V Series H.I.D Lighting Fixtures
VG, VN, VZ Series

Wet Locations
Marine Locations
NEMA 3,3R,4,4X,7

< VG >

< VN >

< VZ >

❖ Type of Explosion-proof

Class I Division 2 Group A,B,C,D
Class II Division 1,2 Group E,F,G
Class III Division 1
Simultaneous Presence (VN Series)
Non Sparking (Ex nR II T4 IP66)
Dust Ignition-proof (Ex DP II 11)

❖ Fixture Wattage

Lamp Type	V Series Wattage		
	VG	VN	VZ
HPS	50, 70, 100	150, 200, 250	250, 400
MH	100	175, 250	250, 400
MV	100	200, 250	250, 400

❖ Application

V Series HID lighting fixtures are used ;

- in heavy process industries having environments where flammable or explosive vapors or gases, or where combustible dusts are present.
- in hazardous areas, both indoors and outdoors where long life and low maintenance costs are desired.
- in petroleum refineries, chemical, petrochemical and other heavy process industry facilities.
- in paint spray booth suitability provides efficient, economical HID lighting for paint spray areas.
- where ignitable concentrations of flammable gases, vapors or liquids can exist all of the time or some of the time under normal operation conditions.
- in hazardous locations requiring elevated ambient capability.
- in installations where moisture, dirt, dust, vibration, corrosion and rough usage are problems.

❖ Features

- Hinged ballast housing for ease of installation and maintenance
- Hubs with integral conduit stop and bushing to help prevent damage to field wiring during installation.
- Factory sealed, porcelain with mogul or medium base socket.
- Dome and 30°angle reflectors made of FRP material won't rust, corrode, dent, chip or peel.
- Four mounting arrangements to suit any lighting layout pendant, ceiling, wall bracket and stanchion.
- Internal ballasts-separate ballasts are not required. High power factor (90%) ballasts reduce power costs allow more fixtures per circuit.
- Cast aluminium alloy construction and epoxy powder finish provide excellent resistant to corrosion.

⇨ If you need more data, contact us please.

V Series H.I.D Lighting Fixtures
VG Series

Wet Locations
Marine Locations
NEMA 3,3R,4,4X,7

UL LISTED

❖ Type of Explosion-proof
Non Sparking (Ex nR II T4 IP66)
Class I Division 2 Group A,B,C,D

❖ Features

- Compact, lightweight design is ideal for medium and low mounting heights.
- Cast aluminium alloy construction and epoxy powder finish provide excellent resistant to corrosion.
- Hubs with integral conduit stop and bushing to help prevent damage to field wiring during installation.
- Restricted Breathing Construction : zone 2 only

❖ Standard Materials

- Enclosure : Die casting aluminium
- Globe : Heat resistant hard glass
- Lamp socket : Porcelain with screw shell
- Reflector : High grade aluminium sheet
- Guard : Die casting aluminium

❖ Compliance & Certification

- NEC - Class I Division 2 Group A,B,C,D
- UL 844 - Lighting Fixtures for Use in Hazardous (Classified) Locations
- UL Listed File No. E 131747
- IEC 60079-0, 15
- NEMA 3, 3R, 4, 4X, 7
- Certified by UL (Underwriters Laboratories Inc.), KOSHA (Korea Occupational Safety & Health Agency), KGS (Korea Gas Safety Corporation), and the others.

❖ Options

- With Dome Reflector or 30° Angle Reflector
- Instant Restrike (HPS only)
- Fused to protect ballast and capacitors

< VG >

❖ Standard Finish

- MUNSELL No. 7.5BG 6/1.5
- If you want another color, contact us please.

❖ Technical Data

Electrical Rating	
Rated Voltage	AC110V/ 220V/ 240V (110V/ 120V/ 208V/ 220V/ 240V/ 277V for UL Listed)
Rated Wattage	50W/ 70W/ 100W
Rated Frequency	50Hz/ 60Hz
Entry Size	1/2", 3/4", 1"

❖ Weight

Mounting Type	Catalog No.	Weight
Ceiling	VGNL 22103	7.7 kg

⇨ If you need more information, contact us please.

❖ Ordering Number

Lamp	Watt	Hub Size	Pendant	Ceiling	Bracket	Stanchion	Certification
High Pressure Sodium	50	1"	VGNL 12051	VGNL 22051	VGNL 32051	VGNL 92051	Ex nR II T4 IP66 Class I Division 2 Group A,B,C,D
		3/4"	VGNL 12053	VGNL 22053	VGNL 32053	VGNL 92053	
	70	1"	VGNL 12071	VGNL 22071	VGNL 32071	VGNL 92071	
		3/4"	VGNL 12073	VGNL 22073	VGNL 32073	VGNL 92073	
	100	1"	VGNL 12101	VGNL 22101	VGNL 32101	VGNL 92101	
		3/4"	VGNL 12103	VGNL 22103	VGNL 32103	VGNL 92103	
Metal Halide	100	1"	VGHL 12101	VGHL 22101	VGHL 32101	VGHL 92101	Ex nR II T3 IP66 Class I Division 2 Group A,B,C,D
		3/4"	VGHL 12103	VGHL 22103	VGHL 32103	VGHL 92103	
Mercury Vapor	100	1"	VGML 12101	VGML 22101	VGML 32101	VGML 92101	
		3/4"	VGML 12103	VGML 22103	VGML 32103	VGML 92103	

