Current (mA)	90	120	175
Module Power (W)	4,32	5,76	NA
Module Light Output (lm)	704	876	NA
Module Efficiency (lm/W)	163	152	NA

Photometry



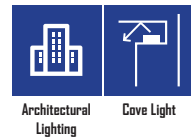
Lumen Output Multiplier					
LED	2700°K (CRI 80)	3000°K (CRI 80)	4000°K (CRI 80)	5000°K (CRI 80)	6500°K (CRI 80)
NFSW757H_R8000	0,875	0,916	1	1	1
NF2W757H-F1_R8000	0,67	0,75	0,82	0,82	0,82



Specifications:

- Default driving method is constant voltage input
- Luminous flux range from 146 lm
- Efficacy of the module up to 51 lm/W
- Outstanding system color tolerance MacAdam 3 over the full operating area
- Simple installation
- Long life-time > 60,000 hours
- 2-years guarantee as standart, can be extended up to 5 years guarantee at specified conditions

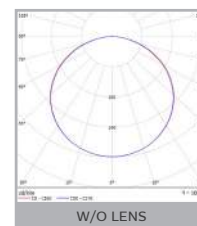
Applications



Driving Current vs Lumen Output Specification

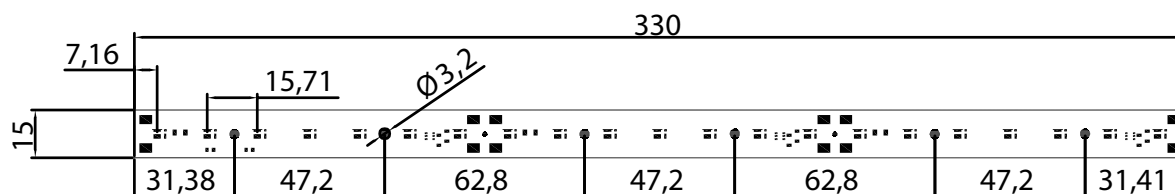
Common Characteristic [@Tj : 85°C] ;			
Module Code	X-ML15330NCRGB-NSSM032A-12-24V		
PCB Material	FR4	Electrical Connection	
Operating Temperature (°C)	-40 ~ +85	Parallel	2
Storage Temperature (°C)	-40 ~ +55	Series	6
Thermal Conductivity (W/m-K)	1>	LED Quantity	12
LED	NSSM032AT		
Correlated Color Temperature (CCT)	R	G	B
Wavelength	620 nm	540 nm	460 nm
Module Operating Voltage (V)	24,00		
Module Operating Current (mA)	100	70	70
Branch Operating Current (mA)	50	35	35
Module Power (W)	2,40	1,68	1,68
Module Light Output (lm)	43	86	16,80
R+G+ B Light Output (lm)	146		
Module Efficiency (lm/W)	18	51	10

Photometry



LINEAR LED MODULE SERIES

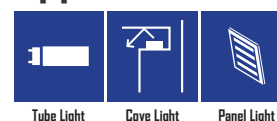
X-ML15330NCxx-NFSW757G-21-24V-IC



Specifications:

- Default driving method is constant voltage input
- CCT Range from 2000°K up to 6500°K
- This module is optional and can be connected as 7 Series 3 Parallel.
- Luminous flux range from 700 lm to 1277 lm
- Efficacy of the module up to 172 lm/W
- CRI 80 is standart, CRI 70 and CRI 90 are available
- Outstanding system color tolerance MacAdam 3 over the full operating area
- Simple installation (e.g. screw)
- Long life-time > 60,000 hours
- 5 years guarantee at specified conditions

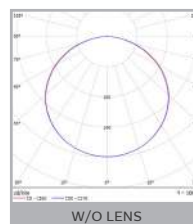
Applications



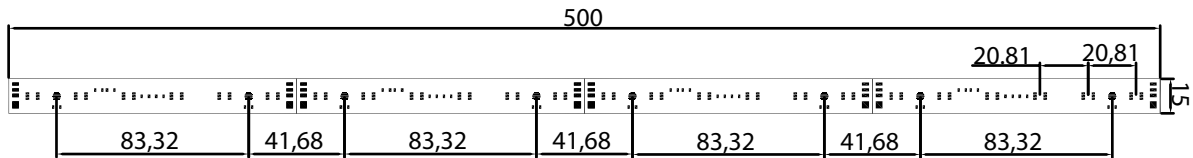
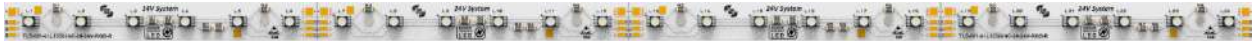
Driving Current vs Lumen Output Specification

Common Characteristic [@Tj : 85°C] ;			
Module Code	X-ML15330NCxx-NFSW757G-21-24V-IC		
PCB Material	ALU	Electrical Connection	
Operating Temperature (°C)	-40 ~ +85	Parallel	3
Storage Temperature (°C)	-40 ~ +55	Series	7
Thermal Conductivity (W/m-K)	1>	LED Quantity	21
LED	NFSW757H_R8000		
Correlated Color Temperature (CCT)	4000K		
Color Rendering Index (CRI)	80+		
Module Operating Voltage (V)	24,00		
Module Operating Current (mA)	180	240	350
Branch Operating Current (mA)	60	80	117
Module Power (W)	4,32	5,76	8,40
Module Light Output (lm)	700	864	1.218
Module Efficiency (lm/W)	162	150	145
LED	NF2W757H-F1_R8000		
Correlated Color Temperature (CCT)	4000K		
Color Rendering Index (CRI)	80+		
Module Operating Voltage (V)	24,00		
Module Operating Current (mA)	180	240	350
Branch Operating Current (mA)	60	80	117
Module Power (W)	4,32	5,76	8,40
Module Light Output (lm)	743	939	1.277
Module Efficiency (lm/W)	172	163	152

Photometry



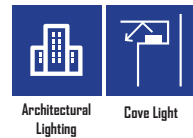
Lumen Output Multiplier					
LED	2700°K (CRI 80)	3000°K (CRI 80)	4000°K (CRI 80)	5000°K (CRI 80)	6500°K (CRI 80)
NFSW757H_R8000	0,875	0,916	1	1	1
NF2W757H-F1_R8000	0,67	0,75	0,82	0,82	0,82



Specifications:

- Default driving method is constant voltage input
- Luminous flux range from 291 lm
- Efficacy of the module up to 51 lm/W
- Outstanding system color tolerance MacAdam 3 over the full operating area
- Simple installation
- Long life-time > 60,000 hours
- 2-years guarantee as standart, can be extended up to 5 years guarantee at specified conditions

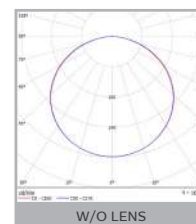
Applications



Driving Current vs Lumen Output Specification

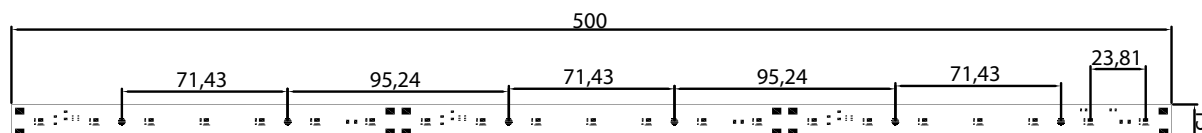
Common Characteristic [@Tj : 85°C] ;				
Module Code	X-ML15500NCRGB-NSSM032A-24-24V			
PCB Material	FR4		Electrical Connection	
Operating Temperature (°C)	-40 ~ +85		Parallel	4
Storage Temperature (°C)	-40 ~ +55		Series	6
Thermal Conductivity (W/m-K)	1>		LED Quantity	24
LED	NSSM032AT			
Correlated Color Temperature (CCT)	R	G	B	
Wavelength	620 nm	540 nm	460 nm	
Module Operating Voltage (V)	24,00			
Module Operating Current (mA)	200	140	140	
Branch Operating Current (mA)	50	35	35	
Module Power (W)	4,80	3,36	3,36	
Module Light Output (lm)	86	171	33,6	
R+G+ B Light Output (lm)	291			
Module Efficiency (lm/W)	18	51	10	

Photometry



LINEAR LED MODULE SERIES

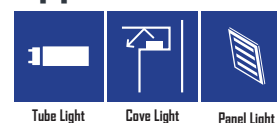
X-ML15500NCxx-NFSW757H-21-24V-IC



Specifications:

- Default driving method is constant voltage input
- CCT Range from 2000°K up to 6500°K
- This module is optional and can be connected as 7 Series 3 Parallel.
- Luminous flux range from 700 lm to 1277 lm
- Efficacy of the module up to 172 lm/W
- CRI 80 is standart, CRI 70 and CRI 90 are available
- Outstanding system color tolerance MacAdam 3 over the full operating area
- Simple installation (e.g. screw)
- Long life-time > 60,000 hours
- 5 years guarantee at specified conditions

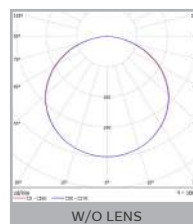
Applications



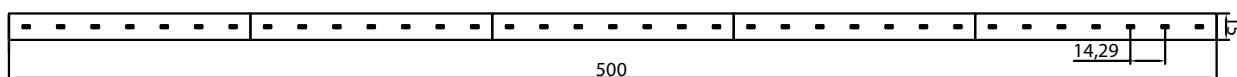
Driving Current vs Lumen Output Specification

Common Characteristic [@Tj : 85°C] ;			
Module Code	X-ML15500NCxx-NFSW757H-21-24V-IC		
PCB Material	ALU	Electrical Connection	
Operating Temperature (°C)	-40 ~ +85	Parallel	3
Storage Temperature (°C)	-40 ~ +55	Series	7
Thermal Conductivity (W/m-K)	1>	LED Quantity	21
LED	NFSW757H_R8000		
Correlated Color Temperature (CCT)	4000K		
Color Rendering Index (CRI)	80+		
Module Operating Voltage (V)	24,00		
Module Operating Current (mA)	180	240	350
Branch Operating Current (mA)	60	80	117
Module Power (W)	4,32	5,76	8,40
Module Light Output (lm)	700	864	1.218
Module Efficiency (lm/W)	162	150	145
LED	NF2W757H-F1_R8000		
Correlated Color Temperature (CCT)	4000K		
Color Rendering Index (CRI)	80+		
Module Operating Voltage (V)	24,00		
Module Operating Current (mA)	180	240	350
Branch Operating Current (mA)	60	80	117
Module Power (W)	4,32	5,76	8,40
Module Light Output (lm)	743	939	1.277
Module Efficiency (lm/W)	172	163	152

Photometry



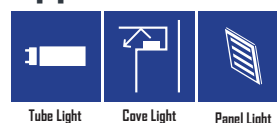
Lumen Output Multiplier					
LED	2700°K (CRI 80)	3000°K (CRI 80)	4000°K (CRI 80)	5000°K (CRI 80)	6500°K (CRI 80)
NFSW757H_R8000	0,875	0,916	1	1	1
NF2W757H-F1_R8000	0,67	0,75	0,82	0,82	0,82



Specifications:

- Default driving method is constant voltage input
- CCT Range from 2000°K up to 6500°K
- This module is optional and can be connected as 5 Series 7 Parallel.
- Luminous flux range from 1166 lm to 2189 lm
- Efficacy of the module up to 163 lm/W
- CRI 80 is standart, CRI 70 and CRI 90 are available
- Outstanding system color tolerance MacAdam 3 over the full operating area
- Simple installation (e.g. screw)
- Long life-time > 60,000 hours
- 5 years guarantee at specified conditions

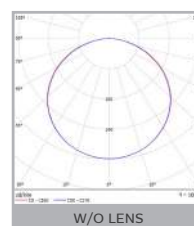
Applications



Driving Current vs Lumen Output Specification

Common Characteristic [@Tj : 85°C] ;				
Module Code	X-ML15500NCxx-NFSW757H-35-24V-ICR			
PCB Material	ALU	Electrical Connection		
Operating Temperature (°C)	-40 ~ +85	Parallel	5	
Storage Temperature (°C)	-40 ~ +55	Series	7	
Thermal Conductivity (W/m-K)	1>	LED Quantity	35	
LED NFSW757H_R8000				
Correlated Color Temperature (CCT)	4000K			
Color Rendering Index (CRI)	80+			
Module Operating Voltage (V)	24,00			
Module Operating Current (mA)	300	400	600	
Branch Operating Current (mA)	60	80	120	
Module Power (W)	7,20	9,60	14,40	
Module Light Output (lm)	1.166	1.440	2.088	
Module Efficiency (lm/W)	162	150	145	
LED NF2W757H-F1_R8000				
Correlated Color Temperature (CCT)	4000K			
Color Rendering Index (CRI)	80+			
Module Operating Voltage (V)	24,00			
Module Operating Current (mA)	300	400	600	
Branch Operating Current (mA)	60	80	120	
Module Power (W)	7,20	9,60	14,40	
Module Light Output (lm)	1.238	1.565	2.189	
Module Efficiency (lm/W)	172	163	152	

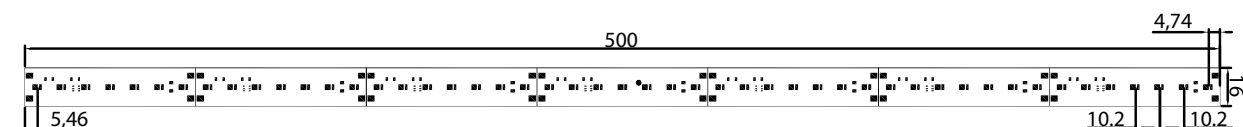
Photometry



Lumen Output Multiplier					
LED	2700°K (CRI 80)	3000°K (CRI 80)	4000°K (CRI 80)	5000°K (CRI 80)	6500°K (CRI 80)
NFSW757H_R8000	0,875	0,916	1	1	1
NF2W757H-F1_R8000	0,67	0,75	0,82	0,82	0,82

LINEAR LED MODULE SERIES

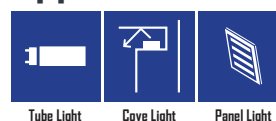
X-ML16500LMxx-2835xx-49-24V-ICR



Specifications:

- Default driving method is constant voltage input
- CCT Range from 2000°K up to 6500°K
- Luminous flux range from 1764 lm to 3264 lm
- Efficacy of the module up to 180 lm/W
- CRI 80 is standart, CRI 70 and CRI 90 are available
- Outstanding system color tolerance MacAdam 3 over the full operating area
- Simple installation (e.g. screw)
- Long life-time > 60,000 hours
- 5 years guarantee at specified conditions

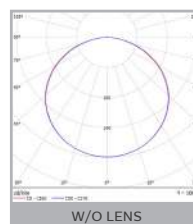
Applications



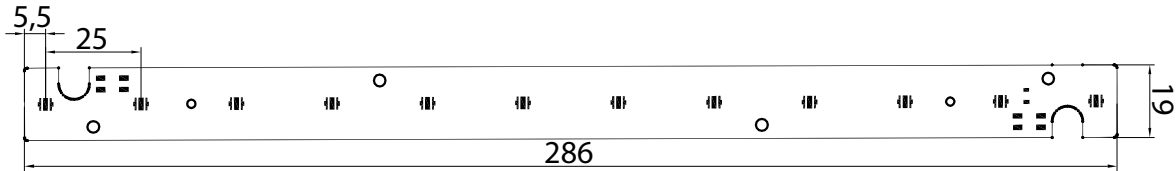
Driving Current vs Lumen Output Specification

Common Characteristic [@T] : 85°C ;			
Module Code	X-ML16500LMxx-2835xx-49-24V-ICR		
PCB Material	ALU	Electrical Connection	
Operating Temperature (°C)	-40 ~ +85	Parallel	7
Storage Temperature (°C)	-40 ~ +55	Series	7
Thermal Conductivity (W/m-K)	1>	LED Quantity	49
LED	2835HE		
Correlated Color Temperature (CCT)	4000K		
Color Rendering Index (CRI)	80+		
Module Operating Voltage (V)	24,00	24,00	24,00
Module Operating Current (mA)	500	600	800
Branch Operating Current (mA)	71	86	114
Module Power (W)	12,00	14,40	19,20
Module Light Output (lm)	2.160	2.520	3.264
Module Efficiency (lm/W)	180	175	170
LED	2835RA-2F1		
Correlated Color Temperature (CCT)	4000K		
Color Rendering Index (CRI)	80+		
Module Operating Voltage (V)	24,00	24,00	24,00
Module Operating Current (mA)	500	600	800
Branch Operating Current (mA)	71	86	114
Module Power (W)	12,00	14,40	19,20
Module Light Output (lm)	1.896	2.189	2.784
Module Efficiency (lm/W)	158	152	145
LED	2835RA-2Q1		
Correlated Color Temperature (CCT)	4000K		
Color Rendering Index (CRI)	80+		
Module Operating Voltage (V)	24,00	24,00	24,00
Module Operating Current (mA)	500	600	800
Branch Operating Current (mA)	71	86	114
Module Power (W)	12,00	14,40	19,20
Module Light Output (lm)	1.764	1.973	2.438
Module Efficiency (lm/W)	147	137	127

Photometry



Lumen Output Multiplier					
LED	2700°K (CRI 80)	3000°K (CRI 80)	4000°K (CRI 80)	5000°K (CRI 80)	6500°K (CRI 80)
2835 HE	1	1,09	1,2	1,2	1,2
2835 RA-2F1	0,875	0,916	1	1	1
2835 RA-2Q1	0,74	0,78	0,86	0,86	0,86



Specifications:

- Default driving method is constant current input
- CCT Range from 2000°K up to 6500°K
- Luminous flux range from 3900 lm to 6623 lm
- Efficacy of the module up to 165 lm/W
- CRI 80 is standart, CRI 70 and CRI 90 are available
- Outstanding system color tolerance MacAdam 3 over the full operating area
- Simple installation (e.g. screw)
- Long life-time > 60,000 hours
- 5 years guarantee at specified conditions

Applications

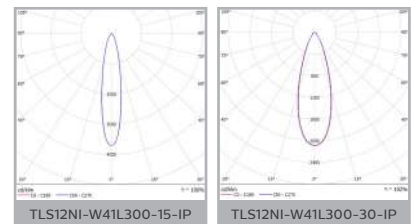


High Bay Lighting Flood Lighting

Driving Current vs Lumen Output Specification

Common Characteristic [@Tj : 85°C] ;			
Module Code	X-ML19286NCxx-NVSW319B-12		
PCB Material	ALU	Electrical Connection	
Operating Temperature (°C)	-40 ~ +85	Parallel	1
Storage Temperature (°C)	-40 ~ +55	Series	12
Thermal Conductivity (W/m-K)	1>	LED Quantity	12
LED	NVSW319B_R8000		
Correlated Color Temperature (CCT)	4000K		
Color Rendering Index (CRI)	80+		
Module Operating Voltage (V)	33,84	34,44	36,96
Module Operating Current (mA)	700	1050	1400
Branch Operating Current (mA)	700	1050	1400
Module Power (W)	23,69	36,16	51,74
Module Light Output (lm)	3.909	5.243	6.623
Module Efficiency (lm/W)	165	145	128

Photometry



NICHIA

Lumen Output Multiplier					
LED	2700°K (CRI 80)	3000°K (CRI 80)	4000°K (CRI 80)	5000°K (CRI 80)	6500°K (CRI 80)
NVSL219C-R8000	0,79	0,88	0,92	0,92	0,92

LINEAR LED MODULE SERIES

X-ML19286NCxx-NVSxE21A-12



Specifications:

- Default driving method is constant current input
- CCT Range from 2000°K up to 6500°K
- Luminous flux range from 1693 lm to 3994 lm
- Efficacy of the module up to 140 lm/W
- CRI 80 is standart, CRI 70 and CRI 90 are available
- Outstanding system color tolerance MacAdam 3 over the full operating area
- Simple installation (e.g. screw)
- Long life-time > 60,000 hours
- 5 years guarantee at specified conditions

Applications

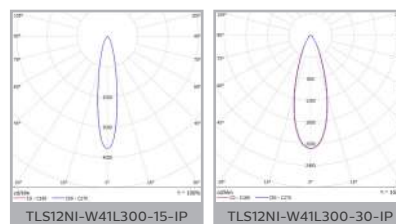


High Bay Lighting Flood Lighting

Driving Current vs Lumen Output Specification

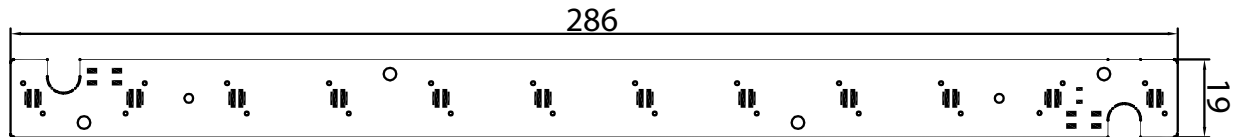
Common Characteristic [@Tj : 85°C] ;			
Module Code	X-ML19286NCxx-NVSxE21A-12		
PCB Material	ALU	Electrical Connection	
Operating Temperature (°C)	-40 ~ +85	Parallel	1
Storage Temperature (°C)	-40 ~ +55	Series	12
Thermal Conductivity (W/m-K)	1>	LED Quantity	12
LED	NVSLE21A_R8000		
Correlated Color Temperature (CCT)	4000K		
Color Rendering Index (CRI)	80+		
Module Operating Voltage (V)	33,00	34,56	35,64
Module Operating Current (mA)	350	700	1050
Branch Operating Current (mA)	350	700	1050
Module Power (W)	11,55	24,19	37,42
Module Light Output (lm)	1.813	3.387	4.753
Module Efficiency (lm/W)	157	140	127

Photometry



NICHIA

Lumen Output Multiplier					
LED	2700°K (CRI 80)	3000°K (CRI 80)	4000°K (CRI 80)	5000°K (CRI 80)	6500°K (CRI 80)
NVSLE21A_R8000	0,91	0,93	1	1	1



Specifications:

- Default driving method is constant current input
- CCT Range from 2000°K up to 6500°K
- Luminous flux range from 1234 lm to 2122 lm
- Efficacy of the module up to 204 lm/W
- CRI 80 is standart, CRI 70 and CRI 90 are available
- Outstanding system color tolerance MacAdam 3 over the full operating area
- Simple installation (e.g. screw)
- Long life-time > 60,000 hours
- 5 years guarantee at specified conditions

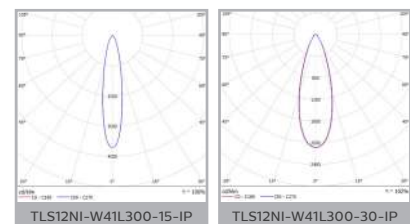
Applications



Driving Current vs Lumen Output Specification

Common Characteristic [Tj : 85°C] ;			
Module Code	X-ML19286LMxx-5050-12		
PCB Material	ALU	Electrical Connection	
Operating Temperature (°C)	-40 ~ +85	Parallel	2
Storage Temperature (°C)	-40 ~ +55	Series	6
Thermal Conductivity (W/m-K)	1>	LED Quantity	12
LED		5050 - Round	
Correlated Color Temperature (CCT)		4000K	
Color Rendering Index (CRI)		80+	
Module Operating Voltage (V)	31,8	33,0	35,1
Module Operating Current (mA)	200	250	350
Branch Operating Current (mA)	100	125	175
Module Power (W)	6,4	8,3	12,3
Module Light Output (lm)	1.234	1.427	1.941
Module Efficiency (lm/W)	194	173	158
LED		5050-SQ	
Correlated Color Temperature (CCT)		4000K	
Color Rendering Index (CRI)		70+	
Module Operating Voltage (V)	32,6	33,6	34,4
Module Operating Current (mA)	200	250	350
Branch Operating Current (mA)	100	125	175
Module Power (W)	6,5	8,4	12,1
Module Light Output (lm)	1.329	1.579	2.121
Module Efficiency (lm/W)	202	188	176

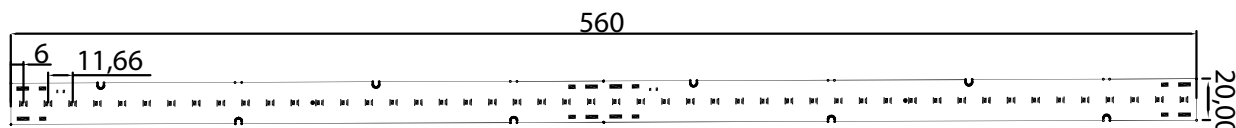
Photometry



Lumen Output Multiplier					
LED	2700°K (CRI 80)	3000°K (CRI 80)	4000°K (CRI 80)	5000°K (CRI 80)	6500°K (CRI 80)
5050 - SQ	0,875	0,916	1	1	1
5050 - Round	0,83	0,88	0,92	0,92	0,92

LINEAR LED MODULE SERIES

X-ML20560NCxx-NFSW757H-48



Specifications:

- Default driving method is constant current input
- CCT Range from 2000°K up to 6500°K
- Luminous flux range from 1915 lm to 3844 lm
- Efficacy of the module up to 180 lm/W
- CRI 80 is standart, CRI 70 and CRI 90 are available
- Outstanding system color tolerance MacAdam 3 over the full operating area
- Simple installation (e.g. screw)
- Long life-time > 60,000 hours
- 5 years guarantee at specified conditions

Applications

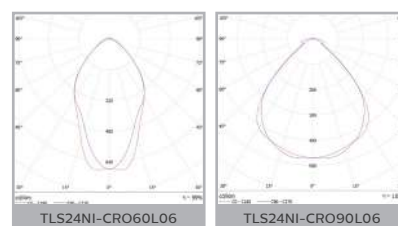


Cave Light

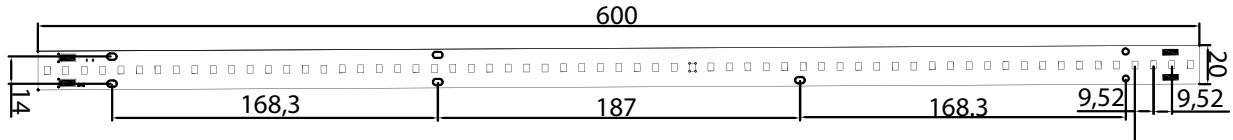
Driving Current vs Lumen Output Specification

Common Characteristic [@Tj : 85°C] ;			
Module Code	X-ML20560NCxx-NFSW757H-48		
PCB Material	ALU	Electrical Connection	
Operating Temperature (°C)	-40 ~ +85	Parallel	4
Storage Temperature (°C)	-40 ~ +55	Series	12
Thermal Conductivity (W/m-K)	1>	LED Quantity	48
LED	NFSW757H_R8000		
Correlated Color Temperature (CCT)	4000K		
Color Rendering Index (CRI)	80+		
Module Operating Voltage (V)	32,64	33,60	34,80
Module Operating Current (mA)	350	500	700
Branch Operating Current (mA)	88	125	175
Module Power (W)	11,42	16,80	24,36
Module Light Output (lm)	1.965	2.654	3.459
Module Efficiency (lm/W)	172	158	142
LED	NF2W757H-F1_R8000		
Correlated Color Temperature (CCT)	4000K		
Color Rendering Index (CRI)	80+		
Module Operating Voltage (V)	32,16	33,48	34,32
Module Operating Current (mA)	350	500	700
Branch Operating Current (mA)	88	125	175
Module Power (W)	11,26	16,74	24,02
Module Light Output (lm)	2.026	2.846	3.844
Module Efficiency (lm/W)	180	170	160

Photometry



Lumen Output Multiplier					
LED	2700°K (CRI 80)	3000°K (CRI 80)	4000°K (CRI 80)	5000°K (CRI 80)	6500°K (CRI 80)
NFSW757H_R8000	0,875	0,916	1	1	1
NF2W757H-F1_R8000	0,67	0,75	0,82	0,82	0,82



Specifications:

- Default driving method is constant current input
- CCT Range from 2000°K up to 6500°K
- Luminous flux range from 1655 lm to 3374 lm
- Efficacy of the module up to 180 lm/W
- CRI 80 is standart, CRI 70 and CRI 90 are available
- Outstanding system color tolerance MacAdam 3 over the full operating area
- Simple installation (e.g. screw)
- Long life-time > 60,000 hours
- 5 years guarantee at specified conditions

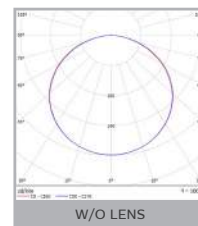
Applications



Driving Current vs Lumen Output Specification

Common Characteristic [Tj : 85°C] ;			
Module Code	X-ML20600LMxx-2835xx-63		
PCB Material	FR4	Electrical Connection	
Operating Temperature (°C)	-40 ~ +85	Parallel	3
Storage Temperature (°C)	-40 ~ +55	Series	21
Thermal Conductivity (W/m-K)	1>	LED Quantity	63
LED 2835HE			
Correlated Color Temperature (CCT)	4000K		
Color Rendering Index (CRI)	80+		
Module Operating Voltage (V)	56,49	57,12	57
Module Operating Current (mA)	200	250	350
Branch Operating Current (mA)	67	83	117
Module Power (W)	11,30	14,28	19,85
Module Light Output (lm)	2.034	2.499	3.374
Module Efficiency (lm/W)	180	175	170
LED 2835RA-2F1			
Correlated Color Temperature (CCT)	4000K		
Color Rendering Index (CRI)	80+		
Module Operating Voltage (V)	56,00	57,00	58,38
Module Operating Current (mA)	200	250	350
Branch Operating Current (mA)	67	83	117
Module Power (W)	11,20	14,25	20,43
Module Light Output (lm)	1.770	2.166	2.963
Module Efficiency (lm/W)	158	152	145
LED 2835RA-2Q1			
Correlated Color Temperature (CCT)	4000K		
Color Rendering Index (CRI)	80+		
Module Operating Voltage (V)	56,30	57,20	58,00
Module Operating Current (mA)	200	250	350
Branch Operating Current (mA)	67	83	117
Module Power (W)	11,26	14,30	20,30
Module Light Output (lm)	1.655	1.959	2.578
Module Efficiency (lm/W)	147	137	127

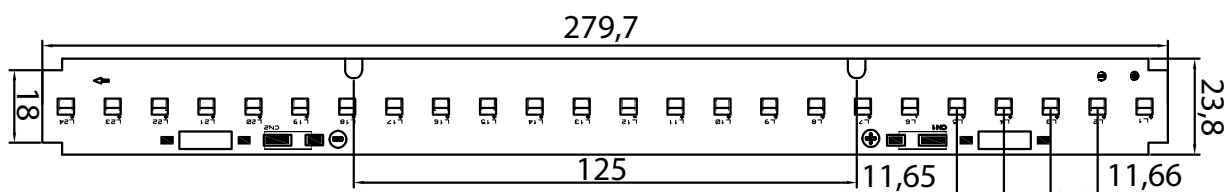
Photometry



Lumen Output Multiplier					
LED	2700°K (CRI 80)	3000°K (CRI 80)	4000°K (CRI 80)	5000°K (CRI 80)	6500°K (CRI 80)
2835 HE	1	1,09	1,2	1,2	1,2
2835 RA-2F1	0,875	0,916	1	1	1
2835 RA-2Q1	0,74	0,78	0,86	0,86	0,86

LINEAR LED MODULE SERIES

X-ML24280NCxx-NFSW757H-24



Specifications:

- Default driving method is constant current input
- CCT Range from 2000°K up to 6500°K
- Luminous flux range from 685 lm to 1361 lm
- Efficacy of the module up to 190 lm/W
- CRI 80 is standart, CRI 70 and CRI 90 are available
- Outstanding system color tolerance MacAdam 3 over the full operating area
- Simple installation (e.g. screw)
- Long life-time > 60,000 hours
- 5 years guarantee at specified conditions

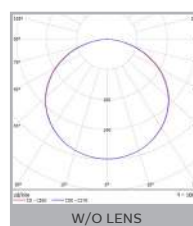
Applications



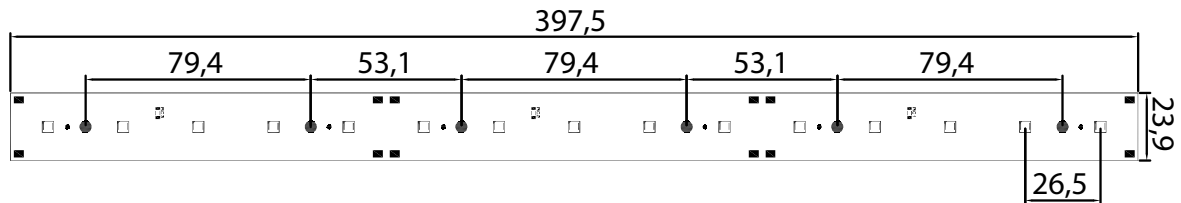
Driving Current vs Lumen Output Specification

Common Characteristic [@Tj : 85°C] ;			
Module Code	X-ML24280NCxx-NFSW757H-24		
PCB Material	ALU	Electrical Connection	
Operating Temperature (°C)	-40 ~ +85	Parallel	6
Storage Temperature (°C)	-40 ~ +55	Series	4
Thermal Conductivity (W/m-K)	1>	LED Quantity	24
LED	NFSW757H_R8000		
Correlated Color Temperature (CCT)	4000K		
Color Rendering Index (CRI)	80+		
Module Operating Voltage (V)	10,88	11,20	11,60
Module Operating Current (mA)	350	500	700
Branch Operating Current (mA)	58	83	117
Module Power (W)	3,81	5,60	8,12
Module Light Output (lm)	685	963	1.283
Module Efficiency (lm/W)	180	172	158
LED	NF2W757H-F1_R8000		
Correlated Color Temperature (CCT)	4000K		
Color Rendering Index (CRI)	80+		
Module Operating Voltage (V)	10,72	11,16	11,44
Module Operating Current (mA)	350	500	700
Branch Operating Current (mA)	58	83	117
Module Power (W)	3,75	5,58	8,01
Module Light Output (lm)	713	1.004	1.361
Module Efficiency (lm/W)	190	180	170

Photometry



Lumen Output Multiplier					
LED	2700°K (CRI 80)	3000°K (CRI 80)	4000°K (CRI 80)	5000°K (CRI 80)	6500°K (CRI 80)
NFSW757H_R8000	0,875	0,916	1	1	1
NF2W757H-F1_R8000	0,67	0,75	0,82	0,82	0,82



Specifications:

- Default driving method is constant current input
- CCT Range from 2000°K up to 6500°K
- Luminous flux range from 1396 lm to 2284 lm
- Efficacy of the module up to 173 lm/W
- CRI 80 is standart, CRI 70 and CRI 90 are available
- Outstanding system color tolerance MacAdam 3 over the full operating area
- Simple installation (e.g. screw)
- Long life-time > 60,000 hours
- 5 years guarantee at specified conditions

Applications

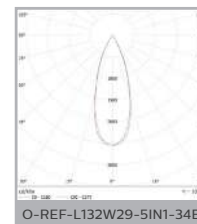


Cove Light

Driving Current vs Lumen Output Specification

Common Characteristic [Tj : 85°C] ;			
Module Code	X-ML24398NCxx-NF2W757GRV3-15		
PCB Material	ALU	Electrical Connection	
Operating Temperature (°C)	-40 ~ +85	Parallel	5
Storage Temperature (°C)	-40 ~ +55	Series	3
Thermal Conductivity (W/m-K)	1>	LED Quantity	15
LED	NF2W757GR-V3_R8000		
Correlated Color Temperature (CCT)	4000K		
Color Rendering Index (CRI)	80+		
Module Operating Voltage (V)	16,14	17,10	18,00
Module Operating Current (mA)	500	700	875
Branch Operating Current (mA)	100	140	175
Module Power (W)	8,07	11,97	15,75
Module Light Output (lm)	1.396	1.879	2.284
Module Efficiency (lm/W)	173	157	145

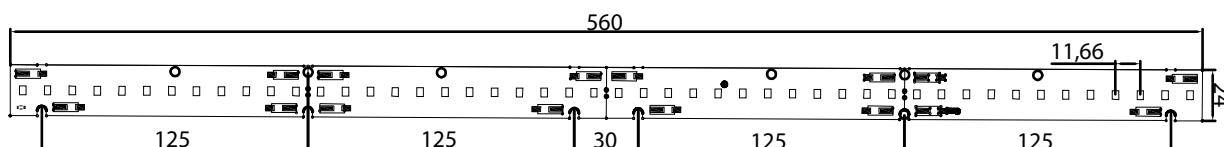
Photometry



Lumen Output Multiplier					
LED	2700°K (CRI 80)	3000°K (CRI 80)	4000°K (CRI 80)	5000°K (CRI 80)	6500°K (CRI 80)
NF2W757GR-V3_R8000	0,875	0,916	1	1	1

