

SINCE 1984

HEPEC

Global LED Lighting Specialist



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www.hepecled.com

Global LED Lighting Specialist



HEPEC



CEO's Greeting



Greetings. I am Sung In Choi, the CEO of HEPEC Co., Ltd. HEPEC Co., Ltd. began as Hyundai Explosion-Proof Electric Co., Ltd. in 1984 and marks its 40th year as a lighting specialist company.

HEPEC's specialized explosion-proof lighting fixtures are highly acclaimed for their safety and Efficiency, and are actively used in essential facilities such as oil refineries, gas plants, chemical factories, airports, and hangars. In November 2007, HEPEC's excellent technological prowess and business potential were recognized, leading to a successful M&A with Cooper Group, a world-renowned electrical product manufacturer with a 180-year history in the USA.

HEPEC entered the LED lighting market in 2008, aligning with the global trend towards energy reduction and leveraging our accumulated technological expertise. We develop and sell customized LED lighting products suitable for various industrial fields, such as LED explosion-proof lights, LED floodlights (factory lights), and LED high-power lights (sports lights), through independent technology development and securing key core technologies. Additionally, our in-house software capabilities enable us to offer lighting control solutions (smart lighting control systems), providing users with greater convenience and the benefits of energy savings.

HEPEC constantly strives for new technology development, product quality improvement, and enhancing customer service, to maintain our reputation as a global LED lighting specialist company. We express our deep gratitude to our customers for their unwavering trust and support and look forward to your continued patronage. Thank you.

CEO Sung In Choi

A handwritten signature in black ink, written in Korean calligraphy. The signature consists of three main characters: '최', '영', and '인', which read 'Sung In Choi'.

The Look of HEPEC



Industrial Service Medal (The National Quality Management Convention)



National Productivity Award (Minister of Trade, Industry and Energy of South Korea)



Participation in KINTEX LED EXPO

Company History

-
- 2023**
- 1 Patent for LED searchlights with adjustable beam angle
 - 3 Certificate of Excellent Technology Evaluation Company (Grade T3+)
Designated as a Family Company by IBK
 - 4 Relocation to a new office in Gwangju-si, Gyeonggi-do Province
 - 7 IECEE-CB (International Electrical Safety) Certification (LED explosion-proof lights under 150W)
IECEX (International Explosion-Proof) Certification (LED explosion-proof lights under 150W)
 - 8 ATEX (European Explosion-Proof) Certification (LED explosion-proof lights under 150W)

-
- 2022**
- 4 Presidential Commendation (For Contributions to National and Social Development)
Certificate of Excellent Technology Evaluation Company (Grade T3)
 - 6 ESG Excellence Company Certification issued by Korea Rating & Data (KoDATA)
Electric Construction Business License (No. Seoul-06305) Registration
 - 8 IECEE-CB (International Electrical Safety) Certification (LED explosion-proof lights under 80W)
IECEX (International Explosion-Proof) Certification (LED explosion-proof lights under 80W)
Partnership registration with HD Hyundai Heavy Industries Co., Ltd.
Partnership registration with SK Multi Utility Co., Ltd.
 - 10 Partnership registration with Lotte Engineering & Construction Co., Ltd.
ATEX (European Explosion-Proof) Certification (LED explosion-proof lights under 80W)
 - 11 Patent for forced air-cooled LED lighting with air guide
Commendation from Korea SMEs and Startups Agency
 - 12 No.1 in National Brand Award (LED Lighting Quality Management Category) by Kukmin Ilbo

-
- 2021**
- 9 Partnership registration with SK Advanced Co., Ltd.

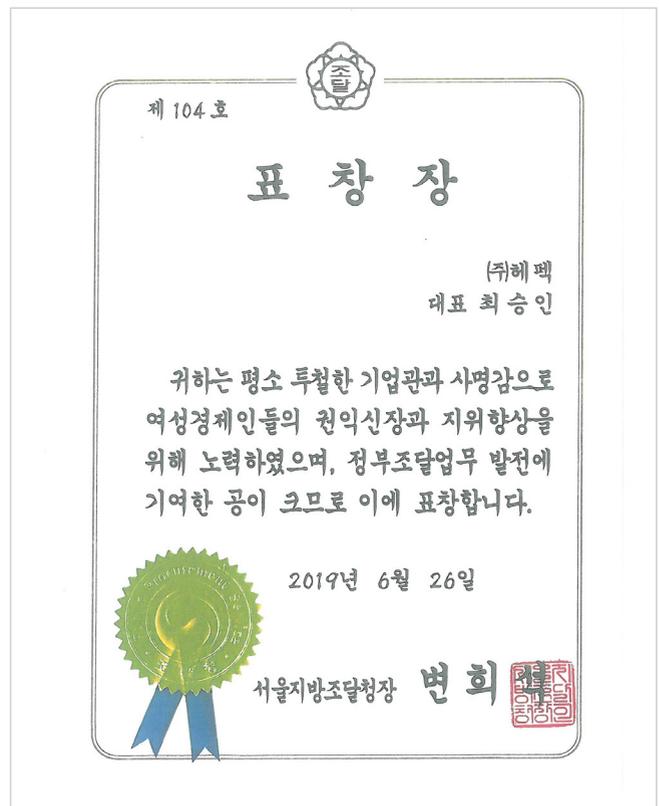
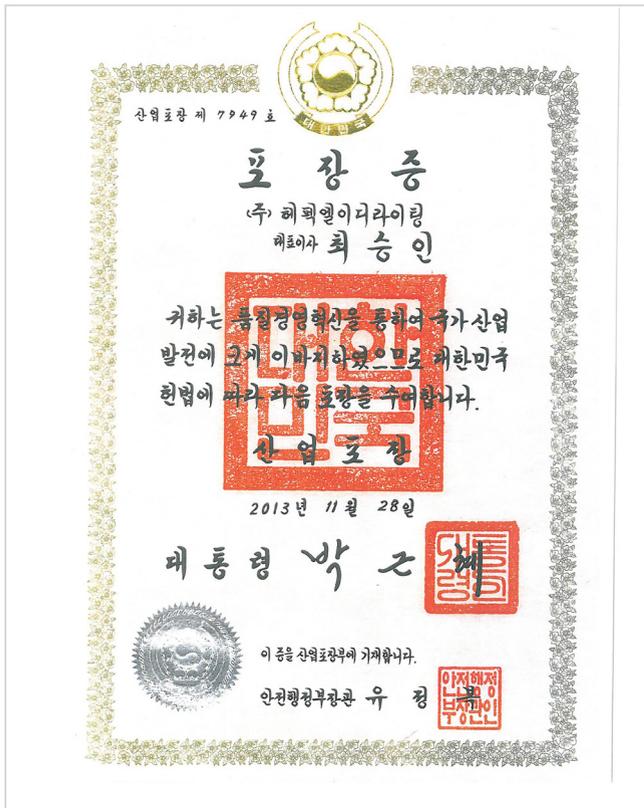
-
- 2020**
- 2 Patent for metal PCB with heat dissipation layer
Partnership registration with SK Chemical
 - 3 Partner registration with KEPCO Energy Solution (Korea Electric Power Corporation)
 - 11 Smart Factory Certificate by TIPA (Korea Technology and Information Promotion Agency for SMEs)

-
- 2019**
- 1 Eligibility Certificate for Supplying Equipment to Korea Southern Power Co., Ltd.
 - 4 Partnership registration with GS Caltex Corporation
 - 7 Partnership registration with S-Oil Corporation
Partnership registration with LG Chem Ltd.
 - 10 Partnership registration with SKC Co., Ltd.

Company History

-
- 2018**
- 5 Patent for Easy-to-replace lighting module for explosion-proof fluorescent light fixtures
Explosion-proof safety certification for mounting boxes and round junction boxes
 - 9 High-Efficiency certification for new high-power LED floodlight fixtures
 - 12 Explosion-proof safety certification for new LED explosion-proof lights (under 150W)
-
- 2017**
- 3 Release of new LED floodlights (factory lights)
 - 4 Registration as an Energy Saving Specialist Company (ESCO)
Release of new LED explosion-proof lights
-
- 2016**
- 3 Patent for high-temperature LED light fixtures
 - 4 Patent for ultra-low temperature LED light fixtures
-
- 2015**
- 6 KINTEX LED EXPO 2015
 - 9 Supply and installation of lighting towers at Incheon New Port (35M Lifting and Lowering Type)
-
- 2014**
- 1 Trademark Registration for GeneLuce (Korean Intellectual Property Office)
-
- 2013**
- 1 Patent for power supply device for LED lighting
Patent for dimming device and lighting system including it
 - 9 37th National Productivity Award (Minister of Trade, Industry and Energy of South Korea)
Acquisition of Inno-Biz Certification
 - 10 ISO9001 Quality Management System Certification
ISO14001 Environmental Management System Certification
 - 11 39th Industrial Service Medal (The National Quality Management Convention)
-
- 2012**
- 3 Acquisition of Venture Company Certification
 - 4 Registration of Corporate Research Institute
-
- 2009**
- 3 Patent for manufacturing method of light-emitting devices using separation by ion implantation
-
- 2008**
- 1 Incorporation of HEPEC Co., Ltd.
 - 9 Establishment of the factory for HEPEC Co., Ltd.
 - 10 Patent for lighting circuit of multiple LEDs using transformers
Patent for lighting circuit of multiple LEDs using resistors

Government Awards and Institutional Commendations



Government and International Certifications

제 서 례-06305 호

전기공사업 등록증

상 호 주 식 회 사 헤 펙 (HEPEC CO., LTD.)

대 표 자 최 승 인

법인등록번호(생년월일) 110111-3829459

연 업 소 지 경기도 광주시 도척면 다람로40번길 21

등록연월일 2023년 08월 23일

「전기공사업법」 제4조제1항에 따라
위와 같이 등록하였음을 증명합니다.

2023년 08월 23일

경기도지

(제보본-외소)

210mm × 297mm(보존용지(1종) 120g/㎡)

문서확인번호: 1689-9202-3738-8673

공장등록증명(신청서)

접수번호 2023072133261704001 접수일 2023.07.21 처리기간 즉시

회사명	주식회사 헤펙		전화번호	02-488-1515
신청인	대표자 성명	최승인	생년월일(법인등록번호)	110111-3829459
	대표자 주소(법인 소재지)	경기도 광주시 도척면 다람로40번길 21		

공장 소재지	경기도 광주시 도척면 다람로40번길 21	지역	공장용지	보유구분	지가 [O], 임대[]
공장 등록일	2023년 05월 03일	사업 시작일	종업원 수	남 : 4	여 : 2
공장의 업종(분류번호)	일반용 전기 조영장치 제조업 외 1종(28422, 28410)				
공장 부지 면적(㎡)	958.000	제조시설 면적(㎡)	423.000	부대시설 면적(㎡)	882.900

등록 조건 조건 : 해당없음

등록변경·중실등 기재사항 변경내용(변경 날짜 및 내용) 공장관리번호 416102023008324

「산업집적활성화 및 공장설립에 관한 법률」 제16조제1항·제2항·제3항에 따라 위와 같이 등록된 공장임을 증명합니다.

2023년 07월 21일

한국산업단지공단이사

본 증명서는 인터넷으로 발급되었으며, 동부24(gov.kr)의 인터넷발급문서진위확인 메뉴를 통해 위·변조 여부를 확인할 수 있습니다. (발급로부터 90일까지) 또한 문서확인의 메타데이터 진위확인(동부24 또는 스캐너를 문서확인프로그램)을 이용할 수 있습니다.

문서확인번호: 1689-9202-3738-8673

공장등록증명(신청서)

접수번호 2023072133261704001 접수일 2023.07.21 처리기간 즉시

회사명	주식회사 헤펙		전화번호	02-488-1515
신청인	대표자 성명	최승인	생년월일(법인등록번호)	110111-3829459
	대표자 주소(법인 소재지)	경기도 광주시 도척면 다람로40번길 21		

공장 소재지	경기도 광주시 도척면 다람로40번길 21	지역	공장용지	보유구분	지가 [O], 임대[]
공장 등록일	2023년 05월 03일	사업 시작일	종업원 수	남 : 4	여 : 2
공장의 업종(분류번호)	일반용 전기 조영장치 제조업 외 1종(28422, 28410)				
공장 부지 면적(㎡)	958.000	제조시설 면적(㎡)	423.000	부대시설 면적(㎡)	882.900

등록 조건 조건 : 해당없음

등록변경·중실등 기재사항 변경내용(변경 날짜 및 내용) 공장관리번호 416102023008324

「산업집적활성화 및 공장설립에 관한 법률」 제16조제1항·제2항·제3항에 따라 위와 같이 등록된 공장임을 증명합니다.

2023년 07월 21일

한국산업단지공단이사

본 증명서는 인터넷으로 발급되었으며, 동부24(gov.kr)의 인터넷발급문서진위확인 메뉴를 통해 위·변조 여부를 확인할 수 있습니다. (발급로부터 90일까지) 또한 문서확인의 메타데이터 진위확인(동부24 또는 스캐너를 문서확인프로그램)을 이용할 수 있습니다.

■ 여성기업지원에 관한 법률 시행령 (별지 제2호서식)

발급번호: 제 0111-2020-13074 호

여성기업 확인서

1. 기 업 명: (주)헤펙

2. 사업자등록번호: 212-81-82133

3. 주 업 종: 제조업

4. 대 표 자: 최승인

5. 주 소 (본점): 경기도 광주시 도척면 다람로40번길 21

*1건의 재발급 내용이 존재합니다. 「재발급 현황」 화면에 계속

유효기간: 2020. 08. 23. - 2023. 08. 22.

「여성기업지원에 관한 법률」 제2조 및 같은 법 시행령 제2조에 따른 여성기업에 해당함을 확인합니다.

2020년 08월 21일

경기지방중소벤처기업청장

* 이 확인서는 공공구매 종합정보망(www.smpg.go.kr) 을 통해 정보를 확인하고 출력 (2023-04-14 16:34, (주)헤펙)한 확인서입니다.
* 이 문서를 위변조 시 처벌을 받을 수 있음

Government and Institutional Certifications

발급번호 제 2022023030089 호

벤처기업확인서

CERTIFICATE OF VENTURE ENTERPRISE



· 기업명	㈜해팩
· 사업자등록번호	212-81-82133
· 대표자	최승인
· 주소	경기도 광주시 도척면 다람로40번길 21
· 확인유형	혁신성장유형
· 유효기간	2022년 03월 27일 ~ 2025년 03월 26일

위 기업은 「벤처기업육성에 관한 특별조치법」 제25조의 규정에 의거 벤처기업임을 확인합니다.

2023년 07월 31일



이 확인서는 「벤처기업육성법」 제25조의2(벤처기업확인기관의 지정 등에 따라 지정된 벤처기업확인기관) (사)벤처기업협회가 벤처기업육성관리시스템을 통해 정보를 확인하고 발급한 확인서입니다.
(벤처기업확인기관 지정기간 : '20.7.1'~'23.6.30')

벤처기업 해당사유 : 벤처기업육성법 제25조의2(벤처기업확인기관의 지정 등에 따라 지정된 벤처기업확인기관)에 의거 벤처기업임을 확인하고 발급한 확인서입니다.



제 R130601 - 00479 호

기술혁신형 중소기업(Inno-Biz) 확인서

업 체 명 : (주)해팩
대 표 자 : 최승인
주 소 : 경기 광주시 도척면 다람로40번길 21
등 급 : A
유효기간 : 2022. 4. 17 ~ 2025. 4. 16

위 업체는 기술혁신형 중소기업 육성사업에 의해 선정된 기술혁신형 중소기업(Inno-Biz)임을 확인합니다.
* 요청에 의한 재교부

2023년 4월 20일



중소벤처기업부장관

경영시스템인증서

(주)해팩

경기도 광주시 도척면 다람로40번길 21



한국표준협회는 위 조직의 환경경영시스템이 아래의 표준과 인증범위에 적합함을 인증합니다.

인증번호 EMS-1545
표 준 KS I ISO 14001:2015/ISO 14001:2015

인증범위 LED 발목등, LED 실내조명등, 간버터 내/외장형 LED 램프, LED 투광 등기구, LED 가로등 및 보안등기구, LED 티널 등기구, LED 다운 라이트의 설계, 개발 및 생산

유효기간 2022년 09월 30일부터 2025년 09월 29일까지

최초인증일 : 2013년 09월 30일
2023년 04월 18일

* 시험장 통일이행어 따른 인증서 재발행




한국표준협회 한국인증지원센터(KAB)로부터 환경경영체계 인증기관으로 인정(인정번호 : KAB-EC-11)되었습니다.
서울특별시 강남구 테헤란로 69길 5

경영시스템인증서

(주)해팩

경기도 광주시 도척면 다람로40번길 21



한국표준협회는 위 조직의 품질경영시스템이 아래의 표준과 인증범위에 적합함을 인증합니다.

인증번호 QMS-4741
표 준 KS Q ISO 9001:2015/ISO 9001:2015

인증범위 LED 발목등, LED 실내조명등, 간버터 내/외장형 LED 램프, LED 투광 등기구, LED 가로등 및 보안등기구, LED 티널 등기구, LED 다운 라이트의 설계, 개발 및 생산

유효기간 2022년 09월 30일부터 2025년 09월 29일까지

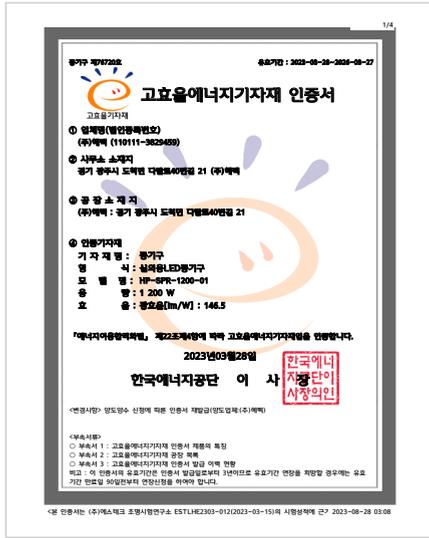
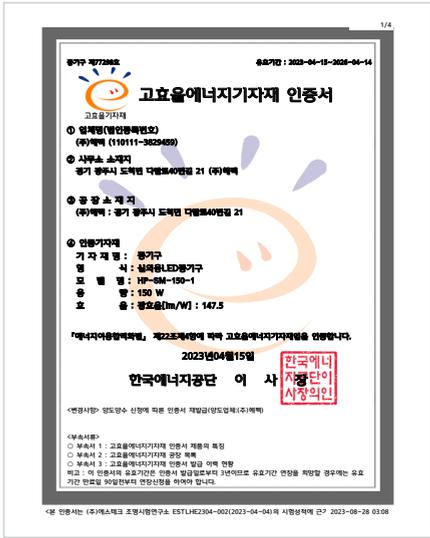
최초인증일 : 2013년 09월 30일
2023년 04월 18일

* 시험장 통일이행어 따른 인증서 재발행




한국표준협회는 한국인증지원센터(KAB)로부터 품질경영체계 인증기관으로 인정(인정번호 : KAB-QC-30)되었습니다.
서울시 강남구 테헤란로 69길 5

Institutional Certifications and Patents



Patents

특허증
CERTIFICATE OF PATENT

특허 제 10-1709669 호
Patent Number 제 10-2016-0123827 호
출원번호 Application Number 2016년 09월 27일
출원일 Filing Date 2017년 02월 17일
등록일 Registration Date

발명자명칭 Title of the Inventor
발명된 및 이를 이용하여 제작된 발명된 및 LED 기호용

특허권자 Name
주식회사 제넥(110111-*****)
경기도 광주시 도척면 다림로40번길 21

발명지 Name
박정호(991210-*****)
서울특별시 서초구 방배로 14, 5층 1006호 (한배동, 일광아파트)

위의 발명은 「특허법」에 따라 특허원부에 등록되었음을 증명합니다.
This is to certify that, in accordance with the Patent Act, a patent for the invention has been registered at the Korean Intellectual Property Office.

2023년 04월 07일
특허청장
COMMISSIONER
KOREAN INTELLECTUAL PROPERTY OFFICE
이 인 신

특허증
CERTIFICATE OF PATENT

특허 제 10-1983254 호
Patent Number 제 10-2018-0075303 호
출원번호 Application Number 2018년 06월 29일
출원일 Filing Date 2019년 05월 22일
등록일 Registration Date

발명자명칭 Title of the Inventor
LED 조명용

특허권자 Name
주식회사 제넥(110111-*****)
경기도 광주시 도척면 다림로40번길 21

발명지 Name
박정호(991210-*****)
서울특별시 서초구 방배로 14, 5층 1006호 (한배동, 일광아파트)

위의 발명은 「특허법」에 따라 특허원부에 등록되었음을 증명합니다.
This is to certify that, in accordance with the Patent Act, a patent for the invention has been registered at the Korean Intellectual Property Office.

2023년 04월 07일
특허청장
COMMISSIONER
KOREAN INTELLECTUAL PROPERTY OFFICE
이 인 신

특허증
CERTIFICATE OF PATENT

특허 제 10-2069974 호
Patent Number 제 10-2018-0069248 호
출원번호 Application Number 2018년 06월 15일
출원일 Filing Date 2020년 01월 17일
등록일 Registration Date

발명자명칭 Title of the Inventor
조형 모듈 고체가 용이한 발액 방향용 기구

특허권자 Name
주식회사 제넥(110111-*****)
경기도 광주시 도척면 다림로40번길 21

발명지 Name
최승민(580003-*****)
경기도 광주시 도척면 도척로로 328-32

위의 발명은 「특허법」에 따라 특허원부에 등록되었음을 증명합니다.
This is to certify that, in accordance with the Patent Act, a patent for the invention has been registered at the Korean Intellectual Property Office.

2023년 04월 07일
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COMMISSIONER
KOREAN INTELLECTUAL PROPERTY OFFICE
이 인 신

특허증
CERTIFICATE OF PATENT

특허 제 10-2099064 호
Patent Number 제 10-2019-0171088 호
출원번호 Application Number 2019년 12월 19일
출원일 Filing Date 2020년 04월 02일
등록일 Registration Date

발명자명칭 Title of the Inventor
발액용용 조명 유리 커버 적층체 및 그에 따른 적층체의 제조 방법

특허권자 Name
주식회사 제넥(110111-*****)
경기도 광주시 도척면 다림로40번길 21

발명지 Name
등록사항없는 기재

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COMMISSIONER
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특허증
CERTIFICATE OF PATENT

특허 제 10-2112952 호
Patent Number 제 10-2019-0079181 호
출원번호 Application Number 2019년 07월 02일
출원일 Filing Date 2020년 05월 13일
등록일 Registration Date

발명자명칭 Title of the Inventor
LED 조명 모듈

특허권자 Name
등록사항없는 기재

발명지 Name
등록사항없는 기재

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KOREAN INTELLECTUAL PROPERTY OFFICE
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특허증
CERTIFICATE OF PATENT

특허 제 10-2469176 호
Patent Number 제 10-2022-0069633 호
출원번호 Application Number 2022년 06월 08일
출원일 Filing Date 2022년 11월 16일
등록일 Registration Date

발명자명칭 Title of the Inventor
아이 가이드를 갖는 경계형광시 열이도 조명용 냉각구조

특허권자 Name
최승민(580003-*****)
경기도 광주시 도척면 도척로로 328-32

발명지 Name
최승민(580003-*****)
경기도 광주시 도척면 도척로로 328-32

위의 발명은 「특허법」에 따라 특허원부에 등록되었음을 증명합니다.
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2023년 11월 16일
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KOREAN INTELLECTUAL PROPERTY OFFICE
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특허증
CERTIFICATE OF PATENT

특허 제 10-2172594 호
Patent Number 제 10-2020-0018517 호
출원번호 Application Number 2020년 02월 14일
출원일 Filing Date 2020년 10월 27일
등록일 Registration Date

발명자명칭 Title of the Inventor
금속 기판과 다른 부물질간의 열팽창 차이를 감소 위한 방열용 구멍한 금속 PCB

특허권자 Name
주식회사 제넥(110111-*****)
경기도 광주시 도척면 다림로40번길 21

발명지 Name
등록사항없는 기재

위의 발명은 「특허법」에 따라 특허원부에 등록되었음을 증명합니다.
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2023년 04월 07일
특허청장
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KOREAN INTELLECTUAL PROPERTY OFFICE
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특허증
CERTIFICATE OF PATENT

특허 제 10-2486479 호
Patent Number 제 10-2022-0069633 호
출원번호 Application Number 2022년 06월 08일
출원일 Filing Date 2023년 01월 04일
등록일 Registration Date

발명자명칭 Title of the Inventor
필 가이드 조형이 가능한 발액 사출장치

특허권자 Name
최승민(580003-*****)
경기도 광주시 도척면 도척로로 328-32

발명지 Name
최승민(580003-*****)
경기도 광주시 도척면 도척로로 328-32

위의 발명은 「특허법」에 따라 특허원부에 등록되었음을 증명합니다.
This is to certify that, in accordance with the Patent Act, a patent for the invention has been registered at the Korean Intellectual Property Office.

2023년 01월 04일
특허청장
COMMISSIONER
KOREAN INTELLECTUAL PROPERTY OFFICE
이 인 신

상표등록증
CERTIFICATE OF TRADEMARK REGISTRATION

등록 제 40-1015145 호
Registration Number 제 40-2013-0010909 호
출원번호 Application Number 2013년 02월 21일
출원일 Filing Date 2013년 12월 31일
등록일 Registration Date

발명자명칭 Title of the Inventor
주식회사 제넥(110111-*****)
경기도 광주시 도척면 다림로40번길 21

상표의 사용될 상품 및 구분
제 09류 용 2-계열
전기서 조형용용 보러

Geneluce

위의 표장은 「상표법」에 따라 상표등록원부에 등록되었음을 증명합니다.
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2023년 04월 07일
특허청장
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Product List

IECEX / ATEX LED Explosion-Proof Light	LED Explosion-Proof Light (80W or less) IECEX / ATEX / IECEx-CB	23
	LED Explosion-Proof Light (150W or less) IECEX / ATEX / IECEx-CB	27
	LED Explosion-Proof Floodlight (150W or less) IECEX / ATEX / IECEx-CB	31
KCS (Korean Certificate Safety) LED Explosion-Proof Light	LED Explosion-Proof Light (60W or less)	39
	LED Explosion-Proof Light (80W or less)	43
	LED Explosion-proof Emergency Light with Battery (80W or less)	47
	LED Explosion-Proof Light (80W or less) Globe	51
	LED Explosion-Proof Light (80W or less) Green Eyewash Light	55
	LED Explosion-Proof Light (150W or less)	59
	LED Explosion-Proof Floodlight (150W or less)	63
	LED Explosion-Proof Fluorescent Light (50W or less)	67
	LED Explosion-Proof Light Accessory	69
LED Outdoor Light	LED Floodlight (150W or less)	73
	LED Floodlight (150W or less) for Power Plant	77
	LED High Bay Light (300W or less)	81

Product List

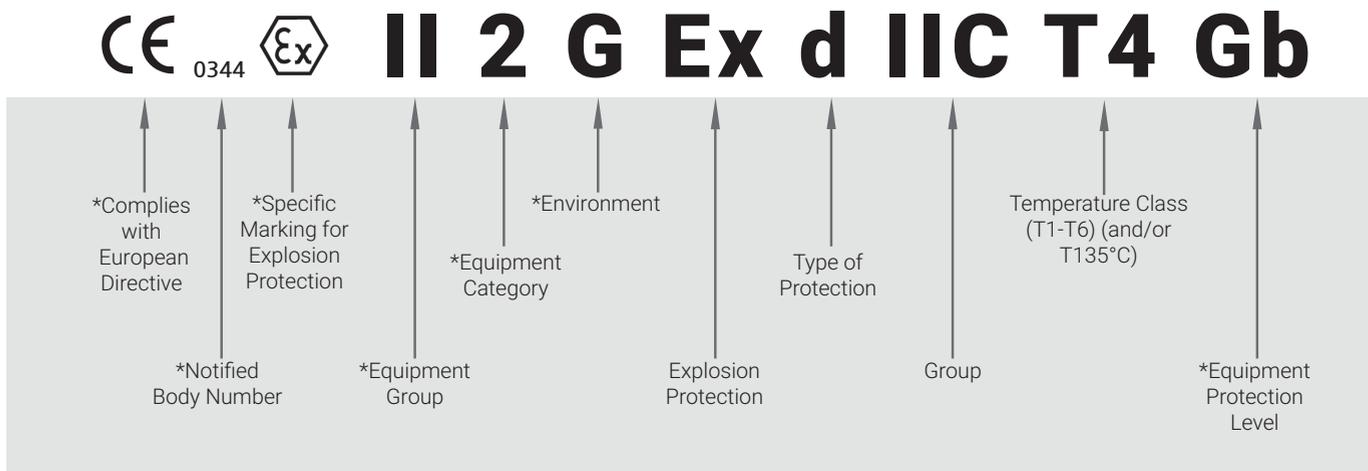
	LED Square High-Output Light for Sports (300W or less)	83
	LED Square High-Output Light for Sports (600W or less)	85
	LED Square High-Output Light for Sports (1200W or less)	87
	LED Circular High-Output Light for Sports (1200W or less)	89
	LED Street Light (150W or less)	91
	LED Security Light (75W or less)	93
	LED Tunnel Light (150W or less)	95
	LED Tunnel Light (over 150W)	97
	LED Military/Border Light	99
	LED Weather-Proof Light (Outdoor)	101
LED Indoor Light	LED Weather-Proof Light (Indoor)	105
	LED Flat Panel Light (Edge Type)	107
	LED Raceway Light	109
	LED Downlight	113
LED Plant Grow Light	LED Plant Grow Light	117

IECEX / ATEX LED Explosion-Proof Light





1. Typical IECEx and ATEX Marking [*ATEX only]



2. Equipment Group [IECEx and ATEX]

Equipment Group	Equipment Category	EPL	Atmosphere	Protection Level	Required Protection Performance & Operation
ZI (Mines with firedamp)	M1	Ma	Methane & Dust	Very High	• Two Faults, Remain energised and functioning
I (Mines with firedamp)	M2	Mb	Methane & Dust	High	• Severe normal operation, De-energise in exp. atm.
II (all other areas)	1	a	Gas, Vapour, Mist, Dust	Very High	• Two Faults
II (all other areas)	2	b	Gas, Vapour, Mist, Dust	High	• One Fault
II (all other areas)	3	c	Gas, Vapour, Mist, Dust	Low	• Normal operation

3. Zoning Definitions

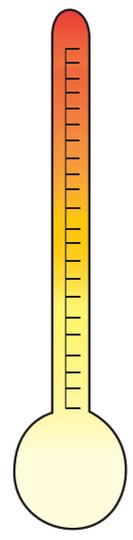
Gas <small>IEC 60079-10-1</small>	Dust <small>IEC 60079-10-2</small>	Definitions
0		A place in which an explosive atmosphere is continually present
	20	
1		A place in which an explosive atmosphere is likely to occur in normal operation occasionally
	21	
2		A place in which an explosive atmosphere is not likely to occur in normal operation, but if it does only occurs for short periods
	22	

4. Equipment Categories & Protection Levels

ATEX Category	Equipment Protection Levels	Typical Zone Suitability
1 G	Ga	Equip. suitable for Zones 0,1,2
1 D	Da	Equip. suitable for Zones 20,21,22
2 G	Gb	Equip. suitable for Zones 1,2
2 D	Db	Equip. suitable for Zones 21,22
3 G	Gc	Equip. suitable for Zone 2
3 D	Dc	Equip. suitable for Zone 22

5. Temperature Classification

Max. Surface Temperature	NEC® 500 CEC®	NEC® 505	IEC - Group II
450° C (842°F)	T1	T1	T1
300° C (572°F)	T2	T2	T2
280° C (536°F)	T2A		
260° C (500°F)	T2B		
230° C (446°F)	T2C		
215° C (419°F)	T2D		
200° C (392°F)	T3	T3	T3
180° C (356°F)	T3A		
165° C (329°F)	T3B		
160° C (320°F)	T3C		
135° C (275°F)	T4	T4	T4
120° C (248°F)	T4A		
100° C (212°F)	T5	T5	T5
85° C (185°F)	T6	T6	T6



Note: For Group I (CENELEC/IEC) applications, electrical apparatus has fixed temperature limits i.e., 150° C and 450° C.

6. Useful Standards

Topic	IEC Standard
Area Classification - Gases, Vapours and Mists	IEC 60079-10-1
Area Classification - Combustible Dusts	IEC 60079-10-2
Electrical Equipment Installation	IEC 60079-14
Electrical Equipment Inspection and maintenance	IEC 60079-17
Electrical Equipment Repair and Overhaul	IEC 60079-19

7. Groups [IECEX and ATEX]

Group	Environment	Location	Typical Substance
I	Gases, Vapours and Coal Dust	Coal Mining	Methane (Fire damp)
IIA	Gases, Vapours and Mists	Surface and other locations	Methane, Propane etc.
IIB			Ethylene
IIC			Hydrogen, Acetylene etc.
IIIA	Combustible Dusts	Surface and other locations	Combustible flyings
IIIB			Non-conductive
IIIC			Conductive

LED Explosion-Proof Light (80W or less)

IECEX / ATEX / IECEE-CB



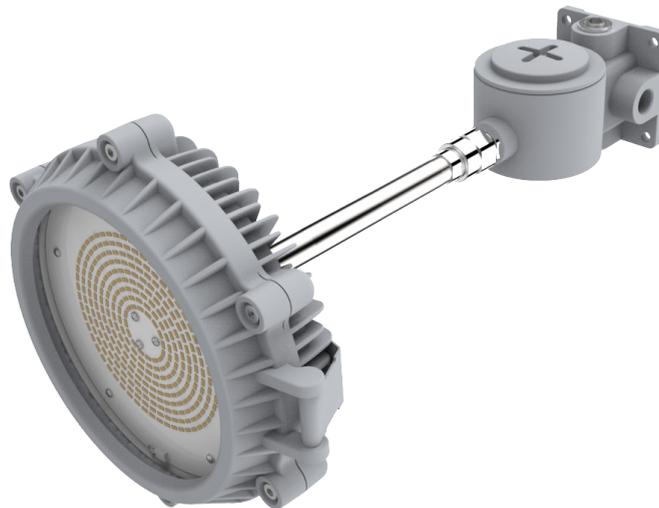
High
Luminous
Efficacy



High
Energy
Savings



Optimal
Heat
Dissipation
Design



Features & Applications

- World-class luminous efficacy over 165 lm/W
- Enhanced product stability through structural analysis and optimized design
- Strong resistance against salt damage and pollution
- Optimal heat dissipation technology
- Increased energy savings compared to metal explosion-proof lighting fixtures

Ex-Proof Classes & Conditions

- Explosion-proof Rating: Ex db IIC T6 Gb and Ex tb IIIC T85 °C Db
- Application Areas: Zone1 and Zone2, Dust
- Protection Rating: IP66

Materials

- Casing: Die Cast Aluminium Alloy
- Glass: Tempered Glass
- Accessories: Stainless Steel

Installation Cases

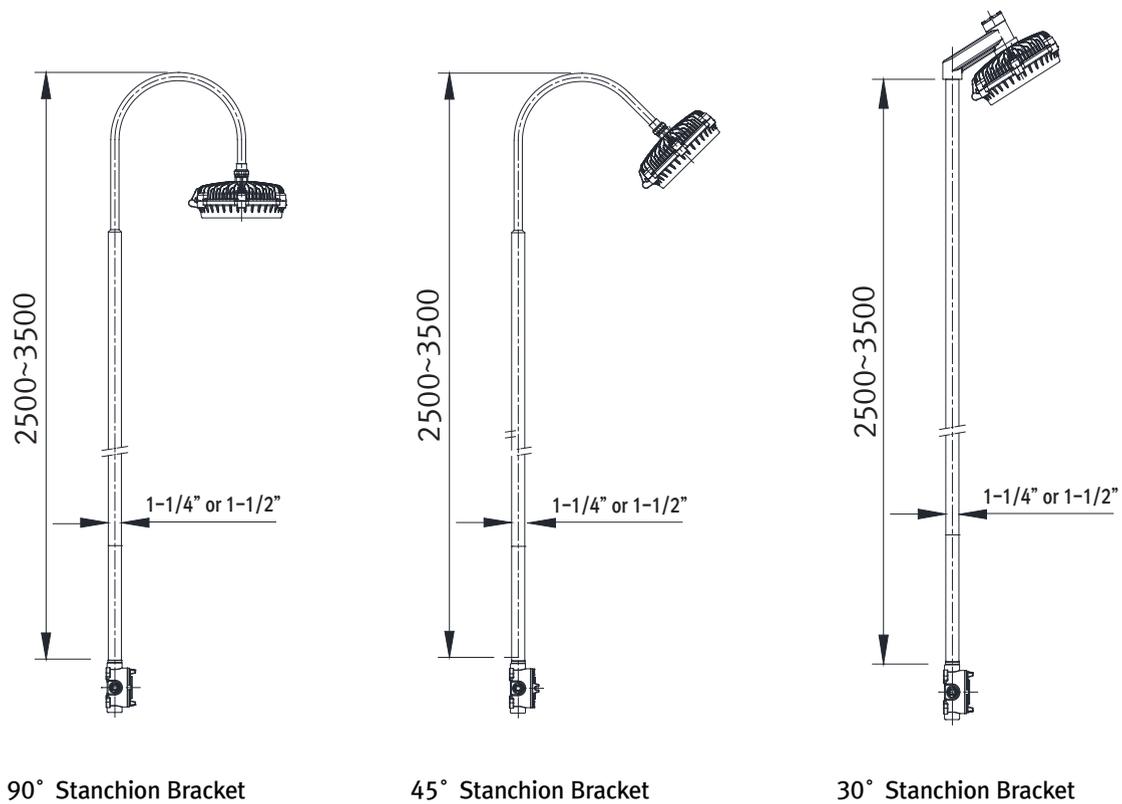
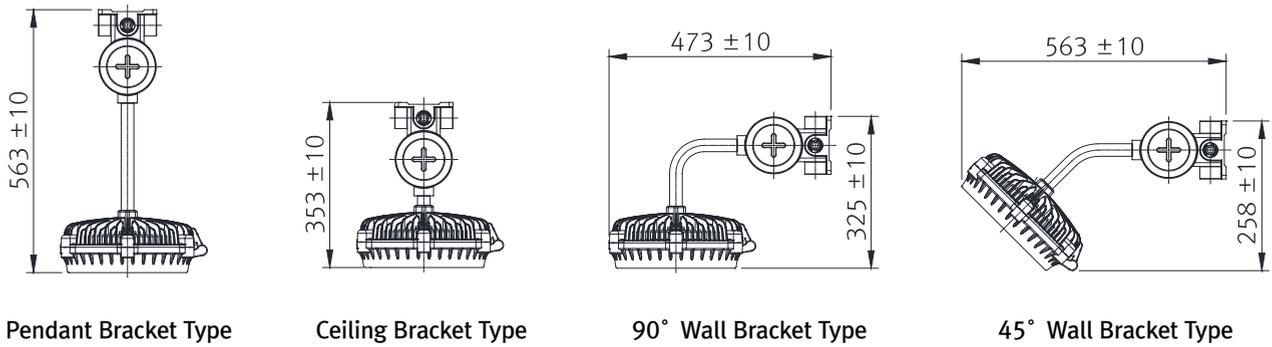


