

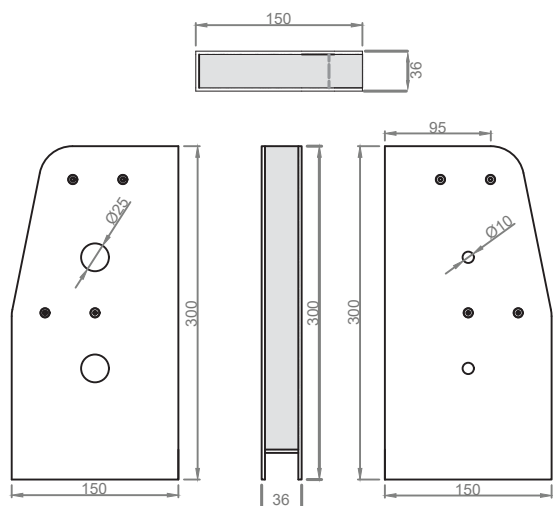
A night scene featuring a tree in a planter bed. The planter bed is bordered by a concrete curbstone with three glowing white light strips. The background shows a blue corrugated metal wall and a stone building. A white car is partially visible on the left. A white sign with a red diamond is on the right. A white text box is overlaid on the right side of the image.

CURBSTONE LIGHT

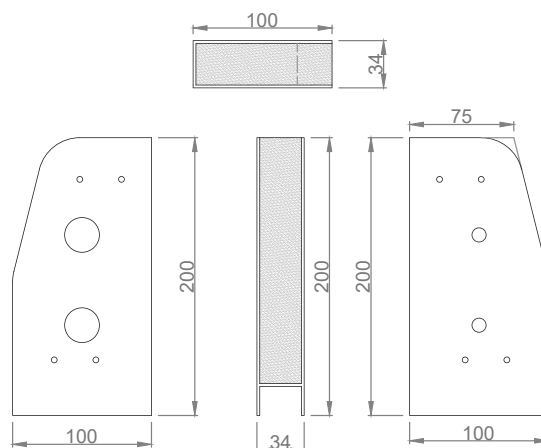
HD-P31025 | Pavement Curbstone Light



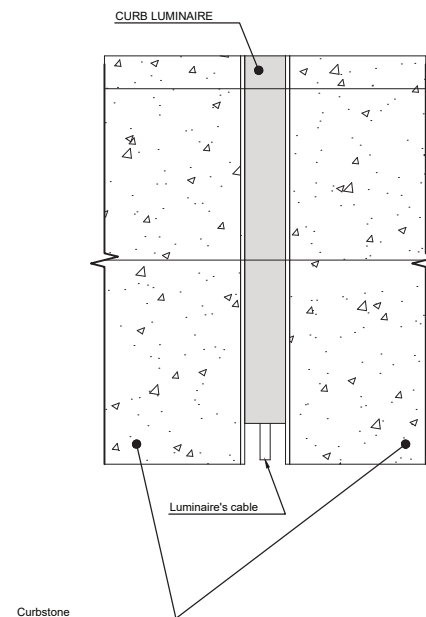
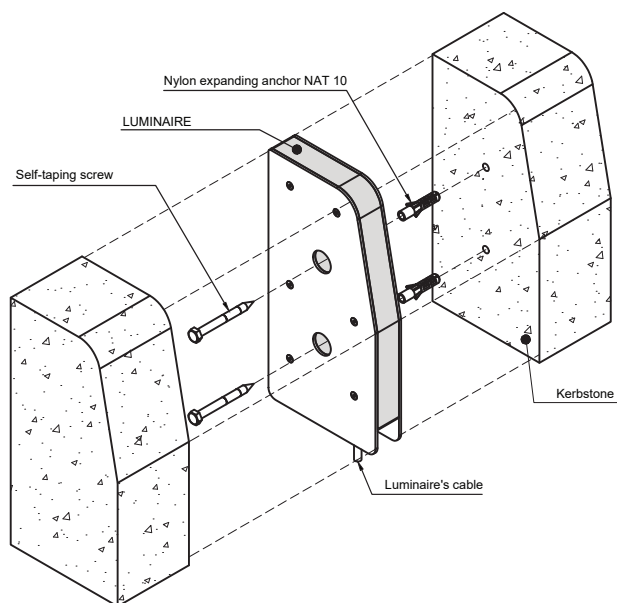
Pavement Light



Type : 1

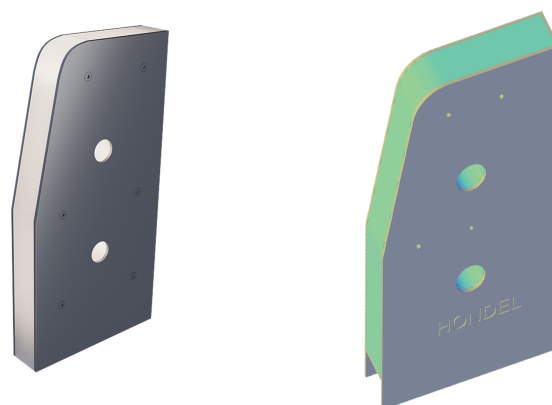


Type : 2



Technical data

Wattage	2.5 WATT
Lumen	>200 lm
Input Voltage	24V
Beam Angle	120°
Color	RGB / RGBW / Single Color
Control Type	DMX512/ Switch/ Dali
IK Rating	IK10
IP Rating	IP68
Material	316 Stainless Steel
Light Source	LED
Cover	Plexiglass





中国认可
国际互认
检测
TESTING
CNAS L11197

TEST REPORT



Product name:

LED Curbstone Lights

Model and

HD-P31025

Specification:

Applicant:

**Shenzhen Hongda United Technology
Co., Ltd.**

Factory:

**Shenzhen Hongda United Technology
Co., Ltd.**

Guangdong Tsaint Hi-tech Co., Ltd.