LINEAR LED MODULE SERIES

X-ML24560LMxx-2835xx-48



Specifications:

- Default driving method is constant current input
- CCT Range from 2000°K up to 6500°K
- Luminous flux range from 1279 lm to 2570 lm
- Efficacy of the module up to 180 lm/W
- CRI 80 is standart, CRI 70 and CRI 90 are available
- Outstanding system color tolerance MacAdam 3 over the full operating area
- Simple installation (e.g. screw)
- Long life-time > 60,000 hours
- 5 years guarantee at specified conditions

Applications



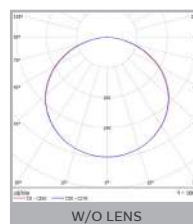
Cave Light

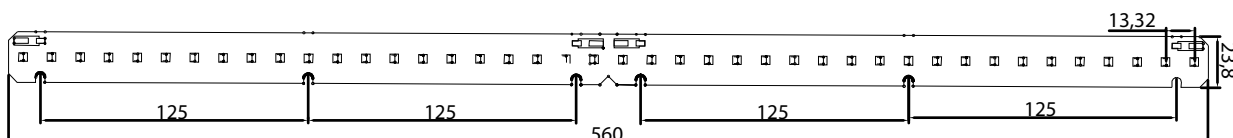
Driving Current vs Lumen Output Specification

Common Characteristic [@Tj : 85°C] ;			
Module Code	X-ML24560LMxx-2835xx-48		
PCB Material	FR4	Electrical Connection	
Operating Temperature (°C)	-40 ~ +85	Parallel	3
Storage Temperature (°C)	-40 ~ +55	Series	16
Thermal Conductivity (W/m-K)	1>	LED Quantity	48
LED	2835HE		
Correlated Color Temperature (CCT)	4000K		
Color Rendering Index (CRI)	80+		
Module Operating Voltage (V)	43,04	43,52	43
Module Operating Current (mA)	200	250	350
Branch Operating Current (mA)	67	83	117
Module Power (W)	8,61	10,88	15,12
Module Light Output (lm)	1.549	1.904	2.570
Module Efficiency (lm/W)	180	175	170
LED	2835RA-2F1		
Correlated Color Temperature (CCT)	4000K		
Color Rendering Index (CRI)	80+		
Module Operating Voltage (V)	43,00	44,00	44,48
Module Operating Current (mA)	200	250	350
Branch Operating Current (mA)	67	83	117
Module Power (W)	8,60	11,00	15,57
Module Light Output (lm)	1.359	1.672	2.257
Module Efficiency (lm/W)	158	152	145
LED	2835RA-2Q1		
Correlated Color Temperature (CCT)	4000K		
Color Rendering Index (CRI)	80+		
Module Operating Voltage (V)	43,50	44,50	45,00
Module Operating Current (mA)	200	250	350
Branch Operating Current (mA)	67	83	117
Module Power (W)	8,70	11,13	15,75
Module Light Output (lm)	1.279	1.524	2.000
Module Efficiency (lm/W)	147	137	127

Lumen Output Multiplier					
LED	2700°K (CRI 80)	3000°K (CRI 80)	4000°K (CRI 80)	5000°K (CRI 80)	6500°K (CRI 80)
2835 HE	1	1,09	1,2	1,2	1,2
2835 RA-2F1	0,875	0,916	1	1	1
2835 RA-2Q1	0,74	0,78	0,86	0,86	0,86

Photometry





Specifications:

- Default driving method is constant current input
- CCT Range from 2000°K up to 6500°K
- Luminous flux range from 1637 lm to 2963 lm
- Efficacy of the module up to 180 lm/W
- CRI 80 is standart, CRI 70 and CRI 90 are available
- Outstanding system color tolerance MacAdam 3 over the full operating area
- Simple installation (e.g. screw)
- Long life-time > 60,000 hours
- 5 years guarantee at specified conditions

Applications

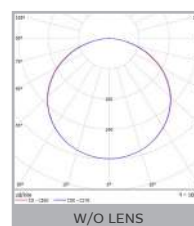


Cove Light

Driving Current vs Lumen Output Specification

Common Characteristic [@Tj : 85°C] ;			
Module Code	X-ML24560NCxx-NFSW757H-42		
PCB Material	FR4	Electrical Connection	
Operating Temperature (°C)	-40 ~ +85	Parallel	3
Storage Temperature (°C)	-40 ~ +55	Series	14
Thermal Conductivity (W/m-K)	1>	LED Quantity	42
LED	NFSW757H_R8000		
Correlated Color Temperature (CCT)	4000K		
Color Rendering Index (CRI)	80+		
Module Operating Voltage (V)	38,08	39,20	40,60
Module Operating Current (mA)	250	350	500
Branch Operating Current (mA)	83	117	167
Module Power (W)	9,52	13,72	20,30
Module Light Output (lm)	1.637	2.168	2.842
Module Efficiency (lm/W)	172	158	140
LED	NF2W757H-F1_R8000		
Correlated Color Temperature (CCT)	4000K		
Color Rendering Index (CRI)	80+		
Module Operating Voltage (V)	37,52	39,06	40,04
Module Operating Current (mA)	250	350	500
Branch Operating Current (mA)	83	117	167
Module Power (W)	9,38	13,67	20,02
Module Light Output (lm)	1.688	2.324	2.963
Module Efficiency (lm/W)	180	170	148

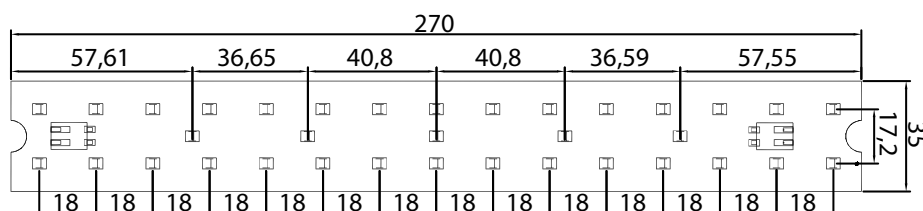
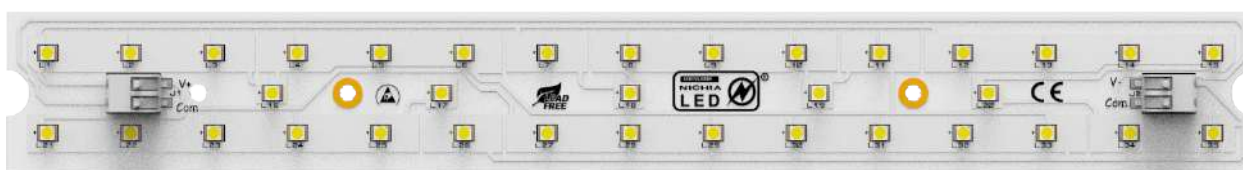
Photometry



Lumen Output Multiplier					
LED	2700°K (CRI 80)	3000°K (CRI 80)	4000°K (CRI 80)	5000°K (CRI 80)	6500°K (CRI 80)
NFSW757H_R8000	0,875	0,916	1	1	1
NF2W757H-F1_R8000	0,67	0,75	0,82	0,82	0,82

LINEAR LED MODULE SERIES

X-ML35270NCxx-NFSW757H-35



Specifications:

- Default driving method is constant current input
- CCT Range from 2000°K up to 6500°K
- Luminous flux range from 1676 lm to 5219 lm
- Efficacy of the module up to 190 lm/W
- CRI 80 is standart, CRI 70 and CRI 90 are available
- Outstanding system color tolerance MacAdam 3 over the full operating area
- Simple installation (e.g. screw)
- Long life-time > 60,000 hours
- 5 years guarantee at specified conditions

Applications

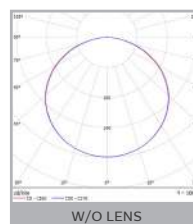


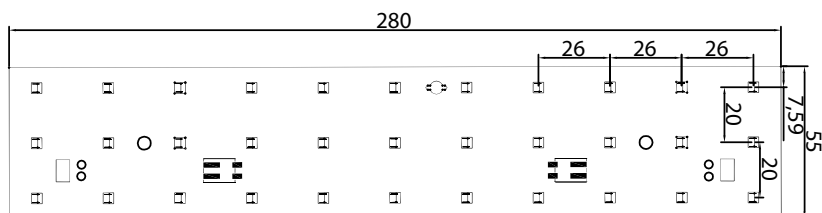
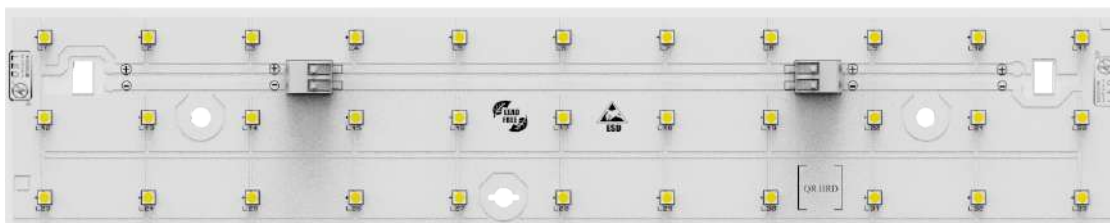
Driving Current vs Lumen Output Specification

Common Characteristic [@Tj : 85°C] ;			
Module Code	X-ML35270NCxx-NFSW757H-35		
PCB Material	ALU	Electrical Connection	
Operating Temperature (°C)	-40 ~ +85	Parallel	5
Storage Temperature (°C)	-40 ~ +55	Series	7
Thermal Conductivity (W/m-K)	1>	LED Quantity	35
LED	NFSW757H_R8000		
Correlated Color Temperature (CCT)	4000K		
Color Rendering Index (CRI)	80+		
Module Operating Voltage (V)	19,04	19,60	20,30
Module Operating Current (mA)	500	700	875
Branch Operating Current (mA)	100	140	175
Module Power (W)	9,52	13,72	17,76
Module Light Output (lm)	1.676	2.250	2.806
Module Efficiency (lm/W)	176	164	158
LED	NF2W757H-F1_R8000		
Correlated Color Temperature (CCT)	4000K		
Color Rendering Index (CRI)	80+		
Module Operating Voltage (V)	19,04	19,46	19,81
Module Operating Current (mA)	500	700	875
Branch Operating Current (mA)	100	140	175
Module Power (W)	9,52	13,62	17,33
Module Light Output (lm)	1.809	2.493	3.068
Module Efficiency (lm/W)	190	183	177
LED	NF2W757GR-V3_R8000		
Correlated Color Temperature (CCT)	4000K		
Color Rendering Index (CRI)	80+		
Module Operating Voltage (V)	39,97	41,65	42,91
Module Operating Current (mA)	500	700	875
Branch Operating Current (mA)	100	140	175
Module Power (W)	19,99	29,16	37,55
Module Light Output (lm)	3.138	4.286	5.219
Module Efficiency (lm/W)	157	147	139

Lumen Output Multiplier					
LED	2700°K (CRI 80)	3000°K (CRI 80)	4000°K (CRI 80)	5000°K (CRI 80)	6500°K (CRI 80)
NF2W757H-F1_R8000	0,875	0,916	1	1	1
NFSW757H_R8000	0,69	0,78	0,89	0,89	0,89
NF2W757GR-V3_R8000	0,62	0,71	0,82	0,82	0,82

Photometry





Specifications:

- Default driving method is constant current input
- CCT Range from 2000°K up to 6500°K
- Luminous flux range from 1316 lm to 4686 lm
- Efficacy of the module up to 190 lm/W
- CRI 80 is standart, CRI 70 and CRI 90 are available
- Outstanding system color tolerance MacAdam 3 over the full operating area
- Simple installation (e.g. screw)
- Long life-time > 60,000 hours
- 5 years guarantee at specified conditions

Applications

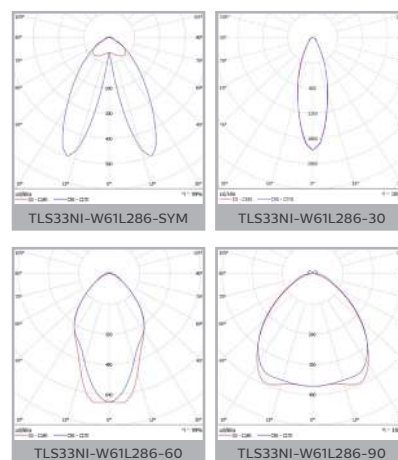


Driving Current vs Lumen Output Specification

Common Characteristic [Tj : 85°C] ;			
Module Code	X-ML55280NCxx-NFSW757H-33		
PCB Material	ALU	Electrical Connection	
Operating Temperature (°C)	-40 ~ +85	Parallel	3
Storage Temperature (°C)	-40 ~ +55	Series	11
Thermal Conductivity (W/m-K)	1>	LED Quantity	33
LED NFSW757H_R8000			
Correlated Color Temperature (CCT)	4000K		
Color Rendering Index (CRI)	80+		
Module Operating Voltage (V)	29,92	30,80	31,90
Module Operating Current (mA)	250	350	500
Branch Operating Current (mA)	83	117	167
Module Power (W)	7,48	10,78	15,95
Module Light Output (lm)	1.316	1.768	2.520
Module Efficiency (lm/W)	176	164	158
LED NF2W757H-F1_R8000			
Correlated Color Temperature (CCT)	4000K		
Color Rendering Index (CRI)	80+		
Module Operating Voltage (V)	29,92	30,58	31,13
Module Operating Current (mA)	250	350	500
Branch Operating Current (mA)	83	117	167
Module Power (W)	7,48	10,70	15,57
Module Light Output (lm)	1.421	1.959	2.755
Module Efficiency (lm/W)	190	183	177
LED NF2W757GR-V3_R8000			
Correlated Color Temperature (CCT)	4000K		
Color Rendering Index (CRI)	80+		
Module Operating Voltage (V)	62,81	65,45	67,43
Module Operating Current (mA)	250	350	500
Branch Operating Current (mA)	83	117	167
Module Power (W)	15,70	22,91	33,72
Module Light Output (lm)	2.465	3.367	4.686
Module Efficiency (lm/W)	157	147	139

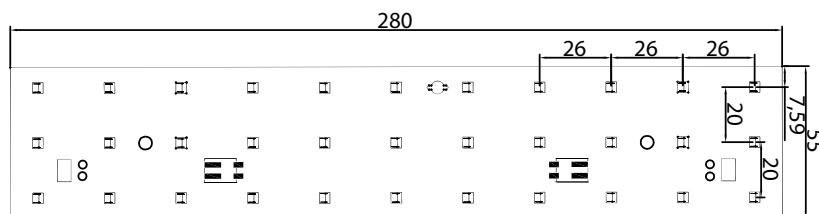
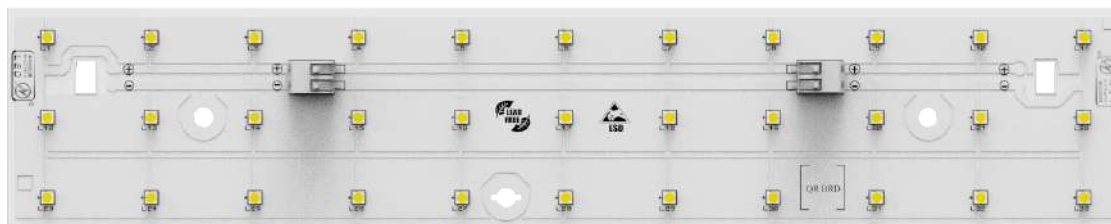
Lumen Output Multiplier					
LED	2700°K (CRI 80)	3000°K (CRI 80)	4000°K (CRI 80)	5000°K (CRI 80)	6500°K (CRI 80)
NF2W757H-F1_R8000	0,875	0,916	1	1	1
NFSW757H_R8000	0,69	0,78	0,89	0,89	0,89
NF2W757GR-V3_R8000	0,62	0,71	0,82	0,82	0,82

Photometry



LINEAR LED MODULE SERIES

X-ML55280LMxx-2835xx-33



Specifications:

- Default driving method is constant current input
- CCT Range from 2000°K up to 6500° K
- Luminous flux range from 1312 lm to 2523 lm
- Efficacy of the module up to 200 lm/W
- CRI 80 is standart, CRI 70 and CRI 90 are available
- Outstanding system color tolerance MacAdam 3 over the full operating area
- Simple installation (e.g. screw)
- Long life-time > 60,000 hours
- 5 years guarantee at specified conditions

Applications

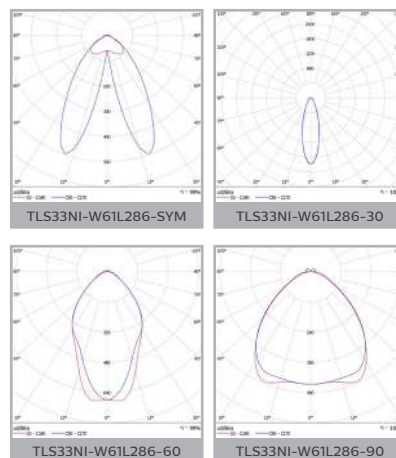


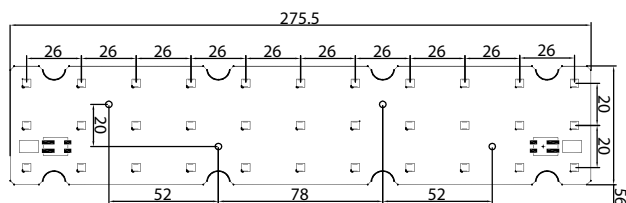
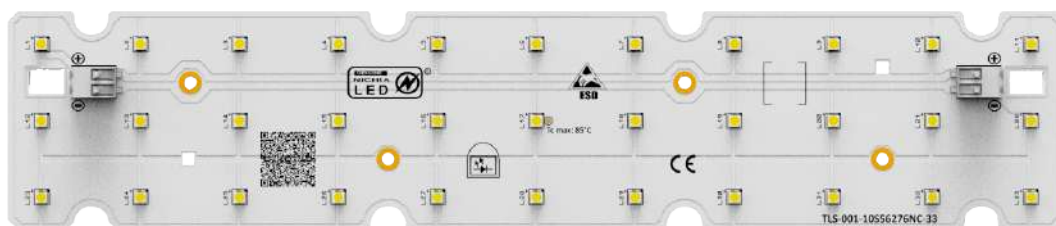
Driving Current vs Lumen Output Specification

Common Characteristic [@Tj : 85°C] ;			
Module Code	X-ML55280LMxx-2835xx-33		
PCB Material	FR4	Electrical Connection	
Operating Temperature (°C)	-40 ~ +85	Parallel	3
Storage Temperature (°C)	-40 ~ +55	Series	11
Thermal Conductivity (W/m-K)	1>	LED Quantity	33
LED	2835HE		
Correlated Color Temperature (CCT)	4000K		
Color Rendering Index (CRI)	80+		
Module Operating Voltage (V)	29,26	29,70	30,25
Module Operating Current (mA)	250	350	500
Branch Operating Current (mA)	83	117	167
Module Power (W)	7,32	10,40	15,13
Module Light Output (lm)	1.463	2.027	2.874
Module Efficiency (lm/W)	200	195	190
LED	2835RA-2F1		
Correlated Color Temperature (CCT)	4000K		
Color Rendering Index (CRI)	80+		
Module Operating Voltage (V)	29,48	29,92	30,58
Module Operating Current (mA)	250	350	500
Branch Operating Current (mA)	83	117	167
Module Power (W)	7,37	10,47	15,29
Module Light Output (lm)	1.312	1.801	2.523
Module Efficiency (lm/W)	178	172	165
LED	2835RA-2Q1		
Correlated Color Temperature (CCT)	4000K		
Color Rendering Index (CRI)	80+		
Module Operating Voltage (V)	30,80	31,35	32,23
Module Operating Current (mA)	250	350	500
Branch Operating Current (mA)	83	117	167
Module Power (W)	7,70	10,97	16,12
Module Light Output (lm)	1.286	1.723	2.369
Module Efficiency (lm/W)	167	157	147

Lumen Output Multiplier					
LED	2700°K (CRI 80)	3000°K (CRI 80)	4000°K (CRI 80)	5000°K (CRI 80)	6500°K (CRI 80)
2835 HE	1	1,09	1,2	1,2	1,2
2835 RA-2F1	0,875	0,916	1	1	1
2835 RA-2Q1	0,74	0,78	0,86	0,86	0,86

Photometry





Specifications:

- Default driving method is constant current input
- CCT Range from 2000°K up to 6500°K
- Luminous flux range from 1360 lm to 2595 lm
- Efficacy of the module up to 190 lm/W
- CRI 80 is standart, CRI 70 and CRI 90 are available
- Outstanding system color tolerance MacAdam 3 over the full operating area
- Simple installation (e.g. screw)
- Long life-time > 60,000 hours
- 5 years guarantee at specified conditions

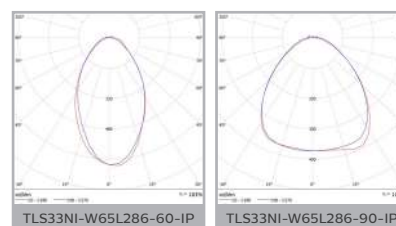
Applications



Driving Current vs Lumen Output Specification

Common Characteristic [@Tj : 85°C] ;			
Module Code	X-ML56276NCxx-NFSW757H-33		
PCB Material	ALU	Electrical Connection	
Operating Temperature (°C)	-40 ~ +85	Parallel	3
Storage Temperature (°C)	-40 ~ +55	Series	11
Thermal Conductivity (W/m-K)	1>	LED Quantity	33
LED NFSW757H_R8000			
Correlated Color Temperature (CCT)	4000K		
Color Rendering Index (CRI)	80+		
Module Operating Voltage (V)	29,92	30,80	31,90
Module Operating Current (mA)	250	350	500
Branch Operating Current (mA)	83	117	167
Module Power (W)	7,48	10,78	15,95
Module Light Output (lm)	1.361	1.811	2.393
Module Efficiency (lm/W)	182	168	150
LED NF2W757H-F1_R8000			
Correlated Color Temperature (CCT)	4000K		
Color Rendering Index (CRI)	80+		
Module Operating Voltage (V)	29,48	30,69	31,46
Module Operating Current (mA)	250	350	500
Branch Operating Current (mA)	83	117	167
Module Power (W)	7,37	10,74	15,73
Module Light Output (lm)	1.400	1.933	2.595
Module Efficiency (lm/W)	190	180	165

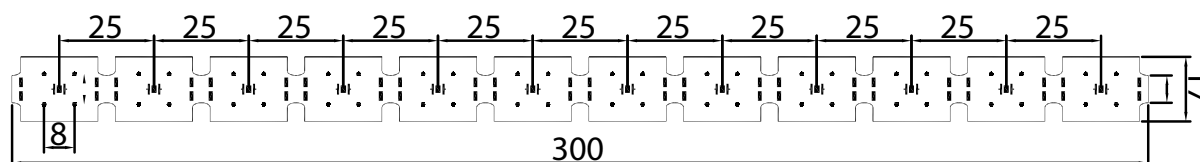
Photometry



Lumen Output Multiplier					
LED	2700°K (CRI 80)	3000°K (CRI 80)	4000°K (CRI 80)	5000°K (CRI 80)	6500°K (CRI 80)
NFSW757H_R8000	0,875	0,916	1	1	1
NF2W757H-F1_R8000	0,67	0,75	0,82	0,82	0,82

LINEAR LED MODULE SERIES

X-ML17300NCxx-NVSW319B-12



Specifications:

- Default driving method is constant current input
- This module can be broken 12 single parts easily.
- CCT Range from 2000°K up to 6500°K
- Luminous flux range from 1714 lm to 6150 lm
- Efficacy of the module up to 158 lm/W
- CRI 80 is standart, CRI 70 and CRI 90 are available
- Outstanding system color tolerance MacAdam 3 over the full operating area
- Simple installation (e.g. screw)
- Long life-time > 60,000 hours
- 5 years guarantee at specified conditions

Applications

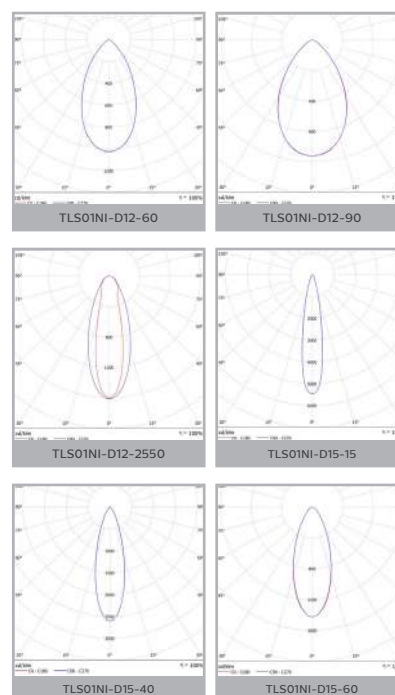


High Bay Lighting Low Bay Lighting

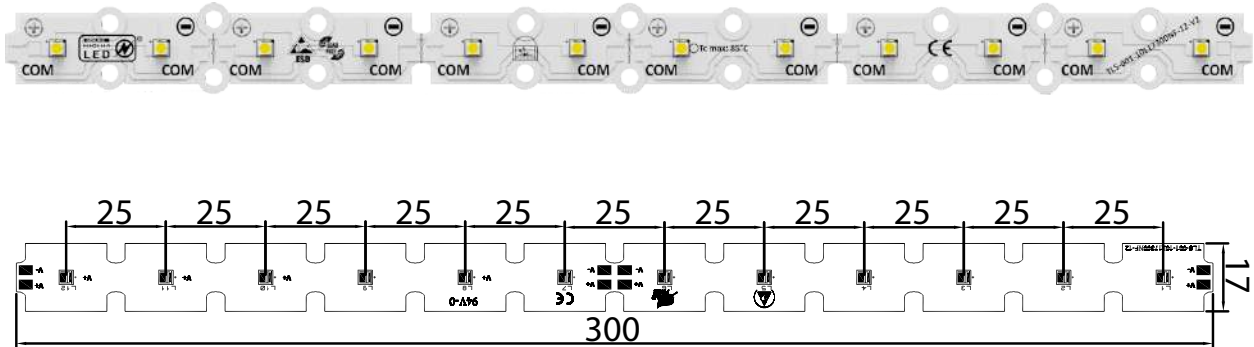
Driving Current vs Lumen Output Specification

Common Characteristic [@Tj : 85°C] ;			
Module Code	X-ML17300NCxx-NVSW319B-12		
PCB Material	ALU	Electrical Connection	
Operating Temperature (°C)	-40 ~ +85	Parallel	1
Storage Temperature (°C)	-40 ~ +55	Series	12
Thermal Conductivity (W/m-K)	1>	LED Quantity	12
LED NVSL219C-R8000_imp			
Correlated Color Temperature (CCT)	4000K		
Color Rendering Index (CRI)	80+		
Module Operating Voltage (V)	32,64	34,20	35,40
Module Operating Current (mA)	350	700	1400
Branch Operating Current (mA)	350	700	1400
Module Power (W)	11,42	23,94	49,56
Module Light Output (lm)	1.714	3.208	5.551
Module Efficiency (lm/W)	150	134	112
LED NVSW319B_R8000			
Correlated Color Temperature (CCT)	4000K		
Color Rendering Index (CRI)	80+		
Module Operating Voltage (V)	32,16	33,48	34,32
Module Operating Current (mA)	350	700	1400
Branch Operating Current (mA)	350	700	1400
Module Power (W)	11,26	23,44	48,05
Module Light Output (lm)	1.778	3.398	6.150
Module Efficiency (lm/W)	158	145	128

Photometry



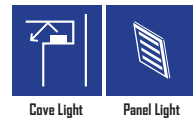
Lumen Output Multiplier					
LED	2700°K (CRI 80)	3000°K (CRI 80)	4000°K (CRI 80)	5000°K (CRI 80)	6500°K (CRI 80)
NVSL219C_R8000_imp	0,875	0,916	1	1	1
NVSW319B_R8000	0,9	1	1,05	1,05	1,05



Specifications:

- Default driving method is constant current input
- CCT Range from 2000°K up to 6500°K
- Luminous flux range from 1322 lm to 2238 lm
- Efficacy of the module up to 170 lm/W
- CRI 80 is standart, CRI 70 and CRI 90 are available
- Outstanding system color tolerance MacAdam 3 over the full operating area
- Simple installation (e.g. screw)
- Long life-time > 60,000 hours
- 5 years guarantee at specified conditions

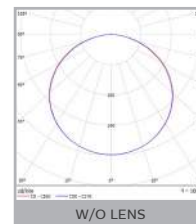
Applications



Driving Current vs Lumen Output Specification

Common Characteristic [Tj : 85°C] ;			
Module Code	X-ML17300NCxx-NF2W757GRV3-12		
PCB Material	ALU	Electrical Connection	
Operating Temperature (°C)	-40 ~ +85	Parallel	2
Storage Temperature (°C)	-40 ~ +55	Series	6
Thermal Conductivity (W/m-K)	1>	LED Quantity	12
LED	NF2W757GR-V3_R8000		
Correlated Color Temperature (CCT)	4000K		
Color Rendering Index (CRI)	80+		
Module Operating Voltage (V)	34,80	34,80	37,20
Module Operating Current (mA)	250	350	400
Branch Operating Current (mA)	125	175	200
Module Power (W)	8,70	12,18	14,88
Module Light Output (lm)	1.322	1.705	2.053
Module Efficiency (lm/W)	152	140	138
LED	3030 2D-SQ		
Correlated Color Temperature (CCT)	4000K		
Color Rendering Index (CRI)	80+		
Module Operating Voltage (V)	35,82	36,60	37,80
Module Operating Current (mA)	250	350	400
Branch Operating Current (mA)	125	175	200
Module Power (W)	8,96	12,81	15,12
Module Light Output (lm)	1.522	2.024	2.238
Module Efficiency (lm/W)	170	158	148

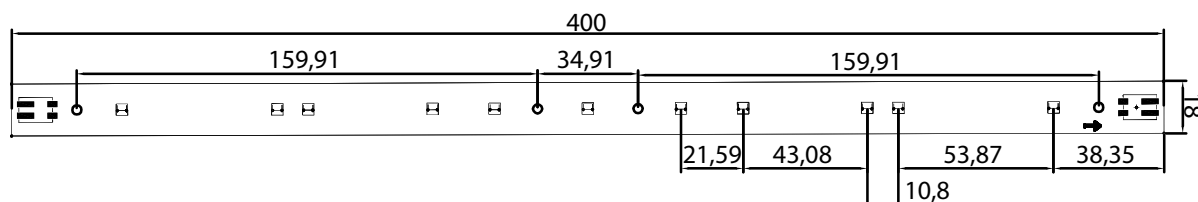
Photometry



Lumen Output Multiplier					
LED	2700°K (CRI 80)	3000°K (CRI 80)	4000°K (CRI 80)	5000°K (CRI 80)	6500°K (CRI 80)
NF2W757GR-V3_R8000	0,875	0,916	1	1	1
3030 2D-SQ	0,92	1,04	1,15	1,15	1,15

LINEAR LED MODULE SERIES

X-ML18400NCxx-NF2W757GRV3-6-7-BLM-S



Specifications:

- Default driving method is constant current input
- CCT Range from 2000°K up to 6500°K
- Luminous flux range from 771 lm to 1305 lm
- Efficacy of the module up to 170 lm/W
- CRI 80 is standart, CRI 70 and CRI 90 are available
- Outstanding system color tolerance MacAdam 3 over the full operating area
- Simple installation (e.g. screw)
- Long life-time > 60,000 hours
- 5 years guarantee at specified conditions

Applications

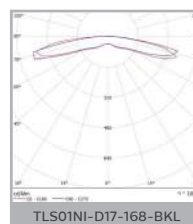


Panel Light

Driving Current vs Lumen Output Specification

Common Characteristic [@Tj : 85°C] ;			
Module Code	X-ML18400NCxx-NF2W757GRV3-6-7-BLM-S		
PCB Material	ALU	Electrical Connection	
Operating Temperature (°C)	-40 ~ +85	Parallel	1
Storage Temperature (°C)	-40 ~ +55	Series	7
Thermal Conductivity (W/m-K)	1>	LED Quantity	7
LED	NF2W757GR-V3_R8000		
Correlated Color Temperature (CCT)	4000K		
Color Rendering Index (CRI)	80+		
Module Operating Voltage (V)	40,60	40,60	43,40
Module Operating Current (mA)	125	175	200
Branch Operating Current (mA)	125	175	200
Module Power (W)	5,08	7,11	8,68
Module Light Output (lm)	771	995	1.198
Module Efficiency (lm/W)	152	140	138
LED	3030 2D-SQ		
Correlated Color Temperature (CCT)	4000K		
Color Rendering Index (CRI)	80+		
Module Operating Voltage (V)	41,79	42,70	44,10
Module Operating Current (mA)	125	175	200
Branch Operating Current (mA)	125	175	200
Module Power (W)	5,22	7,47	8,82
Module Light Output (lm)	888	1.181	1.305
Module Efficiency (lm/W)	170	158	148

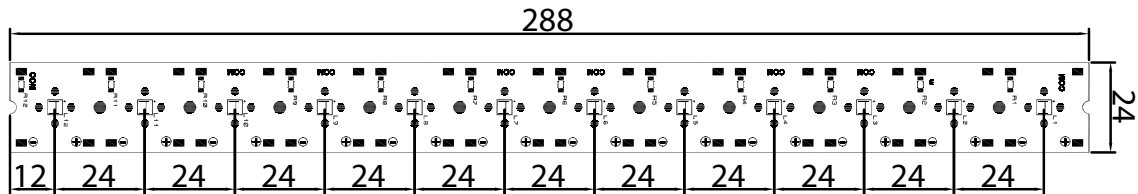
Photometry



NICHIA

LUMILEDS

Lumen Output Multiplier					
LED	2700°K (CRI 80)	3000°K (CRI 80)	4000°K (CRI 80)	5000°K (CRI 80)	6500°K (CRI 80)
NF2W757GR-V3_R8000	0,875	0,916	1	1	1
3030 2D-SQ	0,92	1,04	1,15	1,15	1,15



Specifications:

- Default driving method is constant current input
- CCT Range from 2000°K up to 6500°K
- Luminous flux range from 449 lm to 901 lm
- Efficacy of the module up to 180 lm/W
- CRI 80 is standart, CRI 70 and CRI 90 are available
- Outstanding system color tolerance MacAdam 3 over the full operating area
- Simple installation (e.g. screw)
- Long life-time > 60,000 hours
- 5 years guarantee at specified conditions

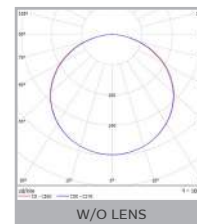
Applications



Driving Current vs Lumen Output Specification

Common Characteristic [Tj : 85°C] ;			
Module Code	X-ML24288NCxx-NFSW757H-12		
PCB Material	ALU	Electrical Connection	
Operating Temperature (°C)	-40 ~ +85	Parallel	1
Storage Temperature (°C)	-40 ~ +55	Series	12
Thermal Conductivity (W/m-K)	1>	LED Quantity	12
LED NFSW757H_R8000			
Correlated Color Temperature (CCT)	4000K		
Color Rendering Index (CRI)	80+		
Module Operating Voltage (V)	32,64	33,60	34,80
Module Operating Current (mA)	80	120	175
Branch Operating Current (mA)	80	120	175
Module Power (W)	2,61	4,03	6,09
Module Light Output (lm)	449	564	792
Module Efficiency (lm/W)	172	140	130
LED NF2W757H-F1_R8000			
Correlated Color Temperature (CCT)	4000K		
Color Rendering Index (CRI)	80+		
Module Operating Voltage (V)	32,16	33,48	34,32
Module Operating Current (mA)	80	120	175
Branch Operating Current (mA)	80	120	175
Module Power (W)	2,57	4,02	6,01
Module Light Output (lm)	463	675	901
Module Efficiency (lm/W)	180	168	150