Specifications

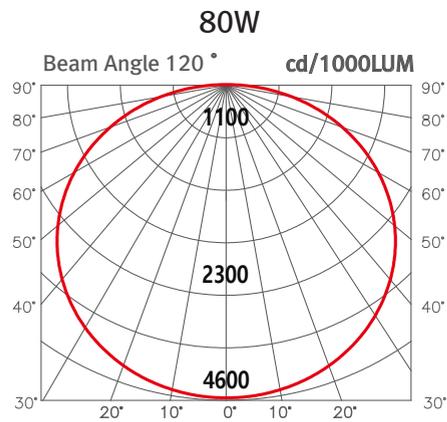
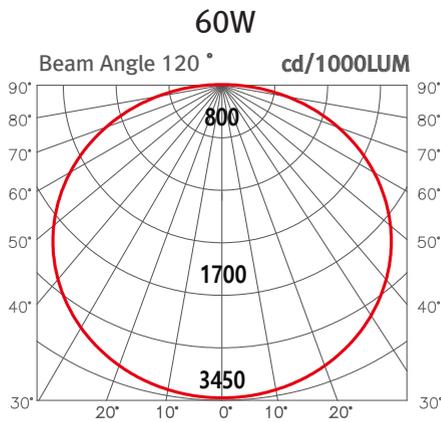
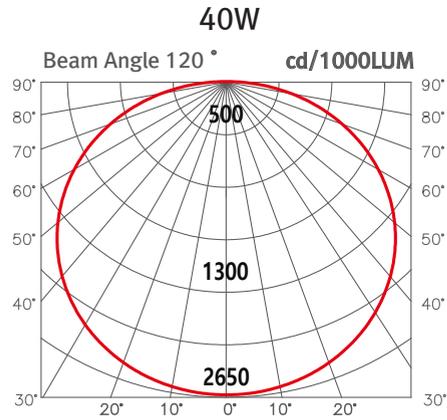
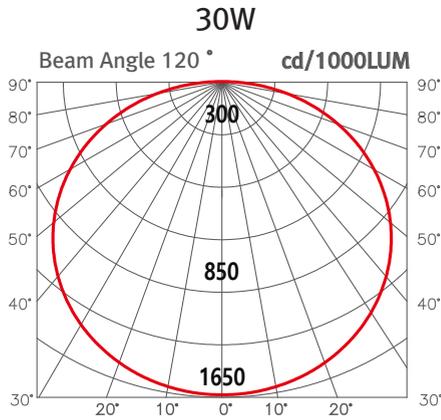
Model Name	Power Consumption	Input Power	Luminous Flux	Efficiency	CCT	CRI
HL-Exd-L*****	30W	AC110 ~ 240V	4,997 lm	166 lm/W	5,700 K	> 80 Ra
	40W		6,890 lm	165 lm/W		
	60W		10,077 lm	166 lm/W		
	80W		12,724 lm	159 lm/W		

Size (mm)	Power Factor	Ambient Temperature	Weight	Lifetime	IP Level	Option
W323 x H134 (Head)	> 0.95	-20 ~ +50 °C	9 kg	30,000 ~ 50,000 hrs	IP 66	Opaque Glass / Reflector

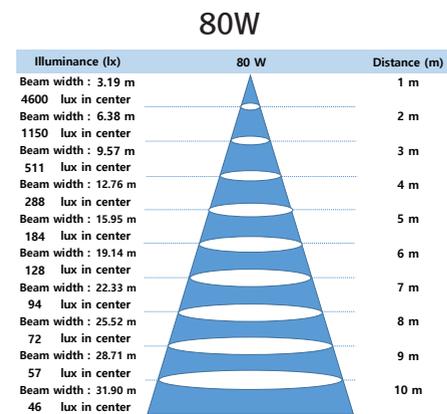
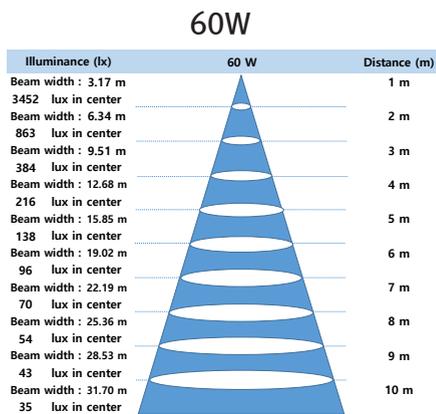
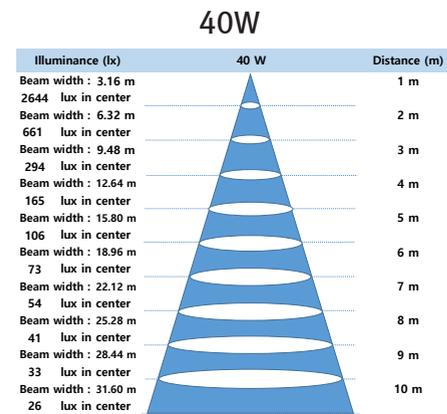
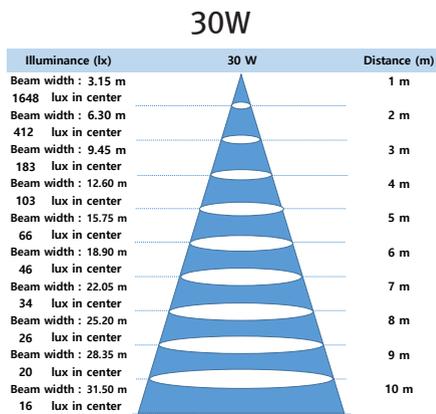
Outline Drawing (mm)



Polar Diagram

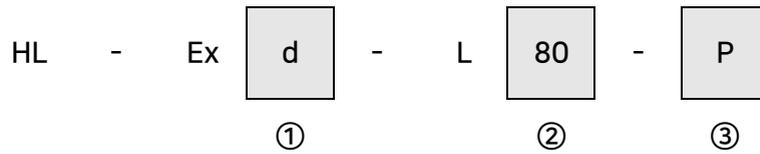


Cone Diagram



Ordering Information

1. Product Order



E.g. HL-Exd-L80-P (Pressure-resistant Explosion-proof LED Fixture 80W, Pendant Bracket)

HL-ExtD-L80-S2 (Dust Explosion-proof LED Fixture 80W, 45° Stanchion Bracket)

2. Classification

No.	Classification		Remarks	
①	Protection Structure	d	Pressure-resistant Explosion-proof	
		tD	Dust Explosion-proof	
②	Power Consumption	30W		
		40W		
		60W		
		80W		
③	Installation Type	p	Pendant Bracket	
		C	Ceiling Bracket	
		W45	45° Wall Bracket	
		W90	90° Wall Bracket	
		S1	Stanchion Bracket	30°
		S2	Stanchion Bracket	45°
		S3	Stanchion Bracket	90°

LED Explosion-Proof Light (150W or less)

IECEX / ATEX / IECEE-CB



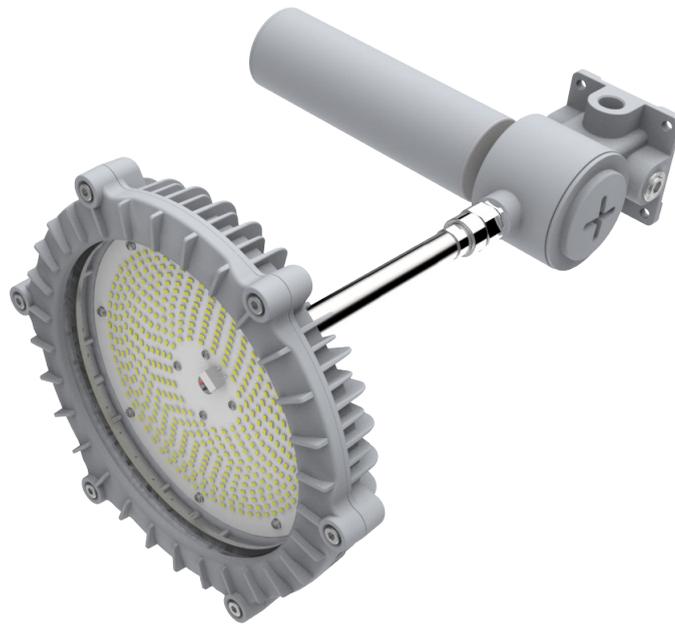
High
Luminous
Efficacy



High
Energy
Savings



Optimal
Heat
Dissipation
Design



Features & Applications

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- Application Areas: Zone1 and Zone2, Dust
- Protection Rating: IP66

Materials

- Casing: Die Cast Aluminium Alloy
- Glass: Tempered Glass
- Accessories: Stainless Steel

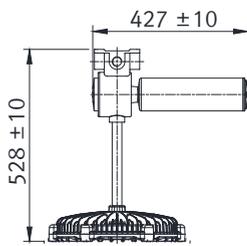
Installation Cases



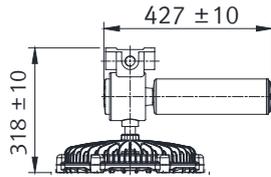
Specifications

Model Name	Power Consumption	Input Power	Luminous Flux	Efficiency	CCT	CRI
HL-Exd-*****	100W	AC110 ~ 240V	13,618 lm	133.8 lm/W	5,700 K	> 80 Ra
	120W		16,185 lm	137.2 lm/W		
	150W		19,260 lm	130.8 lm/W		
Size (mm)	Power Factor	Ambient Temperature	Weight	Lifetime	IP Level	Option
W373 x H98 (Head)	> 0.95	-20 ~ +50 °C	14 kg	30,000 ~ 50,000 hrs	IP 66	Opaque Glass / Reflector

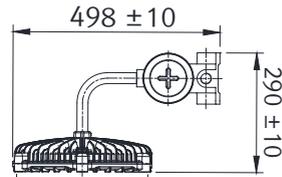
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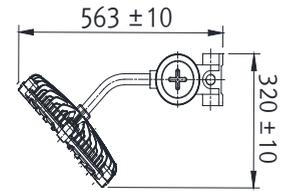
Pendant Bracket Type



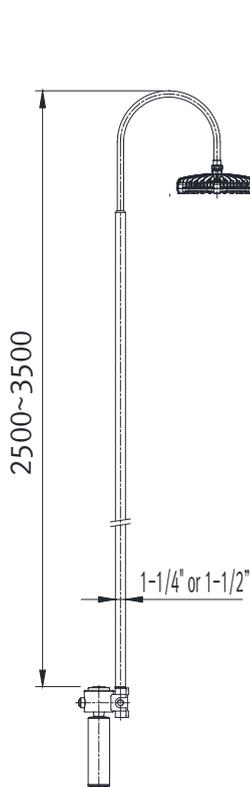
Ceiling Bracket Type



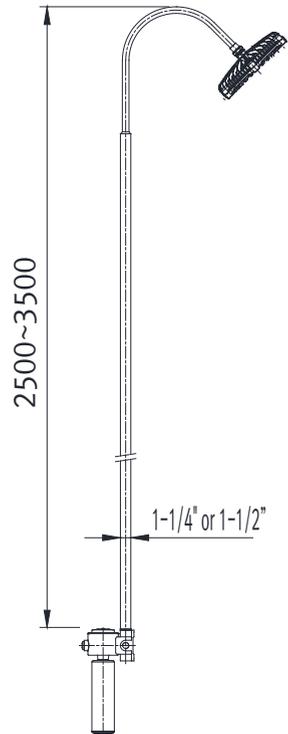
90° Wall Bracket Type



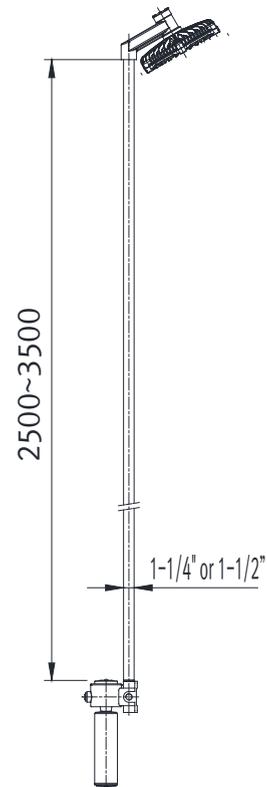
45° Wall Bracket Type



90° Stanchion Bracket

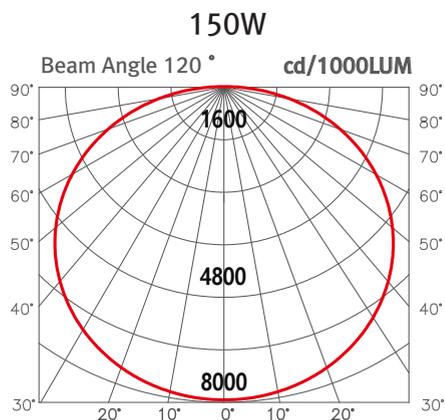
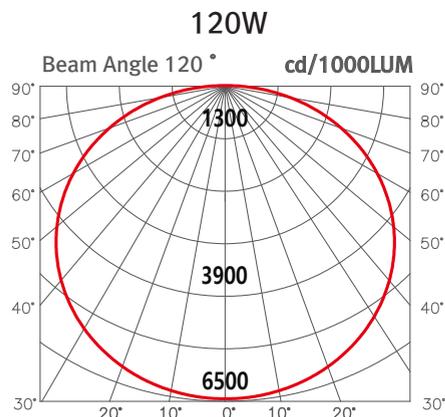
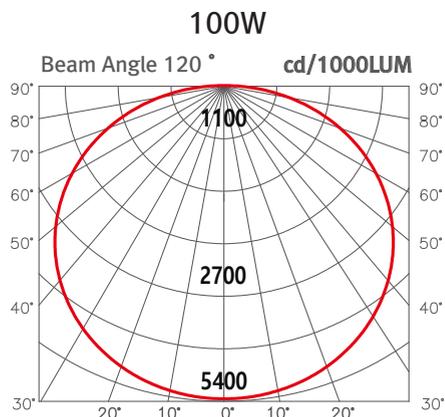


45° Stanchion Bracket

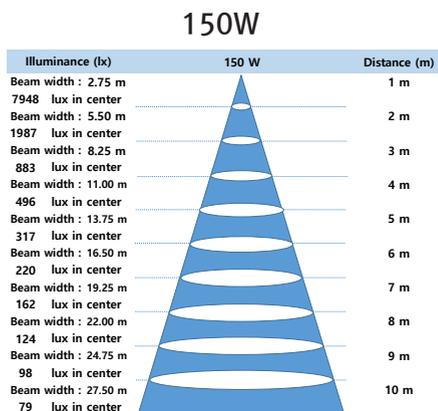
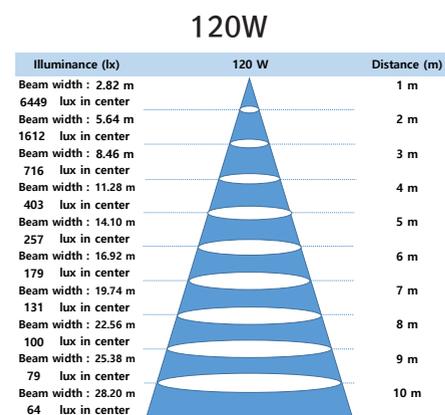
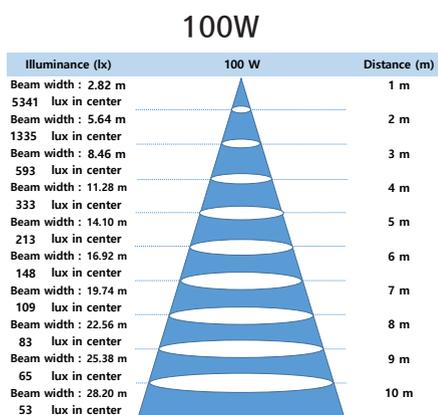


30° Stanchion Bracket

Polar Diagram

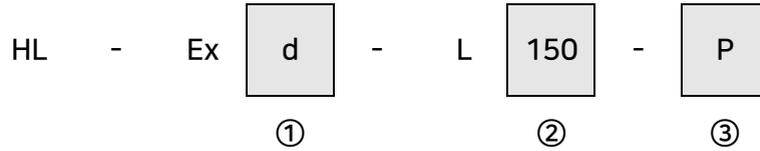


Cone Diagram



Ordering Information

1. Product Order



E.g. HL-Exd-L150-P (Pressure-resistant Explosion-proof LED Fixture 150W, Pendant Bracket)

HL-ExtD-L150-S2 (Dust Explosion-proof LED Fixture 150W, 45° Stanchion Bracket)

2. Classification

No.	Classification		Remarks	
①	Protection Structure	d	Pressure-resistant Explosion-proof	
		tD	Dust Explosion-proof	
②	Power Consumption	100W		
		120W		
		150W		
③	Installation Type	P	Pendant Bracket	
		C	Ceiling Bracket	
		W45	45° Wall Bracket	
		W90	90° Wall Bracket	
		S1	Stanchion Bracket	30°
		S2	Stanchion Bracket	45°
		S3	Stanchion Bracket	90°

LED Explosion-Proof Floodlight (150W or less)

IECEX / ATEX / IECEE-CB



High
Luminous
Efficacy



High
Energy
Savings



Optimal
Heat
Dissipation
Design



Features & Applications

- World-class luminous efficacy over 140 lm/W
- Enhanced product stability through structural analysis and optimized design
- Strong resistance against salt damage and pollution
- Optimal heat dissipation technology
- Increased energy savings compared to metal explosion-proof lighting fixtures

Ex-Proof Classes & Conditions

- Explosion-proof Rating: Ex db IIC T6 Gb and Ex tb IIC T85 °C Db
- Application Areas: Zone1 and Zone2, Dust
- Protection Rating: IP66

Materials

- Casing: Die Cast Aluminium Alloy
- Glass: Tempered Glass
- Accessories: Stainless Steel

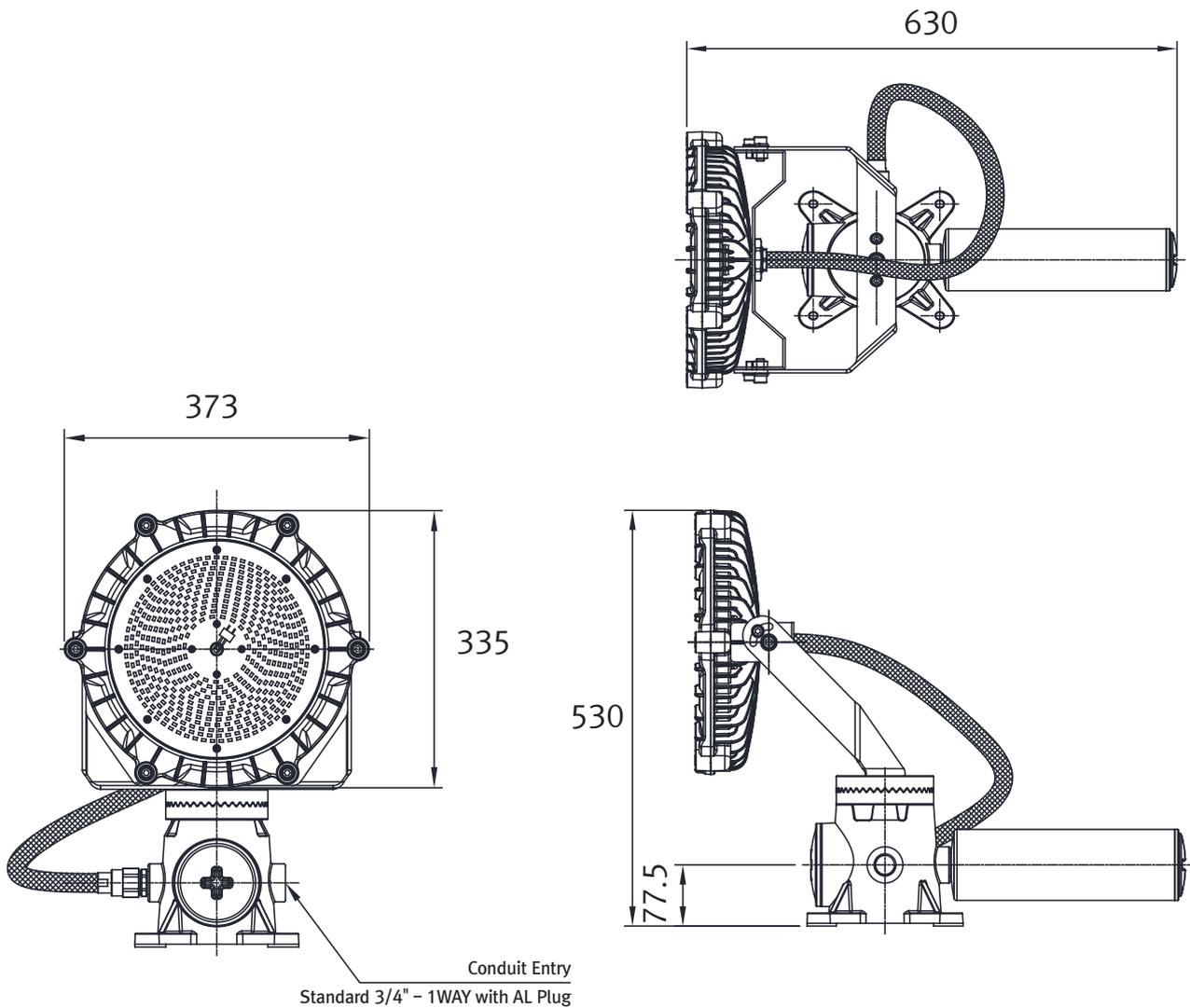
Installation Cases



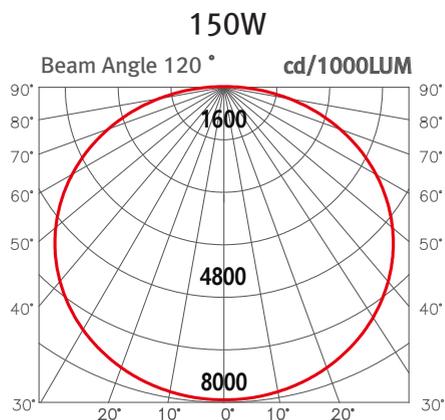
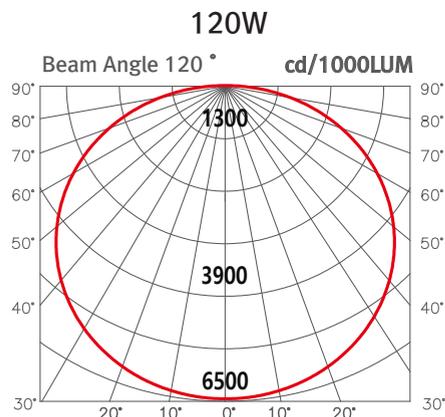
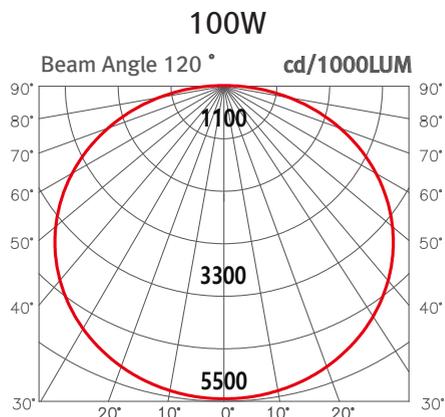
Specifications

Model Name	Power Consumption	Input Power	Luminous Flux	Efficiency	CCT	CRI
HL-Exd-L*****	100W	AC110 ~ 240V	13,618 lm	138.8 lm/W	5,700 K	> 80 Ra
	120W		16,185 lm	137.2 lm/W		
	150W		19,260 lm	130.8 lm/W		
Size (mm)	Power Factor	Ambient Temperature	Weight	Lifetime	IP Level	Option
W373 x H530 (Head)	> 0.9	-20 ~ +50 °C	14.5 kg	30,000 ~ 50,000 hrs	IP 66	Opaque Glass / Reflector

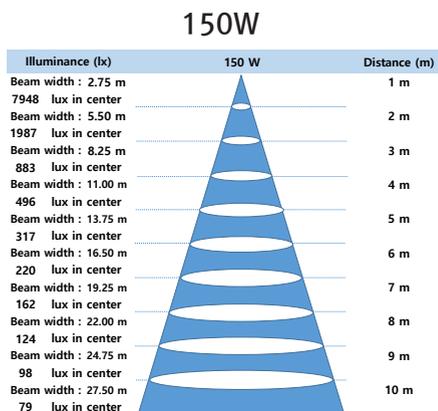
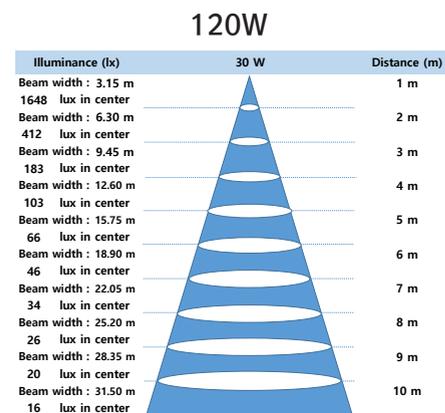
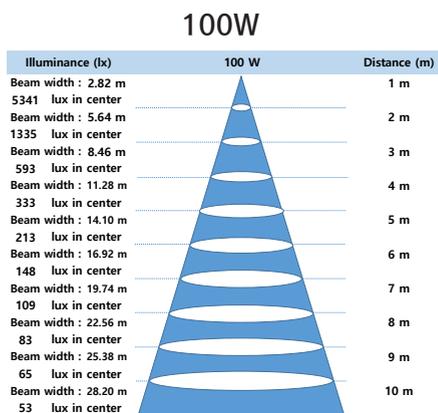
Outline Drawing (mm)



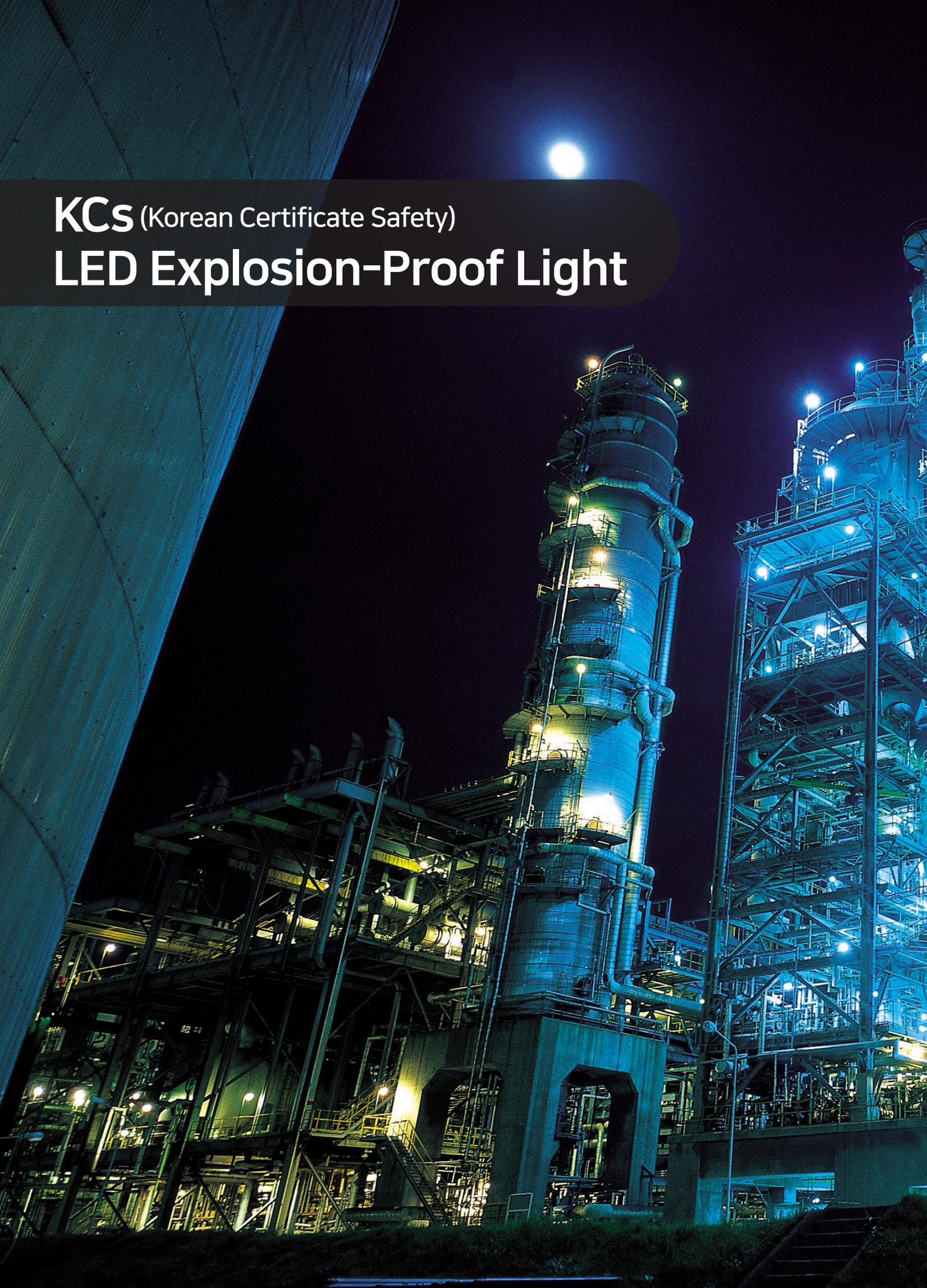
Polar Diagram



Cone Diagram

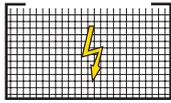
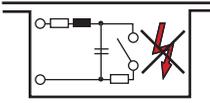
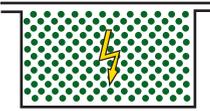
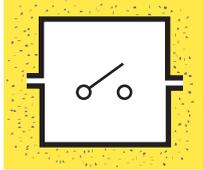


KCs (Korean Certificate Safety)
LED Explosion-Proof Light





1. Type of Protection

Type of Enclosure	Basic Principle	Schematic	IEC Standard
Flame proof Enclosure 'd'	A type of protection of electrical apparatus in which the enclosure will with stand an internal explosion of a flammable mixture which has penetrated into the interior, without suffering damage and without causing ignition, through any joints or structural openings in the enclosure, of an external explosive atmosphere consisting of one or more the gases of vapours for which it is designed.		IEC 60079-1
Pressurized Enclosure 'p'	A type of protection in which the entry of a surrounding atmosphere into the enclosure of the electrical apparatus is prevented by maintaining inside the said enclosure a protective gas at a higher pressure than that of the surrounding atmosphere		IEC 60079-2
Powder Filling 'q'	A type of protection in which the enclosure of electrical apparatus is filled with a material in a finely granulated state so that, in the intended conditions of service, any arc occurring within the enclosure of an electrical apparatus will not ignite the surrounding atmosphere		IEC 60079-5
Oil Immersion 'o'	A type of protection in which the electrical apparatus or parts of the electrical apparatus are immersed in oil in such a way that an explosive atmosphere, which may be above the oil or outside the enclosure cannot be ignited		IEC 60079-6
Increased Safety 'e'	A type of protection applied to electrical apparatus that does not produce arcs or sparks in normal service, in which additional measures are applied so as to give increased security against the possibility of excessive temperatures and of the occurrence of arcs and sparks		IEC 60079-7
Intrinsic Safety 'i'	A type of protection in which the electrical apparatus contains intrinsically safe circuits, which are incapable of causing an explosion in the surrounding atmosphere		IEC 60079-11
Non-Sparking Structure 'n'	A type of protection where electrical equipment, in normal operation, is not capable of igniting a surrounding explosive gas atmosphere and a fault capable of causing ignition is not likely to occur		IEC 60079-15
Encapsulation 'm'	A type of protection in which the parts which can ignite an explosive atmosphere are enclosed in a resin sufficiently resistant to environmental influences in such a way that this explosive atmosphere cannot be ignited by either sparking or heating, which may occur within the encapsulation		IEC 60079-18
Dust Ignition Protection 'td'	An enclosure that will exclude ignitable amounts of dusts that might affect performance or rating and that, when installed and protected in accordance with the original design intent, will not permit arcs, sparks, or heat otherwise generated or liberated inside the enclosure to cause ignition of exterior accumulations or atmospheric suspensions of a specified dust		IEC 61241-1

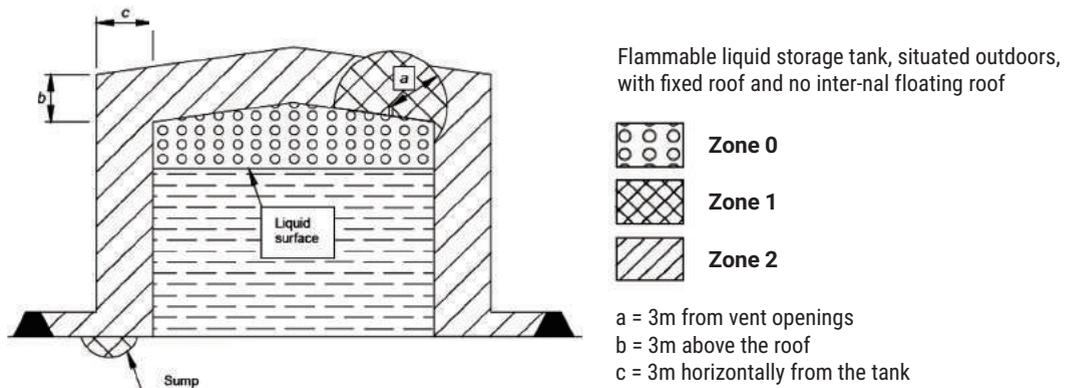
2. Division of Hazardous Areas into Zones

The practice has been established of dividing hazardous areas into zones.*)

This division both takes account of the different dangers presented by potentially explosive atmospheres and enables protective measures to be taken which take account of both the cost and the safety factors.

Zone 0		An area in which an explosive gas atmosphere is present continuously or for long periods.
Zone 1		An area in which an explosive gas atmosphere is likely to occur in normal operation.
Zone 2		An area in which an explosive gas atmosphere is not likely to occur in normal operation and, if it does occur, is likely to do so only infrequently and will exist for a short period only.

Example



Zone 20 An area in which a hazardous explosive atmosphere formed by a dust cloud in air is present continuously or for a long period or frequently.
Dust layers of unknown or excessive thickness may be formed.
Dust layers on their own do not constitute a zone 20.

Zone 21 An area in which a hazardous explosive atmosphere formed by a dust cloud in air is likely to occur during normal operation. Layers of combustible dust will in general be present.

Zone 22 An area in which a hazardous explosive atmosphere formed by a dust cloud in air is likely to occur during normal operation, and if it does occur it will exist for a short period only, or in which accumulations or layers of combustible dust are present.

*) The classification for 202122 is based on the European draft standard dated March 1995 designated prEN 1127-unofficial translation. For dust, there have been number of different forms of words in the last few years.
Hazardous areas where men are at work will be, at the most extreme, Zone 1, Zone 2, Zone 21 or Zone 22.
Zone 0 and Zone 20 will as a rule apply to the interior of process plant or very small inaccessible areas in the workplace.