❖ Ordering Information

VG	NL	1	2	05	1	-	DR
①	②	③	④	⑤	⑥		⑦

① VG Lighting Fixture

② Lamp Type
- NL - High Pressure Sodium
- HL - Metal Halide
- ML - Mercury Vapour

③ Mounting Type
- 1 - Pendant
- 2 - Ceiling
- 3 - Bracket
- 9 - Stanchion

④ Input Voltage (V)
- 1 - 120
- 2 - 220
- 3 - 110
- 4 - 208
- 5 - 277
- 6 - 240
- 7 - 230

⑤ Lamp Wattage (W)
- 05 - 50
- 07 - 70
- 10 - 100

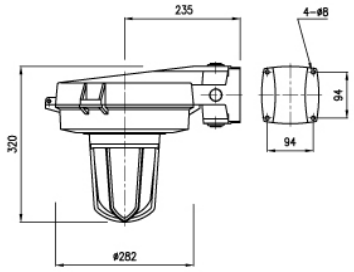
⑥ Entry Size
- 1 - 1"
- 3 - 3/4"
- 5 - 1/2"

⑦ Options
- DR - Dome Type Reflector
- AR - Angle Type Reflector
- IR - Instant Restrike
- FU - Fused Type

❖ Temperature Performance Data

Lamp		Ambient	Class I	Non-Sparking
Type	Watt.	Temp (℃)	Div. 2	"nR"
High Pressure Sodium	50	40	260 (T2B)	T4
		55	-	T4
	70	40	260 (T2B)	T4
		55	-	T4
	100	40	260 (T2B)	T4
		55	-	T4
Metal Halide	100	40	-	T3
		55	-	T3
Mercury Vapor	100	40	280 (T2A)	T4
		55	-	T4

❖ Dimension



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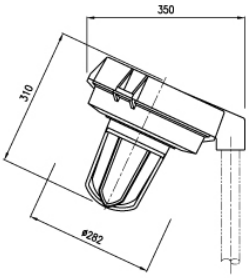

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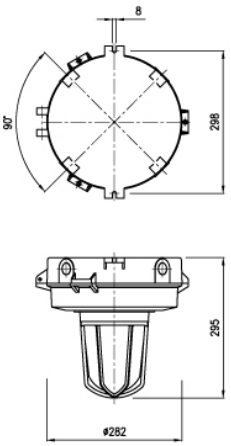

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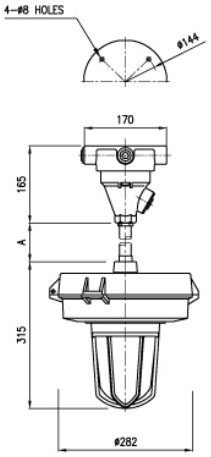
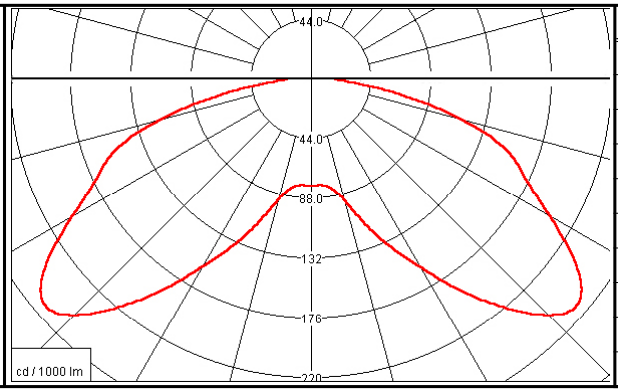


<Pendant Type>

❖ Photometric Data

<VGNL 12101-DR>

+Lamp : NH100 (9000 lm)
+With Guard
+Reflector :
Aluminium Dome type Reflector



Angle	cd/1000 lm	Angle	cd/1000 lm
0	78.7	50	262.4
5	77.8	55	239.1
10	79.7	60	199.7
15	88.2	65	169.7
20	111.5	70	158.5
25	135.9	75	113.4
30	157.5	80	65.6
35	189.4	85	23.5
40	218.4	90	13.1
45	248.4		

Multipliers

(For use with candlepower curves only)

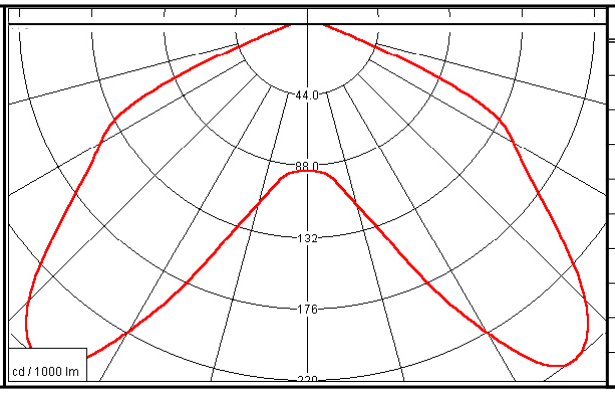
Lamp Watts	Conversion Factor
100	1
70	0.5
50	0.25