TEST REPORT

IEC 62262:2002

Degrees of protection provided by enclosures for electrical equipment against external mechanical impacts (IK code)

Report Number.....: TSGK-2022-3157-R

Date of issue.....: 2022-10-08

Total number of pages..... 9 pages

Name of Testing Laboratory preparing the Report..... : Guangdong Tsaint Hi-tech Co.,Ltd.

Applicant's name.....: Shenzhen Hongda United Technology Co., Ltd.

Address.....: 708, Block B, Nanyuan Commercial Building, Nanyuan New Village, Beizhan Community, Minzhi Street, Longhua New District, Shenzhen, Guangdong, China

Test specification:

Standard..... : IEC 62262:2002

Test procedure..... : --

Non-standard test method..... : N/A

Examine the environment.....: Temperature: 25.5°C Relative humidity: 65%R.H.
Atmospheric pressure: 101kPa

Test Report Form No..... : --



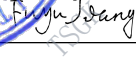
Test Report Form(s) Originator..... : --

Master TRF..... : --

General disclaimer:

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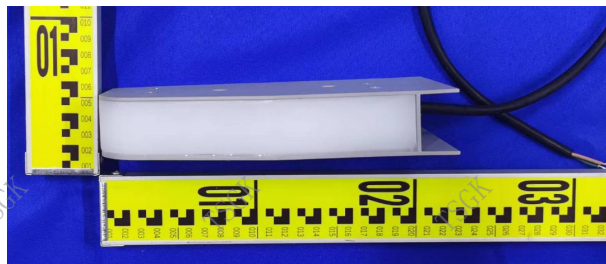
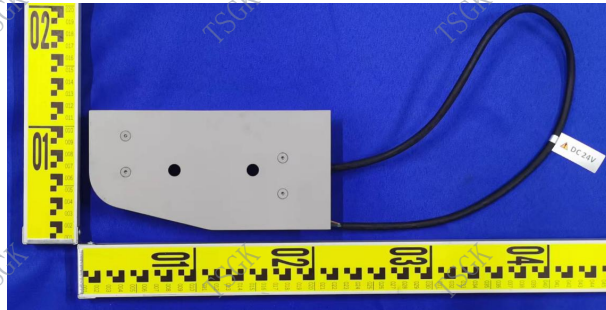
Test item description: LED Curbstone Lights	
Trade Mark: --	
Manufacturer: Shenzhen Hongda United Technology Co., Ltd.	
Model/Type reference: HD-P31025	
Ratings: --	
Responsible Testing Laboratory (as applicable), testing procedure and testing location(s):	
Testing location: Guangdong Tsaint Hi-tech Co.,Ltd.	
Testing location/ address: -1/F, 1/F, Property 1, area B, No.10, Lelin Road, Tongyi Industrial Park, Guzhen, Zhongshan, Guangdong, China	
Tested by (Signature, Date).....: Li Chunhong 	
Compiled by (Signature, Date).....: Lan Jile 	
Approved by (Signature, Date).....: Fuyu Jiang 	
Summary of testing:	
Tests performed (name of test and test clause): IK10	Testing location: Guangdong Tsaint Hi-tech Co.,Ltd.
Copy of marking plate	
/	
Remarks:	
/	



Test item particulars..... :	
Testing..... :	--
Date of receipt of test item..... :	2022-09-28
Date (s) of performance of tests..... :	2022-09-29
General remarks:	
<p>"(See Annex #)" refers to additional information appended to the report. "(See appended table)" refers to a table appended to the report.</p> <p>Throughout this report a <input type="checkbox"/> comma / <input checked="" type="checkbox"/> point is used as the decimal separator.</p>	
When differences exist; they shall be identified in the General product information section.	
Name and address of factory (ies)..... :	Shenzhen Hongda United Technology Co., Ltd. 708, Block B, Nanyuan Commercial Building, Nanyuan New Village, Beizhan Community, Minzhi Street, Longhua New District, Shenzhen, Guangdong, China
General product information:	HD-P31025

Specimen photo

Model: HD-P31025



 **HONDEL
LIGHTING**

Item: LED Curbstone Lights IK10
Model: HD - P31025
Power: 4.5W
Color: 3000K
Voltage: DC24V
MFG Date:23-Sep,2022

IP68 
  

specimen photos before test

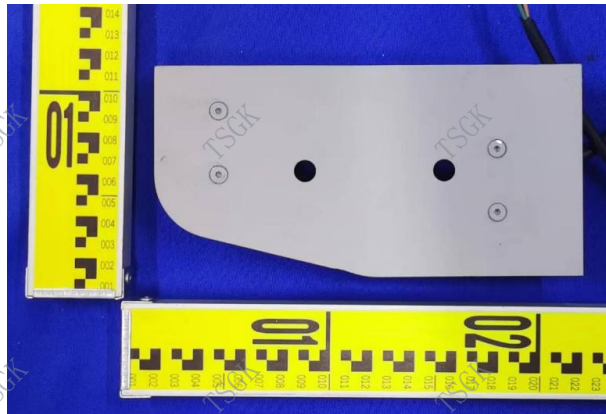
Test status photo

Model: HD-P31025



Specimen photo

Model: HD-P31025



specimen photos after test

Test results

Test item: Mechanical collision protection grade (IK)

Model:

HD-P31025

IP Code:

IK10

Testing standard:

IEC 62262:2002 Degrees of protection provided by enclosures for electrical equipment against external mechanical impacts (IK code).