LED Explosion-Proof Light (80W or less)



High
Luminous
Efficacy



High
Energy
Savings



Optimal
Heat
Dissipation
Design



Features & Applications

- World-class luminous efficacy over 150 lm/W
- Enhanced product stability through structural analysis and optimized design
- Strong resistance against salt damage and pollution
- Optimal heat dissipation technology
- Increased energy savings compared to metal explosion-proof lighting fixtures

Ex-Proof Classes & Conditions

- Explosion-proof Rating: Ex db IIC T6, Ex tD A21 85°C
- Application Areas: Zone1 and Zone2, Dust
- Protection Rating: IP66

Materials

- Casing: Die Cast Aluminium Alloy
- Glass: Tempered Glass
- Accessories: Stainless Steel

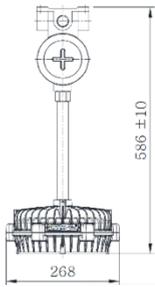
Installation Cases



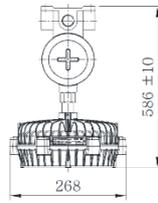
Specifications

Model Name	Power Consumption	Input Power	Luminous Flux	Efficiency	CCT	CRI
HL-Exd-LSI**	30W	AC110 ~ 240V	5,015 lm	164 lm/W	5,700 K	> 80 Ra
	40W		6,364 lm	164 lm/W		
	60W		9,625 lm	165 lm/W		
	80W		13,110 lm	169 lm/W		
Size (mm)	Power Factor	Ambient Temperature	Weight	Lifetime	IP Level	Option
W268 x H134 (Head)	> 0.95	-20 ~ +50 °C	10 kg	30,000 ~ 50,000 hrs	IP 66	불투명유리/ 리플렉터

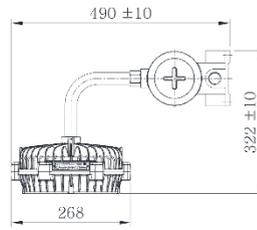
Outline Drawing (mm)



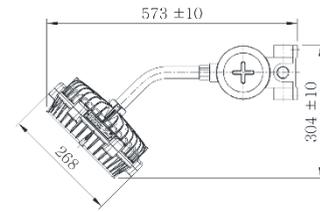
Pendant Bracket Type



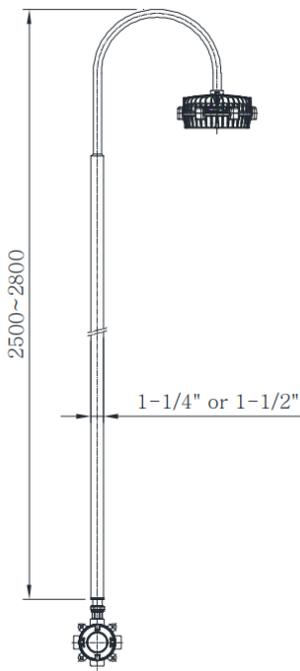
Ceiling Bracket Type



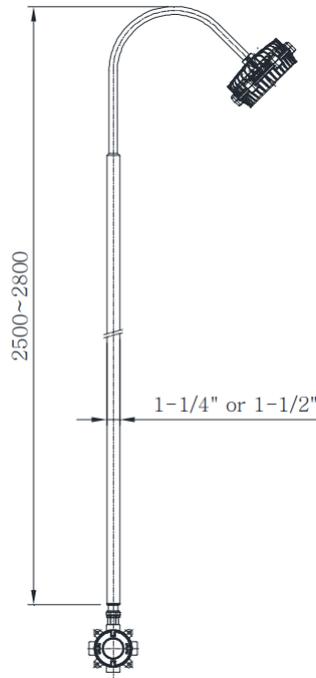
90° Wall Bracket Type



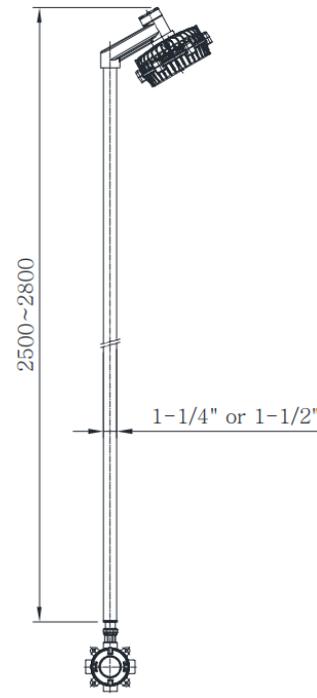
45° Wall Bracket Type



90° Stanchion Bracket

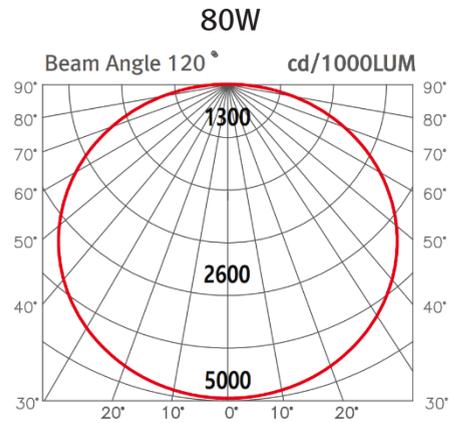
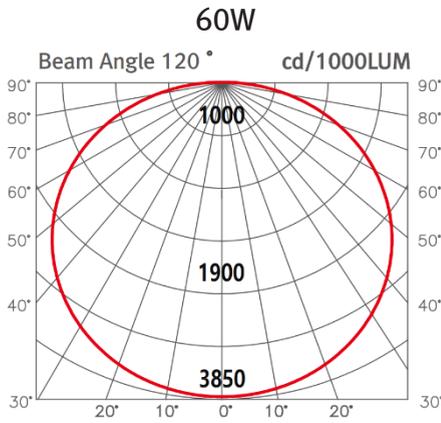
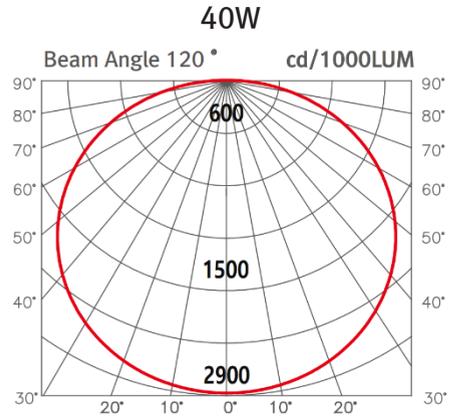
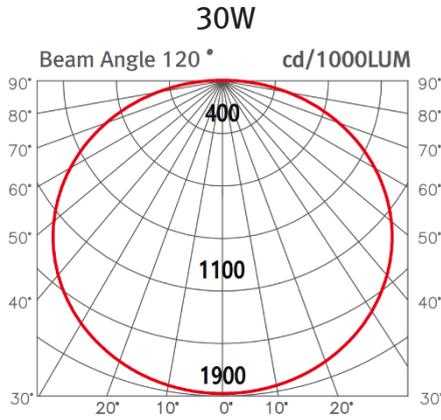


45° Stanchion Bracket

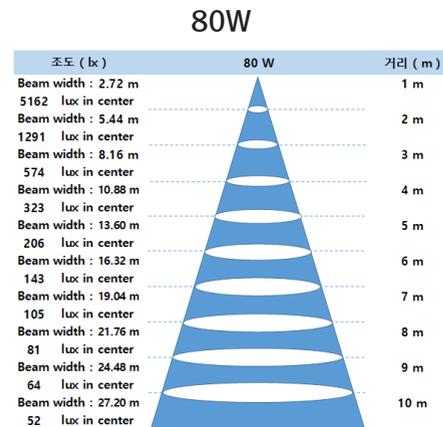
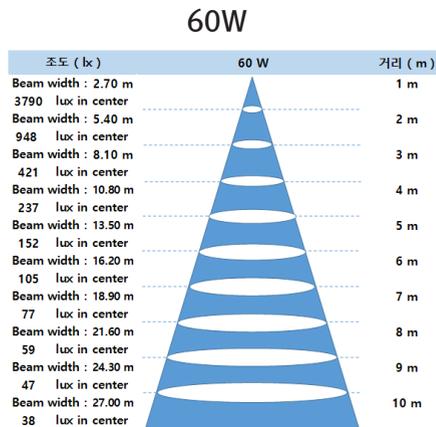
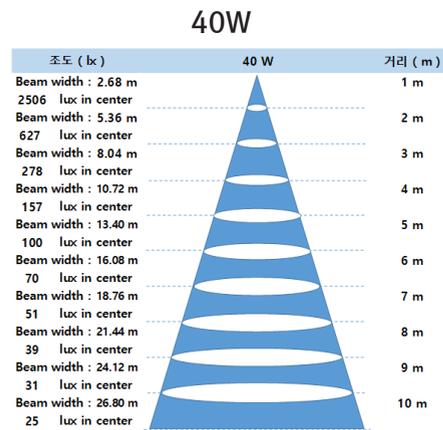
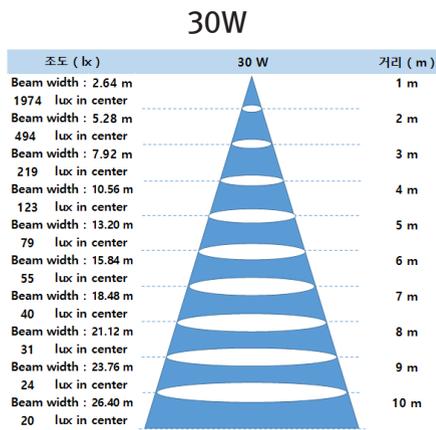


30° Stanchion Bracket

Polar Diagram



Cone Diagram



Ordering Information

1. Product Order

HL - Ex d - LSI 60 - P

E.g. HL-Exd-LSI60-P (Pressure-resistant Explosion-proof LED Fixture 60W, Pendant Bracket)

HL-ExtD-LSI60-S2 (Dust Explosion-proof LED Fixture 60W, 45° Stanchion Bracket)

2. Classification

No.	Classification		Remarks	
	Protection Structure	d	Pressure-resistant Explosion-proof	
		tD	Dust Explosion-proof	
	Power Consumption	30W		
		40W		
		60W		
	Installation Type	P	Pendant Bracket	
		C	Ceiling Bracket	
		W45	45° Wall Bracket	
		W90	90° Wall Bracket	
		S1	Stanchion Bracket	30°
		S2	Stanchion Bracket	45°
		S3	Stanchion Bracket	90°

LED Explosion-Proof Light (60W or less)



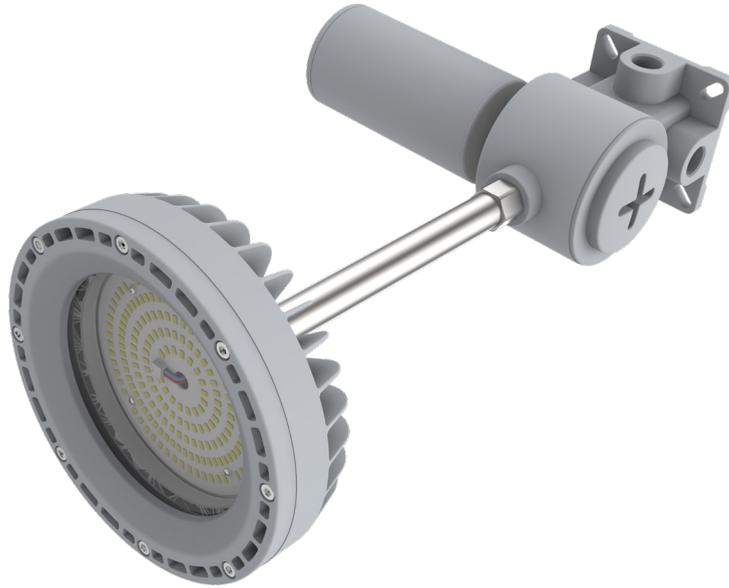
High Luminous Efficacy



High Energy Savings



Optimal Heat Dissipation Design



Features & Applications

- World-class luminous efficacy over 150 lm/W
- Enhanced product stability through structural analysis and optimized design
- Strong resistance against salt damage and pollution
- Optimal heat dissipation technology
- Increased energy savings compared to metal explosion-proof lighting fixtures

Ex-Proof Classes & Conditions

- Explosion-proof Rating: Ex db IIC T6, Ex tD A21 85°C
- Application Areas: Zone1 and Zone2, Dust
- Protection Rating: IP66

Materials

- Casing: Die Cast Aluminium Alloy
- Glass: Tempered Glass
- Accessories: Stainless Steel

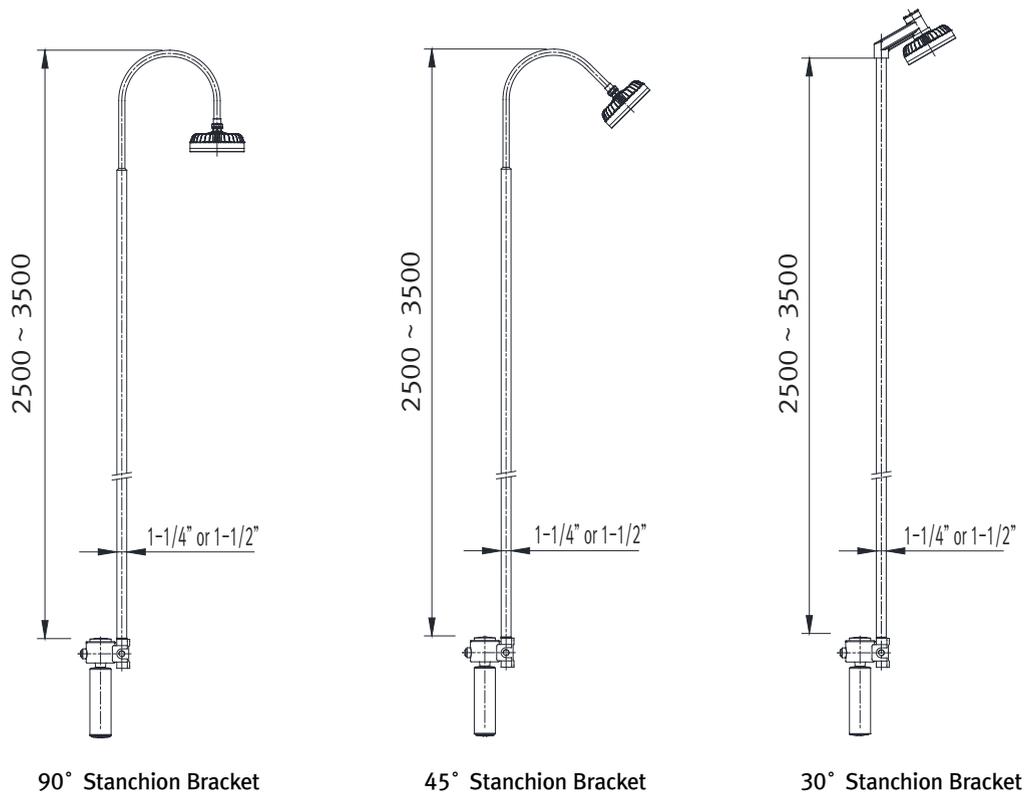
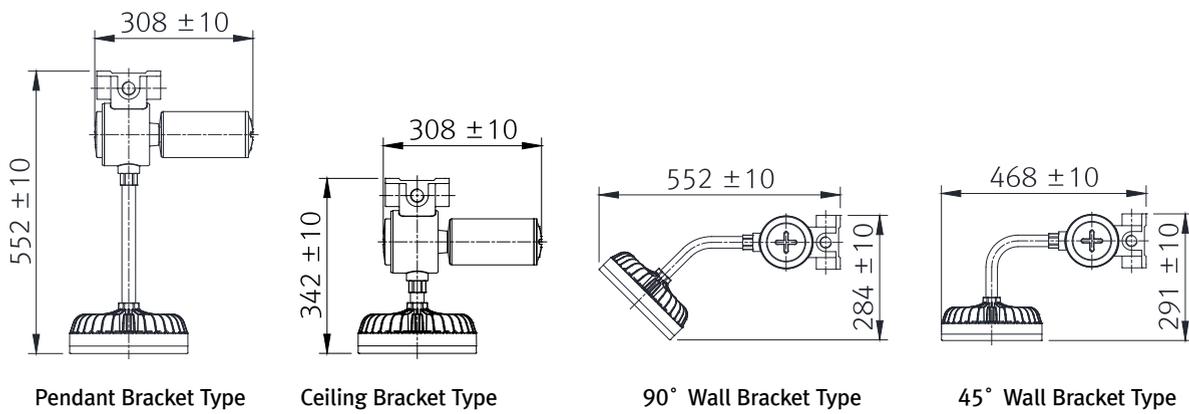
Installation Cases



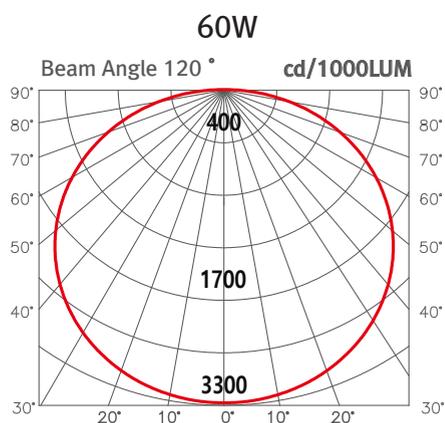
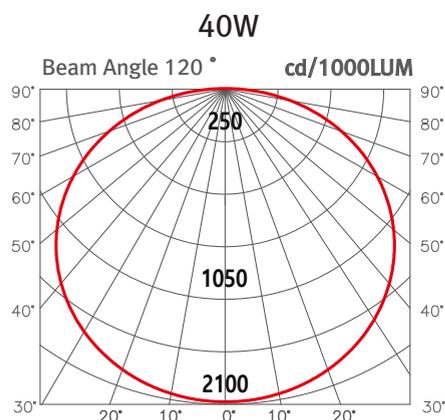
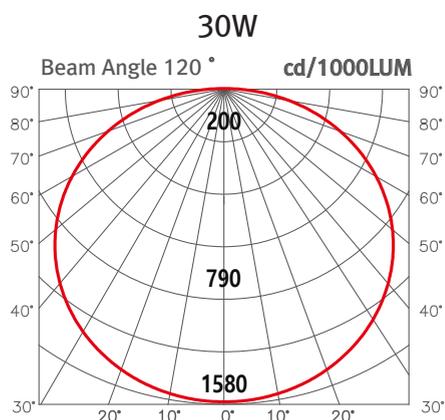
Specifications

Model Name	Power Consumption	Input Power	Luminous Flux	Efficiency	CCT	CRI
HL-Exd-LS**	30W	AC110 ~ 240V	4,492 lm	150 lm/W	5,700 K	> 80 Ra
	40W		5,989 lm	152 lm/W		
	60W		8,697 lm	152 lm/W		
Size (mm)	Power Factor	Ambient Temperature	Weight	Lifetime	IP Level	Option
W230 x H99 (Head)	> 0.95	-20 ~ +40 °C	7 kg	30,000 ~ 50,000 hrs	IP 66	Opaque Glass / Reflector

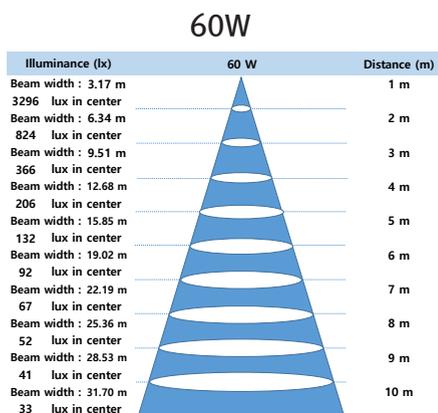
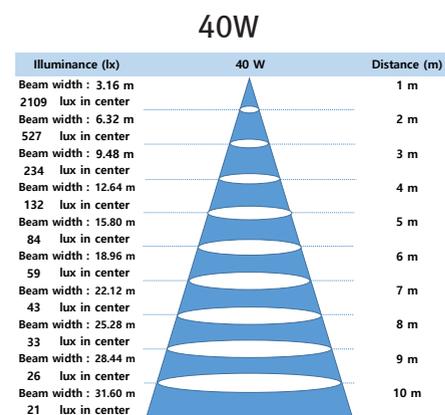
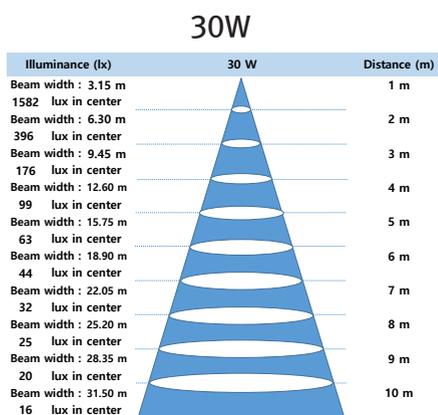
Outline Drawing (mm)



Polar Diagram



Cone Diagram



LED Explosion-Proof Light (80W or less)



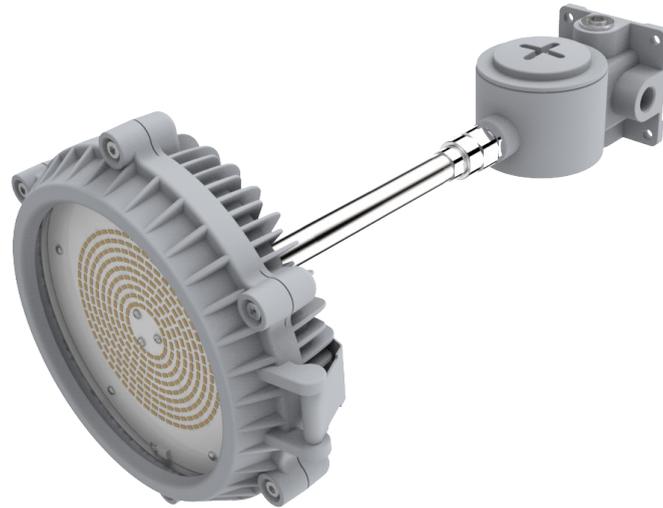
High Luminous Efficacy



High Energy Savings



Optimal Heat Dissipation Design



Features & Applications

- World-class luminous efficacy over 165 lm/W
- Enhanced product stability through structural analysis and optimized design
- Strong resistance against salt damage and pollution
- Optimal heat dissipation technology
- Increased energy savings compared to metal explosion-proof lighting fixtures

Ex-Proof Classes & Conditions

- Explosion-proof Rating: Ex db IIC T6, Ex tD A21 85°C
- Application Areas: Zone1 and Zone2, Dust
- Protection Rating: IP66

Materials

- Casing: Die Cast Aluminium Alloy
- Glass: Tempered Glass
- Accessories: Stainless Steel

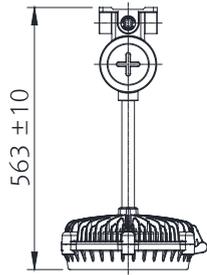
Installation Cases



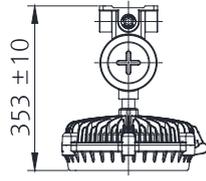
Specifications

Model Name	Power Consumption	Input Power	Luminous Flux	Efficiency	CCT	CRI
HL-Exd-L**	30W	AC110 ~ 240V	4,997 lm	166 lm/W	5,700 K	> 80 Ra
	40W		6,890 lm	165 lm/W		
	60W		10,077 lm	166 lm/W		
	80W		12,724 lm	159 lm/W		
Size (mm)	Power Factor	Ambient Temperature	Weight	Lifetime	IP Level	Option
W323 x H134 (Head)	> 0.95	-20 ~ +50 °C	9 kg	30,000 ~ 50,000 hrs	IP 66	Opaque Glass / Reflector

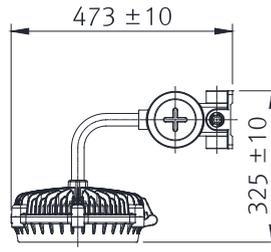
Outline Drawing (mm)



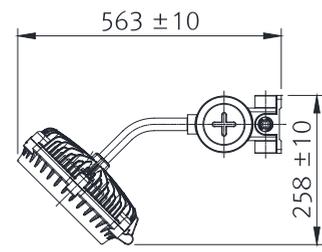
Pendant Bracket Type



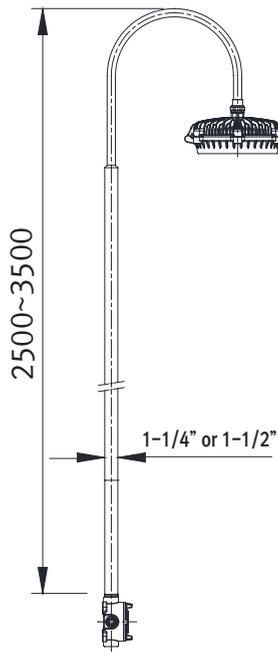
Ceiling Bracket Type



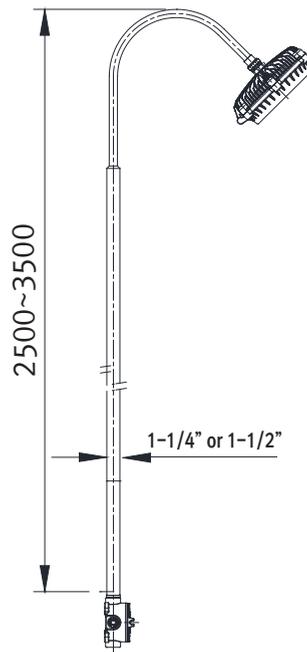
90° Wall Bracket Type



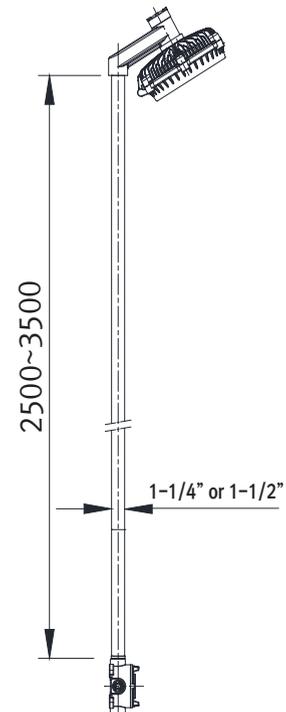
45° Wall Bracket Type



90° Stanchion Bracket

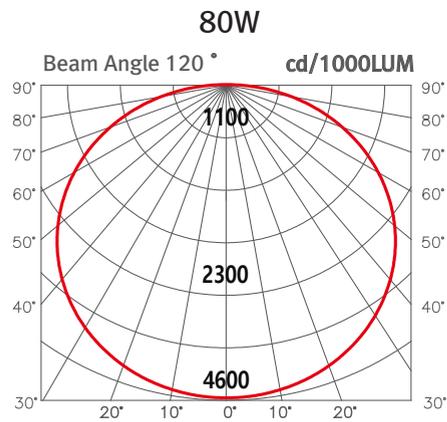
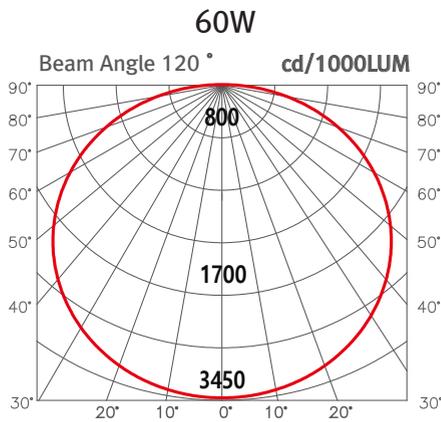
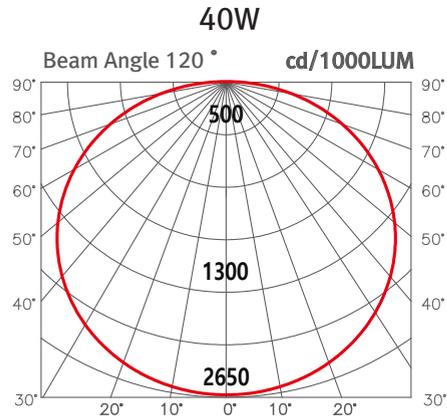
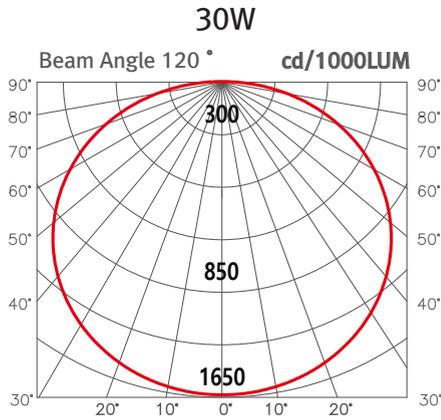


45° Stanchion Bracket

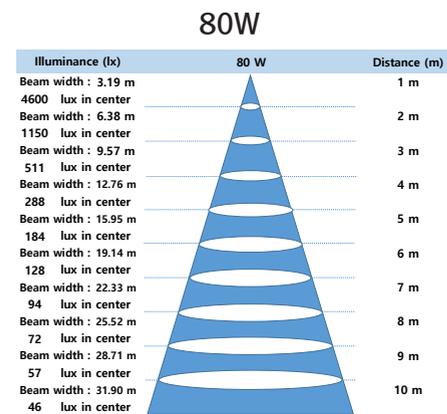
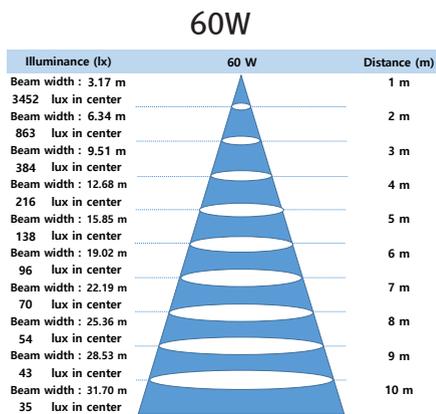
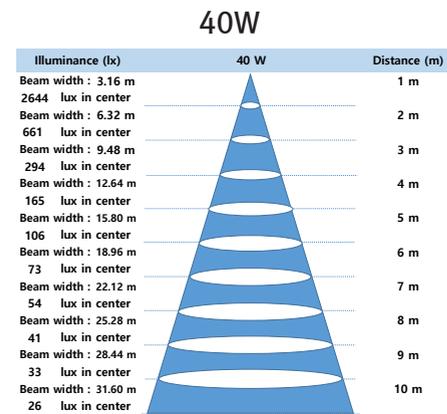
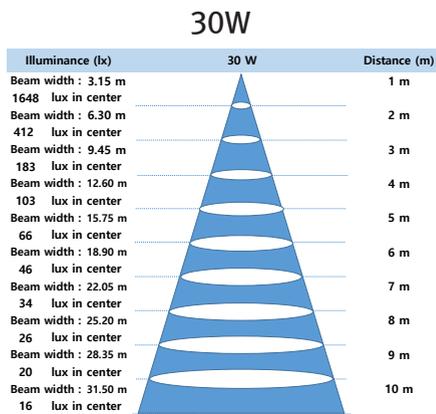


30° Stanchion Bracket

Polar Diagram



Cone Diagram



LED Explosion-proof Emergency Light (80W or less) with Battery



High Luminous Efficacy



High Energy Savings



Optimal Heat Dissipation Design



Features & Applications

- World-class luminous efficacy over 165 lm/W
- Enhanced product stability through structural analysis and optimized design
- Strong resistance against salt damage and pollution
- Optimal heat dissipation technology
- Increased energy savings compared to metal explosion-proof lighting fixtures
- Emergency power (battery) usage time of 1 hour 30 minutes
- Automatic conversion to 30W in emergencies

Ex-Proof Classes & Conditions

- Explosion-proof Rating: Ex db IIC T6, Ex tD A21 85°C
- Application Areas: Zone1 and Zone2, Dust
- Protection Rating: IP66

Materials

- Casing: Die Cast Aluminium Alloy
- Glass: Tempered Glass
- Accessories: Stainless Steel

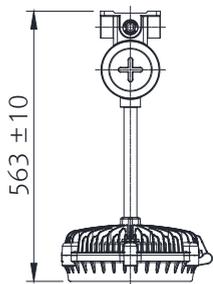
Installation Cases



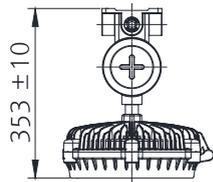
Specifications

Model Name	Power Consumption	Input Power	Luminous Flux	Efficiency	CCT	CRI
HL-Exd-LB**	60W	AC110 ~ 240V (50/60Hz)	10,077 lm	166 lm/W	5,700 K	> 80 Ra
	80W		12,724 lm	159 lm/W		
	30W	In case of an emergency transition				
Size (mm)	Power Factor	Ambient Temperature	Weight	Lifetime	IP Level	Option
W323 x H134 (Head)	> 0.95	-20 ~ +50 °C	9 kg	30,000 ~ 50,000 hrs	IP 66	Opaque Glass / Reflector

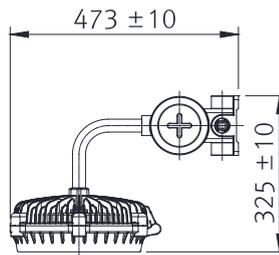
Outline Drawing (mm)



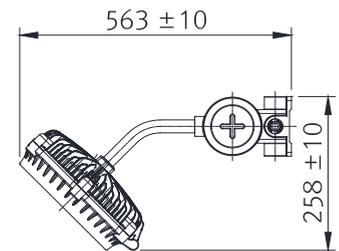
Pendant Bracket Type



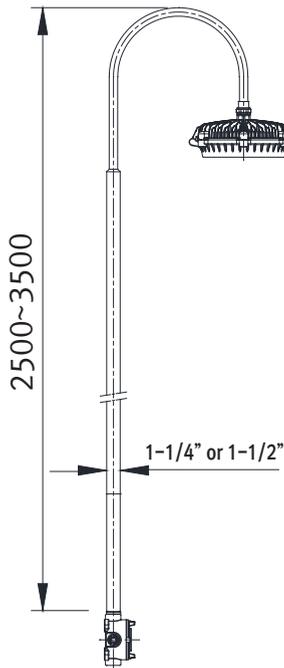
Ceiling Bracket Type



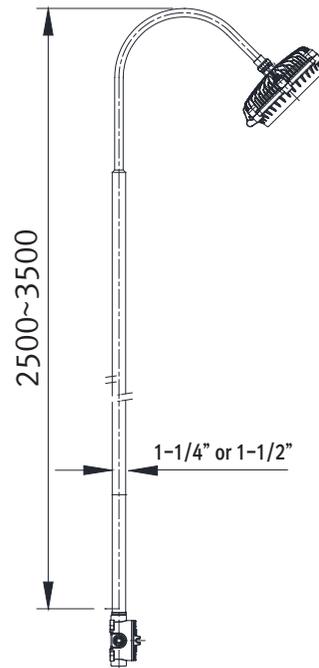
90° Wall Bracket Type



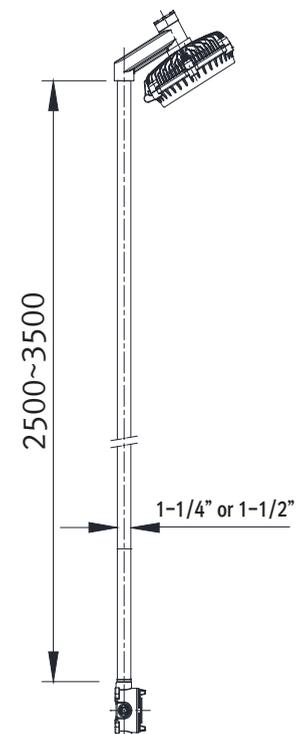
45° Wall Bracket Type



90° Stanchion Bracket

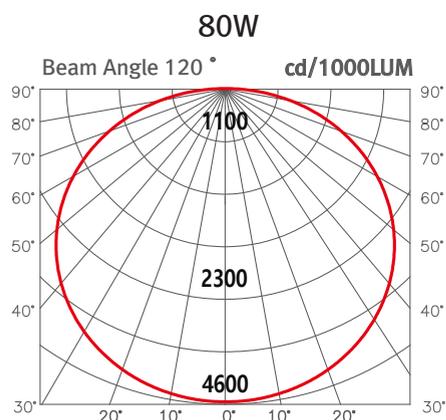
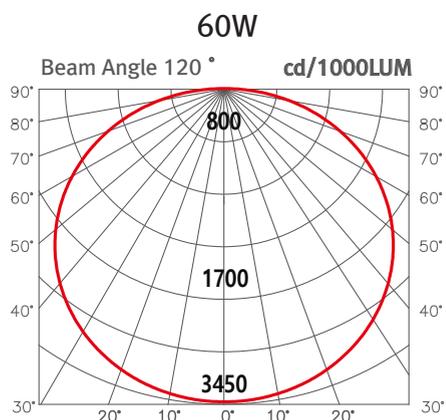


45° Stanchion Bracket

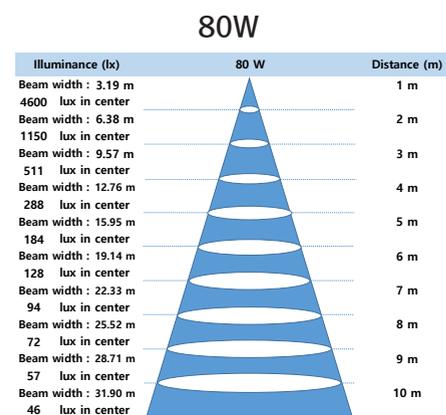
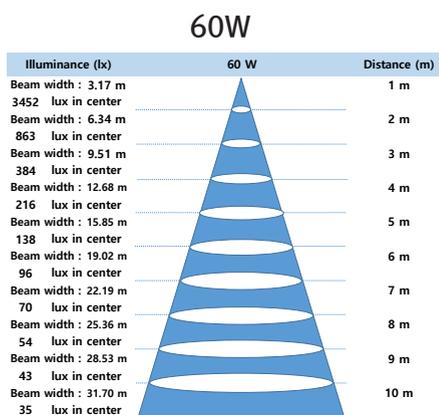


30° Stanchion Bracket

Polar Diagram



Cone Diagram



LED Explosion-Proof Light (80W or less)

Globe



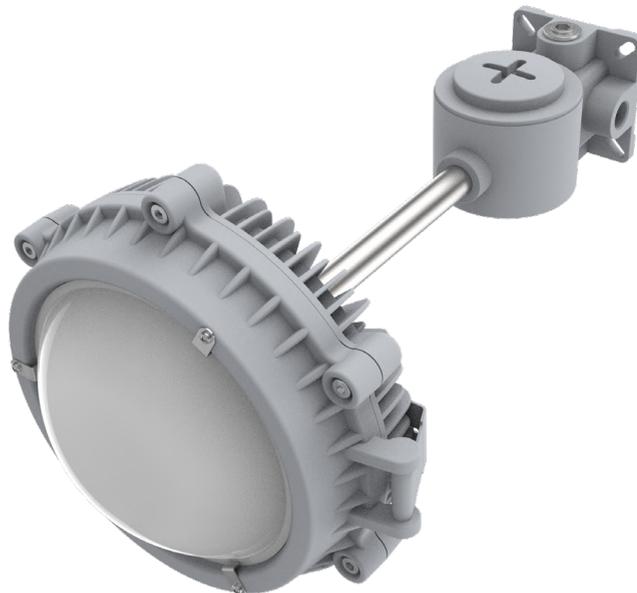
High
Luminous
Efficacy



High
Energy
Savings



Optimal
Heat
Dissipation
Design



Features & Applications

- World-class luminous efficacy over 165 lm/W
- Enhanced product stability through structural analysis and optimized design
- Strong resistance against salt damage and pollution
- Optimal heat dissipation technology
- Increased energy savings compared to metal explosion-proof lighting fixtures

Ex-Proof Classes & Conditions

- Explosion-proof Rating: Ex db IIC T6, Ex tD A21 85°C
- Application Areas: Zone1 and Zone2, Dust
- Protection Rating: IP66

Materials

- Casing: Die Cast Aluminium Alloy
- Glass: Tempered Glass
- Accessories: Stainless Steel

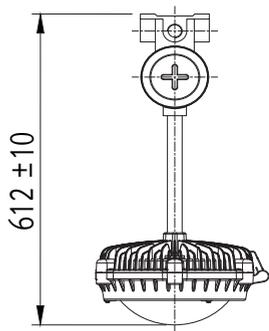
Installation Cases



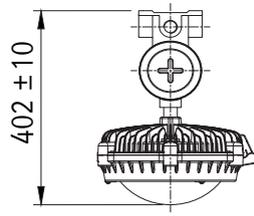
Specifications

Model Name	Power Consumption	Input Power	Luminous Flux	Efficiency	CCT	CRI
HL-Exd-L**	30W	AC110 ~ 240V	3,900 lm	130 lm/W	5,700 K	> 80 Ra
	40W		5,200 lm	130 lm/W		
	60W		7,800 lm	130 lm/W		
	80W		10,000 lm	125 lm/W		
Size (mm)	Power Factor	Ambient Temperature	Weight	Lifetime	IP Level	
W323 x H134 (Ø285)	> 0.95	-20 ~ +50 °C	9 kg	30,000 ~ 50,000 hrs	IP 66	

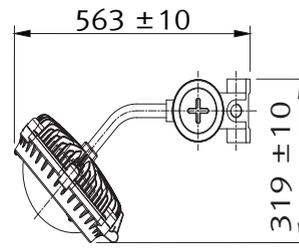
Outline Drawing (mm)



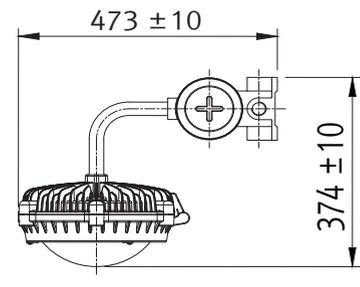
Pendant Bracket Type



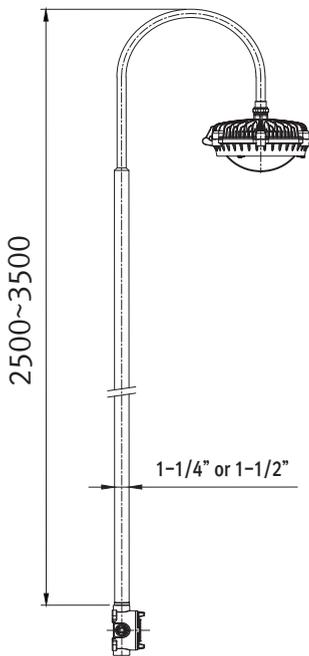
Ceiling Bracket Type



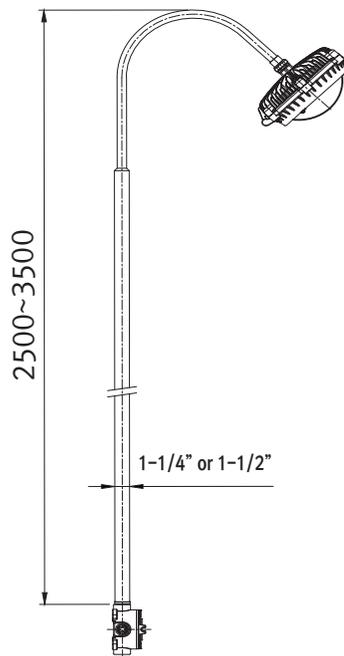
45Deg. Wall Bracket Type



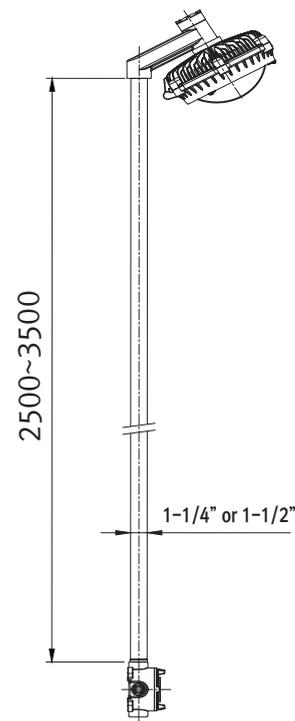
90Deg. Wall Bracket Type



90° Stanchion Bracket

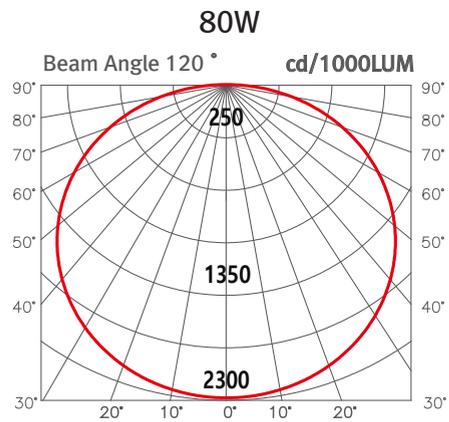
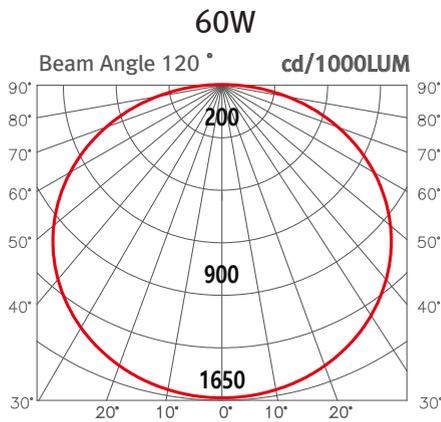
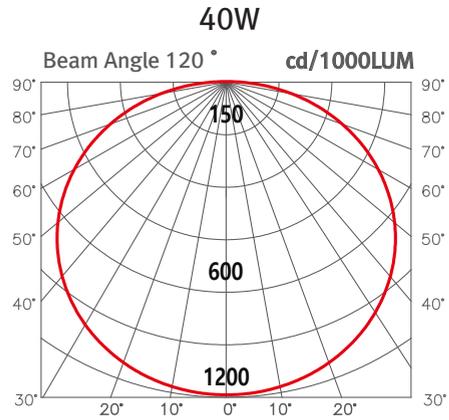
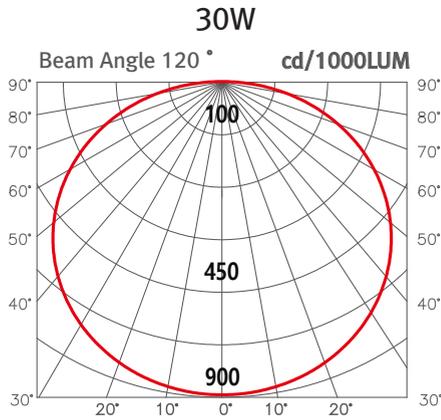