Coefficients of Utilization - Zonal Cavity

%Effective Ceiling Cavity Reflectance(ρcc)	80			70			50			30			10			0
%Wall Reflectance(ρ_w)	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	0
Room Cavity Ratio RCR	20% Effective Floor Cavity Reflectance															
0	.91	.91	.91	.89	.89	.89	.85	.85	.85	.81	.81	.81	.78	.78	.78	.77
1	.78	.75	.72	.77	.73	.70	.73	.71	.68	.70	.68	.66	.68	.66	.64	.62
2	.67	.61	.57	.66	.60	.56	.63	.58	.55	.60	.57	.53	.58	.55	.52	.50
3	.58	.51	.46	.57	.50	.45	.54	.49	.44	.52	.48	.44	.50	.46	.43	.41
4	.51	.43	.38	.50	.43	.38	.48	.42	.37	.46	.41	.37	.44	.40	.36	.34
5	.45	.38	.32	.44	.37	.32	.42	.36	.32	.41	.35	.31	.39	.35	.31	.29
6	.40	.33	.28	.39	.33	.28	.38	.32	.27	.37	.31	.27	.35	.31	.27	.25
7	.36	.29	.24	.36	.29	.24	.34	.28	.24	.33	.28	.24	.32	.27	.24	.22
8	.33	.26	.22	.32	.26	.21	.31	.26	.21	.30	.25	.21	.30	.25	.21	.19
9	.30	.24	.19	.30	.24	.19	.29	.23	.19	.28	.23	.19	.27	.22	.19	.17
10	.28	.22	.17	.28	.22	.17	.27	.21	.17	.26	.21	.17	.25	.21	.17	.16

<VGHL 12101-DR>

+Lamp : MH100 (6500 lm)
+With Guard
+Reflector :
Aluminium Dome type Reflector



Angle	cd/1000 lm	Angle	cd/1000 lm
0	90.9	50	199.9
5	90.9	55	164.8
10	94.8	60	144.0
15	114.2	65	132.4
20	133.7	70	48.1
25	177.8	75	27.3
30	218.0	80	16.9
35	266.1	85	11.7
40	266.1	90	9.0
45	245.3		

Coefficients of Utilization - Zonal Cavity

%Effective Ceiling Cavity Reflectance(ρcc)	80			70			50			30			10			0
%Wall Reflectance(ρ_w)	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	0
Room Cavity Ratio RCR	20% Effective Floor Cavity Reflectance															
0	.95	.95	.95	.93	.93	.93	.89	.89	.89	.85	.85	.85	.82	.82	.82	.80
1	.86	.83	.80	.84	.81	.79	.81	.78	.77	.77	.76	.74	.75	.73	.72	.70
2	.77	.72	.68	.75	.71	.67	.72	.69	.66	.70	.67	.64	.68	.65	.63	.61
3	.69	.63	.59	.67	.62	.58	.62	.61	.57	.63	.59	.56	.61	.58	.55	.54
4	.62	.56	.51	.61	.55	.50	.59	.54	.50	.57	.53	.49	.55	.52	.49	.47
5	.56	.49	.44	.55	.49	.44	.53	.48	.44	.52	.47	.43	.50	.46	.43	.41
6	.50	.44	.39	.50	.44	.39	.48	.43	.39	.47	.42	.38	.46	.42	.38	.37
7	.46	.40	.35	.45	.39	.35	.44	.39	.35	.43	.38	.34	.42	.38	.34	.33
8	.42	.36	.31	.42	.35	.31	.41	.35	.31	.40	.35	.31	.39	.34	.31	.29
9	.39	.32	.28	.38	.32	.28	.37	.32	.28	.36	.32	.28	.36	.31	.28	.26
10	.36	.30	.26	.35	.30	.26	.35	.29	.26	.34	.29	.25	.33	.29	.25	.24

V Series H.I.D Lighting Fixtures
VN Series

Wet Locations
Marine Locations
NEMA 3,3R,4,4X,7,9

UL LISTED

❖ Type of Explosion-proof

Non Sparking (Ex nR II T3 IP66)
Dust Ignition-proof (Ex DP II 11)
Class I Division 2 Group A,B,C,D
Class II Division 1,2 Group E,F,G
Class III Division 1

< VN >

❖ Features

- Compact, lightweight design is ideal for medium and low mounting heights.
- Wide range of light sources to meet specific lighting needs - High Pressure Sodium (HPS): 150, 200 and 250W, Mercury Vapour (MV): 200 and 250W, Metal Halide (MH): 175 and 250W.
- Restricted Breathing Construction : Zone 2 only

❖ Standard Materials

- Enclosure : Die casting aluminium
- Globe : Heat resistant hard glass
- Lamp socket : Porcelain with screw shell
- Reflector : Aluminium sheet / Fiberglass-Reinforced Polyester
- Guard : Stainless steel

❖ Certification

- UL Listed File No. E 131747
- Certified by UL (Underwriters Laboratories Inc.), KOSHA (Korea Occupational Safety & Health Agency), KGS (Korea Gas Safety Corporation), and the others.

❖ Compliance

- NEC - Class I Division 2 Group A,B,C,D, / Class II Division 1,2 Group E,F,G / Class III Division 1
- UL 844 - Lighting Fixtures for Use in Hazardous (Classified) Locations
- IEC 60079-0, 15
- NEMA 3, 3R, 4, 4X, 7, 9

❖ Options

- With Dome Reflector or 30° Angle Reflector
- Instant Restrike (HPS only)
- Fused to protect ballast and capacitors
- Quartz Auxiliary Lighting come to full brightness immediately (Non-hazardous location only)

❖ Standard Finish

- MUNSELL No. 7.5BG 6/1.5
- If you want another color, contact us please.