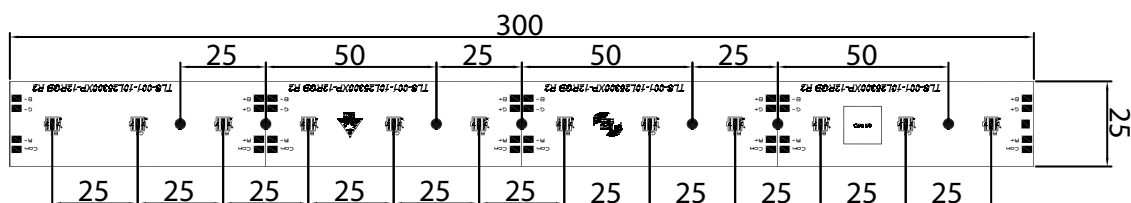
Photometry



Lumen Output Multiplier					
LED	2700°K (CRI 80)	3000°K (CRI 80)	4000°K (CRI 80)	5000°K (CRI 80)	6500°K (CRI 80)
NFSW757H_R8000	0,875	0,916	1	1	1
NF2W757H-F1_R8000	0,67	0,75	0,82	0,82	0,82

LINEAR LED MODULE SERIES

X-ML25300NCRGB-NCSx219BV1-12



Specifications:

- Default driving method is constant current input
- Luminous flux range from 159 lm to 788 lm
- Efficacy of the module up to 107 lm/W
- Outstanding system color tolerance MacAdam 3 over the full operating area
- Simple installation (e.g screw)
- Long life-time > 60,000 hours
- 2-years guarantee as standart, can be extended up to 5 years guarantee at specified conditions

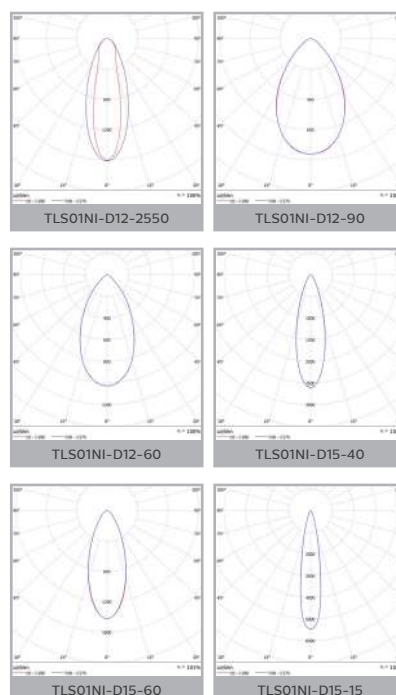
Applications

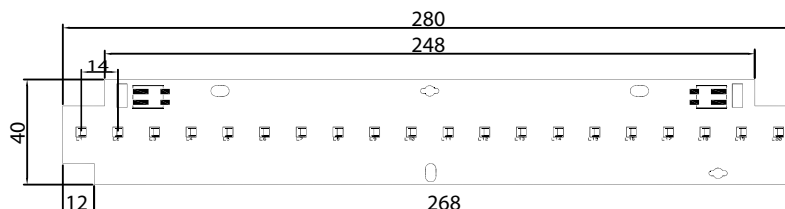


Driving Current vs Lumen Output Specification

Common Characteristic [@Tj : 85°C] ;			
Module Code	X-ML25300NCRGB-NCSx219BV1-12		
PCB Material	ALU	Electrical Connection	
Operating Temperature (°C)	-40 ~ +100	Parallel	1
Storage Temperature (°C)	-40 ~ +55	Series	4
Thermal Conductivity (W/m-K)	1.5	LED Quantity	4xRGB
LED NCSR219B-V1 (RED)			
Wavelength	~ (615nm-635nm)		
Max Current (mA)	700mA		
Module Operating Voltage (V)	8,32	8,84	9,47
Module Operating Current (mA)	350	500	700
Branch Operating Current (mA)	350	500	700
Module Power (W)	2,91	4,42	6,63
Module Light Output (lm)	187,1	265	367,9
Module Efficiency (lm/W)	64	60	56
LED NCSG219B-V1 (GREEN)			
Wavelength	~ (520nm-545nm)		
Max Current (mA)	1200mA		
Module Operating Voltage (V)	12,88	13,48	14,08
Module Operating Current (mA)	350	500	700
Branch Operating Current (mA)	350	500	700
Module Power (W)	4,50	6,60	9,86
Module Light Output (lm)	481,5	613,8	788,4
Module Efficiency (lm/W)	107	93	80
LED NCSB219B-V1 (BLUE)			
Wavelength	~ (464nm-475nm)		
Max Current (mA)	1500mA		
Module Operating Voltage (V)	11,12	11,63	11,95
Module Operating Current (mA)	350	500	700
Branch Operating Current (mA)	350	500	700
Module Power (W)	3,89	5,81	8,37
Module Light Output (lm)	159,5	209,3	259,3
Module Efficiency (lm/W)	41	36	31,0
R+G+B Light Output (lm)	828,2	1088,1	1415,7

Photometry





Specifications:

- Default driving method is constant current input
- CCT Range from 2000°K up to 6500°K
- Luminous flux range from 655 lm to 1201 lm
- Efficacy of the module up to 180 lm/W
- CRI 80 is standart, CRI 70 and CRI 90 are available
- Outstanding system color tolerance MacAdam 3 over the full operating area
- Simple installation (e.g. screw)
- Long life-time > 60,000 hours
- 5 years guarantee at specified conditions

Applications

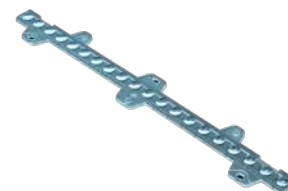
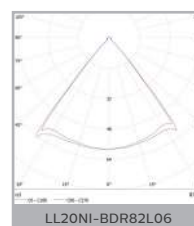


Office Lighting

Driving Current vs Lumen Output Specification

Common Characteristic [@Tj : 85°C] ;			
Module Code	X-ML40280NCxx-NFSW757H-20		
PCB Material	ALU	Electrical Connection	
Operating Temperature (°C)	-40 ~ +85	Parallel	5
Storage Temperature (°C)	-40 ~ +55	Series	4
Thermal Conductivity (W/m-K)	1>	LED Quantity	20
LED NFSW757H_R8000			
Correlated Color Temperature (CCT)	4000K		
Color Rendering Index (CRI)	80+		
Module Operating Voltage (V)	10,88	11,20	11,60
Module Operating Current (mA)	350	500	700
Branch Operating Current (mA)	70	100	140
Module Power (W)	3,81	5,60	8,12
Module Light Output (lm)	655	784	1.056
Module Efficiency (lm/W)	172	140	130
LED NF2W757H-F1_R8000			
Correlated Color Temperature (CCT)	4000K		
Color Rendering Index (CRI)	80+		
Module Operating Voltage (V)	10,72	11,16	11,44
Module Operating Current (mA)	350	500	700
Branch Operating Current (mA)	70	100	140
Module Power (W)	3,75	5,58	8,01
Module Light Output (lm)	675	937	1.201
Module Efficiency (lm/W)	180	168	150

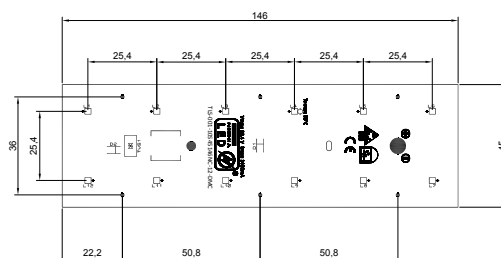
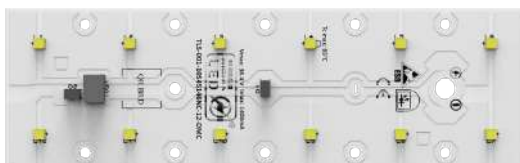
Photometry



Lumen Output Multiplier					
LED	2700°K (CRI 80)	3000°K (CRI 80)	4000°K (CRI 80)	5000°K (CRI 80)	6500°K (CRI 80)
NFSW757H_R8000	0,875	0,916	1	1	1
NF2W757H-F1_R8000	0,67	0,75	0,82	0,82	0,82

LINEAR LED MODULE SERIES

X-ML45146NCxx-NVSxE21A-12



Specifications:

- Default driving method is constant current input
- CCT Range from 2000°K up to 6500°K
- Luminous flux range from 1862 lm to 5967 lm
- Efficacy of the module up to 163 lm/W
- CRI 80 is standart, CRI 70 and CRI 90 are available
- Outstanding system color tolerance MacAdam 3 over the full operating area
- Simple installation (e.g. screw)
- Long life-time > 60,000 hours
- 5 years guarantee at specified conditions

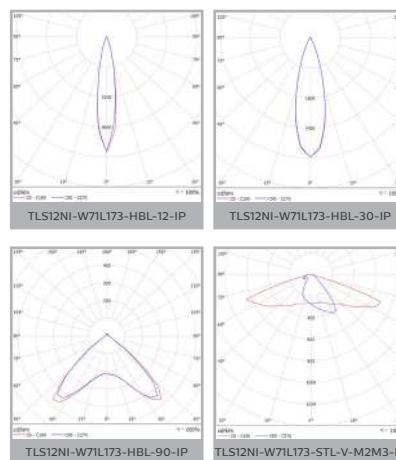
Applications



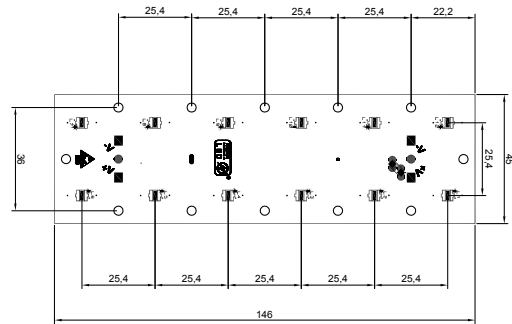
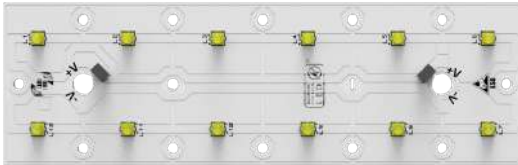
Driving Current vs Lumen Output Specification

Common Characteristic [@Tj : 85°C] ;			
Module Code	X-ML45146NCxx-NVSxE21A-12		
PCB Material	ALU	Electrical Connection	
Operating Temperature (°C)	-40 ~ +85	Parallel	1
Storage Temperature (°C)	-40 ~ +55	Series	12
Thermal Conductivity (W/m-K)	1>	LED Quantity	12
LED	NVSLE21AT		
Correlated Color Temperature (CCT)	4000K		
Color Rendering Index (CRI)	80+		
Module Operating Voltage (V)	32,64	34,20	35,40
Module Operating Current (mA)	350	700	1400
Branch Operating Current (mA)	350	700	1400
Module Power (W)	11,42	23,94	49,56
Module Light Output (lm)	1.862	3.471	5.997
Module Efficiency (lm/W)	163	145	121

Photometry



Lumen Output Multiplier					
LED	2700°K (CRI 80)	3000°K (CRI 80)	4000°K (CRI 80)	5000°K (CRI 80)	6500°K (CRI 80)
NVSLE21AT	0,75	0,87	1	1	1



Specifications:

- Default driving method is constant current input
- CCT Range from 2000°K up to 6500°K
- Luminous flux range from 1714 lm to 6150 lm
- Efficacy of the module up to 158 lm/W
- CRI 80 is standart, CRI 70 and CRI 90 are available
- Outstanding system color tolerance MacAdam 3 over the full operating area
- Simple installation (e.g. screw)
- Long life-time > 60,000 hours
- 5 years guarantee at specified conditions

Applications



Street Lighting High Bay Lighting Low Bay Lighting

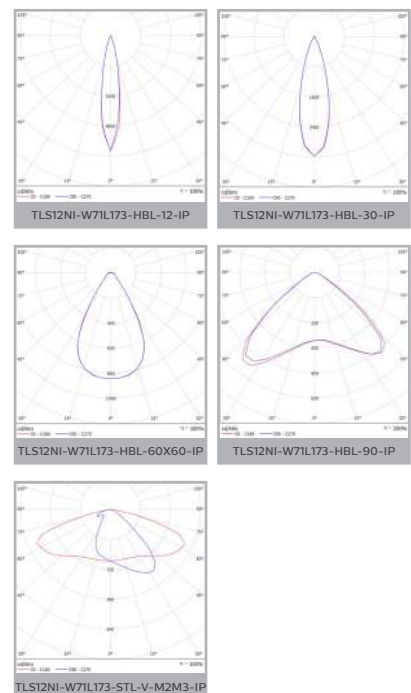


Gas Station
Lighting

Driving Current vs Lumen Output Specification

Common Characteristic [Tj : 85°C] ;				
Module Code	X-ML45146NCxx-NVSW319B-12			
PCB Material	ALU		Electrical Connection	
Operating Temperature (°C)	-40 ~ +85		Parallel	1
Storage Temperature (°C)	-40 ~ +55		Series	12
Thermal Conductivity (W/m-K)	1>		LED Quantity	12
LED		NVSL219C-R8000_imp		
Correlated Color Temperature (CCT)		4000K		
Color Rendering Index (CRI)		80+		
Module Operating Voltage (V)	32,64	34,20	35,40	
Module Operating Current (mA)	350	700	1400	
Branch Operating Current (mA)	350	700	1400	
Module Power (W)	11,42	23,94	49,56	
Module Light Output (lm)	1.714	3.208	5.551	
Module Efficiency (lm/W)	150	134	112	
LED		NVSW319B_R8000		
Correlated Color Temperature (CCT)		4000K		
Color Rendering Index (CRI)		80+		
Module Operating Voltage (V)	32,16	33,48	34,32	
Module Operating Current (mA)	350	700	1400	
Branch Operating Current (mA)	350	700	1400	
Module Power (W)	11,26	23,44	48,05	
Module Light Output (lm)	1.778	3.398	6.150	
Module Efficiency (lm/W)	158	145	128	

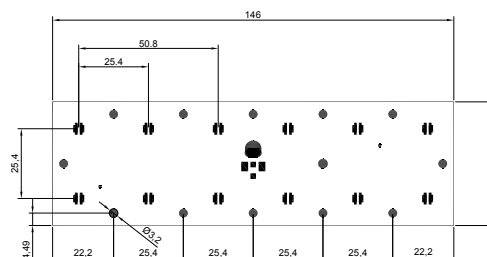
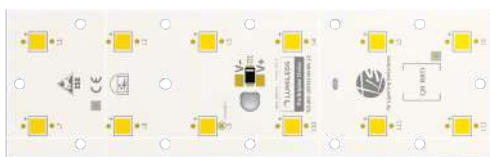
Photometry



Lumen Output Multiplier					
LED	2700°K (CRI 80)	3000°K (CRI 80)	4000°K (CRI 80)	5000°K (CRI 80)	6500°K (CRI 80)
NVSL219C_R8000_imp	0,875	0,916	1	1	1
NVSW319B_R8000	0,9	1	1,05	1,05	1,05

LINEAR LED MODULE SERIES

X-ML45146LMxx-5050-12



Specifications:

- Default driving method is constant current input
- CCT Range from 2000°K up to 6500°K
- Luminous flux range from 2159 lm to 6178 lm
- Efficacy of the module up to 204 lm/W
- CRI 80 is standart, CRI 70 and CRI 90 are available
- Outstanding system color tolerance MacAdam 3 over the full operating area
- Simple installation (e.g. screw)
- Long life-time > 60,000 hours
- 5 years guarantee at specified conditions

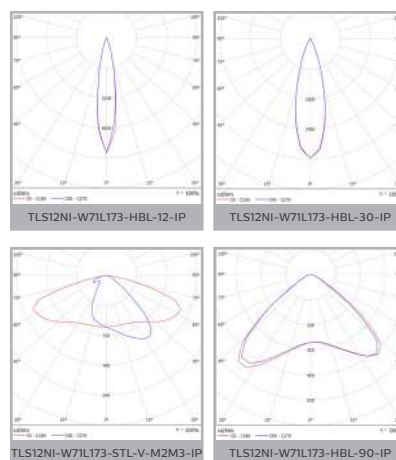
Applications



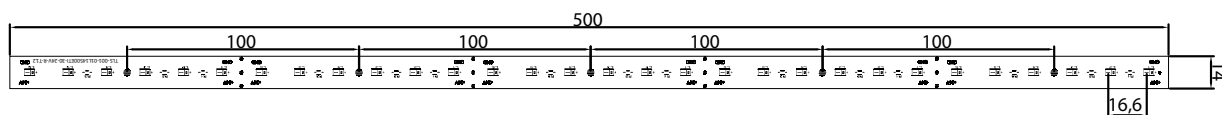
Driving Current vs Lumen Output Specification

Common Characteristic [@Tj : 85°C] ;			
Module Code	X-ML45146LMxx-5050-12		
PCB Material	ALU	Electrical Connection	
Operating Temperature (°C)	-40 ~ +85	Parallel	4
Storage Temperature (°C)	-40 ~ +55	Series	3
Thermal Conductivity (W/m-K)	1>	LED Quantity	12
LED	5050 - Round		
Correlated Color Temperature (CCT)	4000K		
Color Rendering Index (CRI)	80+		
Module Operating Voltage (V)	16	17	18
Module Operating Current (mA)	700	1400	2000
Branch Operating Current (mA)	175	350	500
Module Power (W)	11,13	23,10	35,10
Module Light Output (lm)	2.159	3.996	5.546
Module Efficiency (lm/W)	194	173	158
LED	5050 - SQ		
Correlated Color Temperature (CCT)	4000K		
Color Rendering Index (CRI)	80+		
Module Operating Voltage (V)	16	17	18
Module Operating Current (mA)	700	1400	2000
Branch Operating Current (mA)	175	350	500
Module Power (W)	11,13	23,10	35,10
Module Light Output (lm)	2.271	4.343	6.178
Module Efficiency (lm/W)	204	188	176

Photometry



Lumen Output Multiplier					
LED	2700°K (CRI 80)	3000°K (CRI 80)	4000°K (CRI 80)	5000°K (CRI 80)	6500°K (CRI 80)
5050-SQ	0,875	0,916	1	1	1
5050-Round	0,83	0,88	0,92	0,92	0,92



Specifications:

- Default driving method is constant voltage input
- CCT Range from 2000°K up to 6500°K
- Luminous flux range from 930 lm to 2100 lm
- Efficacy of the module up to 180 lm/W
- CRI 80 is standart, CRI 70 and CRI 90 are available
- Outstanding system color tolerance MacAdam 3 over the full operating area
- Simple installation (e.g. screw)
- Long life-time > 60,000 hours
- 5 years guarantee at specified conditions

Applications

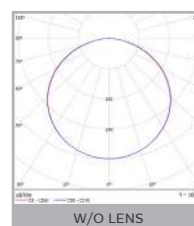


Cove Light

Driving Current vs Lumen Output Specification

Common Characteristic [②T] : 85℃ ;			
Module Code	X-ML14500LMxx-2835xx-30-24V-R		
PCB Material	ALU	Electrical Connection	
Operating Temperature (℃)	-40 ~ +85	Parallel	5
Storage Temperature (℃)	-40 ~ +55	Series	6
Thermal Conductivity (W/m-K)	1>	LED Quantity	30
LED	2835HE		
Correlated Color Temperature (CCT)	4000K		
Color Rendering Index (CRI)	80+		
Module Operating Voltage (V)	24,00	24,00	24,00
Module Operating Current (mA)	250	350	500
Branch Operating Current (mA)	50	70	100
Module Power (W)	6,00	8,40	12,00
Module Light Output (lm)	1.110	1.512	2.100
Module Efficiency (lm/W)	185	180	175
LED	2835RA-2F1		
Correlated Color Temperature (CCT)	4000K		
Color Rendering Index (CRI)	80+		
Module Operating Voltage (V)	24,00	24,00	24,00
Module Operating Current (mA)	250	350	500
Branch Operating Current (mA)	50	70	100
Module Power (W)	6,00	8,40	12,00
Module Light Output (lm)	978	1.319	1.800
Module Efficiency (lm/W)	163	157	150
LED	2835RA-2Q1		
Correlated Color Temperature (CCT)	4000K		
Color Rendering Index (CRI)	80+		
Module Operating Voltage (V)	24,00	24,00	24,00
Module Operating Current (mA)	250	350	500
Branch Operating Current (mA)	50	70	100
Module Power (W)	6,00	8,40	12,00
Module Light Output (lm)	930	1.218	1.680
Module Efficiency (lm/W)	155	145	140

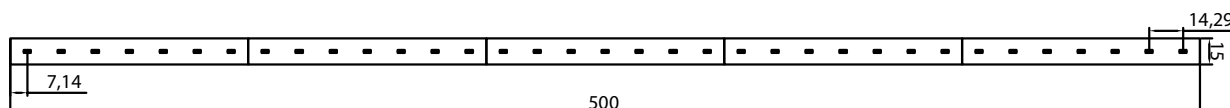
Photometry



Lumen Output Multiplier					
LED	2700°K (CRI 80)	3000°K (CRI 80)	4000°K (CRI 80)	5000°K (CRI 80)	6500°K (CRI 80)
2835 HE	1	1,09	1,2	1,2	1,2
2835 RA-2F1	0,875	0,916	1	1	1
2835 RA-2Q1	0,74	0,78	0,86	0,86	0,86

LINEAR LED MODULE SERIES

X-ML15500LMxx-2835xx-35-24V-ICR



Specifications:

- Default driving method is constant voltage input
- CCT Range from 2000°K up to 6500°K
- Luminous flux range from 1300 lm to 2300 lm
- Efficacy of the module up to 185 lm/W
- CRI 80 is standart, CRI 70 and CRI 90 are available
- Outstanding system color tolerance MacAdam 3 over the full operating area
- Simple installation (e.g. screw)
- Long life-time > 60,000 hours
- 5 years guarantee at specified conditions

Applications

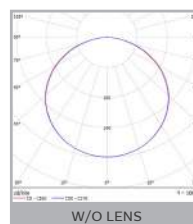


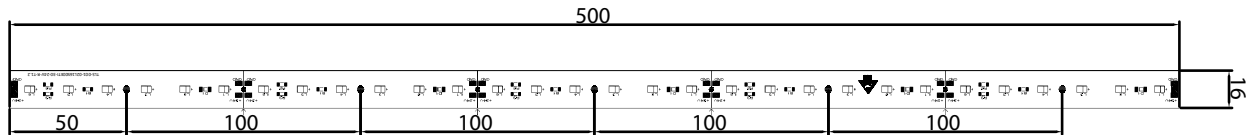
Driving Current vs Lumen Output Specification

Common Characteristic [@Tj : 85°C] ;			
Module Code	X-ML15500LMxx-2835xx-35-24V-ICR		
PCB Material	ALU	Electrical Connection	
Operating Temperature (°C)	-40 ~ +85	Parallel	5
Storage Temperature (°C)	-40 ~ +55	Series	7
Thermal Conductivity (W/m-K)	1>	LED Quantity	35
LED	2835HE		
Correlated Color Temperature (CCT)	4000K		
Color Rendering Index (CRI)	80+		
Module Operating Voltage (V)	24,00	24,00	24,00
Module Operating Current (mA)	350	500	600
Branch Operating Current (mA)	70	100	120
Module Power (W)	8,40	12,00	14,40
Module Light Output (lm)	1.554	2.040	2.376
Module Efficiency (lm/W)	185	170	165
LED	2835RA-2F1		
Correlated Color Temperature (CCT)	4000K		
Color Rendering Index (CRI)	80+		
Module Operating Voltage (V)	24,00	24,00	24,00
Module Operating Current (mA)	350	500	600
Branch Operating Current (mA)	70	100	120
Module Power (W)	8,40	12,00	14,40
Module Light Output (lm)	1.386	1.824	2.131
Module Efficiency (lm/W)	165	152	148
LED	2835RA-2Q1		
Correlated Color Temperature (CCT)	4000K		
Color Rendering Index (CRI)	80+		
Module Operating Voltage (V)	24,00	24,00	24,00
Module Operating Current (mA)	350	500	600
Branch Operating Current (mA)	70	100	120
Module Power (W)	8,40	12,00	14,40
Module Light Output (lm)	1.302	1.704	1.987
Module Efficiency (lm/W)	155	142	138

Lumen Output Multiplier					
LED	2700°K (CRI 80)	3000°K (CRI 80)	4000°K (CRI 80)	5000°K (CRI 80)	6500°K (CRI 80)
2835 HE	1	1,09	1,2	1,2	1,2
2835 RA-2F1	0,875	0,916	1	1	1
2835 RA-2Q1	0,74	0,78	0,86	0,86	0,86

Photometry





Specifications:

- Default driving method is constant voltage input(24V)
- CCT Range from 2000°K up to 6500°K
- Luminous flux range from 930 lm to 2100 lm
- Efficacy of the module up to 180 lm/W
- CRI 80 is standart, CRI 70 and CRI 90 are available
- Outstanding system color tolerance MacAdam 3 over the full operating area
- Simple installation (e.g. screw)
- Long life-time > 60,000 hours
- 5 years guarantee at specified conditions

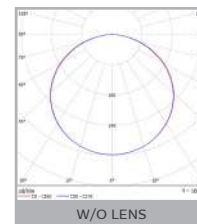
Applications



Driving Current vs Lumen Output Specification

Common Characteristic [②Tj : 85℃] ;			
Module Code	X-ML16500LMxx-2835xx-30-24V-R		
PCB Material	FR4	Electrical Connection	
Operating Temperature (℃)	-40 ~ +85	Parallel	5
Storage Temperature (℃)	-40 ~ +55	Series	6
Thermal Conductivity (W/m-K)	1>	LED Quantity	30
LED		2835HE	
Correlated Color Temperature (CCT)		4000K	
Color Rendering Index (CRI)		80+	
Module Operating Voltage (V)	24,00	24,00	24,00
Module Operating Current (mA)	250	350	500
Branch Operating Current (mA)	50	70	100
Module Power (W)	6,00	8,40	12,00
Module Light Output (lm)	1.110	1.512	2.100
Module Efficiency (lm/W)	185	180	175
LED		2835RA-2F1	
Correlated Color Temperature (CCT)		4000K	
Color Rendering Index (CRI)		80+	
Module Operating Voltage (V)	24,00	24,00	24,00
Module Operating Current (mA)	250	350	500
Branch Operating Current (mA)	50	70	100
Module Power (W)	6,00	8,40	12,00
Module Light Output (lm)	978	1.319	1.800
Module Efficiency (lm/W)	163	157	150
LED		2835RA-2Q1	
Correlated Color Temperature (CCT)		4000K	
Color Rendering Index (CRI)		80+	
Module Operating Voltage (V)	24,00	24,00	24,00
Module Operating Current (mA)	250	350	500
Branch Operating Current (mA)	50	70	100
Module Power (W)	6,00	8,40	12,00
Module Light Output (lm)	930	1.218	1.680
Module Efficiency (lm/W)	155	145	140

Photometry



Lumen Output Multiplier					
LED	2700°K (CRI 80)	3000°K (CRI 80)	4000°K (CRI 80)	5000°K (CRI 80)	6500°K (CRI 80)
2835 HE	1	1,09	1,2	1,2	1,2
2835 RA-2F1	0,875	0,916	1	1	1
2835 RA-2Q1	0,74	0,78	0,86	0,86	0,86

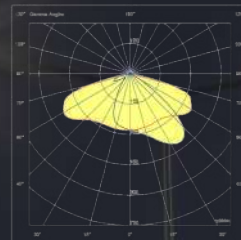


Street Lighting

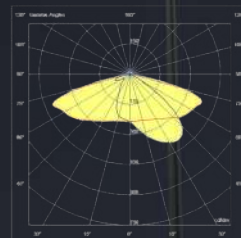
TLS04NI-5050-STL-M2M3



NICHIA 219C



NICHIA 319B



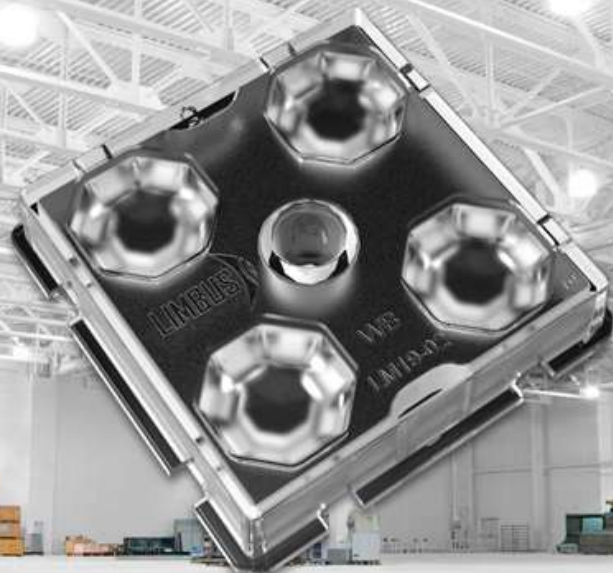
LUMILEDS 5050



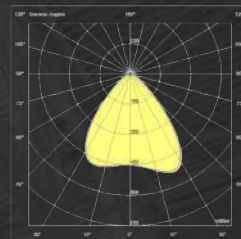
**PATENT
PENDING**

Highbay Lighting

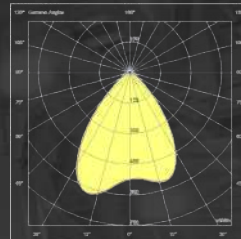
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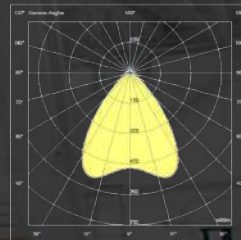
NICHIA 219C



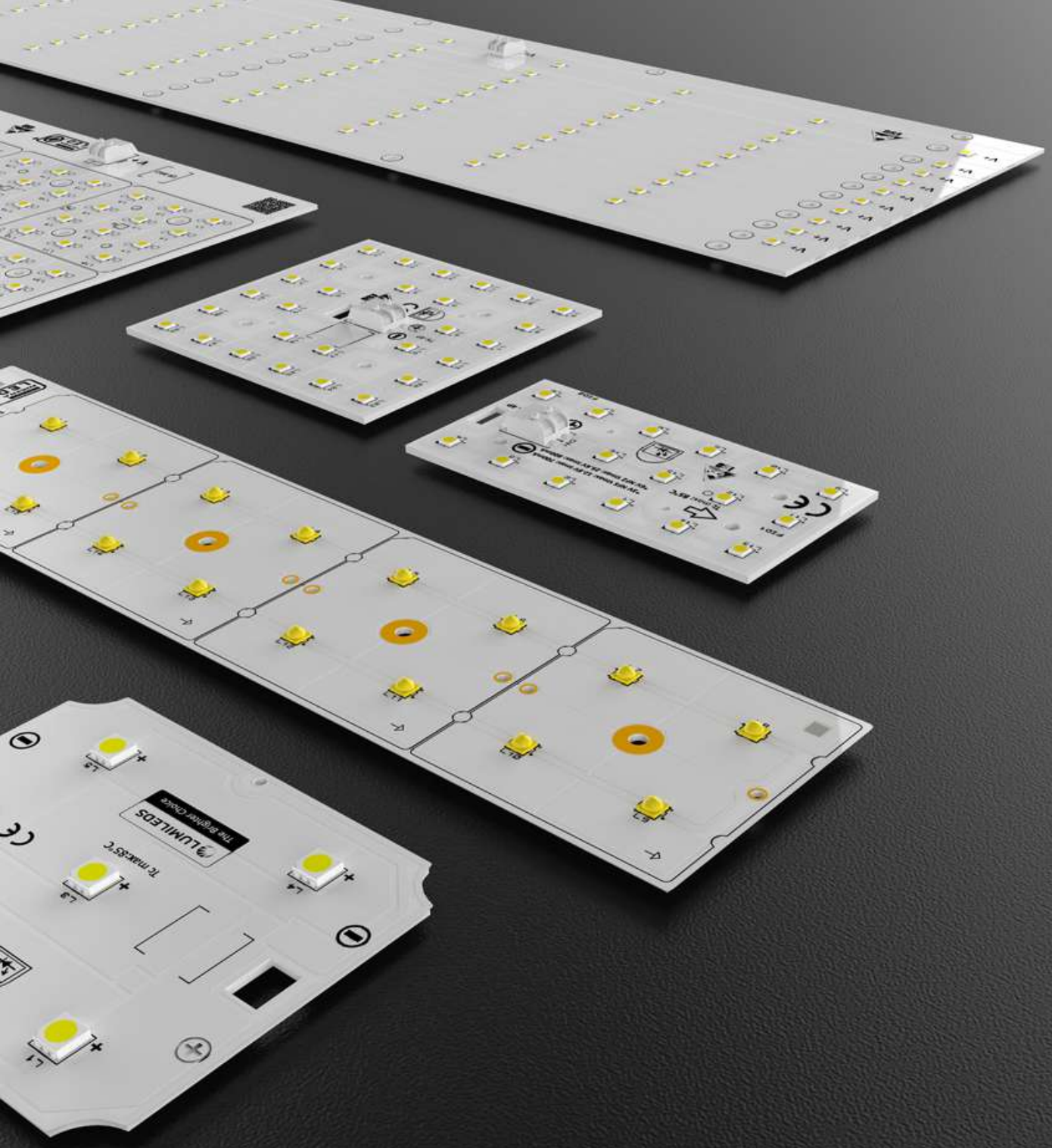
LUMILEDS 5050



ETI 3535 AV1



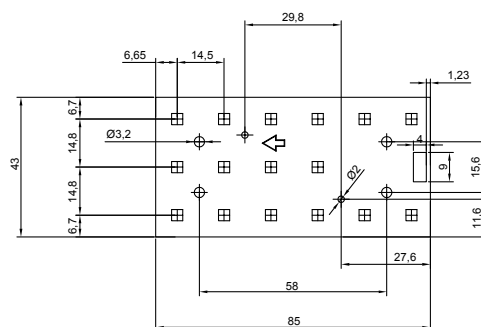
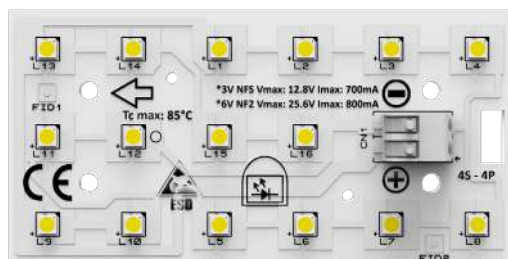
**PATENT
PENDING**



SQUARE LED MODULE SERIES

SQUARE LED MODULE SERIES

X-MS4385NCxx-NF2W757GRV3-16



Specifications:

- Default driving method is constant current input
- CCT Range from 2000°K up to 6500°K
- Luminous flux range from 1213 lm to 2611 lm
- Efficacy of the module up to 170 lm/W
- CRI 80 is standart, CRI 70 and CRI 90 are available
- Outstanding system color tolerance MacAdam 3 over the full operating area
- Simple installation (e.g. screw)
- Long life-time > 60,000 hours
- 5 years guarantee at specified conditions

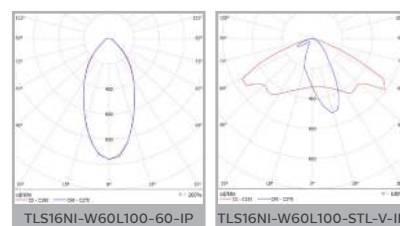
Applications



Driving Current vs Lumen Output Specification

Common Characteristic [@Tj : 85°C] ;			
Module Code	X-MS4385NCxx-NF2W757GRV3-16		
PCB Material	ALU	Electrical Connection	
Operating Temperature (°C)	-40 ~ +85	Parallel	4
Storage Temperature (°C)	-40 ~ +55	Series	4
Thermal Conductivity (W/m-K)	1>	LED Quantity	16
LED	NF2W757GR-V3_R8000		
Correlated Color Temperature (CCT)	4000K		
Color Rendering Index (CRI)	80+		
Module Operating Voltage (V)	22,80	23,60	24,80
Module Operating Current (mA)	350	500	700
Branch Operating Current (mA)	88	125	175
Module Power (W)	7,98	11,80	17,36
Module Light Output (lm)	1.213	1.652	2.396
Module Efficiency (lm/W)	152	140	138
LED	3030 2D-SQ		
Correlated Color Temperature (CCT)	4000K		
Color Rendering Index (CRI)	80+		
Module Operating Voltage (V)	23,88	24,40	25,20
Module Operating Current (mA)	350	500	700
Branch Operating Current (mA)	88	125	175
Module Power (W)	8,36	12,20	17,64
Module Light Output (lm)	1.421	1.928	2.611
Module Efficiency (lm/W)	170	158	148