45° Stanchion Bracket

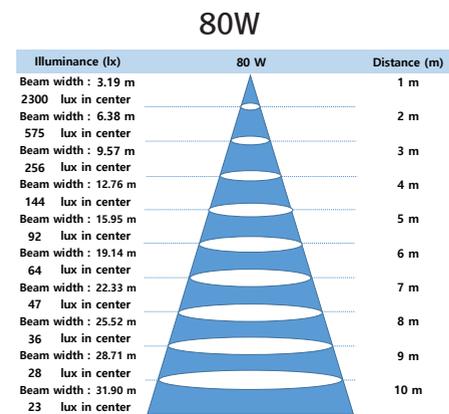
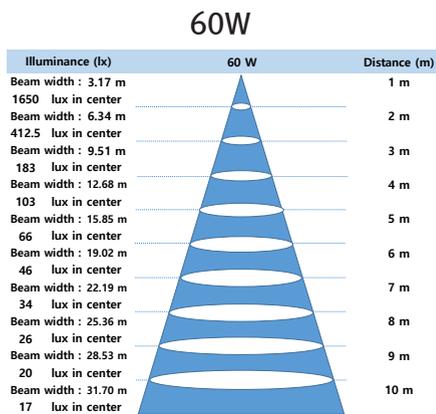
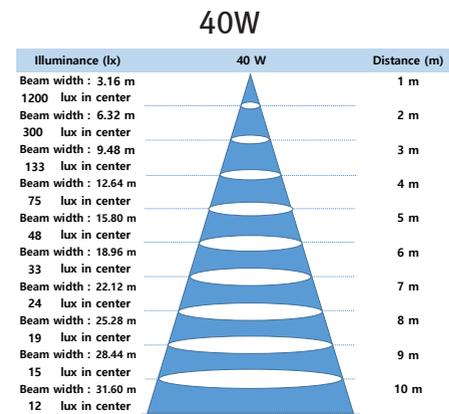
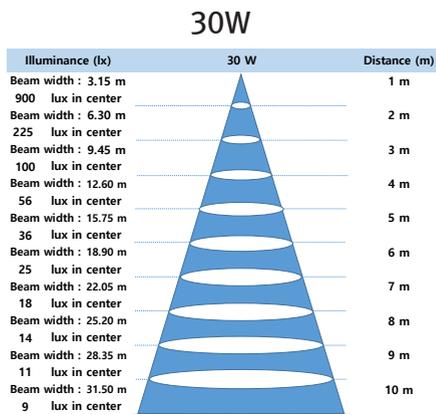


30° Stanchion Bracket

Polar Diagram



Cone Diagram



LED Explosion-Proof Light (80W or less)

Green Eyewash Light



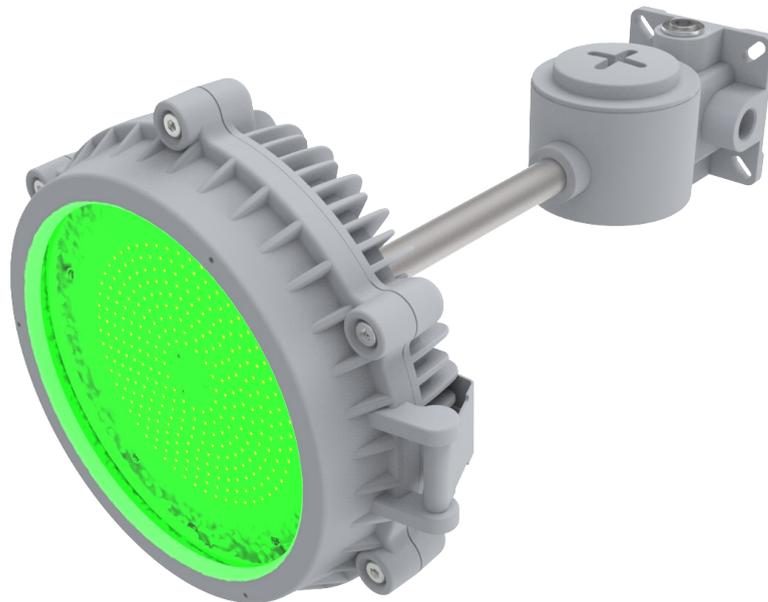
High
Luminous
Efficacy



High
Energy
Savings



Optimal
Heat
Dissipation
Design



Features & Applications

- Enhanced product stability through structural analysis and optimized design
- Strong resistance against salt damage and pollution
- Optimal heat dissipation technology
- Increased energy savings compared to metal explosion-proof lighting fixtures

Ex-Proof Classes & Conditions

- Explosion-proof Rating: Ex db IIC T6, Ex tD A21 85°C
- Application Areas: Zone1 and Zone2, Dust
- Protection Rating: IP66

Materials

- Casing: Die Cast Aluminium Alloy
- Glass: Tempered Glass
- Accessories: Stainless Steel

Installation Cases

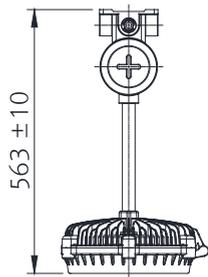


Specifications

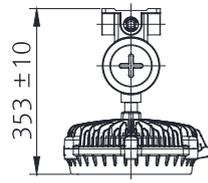
Model Name	Power Consumption	Input Power	Color	CRI
HL-Exd-L**	30W	AC110 ~ 240V	Green	> 80 Ra
	40W			
	60W			
	80W			

Size (mm)	Power Factor	Ambient Temperature	Weight	Lifetime	IP Level	Option
W323 x H134 (Head)	> 0.95	-20 ~ +50 °C	9 kg	30,000 ~ 50,000 hrs	IP 66	Reflector

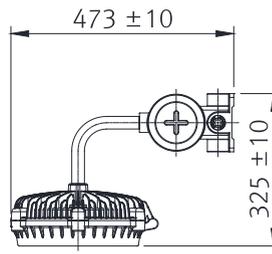
Outline Drawing (mm)



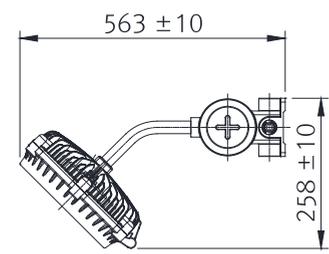
Pendant Bracket Type



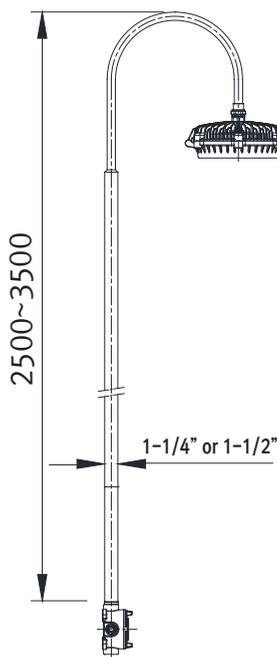
Ceiling Bracket Type



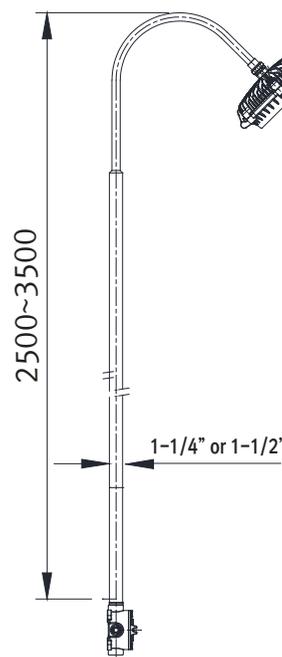
90° Wall Bracket Type



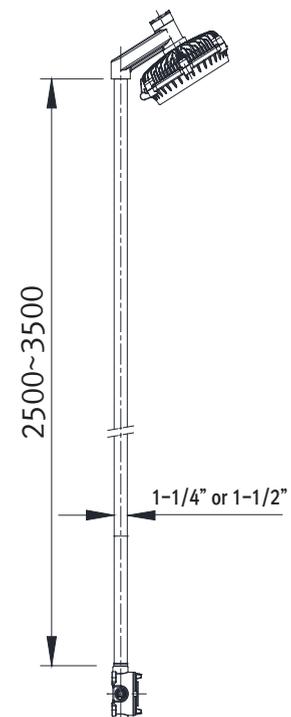
45° Wall Bracket Type



90° Stanchion Bracket

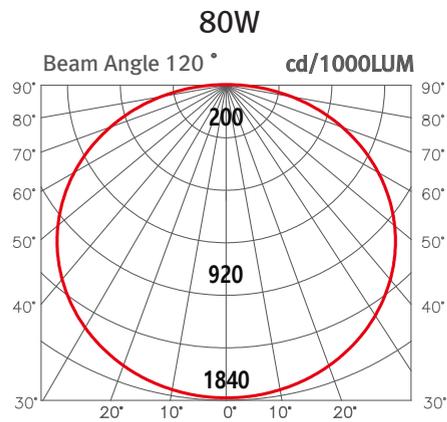
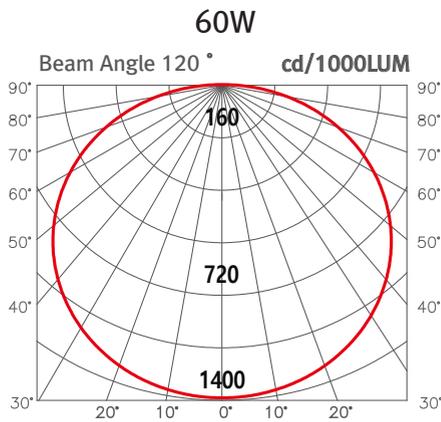
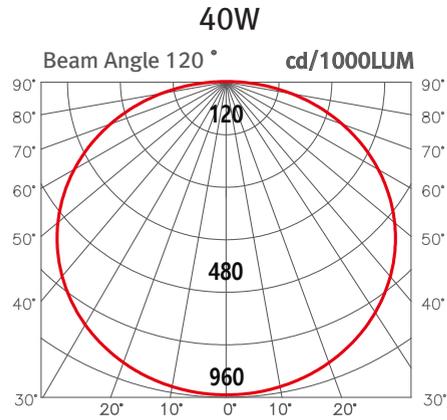
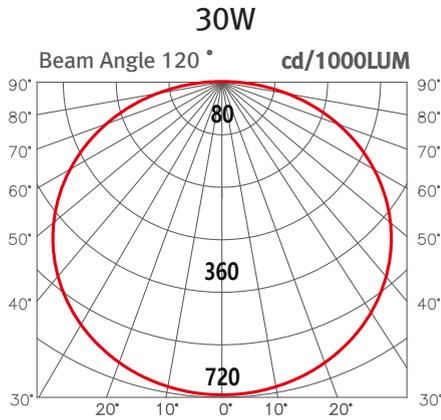


45° Stanchion Bracket

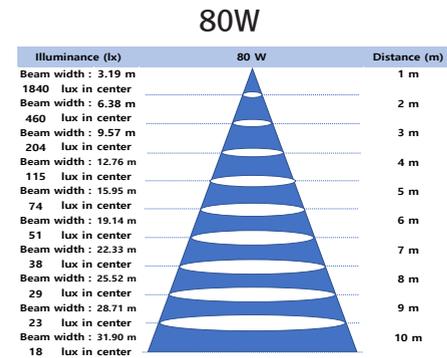
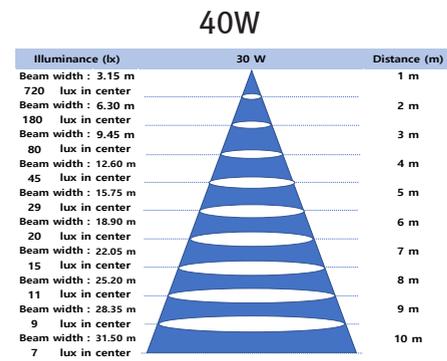
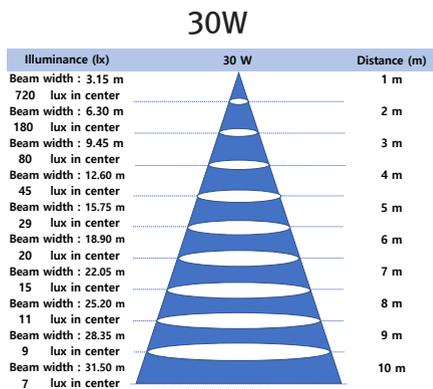


30° Stanchion Bracket

Polar Diagram



Cone Diagram



LED Explosion-Proof Light (150W or less)



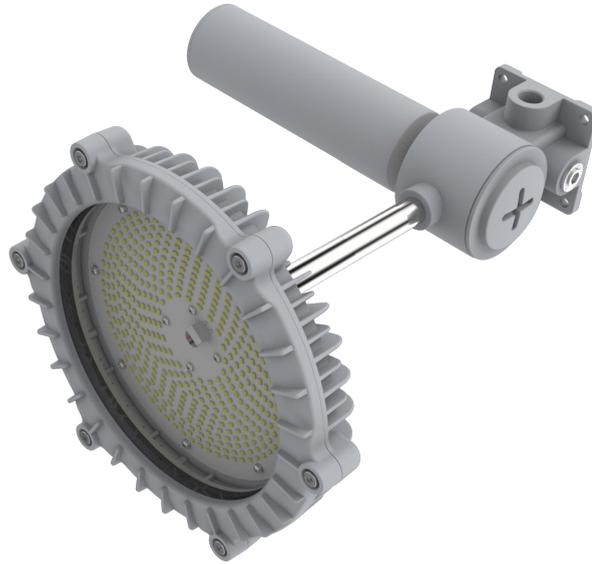
High
Luminous
Efficacy



High
Energy
Savings



Optimal
Heat
Dissipation
Design



Features & Applications

- World-class luminous efficacy of about 140 lm/W
- Enhanced product stability through structural analysis and optimized design
- Strong resistance against salt damage and pollution
- Optimal heat dissipation technology
- Increased energy savings compared to metal explosion-proof lighting fixtures

Ex-Proof Classes & Conditions

- Explosion-proof Rating: Ex d IIC T6(T5), Ex tD A21 85°C / 100°C
- Application Areas: Zone1 and Zone2, Dust
- Protection Rating: IP66

Materials

- Casing: Die Cast Aluminium Alloy
- Glass: Tempered Glass
- Accessories: Stainless Steel

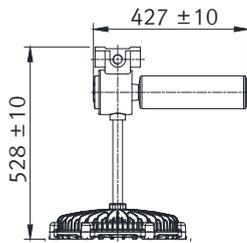
Installation Cases



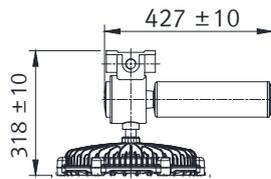
Specifications

Model Name	Power Consumption	Input Power	Luminous Flux	Efficiency	CCT	CRI
HL-Exd-L150	100W	AC110 ~ 240V	13,618 lm	138.8 lm/W	5,700 K	> 80 Ra
	120W		16,185 lm	137.2 lm/W		
	150W		19,260 lm	130.8 lm/W		
Size (mm)	Power Factor	Ambient Temperature	Weight	Lifetime	IP Level	Option
W373 x H98 (Head)	> 0.95	-20 ~ +40 °C	14 kg	30,000 ~ 50,000 hrs	IP 66	Opaque Glass / Reflector

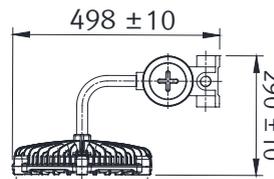
Outline Drawing (mm)



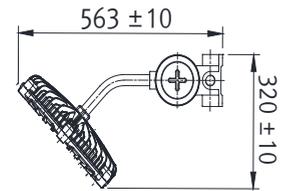
Pendant Bracket Type



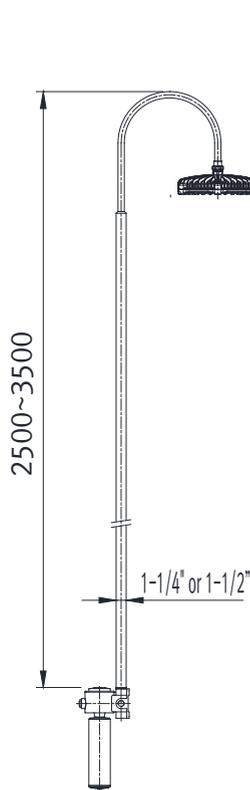
Ceiling Bracket Type



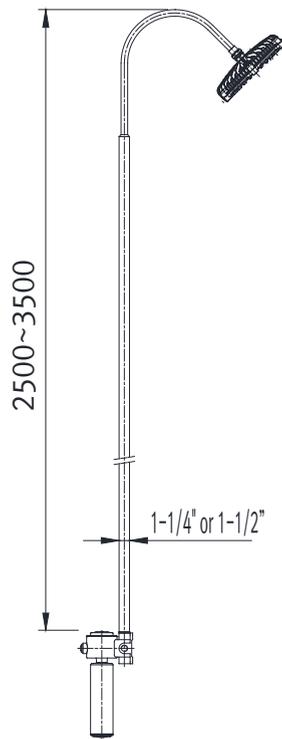
90° Wall Bracket Type



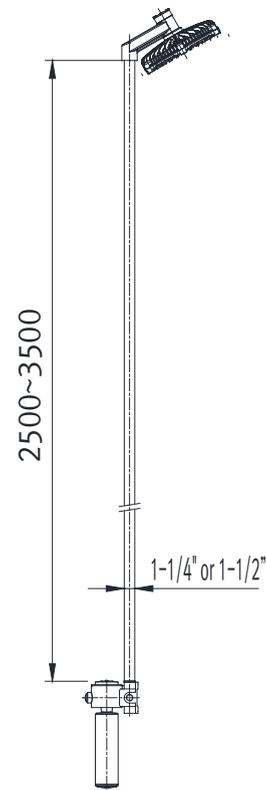
45° Wall Bracket Type



90° Stanchion Bracket

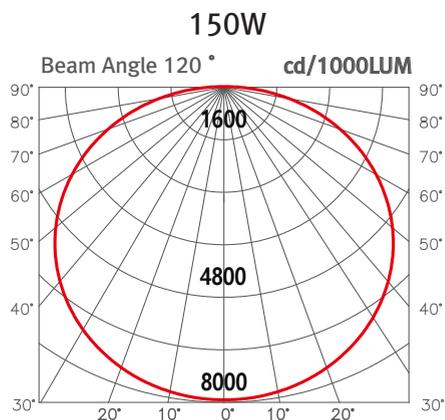
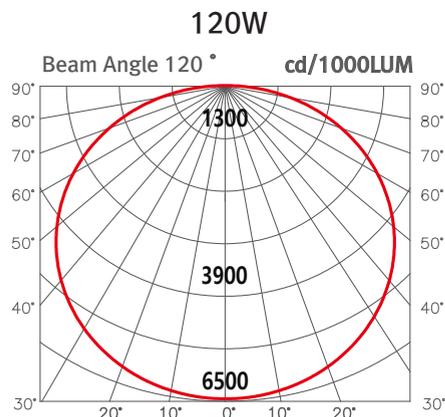
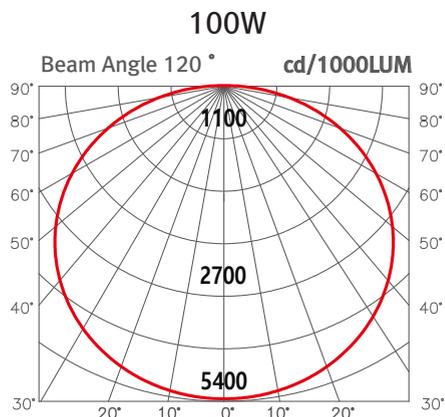


45° Stanchion Bracket

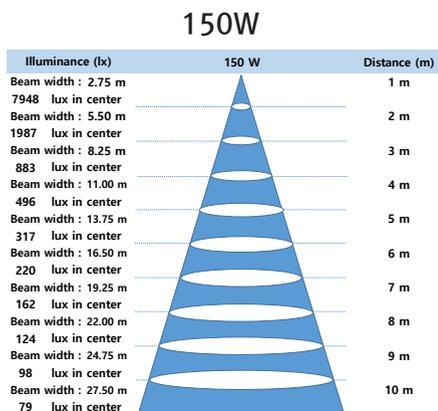
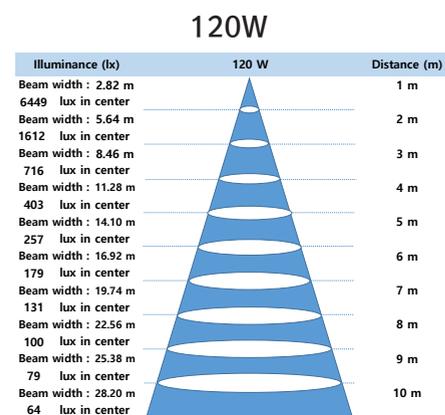
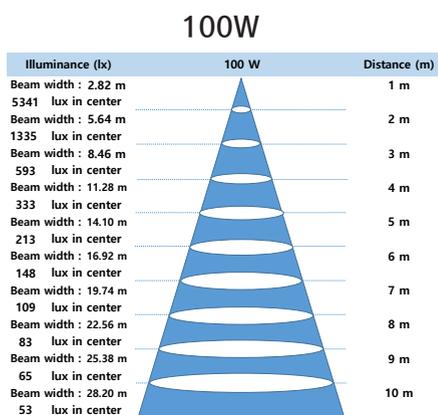


30° Stanchion Bracket

Polar Diagram



Cone Diagram



LED Explosion-Proof Floodlight (150W or less)



High Luminous Efficacy



High Energy Savings



Optimal Heat Dissipation Design



Features & Applications

- World-class luminous efficacy over 140 lm/W
- Enhanced product stability through structural analysis and optimized design
- Strong resistance against salt damage and pollution
- Optimal heat dissipation technology
- Increased energy savings compared to metal explosion-proof lighting fixtures

Ex-Proof Classes & Conditions

- Explosion-proof Rating: Ex db IIC T6 Gb and Ex tb IIIC T85 °C Db
- Application Areas: Zone1 and Zone2, Dust
- Protection Rating: IP66

Materials

- Casing: Die Cast Aluminium Alloy
- Glass: Tempered Glass
- Accessories: Stainless Steel

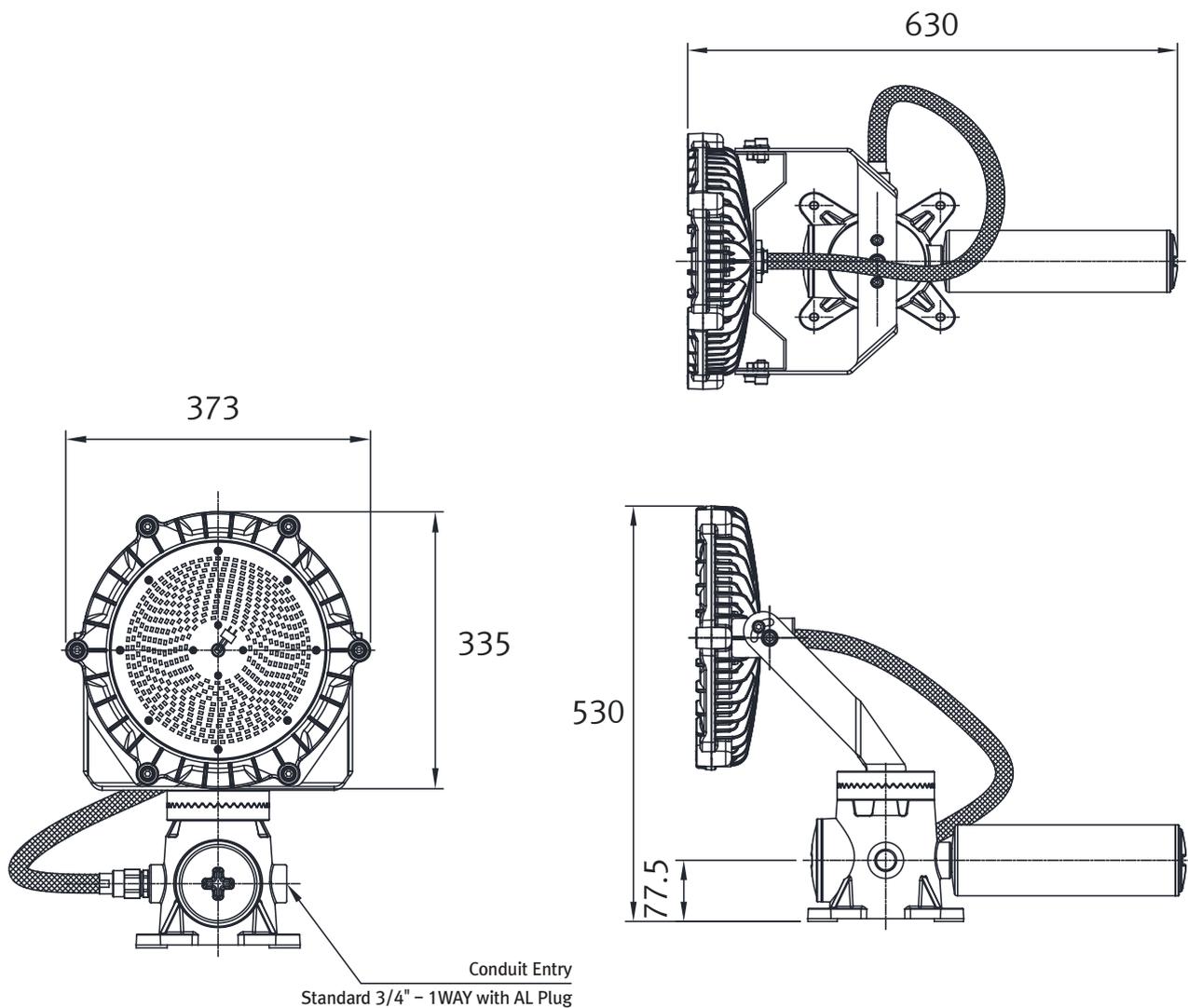
Installation Cases



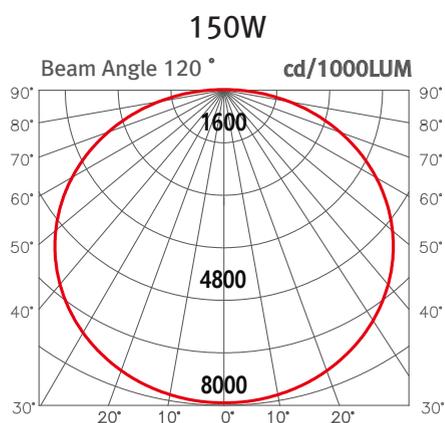
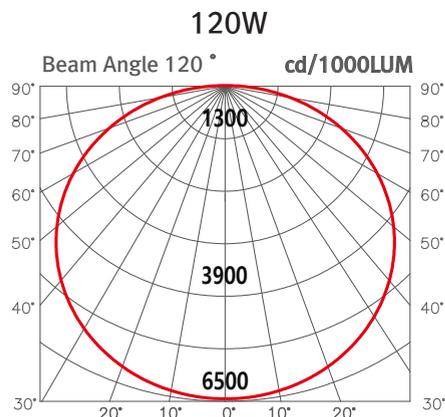
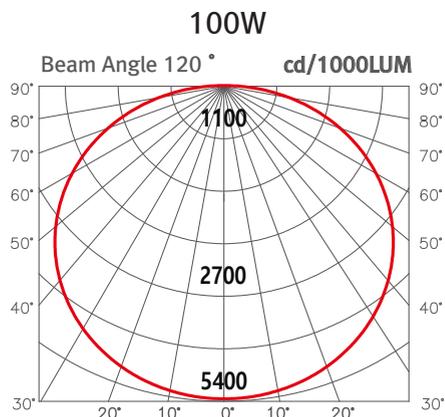
Specifications

Model Name	Power Consumption	Input Power	Luminous Flux	Efficiency	CCT	CRI
HL-LF-***	100W	AC110 ~ 240V	13,618 lm	138.8 lm/W	5,700 K	> 80 Ra
	120W		16,185 lm	137.2 lm/W		
	150W		19,260 lm	130.8 lm/W		
Size (mm)	Power Factor	Ambient Temperature	Weight	Lifetime	IP Level	Option
W373 x H530 (Head)	> 0.9	-20 ~ +40 °C	14.5 kg	30,000 ~ 50,000 hrs	IP 66	Opaque Glass / Reflector

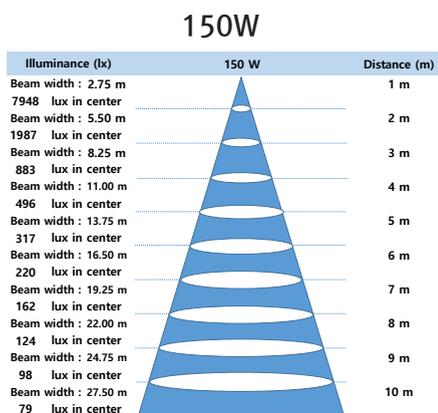
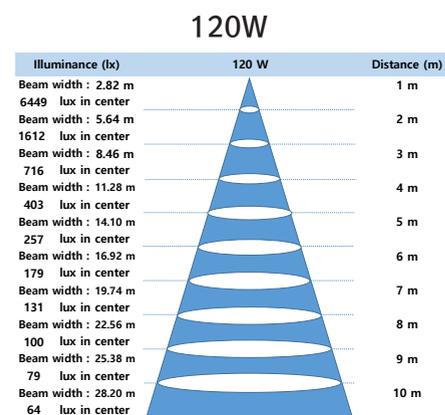
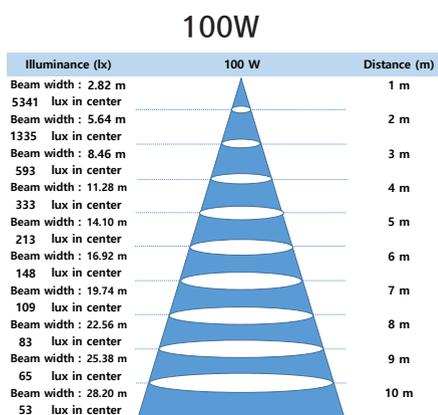
Outline Drawing (mm)



Polar Diagram



Cone Diagram



LED Explosion-Proof Fluorescent Light (50W or less)



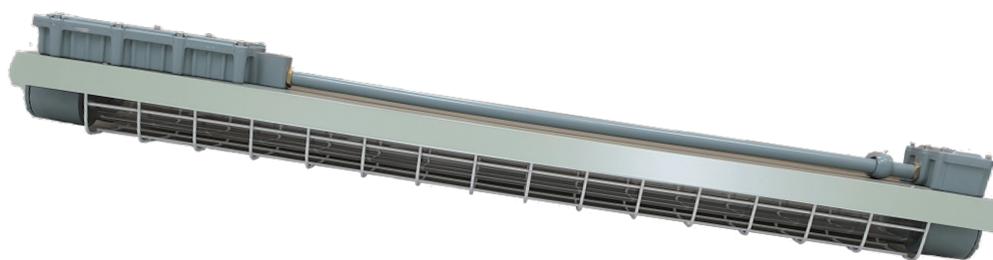
High
Luminous
Efficacy



High
Energy
Savings



Optimal
Heat
Dissipation
Design



Features & Applications

- Luminous efficacy of about 130 lm/W
- Enhanced product stability through structural analysis and optimized design
- Strong resistance against salt damage and pollution
- Optimal heat dissipation technology
- Increased energy savings compared to metal explosion-proof lighting fixtures

Ex-Proof Classes & Conditions

- Explosion-proof Rating: Ex d IIB T6
- Application Areas: Zone1
- Protection Rating: IP66

Materials

- Casing: Die Cast Aluminium Alloy
- Glass: Tempered Glass

Installation Cases

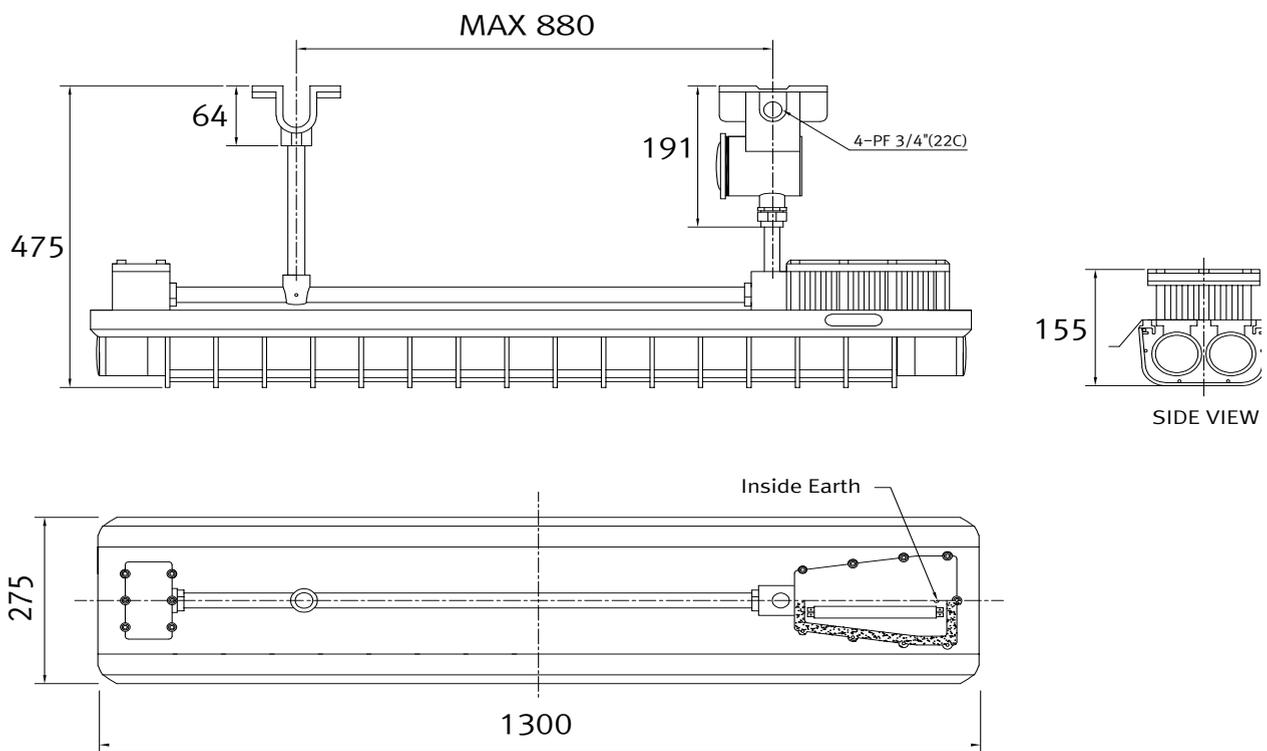


Specifications

Model Name	Power Consumption	Input Power	Luminous Flux	Efficiency	CCT	CRI
SK-DLED22W-2R	40W	AC220V	6,400 lm	130 lm/W	5,700 K	> 80 Ra

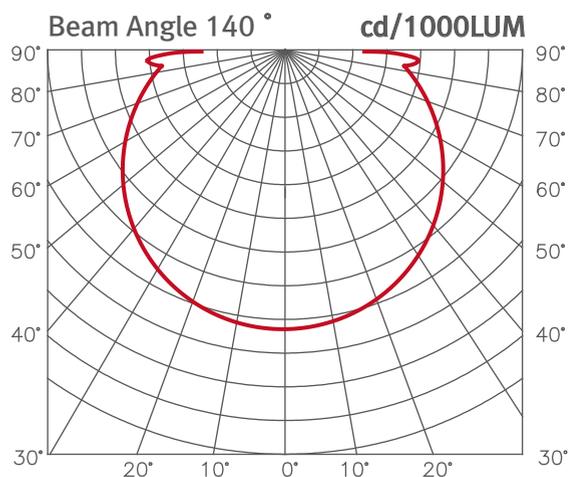
Size (mm)	Power Factor	Ambient Temperature	Weight	Lifetime	Option
W1300 x D275 x H155	> 0.95	-20 ~ +40 °C	16 kg	30,000 ~ 50,000 hrs	Lamp Replacement

Outline Drawing (mm)



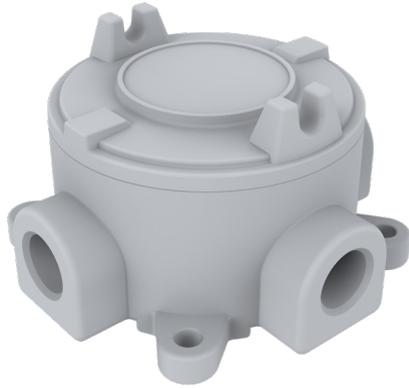
KCS (Korean Certificate Safety)
LED Explosion-Proof Light

Polar Diagram / Cone Diagram



Illuminance (lx)	40 W	Distance (m)
Beam width : 6.90 m		1 m
5750 lux in center		2 m
Beam width : 13.80 m		3 m
1438 lux in center		4 m
Beam width : 20.70 m		5 m
639 lux in center		
Beam width : 27.60 m		
359 lux in center		
Beam width : 34.50 m		
230 lux in center		

LED Explosion-Proof Light Accessory (Round Junction Box)



HL-RJB-1



HL-RJB-2



Application

- Explosion-proof Rating: Ex d IIC T6, Ex tD A21 85°C
- Application Areas: Zone1 and Zone2, Dust
- Protection Rating: IP66

Finish

- Powder Coating : Munsell no. N7 or 7.5BG 6/1.5, etc.