❖ Technical Data

Electrical Rating	
Rated Voltage	AC110V/ 220V/ 240V (110V/ 120V/ 208V/ 220V/ 240V/ 277V for UL Listed)
Rated Wattage	150W/ 175W/ 200W/ 250W
Rated Frequency	50Hz/ 60Hz
Entry Size	1/2", 3/4", 1"

❖ Weight

Mounting Type	Catalog No.	Weight
Pendant	VNNL 12153	12.6 kg
Ceiling	VNNL 22153	12.8 kg

⇨ If you need more information, contact us please.

❖ Ordering Number

Lamp	Watt	Hub Size	Pendant	Ceiling	Bracket	Stanchion	Certification
High Pressure Sodium	150	1"	VNNL 12151	VNNL 22151	VNNL 32151	VNNL 92151	Ex nR II T3 IP66 Ex DP II 11
		3/4"	VNNL 12153	VNNL 22153	VNNL 32153	VNNL 92153	
	200	1"	VNNL 12201	VNNL 22201	VNNL 32201	VNNL 92201	
		3/4"	VNNL 12203	VNNL 22203	VNNL 32203	VNNL 92203	
	250	1"	VNNL 12251	VNNL 22251	VNNL 32251	VNNL 92251	
		3/4"	VNNL 12253	VNNL 22253	VNNL 32253	VNNL 92253	
Metal Halide	175	1"	VNHL 12171	VNHL 22171	VNHL 32171	VNHL 92171	Ex nR II T3 IP66 Ex DP II 12 IP66
		3/4"	VNHL 12173	VNHL 22173	VNHL 32173	VNHL 92173	
	250	1"	VNHL 12251	VNHL 22251	VNHL 32251	VNHL 92251	
		3/4"	VNHL 12253	VNHL 22253	VNHL 32253	VNHL 92253	
Mercury Vapor	200	1"	VNML 12201	VNML 22201	VNML 32201	VNML 92201	Ex nR II T4 IP66 Ex DP II 11
		3/4"	VNML 12203	VNML 22203	VNML 32203	VNML 92203	
	250	1"	VNML 12251	VNML 22251	VNML 32251	VNML 92251	
		3/4"	VNML 12253	VNML 22253	VNML 32253	VNML 92253	

❖ Ordering Information

VN	NL	1	2	15	1	-	DR
①	②	③	④	⑤	⑥		⑦

① VN Lighting Fixture

② Lamp Type
- NL – High Pressure Sodium
- HL – Metal Halide
- ML – Mercury Vapour

③ Mounting Type
- 1 – Pendant
- 2 – Ceiling
- 3 – Bracket
- 9 – Stanchion

④ Input Voltage (V)
- 1 – 120
- 2 – 220
- 3 – 110
- 4 – 208
- 5 – 277
- 6 – 240
- 7 – 230

⑤ Lamp Wattage (W)
- 15 – 150
- 17 – 175
- 20 – 200
- 25 – 250

⑥ : Entry Size
- 1 – 1"
- 3 – 3/4"
- 5 – 1/2"

⑦ Options
- DR – Dome Type Reflector
- AR – Angle Type Reflector
- IR – Instant Restrike Type
- FU – Fused Type
- QAL – Quartz Auxiliary Lighting Type

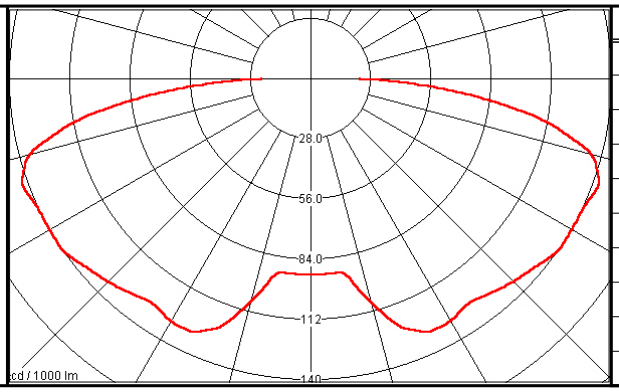
❖ Temperature Performance Data

Lamp		Ambient	Class I	Class II	Non-Sparking	Dust Ignition
Type	Watt.	Temp (℃)	Div. 2	Div. 1	"nR"	Proof "DP"
High Pressure Sodium	150	40	260 (T2B)	160 (T2C)	T3	11
		55	–	–	T3	–
	200	40	260 (T2B)	160 (T2C)	T3	11
		55	–	–	T3	–
	250	40	260 (T2B)	160 (T2C)	T3	11
		55	–	–	T3	–
Metal Halide	175	40	–	160 (T2C)	T3	11
		55		–	T3	–
	250	40	300 (T2)	160 (T2C)	T3	11
		55	–	–	T3	–
Mercury Vapor	200	40	325 (T1)	165 (T2B)	T4	11
		55	–	–	–	–
	250	40	325 (T1)	165 (T2B)	T4	11
		55	–	–	–	–

❖ Photometric Data

<VNNL 12251-DR>

+Lamp : NH250 (25000 lm)
+With Guard
+Reflector :
FRP Dome Reflector



Angle	cd/1000 lm	Angle	cd/1000 lm
0	91.0	50	136
5	91.0	55	140
10	91.0	60	140
15	107	65	140
20	123	70	143
25	130	75	136
30	130	80	110
35	127	85	68.3
40	130	90	22.8
45	133		

Multipliers

(For use with candlepower curves only)