Client's requirement.

Judgment basis:

- 1)The specimen can light on normally;
- 2)The main appearance of the specimen are not broken.

Test environment:

Ambient temperature: 25.5°C;

Relative humidity: 65%R.H.;

Air pressure: 101kPa.

Test shell:

According to the client's request, only the white shell part of the specimen should be tested.Each enclosure under test shall be in a clean and new condition, complete with all its parts in place.

Test conditions:

- 1)One specimen was tested by pendulum hammer with 20J impact energy;
- 2)The specimen is fixed on a hard plate;
- 3)The specimens were pretreated at standard atmospheric pressure for 12 hours;
- 4)The specimen is tested without electricity;
- 5)Five times impact tests were carried out on the controller parts of the shell.

Test result judgment:

- 1)The specimen can light on normally;
- 2)The white shell part of the specimen the specimen is slightly scratched.

List of test equipment used:

Clause	Measurement / testing	Testing / measuring equipment / material used, (Equipment ID)	Model No.	Last Calibration date	Calibration due date
1	Barometer	TSGK-R-042	SF108	2021.12.28	2022.12.27
2	Digital temperature and humidity meter	TSGK-R-052	VC230A	2022.6.20	2023.6.21
3	IK pendulum impact testing machine	TSGK-R-001	GR-IKBC-02	2022.6.21	2023.6.20

Note: the above used experimental instruments and equipment are in the valid period of calibration, and according to the standard requirements of preheating before use.

Declaration

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- 2.The test report is invalid without the official testing stamp of TSGK.
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- 4.This report cannot be partially copied without permission.
- 5.The test report is invalid if altered.
6. Objections to the test report must be submitted to TSGK within 15 days.

Testing Laboratory: Guangdong Tsaint Hi-tech Co.,Ltd.(Abbreviated as TSGK)

Address: -1&1/F, Property 1, Area B, No.10, Lelin Road, Tongyi Industrial Park, Guzhen, Zhongshan, Guangdong, China

Tel: 0760-22323445

E-MAIL: lab@gdtsgk.com

<http://www.gdtsgk.com>



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国际互认
检测
TESTING
CNAS L11197

TEST REPORT



Product name: LED Curbstone Lights

Model and Specification: HD-P31025

Applicant: Shenzhen Hongda United Technology Co., Ltd.

Factory: Shenzhen Hongda United Technology Co., Ltd.

Guangdong Tsaint Hi-tech Co., Ltd.



TEST REPORT
IEC 60598-2-1

Luminaires

Part 2: Particular requirements

Section 1: Fixed general purpose luminaires

Report Number.....: TSGK-2022-3123-S

Date of issue.....: September 28, 2022

Total number of pages..... 9 pages

Name of Testing Laboratory preparing the Report.....: Guangdong Tsaint Hi-tech Co., Ltd.
-1/F, 1/F, Property 1, area B, No.10, Lelin Road, Tongyi Industrial Park, Guzhen, Zhongshan, Guangdong, China

Applicant's name.....: Shenzhen Hongda United Technology Co., Ltd.

Address.....: 708, Block B, Nanyuan Commercial Building, Nanyuan New Village, Beizhan Community, Minzhi Street, Longhua New District, Shenzhen, Guangdong, China

Test specification:

Standard.....: IEC 60598-1:2020
IEC 60598-2-1:2020

Test procedure.....: --

Non-standard test method.....: N/A

Test Report Form No.....: --

Test Report Form(s) Originator.....: Tsaint Hi-tech

Master TRF.....: --

General disclaimer:

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Test item description	: LED Curbstone Lights
Trade Mark	: /
Manufacturer	: Same as applicant
Model/Type reference	: HD-P31025 24V---; Class III;
Ratings	: Non-replaceable light source; Suitable for direct mounting on normally flammable surfaces;

List of Attachments (including a total number of pages in each attachment):
- test report (from page 1 to 6)
- Product photos (from page 7 to 9)


Summary of testing:	
Tests performed (name of test and test clause): 1. As client’ s requirements, this report and test result is only for IP68 test according to clause 9.2 of IEC 60598-2-1:2020.	Testing location: Guangdong Tsaint Hi-tech Co.,Ltd. -1/F, 1/F, Property 1, area B, No.10, Lelin Road, Tongyi Industrial Park, Guzhen, Zhongshan, Guangdong, China




Copy of marking plate:



**HONDEL
LIGHTING**




Item: LED Curbstone Lights
Model: HD - P31025
Power: 4.5W
Color: 3000K
Voltage: DC24V
MFG Date:25-Sep,2022

IP68 

Remark: /

1. The height of letters and numerals shall be not less than 2 mm.
2. The height of graphical symbols shall not be less than 5 mm .
3. The height of graphical symbol WEEE was not less than 7mm.