Standard Material

- Housing : Die-Cast Aluminum Alloy

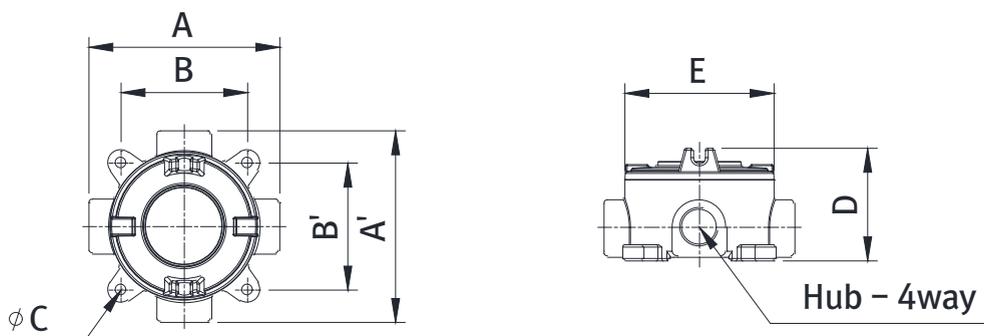
Conduit Size

- PF & NPT Threads 1/2", 3/4", 1"
- Metric Threads M20, M25, M32

Specifications

Model Name	Dimension (mm)					Hub Size
	A	B	C	D	E	
HL-RJB-1	160	106	10	94	125	1" or less
HL-RJB-2	143.5	84.5	10	86.5	101	3/4" or less

Outline Drawing (mm)



LED Explosion-Proof Light Accessory (Mounting Box)



HL-MTB-1



HL-MTB-2



Application

- Explosion-proof Rating: Ex d IIC T6, Ex tD A21 85°C
- Application Areas: Zone1 and Zone2, Dust
- Protection Rating: IP66

Finish

- Powder Coating : Munsell no. N7 or 7.5BG 6/1.5, etc

Standard Material

- Housing : Die-Cast Aluminum Alloy

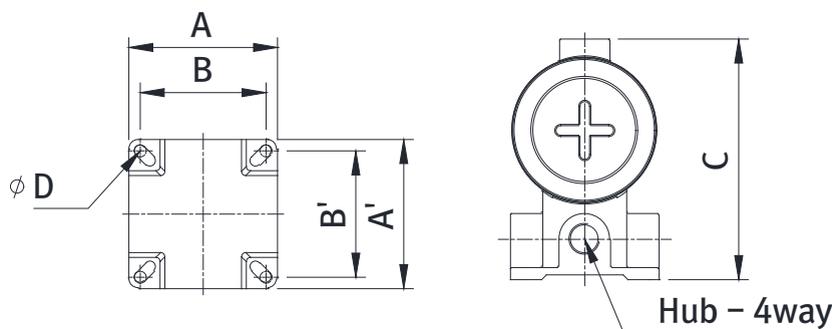
Conduit Size

- PF & NPT Threads 1/2", 3/4", 1"
- Metric Threads M20, M25, M32

Specifications

Model Name	Dimension (mm)				Hub Size
	A	B	C	D	
HL-MTB-1	124	90~105	200	10	1" or less
HL-MTB-2	115	91	150	10	3/4" or less

Outline Drawing (mm)



LED Outdoor Light





LED Floodlight (150W or less)



High
Luminous
Efficacy



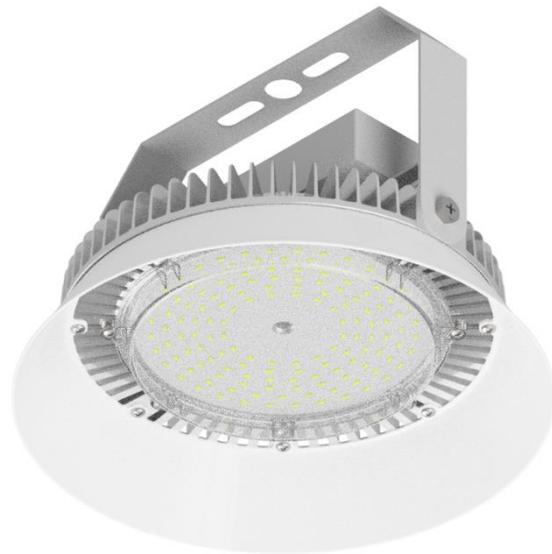
Long-life
Products



Optimal
Heat
Dissipation
Design



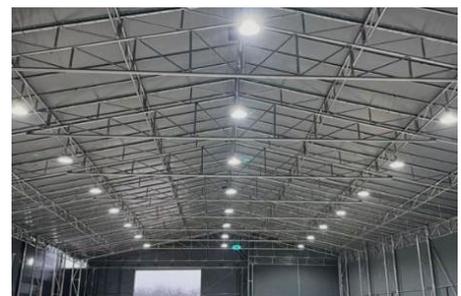
Eco-friendly
Products



Features & Applications

- Optimal heat dissipation structure with a simple design
- Eco-friendly product (mercury-free, lead-free, cadmium-free, UV-free, low carbon)
- Long lifespan compared to traditional lamps, reducing maintenance costs
- Provides high luminous efficacy and uniform light
- Enhanced product stability through structural analysis and optimized design
- Compact and lightweight design for easy installation and construction

Installation Cases

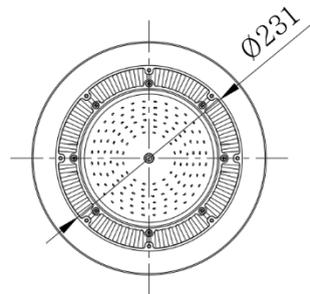
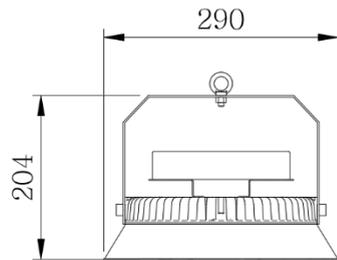


Specifications

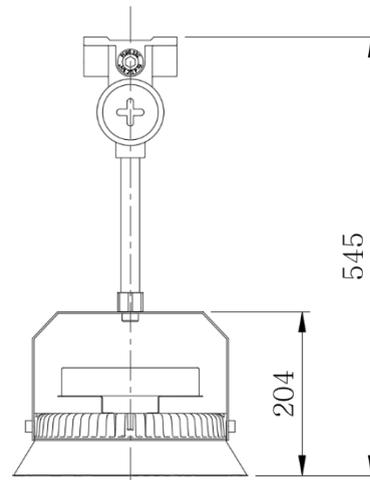
Model Name	Power Consumption	Input Power	Luminous Flux	Efficiency	CCT	CRI
HP-FS-60-10	60W	AC220V	7,993 lm	130.4 lm/W	5,700 K	> 80 Ra
HP-FS-80-10	80W		12,843 lm	161.6 lm/W		
HP-FS-100-10	100W		12,970 lm	134.2 lm/W		
HP-FS-120-10	150W		22,216 lm	142.5 lm/W		

Size (mm)	Power Factor	Operating Temperature	Weight	Lifetime	IP Level	Option
∅290 x 190(H)	> 0.95	-20 ~ +40 °C	2.4 kg ± 10% 4.0 kg ± 10%	30,000 ~ 50,000 hrs	IP 66	Chain

Outline Drawing (mm)

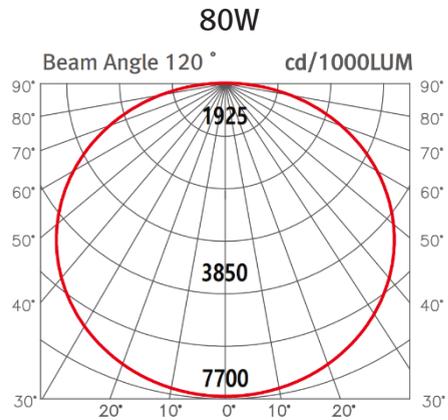
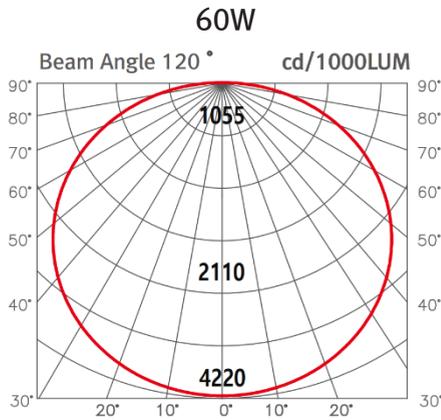
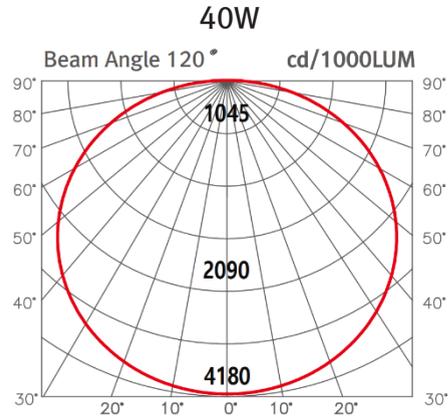
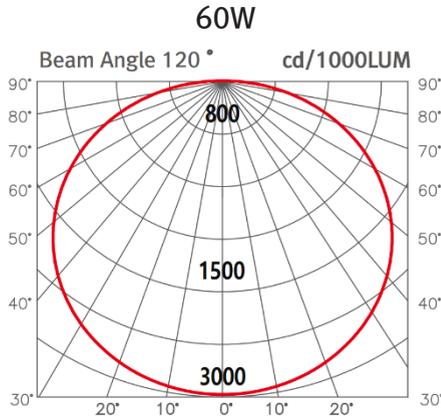


Chain Bracket Type

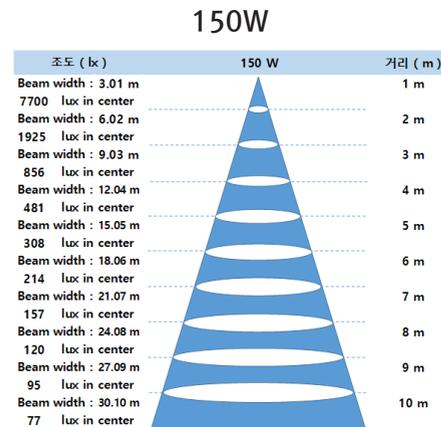
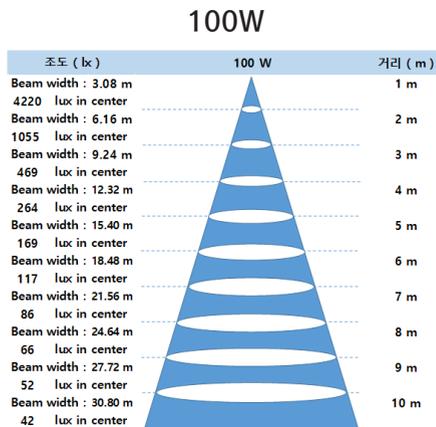
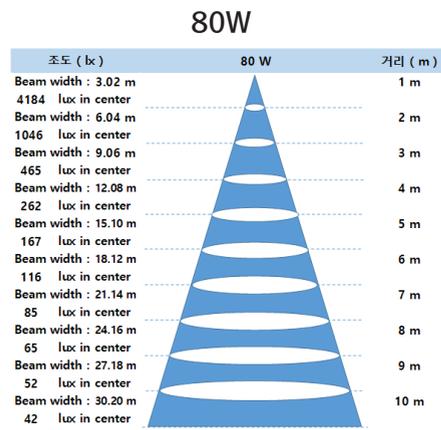
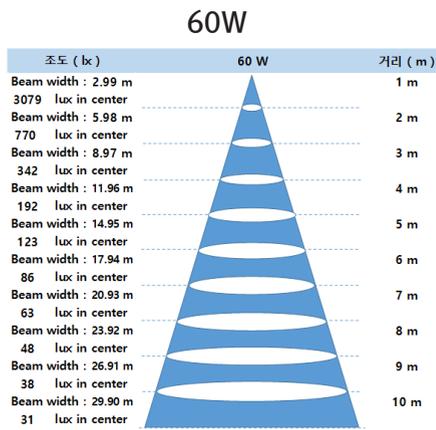


Pendant Bracket Type

Polar Diagram



Cone Diagram



Ordering Information

1. Product Order

HP - FS - 150 - 10 - CH

E.g. HP-FS-150-CH (LED Floodlight Fixture 150W, Chain)

HP-FS-150-P (LED Floodlight Fixture 150W, Pendant Bracket)

2. Classification

No.	Classification		Remarks
	Power Consumption	60W	
		80W	
		100W	
		150W	
	Installation Type	CH	Chain
		p	Pendant Bracket
		C	Ceiling Bracket

LED Floodlight (150W or less) for Power Plant



High Luminous Efficacy



Long-life Products



Optimal Heat Dissipation Design



Eco-friendly Products



Features & Applications

- Optimal heat dissipation structure with a simple design
- Eco-friendly product (mercury-free, lead-free, cadmium-free, UV-free, low carbon)
- Long lifespan compared to traditional lamps, reducing maintenance costs
- Provides high luminous efficacy and uniform light
- Enhanced product stability through structural analysis and optimized design
- Compact and lightweight design for easy installation and construction

Installation Cases

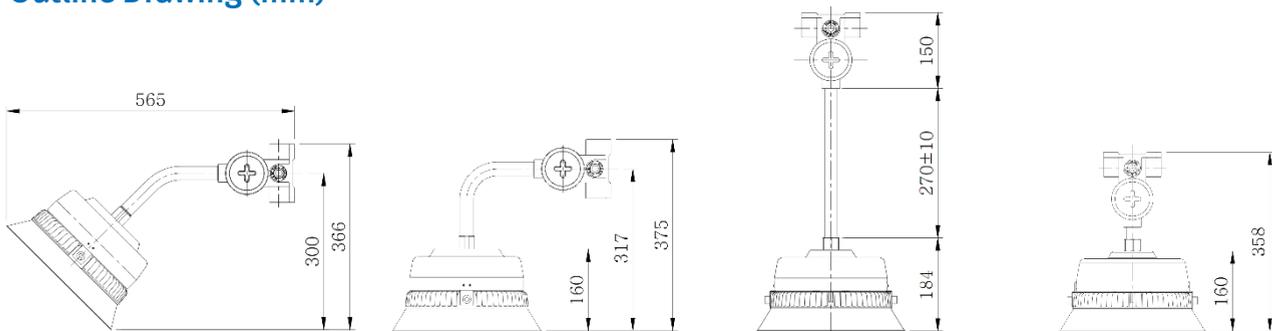


Specifications

Model Name	Power Consumption	Input Power	Luminous Flux	Efficiency	CCT	CRI
HP-FS-60-10	60W	AC220V	7,993 lm	130.4 lm/W	5,700 K	>80 Ra
HP-FS-80-10	80W		12,843 lm	161.6 lm/W		
HP-FS-100-10	100W		12,970 lm	134.2 lm/W		
HP-FS-120-10	150W		22,216 lm	142.5 lm/W		

Size (mm)	Power Factor	Operating Temperature	Weight	Lifetime	IP Level	Option
∅290 x 190(H)	>0.95	-20 ~ +40 °C	2.4 kg ±10% 4.0 kg ±10%	30,000 ~ 50,000 hrs	IP 66	Chain

Outline Drawing (mm)

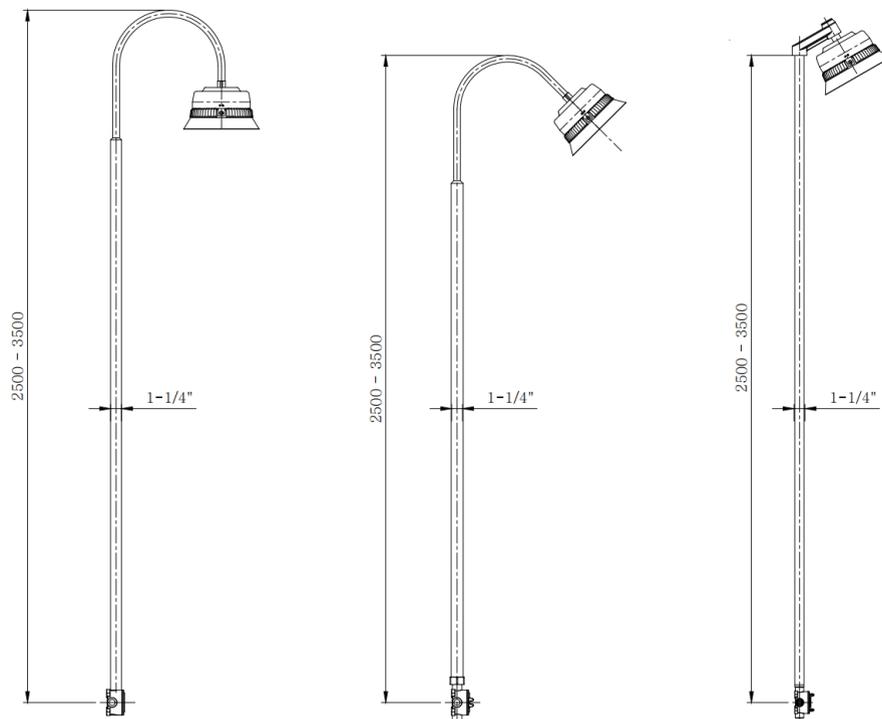


45Deg. Wall Bracket Type

90Deg. Wall Bracket Type

Pendant Bracket Type

Ceiling Bracket Type

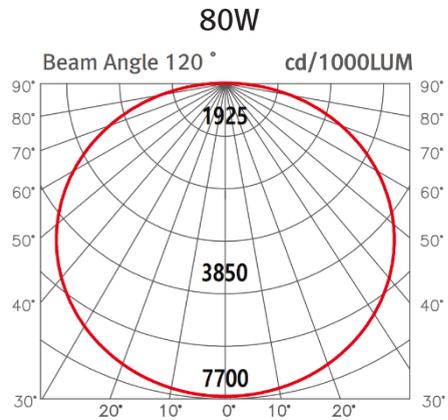
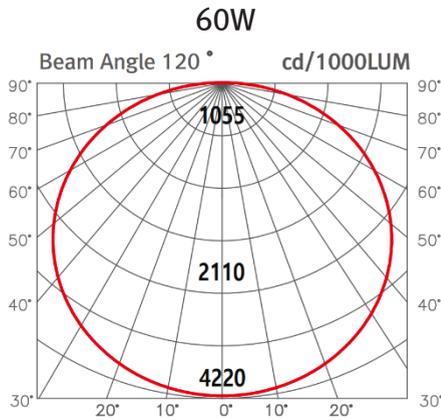
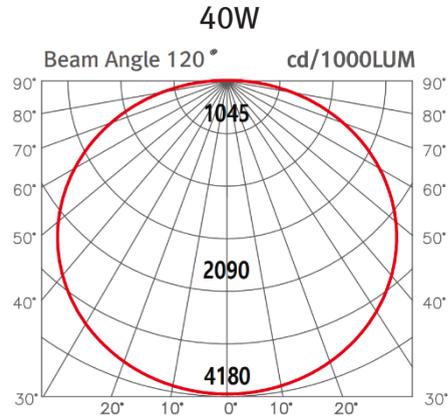
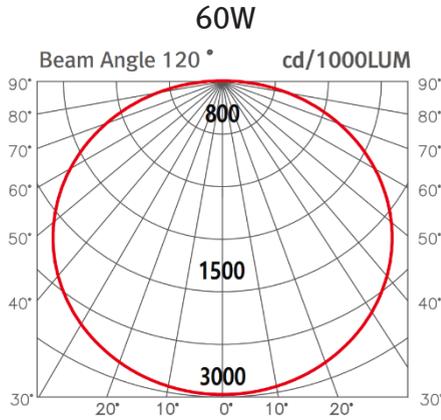


90° Stanchion Bracket

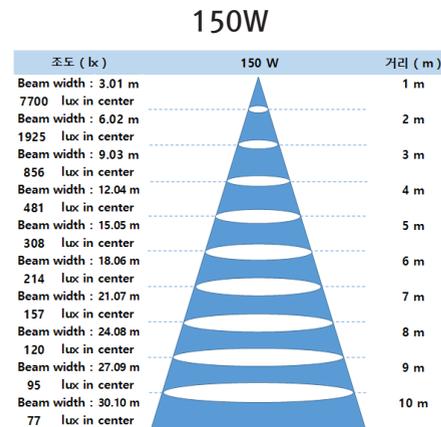
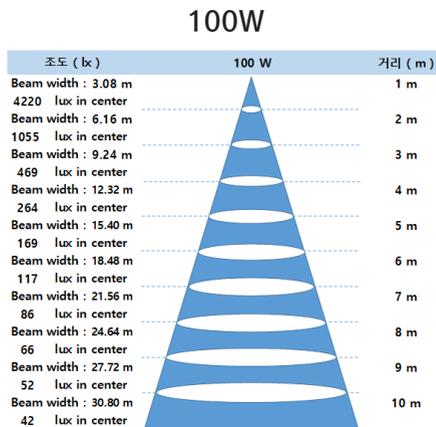
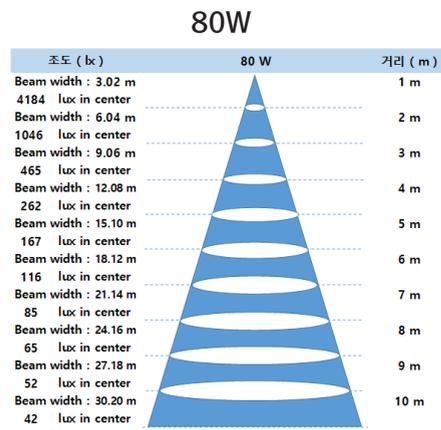
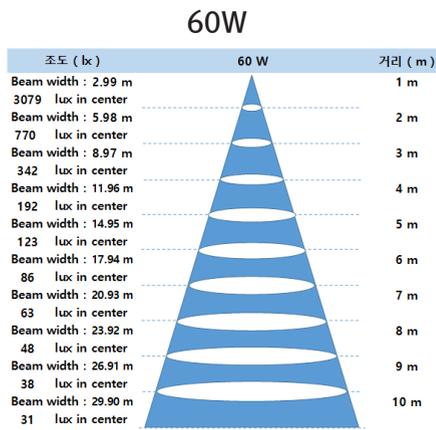
45° Stanchion Bracket

30° Stanchion Bracket

Polar Diagram



Cone Diagram



Ordering Information

1. Product Order

HP - FS - 150 - 10 - CH - PP

E.g. HP-FS-150-CH-COVER (LED Floodlight Fixture 150W, Chain)

HP-FS-150-P-COVER (LED Floodlight Fixture 150W, Pendant Bracket)

2. Classification

No.	Classification		Remarks	
	Power Consumption	60W		
		80W		
		100W		
		150W		
	Installation Type	CH	Chain	
		P	Pendant Bracket	
		C	Ceiling Bracket	
		W45	45° Wall Bracket	
		W90	90° Wall Bracket	
		S1	Stanchion Bracket	30°
		S2	Stanchion Bracket	45°
		S3	Stanchion Bracket	90°

* "PP" – Power Plant Type *

LED Floodlight (150W or less)



High Luminous Efficacy



Long-life Products



Optimal Heat Dissipation Design



Eco-friendly Products



Features & Applications

- Optimal heat dissipation structure with a simple design
- Eco-friendly product (mercury-free, lead-free, cadmium-free, UV-free, low carbon)
- Long lifespan compared to traditional lamps, reducing maintenance costs
- Provides high luminous efficacy and uniform light
- Enhanced product stability through structural analysis and optimized design
- Compact and lightweight design for easy installation and construction

Installation Cases

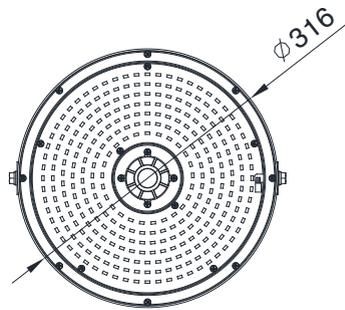
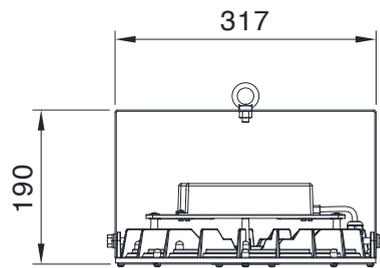


Specifications

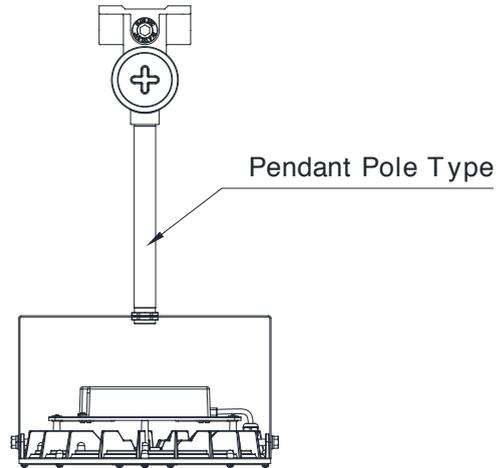
Model Name	Power Consumption	Input Power	Luminous Flux	Efficiency	CCT	CRI
SL-FS-60-10	60W	AC220V	8,817 lm	146.2 lm/W	5,700 K	> 80 Ra
SL-FS-80-10	80W		12,215 lm	155.8 lm/W		
SL-FS-100-10	100W		14,748 lm	151.9 lm/W		
SL-FS-150-10	150W		20,237 lm	144.5 lm/W		

Size (mm)	Power Factor	Operating Temperature	Weight	Lifetime	IP Level	Option
∅316 x 190(H)	> 0.95	-20 ~ +40 °C	2.4 kg ± 10% 4.0 kg ± 10%	30,000 ~ 50,000 hrs	IP 66	Chain

Outline Drawing (mm)

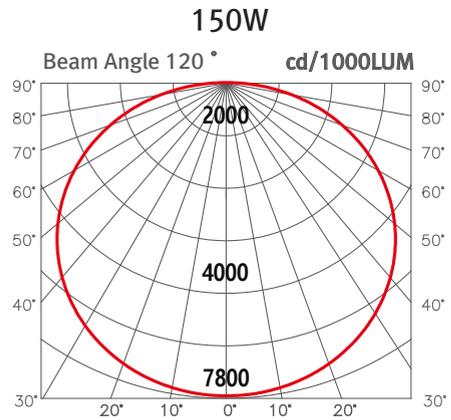
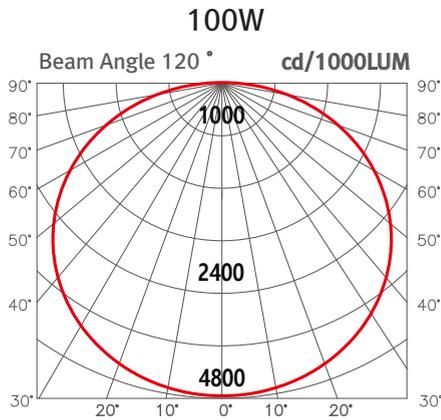
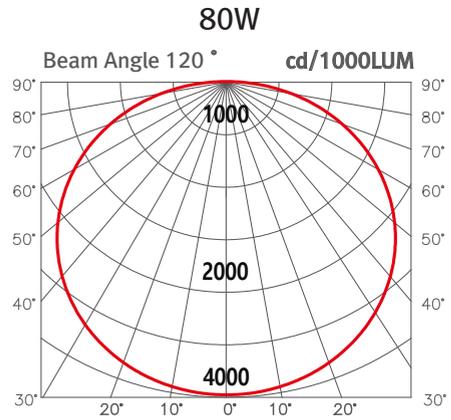
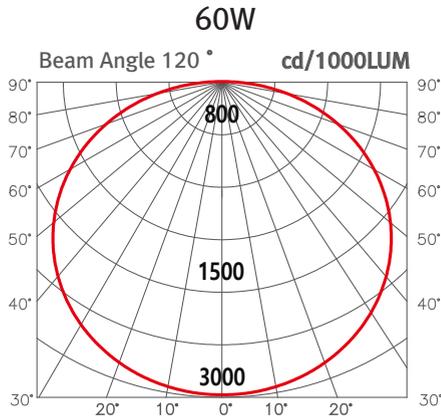


Chain Bracket Type

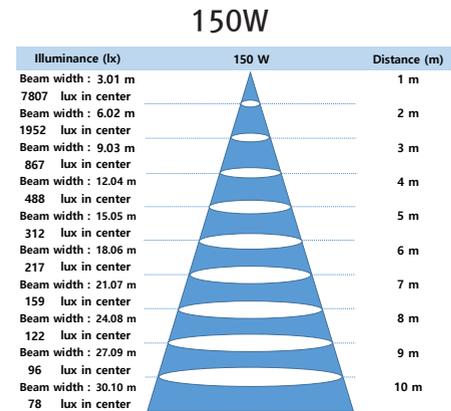
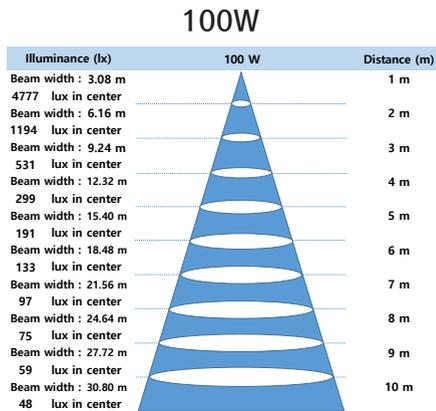
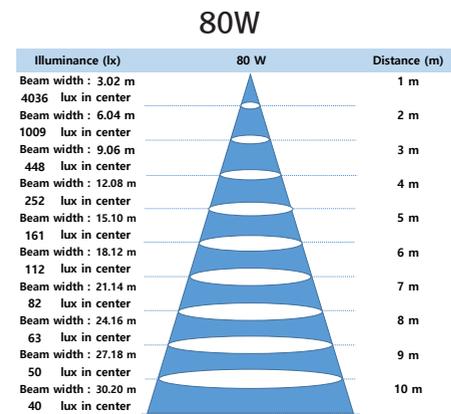
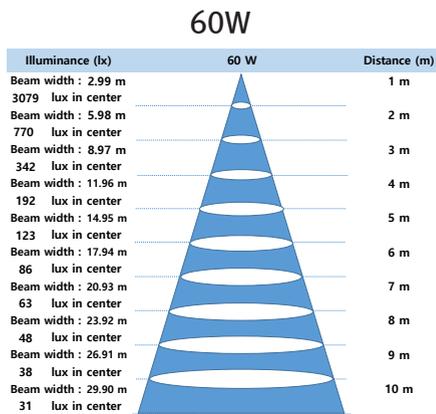


Pendant Bracket Type

Polar Diagram



Cone Diagram



LED Floodlight (150W or less) for Power Plant



High Luminous Efficacy



Long-life Products



Optimal Heat Dissipation Design



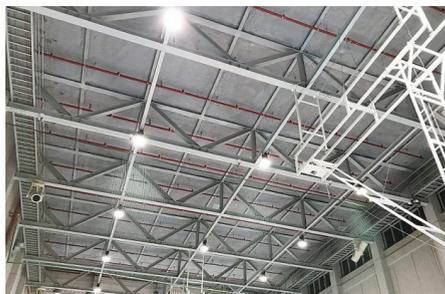
Eco-friendly Products



Features & Applications

- Optimal heat dissipation structure with a simple design
- Eco-friendly product (mercury-free, lead-free, cadmium-free, UV-free, low carbon)
- Long lifespan compared to traditional lamps, reducing maintenance costs
- Provides high luminous efficacy and uniform light
- Enhanced product stability through structural analysis and optimized design
- Compact and lightweight design for easy installation and construction

Installation Cases

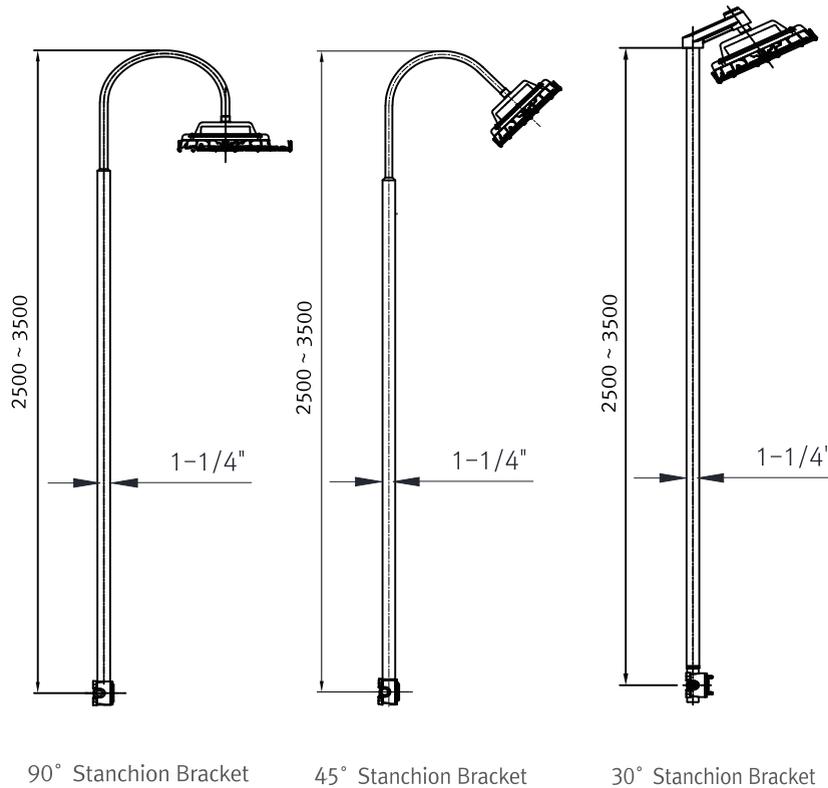
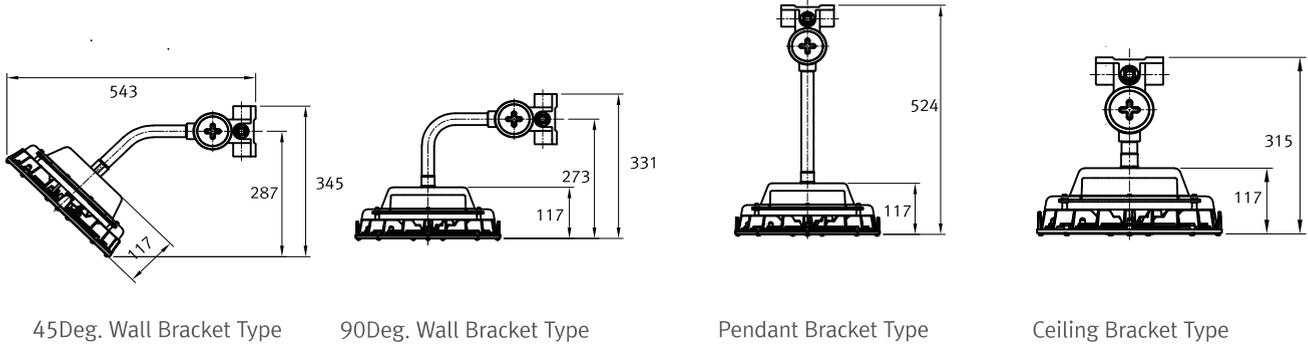


Specifications

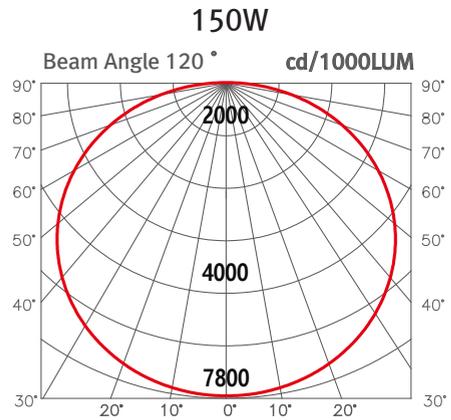
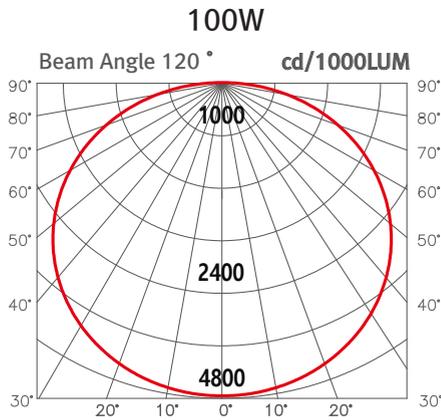
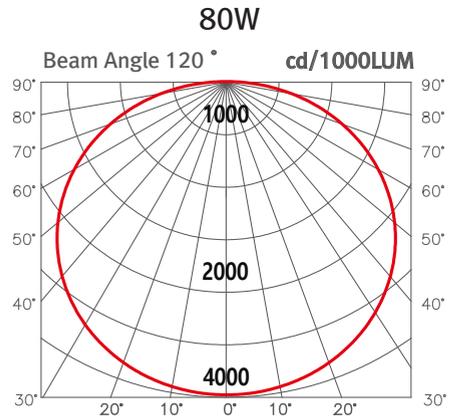
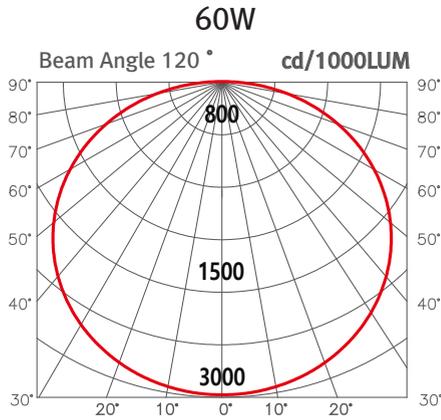
Model Name	Power Consumption	Input Power	Luminous Flux	Efficiency	CCT	CRI
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SL-FS-80-10	80W		12,215 lm	155.8 lm/W		
SL-FS-100-10	100W		14,748 lm	151.9 lm/W		
SL-FS-150-10	150W		20,237 lm	144.5 lm/W		

Size (mm)	Power Factor	Operating Temperature	Weight	Lifetime	IP Level	Option
ø316 x 117(H) (Head)	> 0.95	-20 ~ +40 °C	2.4 kg ± 10%	30,000 ~ 50,000 hrs	IP 66	Chain
			4.0 kg ± 10%			