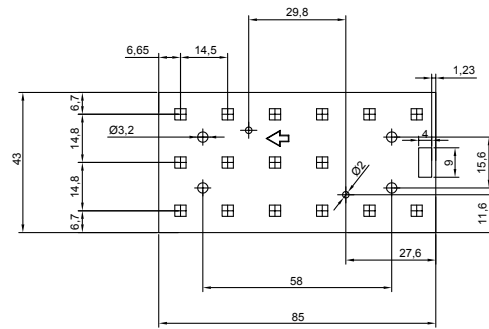
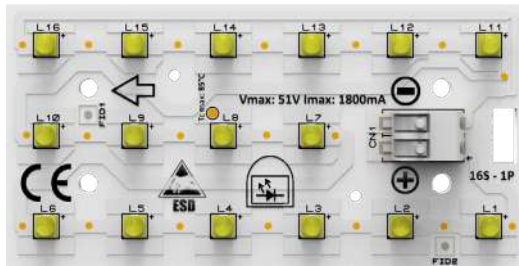
Photometry



NICHIA

LUMILEDS

Lumen Output Multiplier					
LED	2700°K (CRI 80)	3000°K (CRI 80)	4000°K (CRI 80)	5000°K (CRI 80)	6500°K (CRI 80)
NF2W757GR-V3_R8000	0,875	0,916	1	1	1
3030 2D-SQ	0,9	1	1,08	1,08	1,08



Specifications:

- Default driving method is constant current input
- CCT Range from 2000°K up to 6500°K
- Luminous flux range from 2285 lm to 8200 lm
- Efficacy of the module up to 158 lm/W
- CRI 80 is standart, CRI 70 and CRI 90 are available
- Outstanding system color tolerance MacAdam 3 over the full operating area
- Simple installation (e.g. screw)
- Long life-time > 60,000 hours
- 5 years guarantee at specified conditions

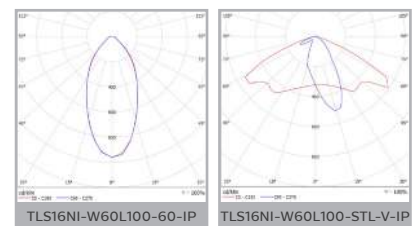
Applications



Driving Current vs Lumen Output Specification

Common Characteristic [Tj : 85°C] ;			
Module Code	X-MS4385NCxx-NVSW319B-16		
PCB Material	ALU	Electrical Connection	
Operating Temperature (°C)	-40 ~ +85	Parallel	1
Storage Temperature (°C)	-40 ~ +55	Series	16
Thermal Conductivity (W/m-K)	1>	LED Quantity	16
LED	NVSL219C-R8000_imp		
Correlated Color Temperature (CCT)	4000K		
Color Rendering Index (CRI)	80+		
Module Operating Voltage (V)	43,52	45,60	47,20
Module Operating Current (mA)	350	700	1400
Branch Operating Current (mA)	350	700	1400
Module Power (W)	15,23	31,92	66,08
Module Light Output (lm)	2.285	4.277	7.401
Module Efficiency (lm/W)	150	134	112
LED	NVSW319B_R8000		
Correlated Color Temperature (CCT)	4000K		
Color Rendering Index (CRI)	80+		
Module Operating Voltage (V)	42,88	44,64	45,76
Module Operating Current (mA)	350	700	1400
Branch Operating Current (mA)	350	700	1400
Module Power (W)	15,01	31,25	64,06
Module Light Output (lm)	2.371	4.531	8.200
Module Efficiency (lm/W)	158	145	128

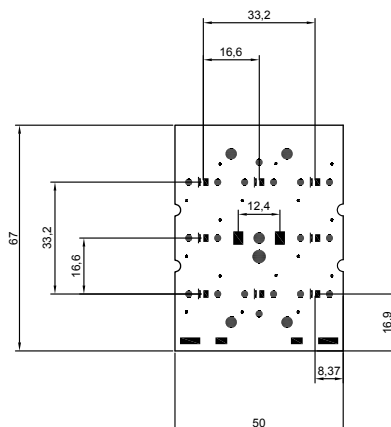
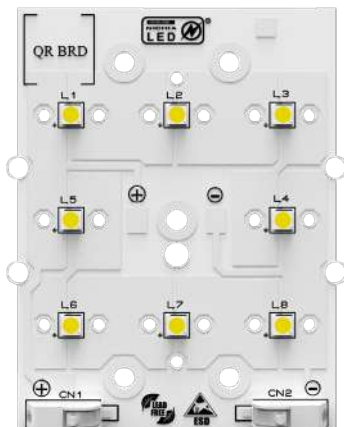
Photometry



Lumen Output Multiplier					
LED	2700°K (CRI 80)	3000°K (CRI 80)	4000°K (CRI 80)	5000°K (CRI 80)	6500°K (CRI 80)
NVSL219C_R8000_imp	0,875	0,916	1	1	1
NVSW319B_R8000	0,9	1	1,05	1,05	1,05

SQUARE LED MODULE SERIES

X-MS5067NCxx-NFSW757H-8



Specifications:

- Default driving method is constant current input
- CCT Range from 2000°K up to 6500°K
- Luminous flux range from 285 lm to 690 lm
- Efficacy of the module up to 190 lm/W
- CRI 80 is standart, CRI 70 and CRI 90 are available
- Outstanding system color tolerance MacAdam 3 over the full operating area
- Simple installation (e.g. screw)
- Long life-time > 60,000 hours
- 5 years guarantee at specified conditions

Applications

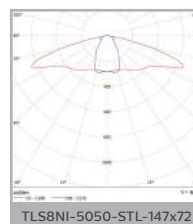


Street Lighting

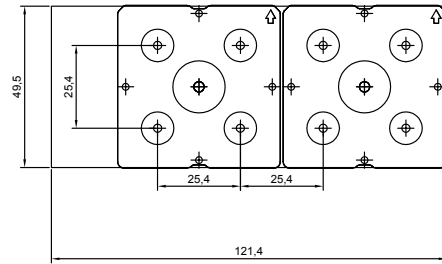
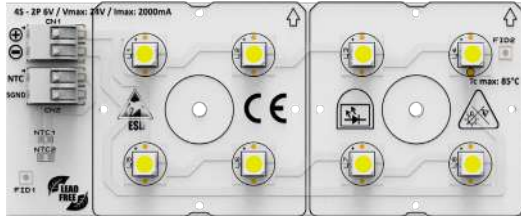
Driving Current vs Lumen Output Specification

Common Characteristic [@Tj : 85°C] ;			
Module Code	X-MS5067NCxx-NFSW757H-8		
PCB Material	ALU	Electrical Connection	
Operating Temperature (°C)	-40 ~ +85	Parallel	2
Storage Temperature (°C)	-40 ~ +55	Series	4
Thermal Conductivity (W/m-K)	1>	LED Quantity	8
LED	NFSW757H_R8000		
Correlated Color Temperature (CCT)	4000K		
Color Rendering Index (CRI)	80+		
Module Operating Voltage (V)	10,80	11,20	11,60
Module Operating Current (mA)	150	250	350
Branch Operating Current (mA)	75	125	175
Module Power (W)	1,62	2,80	4,06
Module Light Output (lm)	285	454	625
Module Efficiency (lm/W)	176	162	154
LED	NF2W757H-F1_R8000		
Correlated Color Temperature (CCT)	4000K		
Color Rendering Index (CRI)	80+		
Module Operating Voltage (V)	10,80	11,28	11,60
Module Operating Current (mA)	150	250	350
Branch Operating Current (mA)	75	125	175
Module Power (W)	1,62	2,82	4,06
Module Light Output (lm)	308	508	690
Module Efficiency (lm/W)	190	180	170

Photometry



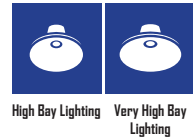
Lumen Output Multiplier					
LED	2700°K (CRI 80)	3000°K (CRI 80)	4000°K (CRI 80)	5000°K (CRI 80)	6500°K (CRI 80)
NFSW757H_R8000	0,875	0,916	1	1	1
NF2W757H-F1_R8000	0,82	0,98	1,1	1,1	1,1



Specifications:

- Default driving method is constant current input
- CCT Range from 2200°K up to 6500°K
- Luminous flux range from 2056 lm to 4118 lm
- Efficacy of the module up to 204 lm/W
- CRI 80 is standart, CRI 70 and CRI 90 are available
- Outstanding system color tolerance MacAdam 3 over the full operating area
- Simple installation (e.g. screw)
- Long life-time > 60,000 hours
- 5 years guarantee at specified conditions

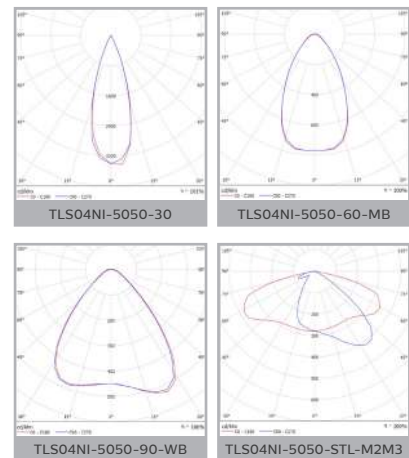
Applications



Driving Current vs Lumen Output Specification

Common Characteristic [Tj : 85°C] ;			
Module Code	X-MS50122LMxx-5050-8		
PCB Material	ALU	Electrical Connection	
Operating Temperature (°C)	-40 ~ +85	Parallel	2
Storage Temperature (°C)	-40 ~ +55	Series	4
Thermal Conductivity (W/m-K)	1>	LED Quantity	8
LED		5050 - Round	
Correlated Color Temperature (CCT)		4000K	
Color Rendering Index (CRI)		80+	
Module Operating Voltage (V)	21,20	22,00	23,40
Module Operating Current (mA)	500	700	1000
Branch Operating Current (mA)	250	350	500
Module Power (W)	10,60	15,40	23,40
Module Light Output (lm)	2.056	2.664	3.697
Module Efficiency (lm/W)	194	173	158
LED		5050- SQ	
Correlated Color Temperature (CCT)		4000K	
Color Rendering Index (CRI)		80+	
Module Operating Voltage (V)	21,20	22,00	23,40
Module Operating Current (mA)	500	700	1000
Branch Operating Current (mA)	250	350	500
Module Power (W)	10,60	15,40	23,40
Module Light Output (lm)	2.162	2.895	4.118
Module Efficiency (lm/W)	204	188	176

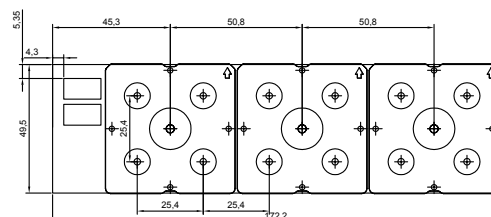
Photometry



Lumen Output Multiplier					
LED	2700°K (CRI 80)	3000°K (CRI 80)	4000°K (CRI 80)	5000°K (CRI 80)	6500°K (CRI 80)
5050-SQ	0,875	0,916	1	1	1
5050-Round	0,83	0,88	0,92	0,92	0,92

SQUARE LED MODULE SERIES

X-MS50172LMxx-5050-12



Specifications:

- Default driving method is constant current input
- CCT Range from 2200°K up to 6500°K
- Luminous flux range from 3085 lm to 6178 lm
- Efficacy of the module up to 204 lm/W
- CRI 80 is standart, CRI 70 and CRI 90 are available
- Outstanding system color tolerance MacAdam 3 over the full operating area
- Simple installation (e.g. screw)
- Long life-time > 60,000 hours
- 5 years guarantee at specified conditions

Applications

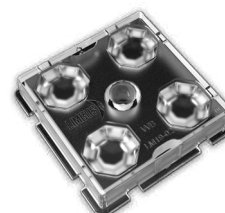
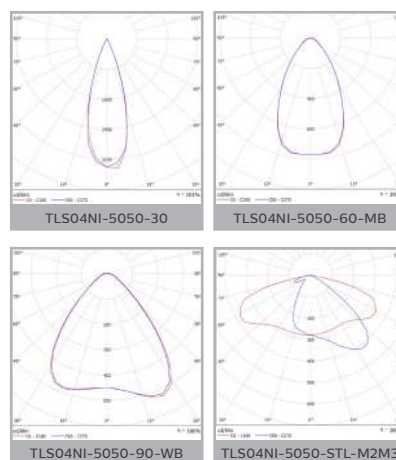


High Bay Lighting Very High Bay Lighting

Driving Current vs Lumen Output Specification

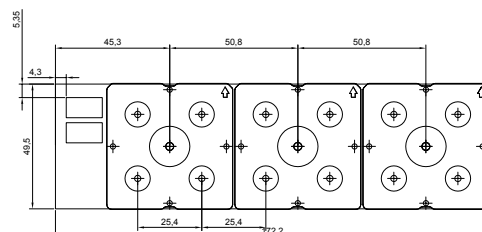
Common Characteristic [@Tj : 85°C] ;			
Module Code		X-MS50172LMxx-5050-12	
PCB Material		ALU	Electrical Connection
Operating Temperature (°C)		-40 ~ +85	Parallel 2
Storage Temperature (°C)		-40 ~ +55	Series 6
Thermal Conductivity (W/m-K)		1>	LED Quantity 12
LED		5050 - Round	
Correlated Color Temperature (CCT)		4000K	
Color Rendering Index (CRI)		80+	
Module Operating Voltage (V)		31,80	33,00 35,10
Module Operating Current (mA)		500	700 1000
Branch Operating Current (mA)		250	350 500
Module Power (W)		15,90	23,10 35,10
Module Light Output (lm)		3.085	3.996 5.546
Module Efficiency (lm/W)		194	173 158
LED		5050- SQ	
Correlated Color Temperature (CCT)		4000K	
Color Rendering Index (CRI)		80+	
Module Operating Voltage (V)		31,80	33,00 35,10
Module Operating Current (mA)		500	700 1000
Branch Operating Current (mA)		250	350 500
Module Power (W)		15,90	23,10 35,10
Module Light Output (lm)		3.244	4.343 6.178
Module Efficiency (lm/W)		204	188 176

Photometry



LUMILEDS

Lumen Output Multiplier					
LED	2700°K (CRI 80)	3000°K (CRI 80)	4000°K (CRI 80)	5000°K (CRI 80)	6500°K (CRI 80)
5050-SQ	0,875	0,916	1	1	1
5050-Round	0,83	0,88	0,92	0,92	0,92



Specifications:

- Default driving method is constant current input
- CCT Range from 2000°K up to 6500°K
- Luminous flux range from 1714 lm to 6150 lm
- Efficacy of the module up to 204 lm/W
- CRI 80 is standart, CRI 70 and CRI 90 are available
- Outstanding system color tolerance MacAdam 3 over the full operating area
- Simple installation (e.g. screw)
- Long life-time > 60,000 hours
- 5 years guarantee at specified conditions

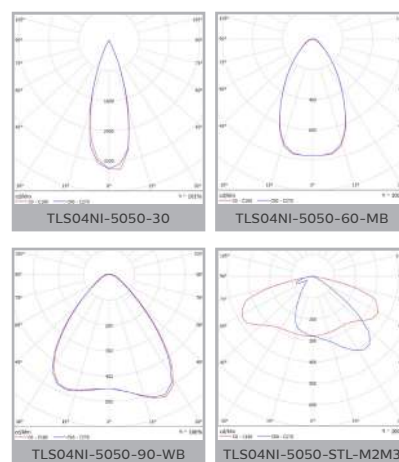
Applications



Driving Current vs Lumen Output Specification

Common Characteristic [@Tj : 85°C] ;			
Module Code	X-MS50172NCxx-NVSW319B-12		
PCB Material	ALU	Electrical Connection	
Operating Temperature (°C)	-40 ~ +85	Parallel	1
Storage Temperature (°C)	-40 ~ +55	Series	12
Thermal Conductivity (W/m-K)	1>	LED Quantity	12
LED NVSL219C-R8000_imp			
Correlated Color Temperature (CCT)	4000K		
Color Rendering Index (CRI)	80+		
Module Operating Voltage (V)	32,64	34,20	35,40
Module Operating Current (mA)	350	700	1400
Branch Operating Current (mA)	350	700	1400
Module Power (W)	11,42	23,94	49,56
Module Light Output (lm)	1.714	3.208	5.551
Module Efficiency (lm/W)	150	134	112
LED NVSW319B_R8000			
Correlated Color Temperature (CCT)	4000K		
Color Rendering Index (CRI)	80+		
Module Operating Voltage (V)	32,16	33,48	34,32
Module Operating Current (mA)	350	700	1400
Branch Operating Current (mA)	350	700	1400
Module Power (W)	11,26	23,44	48,05
Module Light Output (lm)	1.778	3.398	6.150
Module Efficiency (lm/W)	158	145	128

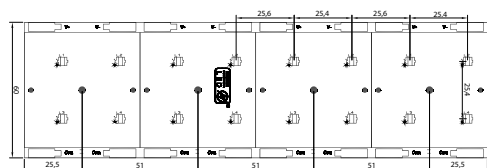
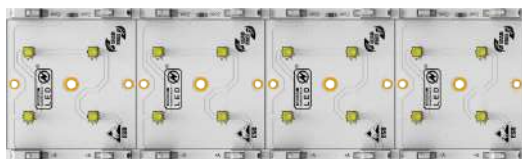
Photometry



Lumen Output Multiplier					
LED	2700°K (CRI 80)	3000°K (CRI 80)	4000°K (CRI 80)	5000°K (CRI 80)	6500°K (CRI 80)
NVSL219C_R8000_imp	0,875	0,916	1	1	1
NVSW319B_R8000	0,9	1	1,05	1,05	1,05

SQUARE LED MODULE SERIES

X-MS60205NCxx-NVSW319B-16



Specifications:

- Default driving method is constant current input
- CCT Range from 2000°K up to 6500°K
- Luminous flux range from 2285 lm to 8200 lm
- Efficacy of the module up to 158 lm/W
- CRI 80 is standart, CRI 70 and CRI 90 are available
- Outstanding system color tolerance MacAdam 3 over the full operating area
- Simple installation (e.g. screw)
- Long life-time > 60,000 hours
- 5 years guarantee at specified conditions

Applications



Street Lighting High Bay Lighting Very High Bay Lighting

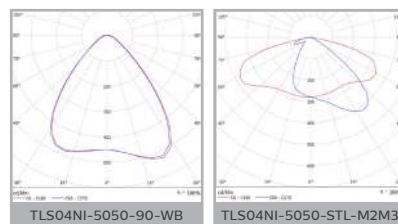
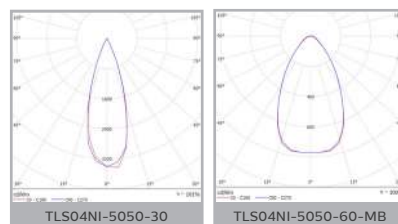


Gas Station Lighting

Driving Current vs Lumen Output Specification

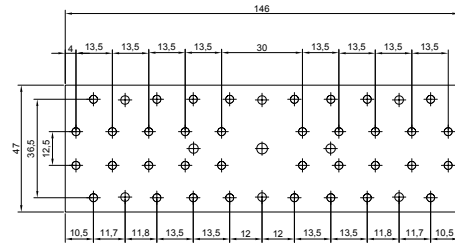
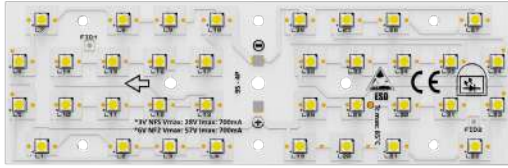
Common Characteristic [@Tj : 85°C] ;			
Module Code	X-MS60205NCxx-NVSW319B-16		
PCB Material	ALU	Electrical Connection	
Operating Temperature (°C)	-40 ~ +85	Parallel	1
Storage Temperature (°C)	-40 ~ +55	Series	16
Thermal Conductivity (W/m-K)	1>	LED Quantity	16
LED NVSL219C-R8000_imp			
Correlated Color Temperature (CCT)	4000K		
Color Rendering Index (CRI)	80+		
Module Operating Voltage (V)	43,52	45,60	47,20
Module Operating Current (mA)	350	700	1400
Branch Operating Current (mA)	350	700	1400
Module Power (W)	15,23	31,92	66,08
Module Light Output (lm)	2.285	4.277	7.401
Module Efficiency (lm/W)	150	134	112
LED NVSW319B_R8000			
Correlated Color Temperature (CCT)	4000K		
Color Rendering Index (CRI)	80+		
Module Operating Voltage (V)	42,88	44,64	45,76
Module Operating Current (mA)	350	700	1400
Branch Operating Current (mA)	350	700	1400
Module Power (W)	15,01	31,25	64,06
Module Light Output (lm)	2.371	4.531	8.200
Module Efficiency (lm/W)	158	145	128

Photometry



NICHIA

Lumen Output Multiplier					
LED	2700°K (CRI 80)	3000°K (CRI 80)	4000°K (CRI 80)	5000°K (CRI 80)	6500°K (CRI 80)
NVSL219C_R8000_imp	0,875	0,916	1	1	1
NVSW319B_R8000	0,9	1	1,05	1,05	1,05



Specifications:

- Default driving method is constant current input
- CCT Range from 2000°K up to 6500°K
- Luminous flux range from 2777 lm to 5874 lm
- Efficacy of the module up to 170 lm/W
- CRI 80 is standart, CRI 70 and CRI 90 are available
- Outstanding system color tolerance MacAdam 3 over the full operating area
- Simple installation (e.g. screw)
- Long life-time > 60,000 hours
- 5 years guarantee at specified conditions

Applications



Flood Lighting

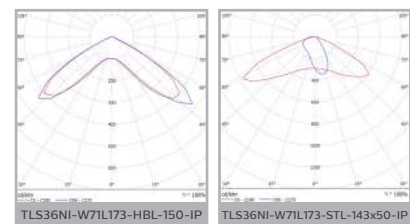
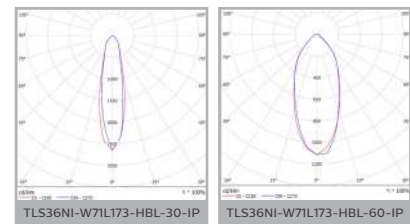


Industrial Lighting

Driving Current vs Lumen Output Specification

Common Characteristic [@Tj : 85°C] ;			
Module Code	X-MS47146NCxx-NF2W757GRV3-36		
PCB Material	ALU	Electrical Connection	
Operating Temperature (°C)	-40 ~ +85	Parallel	4
Storage Temperature (°C)	-40 ~ +55	Series	9
Thermal Conductivity (W/m-K)	1>	LED Quantity	36
LED	NF2W757GR-V3_R8000		
Correlated Color Temperature (CCT)	4000K		
Color Rendering Index (CRI)	80+		
Module Operating Voltage (V)	52,20	52,20	55,80
Module Operating Current (mA)	350	500	700
Branch Operating Current (mA)	88	125	175
Module Power (W)	18,27	26,10	39,06
Module Light Output (lm)	2.777	3.654	5.390
Module Efficiency (lm/W)	152	140	138
LED	3030 2D-SQ		
Correlated Color Temperature (CCT)	4000K		
Color Rendering Index (CRI)	80+		
Module Operating Voltage (V)	53,73	54,90	56,70
Module Operating Current (mA)	350	500	700
Branch Operating Current (mA)	88	125	175
Module Power (W)	18,81	27,45	39,69
Module Light Output (lm)	3.197	4.337	5.874
Module Efficiency (lm/W)	170	158	148

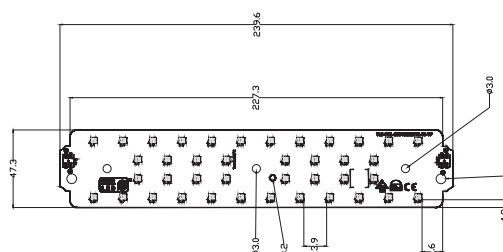
Photometry



Lumen Output Multiplier					
LED	2700°K (CRI 80)	3000°K (CRI 80)	4000°K (CRI 80)	5000°K (CRI 80)	6500°K (CRI 80)
NF2W757GR-V3_R8000	0,875	0,916	1	1	1
3030 2D-SQ	0,9	1	1,08	1,08	1,08

SQUARE LED MODULE SERIES

X-MS48223NCxx-NFSW757H-40



Specifications:

- Default driving method is constant current input
- CCT Range from 2000°K up to 6500°K
- Luminous flux range from 1901 lm to 3451 lm
- Efficacy of the module up to 190 lm/W
- CRI 80 is standart, CRI 70 and CRI 90 are available
- Outstanding system color tolerance MacAdam 3 over the full operating area
- Simple installation (e.g. screw)
- Long life-time > 60,000 hours
- 5 years guarantee at specified conditions

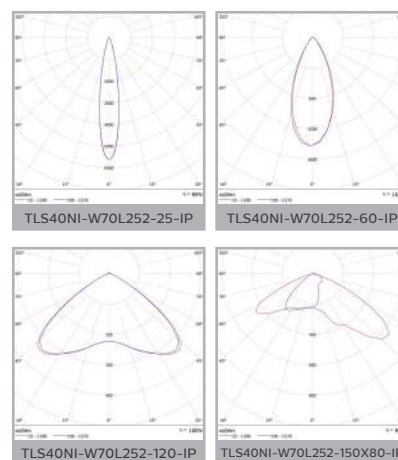
Applications



Driving Current vs Lumen Output Specification

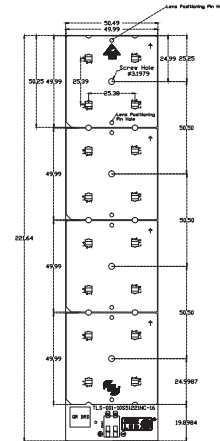
Common Characteristic [@Tj : 85°C] ;			
Module Code	X-MS48223NCxx-NFSW757H-40		
PCB Material	ALU	Electrical Connection	
Operating Temperature (°C)	-40 ~ +85	Parallel	5
Storage Temperature (°C)	-40 ~ +55	Series	8
Thermal Conductivity (W/m-K)	1>	LED Quantity	40
LED NFSW757H_R8000			
Correlated Color Temperature (CCT)	4000K		
Color Rendering Index (CRI)	80+		
Module Operating Voltage (V)	21,60	22,40	23,20
Module Operating Current (mA)	500	700	875
Branch Operating Current (mA)	100	140	175
Module Power (W)	10,80	15,68	20,30
Module Light Output (lm)	1.901	2.540	3.126
Module Efficiency (lm/W)	176	162	154
LED NF2W757H-F1_R8000			
Correlated Color Temperature (CCT)	4000K		
Color Rendering Index (CRI)	80+		
Module Operating Voltage (V)	21,76	22,40	23,20
Module Operating Current (mA)	500	700	875
Branch Operating Current (mA)	100	140	175
Module Power (W)	10,88	15,68	20,30
Module Light Output (lm)	2.067	2.822	3.451
Module Efficiency (lm/W)	190	180	170

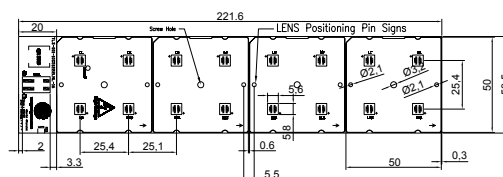
Photometry



NICHIA

Lumen Output Multiplier					
LED	2700°K (CRI 80)	3000°K (CRI 80)	4000°K (CRI 80)	5000°K (CRI 80)	6500°K (CRI 80)
NFSW757H_R8000	0,67	0,75	0,82	0,82	0,82
NF2W757H-F1_R8000	0,875	0,916	1	1	1





Specifications:

- Default driving method is constant current input
- CCT Range from 2000°K up to 6500°K
- Luminous flux range from 2933 lm to 8082 lm
- Efficacy of the module up to 204 lm/W
- CRI 80 is standart, CRI 70 and CRI 90 are available
- Outstanding system color tolerance MacAdam 3 over the full operating area
- Simple installation (e.g. screw)
- Long life-time > 60,000 hours
- 5 years guarantee at specified conditions

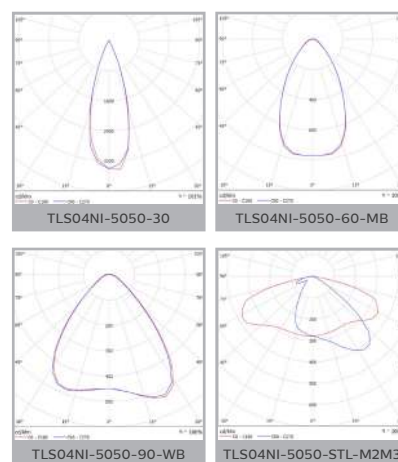
Applications



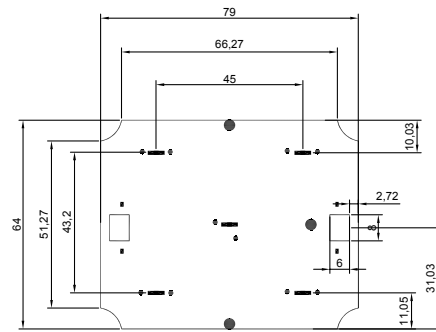
Driving Current vs Lumen Output Specification

Common Characteristic [@Tj : 85°C] ;			
Module Code	X-MS51222LMxx-5050-16		
PCB Material	ALU	Electrical Connection	
Operating Temperature (°C)	-40 ~ +85	Parallel	4
Storage Temperature (°C)	-40 ~ +55	Series	4
Thermal Conductivity (W/m-K)	1>	LED Quantity	16
LED	5050 - Round		
Correlated Color Temperature (CCT)	4000K		
Color Rendering Index (CRI)	80+		
Module Operating Voltage (V)	21,60	22,56	23,28
Module Operating Current (mA)	700	1400	2000
Branch Operating Current (mA)	175	350	500
Module Power (W)	15,12	31,58	46,56
Module Light Output (lm)	2.933	5.464	7.356
Module Efficiency (lm/W)	194	173	158
LED	5050 - SQ		
Correlated Color Temperature (CCT)	4000K		
Color Rendering Index (CRI)	80+		
Module Operating Voltage (V)	22	22	23
Module Operating Current (mA)	700	1400	2000
Branch Operating Current (mA)	175	350	500
Module Power (W)	15,20	31,36	45,92
Module Light Output (lm)	3.102	5.896	8.082
Module Efficiency (lm/W)	204	188	176

Photometry



Lumen Output Multiplier					
LED	2700°K (CRI 80)	3000°K (CRI 80)	4000°K (CRI 80)	5000°K (CRI 80)	6500°K (CRI 80)
5050-SQ	0,875	0,916	1	1	1
5050-Round	0,83	0,88	0,92	0,92	0,92



Specifications:

- Default driving method is constant current input
- CCT Range from 2000°K up to 6500°K
- Luminous flux range from 1028 lm to 2526 lm
- Efficacy of the module up to 204 lm/W
- CRI 80 is standart, CRI 70 and CRI 90 are available
- Outstanding system color tolerance MacAdam 3 over the full operating area
- Simple installation (e.g. screw)
- Long life-time > 60,000 hours
- 5 years guarantee at specified conditions

Applications

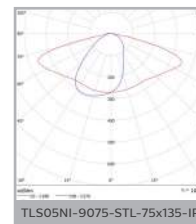


Street Lighting

Driving Current vs Lumen Output Specification

Common Characteristic [@Tj : 85°C] ;			
Module Code	X-MS6479LMxx-5050-5		
PCB Material	ALU	Electrical Connection	
Operating Temperature (°C)	-40 ~ +85	Parallel	1
Storage Temperature (°C)	-40 ~ +55	Series	5
Thermal Conductivity (W/m-K)	1>	LED Quantity	5
LED		5050 - Round	
Correlated Color Temperature (CCT)		4000K	
Color Rendering Index (CRI)		80+	
Module Operating Voltage (V)	26,50	27,50	29,25
Module Operating Current (mA)	200	350	500
Branch Operating Current (mA)	200	350	500
Module Power (W)	5,30	9,63	14,63
Module Light Output (lm)	1.028	1.665	2.311
Module Efficiency (lm/W)	194	173	158
LED		5050 - SQ	
Correlated Color Temperature (CCT)		4000K	
Color Rendering Index (CRI)		80+	
Module Operating Voltage (V)	27,15	28,00	28,70
Module Operating Current (mA)	200	350	500
Branch Operating Current (mA)	200	350	500
Module Power (W)	5,43	9,80	14,35
Module Light Output (lm)	1.108	1.842	2.526
Module Efficiency (lm/W)	204	188	176

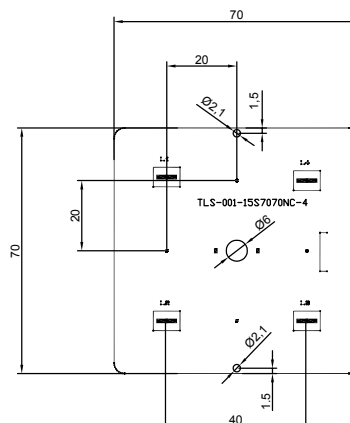
Photometry



Lumen Output Multiplier					
LED	2700°K (CRI 80)	3000°K (CRI 80)	4000°K (CRI 80)	5000°K (CRI 80)	6500°K (CRI 80)
5050 - SQ	0,875	0,916	1	1	1
5050 - Round	0,83	0,88	0,92	0,92	0,92

SQUARE LED MODULE SERIES

X-MS7070NCxx-NV4L144ART-4



Specifications:

- Default driving method is constant current input
- CCT Range from 2000°K up to 6500°K
- Luminous flux range from 4234 lm to 7464 lm
- Efficacy of the module up to 135 lm/W
- CRI 80 is standart, CRI 70 and CRI 90 are available
- Outstanding system color tolerance MacAdam 3 over the full operating area
- Simple installation (e.g. screw)
- Long life-time > 60,000 hours
- 5 years guarantee at specified conditions

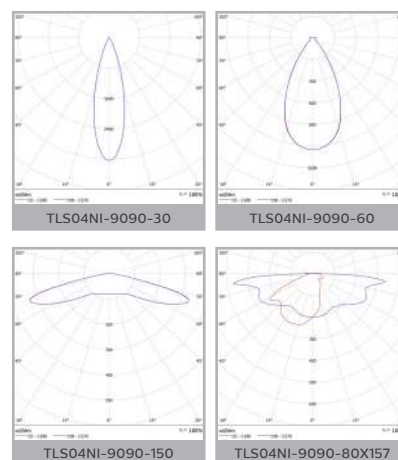
Applications



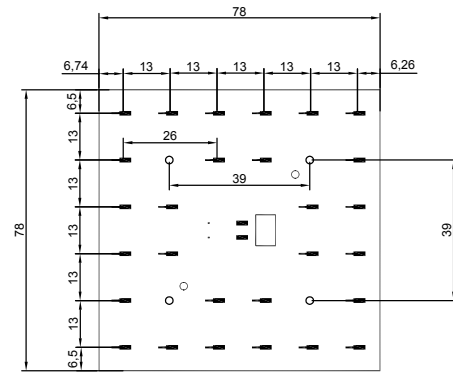
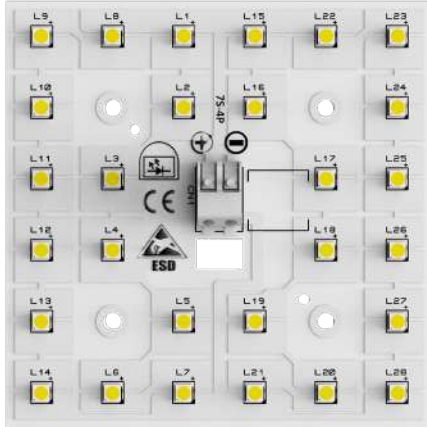
Driving Current vs Lumen Output Specification

Common Characteristic [@Tj : 85°C] ;			
Module Code	X-MS7070NCxx-NV4L144ART-4		
PCB Material	ALU	Electrical Connection	
Operating Temperature (°C)	-40 ~ +85	Parallel	1
Storage Temperature (°C)	-40 ~ +55	Series	4
Thermal Conductivity (W/m-K)	1,5>	LED Quantity	4
LED	NV4L144ART		
Correlated Color Temperature (CCT)	4000K		
Color Rendering Index (CRI)	80+		
Module Operating Voltage (V)	44,80	46,00	47,60
Module Operating Current (mA)	700	1050	1400
Branch Operating Current (mA)	700	1050	1400
Module Power (W)	31,36	48,30	66,64
Module Light Output (lm)	4.234	5.941	7.464
Module Efficiency (lm/W)	135	123	112

Photometry



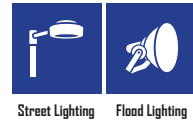
Lumen Output Multiplier					
LED	2700°K (CRI 80)	3000°K (CRI 80)	4000°K (CRI 80)	5000°K (CRI 80)	6500°K (CRI 80)
NV4L144AR_R8000	0,8	0,9	1	1	1



Specifications:

- Default driving method is constant current input
- CCT Range from 2000°K up to 6500°K
- Luminous flux range from 2160 lm to 4568 lm
- Efficacy of the module up to 170 lm/W
- CRI 80 is standart, CRI 70 and CRI 90 are available
- Outstanding system color tolerance MacAdam 3 over the full operating area
- Simple installation (e.g. screw)
- Long life-time > 60,000 hours
- 5 years guarantee at specified conditions

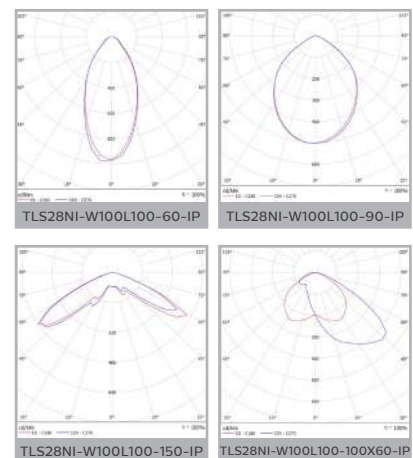
Applications



Driving Current vs Lumen Output Specification

Common Characteristic [@Tj : 85°C] ;			
Module Code	X-MS7878NCxx-NF2W757GRV3-28		
PCB Material	ALU	Electrical Connection	
Operating Temperature (°C)	-40 ~ +85	Parallel	4
Storage Temperature (°C)	-40 ~ +55	Series	7
Thermal Conductivity (W/m-K)	1,5>	LED Quantity	28
LED NF2W757GR-V3_R8000			
Correlated Color Temperature (CCT)	4000K		
Color Rendering Index (CRI)	80+		
Module Operating Voltage (V)	40,60	40,60	43,40
Module Operating Current (mA)	350	500	700
Branch Operating Current (mA)	88	125	175
Module Power (W)	14,21	20,30	30,38
Module Light Output (lm)	2.160	2.842	4.192
Module Efficiency (lm/W)	152	140	138
LED 30302D -SQ			
Correlated Color Temperature (CCT)	4000K		
Color Rendering Index (CRI)	80+		
Module Operating Voltage (V)	42	43	44
Module Operating Current (mA)	350	500	700
Branch Operating Current (mA)	88	125	175
Module Power (W)	14,63	21,35	30,87
Module Light Output (lm)	2.487	3.373	4.569
Module Efficiency (lm/W)	170	158	148

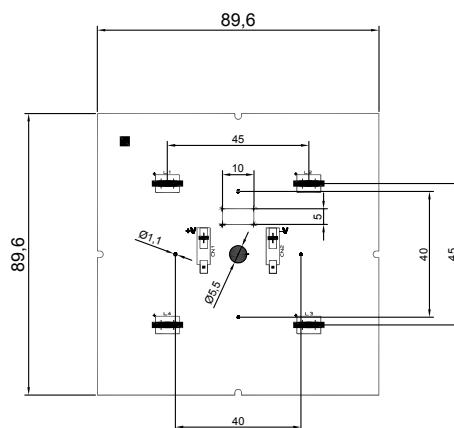
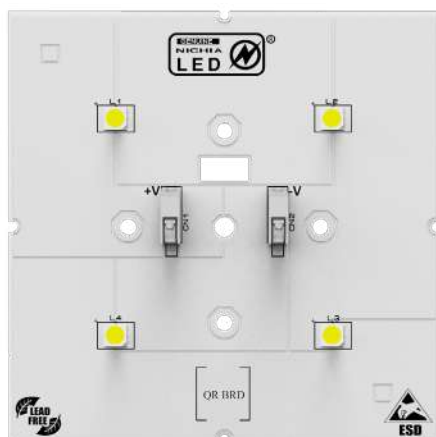
Photometry



Lumen Output Multiplier					
LED	2700°K (CRI 80)	3000°K (CRI 80)	4000°K (CRI 80)	5000°K (CRI 80)	6500°K (CRI 80)
NF2W757GR-V3_R8000	0,875	0,916	1	1	1
3030 2D-SQ	0,9	1	1,08	1,08	1,08

SQUARE LED MODULE SERIES

X-MS9090NCxx-NV4L144ART-4



Specifications:

- Default driving method is constant current input
- CCT Range from 2000°K up to 6500°K
- Luminous flux range from 4234 lm to 7464 lm
- Efficacy of the module up to 135 lm/W
- CRI 80 is standart, CRI 70 and CRI 90 are available
- Outstanding system color tolerance MacAdam 3 over the full operating area
- Simple installation (e.g. screw)
- Long life-time > 60,000 hours
- 5 years guarantee at specified conditions

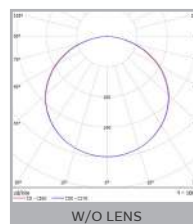
Applications



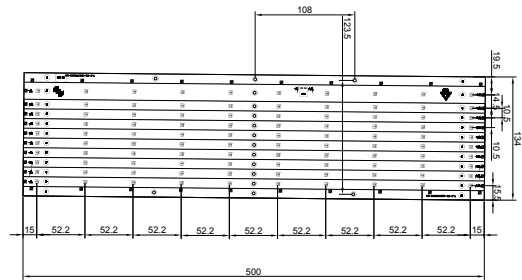
Driving Current vs Lumen Output Specification

Common Characteristic [@Tj : 85°C] ;			
Module Code	X-MS9090NCxx-NV4L144ART-4		
PCB Material	ALU	Electrical Connection	
Operating Temperature (°C)	-40 ~ +85	Parallel	1
Storage Temperature (°C)	-40 ~ +55	Series	4
Thermal Conductivity (W/m-K)	1,5>	LED Quantity	4
LED	NV4L144ART		
Correlated Color Temperature (CCT)	4000K		
Color Rendering Index (CRI)	80+		
Module Operating Voltage (V)	45	46	48
Module Operating Current (mA)	700	1050	1400
Branch Operating Current (mA)	700	1050	1400
Module Power (W)	31,36	48,30	66,64
Module Light Output (lm)	4.234	5.941	7.464
Module Efficiency (lm/W)	135	123	112

Photometry



Lumen Output Multiplier					
LED	2700°K (CRI 80)	3000°K (CRI 80)	4000°K (CRI 80)	5000°K (CRI 80)	6500°K (CRI 80)
NV4L144AR_R8000	0,8	0,9	1	1	1



Specifications:

- Default driving method is constant current input
- CCT Range from 2000°K up to 6500°K
- Luminous flux range from 2660 lm to 4703 lm
- Efficacy of the module up to 200 lm/W
- CRI 80 is standart, CRI 70 and CRI 90 are available
- Outstanding system color tolerance MacAdam 3 over the full operating area
- Simple installation (e.g. screw)
- Long life-time > 60,000 hours
- 5 years guarantee at specified conditions

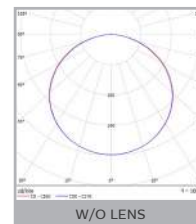
Applications



Driving Current vs Lumen Output Specification

Common Characteristic [②Tj : 85℃] ;			
Module Code	X-MS134500LMxx-2835xx-100		
PCB Material	FR4	Electrical Connection	
Operating Temperature (℃)	-40 ~ +85	Parallel	10
Storage Temperature (℃)	-40 ~ +55	Series	10
Thermal Conductivity (W/m-K)	1>	LED Quantity	100
LED		2835HE	
Correlated Color Temperature (CCT)		4000K	
Color Rendering Index (CRI)		80+	
Module Operating Voltage (V)	26,60	27,00	27,50
Module Operating Current (mA)	500	700	900
Branch Operating Current (mA)	50	70	90
Module Power (W)	13,30	18,90	24,75
Module Light Output (lm)	2.660	3.686	4.703
Module Efficiency (lm/W)	200	195	190
LED		2835RA-2F1	
Correlated Color Temperature (CCT)		4000K	
Color Rendering Index (CRI)		80+	
Module Operating Voltage (V)	26,80	27,20	27,80
Module Operating Current (mA)	500	700	900
Branch Operating Current (mA)	50	70	90
Module Power (W)	13,40	19,04	25,02
Module Light Output (lm)	2.385	3.275	4.128
Module Efficiency (lm/W)	178	172	165
LED		2835RA-2Q1	
Correlated Color Temperature (CCT)		4000K	
Color Rendering Index (CRI)		80+	
Module Operating Voltage (V)	28,00	28,50	29,30
Module Operating Current (mA)	500	700	900
Branch Operating Current (mA)	50	70	90
Module Power (W)	14,00	19,95	26,37
Module Light Output (lm)	2.338	3.132	3.876
Module Efficiency (lm/W)	167	157	147

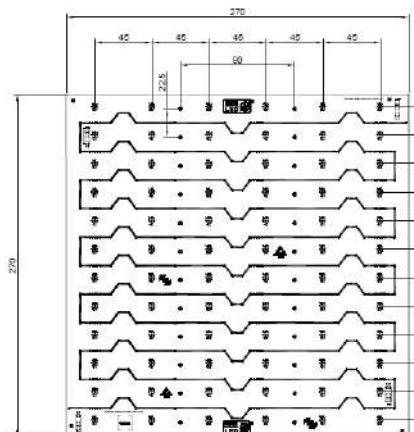
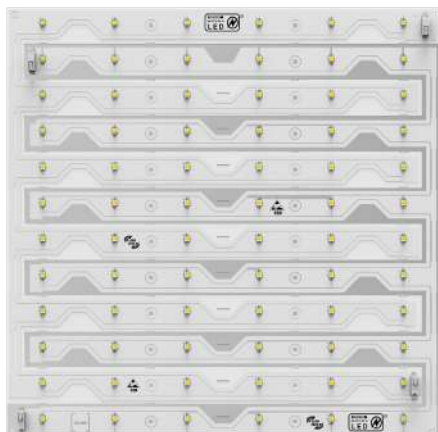
Photometry



Lumen Output Multiplier					
LED	2700°K (CRI 80)	3000°K (CRI 80)	4000°K (CRI 80)	5000°K (CRI 80)	6500°K (CRI 80)
2835 HE	1	1,09	1,2	1,2	1,2
2835 RA-2F1	0,875	0,916	1	1	1
2835 RA-2Q1	0,74	0,78	0,86	0,86	0,86

SQUARE LED MODULE SERIES

X-MS270270NCxx-NFSW757H-36/72



Specifications:

- Default driving method is constant current input
- CCT Range from 2000°K up to 6500°K
- Luminous flux range from 1426 lm to 3106 lm
- Efficacy of the module up to 190 lm/W
- CRI 80 is standart, CRI 70 and CRI 90 are available
- Outstanding system color tolerance MacAdam 3 over the full operating area
- Simple installation (e.g. screw)
- Long life-time > 60,000 hours
- 5 years guarantee at specified conditions

Applications

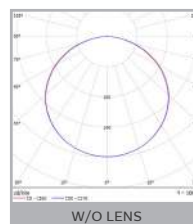


Office Lighting

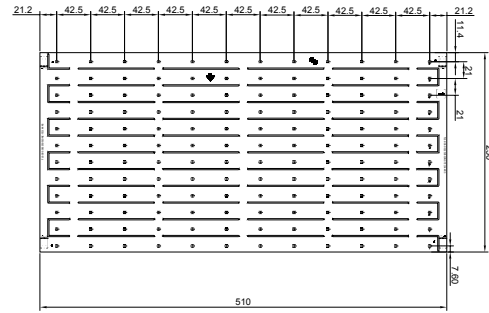
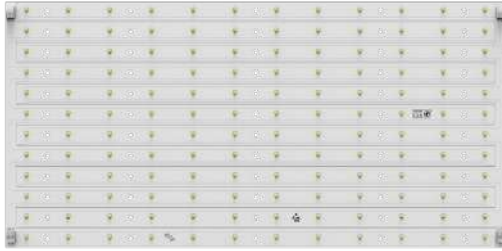
Driving Current vs Lumen Output Specification

Common Characteristic [@Tj : 85°C] ;			
Module Code	X-MS270270NCxx-NFSW757H-36/72		
PCB Material	FR4	Electrical Connection	
Operating Temperature (°C)	-40 ~ +85	Parallel	6
Storage Temperature (°C)	-40 ~ +55	Series	6
Thermal Conductivity (W/m-K)	1>	LED Quantity	36
LED	NFSW757H_R8000		
Correlated Color Temperature (CCT)	4000K		
Color Rendering Index (CRI)	80+		
Module Operating Voltage (V)	16,20	16,80	17,40
Module Operating Current (mA)	500	700	1050
Branch Operating Current (mA)	83	117	175
Module Power (W)	8,10	11,76	18,27
Module Light Output (lm)	1.426	1.905	2.814
Module Efficiency (lm/W)	176	162	154
LED	NF2W757H-F1_R8000		
Correlated Color Temperature (CCT)	4000K		
Color Rendering Index (CRI)	80+		
Module Operating Voltage (V)	16,32	16,80	17,40
Module Operating Current (mA)	500	700	1050
Branch Operating Current (mA)	83	117	175
Module Power (W)	8,16	11,76	18,27
Module Light Output (lm)	1.550	2.117	3.106
Module Efficiency (lm/W)	190	180	170

Photometry



Lumen Output Multiplier					
LED	2700°K (CRI 80)	3000°K (CRI 80)	4000°K (CRI 80)	5000°K (CRI 80)	6500°K (CRI 80)
NFSW757H_R8000	0,67	0,75	0,82	0,82	0,82
NF2W757H-F1_R8000	0,875	0,916	1	1	1



Specifications:

- Default driving method is constant current input
- CCT Range from 2000°K up to 6500°K
- Luminous flux range from 2850 lm to 6212 lm
- Efficacy of the module up to 190 lm/W
- CRI 80 is standart, CRI 70 and CRI 90 are available
- Outstanding system color tolerance MacAdam 3 over the full operating area
- Simple installation (e.g. screw)
- Long life-time > 60,000 hours
- 5 years guarantee at specified conditions

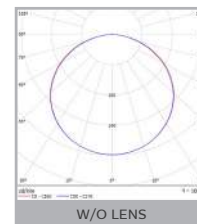
Applications



Driving Current vs Lumen Output Specification

Common Characteristic [@Tj : 85°C] ;			
Module Code	X-MS250510NCxx-NFSW757H-72/144		
PCB Material	FR4	Electrical Connection	
Operating Temperature (°C)	-40 ~ +85	Parallel	6
Storage Temperature (°C)	-40 ~ +55	Series	12
Thermal Conductivity (W/m-K)	1>	LED Quantity	72
LED		NFSW757H_R8000	
Correlated Color Temperature (CCT)		4000K	
Color Rendering Index (CRI)		80+	
Module Operating Voltage (V)	32,40	33,60	34,80
Module Operating Current (mA)	500	700	1050
Branch Operating Current (mA)	83	117	175
Module Power (W)	16,20	23,52	36,54
Module Light Output (lm)	2.851	3.810	5.627
Module Efficiency (lm/W)	176	162	154
LED		NF2W757H-F1_R8000	
Correlated Color Temperature (CCT)		4000K	
Color Rendering Index (CRI)		80+	
Module Operating Voltage (V)	32,64	33,60	34,80
Module Operating Current (mA)	500	700	1050
Branch Operating Current (mA)	83	117	175
Module Power (W)	16,32	23,52	36,54
Module Light Output (lm)	3.101	4.234	6.212
Module Efficiency (lm/W)	190	180	170

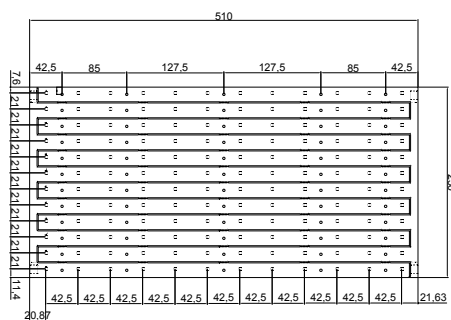
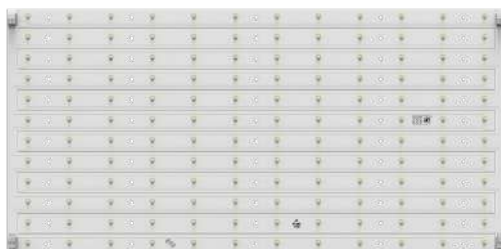
Photometry



Lumen Output Multiplier					
LED	2700°K (CRI 80)	3000°K (CRI 80)	4000°K (CRI 80)	5000°K (CRI 80)	6500°K (CRI 80)
NFSW757H_R8000	0,67	0,75	0,82	0,82	0,82
NF2W757H-F1_R8000	0,875	0,916	1	1	1

SQUARE LED MODULE SERIES

X-MS250510LMxx-2835xx-72/144



Specifications:

- Default driving method is constant current input
- CCT Range from 2000°K up to 6500°K
- Luminous flux range from 1596 lm to 3292 lm
- Efficacy of the module up to 200 lm/W
- CRI 80 is standart, CRI 70 and CRI 90 are available
- Outstanding system color tolerance MacAdam 3 over the full operating area
- Simple installation (e.g. screw)
- Long life-time > 60,000 hours
- 5 years guarantee at specified conditions

Applications



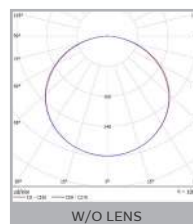
Office Lighting

Driving Current vs Lumen Output Specification

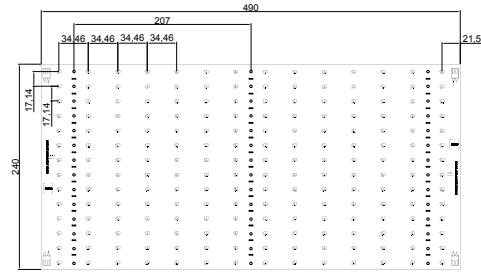
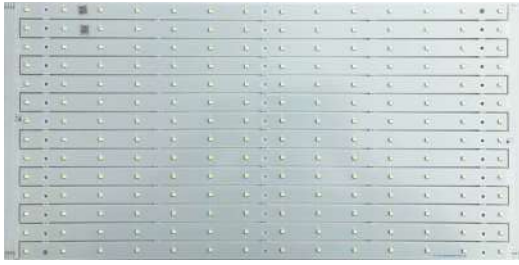
Common Characteristic [@Tj : 85°C] ;			
Module Code	X-MS250510LMxx-2835xx-72/144		
PCB Material	FR4	Electrical Connection	
Operating Temperature (°C)	-40 ~ +85	Parallel	12
Storage Temperature (°C)	-40 ~ +55	Series	6
Thermal Conductivity (W/m-K)	1>	LED Quantity	72
LED	2835HE		
Correlated Color Temperature (CCT)	4000K		
Color Rendering Index (CRI)	80+		
Module Operating Voltage (V)	15,96	16,20	16,50
Module Operating Current (mA)	500	700	1050
Branch Operating Current (mA)	42	58	88
Module Power (W)	7,98	11,34	17,33
Module Light Output (lm)	1.596	2.211	3.292
Module Efficiency (lm/W)	200	195	190
LED	2835RA-2F1		
Correlated Color Temperature (CCT)	4000K		
Color Rendering Index (CRI)	80+		
Module Operating Voltage (V)	16,08	16,32	16,68
Module Operating Current (mA)	500	700	1050
Branch Operating Current (mA)	42	58	88
Module Power (W)	8,04	11,42	17,51
Module Light Output (lm)	1.431	1.965	2.890
Module Efficiency (lm/W)	178	172	165
LED	2835RA-2Q1		
Correlated Color Temperature (CCT)	4000K		
Color Rendering Index (CRI)	80+		
Module Operating Voltage (V)	16,80	17,10	17,58
Module Operating Current (mA)	500	700	1050
Branch Operating Current (mA)	42	58	88
Module Power (W)	8,40	11,97	18,46
Module Light Output (lm)	1.403	1.879	2.713
Module Efficiency (lm/W)	167	157	147

Lumen Output Multiplier					
LED	2700°K (CRI 80)	3000°K (CRI 80)	4000°K (CRI 80)	5000°K (CRI 80)	6500°K (CRI 80)
2835 HE	1	1,09	1,2	1,2	1,2
2835 RA-2F1	0,875	0,916	1	1	1
2835 RA-2Q1	0,74	0,78	0,86	0,86	0,86

Photometry



 LUMILEDS



Specifications:

- Default driving method is constant current input
- CCT Range from 2000°K up to 6500°K
- Luminous flux range from 2523 lm to 4763 lm
- Efficacy of the module up to 200 lm/W
- CRI 80 is standart, CRI 70 and CRI 90 are available
- Outstanding system color tolerance MacAdam 3 over the full operating area
- Simple installation (e.g. screw)
- Long life-time > 60,000 hours
- 5 years guarantee at specified conditions

Applications

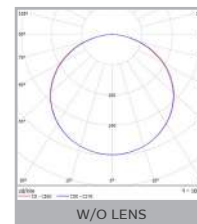


Office Lighting

Driving Current vs Lumen Output Specification

Common Characteristic [Tj : 85°C] ;			
Module Code	X-MS240490LMxx-2835xx-98/196		
PCB Material	CEM1	Electrical Connection	
Operating Temperature (°C)	-40 ~ +85	Parallel	7
Storage Temperature (°C)	-40 ~ +55	Series	14
Thermal Conductivity (W/m-K)	1>	LED Quantity	98
LED	2835HE		
Correlated Color Temperature (CCT)	4000K		
Color Rendering Index (CRI)	80+		
Module Operating Voltage (V)	36,40	37,10	37,80
Module Operating Current (mA)	350	500	700
Branch Operating Current (mA)	50	71	100
Module Power (W)	12,74	18,55	26,46
Module Light Output (lm)	2.523	3.562	4.763
Module Efficiency (lm/W)	198	192	180
LED	2835RA-2F1		
Correlated Color Temperature (CCT)	4000K		
Color Rendering Index (CRI)	80+		
Module Operating Voltage (V)	37,52	38,08	38,92
Module Operating Current (mA)	350	500	700
Branch Operating Current (mA)	50	71	100
Module Power (W)	13,13	19,04	27,24
Module Light Output (lm)	2.259	3.199	4.196
Module Efficiency (lm/W)	172	168	154
LED	2835RA-2Q1		
Correlated Color Temperature (CCT)	4000K		
Color Rendering Index (CRI)	80+		
Module Operating Voltage (V)	39,20	39,90	41,02
Module Operating Current (mA)	350	500	700
Branch Operating Current (mA)	50	71	100
Module Power (W)	13,72	19,95	28,71
Module Light Output (lm)	2.195	2.993	4.020
Module Efficiency (lm/W)	160	150	140

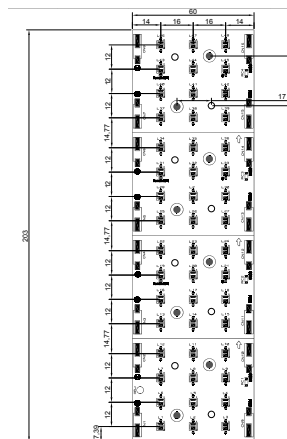
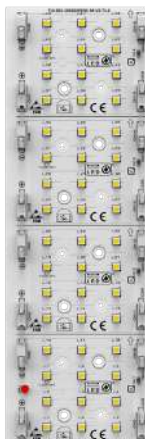
Photometry



Lumen Output Multiplier					
LED	2700°K (CRI 80)	3000°K (CRI 80)	4000°K (CRI 80)	5000°K (CRI 80)	6500°K (CRI 80)
2835 HE	1	1,09	1,2	1,2	1,2
2835 RA-2F1	0,875	0,916	1	1	1
2835 RA-2Q1	0,74	0,78	0,86	0,86	0,86

SQUARE LED MODULE SERIES

X-MS60203NCxx-NF2W757GRV3-48



Specifications:

- Default driving method is constant current input
- CCT Range from 2000°K up to 6500°K
- Luminous flux range from 3703 lm to 7832 lm
- Efficacy of the module up to 170 lm/W
- CRI 80 is standart, CRI 70 and CRI 90 are available
- Outstanding system color tolerance MacAdam 3 over the full operating area
- Simple installation (e.g. screw)
- Long life-time > 60,000 hours
- 5 years guarantee at specified conditions

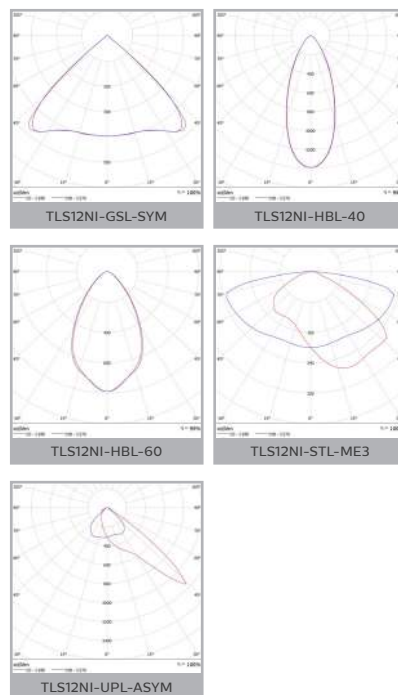
Applications



Driving Current vs Lumen Output Specification

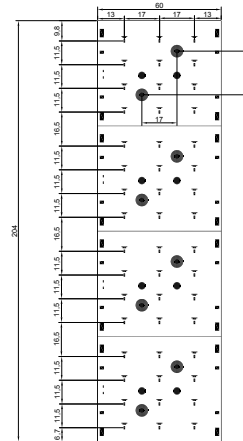
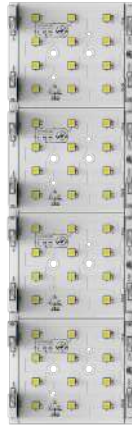
Common Characteristic [@Tj : 85°C] ;			
Module Code	X-MS60203NCxx-NF2W757GRV3-48		
PCB Material	ALU	Electrical Connection	
Operating Temperature (°C)	-40 ~ +85	Parallel	4
Storage Temperature (°C)	-40 ~ +55	Series	12
Thermal Conductivity (W/m-K)	1>	LED Quantity	48
LED	NF2W757GR-V3_R8000		
Correlated Color Temperature (CCT)	4000K		
Color Rendering Index (CRI)	80+		
Module Operating Voltage (V)	70	70	74
Module Operating Current (mA)	350	500	700
Branch Operating Current (mA)	88	125	175
Module Power (W)	24,36	34,80	52,08
Module Light Output (lm)	3.703	4.872	7.187
Module Efficiency (lm/W)	152	140	138
LED	3030 2D-SQ		
Correlated Color Temperature (CCT)	4000K		
Color Rendering Index (CRI)	80+		
Module Operating Voltage (V)	72	73	76
Module Operating Current (mA)	350	500	700
Branch Operating Current (mA)	88	125	175
Module Power (W)	25,07	36,60	52,92
Module Light Output (lm)	4.263	5.783	7.832
Module Efficiency (lm/W)	170	158	148

Photometry



LED	Lumen Output Multiplier				
	2700°K (CRI 80)	3000°K (CRI 80)	4000°K (CRI 80)	5000°K (CRI 80)	6500°K (CRI 80)
NF2W757GR-V3_R8000	0,875	0,916	1	1	1
NVSW319B_R8000	0,9	1	1,08	1,08	1,08

X-MS60205NCxx-NF2W757GRV3-48



Specifications:

- Default driving method is constant current input
- CCT Range from 2000°K up to 6500°K
- Luminous flux range from 3703 lm to 7832 lm
- Efficacy of the module up to 170 lm/W
- CRI 80 is standart, CRI 70 and CRI 90 are available
- Outstanding system color tolerance MacAdam 3 over the full operating area
- Simple installation (e.g. screw)
- Long life-time > 60,000 hours
- 5 years guarantee at specified conditions

Applications

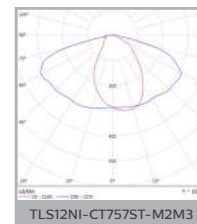


Street Lighting Flood Lighting High Bay Lighting

Driving Current vs Lumen Output Specification

Common Characteristic [@Tj : 85°C] ;			
Module Code	X-MS60205NCxx-NF2W757GRV3-48		
PCB Material	ALU	Electrical Connection	
Operating Temperature (°C)	-40 ~ +85	Parallel	4
Storage Temperature (°C)	-40 ~ +55	Series	12
Thermal Conductivity (W/m-K)	1>	LED Quantity	48
LED	NF2W757GR-V3_R8000		
Correlated Color Temperature (CCT)	4000K		
Color Rendering Index (CRI)	80+		
Module Operating Voltage (V)	69,6	69,6	74,4
Module Operating Current (mA)	350	500	700
Branch Operating Current (mA)	88	125	175
Module Power (W)	24,36	34,80	52,08
Module Light Output (lm)	3.703	4.872	7.187
Module Efficiency (lm/W)	152	140	138
LED	3030 2D-SQ		
Correlated Color Temperature (CCT)	4000K		
Color Rendering Index (CRI)	80+		
Module Operating Voltage (V)	71,64	73,20	75,60
Module Operating Current (mA)	350	500	700
Branch Operating Current (mA)	88	125	175
Module Power (W)	25,07	36,60	52,92
Module Light Output (lm)	4.263	5.783	7.832
Module Efficiency (lm/W)	170	158	148

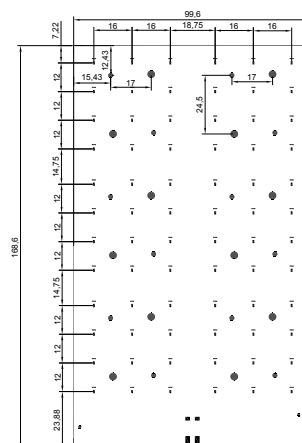
Photometry



	Lumen Output Multiplier				
LED	2700°K (CRI 80)	3000°K (CRI 80)	4000°K (CRI 80)	5000°K (CRI 80)	6500°K (CRI 80)
NF2W57GR-V3_R8000	0.875	0.916	1	1	1
3030 2D-SO	0.9	1	1.08	1.08	1.08

SQUARE LED MODULE SERIES

X-MS104173NCxx-NF2W757GRV3-72



Specifications:

- Default driving method is constant current input
- CCT Range from 2000°K up to 6500°K
- Luminous flux range from 5554 lm to 11748 lm
- Efficacy of the module up to 170 lm/W
- CRI 80 is standart, CRI 70 and CRI 90 are available
- Outstanding system color tolerance MacAdam 3 over the full operating area
- Simple installation (e.g. screw)
- Long life-time > 60,000 hours
- 5 years guarantee at specified conditions

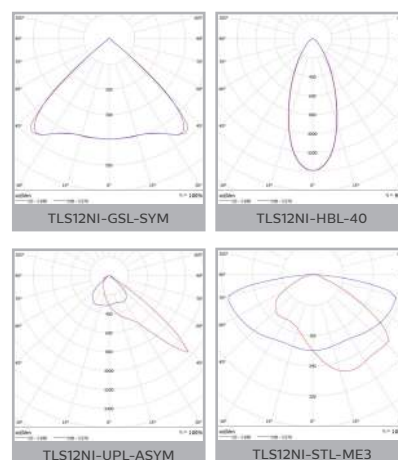
Applications



Driving Current vs Lumen Output Specification

Common Characteristic [@Tj : 85°C] ;			
Module Code	X-MS104173NCxx-NF2W757GRV3-72		
PCB Material	ALU	Electrical Connection	
Operating Temperature (°C)	-40 ~ +85	Parallel	4
Storage Temperature (°C)	-40 ~ +55	Series	18
Thermal Conductivity (W/m-K)	1,5>	LED Quantity	72
LED	NF2W757GR-V3_R8000		
Correlated Color Temperature (CCT)	4000K		
Color Rendering Index (CRI)	80+		
Module Operating Voltage (V)	104,40	104,40	111,60
Module Operating Current (mA)	350	500	700
Branch Operating Current (mA)	88	125	175
Module Power (W)	36,54	52,20	78,12
Module Light Output (lm)	5.554	7.308	10.781
Module Efficiency (lm/W)	152	140	138
LED	3030 2D-SQ		
Correlated Color Temperature (CCT)	4000K		
Color Rendering Index (CRI)	80+		
Module Operating Voltage (V)	107,46	109,80	113,40
Module Operating Current (mA)	350	500	700
Branch Operating Current (mA)	88	125	175
Module Power (W)	37,61	54,90	79,38
Module Light Output (lm)	6.394	8.674	11.748
Module Efficiency (lm/W)	170	158	148

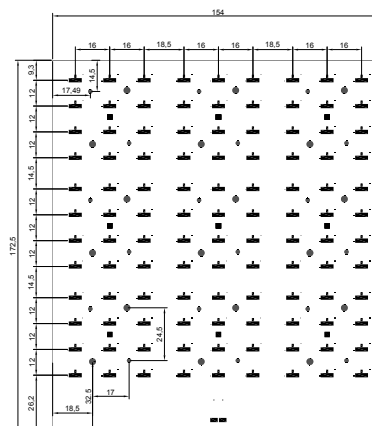
Photometry



NICHIA

LUMILEDS

Lumen Output Multiplier					
LED	2700°K (CRI 80)	3000°K (CRI 80)	4000°K (CRI 80)	5000°K (CRI 80)	6500°K (CRI 80)
NF2W757GR-V3_R8000	0,875	0,916	1	1	1
3030 2D-SQ	0,9	1	1,08	1,08	1,08



Specifications:

- Default driving method is constant current input
- CCT Range from 2000°K up to 6500°K
- Luminous flux range from 7405 lm to 17622 lm
- Efficacy of the module up to 170 lm/W
- CRI 80 is standart, CRI 70 and CRI 90 are available
- Outstanding system color tolerance MacAdam 3 over the full operating area
- Simple installation (e.g. screw)
- Long life-time > 60,000 hours
- 5 years guarantee at specified conditions

Applications



Street Lighting



Flood Lighting



Gas Station Lighting

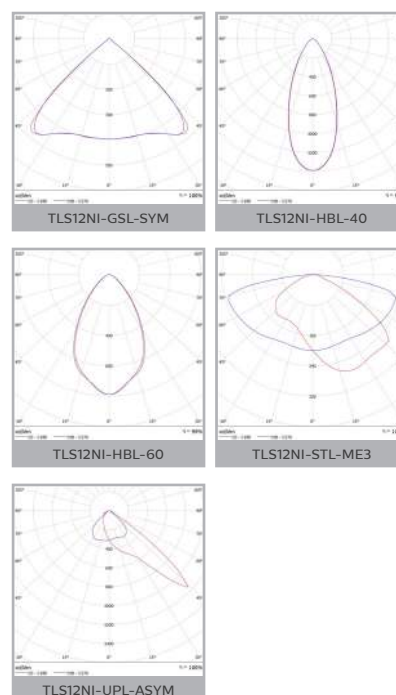


Tunnel Lighting

Driving Current vs Lumen Output Specification

Common Characteristic [@Tj : 85°C] ;			
Module Code	X-MS154173NCxx-NF2W757GRV3-108		
PCB Material	ALU	Electrical Connection	
Operating Temperature (°C)	-40 ~ +85	Parallel	4
Storage Temperature (°C)	-40 ~ +55	Series	27
Thermal Conductivity (W/m-K)	1,5>	LED Quantity	108
LED	NF2W757GR-V3_R8000		
Correlated Color Temperature (CCT)	4000K		
Color Rendering Index (CRI)	80+		
Module Operating Voltage (V)	156,60	156,60	167,40
Module Operating Current (mA)	350	500	700
Branch Operating Current (mA)	88	125	175
Module Power (W)	54,81	78,30	117,18
Module Light Output (lm)	8.331	10.962	16.171
Module Efficiency (lm/W)	152	140	138
LED	3030 2D-SQ		
Correlated Color Temperature (CCT)	4000K		
Color Rendering Index (CRI)	80+		
Module Operating Voltage (V)	161,19	164,70	170,10
Module Operating Current (mA)	350	500	700
Branch Operating Current (mA)	88	125	175
Module Power (W)	56,42	82,35	119,07
Module Light Output (lm)	9.591	13.011	17.622
Module Efficiency (lm/W)	170	158	148

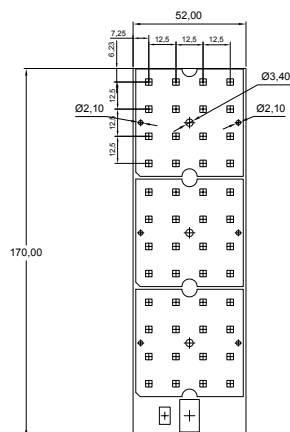
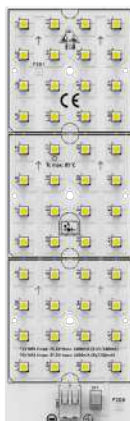
Photometry