Test item particulars :	
Classification of installation and use :	Class III fixed luminaire
Supply Connection :	Supply cord
Possible test case verdicts:	
- test case does not apply to the test object..... :	N/A
- test object does meet the requirement..... :	P (Pass)
- test object does not meet the requirement..... :	F (Fail)
Testing :	
Date of receipt of test item :	Sep. 27, 2022
Date (s) of performance of tests :	Sep. 27, 2022
Tested by (name + signature) :	
Galen Chen 	
Compiled by (+ signature) :	
Lan Jile 	
Approved by (+ signature) :	
Fuyu Jiang 	
General remarks:	
<p>"(See Enclosure #)" refers to additional information appended to the report.</p> <p>"(See appended table)" refers to a table appended to the report.</p> <p>Throughout this report a <input checked="" type="checkbox"/> comma / <input type="checkbox"/> point is used as the decimal separator.</p> <p>Clause numbers between brackets refer to clauses in IEC 60598-1.</p>	
Name and address of factory (ies) :	Shenzhen Hongda United Technology Co., Ltd. 708, Block B, Nanyuan Commercial Building, Nanyuan New Village, Beizhan Community, Minzhi Street, Longhua New District, Shenzhen, Guangdong, China
General product information: /	

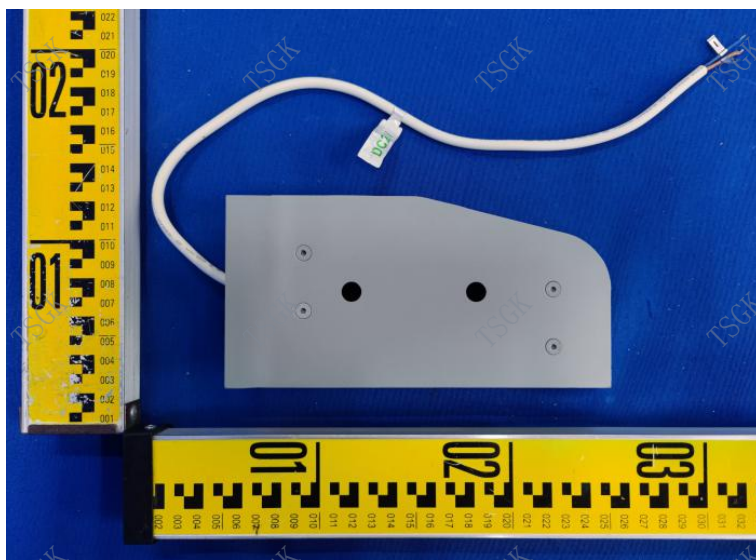
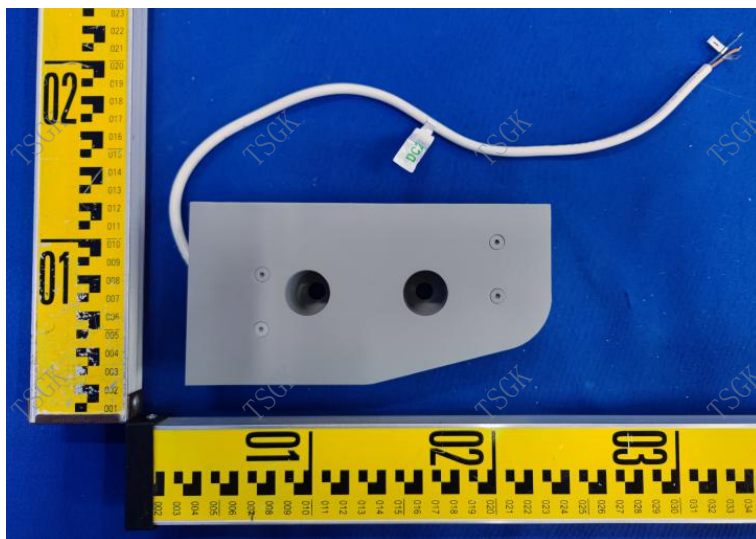
IEC 60598-2-1			
Clause	Requirement + Test	Result - Remark	Verdict
1.14 (9)	RESISTANCE TO DUST AND MOISTURE		P
1.14 (-)	If IP > IP 20 the order of tests as specified in clause 1.12		N/A
1.14 (9.2)	Tests for ingress of dust, solid objects and moisture:		P
	- classification according to IP..... : IP68		—
	- mounting position during test..... : As normal used		—
	- fixing screws tightened; torque (Nm)..... : /		—
	- tests according to clauses..... : Clauses 9.2.2+9.2.9		—
	- electric strength test afterwards		P
	a) no deposit in dust-proof luminaire		N/A
	b) no talcum in dust-tight luminaire		P
	c) no trace of water on current-carrying parts or on insulation where it could become a hazard		P
	c.1) For luminaires without drain holes – no water entry		P
	c.2) For luminaires with drain holes – no hazardous water entry		N/A
	d) no water in watertight, pressure watertight, high pressure and temperature water jet-proof or high pressure and cold water jet-proof luminaire		P
	e) no contact with live parts (IP 2X)		N/A
	e) no entry into enclosure (IP 3X and IP 4X)		N/A
	e) no contact with live parts through drain holes and ventilation slots (IP3X and IP4X)		N/A
	f) no trace of water on part of lamp requiring protection from splashing water		N/A
	g) no damage of protective shield or glass envelope		N/A
1.14 (9.3)	Humidity test 48 h		N/A