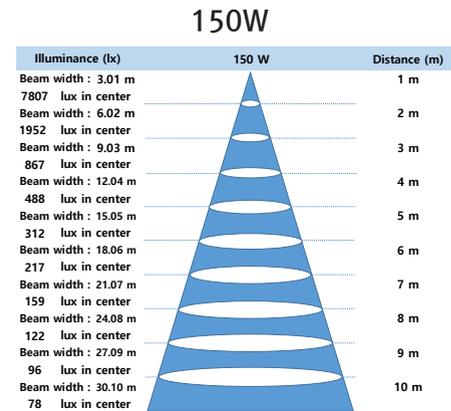
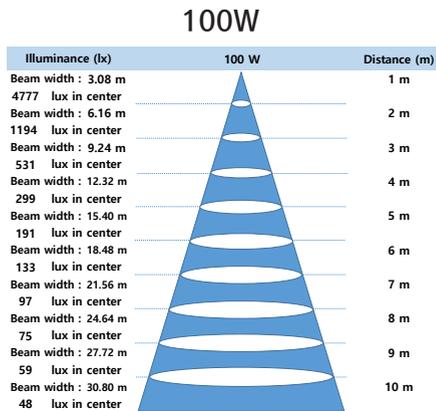
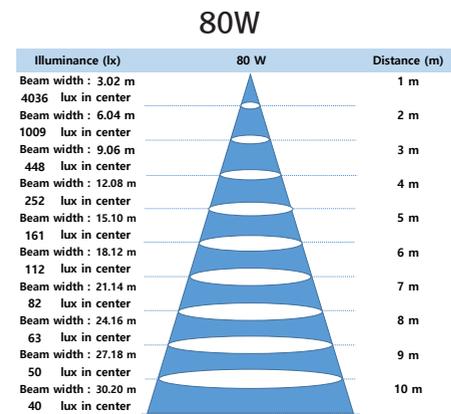
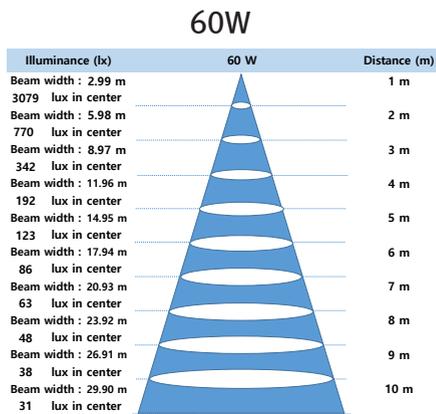
Outline Drawing (mm)



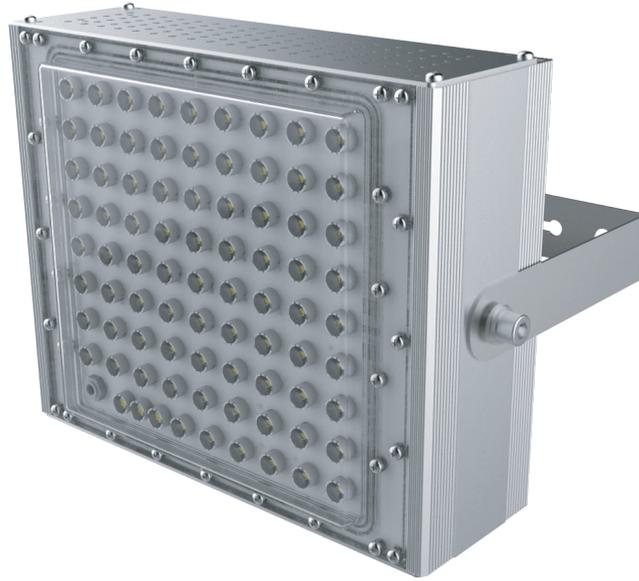
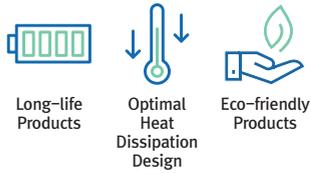
Polar Diagram



Cone Diagram



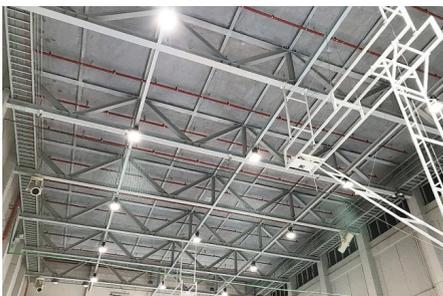
LED High-Bay Light (Under 300W)



Features & Applications

- Optimal heat dissipation structure with a simple design
- Eco-friendly product (mercury-free, lead-free, cadmium-free, UV-free, low carbon)
- Long lifespan compared to traditional lamps, reducing maintenance costs
- Custom lighting design possible with lenses of various angles (10 degrees, 15 degrees, 30 degrees, 45 degrees, 60 degrees, etc.)
- Enhanced product stability through structural analysis and optimized design
- Compact and lightweight design for easy installation and construction

Installation Cases

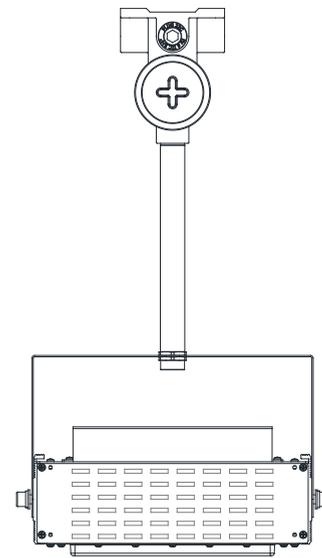
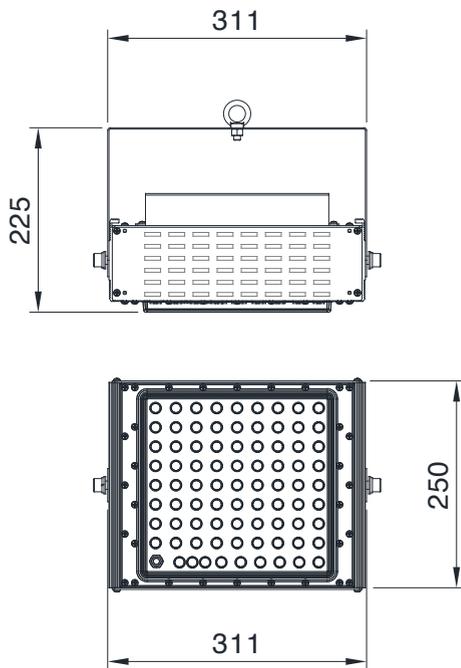


Specifications

Model Name	Power Consumption	Input Power	Luminous Flux	Efficiency	CCT	CRI
HP-SP-200	200W	AC110 ~ 240V	26,358 lm	133.5 lm/W	5,000 K	> 75 Ra
HP-SP-300	300W		40,431 lm	133.1 lm/W		

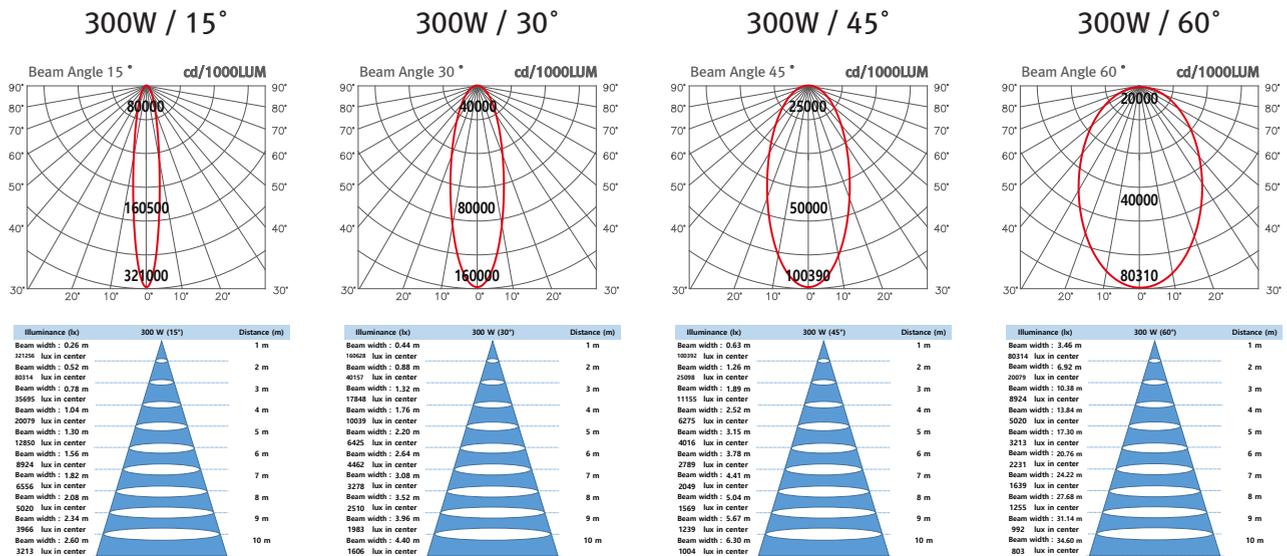
Size (mm)	Power Factor	Operating Temperature	Weight	Lifetime	IP Level	Option
L311 x W252 x D185	> 0.95	-20 ~ +40 °C	3.4 kg	30,000 ~ 50,000 hrs	IP 66	Lens Application

Outline Drawing (mm)

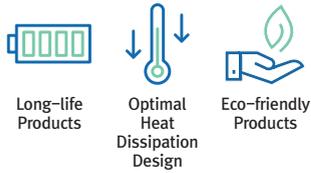


LED Outdoor Light

Polar Diagram / Cone Diagram



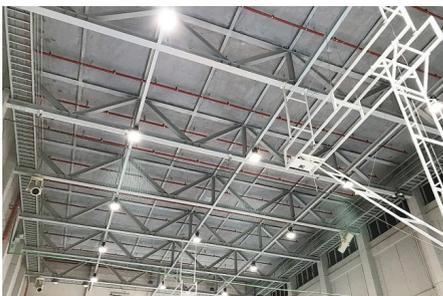
LED Square High-Output Light for Sports



Features & Applications

- Optimal heat dissipation structure with a simple design
- Eco-friendly product (mercury-free, lead-free, cadmium-free, UV-free, low carbon)
- Long lifespan compared to traditional lamps, reducing maintenance costs
- Custom lighting design possible with lenses of various angles (10 degrees, 15 degrees, 30 degrees, 45 degrees, 60 degrees, etc.)
- Enhanced product stability through structural analysis and optimized design
- Compact and lightweight design for easy installation and construction

Installation Cases

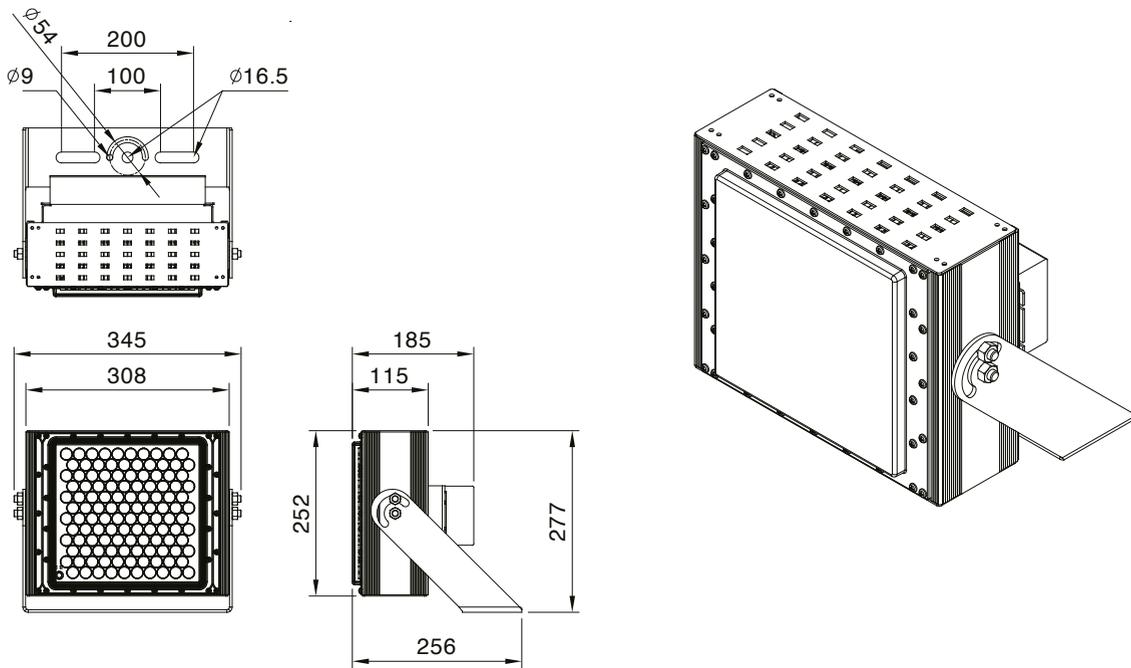


Specifications

Model Name	Power Consumption	Input Power	Luminous Flux	Efficiency	CCT	CRI
HP-SP-200	200W	AC110 ~ 240V	26,358 lm	133.5 lm/W	5,000 K	> 75 Ra
HP-SP-300	300W		40,431 lm	133.1 lm/W		

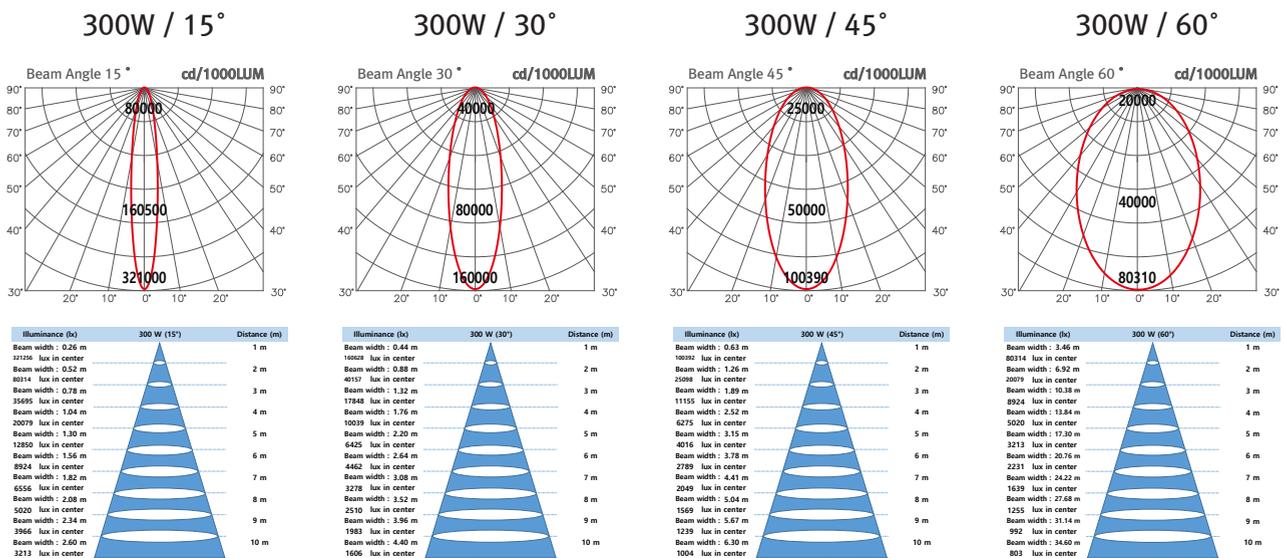
Size (mm)	Power Factor	Operating Temperature	Weight	Lifetime	IP Level	Option
L311 x W252 x D185	> 0.95	-20 ~ +40 °C	3.4 kg	30,000 ~ 50,000 hrs	IP 66	Reflector

Outline Drawing (mm)

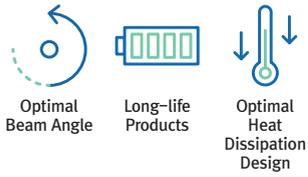


LED Outdoor Light

Polar Diagram / Cone Diagram



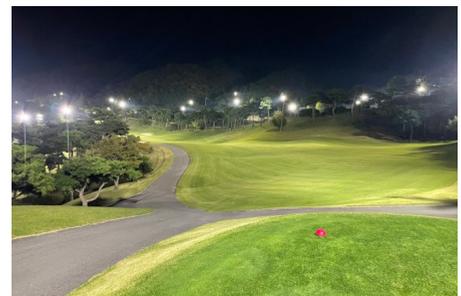
LED Square High-Output Light for Sports



Features & Applications

- Optimal heat dissipation structure with a simple design
- Eco-friendly product (mercury-free, lead-free, cadmium-free, UV-free, low carbon)
- Long lifespan compared to traditional lamps, reducing maintenance costs
- Custom lighting design possible with lenses of various angles (10 degrees, 15 degrees, 30 degrees, 45 degrees, 60 degrees, etc.)
- Enhanced product stability through structural analysis and optimized design
- Compact and lightweight design for easy installation and construction

Installation Cases

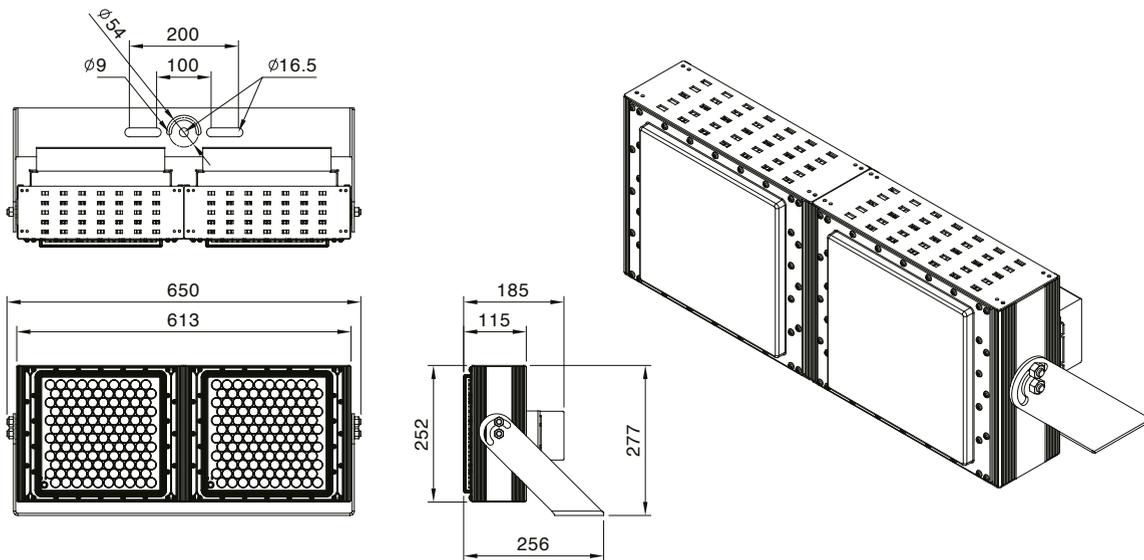


Specifications

Model Name	Power Consumption	Input Power	Luminous Flux	Efficiency	CCT	CRI
HP-SP-400	400W	AC110 ~ 240V	50,023 lm	127.8 lm/W	5,000 K	> 75 Ra
HP-SP-600	600W		80,111 lm	126.7 lm/W		

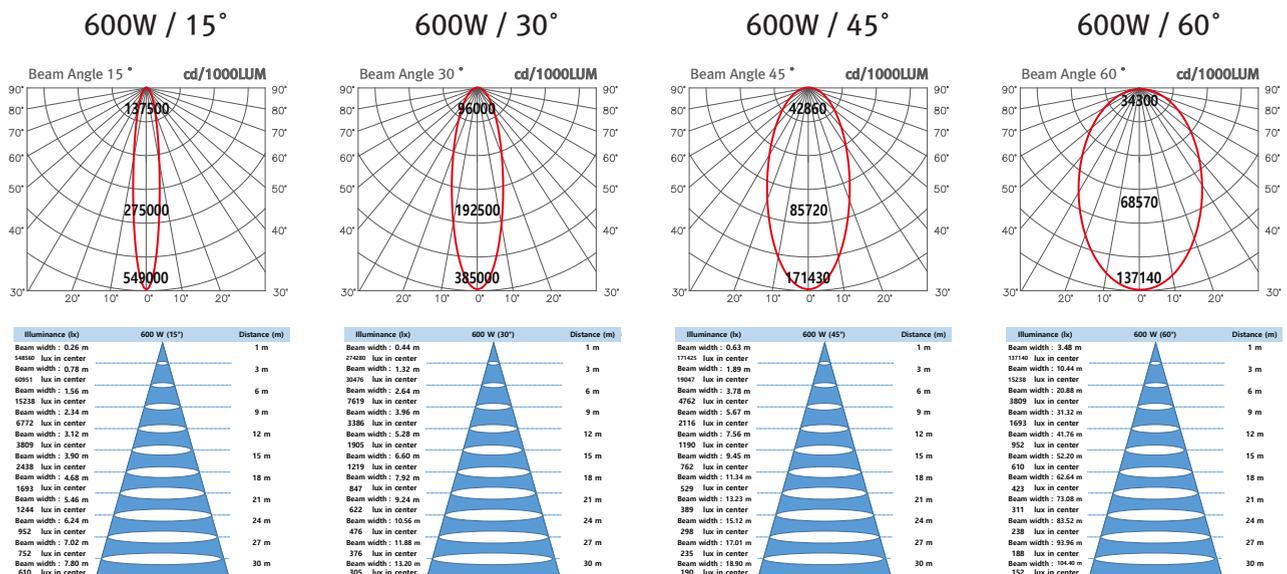
Size (mm)	Power Factor	Operating Temperature	Weight	Lifetime	IP Level	Option
L650 x W252 x D185	> 0.95	-20 ~ +40 °C	7.5 kg / 10.5 kg	30,000 ~ 50,000 hrs	IP 66	Reflector

Outline Drawing (mm)

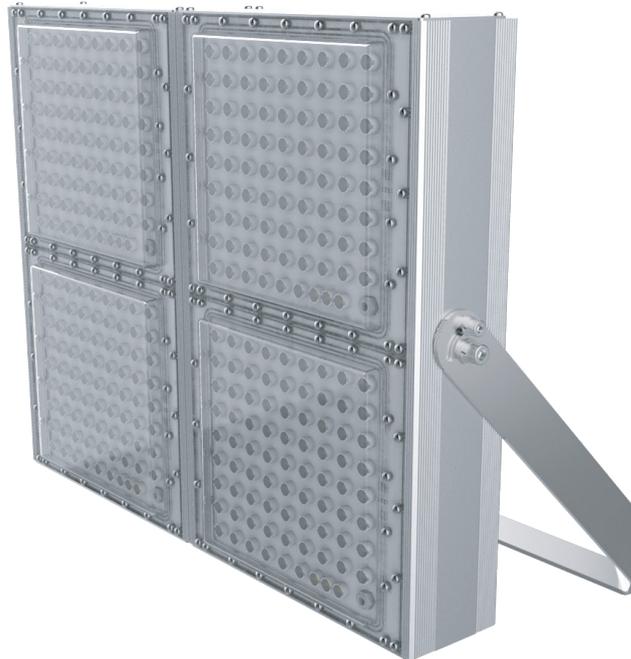
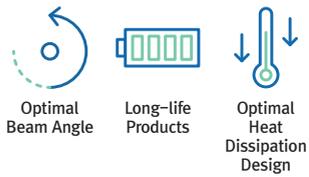


LED Outdoor Light

Polar Diagram / Cone Diagram



LED Square High-Output Light for Sports



Features & Applications

- Optimal heat dissipation structure with a simple design
- Eco-friendly product (mercury-free, lead-free, cadmium-free, UV-free, low carbon)
- Long lifespan compared to traditional lamps, reducing maintenance costs
- Custom lighting design possible with lenses of various angles (10 degrees, 15 degrees, 30 degrees, 45 degrees, 60 degrees, etc.)
- Enhanced product stability through structural analysis and optimized design
- Compact and lightweight design for easy installation and construction

Installation Cases

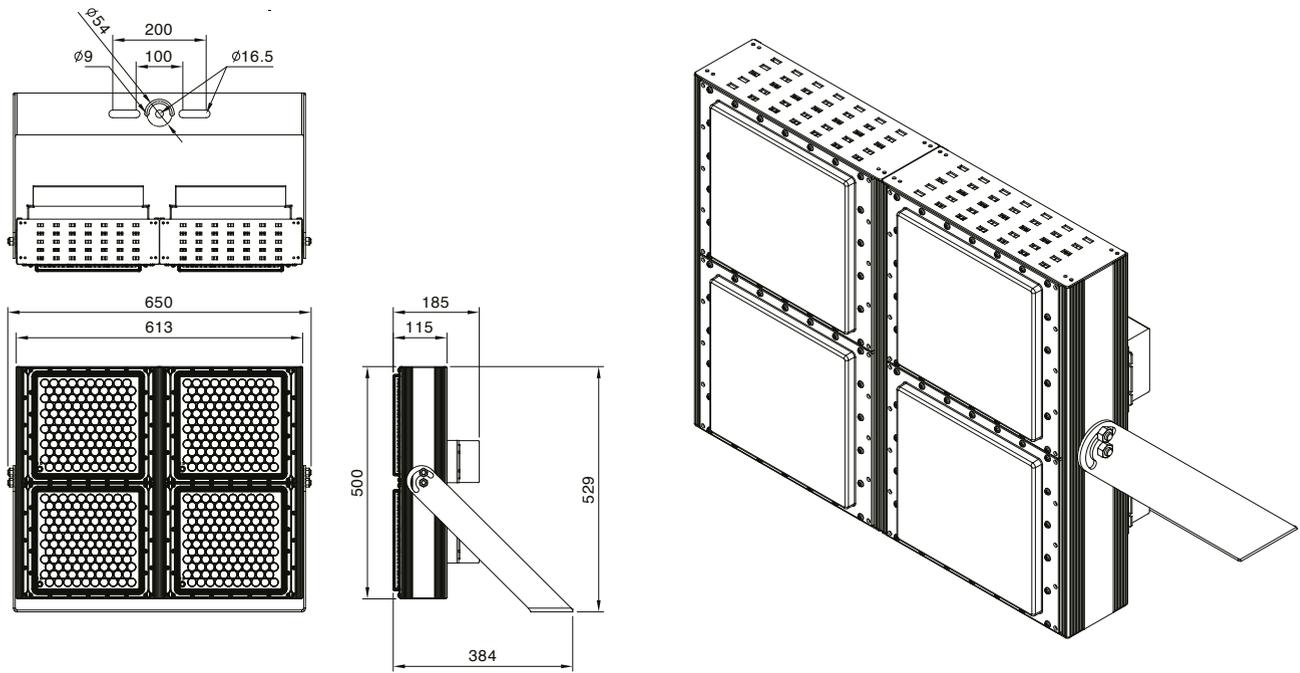


Specifications

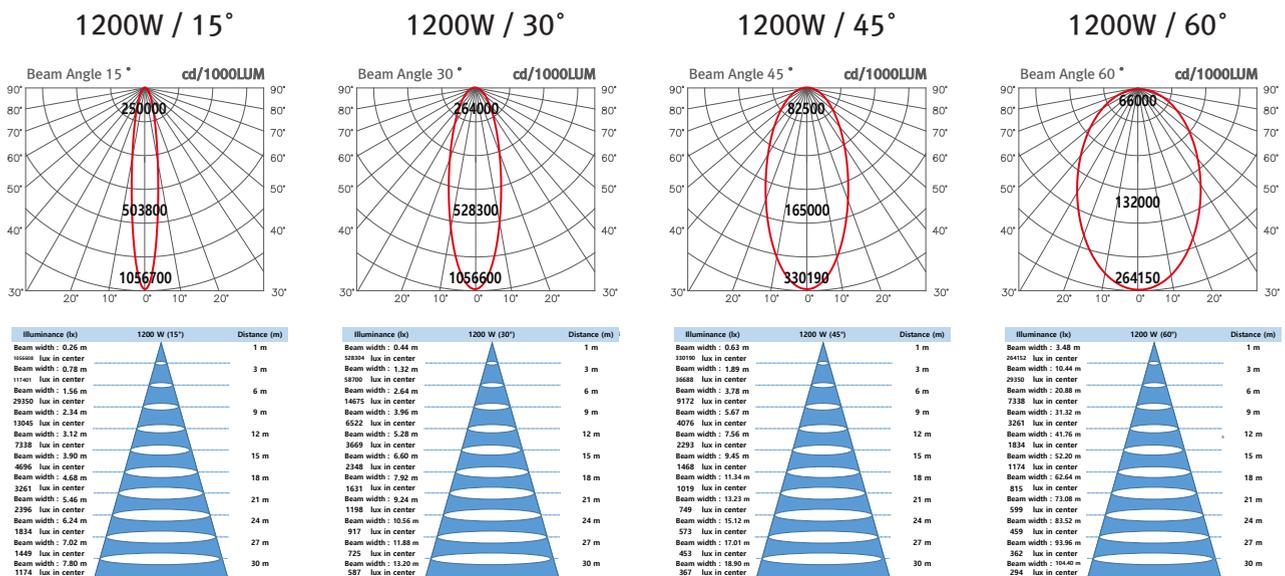
Model Name	Power Consumption	Input Power	Luminous Flux	Efficiency	CCT	CRI
HP-SP-800	800W	AC110 ~ 240V	93,857 lm	122.5 lm/W	5,000 K	> 75 Ra
HP-SP-1200	1200W		160,715 lm	124.4 lm/W		

Size (mm)	Power Factor	Operating Temperature	Weight	Lifetime	IP Level	Option
L650 x W500 x D185	> 0.95	-20 ~ +40 °C	12.5 kg / 18.5 kg	30,000 ~ 50,000 hrs	IP 66	Reflector

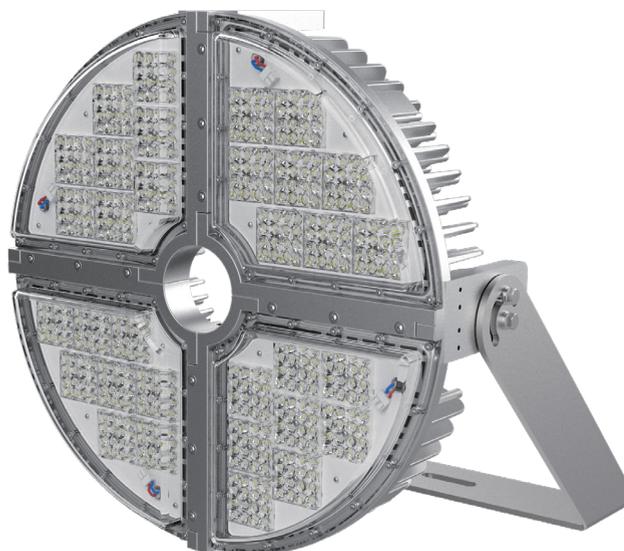
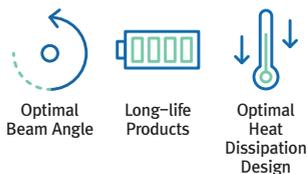
Outline Drawing (mm)



Polar Diagram / Cone Diagram



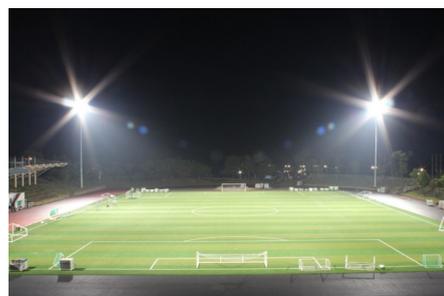
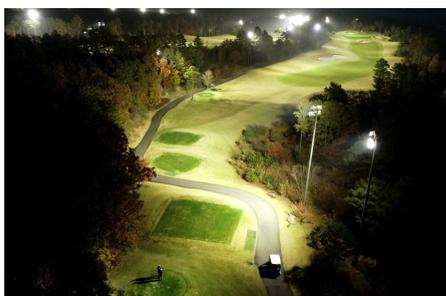
LED Circular High-Output Light for Sports



Features & Applications

- Optimal heat dissipation structure with a simple design
- Eco-friendly product (mercury-free, lead-free, cadmium-free, UV-free, low carbon)
- Long lifespan compared to traditional lamps, reducing maintenance costs
- Custom lighting design possible with lenses of various angles (10 degrees, 20 degrees, 30 degrees, 45 degrees, 60 degrees, etc.)
- Enhanced product stability through structural analysis and optimized design
- Compact and lightweight design for easy installation and construction

Installation Cases

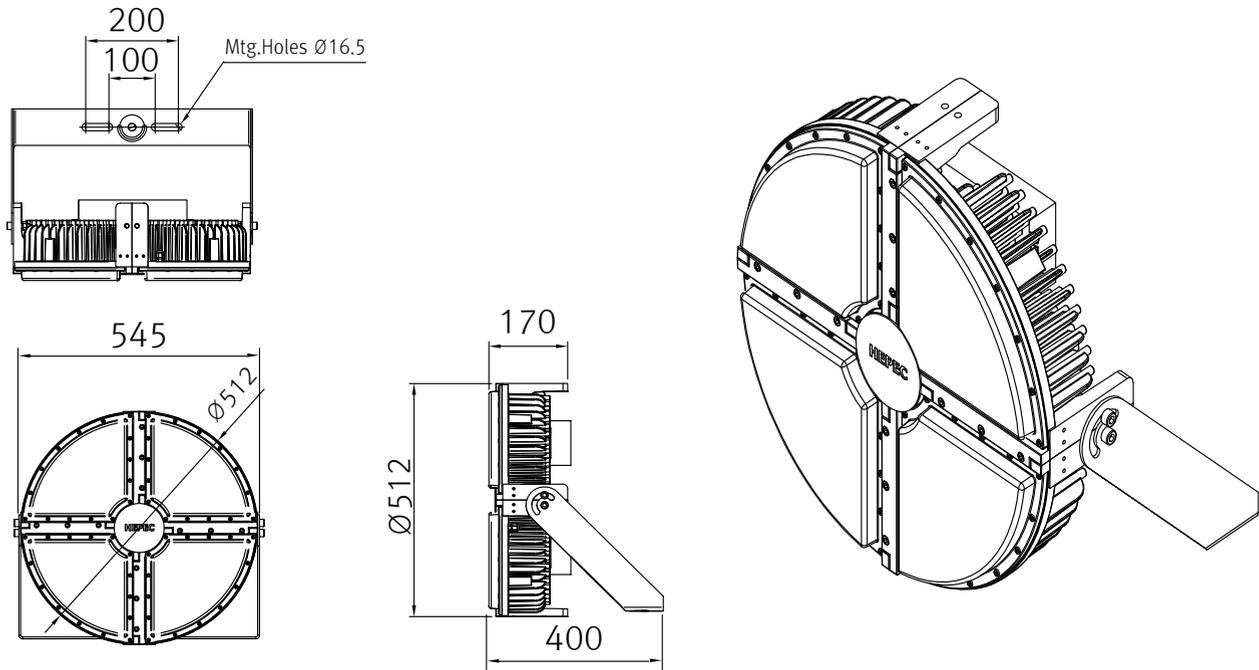


Specifications

Model Name	Power Consumption	Input Power	Luminous Flux	Efficiency	CCT	CRI
HP-SPR-800-01	800W	AC200 ~ 240V	97,764 lm	146 lm/W	5,700 K	> 75 Ra
HP-SPR-1200-01	1200W		161,647 lm	146.5 lm/W		

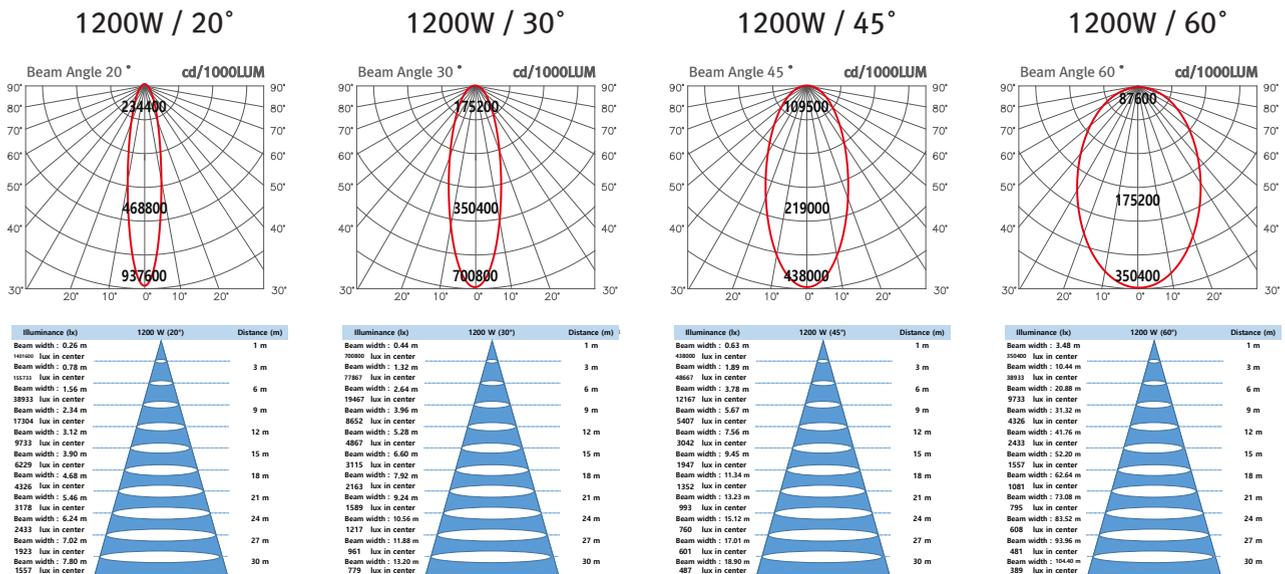
Size (mm)	Power Factor	Operating Temperature	Weight	Lifetime	IP Level	Option
Ø512 x 170	> 0.95	-20 ~ +40 °C	24 kg / 28 kg	50,000 hrs ~	IP 66	Reflector

Outline Drawing (mm)



LED Outdoor Light

Polar Diagram / Cone Diagram



LED Street Light (150W or less)



Long-life
Products



Optimal
Heat
Dissipation
Design



Features & Applications

- Enhanced product stability through structural analysis and optimized design
- Optimal heat dissipation design technology
- Long lifespan compared to traditional lamps, reducing maintenance costs
- Compact and lightweight design for easy installation and construction