Lumen Output Multiplier					
LED	2700°K (CRI 80)	3000°K (CRI 80)	4000°K (CRI 80)	5000°K (CRI 80)	6500°K (CRI 80)
NF2W757GR-V3_R8000	0,875	0,916	1	1	1
3030 2D-SQ	0,9	1	1,08	1,08	1,08

SQUARE LED MODULE SERIES

X-MS17052NCxx-NF2W757GRV3-48



Specifications:

- Default driving method is constant current input
- CCT Range from 2000°K up to 6500°K
- Luminous flux range from 3703 lm to 7832 lm
- Efficacy of the module up to 170 lm/W
- CRI 80 is standart, CRI 70 and CRI 90 are available
- Outstanding system color tolerance MacAdam 3 over the full operating area
- Simple installation (e.g. screw)
- Long life-time > 60,000 hours
- 5 years guarantee at specified conditions

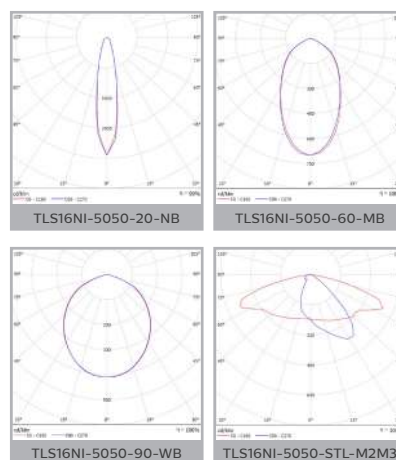
Applications



Driving Current vs Lumen Output Specification

Common Characteristic [@Tj : 85°C] ;			
Module Code	X-MS17052NCxx-NF2W757GRV3-48		
PCB Material	ALU	Electrical Connection	
Operating Temperature (°C)	-40 ~ +85	Parallel	8
Storage Temperature (°C)	-40 ~ +55	Series	6
Thermal Conductivity (W/m-K)	1>	LED Quantity	48
LED	NF2W757GR-V3_R8000		
Correlated Color Temperature (CCT)	4000K		
Color Rendering Index (CRI)	80+		
Module Operating Voltage (V)	34,80	34,80	37,20
Module Operating Current (mA)	700	1050	1400
Branch Operating Current (mA)	88	131	175
Module Power (W)	24,36	36,54	52,08
Module Light Output (lm)	3.703	5.116	7.187
Module Efficiency (lm/W)	152	140	138
LED	3030 2D-SQ		
Correlated Color Temperature (CCT)	4000K		
Color Rendering Index (CRI)	80+		
Module Operating Voltage (V)	35,82	36,60	37,80
Module Operating Current (mA)	700	1050	1400
Branch Operating Current (mA)	88	131	175
Module Power (W)	25,07	38,43	52,92
Module Light Output (lm)	4.263	6.072	7.832
Module Efficiency (lm/W)	170	158	148

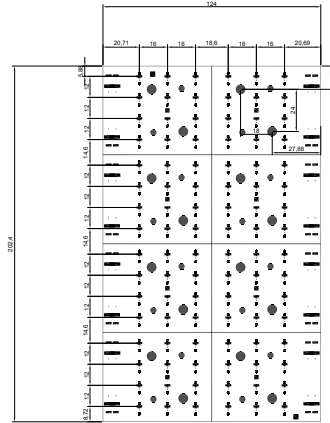
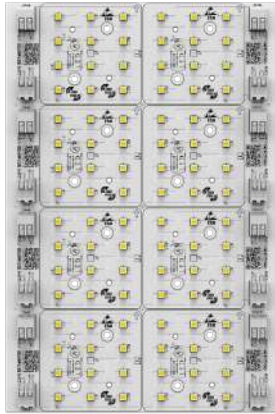
Photometry



NICHIA

LUMILEDS

Lumen Output Multiplier					
LED	2700°K (CRI 80)	3000°K (CRI 80)	4000°K (CRI 80)	5000°K (CRI 80)	6500°K (CRI 80)
NF2W757GR-V3_R8000	0,875	0,916	1	1	1
3030 2D-SQ	0,9	1	1,08	1,08	1,08



Specifications:

- Default driving method is constant current input
- CCT Range from 2000°K up to 6500°K
- Luminous flux range from 7405 lm to 15664 lm
- Efficacy of the module up to 170 lm/W
- CRI 80 is standart, CRI 70 and CRI 90 are available
- Outstanding system color tolerance MacAdam 3 over the full operating area
- Simple installation (e.g. screw)
- Long life-time > 60,000 hours
- 5 years guarantee at specified conditions

Applications



Street Lighting



Flood Lighting



Gas Station Lighting

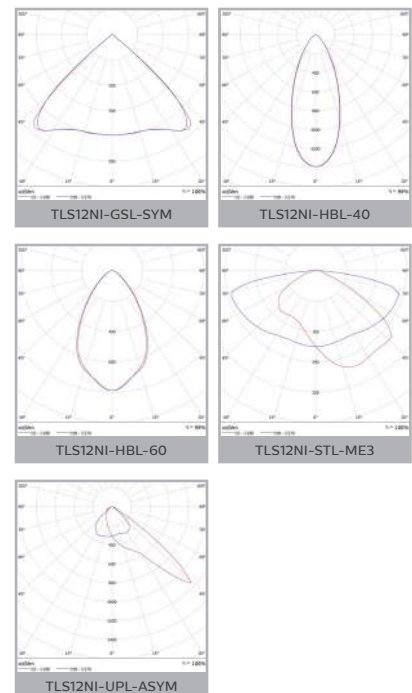


Tunnel Lighting

Driving Current vs Lumen Output Specification

Common Characteristic [Tj : 85°C] ;			
Module Code	X-MS124202NCxx-NF2W757GRV3-96		
PCB Material	ALU	Electrical Connection	
Operating Temperature (°C)	-40 ~ +85	Parallel	4
Storage Temperature (°C)	-40 ~ +55	Series	24
Thermal Conductivity (W/m-K)	1,5>	LED Quantity	96
LED NF2W757GR-V3_R8000			
Correlated Color Temperature (CCT)	4000K		
Color Rendering Index (CRI)	80+		
Module Operating Voltage (V)	139,20	139,20	148,80
Module Operating Current (mA)	350	500	700
Branch Operating Current (mA)	88	125	175
Module Power (W)	48,72	69,60	104,16
Module Light Output (lm)	7.405	9.744	14.374
Module Efficiency (lm/W)	152	140	138
LED 3030 2D-SQ			
Correlated Color Temperature (CCT)	4000K		
Color Rendering Index (CRI)	80+		
Module Operating Voltage (V)	143,28	146,40	151,20
Module Operating Current (mA)	350	500	700
Branch Operating Current (mA)	88	125	175
Module Power (W)	50,15	73,20	105,84
Module Light Output (lm)	8.525	11.566	15.664
Module Efficiency (lm/W)	170	158	148

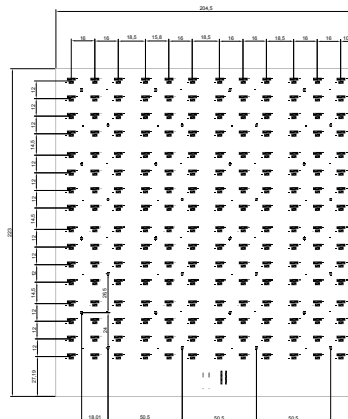
Photometry



Lumen Output Multiplier					
LED	2700°K (CRI 80)	3000°K (CRI 80)	4000°K (CRI 80)	5000°K (CRI 80)	6500°K (CRI 80)
NF2W757GR-V3_R8000	0,875	0,916	1	1	1
3030 2D-SQ	0,9	1	1,08	1,08	1,08

SQUARE LED MODULE SERIES

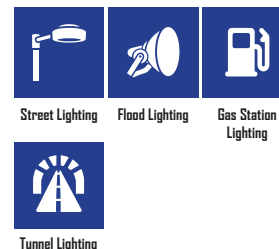
X-MS205223NCxx-NF2W757GRV3-192



Specifications:

- Default driving method is constant current input
- CCT Range from 2000°K up to 6500°K
- Luminous flux range from 14811 lm to 31329 lm
- Efficacy of the module up to 170 lm/W
- CRI 80 is standart, CRI 70 and CRI 90 are available
- Outstanding system color tolerance MacAdam 3 over the full operating area
- Simple installation (e.g. screw)
- Long life-time > 60,000 hours
- 5 years guarantee at specified conditions

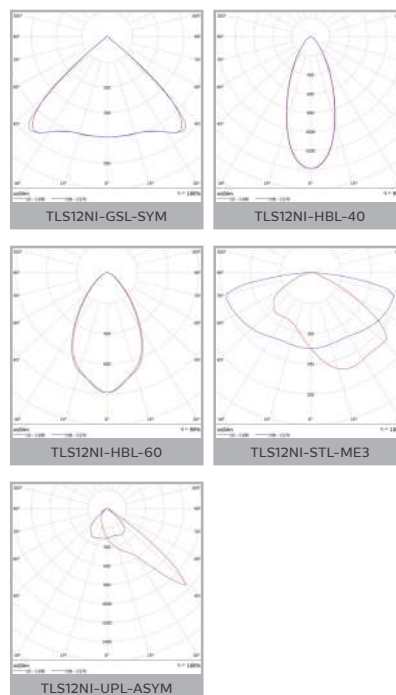
Applications



Driving Current vs Lumen Output Specification

Common Characteristic [@Tj : 85°C] ;			
Module Code	X-MS205223NCxx-NF2W757GRV3-192		
PCB Material	ALU	Electrical Connection	
Operating Temperature (°C)	-40 ~ +85	Parallel	4
Storage Temperature (°C)	-40 ~ +55	Series	48
Thermal Conductivity (W/m-K)	1,5>	LED Quantity	192
LED	NF2W757GR-V3_R8000		
Correlated Color Temperature (CCT)	4000K		
Color Rendering Index (CRI)	80+		
Module Operating Voltage (V)	278,40	278,40	297,60
Module Operating Current (mA)	350	500	700
Branch Operating Current (mA)	88	125	175
Module Power (W)	97,44	139,20	208,32
Module Light Output (lm)	14.811	19.488	28.748
Module Efficiency (lm/W)	152	140	138
LED	3030 2D-SQ		
Correlated Color Temperature (CCT)	4000K		
Color Rendering Index (CRI)	80+		
Module Operating Voltage (V)	286,56	292,80	302,40
Module Operating Current (mA)	350,00	500,00	700,00
Branch Operating Current (mA)	88	125	175
Module Power (W)	100,30	146,40	211,68
Module Light Output (lm)	17.050	23.131	31.329
Module Efficiency (lm/W)	170	158	148

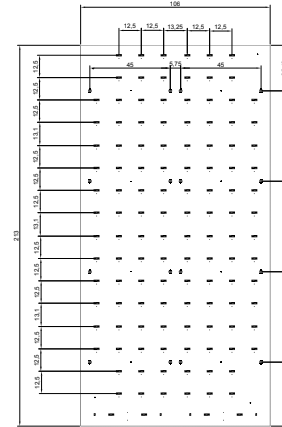
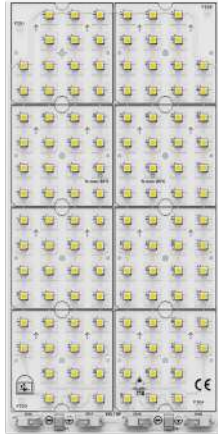
Photometry



NICHIA

LUMILEDS

Lumen Output Multiplier					
LED	2700°K (CRI 80)	3000°K (CRI 80)	4000°K (CRI 80)	5000°K (CRI 80)	6500°K (CRI 80)
NF2W757GR-V3_R8000	0,875	0,916	1	1	1
3030 2D-SQ	0,9	1	1,08	1,08	1,08



Specifications:

- Default driving method is constant current input
- CCT Range from 2000°K up to 6500°K
- Luminous flux range from 9257 lm to 19580 lm
- Efficacy of the module up to 170 lm/W
- CRI 80 is standart, CRI 70 and CRI 90 are available
- Outstanding system color tolerance MacAdam 3 over the full operating area
- Simple installation (e.g. screw)
- Long life-time > 60,000 hours
- 5 years guarantee at specified conditions

Applications



Street Lighting



Flood Lighting



Gas Station Lighting

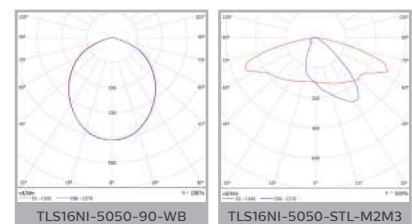
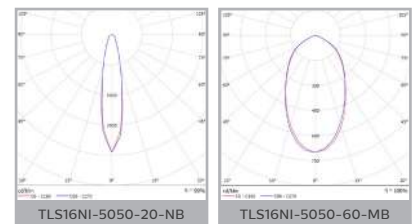


Tunnel Lighting

Driving Current vs Lumen Output Specification

Common Characteristic [@Tj : 85°C] ;			
Module Code	X-MS213106NCxx-NF2W757GRV3-120		
PCB Material	ALU	Electrical Connection	
Operating Temperature (°C)	-40 ~ +85	Parallel	8
Storage Temperature (°C)	-40 ~ +55	Series	15
Thermal Conductivity (W/m-K)	1,5>	LED Quantity	120
LED		NF2W757GR-V3_R8000	
Correlated Color Temperature (CCT)		4000K	
Color Rendering Index (CRI)		80+	
Module Operating Voltage (V)	87,00	89,25	93,00
Module Operating Current (mA)	700	1000	1400
Branch Operating Current (mA)	88	125	175
Module Power (W)	60,90	89,25	130,20
Module Light Output (lm)	9.257	12.495	17.968
Module Efficiency (lm/W)	152	140	138
LED		3030 2D-SQ	
Correlated Color Temperature (CCT)		4000K	
Color Rendering Index (CRI)		80+	
Module Operating Voltage (V)	89,55	91,50	94,50
Module Operating Current (mA)	700	1000	1400
Branch Operating Current (mA)	88	125	175
Module Power (W)	62,69	91,50	132,30
Module Light Output (lm)	10.656	14.457	19.580
Module Efficiency (lm/W)	170	158	148

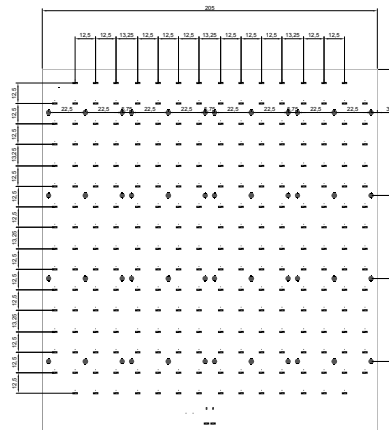
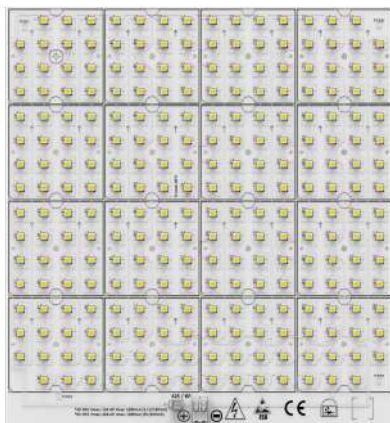
Photometry



Lumen Output Multiplier					
LED	2700°K (CRI 80)	3000°K (CRI 80)	4000°K (CRI 80)	5000°K (CRI 80)	6500°K (CRI 80)
NF2W757GR-V3_R8000	0,875	0,916	1	1	1
3030 2D-SQ	0,9	1	1,08	1,08	1,08

SQUARE LED MODULE SERIES

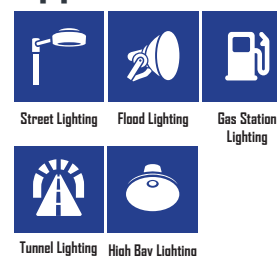
X-MS223205NCxx-NF2W757GRV3-252



Specifications:

- Default driving method is constant current input
- CCT Range from 2000°K up to 6500°K
- Luminous flux range from 18514 lm to 38341 lm
- Efficacy of the module up to 165 lm/W
- CRI 80 is standart, CRI 70 and CRI 90 are available
- Outstanding system color tolerance MacAdam 3 over the full operating area
- Simple installation (e.g. screw)
- Long life-time > 60,000 hours
- 5 years guarantee at specified conditions

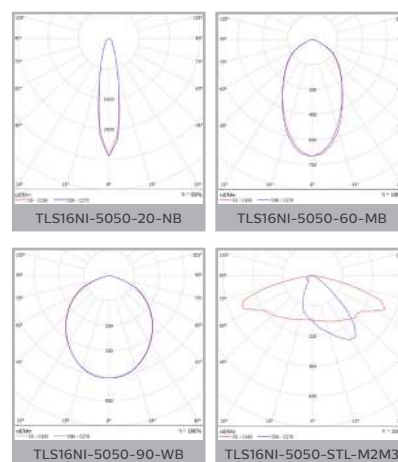
Applications



Driving Current vs Lumen Output Specification

Common Characteristic [@Tj : 85°C] ;				
Module Code	X-MS223205NCxx-NF2W757GRV3-252			
PCB Material	ALU		Electrical Connection	
Operating Temperature (°C)	-40 ~ +85		Parallel	6
Storage Temperature (°C)	-40 ~ +55		Series	42
Thermal Conductivity (W/m-K)	1,5>		LED Quantity	252
LED	NF2W757GR-V3_R8000			
Correlated Color Temperature (CCT)	4000K			
Color Rendering Index (CRI)	80+			
Module Operating Voltage (V)	243,60	249,90	260,40	
Module Operating Current (mA)	500	700	1050	
Branch Operating Current (mA)	83	117	175	
Module Power (W)	121,80	174,93	273,42	
Module Light Output (lm)	18.514	24.490	34.998	
Module Efficiency (lm/W)	152	140	128	
LED	3030 2D-SQ			
Correlated Color Temperature (CCT)	4000K			
Color Rendering Index (CRI)	80+			
Module Operating Voltage (V)	250,74	256,20	264,60	
Module Operating Current (mA)	500	700	1050	
Branch Operating Current (mA)	83	117	175	
Module Power (W)	125,37	179,34	277,83	
Module Light Output (lm)	20.686	28.336	38.341	
Module Efficiency (lm/W)	165	158	138	

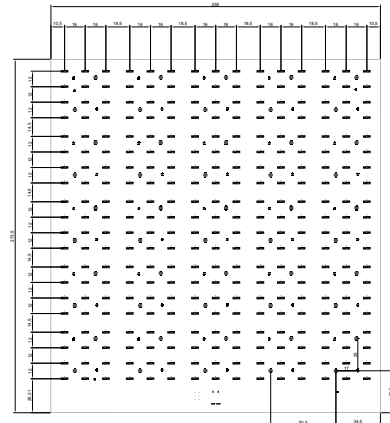
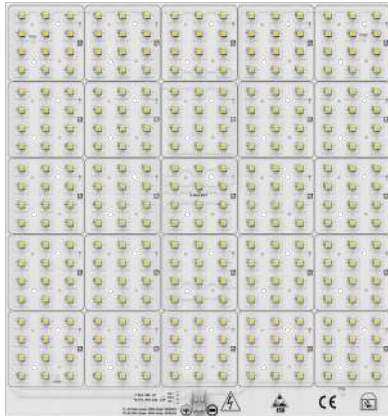
Photometry



NICHIA

LUMILEDS

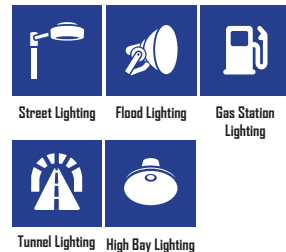
Lumen Output Multiplier					
LED	2700°K (CRI 80)	3000°K (CRI 80)	4000°K (CRI 80)	5000°K (CRI 80)	6500°K (CRI 80)
NF2W757GR-V3_R8000	0,875	0,916	1	1	1
3030 2D-SQ	0,9	1	1,08	1,08	1,08



Specifications:

- Default driving method is constant current input
- CCT Range from 2000°K up to 6500°K
- Luminous flux range from 22000 lm to 45640 lm
- Efficacy of the module up to 165 lm/W
- CRI 80 is standart, CRI 70 and CRI 90 are available
- Outstanding system color tolerance MacAdam 3 over the full operating area
- Simple installation (e.g. screw)
- Long life-time > 60,000 hours
- 5 years guarantee at specified conditions

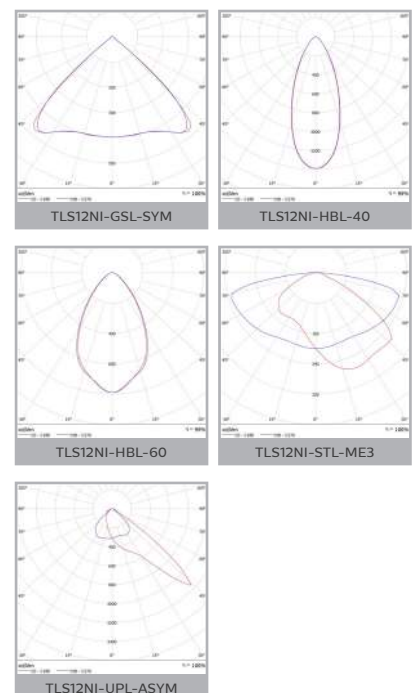
Applications



Driving Current vs Lumen Output Specification

Common Characteristic [@Tj : 85°C] ;			
Module Code	X-MS255274NCxx-NF2W757GRV3-300		
PCB Material	ALU	Electrical Connection	
Operating Temperature (°C)	-40 ~ +85	Parallel	6
Storage Temperature (°C)	-40 ~ +55	Series	50
Thermal Conductivity (W/m-K)	1,5>	LED Quantity	300
LED	NF2W757GR-V3_R8000		
Correlated Color Temperature (CCT)	4000K		
Color Rendering Index (CRI)	80+		
Module Operating Voltage (V)	290,00	297,50	310,00
Module Operating Current (mA)	500	700	1050
Branch Operating Current (mA)	83	117	175
Module Power (W)	145,00	208,25	325,50
Module Light Output (lm)	22.040	29.155	41.664
Module Efficiency (lm/W)	152	140	128
LED	3030 2D-SQ		
Correlated Color Temperature (CCT)	4000K		
Color Rendering Index (CRI)	80+		
Module Operating Voltage (V)	298,50	305,00	315,00
Module Operating Current (mA)	500	700	1050
Branch Operating Current (mA)	83	117	175
Module Power (W)	149,25	213,50	330,75
Module Light Output (lm)	24.626	33.733	45.644
Module Efficiency (lm/W)	165	158	138

Photometry



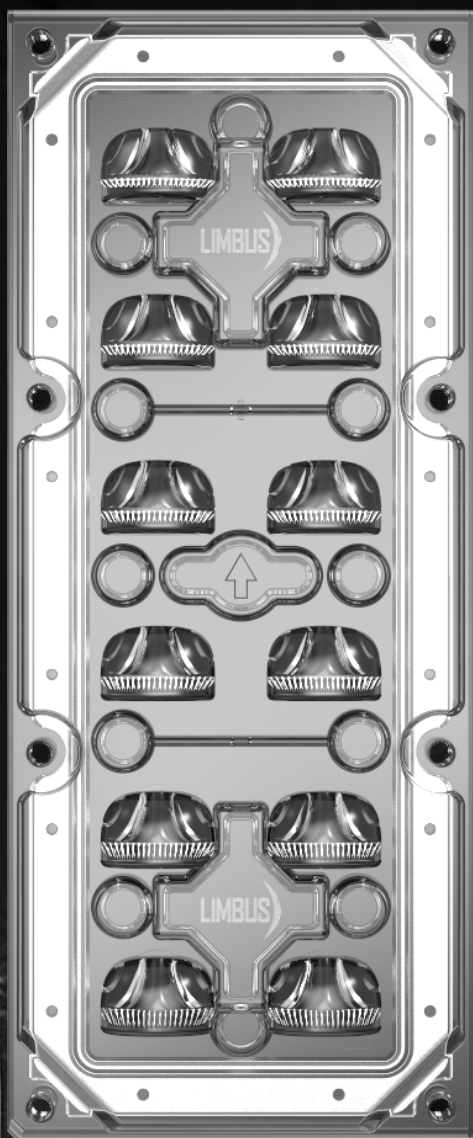
Lumen Output Multiplier					
LED	2700°K (CRI 80)	3000°K (CRI 80)	4000°K (CRI 80)	5000°K (CRI 80)	6500°K (CRI 80)
NF2W757GR-V3_R8000	0,875	0,916	1	1	1
3030 2D-SQ	0,9	1	1,08	1,08	1,08

LIMBUS

CONTROL YOUR LIGHT

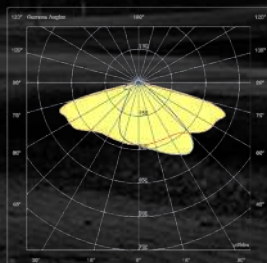
Street Lighting

TLS12NI-W71L173-V-M2M3-IP

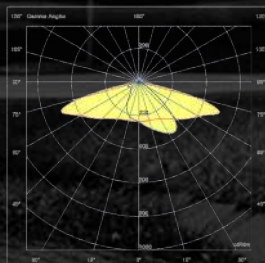


- ✓ $L_m[\text{cd}/\text{m}^2] \geq 0,75$
- ✓ $U_o \geq 0,40$
- ✓ $U_i \geq 0,50$
- ✓ $T_i[\%] \leq 15$
- ✓ $SR \geq 0,50$

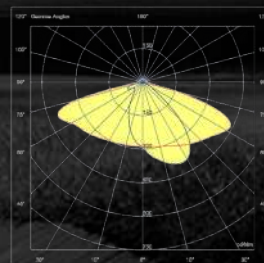
NICHIA 219C



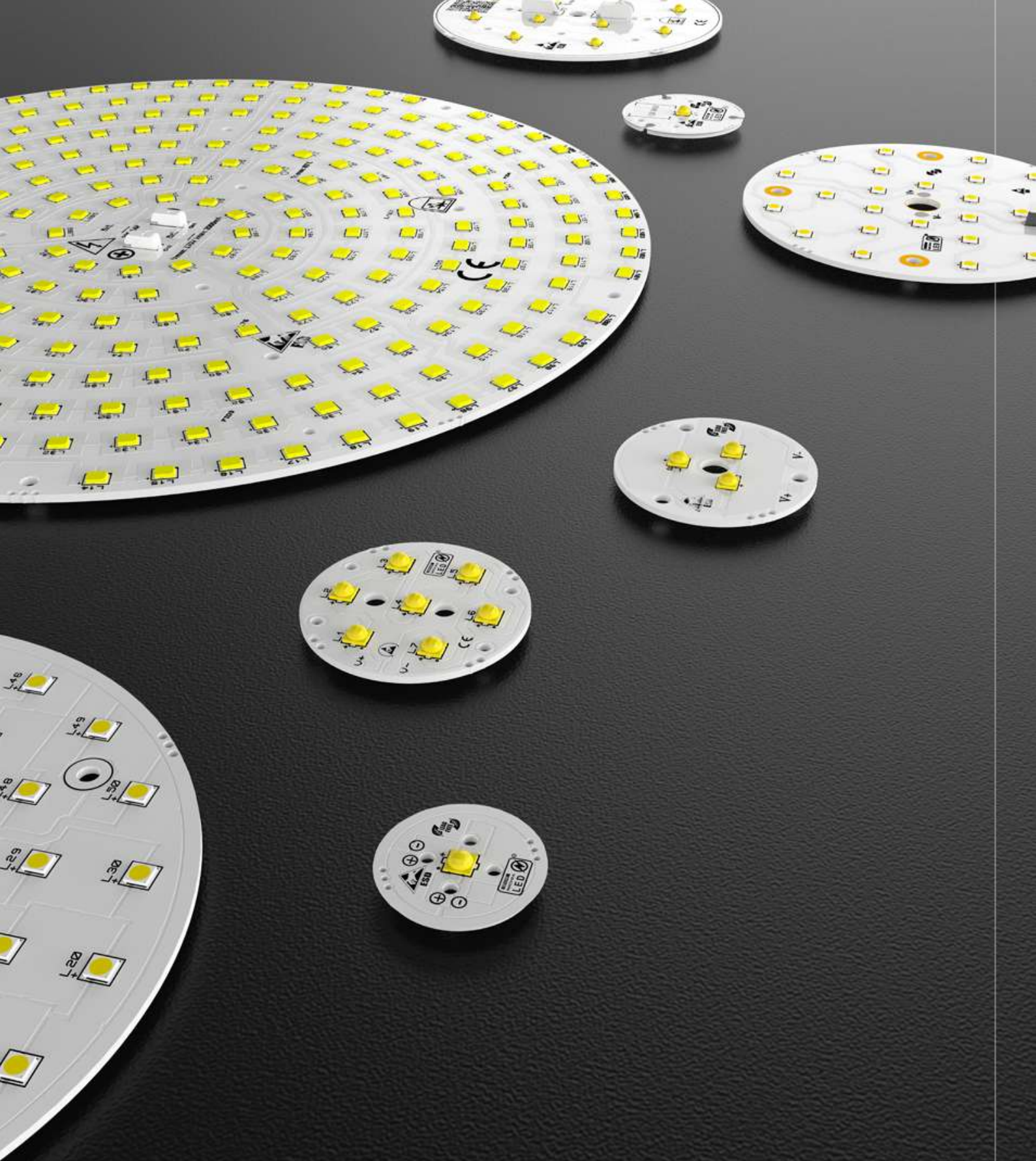
NICHIA 319B



LUMILEDS 5050



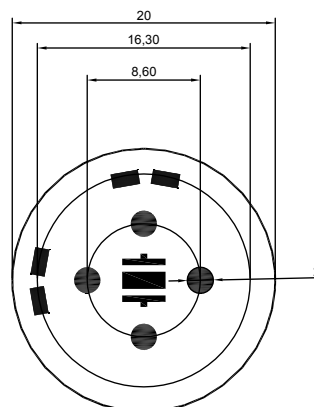
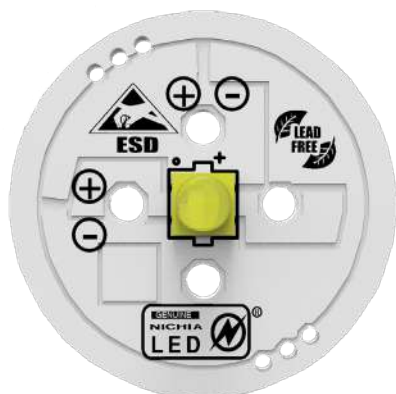
**PATENT
PENDING**



ROUND LED MODULE SERIES

ROUND LED MODULE SERIES

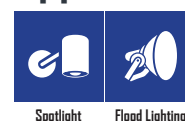
X-MR0020NCxx-NVSW319B-1



Specifications:

- Default driving method is constant current input
- CCT Range from 2000°K up to 6500°K
- Luminous flux range from 143 lm to 513 lm
- Efficacy of the module up to 158 lm/W
- CRI 80 is standart, CRI 70 and CRI 90 are available
- Outstanding system color tolerance MacAdam 3 over the full operating area
- Simple installation (e.g. screw)
- Long life-time > 60,000 hours
- 5 years guarantee at specified conditions

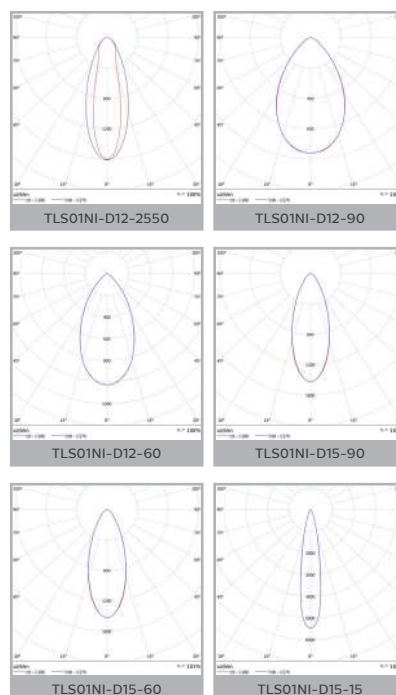
Applications



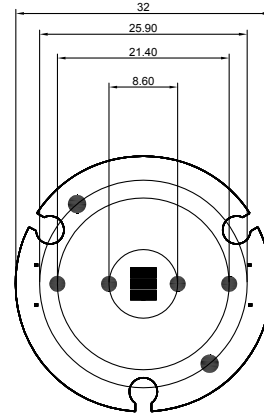
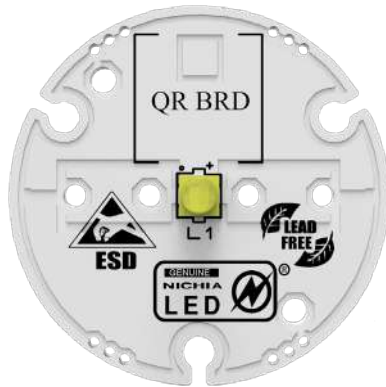
Driving Current vs Lumen Output Specification

Common Characteristic [@Tj : 85°C] ;			
Module Code	X-MR0020NCxx-NVSW319B-1		
PCB Material	ALU	Electrical Connection	
Operating Temperature (°C)	-40 ~ +85	Parallel	1
Storage Temperature (°C)	-40 ~ +55	Series	1
Thermal Conductivity (W/m-K)	1>	LED Quantity	1
LED	NVSL219C_R8000		
Correlated Color Temperature (CCT)	4000K		
Color Rendering Index (CRI)	80+		
Module Operating Voltage (V)	2,72	2,95	2,95
Module Operating Current (mA)	350	700	1400
Branch Operating Current (mA)	350	700	1400
Module Power (W)	0,95	2,07	4,13
Module Light Output (lm)	143	277	463
Module Efficiency (lm/W)	150	134	112
LED	NVSW319B_R8000		
Correlated Color Temperature (CCT)	4000K		
Color Rendering Index (CRI)	80+		
Module Operating Voltage (V)	2,68	2,79	2,86
Module Operating Current (mA)	350	700	1400
Branch Operating Current (mA)	350	700	1400
Module Power (W)	0,94	1,95	4,00
Module Light Output (lm)	148	283	513
Module Efficiency (lm/W)	158	145	128

Photometry



Lumen Output Multiplier					
LED	2700°K (CRI 80)	3000°K (CRI 80)	4000°K (CRI 80)	5000°K (CRI 80)	6500°K (CRI 80)
NVSL219C_R8000	0,875	0,916	1	1	1
NVSW319B_R8000	0,9	1	1,05	1,05	1,05



Specifications:

- Default driving method is constant current input
- CCT Range from 2000°K up to 6500°K
- Luminous flux range from 143 lm to 513 lm
- Efficacy of the module up to 158 lm/W
- CRI 80 is standart, CRI 70 and CRI 90 are available
- Outstanding system color tolerance MacAdam 3 over the full operating area
- Simple installation (e.g. screw)
- Long life-time > 60,000 hours
- 5 years guarantee at specified conditions

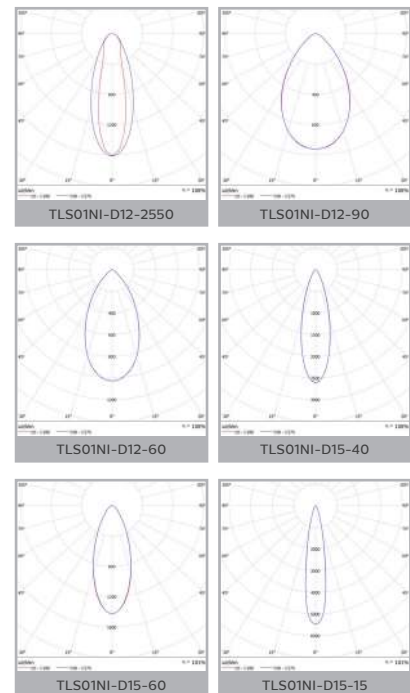
Applications



Driving Current vs Lumen Output Specification

Common Characteristic [Tj : 85°C] ;				
Module Code	X-MR0032NCxx-NVSW319B-1			
PCB Material	ALU	Electrical Connection		
Operating Temperature (°C)	-40 ~ +85	Parallel	1	
Storage Temperature (°C)	-40 ~ +55	Series	1	
Thermal Conductivity (W/m-K)	1>	LED Quantity	1	
LED NVSL219C_R8000				
Correlated Color Temperature (CCT)	4000K			
Color Rendering Index (CRI)	80+			
Module Operating Voltage (V)	2,72	2,95	2,95	
Module Operating Current (mA)	350	700	1400	
Branch Operating Current (mA)	350	700	1400	
Module Power (W)	1,0	2,1	4,1	
Module Light Output (lm)	143	277	463	
Module Efficiency (lm/W)	150	134	112	
LED NVSW319B_R8000				
Correlated Color Temperature (CCT)	4000K			
Color Rendering Index (CRI)	80+			
Module Operating Voltage (V)	2,68	2,79	2,86	
Module Operating Current (mA)	350	700	1400	
Branch Operating Current (mA)	350	700	1400	
Module Power (W)	0,94	1,95	4,00	
Module Light Output (lm)	148	283	513	
Module Efficiency (lm/W)	158	145	128	