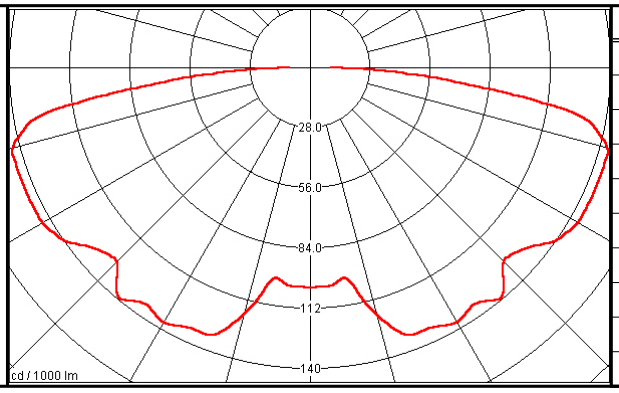
Lamp Watts	Conversion Factor
250	1
200	0.8
150	0.56

Coefficients of Utilization - Zonal Cavity

%Effective Ceiling Cavity Reflectance(ρcc)	80			70			50			30			10			0
%Wall Reflectance(ρ_w)	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	0
Room Cavity Ratio RCR	20% Effective Floor Cavity Reflectance															
0	.91	.91	.91	.89	.89	.89	.85	.85	.85	.81	.81	.81	.78	.78	.78	.77
1	.78	.75	.72	.77	.73	.70	.73	.71	.68	.70	.68	.66	.68	.66	.64	.62
2	.67	.61	.57	.66	.60	.56	.63	.58	.55	.60	.57	.53	.58	.55	.52	.50
3	.58	.51	.46	.57	.50	.45	.54	.49	.44	.52	.48	.44	.50	.46	.43	.41
4	.51	.43	.38	.50	.43	.38	.48	.42	.37	.46	.41	.37	.44	.40	.36	.34
5	.45	.38	.32	.44	.37	.32	.42	.36	.32	.41	.35	.31	.39	.35	.31	.29
6	.40	.33	.28	.39	.33	.28	.38	.32	.27	.37	.31	.27	.35	.31	.27	.25
7	.36	.29	.24	.36	.29	.24	.34	.28	.24	.33	.28	.24	.32	.27	.24	.22
8	.33	.26	.22	.32	.26	.21	.31	.26	.21	.30	.25	.21	.30	.25	.21	.19
9	.30	.24	.19	.30	.24	.19	.29	.23	.19	.28	.23	.19	.27	.22	.19	.17
10	.28	.22	.17	.28	.22	.17	.27	.21	.17	.26	.21	.17	.25	.21	.17	.16

<VNHL 12251-DR>

+Lamp : MH250 (20500 lm)
+With Guard
+Reflector :
FRP Dome Reflector



Angle	cd/1000 lm	Angle	cd/1000 lm
0	102	50	130
5	102	55	140
10	98.2	60	144
15	119	65	144
20	133	70	144
25	133	75	144
30	137	80	130
35	133	85	59.6
40	140	90	10.5
45	126		

Multipliers

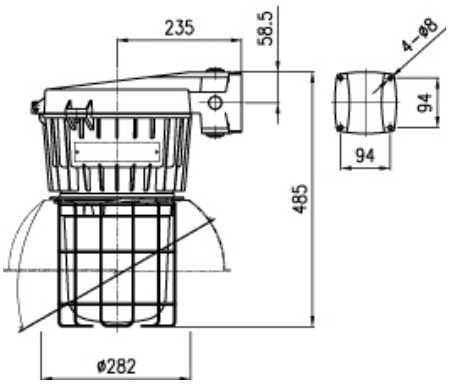
(For use with candlepower curves only)

Lamp Watts	Conversion Factor
250	1
175	0.68

Coefficients of Utilization - Zonal Cavity

%Effective Ceiling Cavity Reflectance(ρcc)	80			70			50			30			10			0
%Wall Reflectance(ρ_w)	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	0
Room Cavity Ratio RCR	20% Effective Floor Cavity Reflectance															
0	.92	.92	.92	.90	.90	.90	.86	.86	.86	.82	.82	.82	.79	.79	.79	.77
1	.79	.76	.73	.78	.74	.71	.74	.72	.69	.71	.69	.67	.68	.67	.65	.63
2	.68	.62	.58	.67	.61	.57	.64	.59	.55	.61	.57	.54	.59	.56	.53	.51
3	.59	.52	.47	.58	.51	.46	.55	.50	.45	.53	.48	.44	.51	.47	.44	.42
4	.52	.44	.39	.50	.44	.38	.48	.43	.38	.47	.41	.37	.45	.40	.37	.35
5	.46	.38	.33	.45	.38	.33	.43	.37	.32	.41	.36	.32	.40	.35	.31	.30
6	.41	.34	.28	.40	.33	.28	.39	.32	.28	.37	.32	.28	.36	.31	.27	.26
7	.37	.30	.25	.36	.29	.25	.35	.29	.24	.34	.28	.24	.33	.28	.24	.22
8	.34	.27	.22	.33	.27	.22	.32	.26	.22	.31	.26	.22	.30	.25	.22	.20
9	.31	.24	.20	.30	.24	.20	.30	.24	.20	.29	.23	.20	.28	.23	.19	.18
10	.29	.22	.18	.28	.22	.18	.27	.22	.18	.27	.21	.18	.26	.21	.18	.16