1.15 (10)	INSULATION RESISTANCE AND ELECTRIC STRENGTH		P
1.15 (10.2.1)	Insulation resistance test		N/A
	Cable or cord covered by metal foil or replaced by a metal rod of mm Ø		—
	Insulation resistance (MΩ)..... :		—
	SELV/PELV:		N/A
	- between current-carrying parts of different polarity:		N/A
	- between current-carrying parts and mounting surface..... :		N/A

IEC 60598-2-1			
Clause	Requirement + Test	Result - Remark	Verdict
	- between current-carrying parts and metal parts of the luminaire..... :		N/A
	- between the outer surface of a flexible cord or cable where it is clamped in a cord anchorage and accessible metal parts..... :		N/A
	- Insulation bushings as described in Section 5 :		N/A
	Other than SELV/PELV:		N/A
	- between live parts of different polarity..... :		N/A
	- between live parts and mounting surface..... :		N/A
	- between live parts and metal parts..... :		N/A
	- between live parts of different polarity through action of a switch..... :		N/A
	- between the outer surface of a flexible cord or cable where it is clamped in a cord anchorage and accessible metal parts..... :		N/A
	- Insulation bushings as described in Section 5 :		N/A
1.15 (10.2.2)	Electric strength test		P
	Dummy lamp		N/A
	Luminaires with ignitors after 24 h test		N/A
	Luminaires with manual ignitors		N/A
	Test voltage (V)..... :		N/A
	SELV/PELV:		P
	- between current-carrying parts of different polarity:		N/A
	- between current-carrying parts and mounting surface..... :	500 V	P
	- between current-carrying parts and metal parts of the luminaire..... :	500 V	P
	- between the outer surface of a flexible cord or cable where it is clamped in a cord anchorage and accessible metal parts..... :		N/A
	- Insulation bushings as described in Section 5 :		N/A
	Other than SELV/PELV:		N/A
	- between live parts of different polarity..... :		N/A
	- between live parts and mounting surface..... :		N/A
	- between live parts and metal parts..... :		N/A
	- between live parts of different polarity through action of a switch..... :		N/A

IEC 60598-2-1			
Clause	Requirement + Test	Result - Remark	Verdict
	- between the outer surface of a flexible cord or cable where it is clamped in a cord anchorage and accessible metal parts.....:		N/A
	- Insulation bushings as described in Section 5		N/A
1.15 (10.3)	Touch current (mA).....:		N/A
	Protective conductor current (mA).....:		N/A

Product photos



Overall view for model HD-P31025



Overall view for model HD-P31025



Internal structure for model HD-P31025

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Address: -1&1/F, Property 1, Area B, No.10, Lelin Road, Tongyi Industrial Park,
Guzhen, Zhongshan, Guangdong, China

Tel: 0760-22323445

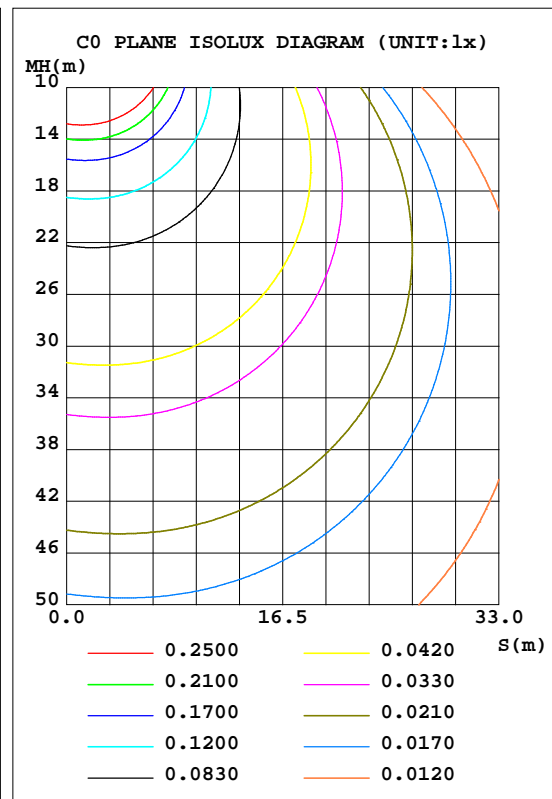
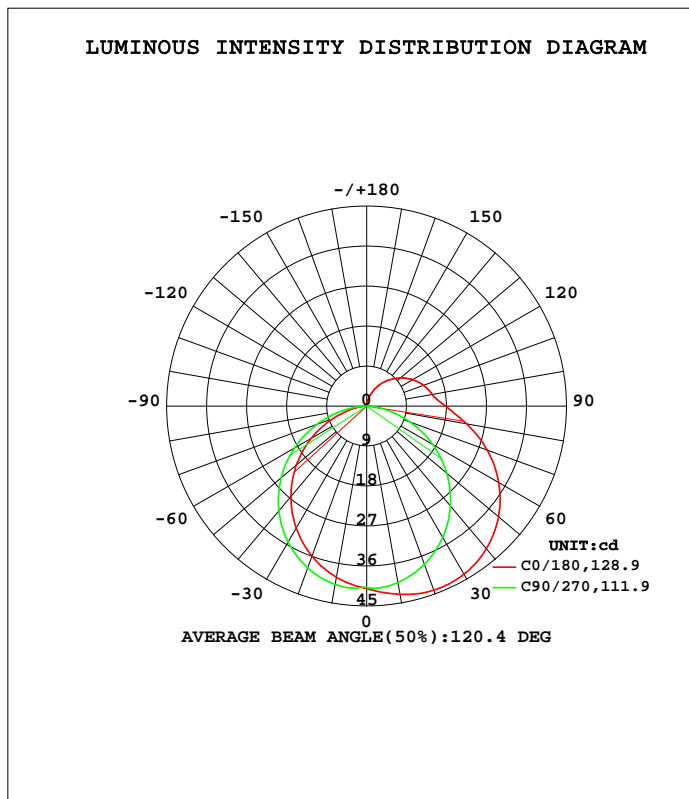
E-MAIL: lab@gdtsgk.com