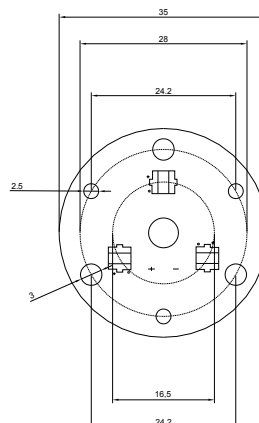
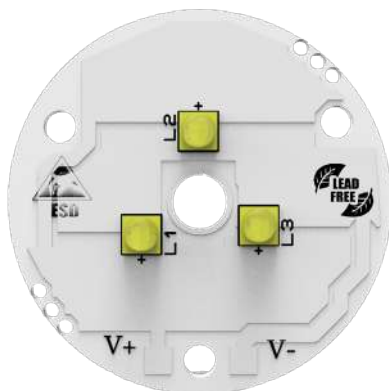
Photometry



Lumen Output Multiplier					
LED	2700°K (CRI 80)	3000°K (CRI 80)	4000°K (CRI 80)	5000°K (CRI 80)	6500°K (CRI 80)
NVSL219C_R8000	0,875	0,916	1	1	1
NVSW319B_R8000	0,9	1	1,05	1,05	1,05

ROUND LED MODULE SERIES

X-MR0035NCxx-NVSW319B-3



Specifications:

- Default driving method is constant current input
- CCT Range from 2000°K up to 6500°K
- Luminous flux range from 428 lm to 1538 lm
- Efficacy of the module up to 158 lm/W
- CRI 80 is standart, CRI 70 and CRI 90 are available
- Outstanding system color tolerance MacAdam 3 over the full operating area
- Simple installation (e.g. screw)
- Long life-time > 60,000 hours
- 5 years guarantee at specified conditions

Applications

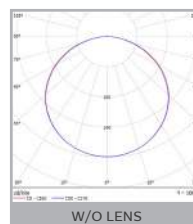


Flood Lighting

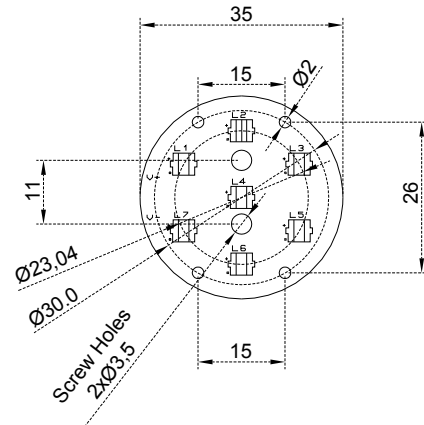
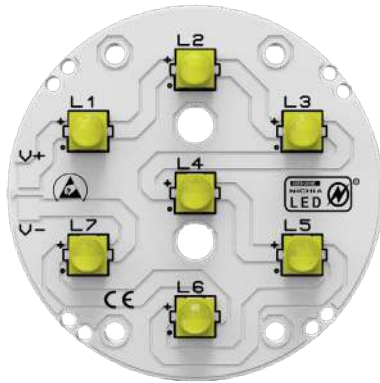
Driving Current vs Lumen Output Specification

Common Characteristic [②Tj : 85℃] ;			
Module Code	X-MR0035NCxx-NVSW319B-3		
PCB Material	ALU	Electrical Connection	
Operating Temperature (°C)	-40 ~ +85	Parallel	1
Storage Temperature (°C)	-40 ~ +55	Series	3
Thermal Conductivity (W/m-K)	1>	LED Quantity	3
LED	NVSL219C_R8000		
Correlated Color Temperature (CCT)	4000K		
Color Rendering Index (CRI)	80+		
Module Operating Voltage (V)	8,16	8,85	8,85
Module Operating Current (mA)	350	700	1400
Branch Operating Current (mA)	350	700	1400
Module Power (W)	2,86	6,20	12,39
Module Light Output (lm)	428	830	1.388
Module Efficiency (lm/W)	150	134	112
LED	NVSW319B_R8000		
Correlated Color Temperature (CCT)	4000K		
Color Rendering Index (CRI)	80+		
Module Operating Voltage (V)	8,04	8,37	8,58
Module Operating Current (mA)	350	700	1400
Branch Operating Current (mA)	350	700	1400
Module Power (W)	2,81	5,86	12,01
Module Light Output (lm)	445	850	1.538
Module Efficiency (lm/W)	158	145	128

Photometry



Lumen Output Multiplier					
LED	2700°K (CRI 80)	3000°K (CRI 80)	4000°K (CRI 80)	5000°K (CRI 80)	6500°K (CRI 80)
NVSL219C_R8000	0,875	0,916	1	1	1
NVSW319B_R8000	0,9	1	1,05	1,05	1,05



Specifications:

- Default driving method is constant current input
- CCT Range from 2000°K up to 6500°K
- Luminous flux range from 1000 lm to 3588 lm
- Efficacy of the module up to 158 lm/W
- CRI 80 is standart, CRI 70 and CRI 90 are available
- Outstanding system color tolerance MacAdam 3 over the full operating area
- Simple installation (e.g. screw)
- Long life-time > 60,000 hours
- 5 years guarantee at specified conditions

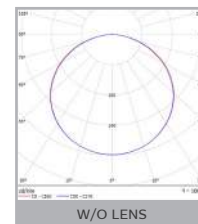
Applications



Driving Current vs Lumen Output Specification

Common Characteristic [@Tj : 85°C] ;			
Module Code	X-MR0035NCxx-NVSW319B-7		
PCB Material	ALU	Electrical Connection	
Operating Temperature (°C)	-40 ~ +85	Parallel	1
Storage Temperature (°C)	-40 ~ +55	Series	7
Thermal Conductivity (W/m-K)	1>	LED Quantity	7
LED NVSL219C_R8000			
Correlated Color Temperature (CCT)	4000K		
Color Rendering Index (CRI)	80+		
Module Operating Voltage (V)	19,04	20,65	20,65
Module Operating Current (mA)	350	700	1400
Branch Operating Current (mA)	350	700	1400
Module Power (W)	6,66	14,46	28,91
Module Light Output (lm)	1.000	1.937	3.238
Module Efficiency (lm/W)	150	134	112
LED NVSW319B_R8000			
Correlated Color Temperature (CCT)	4000K		
Color Rendering Index (CRI)	80+		
Module Operating Voltage (V)	18,76	19,53	20,02
Module Operating Current (mA)	350	700	1400
Branch Operating Current (mA)	350	700	1400
Module Power (W)	6,57	13,67	28,03
Module Light Output (lm)	1.037	1.982	3.588
Module Efficiency (lm/W)	158	145	128

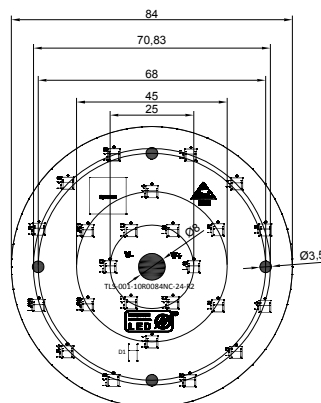
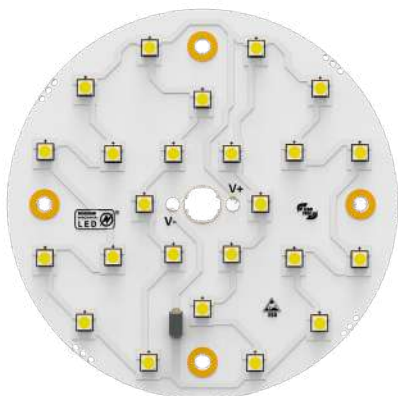
Photometry



Lumen Output Multiplier					
LED	2700°K (CRI 80)	3000°K (CRI 80)	4000°K (CRI 80)	5000°K (CRI 80)	6500°K (CRI 80)
NVSL219C_R8000	0,875	0,916	1	1	1
NVSW319B_R8000	0,9	1	1,05	1,05	1,05

ROUND LED MODULE SERIES

X-MR0084NCxx-NF2W757GRV3-24



Specifications:

- Default driving method is constant current input
- CCT Range from 2000°K up to 6500°K
- Luminous flux range from 1851 lm to 4476 lm
- Efficacy of the module up to 170 lm/W
- CRI 80 is standart, CRI 70 and CRI 90 are available
- Outstanding system color tolerance MacAdam 3 over the full operating area
- Simple installation (e.g. screw)
- Long life-time > 60,000 hours
- 5 years guarantee at specified conditions

Applications

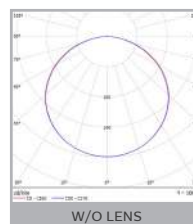


Spotlight

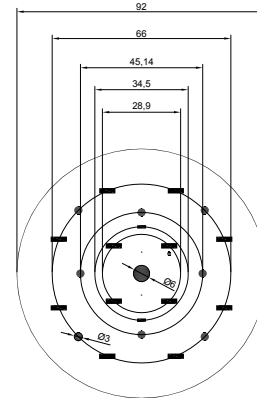
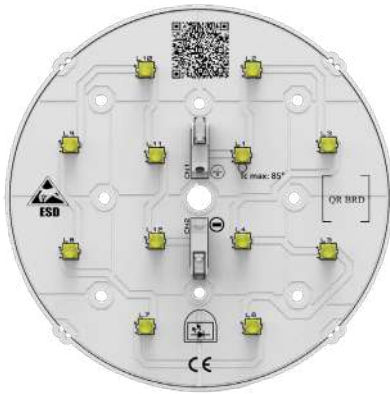
Driving Current vs Lumen Output Specification

Common Characteristic [@Tj : 85°C] ;			
Module Code	X-MR0084NCxx-NF2W757GRV3-24		
PCB Material	ALU	Electrical Connection	
Operating Temperature (°C)	-40 ~ +85	Parallel	4
Storage Temperature (°C)	-40 ~ +55	Series	6
Thermal Conductivity (W/m-K)	1>	LED Quantity	24
LED NF2W757GR-V3_R8000			
Correlated Color Temperature (CCT)		4000K	
Color Rendering Index (CRI)		80+	
Module Operating Voltage (V)	34,80	34,80	37,20
Module Operating Current (mA)	350	500	800
Branch Operating Current (mA)	88	125	200
Module Power (W)	12,18	17,40	29,76
Module Light Output (lm)	1.851	2.436	4.107
Module Efficiency (lm/W)	152	140	138
LED 30302D_SQ			
Correlated Color Temperature (CCT)		4000K	
Color Rendering Index (CRI)		80+	
Module Operating Voltage (V)	35,82	36,60	37,80
Module Operating Current (mA)	350	500	800
Branch Operating Current (mA)	88	125	200
Module Power (W)	12,54	18,30	30,24
Module Light Output (lm)	2.131	2.891	4.476
Module Efficiency (lm/W)	170	158	148

Photometry



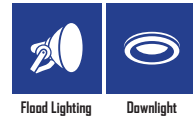
Lumen Output Multiplier					
LED	2700°K (CRI 80)	3000°K (CRI 80)	4000°K (CRI 80)	5000°K (CRI 80)	6500°K (CRI 80)
NF2W757GR-V3_R8000	0,875	0,916	1	1	1
3030 2D-SQ	0,92	1,04	1,15	1,15	1,15



Specifications:

- Default driving method is constant current input
- CCT Range from 2000°K up to 6500°K
- Luminous flux range from 1714 lm to 6150 lm
- Efficacy of the module up to 158 lm/W
- CRI 80 is standart, CRI 70 and CRI 90 are available
- Outstanding system color tolerance MacAdam 3 over the full operating area
- Simple installation (e.g. screw)
- Long life-time > 60,000 hours
- 5 years guarantee at specified conditions

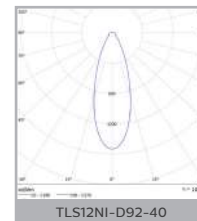
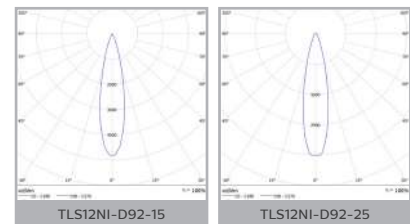
Applications



Driving Current vs Lumen Output Specification

Common Characteristic [@Tj : 85°C] ;			
Module Code	X-MR0092NCxx-NVSW319B-12		
PCB Material	ALU	Electrical Connection	
Operating Temperature (°C)	-40 ~ +85	Parallel	1
Storage Temperature (°C)	-40 ~ +55	Series	12
Thermal Conductivity (W/m-K)	1>	LED Quantity	12
LED	NVSL219C_R8000		
Correlated Color Temperature (CCT)	4000K		
Color Rendering Index (CRI)	80+		
Module Operating Voltage (V)	32,64	35,40	35,40
Module Operating Current (mA)	350	700	1400
Branch Operating Current (mA)	350	700	1400
Module Power (W)	11,42	24,78	49,56
Module Light Output (lm)	1.714	3.321	5.551
Module Efficiency (lm/W)	150	134	112
LED	NVSW319B_R8000		
Correlated Color Temperature (CCT)	4000K		
Color Rendering Index (CRI)	80+		
Module Operating Voltage (V)	32,16	33,48	34,32
Module Operating Current (mA)	350	700	1400
Branch Operating Current (mA)	350	700	1400
Module Power (W)	11,26	23,44	48,05
Module Light Output (lm)	1.778	3.398	6.150
Module Efficiency (lm/W)	158	145	128

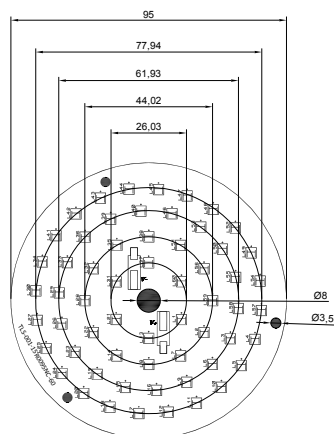
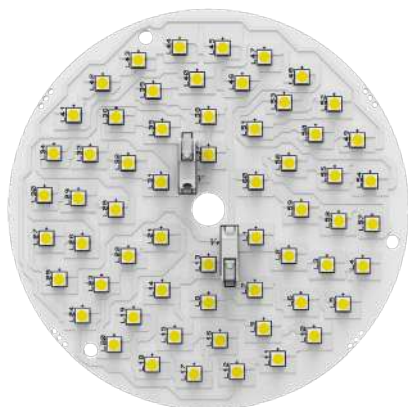
Photometry



Lumen Output Multiplier					
LED	2700°K (CRI 80)	3000°K (CRI 80)	4000°K (CRI 80)	5000°K (CRI 80)	6500°K (CRI 80)
NVSL219C_R8000	0,875	0,916	1	1	1
NVSW319B_R8000	0,9	1	1,05	1,05	1,05

ROUND LED MODULE SERIES

X-MR0095NCxx-NFSW757H-60



Specifications:

- Default driving method is constant current input
- CCT Range from 2000°K up to 6500°K
- Luminous flux range from 2851 lm to 5324 lm
- Efficacy of the module up to 190 lm/W
- CRI 80 is standart, CRI 70 and CRI 90 are available
- Outstanding system color tolerance MacAdam 3 over the full operating area
- Simple installation (e.g. screw)
- Long life-time > 60,000 hours
- 5 years guarantee at specified conditions

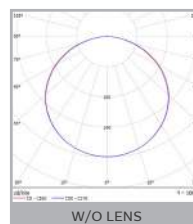
Applications



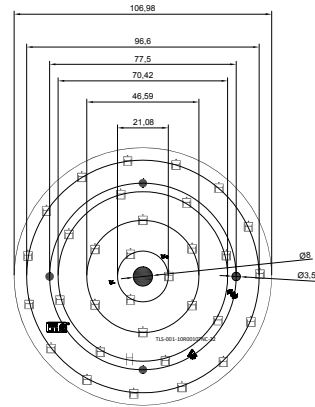
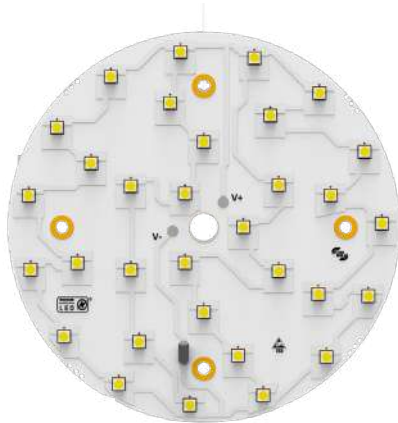
Driving Current vs Lumen Output Specification

Common Characteristic [@Tj : 85°C] ;			
Module Code	X-MR0095NCxx-NFSW757H-60		
PCB Material	ALU	Electrical Connection	
Operating Temperature (°C)	-40 ~ +85	Parallel	5
Storage Temperature (°C)	-40 ~ +55	Series	12
Thermal Conductivity (W/m-K)	1>	LED Quantity	60
LED	NFSW757H_R8000		
Correlated Color Temperature (CCT)	4000K		
Color Rendering Index (CRI)	80+		
Module Operating Voltage (V)	32,40	33,60	34,80
Module Operating Current (mA)	500	700	900
Branch Operating Current (mA)	100	140	180
Module Power (W)	16,20	23,52	31,32
Module Light Output (lm)	2.851	3.810	4.823
Module Efficiency (lm/W)	176	162	154
LED	NF2W757H-F1_R8000		
Correlated Color Temperature (CCT)	4000K		
Color Rendering Index (CRI)	80+		
Module Operating Voltage (V)	32,64	33,60	34,80
Module Operating Current (mA)	500	700	900
Branch Operating Current (mA)	100	140	180
Module Power (W)	16,32	23,52	31,32
Module Light Output (lm)	3.101	4.234	5.324
Module Efficiency (lm/W)	190	180	170

Photometry



Lumen Output Multiplier					
LED	2700°K (CRI 80)	3000°K (CRI 80)	4000°K (CRI 80)	5000°K (CRI 80)	6500°K (CRI 80)
NFSW757H_R8000	0,875	0,916	1	1	1
NF2W757H-F1_R8000	0,67	0,75	0,82	0,82	0,82



Specifications:

- Default driving method is constant current input
- CCT Range from 2000°K up to 6500°K
- Luminous flux range from 1368 lm to 2923 lm
- Efficacy of the module up to 195 lm/W
- CRI 80 is standart, CRI 70 and CRI 90 are available
- Outstanding system color tolerance MacAdam 3 over the full operating area
- Simple installation (e.g. screw)
- Long life-time > 60,000 hours
- 5 years guarantee at specified conditions

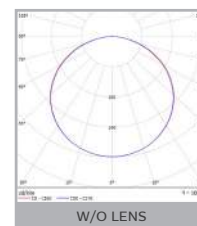
Applications



Driving Current vs Lumen Output Specification

Common Characteristic [Tj : 85°C] ;			
Module Code	X-MR00107NCxx-NFSW757H-32		
PCB Material	ALU	Electrical Connection	
Operating Temperature (°C)	-40 ~ +85	Parallel	4
Storage Temperature (°C)	-40 ~ +55	Series	8
Thermal Conductivity (W/m-K)	1>	LED Quantity	32
LED NFSW757H_R8000			
Correlated Color Temperature (CCT)	4000K		
Color Rendering Index (CRI)	80+		
Module Operating Voltage (V)	21,60	22,40	23,20
Module Operating Current (mA)	350	500	700
Branch Operating Current (mA)	88	125	175
Module Power (W)	7,56	11,20	16,24
Module Light Output (lm)	1.368	1.971	2.631
Module Efficiency (lm/W)	181	176	162
LED NF2W757H-F1_R8000			
Correlated Color Temperature (CCT)	4000K		
Color Rendering Index (CRI)	80+		
Module Operating Voltage (V)	21,76	22,40	23,20
Module Operating Current (mA)	350	500	700
Branch Operating Current (mA)	88	125	175
Module Power (W)	7,62	11,20	16,24
Module Light Output (lm)	1.485	2.128	2.923
Module Efficiency (lm/W)	195	190	180

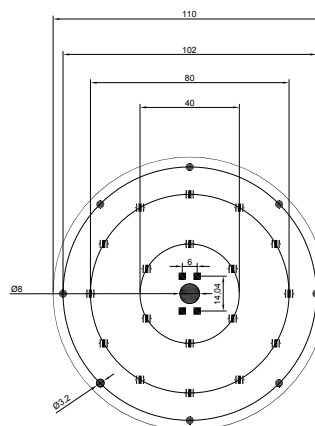
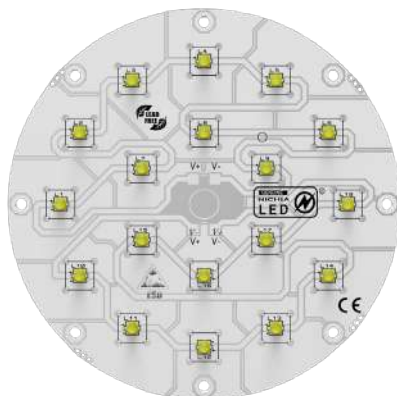
Photometry



Lumen Output Multiplier					
LED	2700°K (CRI 80)	3000°K (CRI 80)	4000°K (CRI 80)	5000°K (CRI 80)	6500°K (CRI 80)
NFSW757H_R8000	0,875	0,916	1	1	1
NF2W757H-F1_R8000	0,67	0,75	0,82	0,82	0,82

ROUND LED MODULE SERIES

X-MR00110NCxx-NVSW319B-18



Specifications:

- Default driving method is constant current input
- CCT Range from 2000°K up to 6500°K
- Luminous flux range from 2570 lm to 9225 lm
- Efficacy of the module up to 158 lm/W
- CRI 80 is standart, CRI 70 and CRI 90 are available
- Outstanding system color tolerance MacAdam 3 over the full operating area
- Simple installation (e.g. screw)
- Long life-time > 60,000 hours
- 5 years guarantee at specified conditions

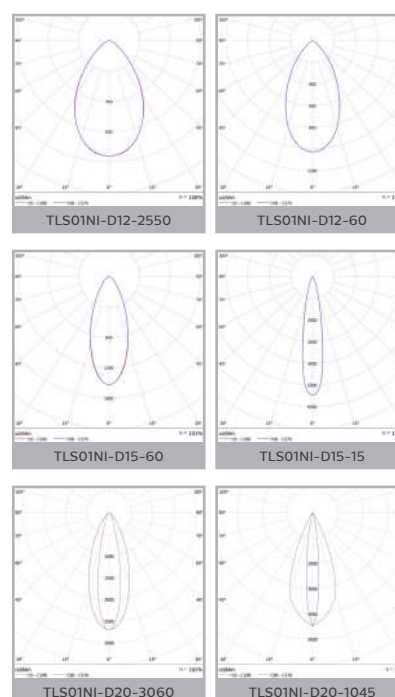
Applications



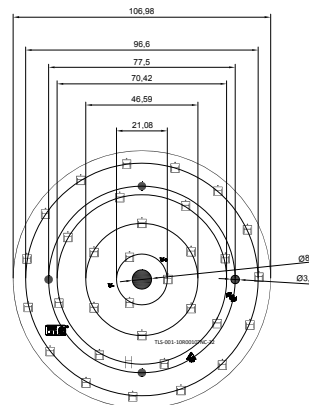
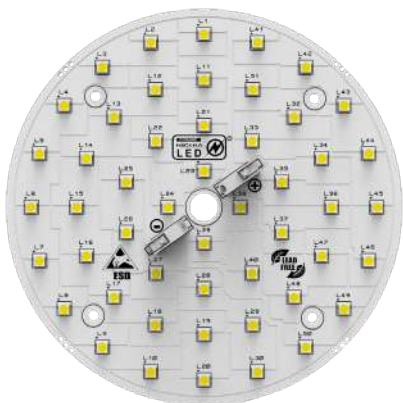
Driving Current vs Lumen Output Specification

Common Characteristic [@Tj : 85°C] ;			
Module Code	X-MR00110NCxx-NVSW319B-18		
PCB Material	ALU	Electrical Connection	
Operating Temperature (°C)	-40 ~ +85	Parallel	1
Storage Temperature (°C)	-40 ~ +55	Series	18
Thermal Conductivity (W/m-K)	1>	LED Quantity	18
LED	NVSL219C-R8000		
Correlated Color Temperature (CCT)	4000K		
Color Rendering Index (CRI)	80+		
Module Operating Voltage (V)	48,96	53,10	53,10
Module Operating Current (mA)	350	700	1400
Branch Operating Current (mA)	350	700	1400
Module Power (W)	17,14	37,17	74,34
Module Light Output (lm)	2.570	4.981	8.326
Module Efficiency (lm/W)	150	134	112
LED	NVSW319B_R8000		
Correlated Color Temperature (CCT)	4000K		
Color Rendering Index (CRI)	80+		
Module Operating Voltage (V)	48,24	50,22	51,48
Module Operating Current (mA)	350	700	1400
Branch Operating Current (mA)	350	700	1400
Module Power (W)	16,88	35,15	72,07
Module Light Output (lm)	2.668	5.097	9.225
Module Efficiency (lm/W)	158	145	128

Photometry



Lumen Output Multiplier					
LED	2700°K (CRI 80)	3000°K (CRI 80)	4000°K (CRI 80)	5000°K (CRI 80)	6500°K (CRI 80)
NVSL219C_R8000	0,875	0,916	1	1	1
NVSW319B_R8000	0,9	1	1,05	1,05	1,05



Specifications:

- Default driving method is constant current input
- CCT Range from 2000°K up to 6500°K
- Luminous flux range from 2376 lm to 4447 lm
- Efficacy of the module up to 190 lm/W
- CRI 80 is standart, CRI 70 and CRI 90 are available
- Outstanding system color tolerance MacAdam 3 over the full operating area
- Simple installation (e.g. screw)
- Long life-time > 60,000 hours
- 5 years guarantee at specified conditions

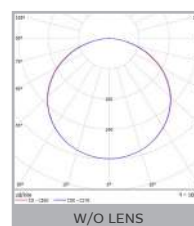
Applications



Driving Current vs Lumen Output Specification

Common Characteristic [ΘTj : 85°C] ;			
Module Code	X-MR00110NCxx-NFSW757H-50		
PCB Material	ALU	Electrical Connection	
Operating Temperature (°C)	-40 ~ +85	Parallel	5
Storage Temperature (°C)	-40 ~ +55	Series	10
Thermal Conductivity (W/m-K)	1>	LED Quantity	50
LED	NFSW757H_R8000		
Correlated Color Temperature (CCT)	4000K		
Color Rendering Index (CRI)	80+		
Module Operating Voltage (V)	27,00	28,00	29,00
Module Operating Current (mA)	500	700	900
Branch Operating Current (mA)	100	140	180
Module Power (W)	13,50	19,60	26,10
Module Light Output (lm)	2.376	3.175	4.019
Module Efficiency (lm/W)	176	162	154
LED	NF2W757H-F1_R8000		
Correlated Color Temperature (CCT)	4000K		
Color Rendering Index (CRI)	80+		
Module Operating Voltage (V)	27,20	28,00	29,00
Module Operating Current (mA)	500	700	900
Branch Operating Current (mA)	100	140	180
Module Power (W)	13,60	19,60	26,10
Module Light Output (lm)	2.584	3.528	4.437
Module Efficiency (lm/W)	190	180	170

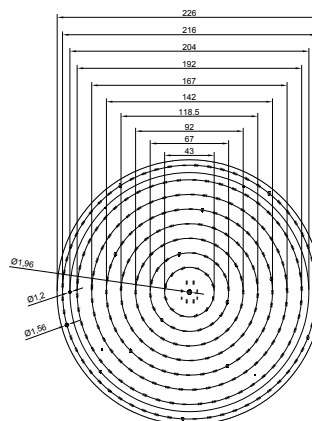
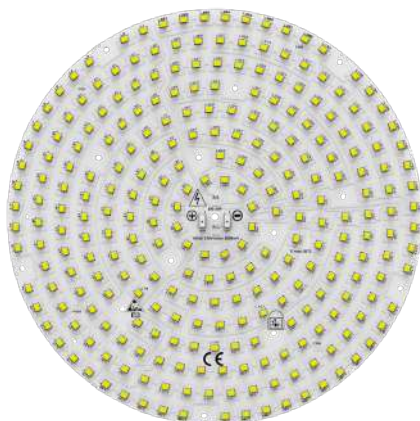
Photometry



Lumen Output Multiplier					
LED	2700°K (CRI 80)	3000°K (CRI 80)	4000°K (CRI 80)	5000°K (CRI 80)	6500°K (CRI 80)
NFSW757H_R8000	0,875	0,916	1	1	1
NF2W757H-F1_R8000	0,67	0,75	0,82	0,82	0,82

ROUND LED MODULE SERIES

X-MR00226NCxx-NFSW757H-266



Specifications:

- Default driving method is constant current input
- CCT Range from 2000°K up to 6500°K
- This module is optional and can be connected as 19 Series 14 Parallel.
- Luminous flux range from 9480 lm to 18734 lm
- Efficacy of the module up to 190 lm/W
- CRI 80 is standart, CRI 70 and CRI 90 are available
- Outstanding system color tolerance MacAdam 3 over the full operating area
- Simple installation (e.g. screw)
- Long life-time > 60,000 hours
- 5 years guarantee at specified conditions

Applications

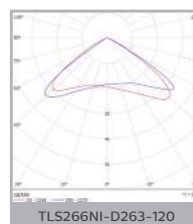
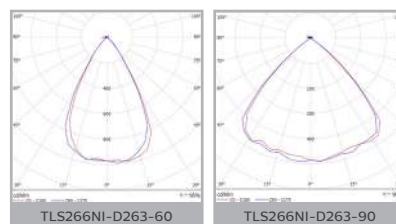


High Bay Lighting

Driving Current vs Lumen Output Specification

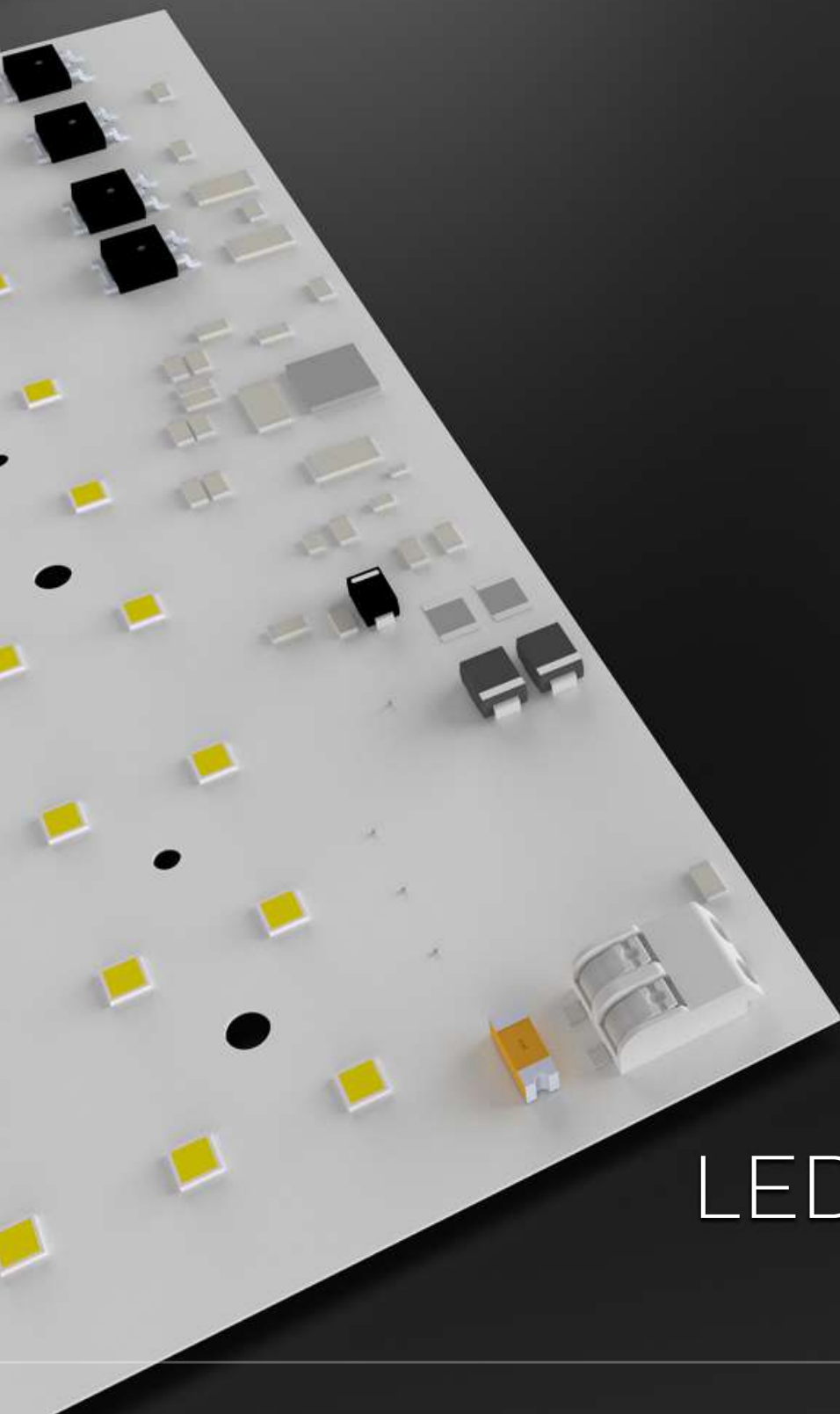
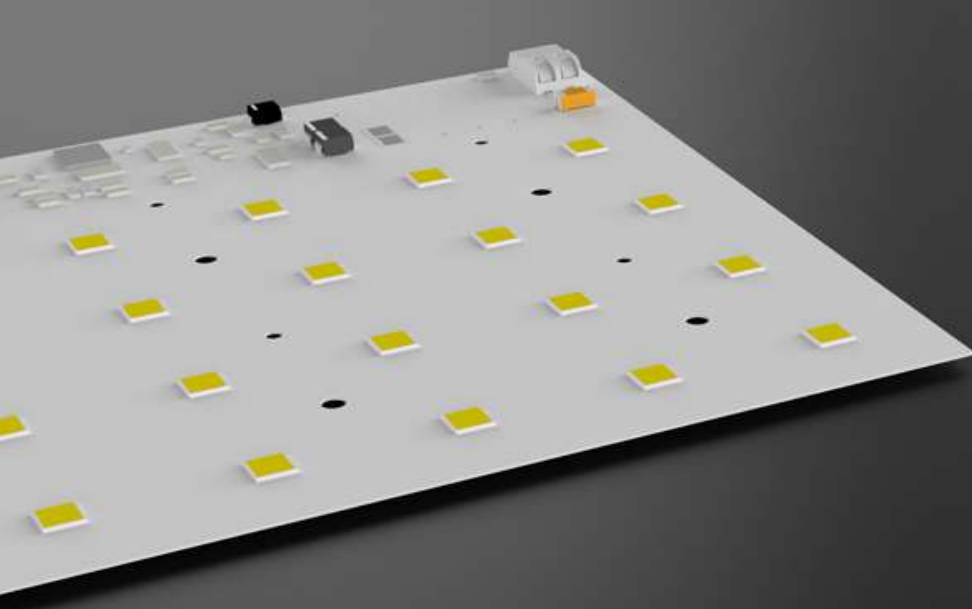
Common Characteristic [@Tj : 85°C] ;			
Module Code	X-MR00226NCxx-NFSW757H-266		
PCB Material	ALU	Electrical Connection	
Operating Temperature (°C)	-40 ~ +85	Parallel	14
Storage Temperature (°C)	-40 ~ +55	Series	19
Thermal Conductivity (W/m-K)	1,5>	LED Quantity	266
LED	NFSW757H_R8000		
Correlated Color Temperature (CCT)	4000K		
Color Rendering Index (CRI)	80+		
Module Operating Voltage (V)	51,30	53,20	55,10
Module Operating Current (mA)	1050	1400	2000
Branch Operating Current (mA)	75	100	143
Module Power (W)	53,87	74,48	110,20
Module Light Output (lm)	9.480	12.066	16.971
Module Efficiency (lm/W)	176	162	154
LED	NF2W757H-F1_R8000		
Correlated Color Temperature (CCT)	4000K		
Color Rendering Index (CRI)	80+		
Module Operating Voltage (V)	51,68	53,20	55,10
Module Operating Current (mA)	1050	1400	2000
Branch Operating Current (mA)	75	100	143
Module Power (W)	54,26	74,48	110,20
Module Light Output (lm)	10.310	13.406	18.734
Module Efficiency (lm/W)	190	180	170