❖ Dimension



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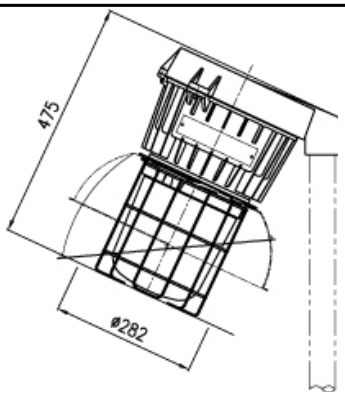

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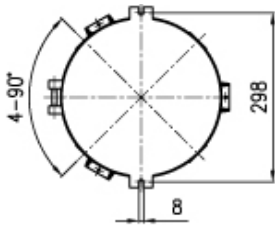

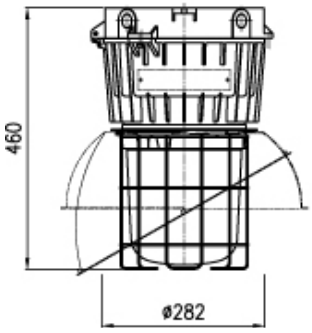

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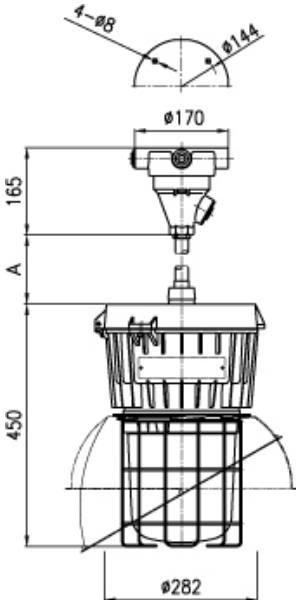


< VN Pendant Type >

V Series H.I.D Lighting Fixtures
VZ Series

Wet Locations
Marine Locations
NEMA 3,3R,4,4X,7,9

UL LISTED

❖ Type of Explosion-proof

Non Sparking (Ex nR II T2 IP66)
Class I Division 2 Group A,B,C,D
Class II Division 1,2 Group E,F,G
Class III Division 1

❖ Features

- Low ambient capability to -40℃
- Wide range of light sources to meet specific lighting needs - High Pressure Sodium (HPS): 250 and 400W, Mercury Vapour (MV): 250 and 400W, Metal Halide (MH): 250 and 400W
- Restricted Breathing Construction : Zone 2 only

❖ Certification

- UL Listed File No. E 131747
- Certified by UL (Underwriters Laboratories Inc.), KOSHA (Korea Occupational Safety & Health Agency), KGS (Korea Gas Safety Corporation), and the others.

❖ Compliance

- NEC - Class I Division 2 Group A,B,C,D, / Class II Division 1,2 Group E,F,G / Class III Division 1
- UL 844 - Lighting Fixtures for Use in Hazardous (Classified) Locations
- IEC 60079-0, 15
- NEMA 3, 3R, 4, 4X, 7, 9

< VZ >

❖ Standard Materials

- Enclosure : Die casting aluminium
- Globe : Heat resistant hard glass
- Lamp socket : Porcelain with screw shell
- Reflector : Aluminium sheet / Fiberglass-Reinforced Polyester
- Guard : Stainless steel

❖ Options

- With Dome Reflector or 30° Angle Reflector
- Fused to protect ballast and capacitors
- Quartz Auxiliary Lighting come to full brightness immediately (Non-hazardous location only)

❖ Standard Finish

- MUNSELL No. 7.5BG 6/1.5
- If you want another color, contact us please.

❖ Technical Data

Electrical Rating	
Rated Voltage	AC110V/ 220V/ 240V (※See Below)
Rated Wattage	250W/ 400W
Rated Frequency	50Hz/ 60Hz
Entry Size	1/2", 3/4", 1"

※ Also you can order various voltage : 120V/ 208V/ 277V/ 460V

❖ Weight

Mounting Type	Catalog No.	Weight
Bracket	VZNL 32253	18.8 ㎏

⇨ If you need more information, contact us please.

❖ Ordering Number

Lamp	Watt	Hub Size	Pendant	Ceiling	Bracket	Stanchion	Certification
High Pressure Sodium	250	1"	VZNL 12251	VZNL 22251	VZNL 32251	VZNL 92251	Ex nR II T3
		3/4"	VZNL 12253	VZNL 22253	VZNL 32253	VZNL 92253	
	400	1"	VZNL 12401	VZNL 22401	VZNL 32401	VZNL 92401	Ex nR II T2
		3/4"	VZNL 12403	VZNL 22403	VZNL 32403	VZNL 92403	
Metal Halide	250	1"	VZHL 12251	VZHL 22251	VZHL 32251	VZHL 92251	Ex nR II T3
		3/4"	VZHL 12253	VZHL 22253	VZHL 32253	VZHL 92253	
	400	1"	VZHL 12401	VZHL 22401	VZHL 32401	VZHL 92401	Ex nR II T2
		3/4"	VZHL 12403	VZHL 22403	VZHL 32403	VZHL 92403	
Mercury Vapor	250	1"	VZML 12251	VZML 22251	VZML 32251	VZML 92251	Ex nR II T3
		3/4"	VZML 12253	VZML 22253	VZML 32253	VZML 92253	
	400	1"	VZML 12401	VZML 22401	VZML 32401	VZML 92401	Ex nR II T2
		3/4"	VZML 12403	VZML 22403	VZML 32403	VZML 92403	