<http://www.gdtsgk.com>

LUMINAIRE PHOTOMETRIC TEST REPORT

Test:U:23.994V I:0.1645A P:3.9470W PF:1.0000 Freq:50.00Hz Lamp Flux:192.17x1 lm		
NAME: HD-P31025	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: HONDEL Lighting	SUR.:	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 48.69 lm/W			
MODEL		I _{max} (cd)	44.14	S/MH(C0/180)	1.16
NOMINAL POWER(W)	--	LOR(%)	100.0	S/MH(C90/270)	1.28
RATED VOLTAGE(V)	--	TOTAL FLUX(lm)	192.17	η UP, DN(C0-180)	7.6, 44.6
NOMINAL FLUX(lm)	192.17	CIE CLASS	SEMI-D.	η UP, DN(C180-360)	5.4, 42.3
LAMPS INSIDE	1	η up(%)	13.1	CIBSE SHR NOM	1.50
TEST VOLTAGE(V)	--	η down(%)	86.9	CIBSE SHR MAX	1.50



C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators: DAMIN
 Test Date: 2021-05-21

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System: EVERFINE GO-3000H_V1 SYSTEM V2.00.411
 Humidity: 65.0%
 Test Distance: 9.000m [K=1.0000]
 Remarks:

ZONAL FLUX DIAGRAM

ZONAL FLUX DIAGRAM:

γ	C0	C45	C90	C135	C180	C225	C270	C315	γ	Φ zone	Φ total	%lum,lamp
10	43.03	42.26	40.34	39.45	39.13	39.91	40.78	42.39	0- 10	3.917	3.917	2.45,2.45
20	44.09	42.09	37.94	36.35	35.98	37.11	38.78	42.63	10- 20	11.40	15.31	9.56,9.56
30	43.73	40.58	34.21	32.09	31.72	33.06	35.38	41.49	20- 30	17.60	32.91	20.6,20.6
40	41.92	37.71	29.34	26.88	26.56	27.99	30.77	38.96	30- 40	21.74	54.65	34.1,34.1
50	38.75	33.62	23.54	20.92	20.68	22.13	25.14	35.14	40- 50	23.30	77.95	48.7,48.7
60	34.33	28.47	17.07	14.46	14.32	15.68	18.70	30.19	50- 60	22.12	100.1	62.5,62.5
70	28.85	22.49	10.24	7.879	7.817	8.998	11.76	24.31	60- 70	18.42	118.5	74,74
80	22.76	16.18	3.718	2.303	2.510	3.014	4.903	17.95	70- 80	12.96	131.5	82.1,82.1
90	17.79	11.36	0.2966	0.1286	0.2454	0.2988	0.2662	12.60	80- 90	7.757	139.2	86.9,86.9
100	15.05	9.584	0.0461	0.0543	0.1176	0.1636	0.1944	10.38	90-100	5.356	144.6	90.3,90.3
110	13.68	8.653	0.0632	0.0558	0.1340	0.1263	0.2077	9.381	100-110	4.601	149.2	93.1,93.1
120	11.95	7.540	0.0610	0.0729	0.1466	0.0975	0.1600	8.165	110-120	3.841	153.0	95.5,95.5
130	9.893	6.246	0.0744	0.0930	0.1593	0.1154	0.1243	6.794	120-130	2.968	156.0	97.4,97.4
140	7.662	4.810	0.0923	0.1146	0.1700	0.1310	0.1354	5.273	130-140	2.079	158.1	98.7,98.7
150	5.347	3.282	0.1109	0.1310	0.1675	0.1392	0.1377	3.656	140-150	1.262	159.3	99.5,99.5
160	3.015	1.768	0.1273	0.1414	0.1630	0.1451	0.1422	2.047	150-160	0.6102	159.9	99.9,99.9
170	0.9366	0.5352	0.1407	0.1488	0.1593	0.1447	0.1474	0.6839	160-170	0.1916	160.1	100,100
180	0.1608	0.1511	0.1474	0.1563	0.1615	0.1526	0.1474	0.1555	170-180	0.0235	160.1	100,100
DEG	LUMINOUS INTENSITY:cd								UNIT:lm			