Photometry

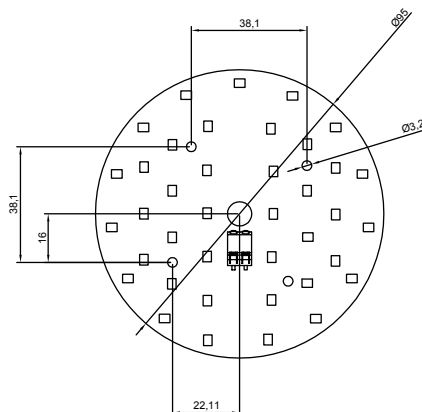
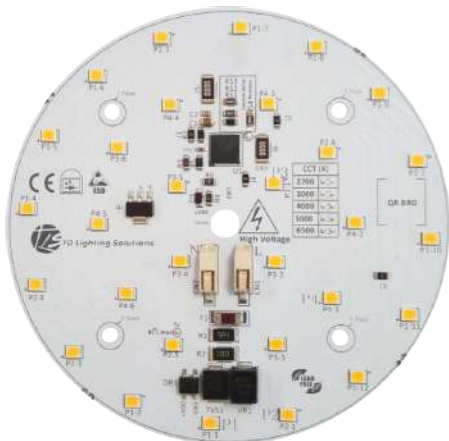


NICHIA

Lumen Output Multiplier					
LED	2700°K (CRI 80)	3000°K (CRI 80)	4000°K (CRI 80)	5000°K (CRI 80)	6500°K (CRI 80)
NFSW757H_R8000	0,875	0,916	1	1	1
NF2W757H-F1_R8000	0,67	0,75	0,82	0,82	0,82



AC LED MODULE SERIES



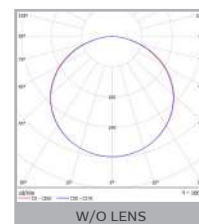
Specifications:

- No need of any AC to DC driver
- Direct plug to 200~240V 50/60 Hz AC supply
- Highly Cost Effective
- Suits wall and ceiling lights
- Provide less weight mechanical structure
- Highest Efficacy (> 125 lm/W)
- Longer Life Span (50.000h)
- Higher Power Factor (> 0.97)
- Low THD <20%
- EMC tested compatible with EN55015
- Withstand High Surge & Burst L-N : 2KV (EN 61000-4-5 Class 3)
- Compatibility of ROHS and CE
- Microprocessor controlled constant power mode independents of line voltage
- CRI 80 is standart, CRI 70 and CRI 90 are available
- Easy installation, no need to worry for driver spac

Applications



Photometry



Driving Current vs Lumen Output Specification

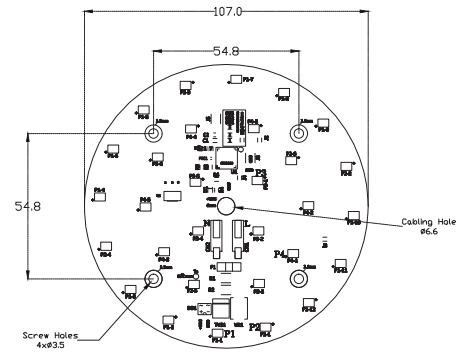
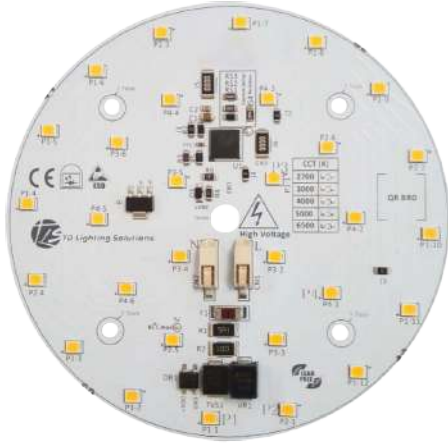
TECHNICAL SPECS	
Rated Voltage	220-240 V AC
Input Voltage	198-260 V AC
Frequency	47-63 Hz
PF	>0,97
Ambient Temp.	-20 ~+50°C 20-90% RH
Max. Case Temp.	85 °C
Beam Angle	120°
IP Level	IP00
Dimention	Ø 95 mm



ABSOLUTE MAXIMUM RATING Ta=25 °C			
PARAMETER	SYMBOL	UNIT	VALUE
Maximum Input Voltage	Vin	Vac	265V AC
Power Consumption	P	W	20W
Operation Temperature	Topr	°C	- 30 ~ 85
Storage Temperature	Tstg	°C	- 40 ~ 100
ESD Sensivity			2KV

PHOTOMETRIC MEASUREMENTS (LM-79-08)	
Module Lumen Output	2525lm +/-5%
Module Power	20W
Module Efficiency	> 125lm/W
CRI	>80

Lumen Output Multiplier					
LED	2700°K (CRI 80)	3000°K (CRI 80)	4000°K (CRI 80)	5000°K (CRI 80)	6500°K (CRI 80)
NF2W757GR-V3-R8000	0,875	0,916	1	1	1



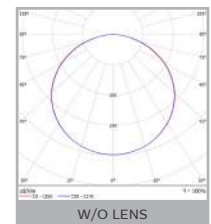
Specifications:

- No need of any AC to DC driver
- Direct plug to 200~240V 50/60 Hz AC supply
- Highly Cost Effective
- Suits wall and ceiling lights
- Provide less weight mechanical structure
- Highest Efficacy (> 120 lm/W)
- Longer Life Span (50.000h)
- Higher Power Factor (> 0.97)
- Low THD <%20
- EMC tested compatible with EN55015
- Withstand High Surge & Burst L-N : 2KV (EN 61000-4-5 Class 3)
- Compatibility of ROHS and CE
- Microprocessor controlled constant power mode independents of line voltage
- CRI 80 is standart, CRI 70 and CRI 90 are available
- Easy installation, no need to worry for driver spac

Applications



Photometry



Driving Current vs Lumen Output Specification

TECHNICAL SPECS	
Rated Voltage	220-240 V AC
Input Voltage	198-260 V AC
Frequency	47-63 Hz
PF	>0,97
Ambient Temp.	-20 ~+50°C 20-90% RH
Max. Case Temp.	85 °C
Beam Angle	120°
IP Level	IP00
Dimention	Ø 107 mm

ABSOLUTE MAXIMUM RATING Ta=25 °C

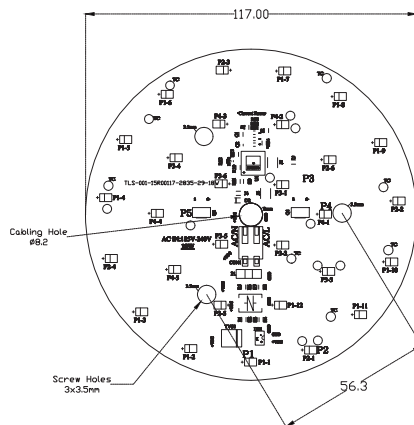
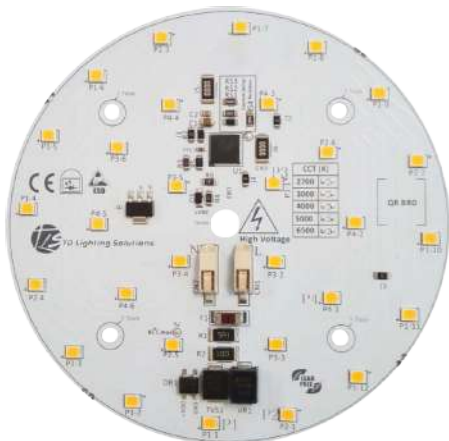
PARAMETER	SYMBOL	UNIT	VALUE
Maximum Input Voltage	Vin	Vac	265V AC
Power Consumption	P	W	12,5W
Operation Temperature	Topr	°C	- 30 ~ 85
Storage Temperature	Tstg	°C	- 40 ~ 100
ESD Sensivity			2KV

PHOTOMETRIC MEASUREMENTS (LM-79-08)

Module Lumen Output	1488 lm +/-%5
Module Power	12,5W
Module Efficiency	> 120lm/W
CRI	>80

Lumen Output Multiplier					
LED	2700°K (CRI 80)	3000°K (CRI 80)	4000°K (CRI 80)	5000°K (CRI 80)	6500°K (CRI 80)
2835 EC	0,92	0,95	1	1	1





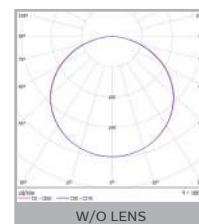
Specifications:

- No need of any AC to DC driver
- Direct plug to 200~240V 50/60 Hz AC supply
- Highly Cost Effective
- Suits wall and ceiling lights
- Provide less weight mechanical structure
- Highest Efficacy (> 120 lm/W)
- Longer Life Span (50.000h)
- Higher Power Factor (> 0.97)
- Low THD <20
- EMC tested compatible with EN55015
- Withstand High Surge & Burst L-N : 2KV (EN 61000-4-5 Class 3)
- Compatibility of ROHS and CE
- Microprocessor controlled constant power mode independents of line voltage
- CRI 80 is standart, CRI 70 and CRI 90 are available
- Easy installation, no need to worry for driver spac

Applications



Photometry



Driving Current vs Lumen Output Specification

TECHNICAL SPECS	
Rated Voltage	220-240 V AC
Input Voltage	198-260 V AC
Frequency	47-63 Hz
PF	>0,97
Ambient Temp.	-20 ~+50°C 20-90% RH
Max. Case Temp.	85 °C
Beam Angle	120°
IP Level	IP00
Dimentions	Ø 107 mm

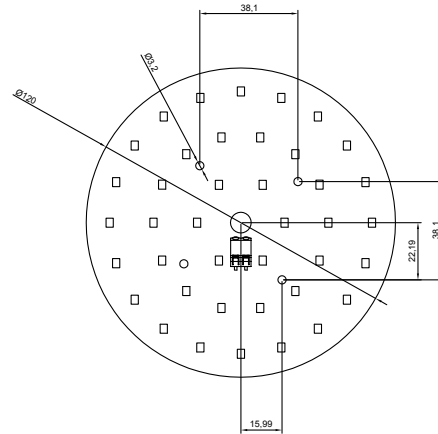
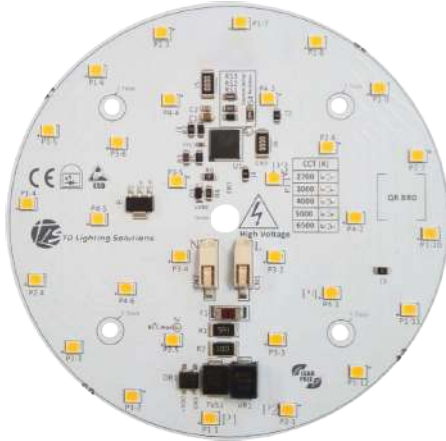


ABSOLUTE MAXIMUM RATING Ta=25 °C			
PARAMETER	SYMBOL	UNIT	VALUE
Maximum Input Voltage	Vin	Vac	265V AC
Power Consumption	P	W	20 W
Operation Temperature	Topr	°C	- 30 ~ 85
Storage Temperature	Tstg	°C	- 40 ~ 100
ESD Sensivity			2KV

PHOTOMETRIC MEASUREMENTS (LM-79-08)	
Module Lumen Output	2400 lm +/-5
Module Power	20 W
Module Efficiency	> 120lm/W
CRI	>80

Lumen Output Multiplier					
LED	2700°K (CRI 80)	3000°K (CRI 80)	4000°K (CRI 80)	5000°K (CRI 80)	6500°K (CRI 80)
2835 EC	0,92	0,95	1	1	1

X-MR00120NCxx-NF2W757GRV3-39-E200-30W



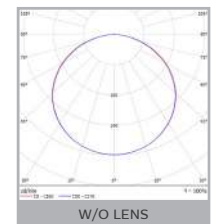
Specifications:

- No need of any AC to DC driver
- Direct plug to 200~240V 50/60 Hz AC supply
- Highly Cost Effective
- Suits wall and ceiling lights
- Provide less weight mechanical structure
- Highest Efficacy (> 125 lm/W)
- Longer Life Span (50.000h)
- Higher Power Factor (> 0.97)
- Low THD <%20
- EMC tested compatible with EN55015
- Withstand High Surge & Burst L-N : 2KV (EN 61000-4-5 Class 3)
- Compatibility of ROHS and CE
- Microprocessor controlled constant power mode independents of line voltage
- CRI 80 is standart, CRI 70 and CRI 90 are available
- Easy installation, no need to worry for driver spac

Applications



Photometry



Driving Current vs Lumen Output Specification

TECHNICAL SPECS	
Rated Voltage	220-240 V AC
Input Voltage	198-260 V AC
Frequency	47-63 Hz
PF	>0,97
Ambient Temp.	-20 ~+50°C 20-90% RH
Max. Case Temp.	85 °C
Beam Angle	120°
IP Level	IP00
Dimensions	Ø 120 mm

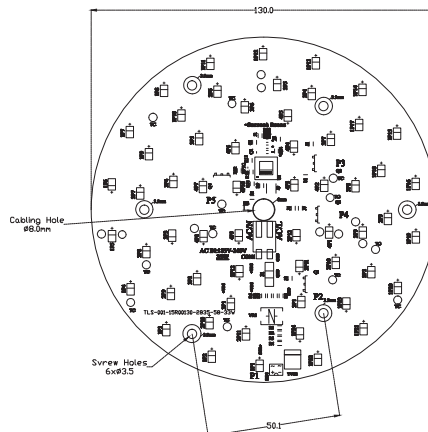
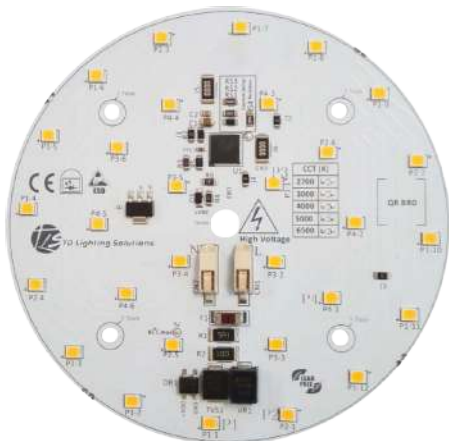
ABSOLUTE MAXIMUM RATING Ta=25 °C

PARAMETER	SYMBOL	UNIT	VALUE
Maximum Input Voltage	Vin	Vac	265V AC
Power Consumption	P	W	30 W
Operation Temperature	Topr	°C	- 30 ~ 85
Storage Temperature	Tstg	°C	- 40 ~ 100
ESD Sensivity			2KV

PHOTOMETRIC MEASUREMENTS (LM-79-08)

Module Lumen Output	3750 lm +/-%5
Module Power	20 W
Module Efficiency	> 125lm/W
CRI	>80

Lumen Output Multiplier					
LED	2700°K (CRI 80)	3000°K (CRI 80)	4000°K (CRI 80)	5000°K (CRI 80)	6500°K (CRI 80)
NF2W757GR-V3-R8000	0,875	0,916	1	1	1



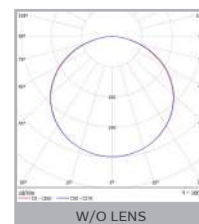
Specifications:

- No need of any AC to DC driver
- Direct plug to 200~240V 50/60 Hz AC supply
- Highly Cost Effective
- Suits wall and ceiling lights
- Provide less weight mechanical structure
- Highest Efficacy (> 120 lm/W)
- Longer Life Span (50.000h)
- Higher Power Factor (> 0.97)
- Low THD <%20
- EMC tested compatible with EN55015
- Withstand High Surge & Burst L-N : 2KV (EN 61000-4-5 Class 3)
- Compatibility of ROHS and CE
- Microprocessor controlled constant power mode independents of line voltage
- CRI 80 is standart, CRI 70 and CRI 90 are available
- Easy installation, no need to worry for driver spac

Applications



Photometry



Driving Current vs Lumen Output Specification

TECHNICAL SPECS	
Rated Voltage	220-240 V AC
Input Voltage	198-260 V AC
Frequency	47-63 Hz
PF	>0,97
Ambient Temp.	-20 ~+50°C 20-90% RH
Max. Case Temp.	85 °C
Beam Angle	120°
IP Level	IP00
Dimention	Ø 130 mm

ABSOLUTE MAXIMUM RATING Ta=25 °C

PARAMETER	SYMBOL	UNIT	VALUE
Maximum Input Voltage	Vin	Vac	265V AC
Power Consumption	P	W	30 W
Operation Temperature	Topr	°C	- 30 ~ 85
Storage Temperature	Tstg	°C	- 40 ~ 100
ESD Sensivity			2KV

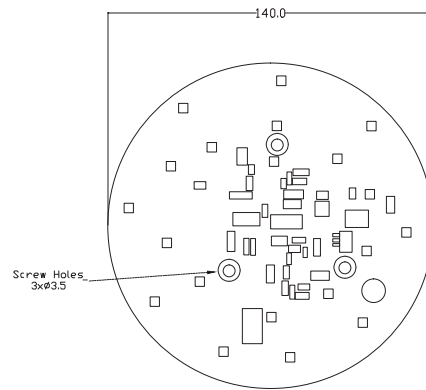
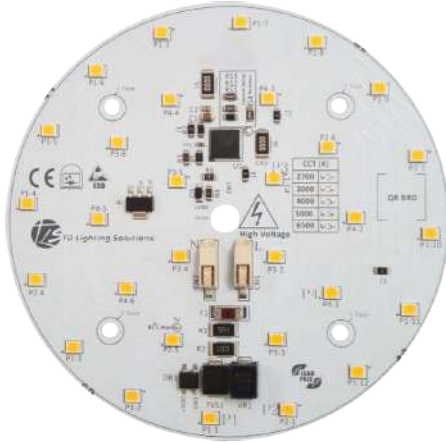
PHOTOMETRIC MEASUREMENTS (LM-79-08)

Module Lumen Output	3960 lm +/-%5
Module Power	33 W
Module Efficiency	> 125lm/W
CRI	>80

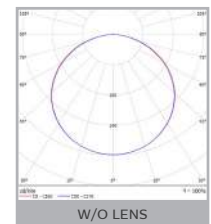
Lumen Output Multiplier					
LED	2700°K (CRI 80)	3000°K (CRI 80)	4000°K (CRI 80)	5000°K (CRI 80)	6500°K (CRI 80)
2835 EC	0,92	0,95	1	1	1



X-MR00140NCxx-NF2W757GRV3-20-E312-20W

**Specifications:**

- No need of any AC to DC driver
- Direct plug to 200~240V 50/60 Hz AC supply
- Highly Cost Effective
- Suits wall and ceiling lights
- Provide less weight mechanical structure
- Highest Efficacy (> 125 lm/W)
- Longer Life Span (50.000h)
- Higher Power Factor (> 0.97)
- Low THD <%20
- EMC tested compatible with EN55015
- Withstand High Surge & Burst L-N : 2KV (EN 61000-4-5 Class 3)
- Compatibility of ROHS and CE
- Microprocessor controlled constant power mode independents of line voltage
- CRI 80 is standart, CRI 70 and CRI 90 are available
- Easy installation, no need to worry for driver spac

Applications**Photometry****Driving Current vs Lumen Output Specification**

TECHNICAL SPECS	
Rated Voltage	220-240 V AC
Input Voltage	198-260 V AC
Frequency	47-63 Hz
PF	>0,97
Ambient Temp.	-20 ~+50°C 20-90% RH
Max. Case Temp.	85 °C
Beam Angle	120°
IP Level	IP00
Dimensions	Ø 140 mm

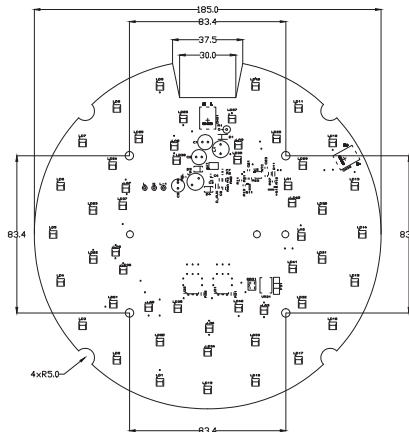


ABSOLUTE MAXIMUM RATING Ta=25 °C			
PARAMETER	SYMBOL	UNIT	VALUE
Maximum Input Voltage	Vin	Vac	265V AC
Power Consumption	P	W	20 W
Operation Temperature	Topr	°C	- 30 ~ 85
Storage Temperature	Tstg	°C	- 40 ~ 100
ESD Sensivity			2KV

PHOTOMETRIC MEASUREMENTS (LM-79-08)	
Module Lumen Output	2500lm +/-5
Module Power	20 W
Module Efficiency	> 125lm/W
CRI	>80

Lumen Output Multiplier					
LED	2700°K (CRI 80)	3000°K (CRI 80)	4000°K (CRI 80)	5000°K (CRI 80)	6500°K (CRI 80)
NF2W757GR-V3-R8000	0,875	0,916	1	1	1

X-MR00185NCxx-NFSx757G-AC42 with EMG Kit



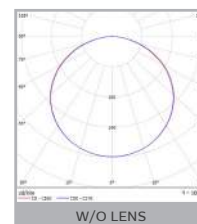
Specifications:

- No need of any AC to DC driver
- Direct plug to 200~240V 50/60 Hz AC supply
- Highly Cost Effective
- Suits wall and ceiling lights
- Provide less weight mechanical structure
- Highest Efficacy (> 125 lm/W)
- Longer Life Span (50.000h)
- Higher Power Factor (> 0.97)
- Low THD <%20
- EMC tested compatible with EN55015
- Withstand High Surge & Burst L-N : 2KV (EN 61000-4-5 Class 3)
- Compatibility of ROHS and CE
- Microprocessor controlled constant power mode independents of line voltage
- CRI 80 is standart, CRI 70 and CRI 90 are available
- Easy installation, no need to worry for driver spac

Applications



Photometry



Driving Current vs Lumen Output Specification

TECHNICAL SPECS	
Rated Voltage	220-240 V AC
Input Voltage	198-260 V AC
Frequency	47-63 Hz
PF	>0,97
Ambient Temp.	-20 ~+50°C 20-90% RH
Max. Case Temp.	85 °C
Beam Angle	120°
IP Level	IP00
Dimention	Ø 185 mm

ABSOLUTE MAXIMUM RATING Ta=25 °C

PARAMETER	SYMBOL	UNIT	VALUE
Maximum Input Voltage	Vin	Vac	265V AC
Power Consumption	P	W	30 W
Operation Temperature	Topr	°C	- 30 ~ 85
Storage Temperature	Tstg	°C	- 40 ~ 100
ESD Sensivity			2KV

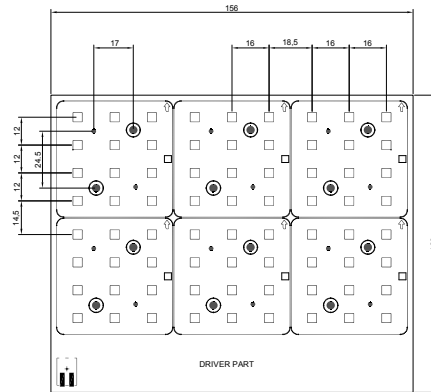
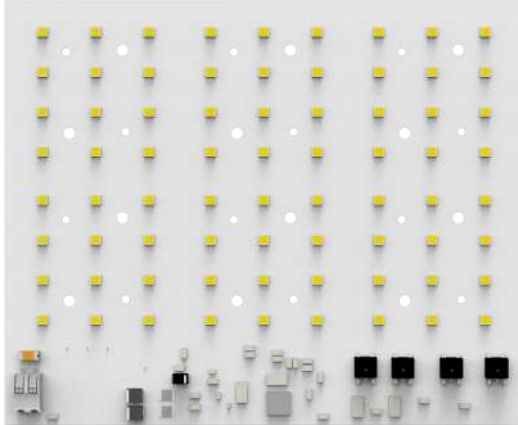
PHOTOMETRIC MEASUREMENTS (LM-79-08)

Module Lumen Output	3750lm +/-5
Module Power	30 W
Module Efficiency	> 125lm/W
CRI	>80

Lumen Output Multiplier					
LED	2700°K (CRI 80)	3000°K (CRI 80)	4000°K (CRI 80)	5000°K (CRI 80)	6500°K (CRI 80)
NFSx757G-V3_R8000	0,875	0,916	1	1	1



X-MS128156NCxx-NF2W757GRV3-72-7500lm-60W



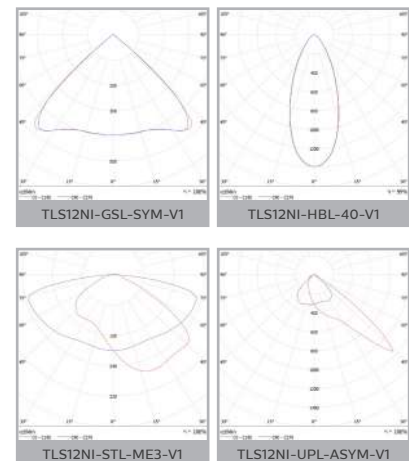
Specifications:

- No need of any AC to DC driver
- Direct plug to 200~240V 50/60 Hz AC supply
- Highly Cost Effective
- Suits Flood Lighting, Security Lightin,Port Lighting and Park Lighting.
- Provide less weight mechanical structure
- Highest Efficacy (> 125 lm/W)
- Longer Life Span (50.000h)
- Higher Power Factor (> 0.97)
- Low THD <%20
- EMC tested compatible with EN55015
- Withstand High Surge & Burst L-N : 4KV (EN 61000-4-5 Class 3)
- Compatibility of ROHS and CE
- Microprocessor controlled constant power mode independents of line voltage
- CRI 80 is standart, CRI 70 and CRI 90 are available
- Easy installation, no need to worry for driver spac

Applications



Photometry



Driving Current vs Lumen Output Specification

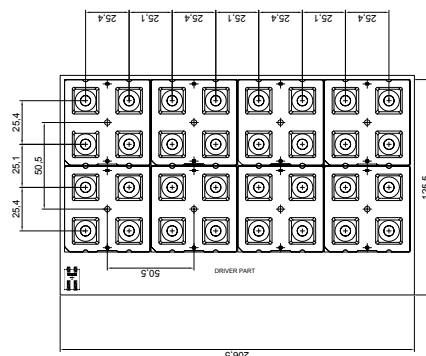
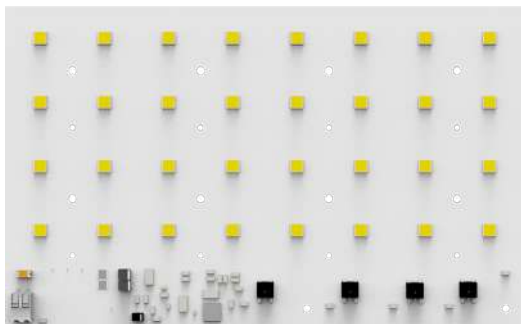
TECHNICAL SPECS	
Rated Voltage	220-240 V AC
Input Voltage	198-260 V AC
Frequency	47-63 Hz
PF	>0,97
Ambient Temp.	-20 ~+50°C 20-90% RH
Max. Case Temp.	85 °C
Beam Angle	120°
IP Level	IP00
Dimensions	128x156mm



ABSOLUTE MAXIMUM RATING Ta=25 °C			
PARAMETER	SYMBOL	UNIT	VALUE
Maximum Input Voltage	Vin	Vac	265V AC
Power Consumption	P	W	60 W
Operation Temperature	Topr	°C	- 30 ~ 85
Storage Temperature	Tstg	°C	- 40 ~ 100
ESD Sensivity			2KV

PHOTOMETRIC MEASUREMENTS (LM-79-08)	
Module Lumen Output	7500lm +/-%5
Module Power	60 W
Module Efficiency	> 125lm/W
CRI	>80

Lumen Output Multiplier					
LED	2700°K (CRI 80)	3000°K (CRI 80)	4000°K (CRI 80)	5000°K (CRI 80)	6500°K (CRI 80)
NF2W757GR-V3-R8000	0,875	0,916	1	1	1



Specifications:

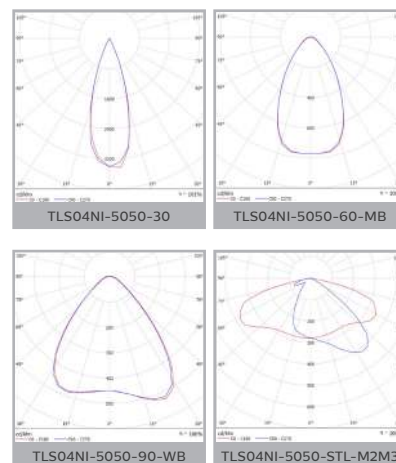
- No need of any AC to DC driver
- Direct plug to 200~240V 50/60 Hz AC supply
- Highly Cost Effective
- Suits Flood Lighting, Security Lightin,Port Lighting and Park Lighting.
- Provide less weight mechanical structure
- Highest Efficacy (> 125 lm/W)
- Longer Life Span (50.000h)
- Higher Power Factor (> 0.97)
- Low THD <%20
- EMC tested compatible with EN55015
- Withstand High Surge & Burst L-N : 4KV (EN 61000-4-5 Class 3)
- Compatibility of ROHS and CE
- Microprocessor controlled constant power mode independents of line voltage
- CRI 80 is standart, CRI 70 and CRI 90 are available
- Easy installation, no need to worry for driver spac

Applications



High Bay Lighting Street Lighting

Photometry



Driving Current vs Lumen Output Specification

TECHNICAL SPECS	
Rated Voltage	220-240 V AC
Input Voltage	198-260 V AC
Frequency	47-63 Hz
PF	>0,97
Ambient Temp.	-20 ~+50°C 20-90% RH
Max. Case Temp.	85 °C
Beam Angle	120°
IP Level	IP00
Dimention	128x206 mm

ABSOLUTE MAXIMUM RATING Ta=25 °C

PARAMETER	SYMBOL	UNIT	VALUE
Maximum Input Voltage	Vin	Vac	265V AC
Power Consumption	P	W	100 W
Operation Temperature	Topr	°C	- 30 ~ 85
Storage Temperature	Tstg	°C	- 40 ~ 100
ESD Sensivity			4KV

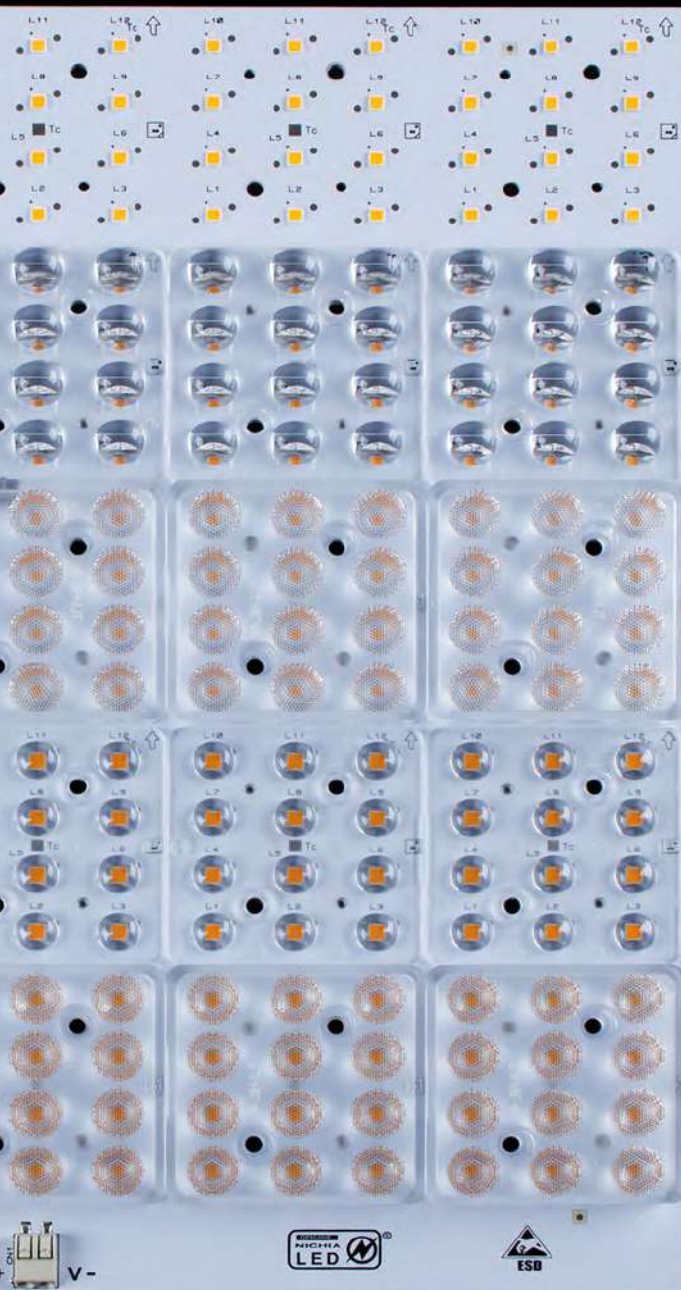
PHOTOMETRIC MEASUREMENTS (LM-79-08)

Module Lumen Output	1250lm +/-5%
Module Power	100 W
Module Efficiency	> 125lm/W
CRI	>80

Lumen Output Multiplier					
LED	2700°K (CRI 80)	3000°K (CRI 80)	4000°K (CRI 80)	5000°K (CRI 80)	6500°K (CRI 80)
5050	0,875	0,916	1	1	1



ONE PCB DESIGN FOR SIX DIFFERENT OPTICS



PCB

1.6mm PCB
2 Oz copper
2 W/mK thermal conductivity

UPL-ASY

Application Under pass lighting
Flood lighting
Wallwasher
Viewing angle Asymmetrical
Efficiency 94% PMMA

HBL-60

Application Highbay lighting
Flood lighting
Wallwasher
Viewing angle 60°
Efficiency 94% PMMA

GSL-SYM

Application Gas station lighting
Highbay & Lowbay lighting
Flood lighting
Viewing angle 90°
Efficiency 94% PMMA

HBL-40

Application Highbay & Lowbay lighting
Flood lighting
Wallwasher
Viewing angle 40°
Efficiency 94% PMMA

LIMBUS

CONTROL YOUR LIGHT

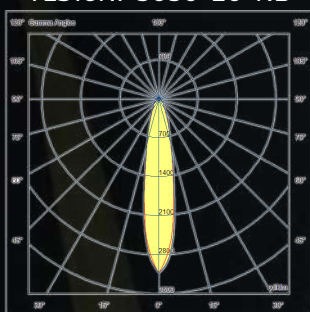
Street Lighting

TLS16NI-5050-STL-M2M3

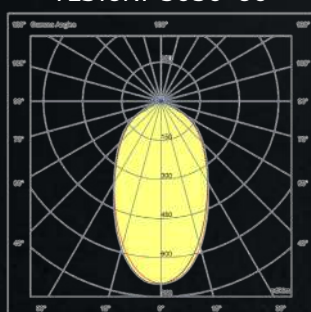


**PATENT
PENDING**

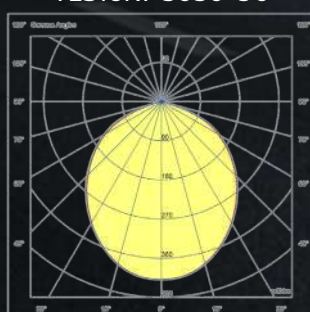
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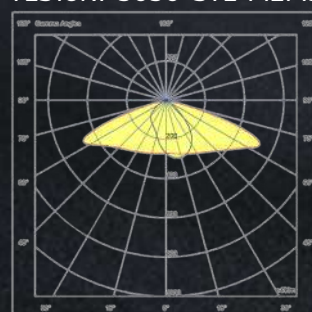
TLS16NI-5050-60



TLS16NI-5050-90



TLS16NI-5050-STL-M2M3



OVER 3 COUNTRIES

Being a solution provider-partner in energy, telecommunication and lighting industries over the regions of Eastern Europe, Turkey and Middle East.



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