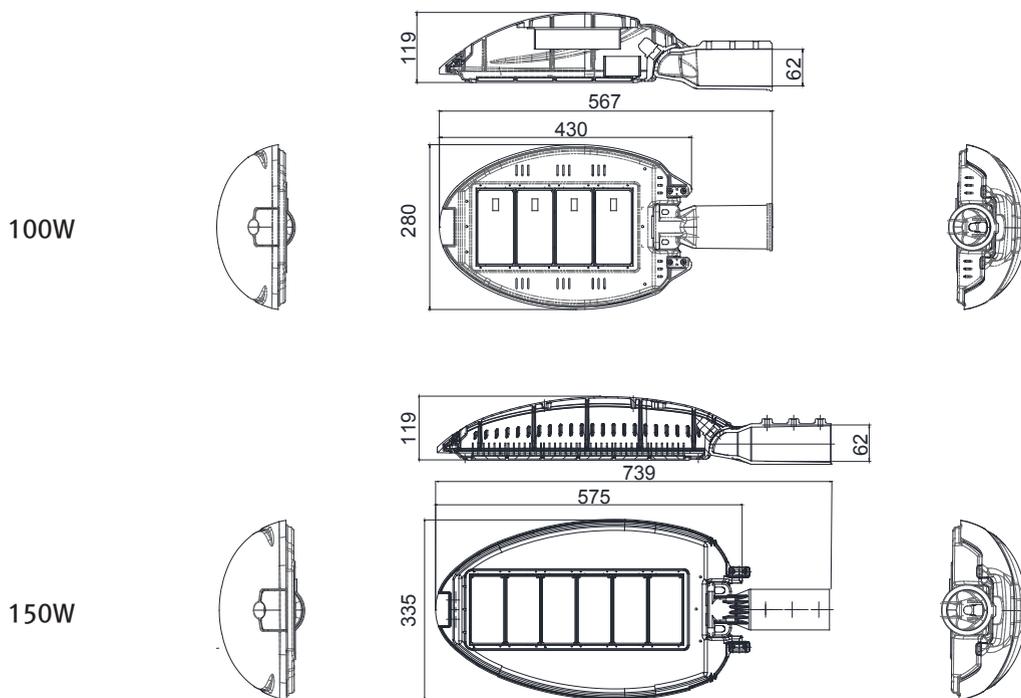
Installation Cases



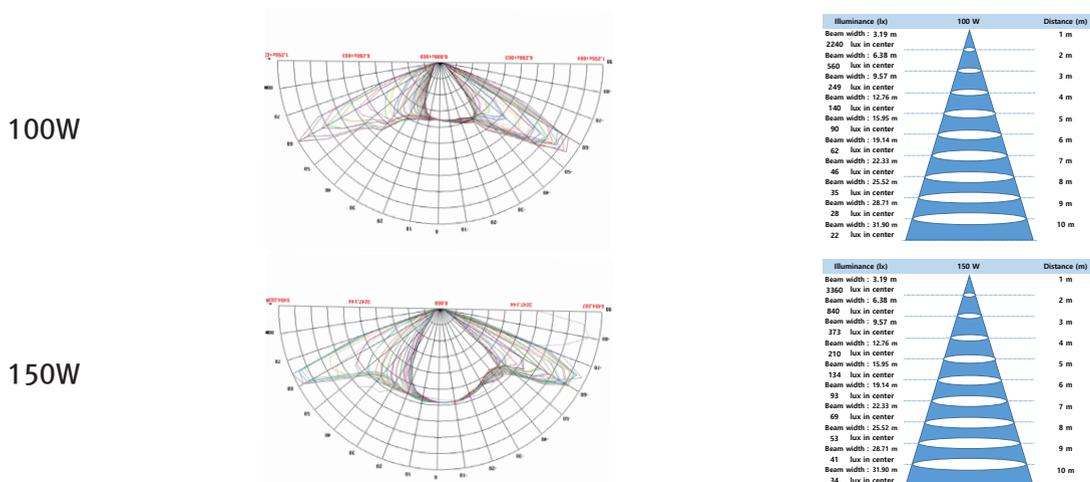
Specifications

Model Name	Power Consumption	Input Power	Luminous Flux	Efficiency	CCT	CRI
HP-SM-100-1	100W	AC220V	13,829 lm	130 lm/W	3,500 K	> 75 Ra
HP-SM-150-1	150W		20,717 lm	130 lm/W	5,000 K	
Size (mm)	Power Factor	Operating Temperature	Weight	Lifetime	IP Level	Option
L567 x W280 x D119	> 0.95	-20 ~ +50 °C	7.0 kg	30,000 ~ 50,000 hrs	IP 66	Light Shield
L739 x W335 x D119			8.0 kg			

Outline Drawing (mm)



Polar Diagram / Cone Diagram



LED Security Light (75W or less)



Long-life
Products



Optimal
Heat
Dissipation
Design



Features & Applications

- Enhanced product stability through structural analysis and optimized design
- Optimal heat dissipation design technology
- Long lifespan compared to traditional lamps, reducing maintenance costs
- Compact and lightweight design for easy installation and construction

Installation Cases

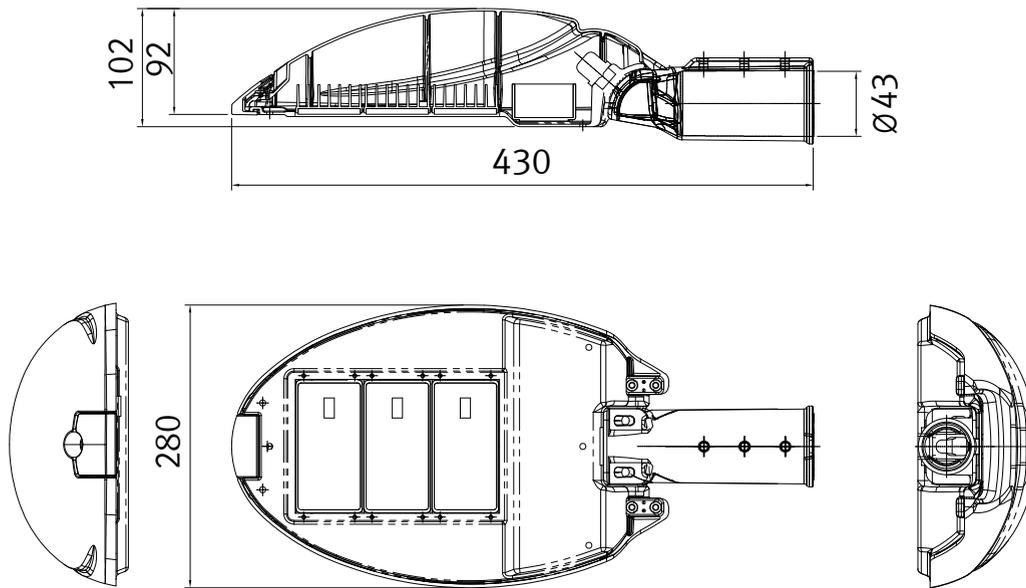


Specifications

Model Name	Power Consumption	Input Power	Luminous Flux	Efficiency	CCT	CRI
HP-SM-50-1	50W	AC220V	6,180 lm	133.2 lm/W	3,500 K	> 75 Ra
HP-SM-50D-1 (디밍)			6,491 lm	135.6 lm/W		
HP-SM-75-1	75W		9,769 lm	137.3 lm/W	5,000 K	
HP-SM-75D-1 (디밍)			9,785 lm	137.5 lm/W		

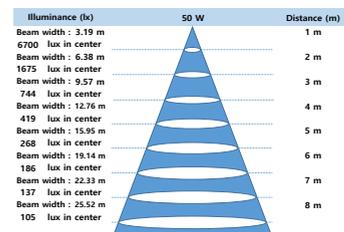
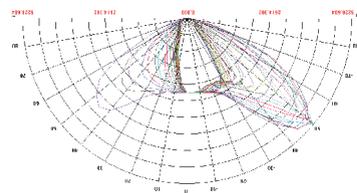
Size (mm)	Power Factor	Operating Temperature	Weight	Lifetime	IP Level	Option
L430 x W280 x D102	> 0.95	-20 ~ +50 °C	5.0 kg 6.0 kg	30,000 ~ 50,000 hrs	IP 66	Light Shield

Outline Drawing (mm)

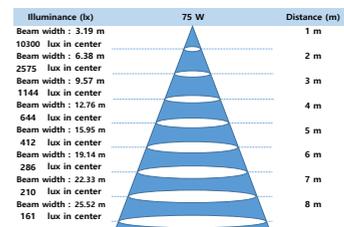
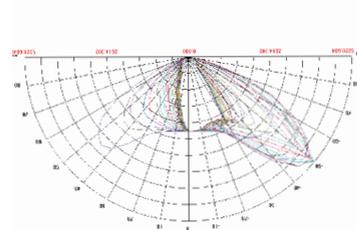


Polar Diagram / Cone Diagram

50W



75W



LED Tunnel Light (150W or less)



Long-life
Products



Optimal
Heat
Dissipation
Design



Features & Applications

- Enhanced product stability through structural analysis and optimized design
- Optimal heat dissipation design technology
- Long lifespan compared to traditional lamps, reducing maintenance costs
- Compact and lightweight design for easy installation and construction

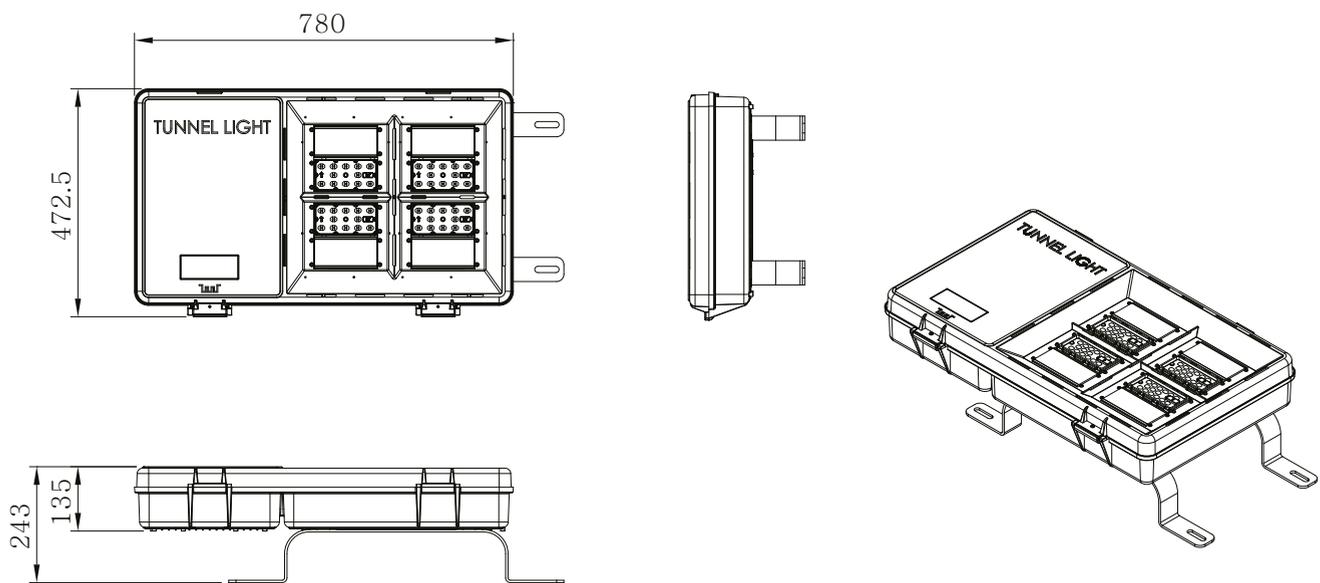
Installation Cases



Specifications

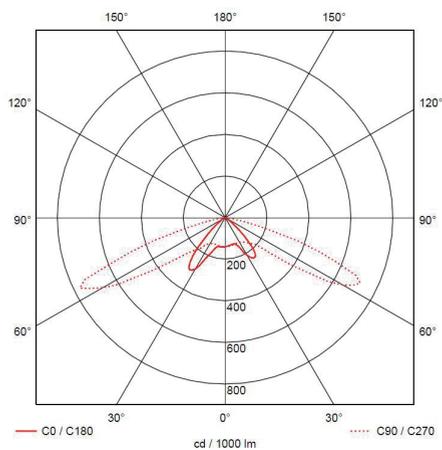
Model Name	Power Consumption	Input Power	Luminous Flux	Efficiency	CCT	CRI
HP-TM-100	80W	AC220V	13,225 lm	160.2 lm/W	3,000 K 5,000 K	> 75 Ra
Size (mm)	Power Factor	Operating Temperature	Weight (Excluding Converter)	Lifetime	IP Level	
W780 x L473 x H243	> 0.95	-20 ~ +50 °C	11.2 kg	30,000 ~ 50,000 hrs	IP 66	

Outline Drawing (mm)



LED Outdoor Light

Polar Diagram / Cone Diagram



100 W	Distance (m)
Beam width : 3.91 m 2470 lux in center	1 m
Beam width : 7.82 m 618 lux in center	2 m
Beam width : 11.73 m 274 lux in center	3 m
Beam width : 15.64 m 154 lux in center	4 m
Beam width : 19.55 m 99 lux in center	5 m

LED Tunnel Light (Over 150W)



Long-life
Products



Optimal
Heat
Dissipation
Design



Features & Applications

- Enhanced product stability through structural analysis and optimized design
- Optimal heat dissipation design technology
- Long lifespan compared to traditional lamps, reducing maintenance costs
- Compact and lightweight design for easy installation and construction

Installation Cases

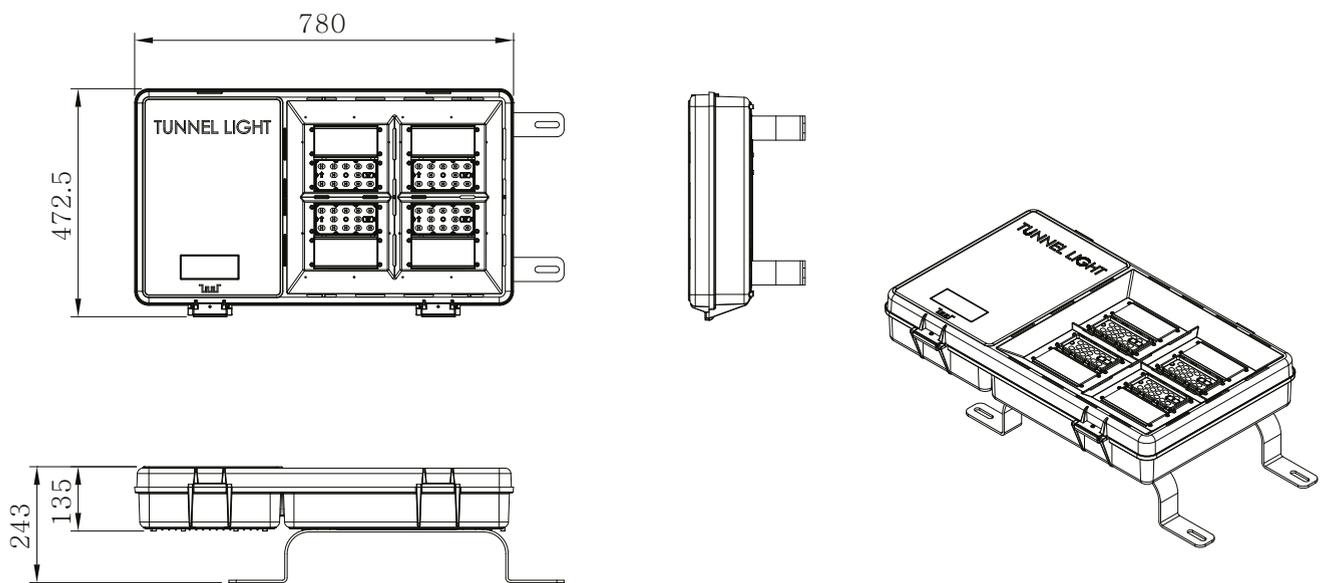


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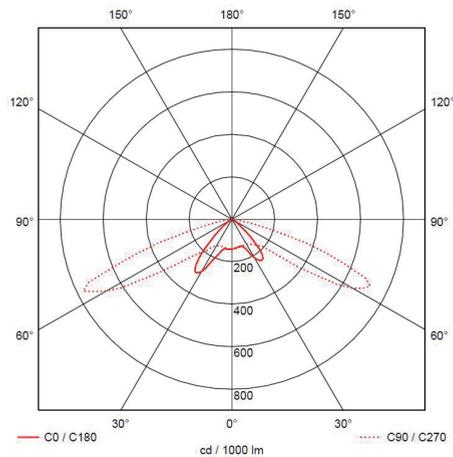
Model Name	Power Consumption	Input Power	Luminous Flux	Efficiency	CCT	CRI
HP-TM-200	160W	AC220V	27,333 lm	165.1 lm/W	5,000 K	> 75 Ra

Size (mm)	Power Factor	Operating Temperature	Weight (Excluding Converter)	Lifetime	IP Level
W780 x L473 x H243	> 0.95	-20 ~ +50 °C	12 kg	30,000 ~ 50,000 hrs	IP 66

Outline Drawing (mm)



Polar Diagram / Cone Diagram



Beam width (m)	Illuminance (lx)	Distance (m)
3.91 m	4940 lux in center	1 m
7.82 m	1235 lux in center	2 m
11.73 m	549 lux in center	3 m
15.64 m	309 lux in center	4 m
19.55 m	198 lux in center	5 m

LED Military/Border Light



Long-life Products



Optimal Heat Dissipation Design



Features & Applications

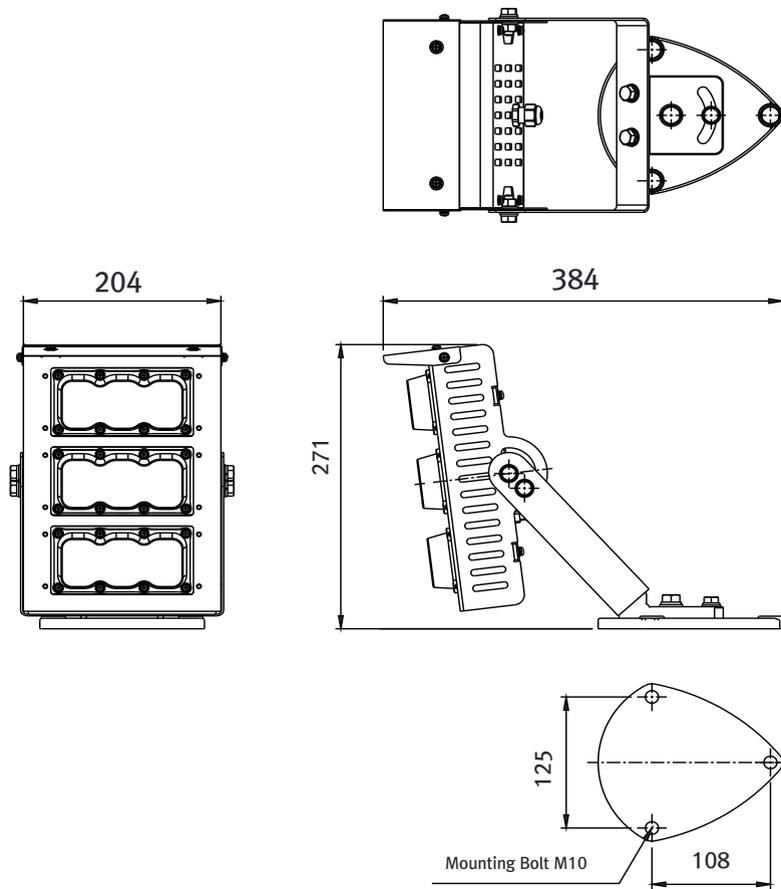
- Military Border light – Compliant with national defense facility illumination standards
- Designed with enhanced corrosion resistance for use in coastal areas
- Enhanced product stability through structural analysis and optimized design
- Optimal heat dissipation design technology
- Long lifespan compared to traditional lamps, reducing maintenance costs
- Compact and lightweight design for easy installation and construction

Installation Cases

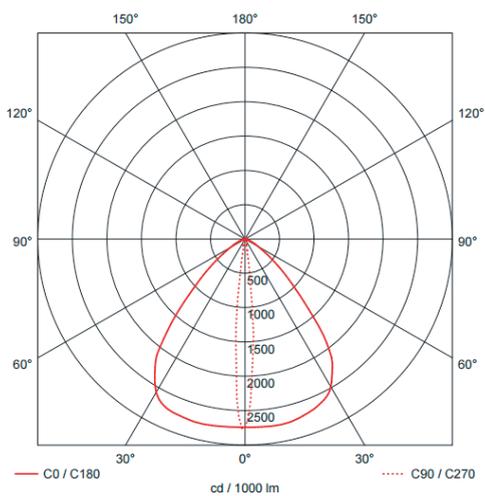
Model Name	Power Consumption	Input Power	Luminous Flux	Efficiency	CCT	CRI
SL-FS-70-10	70W	AC220V	10,542 lm	140 lm/W	5,000 K	> 75 Ra

Size (mm)	Power Factor	Operating Temperature	Weight	Lifetime	IP Level
W204 x L364 x H271	> 0.9	-20 ~ +40 °C	2.9 kg	30,000 ~ 50,000 hrs	IP 65

Outline Drawing (mm)



Polar Diagram / Cone Diagram



LED Weather-Proof Light (Outdoor)



Long-life
Products



Optimal
Moisture-
proof
Design



High
Luminous
Efficacy



Features & Applications

- Body made of water and waterproof SMC (Sheet Molding Compound) material
- Cover made of transparent PC or acrylic with good transmittance
- Long lifespan compared to traditional lamps, reducing maintenance costs
- IP66 optimized waterproof design
- Applicable to all LED lamps (external converter type)

Installation Cases

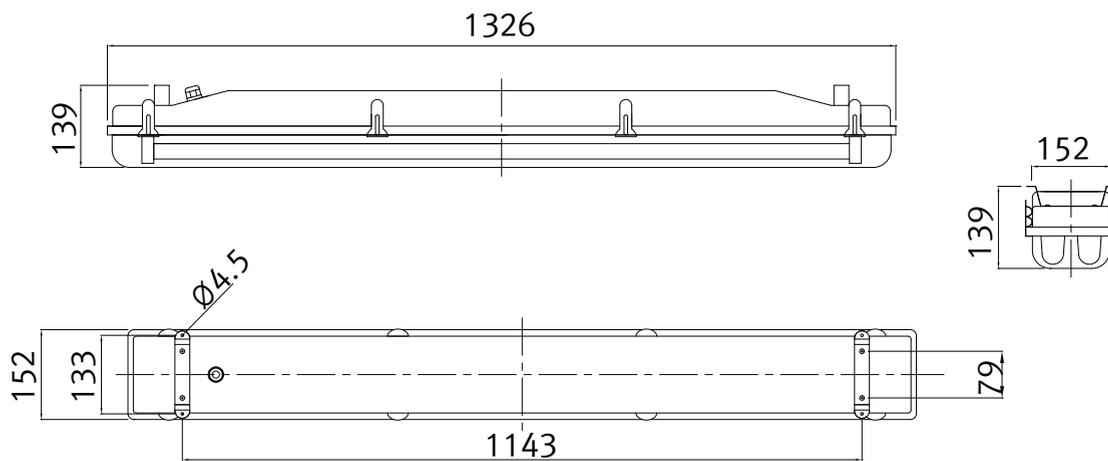


Specifications

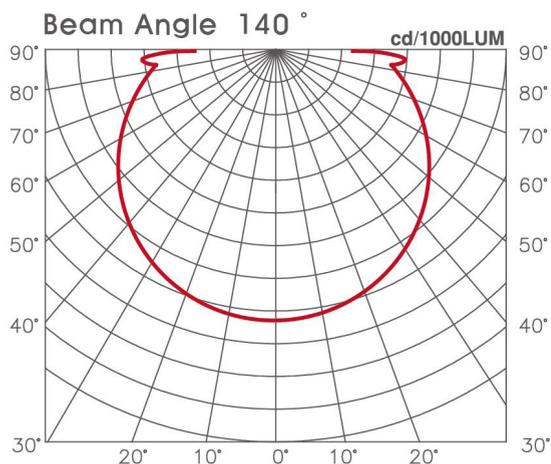
Model Name	Power Consumption	Input Power	Frequency	Luminous Flux	Efficiency	CCT	CRI
HP-WP-2-1315	17.5W * 2EA	AC220V	60Hz	4,600 lm	136 lm/W	5,700 K	> 80 Ra

Size (mm)	Power Factor	Operating Temperature	Weight	Lifetime	IP Level	SMPS
W1326 x D152 x H139	> 0.9	-20 ~ +40 °C	3.8 kg	50,000 hrs	IP 66	Built-in

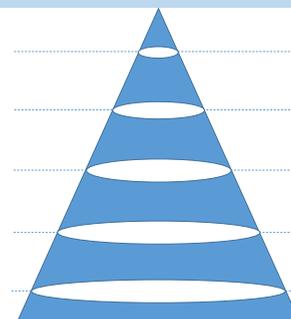
Outline Drawing (mm)



Polar Diagram / Cone Diagram



Beam width (m)	Illuminance (lx)	Distance (m)
6.90	1130 lux in center	1
13.80	283 lux in center	2
20.70	126 lux in center	3
27.60	71 lux in center	4
34.50	45 lux in center	5



LED Indoor Light





LED Weather-Proof Light (Indoor)



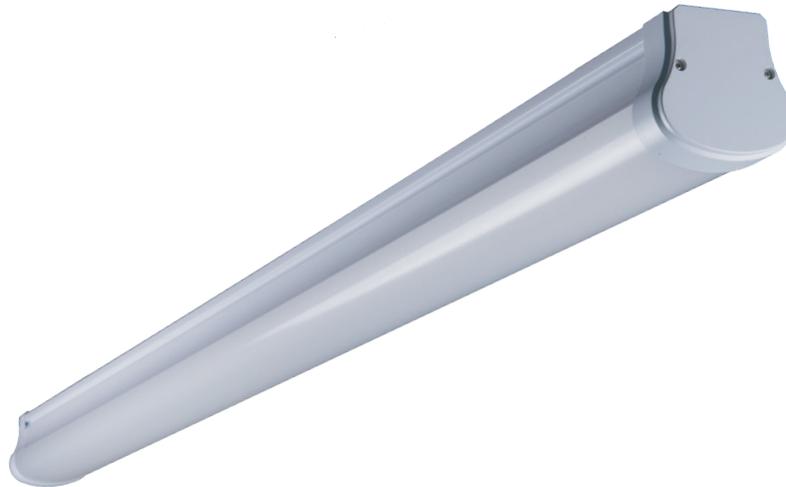
Long-life
Products



Optimal
Moisture-
proof
Design



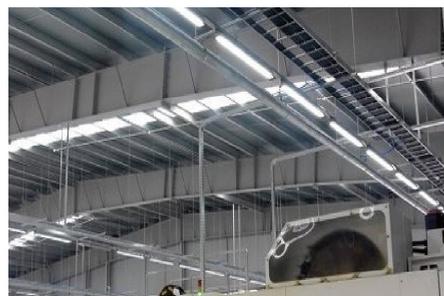
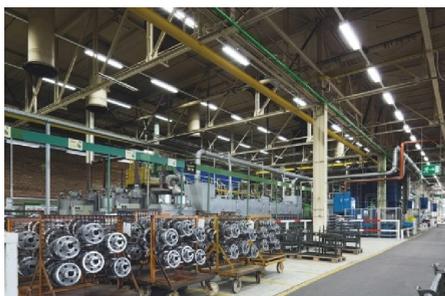
High
Luminous
Efficacy



Features & Applications

- Integrated LED converter for easy installation
- Socket structure without dark spots at connections
- Indirect and direct installation possible with fixed brackets
- Certified product with excellent waterproof rating (IP66)

Installation Cases

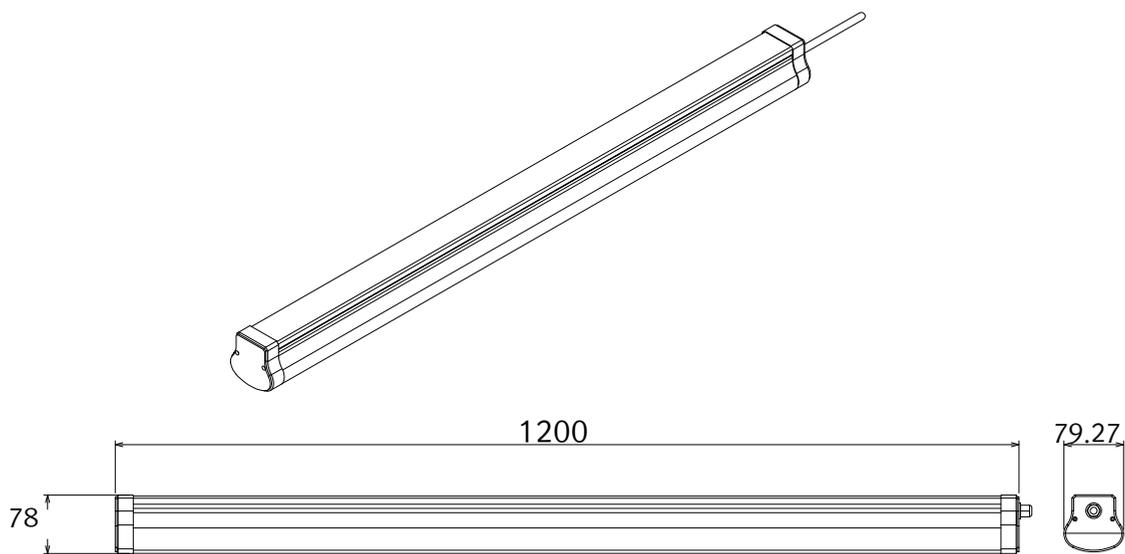


Specifications

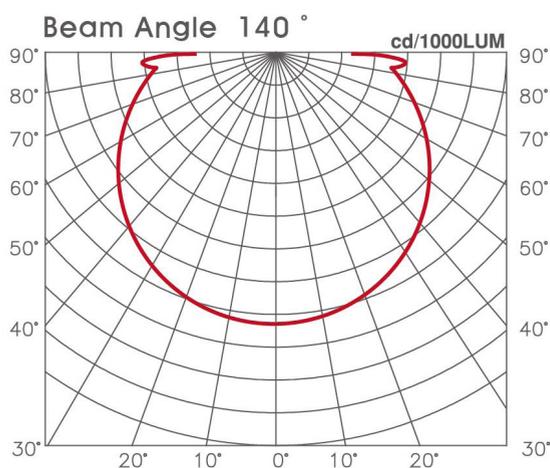
Model Name	Power Consumption	Input Power	Luminous Flux	Efficiency	CCT	CRI
HP-WT-40	40W	AC220V	4,574 lm	122.2 lm/W	5,700 K	80 Ra

Size (mm)	Power Factor	Operating Temperature	Weight	Lifetime	IP Level	SMPS
W1200 x D79 x H78	> 0.9	-20 ~ +40 °C	3.8 kg	50,000 hrs	IP 66	Built-in

Outline Drawing (mm)



Polar Diagram / Cone Diagram



40 W	Distance (m)
Beam width : 6.90 m 1130 lux in center	1 m
Beam width : 13.80 m 283 lux in center	2 m
Beam width : 20.70 m 126 lux in center	3 m
Beam width : 27.60 m 71 lux in center	4 m
Beam width : 34.50 m 45 lux in center	5 m

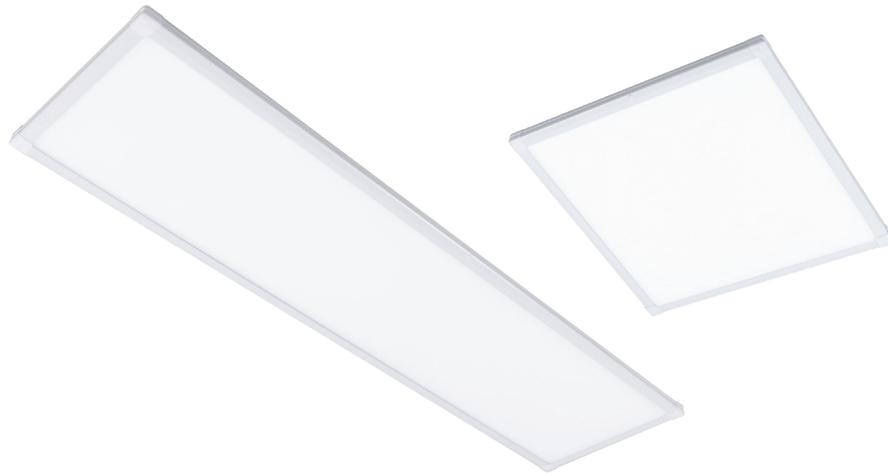
LED Flat Panel Light (Edge Type)



Comfortable
Lighting
for the Eyes



High
Luminous
Efficacy



Features & Applications

- Ultra-slim, ultra-lightweight, eco-friendly, high-efficiency LED lighting
- Minimized bezel width, maximizing the light-emitting area
- Stable product with internal voltage insulation structure
- Uses a stable KS slim-type converter
- Sealed structure preventing intrusion of insects and other foreign matter
- Uses top-grade LGP (Light Guide Panel) with laser pattern method
- High performance of over 110lm/W
- Suitable for installation in any location, compatible with M-bar and direct mounting
- Design usable as pendant structure
- Uses highly efficient Samsung package

Installation Cases

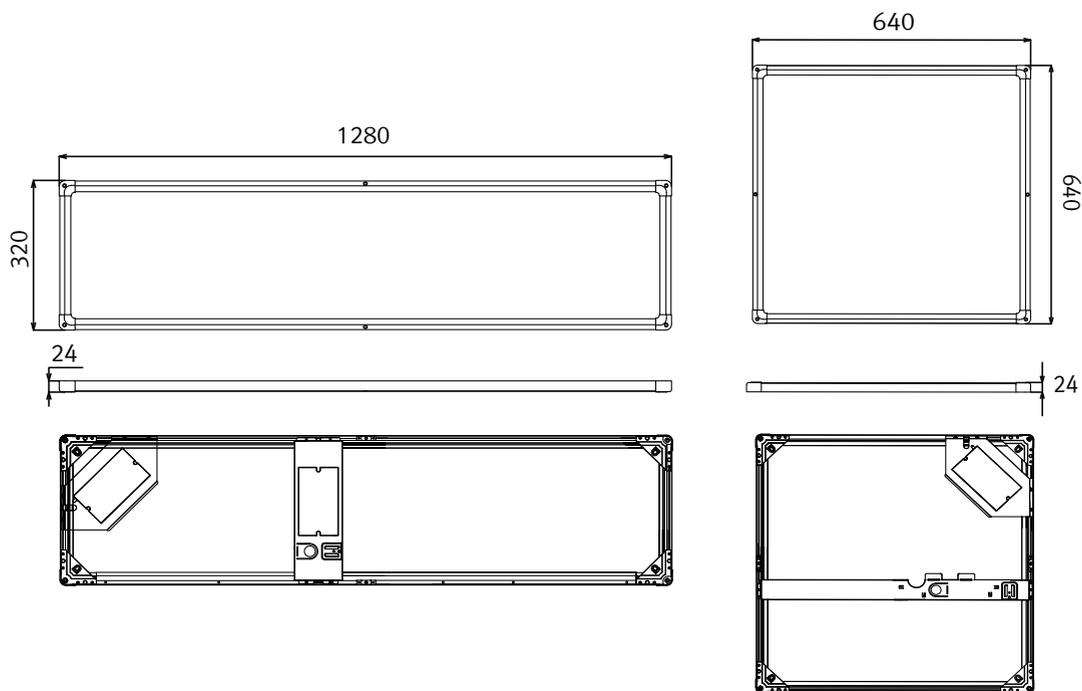


Specifications

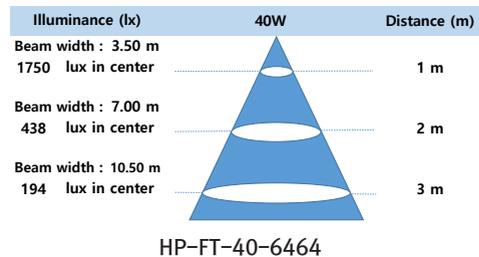
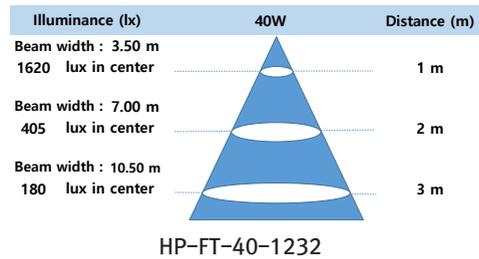
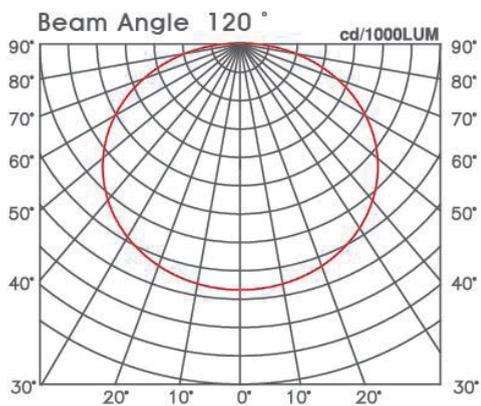
Model Name	Power Consumption	Input Power	Luminous Flux	Efficiency	CCT	CRI
HP-FT-40-1232	40W	AC220V	4,781 lm	113.3 lm/W	5,700 K	80 Ra
HP-FT-40-6464			4,875 lm	118.1 lm/W		

Size (mm)	Power Factor	Operating Temperature	Weight	Lifetime	Installation Method
W1280 x H320	> 0.95	-20 ~ +40 °C	3.5 kg ±10%	30,000 ~ 40,000 hrs	M BAR
W640 x H640					

Outline Drawing (mm)



Polar Diagram / Cone Diagram



LED Raceway Light



Comfortable
Lighting
for the Eyes

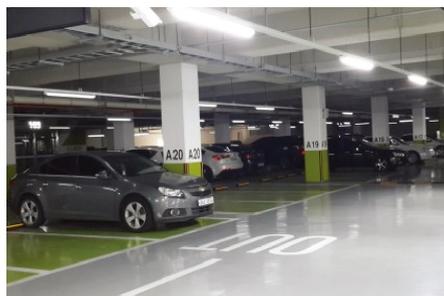
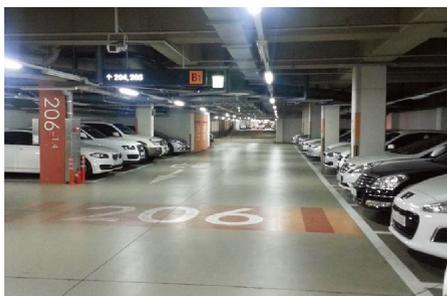
High
Luminous
Efficacy



Features & Applications

- Flicker-free, comfortable lighting for the eyes
- Eco-friendly product (mercury-free, lead-free, cadmium-free, UV-free, low carbon)
- Consistent brightness maintenance
- Long lifespan compared to traditional lamps, reducing maintenance costs
- Integrated system lighting with motion sensor and LED light fixtures
- Automatic dimming controlled by sensor (30 – 100%)
- Individual / Group control

Installation Cases

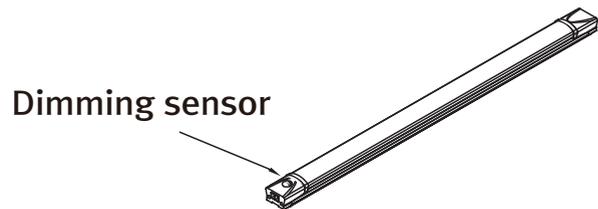
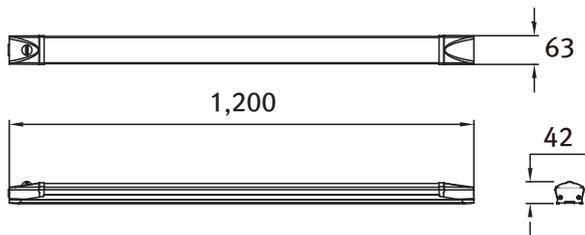


Specifications

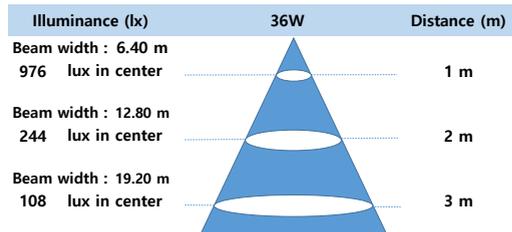
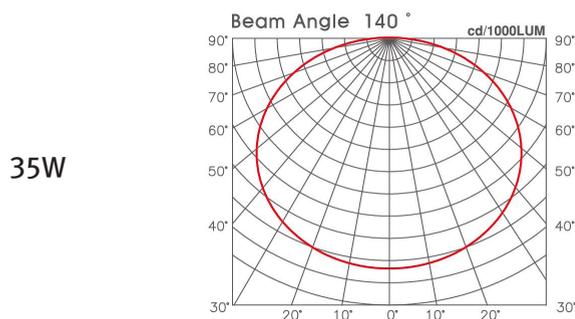
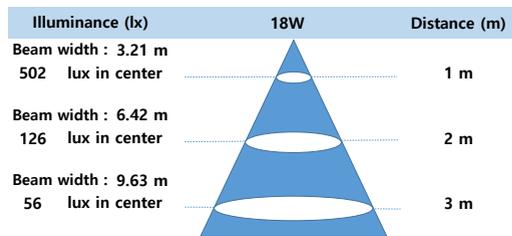
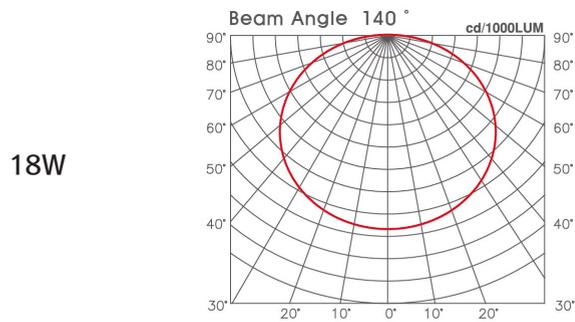
Model Name	Power Consumption	Input Power	Luminous Flux	Efficiency	CCT	CRI
SSE-LL018-8A2PDE1	18W	AC220V	2,785 lm	151.4 lm/W	5,700 K	> 80 Ra
SSE-PS018-8A2PDE1 (디밍)	18W		2,771 lm	150.8 lm/W		
SSE-LL035-LG28U80-120	35W		4,459 lm	120.9 lm/W		