Conical surface Flux(90deg): 66.277 lm

%lum = 41.4%
%lamp = 41.4%

Conical surface Flux(120deg): 100.07 lm

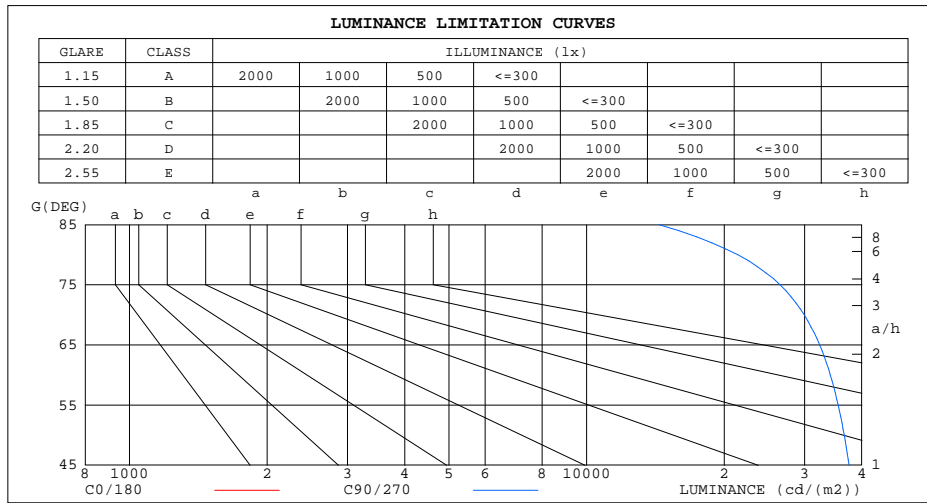
%lum = 62.5%
%lamp = 62.5%

C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2021-05-21

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
Test System:EVERFINE GO-3000H_V1 SYSTEM V2.00.411
Humidity:65.0%
Test Distance:9.000m [K=1.0000]
Remarks:

LUMINANCE LIMITATION CURVES

Test:U:23.994V I:0.1645A P:3.9470W PF:1.0000 Freq:50.00Hz Lamp Flux:192.17x1 lm		
NAME: HD-P31025	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: HONDEL Lighting	SUR.:	Shielding Angle:



LUMINANCE cd/(m2)		
G(DEG)	C0/180	C90/270
85	228858	14386
80	131084	21410
75	99799	26481
70	84356	29949
65	75011	32365
60	68659	34148
55	63969	35521
50	60277	36618
45	57267	37526

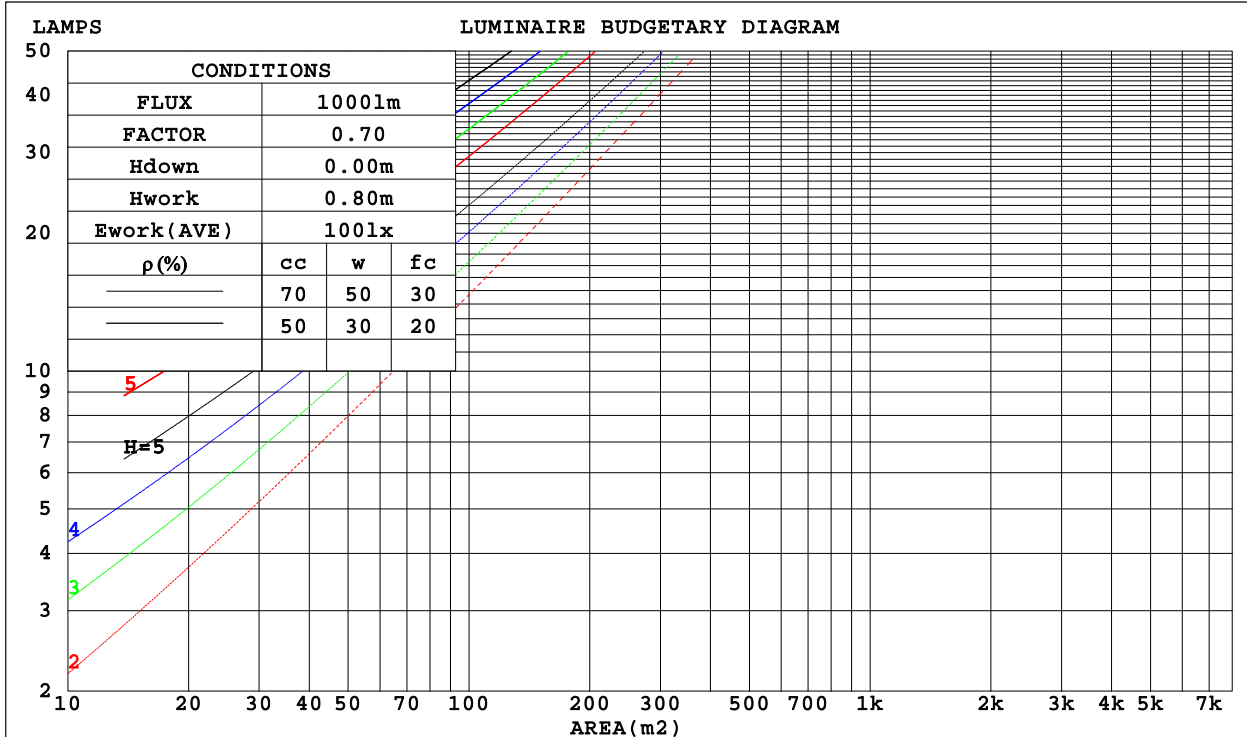
C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators: DAMIN
 Test Date: 2021-05-21