❖ Ordering Information

VZ	NL	1	2	25	1	-	DR
①	②	③	④	⑤	⑥		⑦

① VZ Lighting Fixture

② Lamp Type
- NL – High Pressure Sodium
- HL – Metal Halide
- ML – Mercury Vapour

③ Mounting Type
- 1 – Pendant
- 2 – Ceiling
- 3 – Bracket
- 9 – Stanchion

④ Input Voltage (V)
- 1 – 120
- 2 – 220
- 3 – 110
- 4 – 208
- 5 – 277
- 6 – 240
- 7 – 230

⑤ Lamp Wattage (W)
- 25 – 250
- 40 – 400

⑥ Entry Size
- 1 – 1"
- 3 – 3/4"
- 5 – 1/2"

⑦ Options
- DR – Dome Type Reflector
- AR – Angle Type Reflector
- FU – Fused Type
- QAL – Quartz Auxiliary Lighting Type

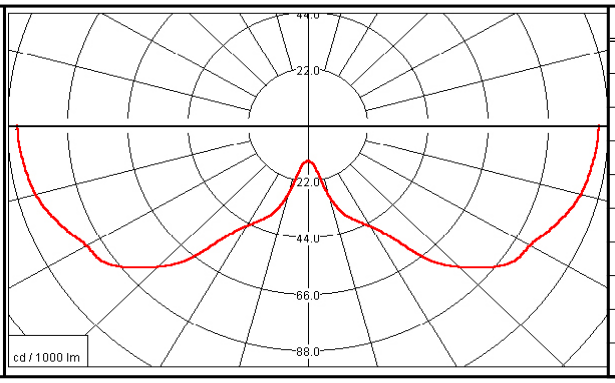
❖ Temperature Performance Data

Lamp		Ambient	Non Sparking
Type	Watt.	Temp (℃)	"nR"
High Pressure Sodium	250	40	T3
		55	T3
	400	40	T2
		55	T2
Metal Halide	250	40	T3
		55	T3
	400	40	T2
		55	T2
Mercury Vapor	250	40	T3
		55	T3
	400	40	T2
		55	T2

❖ Photometric Data

<VZNL 22401-DR>

+Lamp : NH400 (46000 lm)
+With Globe and without Guard
+Reflector :
FRP Dome Reflector



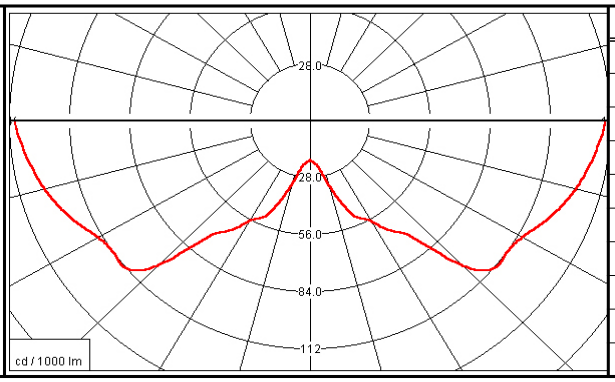
Angle	cd/1000 lm	Angle	cd/1000 lm
0	13.9	50	86.3
5	14.7	55	93.6
10	15.7	60	92.5
15	27.5	65	97.2
20	36.7	70	100
25	40.4	75	104
30	45.0	80	104
35	50.6	85	106
40	70.1	90	106
45	77.9		

Coefficients of Utilization - Zonal Cavity

%Effective Ceiling Cavity Reflectance(ρcc)	80			70			50			30			10			0
%Wall Reflectance(ρ_w)	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	0
Room Cavity Ratio RCR	20% Effective Floor Cavity Reflectance															
0	.63	.63	.63	.61	.61	.61	.58	.58	.58	.56	.56	.56	.54	.54	.54	.53
1	.52	.49	.47	.51	.48	.46	.49	.46	.44	.46	.45	.43	.44	.43	.42	.40
2	.43	.38	.34	.42	.38	.34	.40	.36	.33	.38	.35	.32	.36	.34	.31	.30
3	.36	.31	.26	.35	.30	.26	.33	.29	.25	.32	.28	.25	.30	.27	.24	.23
4	.31	.25	.21	.30	.25	.21	.29	.24	.20	.27	.23	.20	.26	.22	.20	.18
5	.27	.21	.17	.26	.21	.17	.25	.20	.17	.24	.20	.16	.23	.19	.16	.15
6	.24	.18	.14	.23	.18	.14	.22	.17	.14	.21	.17	.14	.20	.16	.13	.12
7	.21	.16	.12	.21	.15	.12	.20	.15	.12	.19	.15	.12	.18	.14	.11	.10
8	.19	.14	.10	.18	.14	.10	.18	.13	.10	.17	.13	.10	.16	.13	.10	.09
9	.17	.12	.09	.17	.12	.09	.16	.12	.09	.16	.12	.09	.15	.11	.09	.08
10	.16	.11	.08	.15	.11	.08	.15	.11	.08	.14	.10	.08	.14	.10	.08	.07

<VZHL 22401-DR>

+Lamp : MH400 (34000 lm)
+With Globe and without Guard
+Reflector :
FRP Dome Reflector