Size (mm)	Power Factor	Operating Temperature	Weight	Lifetime	Sensor Type
W1200 x D63 x H47.7	> 0.9	-20 ~ +40 °C	650 ~ 750g	30,000 ~ 50,000 hrs	Individual Motion Sensor

Outline Drawing (mm)



Polar Diagram / Cone Diagram



LED Raceway Light



Comfortable
Lighting
for the Eyes

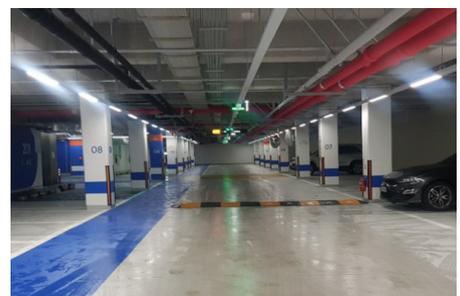
High
Luminous
Efficacy



Features & Applications

- No flickering of light, no emission of ultraviolet and infrared rays
- Reduced maintenance costs
- High durability, resistant to external impacts
- Versatile for use in raceways, pendants, and direct mounting
- Energy-saving (approximately 44% more efficient than fluorescent lamps)
- Consistent brightness even at low temperatures
- Long lifespan (30,000 – 40,000 hours)

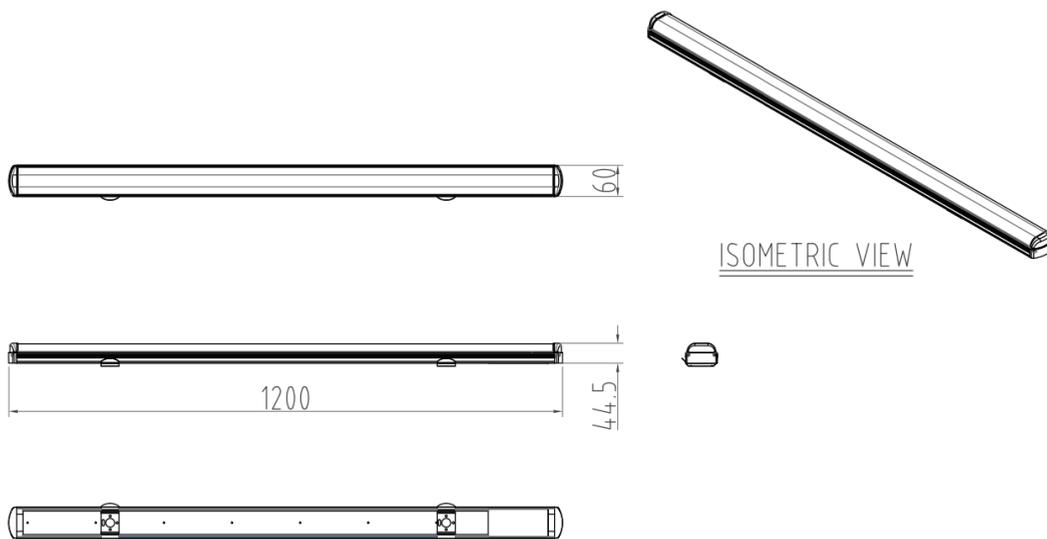
Installation Cases



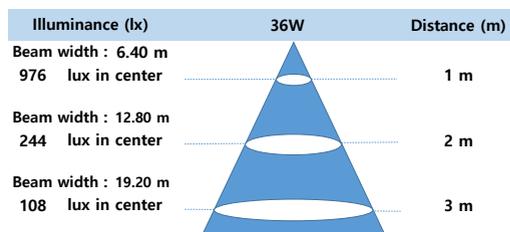
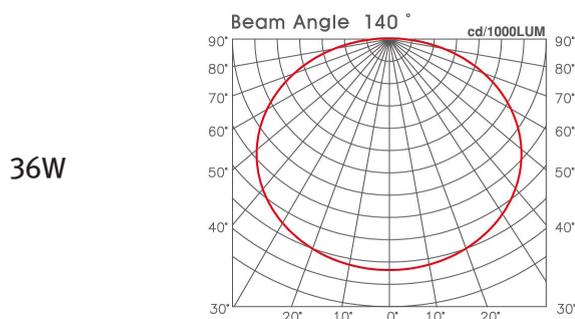
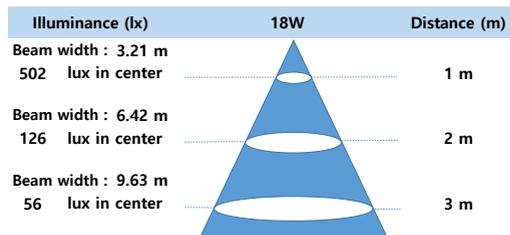
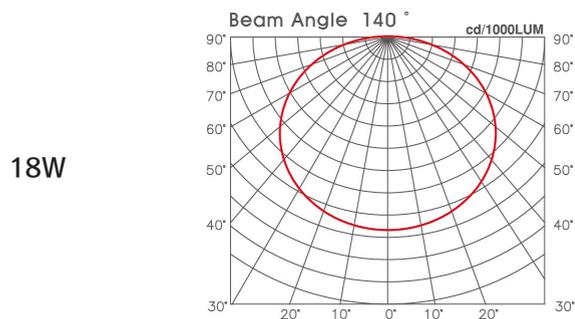
Specifications

Model Name	Power Consumption	Input Power	Luminous Flux	Efficiency	CCT	CRI
HP-RT-18	18W	AC220V	2,387 lm	127 lm/W	5,700 K	80 Ra
HP-RT-36	36W		4,623 lm	128.3 lm/W		
Size (mm)	Power Factor	Operating Temperature	Weight	Lifetime	SMPS	
W1200 x L60 x H44.5	> 0.95	-20 ~ +40 °C	650 ~ 750g	30,000 ~ 50,000 hrs	Integrated	

Outline Drawing (mm)



Polar Diagram / Cone Diagram



LED Downlight (6-Inch)



Comfortable
Lighting
for the Eyes

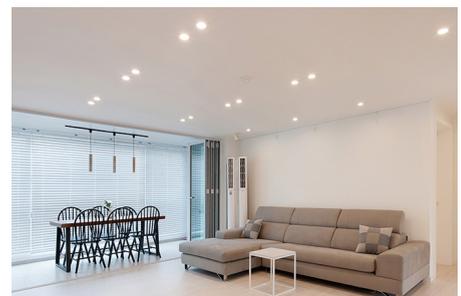
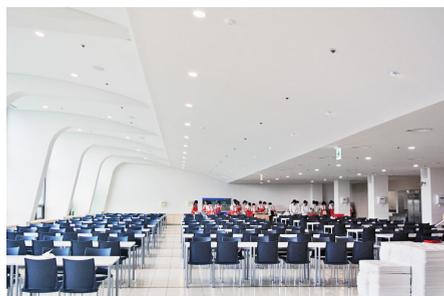
High
Luminous
Efficacy



Features & Applications

- Excellent heat dissipation design for minimized heat generation, optimal performance
- Suitable for long-term use spaces with lower power consumption than traditional light sources
- No discomfort from glare, suitable for various places
- Uses highly efficient Samsung package
- Ultra-lightweight, durable, and easy to install

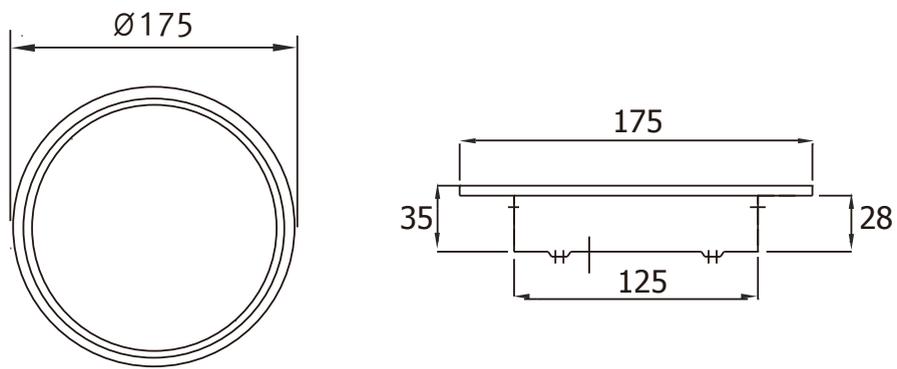
Installation Cases



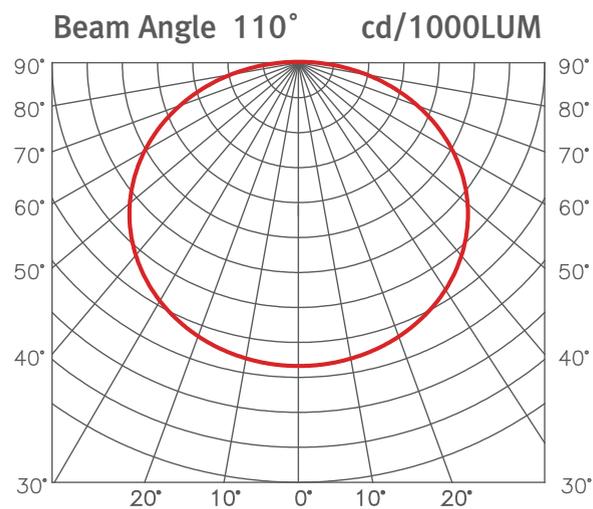
Specifications

Model Name	Power Consumption	Input Power	Luminous Flux	Efficiency	CCT	CRI
HP-DT-15-60	15W	AC220V	1,654 lm	105 lm/W	5,700 K	> 80 Ra
Size (mm)	Power Factor	Operating Temperature	Weight	Lifetime	SMPS	
∅ 175 x 35	> 0.9	-20 ~ +40 °C	300g ± 10%	30,000 ~ 40,000 hrs	Integrated	

Outline Drawing (mm)



Polar Diagram

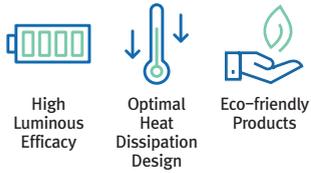


LED Plant Grow Light





LED Plant Grow Light (30W or less)



Features & Applications

- Enhanced product stability through structural analysis and optimized design
- Optimal heat dissipation design tested to effectively discharge internal heat
- Lightweight design achieved through extrusion molding
- Eco-friendly lighting (mercury-free, UV-free emission, low carbon)
- Full-spectrum LED for improved visibility and comfortable, efficient working environment

Installation Cases

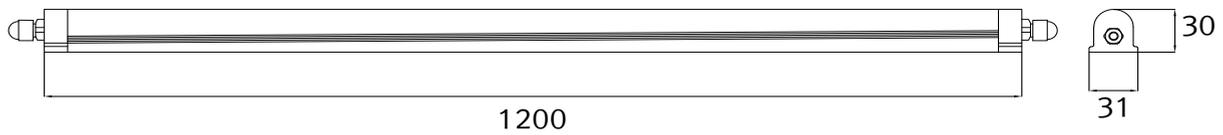


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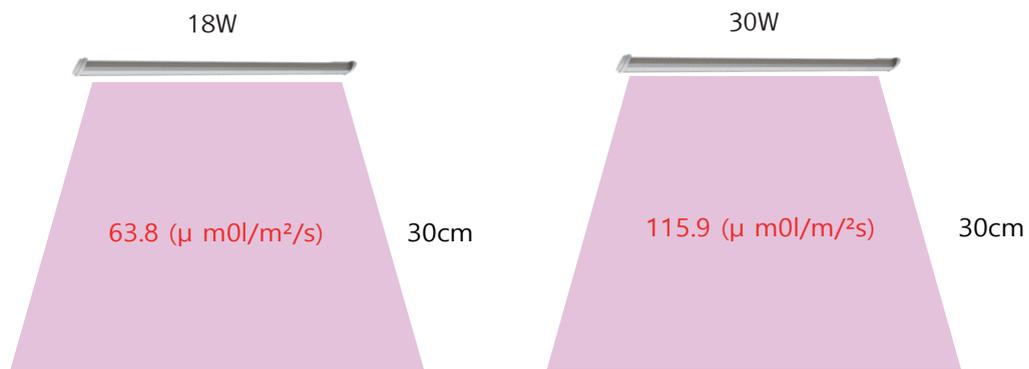
Model Name	Power Consumption	Input Power	PPFD $\mu\text{mol/s}$	CRI
HP-GL-18-01	18W	AC220V	30cm (63.8)	> 80 Ra
HP-GL-30-01	30W		30cm (115.9)	

Size (mm)	Operating Temperature	Weight	Lifetime	IP Level	SMPS
W1200 x D31 x H30	-20 ~ +40 °C	370g	30,000 ~ 50,000 hrs	IP65	Integrated

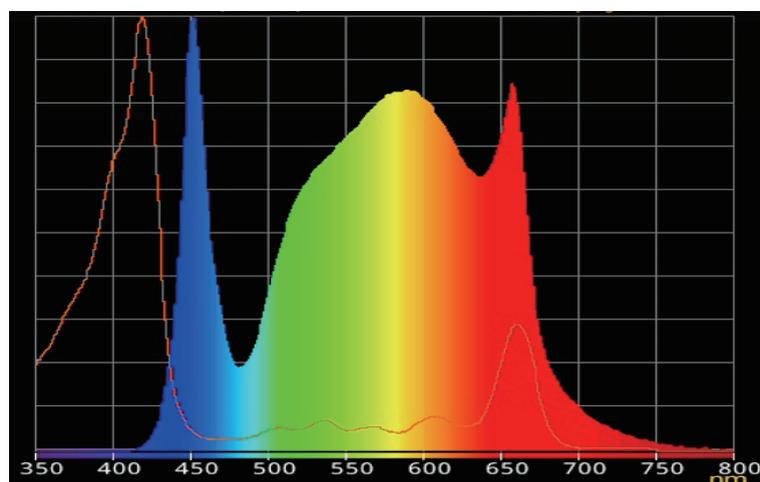
Outline Drawing (mm)



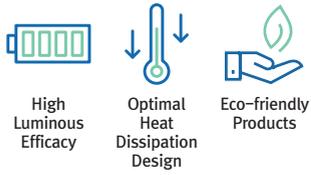
Photosynthetic Photon Flux Density ($\mu\text{mol/m}^2 / \text{s}$)



Polar Diagram / Cone Diagram



LED Plant Grow Light (45W or less)



Features & Applications

- Enhanced product stability through structural analysis and optimized design
- Optimal heat dissipation design tested to effectively discharge internal heat
- Lightweight design achieved through extrusion molding
- Eco-friendly lighting (mercury-free, UV-free emission, low carbon)
- Full-spectrum LED for improved visibility and comfortable, efficient working environment

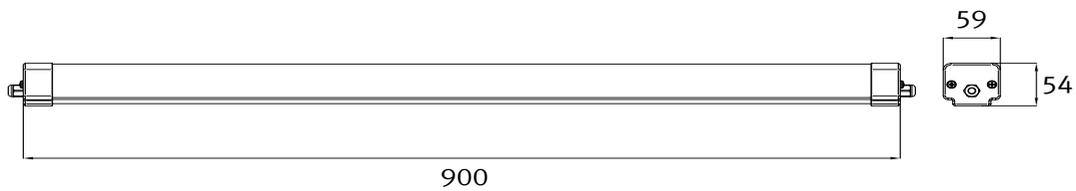
Installation Cases



Specifications

Model Name	Power Consumption	Input Power	PPFD $\mu\text{mol/s}$	CRI	
HP-GL-45-01	45W	AC220V	30cm (248.8)	> 80 Ra	
Size (mm)	Operating Temperature	Weight	Lifetime	IP Level	SMPS
W900 x D59 x H54	-20 ~ +40 °C	800g	30,000 ~ 50,000 hrs	IP65	Integrated

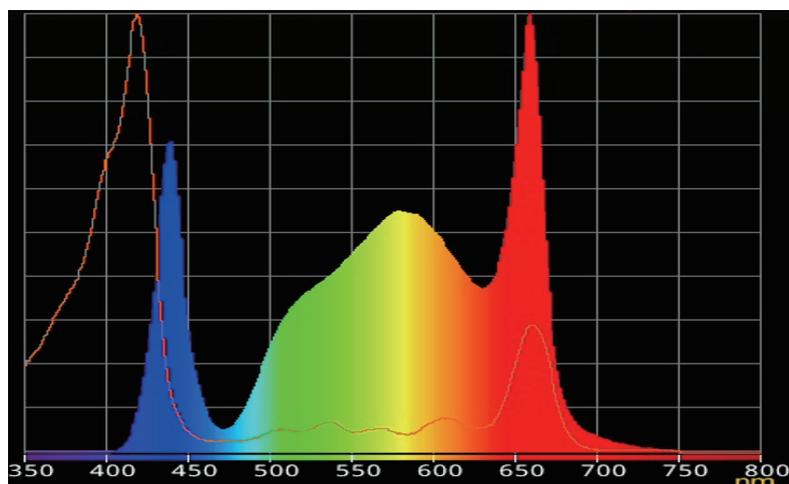
Outline Drawing (mm)



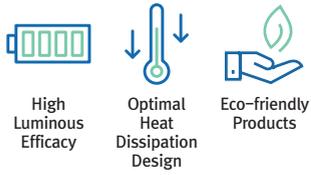
Photosynthetic Photon Flux Density ($\mu\text{mol/m}^2/\text{s}$)



Polar Diagram / Cone Diagram



LED Plant Grow Light (50W or less)



Features & Applications

- Enhanced product stability through structural analysis and optimized design
- Optimal heat dissipation design tested to effectively discharge internal heat
- Lightweight design achieved through extrusion molding
- Eco-friendly lighting (mercury-free, UV-free emission, low carbon)
- Full-spectrum LED for improved visibility and comfortable, efficient working environment

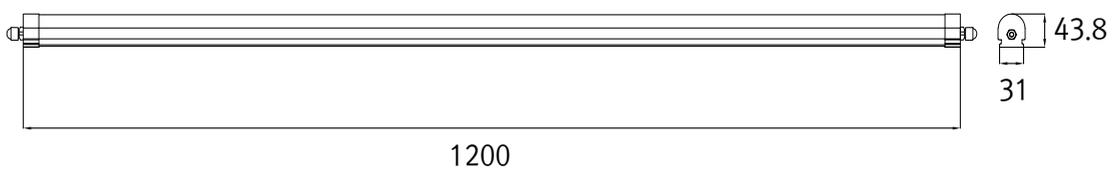
Installation Cases



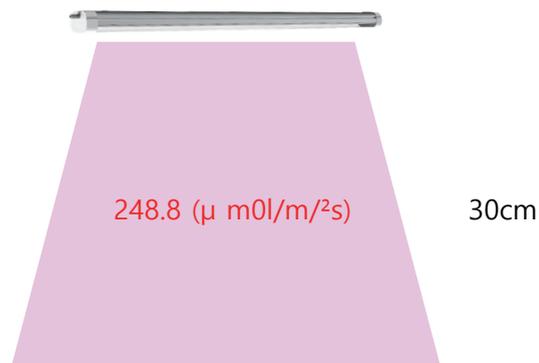
Specifications

Model Name	Power Consumption	Input Power	PPFD <small>$\mu\text{mol/s}$</small>	CRI	
HP-GL-50-01	50W	AC220V	30cm (248.8)	> 80 Ra	
Size (mm)	Operating Temperature	Weight	Lifetime	IP Level	SMPS
W1200 x D31 x H43.8	-20 ~ +40 °C	580g	30,000 ~ 50,000 hrs	IP65	Integrated

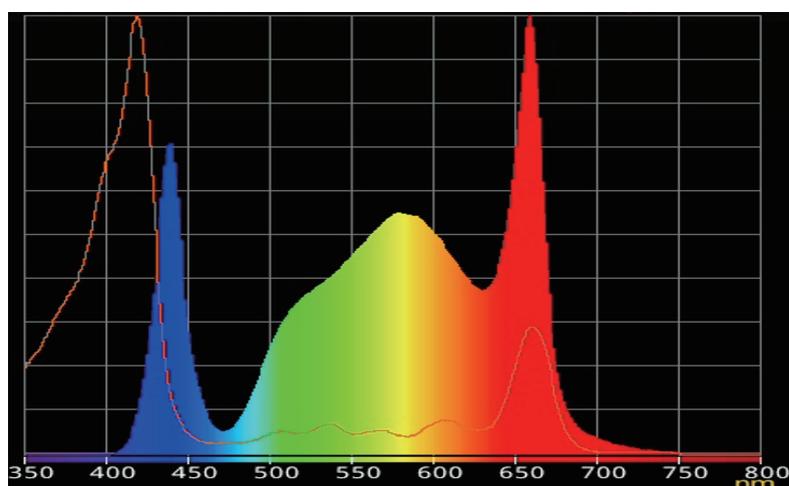
Outline Drawing (mm)



Photosynthetic Photon Flux Density ($\mu\text{mol/m}^2/\text{s}$)



Polar Diagram / Cone Diagram



LED Plant Grow Light (100W or less)



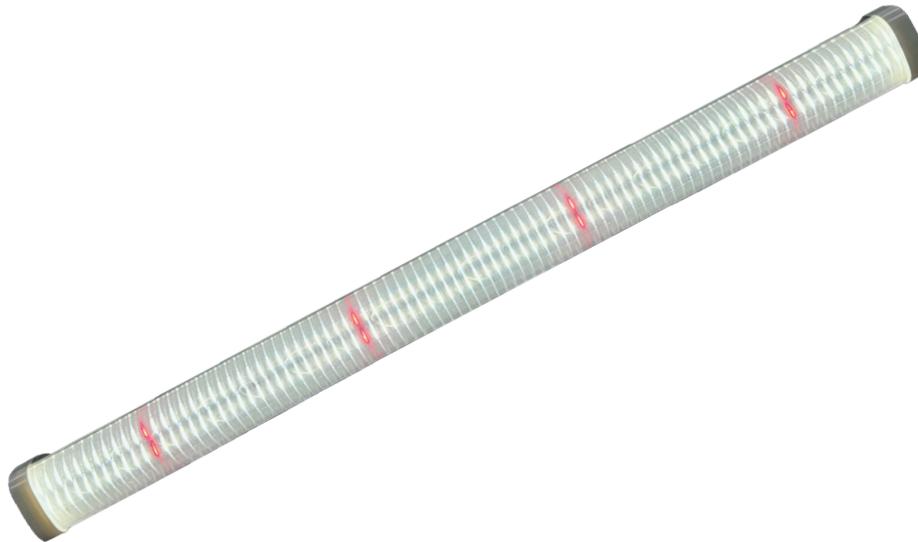
High
Luminous
Efficacy



Optimal
Heat
Dissipation
Design



Eco-friendly
Products



Features & Applications

- Enhanced product stability through structural analysis and optimized design
- Optimal heat dissipation design tested to effectively discharge internal heat
- Lightweight design achieved through extrusion molding
- Eco-friendly lighting (mercury-free, UV-free emission, low carbon)
- Full-spectrum LED for improved visibility and comfortable, efficient working environment

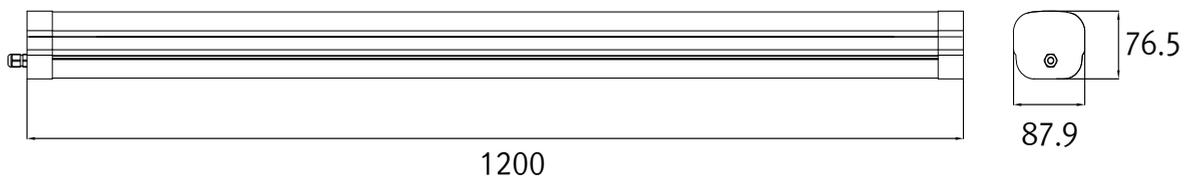
Installation Cases



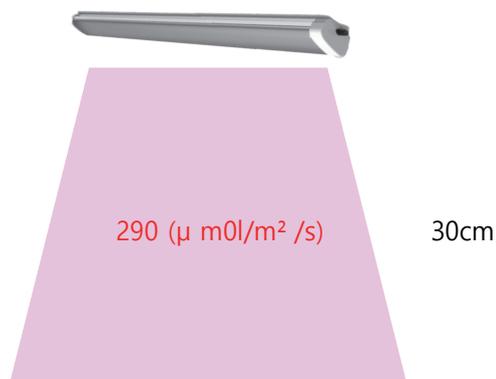
Specifications

Model Name	Power Consumption	Input Power	PPFD $\mu\text{mol/s}$	CRI	
HP-GL-100-01	100W	AC220V	30cm (290)	> 80 Ra	
Size (mm)	Operating Temperature	Weight	Lifetime	IP Level	SMPS
W1200 x D87.9 x H76.5	-20 ~ +40 °C	580g	30,000 ~ 50,000 hrs	IP65	Integrated

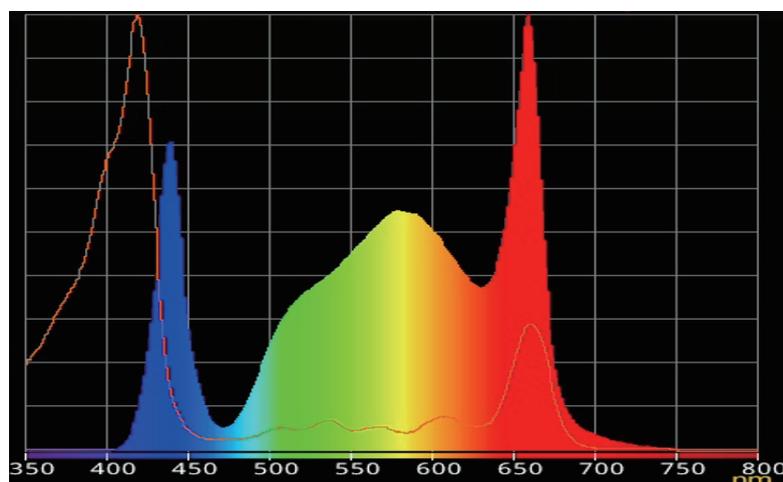
Outline Drawing (mm)



Photosynthetic Photon Flux Density ($\mu\text{mol/m}^2/\text{s}$)



Polar Diagram / Cone Diagram



LED Solar Street Light (60W or less)



Long-life
Products



Optimal
Heat
Dissipation
Design



Features & Applications

- Enhanced product stability through structural analysis and optimized design
- Optimal heat dissipation design technology
- Long lifespan compared to traditional lamps, reducing maintenance costs
- Compact and lightweight design for easy installation and construction

Installation Cases



Specifications

Model Name	LED Chip	Efficiency	Battery	Intelligent Solar Controller	Materials
HP-SL-30-1	SAMSUNG LED	150 lm/W	LifePO4 Battery 24AH 12.8V 308WH	MPPT charge with Smart control functions	Die-cast Aluminum Ultra-thin Anti-wind Level : 70m/sec
HP-SL-60-1					

Operating Time	Beam Angle	Installation height	Size (mm)	Weight	IP Level
12 hrs/Day 3 ~ 5 Rainy days	120 °	4 ~ 6m	L430 x W280 x D102	5.0 kg 6.0 kg	IP 66

Components



[Lighting Fixture]

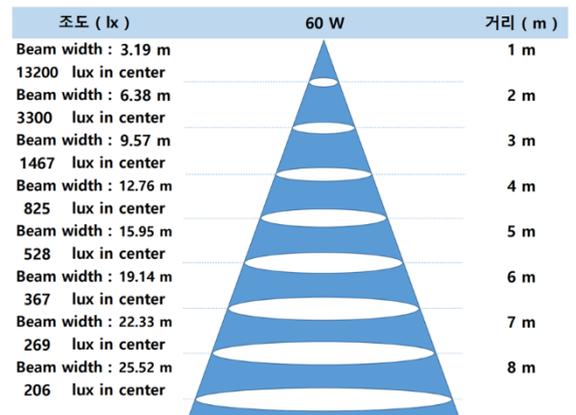
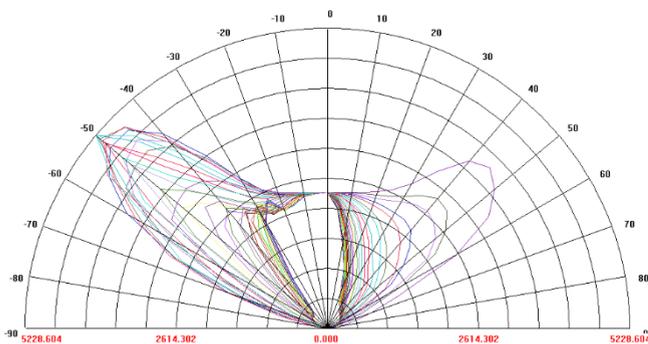


[Solar Panel]



[Bracket]

Polar Diagram / Cone Diagram



Solar Module



LLOYD'S

Tier1



700-720W

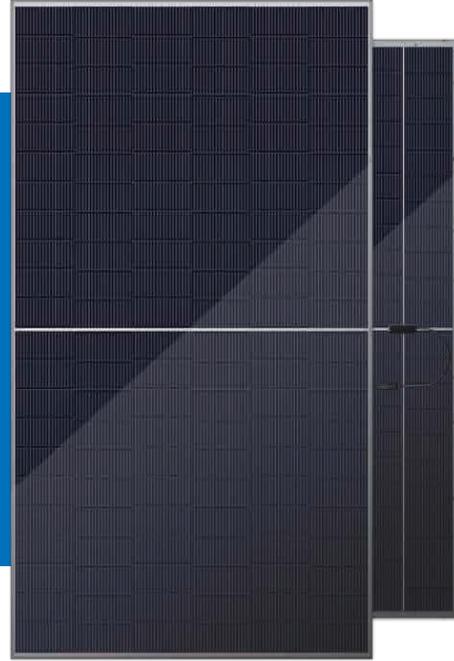
Max. Power Output

0~+3%

Power Tolerance

23.18%

Module Efficiency

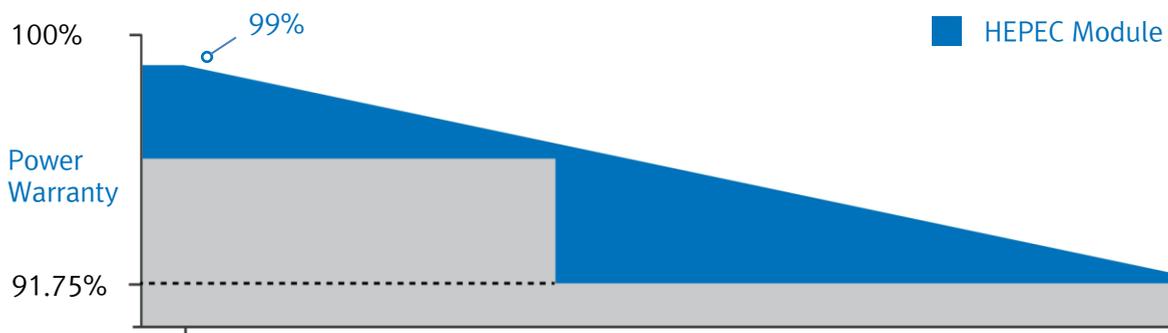


HJT Half-cut Bifacial Dual-Glass Module(MBB)
Module type : SKA611HDGDC

Features & Certificates

- The lower temperature coefficient and better low irradiance performance of HJT technology can effectively reduce LCOE.
- The module adopt a double glass structure, which can adapt to all kinds of harsh environment, and the fire rating can reach Class A.
- The average life of dual-glass module is 30 years, 5 years longer than that of single-glass modules.
- The dual-glass module has a bifaciality of up to 90% and a power generation gain of 7%-30% on the back side.

Performance Warranty



15 Years product warranty on materials and workmanship
30 Years linear power output warranty

ELECTRICAL PARAMETERS @STC

Max. Power Output Pmax (W)	700W	705W	710W	715W	720W
Power Tolerance	0 ~ +3%	0 ~ +3%	0 ~ +3%	0 ~ +3%	0 ~ +3%
Max. Power Voltage Vmp (V)	41.52V	41.55V	41.59V	41.64V	41.69V
Max. Power Current Imp (A)	16.86A	16.97A	17.07A	17.17A	17.27A
Open Circuit Voltage Voc (V)	49.31V	49.35V	49.40V	49.45V	49.51V
Short Circuit Current Isc (A)	17.72A	17.83A	17.94A	18.04A	18.14A
Module Efficiency(%)	22.53%	22.70%	22.86%	23.02%	23.18%

*STC (Standard Test Condition): Irradiance 1000W/m², Cell Temperature 25° C, Air Mass 1.5

*Measurement Tolerance (±3.0%)

ELECTRICAL PARAMETERS @ BNPI

Max. Power Output Pmax (W)	700W	705W	710W	715W	720W
Max. Power Voltage Vmp (V)	41.52V	41.55V	41.59V	41.64V	41.69V
Max. Power Current Imp (A)	16.86A	16.97A	17.07A	17.17A	17.27A
Open Circuit Voltage Voc (V)	49.31V	49.35V	49.40V	49.45V	49.51V
Short Circuit Current Isc (A)	17.72A	17.83A	17.94A	18.04A	18.14A

*BNPI (Bifacial Nameplate Irradiance): Front Side Irradiance 1000W/m², Rear Side Irradiance 135W/m², Cell Temperature 25° C, Air Mass 1.5

*Measurement Tolerance (±3.0%)

Mechanical Parameters

Cell Type	HJT 210 x 105mm
Number of Cells	132pcs (6 x 22)
Dimensions(L*W*H)	2384 x 1303 x 33 mm
Weight	38.3kg
Frame	Anodised Aluminum
Junction Box	IP68, 3 bypass diodes
Cable,Length	4.0mm ² , 300mm

Operating Condition

Maximum System Voltage(V)	1500 (DC) V
Operating Temperature(°C)	-40 ~ +85°C
Max.Wind Load /Snow Load(Pa)	2400/5400Pa
Max.Series Fuse Rating(A)	35A
Fire Rating	Class A
Bifaciality	90 ± 5%
NOCT	45°C

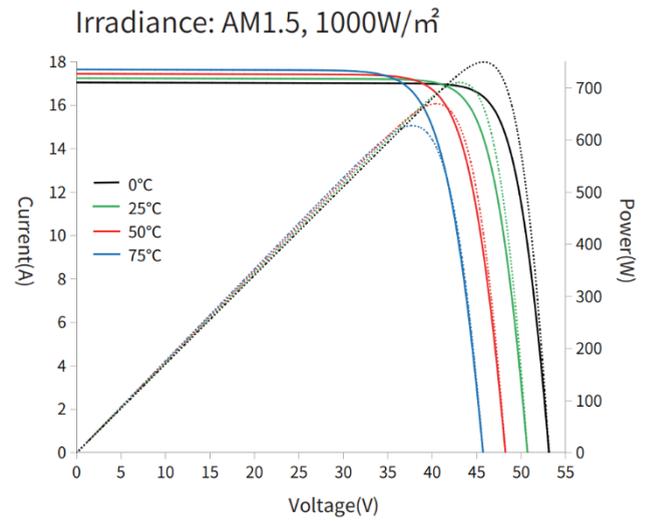
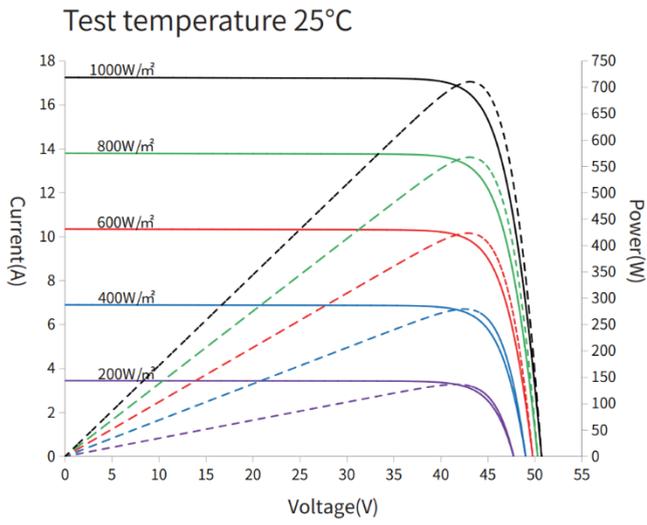
Temperature Coefficients

Temperature Coefficients of Pmp	-0.24% / °C
Temperature Coefficients of Voc	-0.22% / °C
Temperature Coefficients of Isc	+0.047% / °C

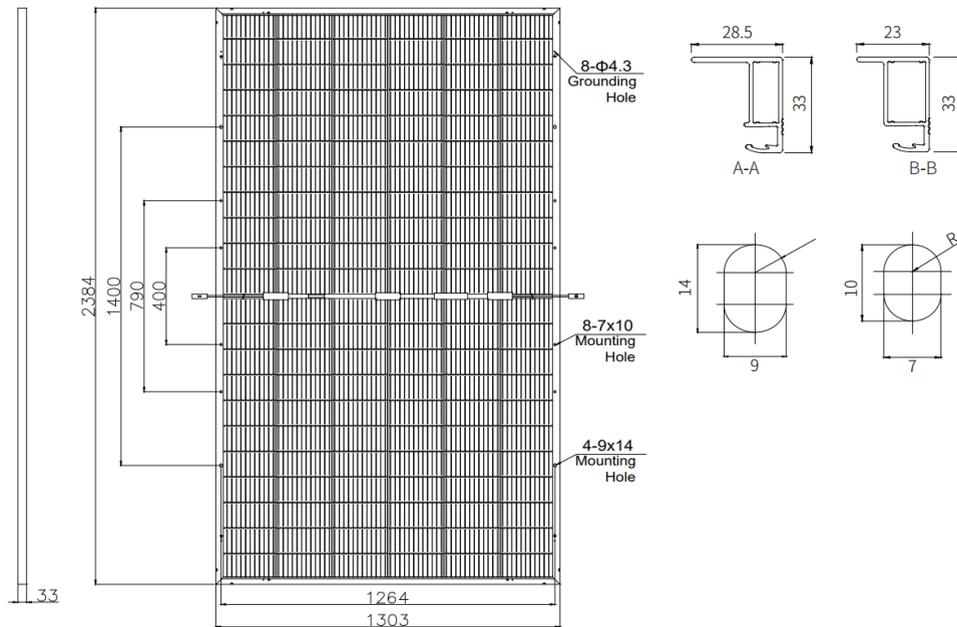
Package Information

Container 40'HQ	594pcs
Quantity / Pallet	33pcs
Size : 1310 x 1100 x 2520mm, Net weight : 1263.9kg, Gross weight : 1307.4kg	

I-V Curves



Outline Drawing (mm)



SINCE 1984

HEPEC

Global LED Lighting Specialist

SINCE 1984

HEPEC

Global LED Lighting Specialist