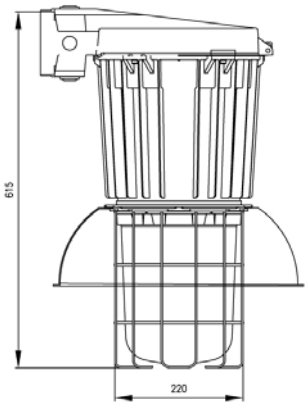


Angle	cd/1000 lm	Angle	cd/1000 lm
0	19.3	50	115
5	20.7	55	111
10	22.1	60	113
15	30.2	65	119
20	43.2	70	124
25	54.4	75	128
30	53.9	80	131
35	68.4	85	134
40	67.8	90	139
45	105		

Coefficients of Utilization - Zonal Cavity

%Effective Ceiling Cavity Reflectance(ρcc)	80			70			50			30			10			0
%Wall Reflectance(ρ_w)	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	0
Room Cavity Ratio RCR	20% Effective Floor Cavity Reflectance															
0	.79	.79	.79	.77	.77	.77	.73	.73	.73	.70	.70	.70	.67	.67	.67	.66
1	.65	.62	.58	.64	.61	.58	.61	.58	.56	.58	.56	.54	.56	.54	.52	.51
2	.54	.48	.43	.53	.47	.43	.50	.46	.42	.48	.44	.41	.46	.42	.40	.38
3	.45	.38	.33	.44	.38	.33	.42	.37	.32	.40	.35	.31	.38	.34	.31	.29
4	.39	.32	.26	.38	.31	.26	.36	.30	.26	.34	.29	.25	.33	.28	.25	.23
5	.34	.27	.21	.33	.26	.21	.31	.25	.21	.30	.25	.21	.29	.24	.20	.19
6	.30	.23	.18	.29	.23	.18	.28	.22	.18	.27	.21	.17	.25	.21	.17	.16
7	.27	.20	.15	.26	.20	.15	.25	.19	.15	.24	.19	.15	.23	.18	.15	.13
8	.24	.17	.13	.23	.17	.13	.22	.17	.13	.22	.16	.13	.21	.16	.13	.11
9	.22	.16	.11	.21	.15	.11	.20	.15	.11	.20	.15	.11	.19	.14	.11	.10
10	.20	.14	.10	.19	.14	.10	.19	.14	.10	.18	.13	.10	.17	.13	.10	.09

❖ Dimension



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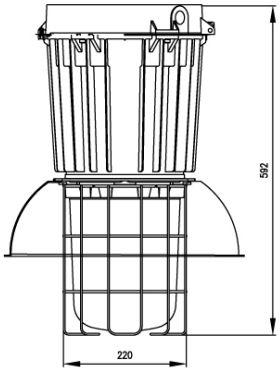

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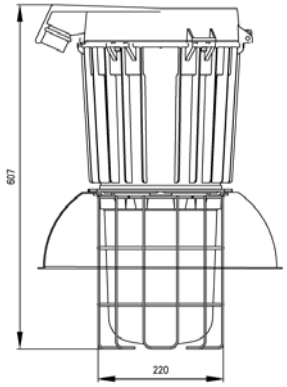

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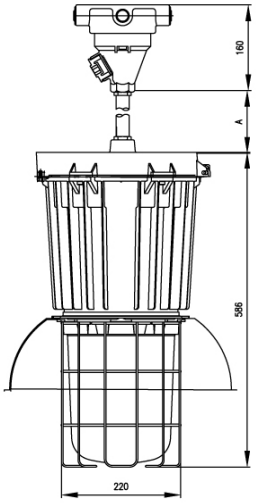

< VZ Pendant Type >

V Series H.I.D Lighting Fixtures
Auxiliary Lighting

< Auxiliary Lighting >

❖ About Auxiliary Lighting

Momentary voltage outages or dips can temporarily extinguish HID lamps which may require up to ten minutes to restrike. To provide illumination during this period, 10~20% of the fixtures should be specified with auxiliary lighting.

❖ Instant Restart

Available for 70-150 Watt VG Series High Pressure Sodium Fixtures by adding Suffix "IR" to catalog number (Ex: VN NL 1 2 15 1 - IR). Additional instant restart interior circuitry may decrease High Pressure Sodium lamp life. Feature will not affect fixture suitability in hazardous location applications

❖ Incandescent Auxiliary

With a surface lamp temperature lower than quartz, incandescent auxiliary lamps are available for Series V fixtures.

❖ Features

- Hinged ballast housing for ease of installation and maintenance
- Hubs with integral conduit stop and bushing to help prevent damage to field wiring during installation.
- Factory sealed, porcelain with mogul or medium base socket.
- Four mounting arrangements to suit any lighting layout pendant, ceiling, wall bracket and stanchion.
- Internal ballasts-separate ballasts are not required. High power factor (90%) ballasts reduce power costs allow more fixtures per circuit.
- Cast aluminium alloy construction and epoxy powder finish provide excellent resistant to corrosion.

❖ V Series Auxiliary Lighting

- Quartz auxiliary is available for all V Series fixtures (except those with plastic refractors) by adding the suffix QAL to the fixture catalog number. (Example : VN NL 1 2 15 1- QAL)
- Series VG fixtures with this option use 100 or 150 watt quartz lamps. Series VN wattage fixtures can use up to 250 watt quartz lamps. Quartz lamps are not supplied with the fixture
- Due to the quartz envelope surface temperature (exceeding 6000°C), fixtures with this option are not suitable for Wet hazardous locations. Contact the Factory for specific fixture suitabilities.