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System: EVERFINE GO-3000H_V1 SYSTEM V2.00.411
 Humidity: 65.0%
 Test Distance: 9.000m [K=1.0000]
 Remarks:

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

Test:U:23.994V I:0.1645A P:3.9470W PF:1.0000 Freq:50.00Hz Lamp Flux:192.17x1 lm		
NAME: HD-P31025	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: HONDEL Lighting	SUR.:	Shielding Angle:

ρ_{cc}	80%			70%			50%			30%			10%			0
ρ_w	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
ρ_{fc}	20%			20%			20%			20%			20%			0
RCR	RCR:Room Cavity Ratio						Coefficients of Utilization(CU)									
0.0	1.16	1.16	1.16	1.12	1.12	1.12	1.04	1.04	1.04	.97	.97	.97	.90	.90	.90	.87
1.0	.99	.94	.89	.95	.91	.87	.88	.85	.82	.82	.79	.77	.77	.74	.72	.69
2.0	.85	.78	.71	.82	.75	.70	.76	.71	.66	.71	.67	.63	.66	.63	.59	.56
3.0	.74	.66	.59	.72	.64	.57	.67	.60	.55	.62	.57	.52	.58	.53	.49	.47
4.0	.65	.56	.49	.63	.55	.48	.59	.52	.46	.55	.49	.44	.51	.46	.42	.39
5.0	.58	.49	.42	.56	.48	.41	.53	.45	.39	.49	.43	.38	.46	.41	.36	.34
6.0	.52	.43	.36	.50	.42	.36	.47	.40	.34	.44	.38	.33	.42	.36	.32	.29
7.0	.47	.38	.32	.46	.37	.31	.43	.36	.30	.40	.34	.29	.38	.32	.28	.26
8.0	.43	.34	.28	.42	.33	.28	.39	.32	.27	.37	.30	.26	.35	.29	.25	.23
9.0	.39	.31	.25	.38	.30	.25	.36	.29	.24	.34	.28	.23	.32	.26	.22	.20
10.0	.36	.28	.23	.35	.27	.22	.33	.26	.22	.31	.25	.21	.30	.24	.20	.18



C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators: DAMIN
 Test Date: 2021-05-21

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System: EVERFINE GO-3000H_V1 SYSTEM V2.00.411
 Humidity: 65.0%
 Test Distance: 9.000m [K=1.0000]
 Remarks:

WEC AND CCEC

Test:U:23.994V I:0.1645A P:3.9470W PF:1.0000 Freq:50.00Hz Lamp Flux:192.17x1 lm		
NAME: HD-P31025	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: HONDEL Lighting	SUR.:	Shielding Angle:

pcc	80%			70%			50%			30%			10%			0
pw	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
pfc	20%			20%			20%			20%			20%			0
RCR	RCR:Room Cavity Ratio						Wall Exitance Coefficients(WEC)									
0.0																
1.0	.349	.199	.063	.338	.193	.061	.317	.182	.058	.298	.172	.055	.281	.163	.052	
2.0	.313	.172	.053	.303	.167	.051	.284	.158	.049	.267	.150	.047	.251	.142	.045	
3.0	.283	.151	.045	.274	.147	.044	.257	.139	.042	.242	.132	.041	.227	.126	.039	
4.0	.258	.134	.039	.250	.131	.039	.234	.124	.037	.220	.118	.036	.207	.112	.034	
5.0	.236	.120	.035	.229	.117	.034	.215	.112	.033	.202	.107	.032	.190	.102	.031	
6.0	.217	.109	.031	.211	.106	.031	.198	.102	.030	.187	.097	.028	.176	.092	.027	
7.0	.201	.100	.028	.195	.097	.028	.184	.093	.027	.173	.089	.026	.163	.085	.025	
8.0	.187	.092	.026	.182	.090	.025	.171	.086	.024	.162	.082	.024	.152	.078	.023	
9.0	.175	.085	.024	.170	.083	.023	.160	.079	.022	.151	.076	.022	.143	.073	.021	
10.0	.164	.079	.022	.160	.077	.021	.151	.074	.021	.142	.071	.020	.134	.068	.019	

pcc	80%			70%			50%			30%			10%			0
pw	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
pfc	20%			20%			20%			20%			20%			0
RCR	RCR:Room Cavity Ratio						Ceiling Cavity Exitance Coefficients(CCEC)									
0.0	.290	.290	.290	.248	.248	.248	.169	.169	.169	.097	.097	.097	.031	.031	.031	
1.0	.283	.256	.232	.243	.220	.199	.166	.151	.138	.095	.088	.080	.031	.028	.026	
2.0	.276	.233	.197	.237	.200	.170	.162	.139	.118	.093	.081	.069	.030	.026	.023	
3.0	.269	.216	.174	.230	.186	.151	.158	.129	.106	.091	.076	.062	.029	.025	.020	
4.0	.261	.203	.159	.224	.176	.138	.154	.122	.097	.089	.072	.058	.029	.023	.019	
5.0	.254	.193	.149	.218	.167	.129	.150	.117	.091	.087	.069	.054	.028	.022	.018	
6.0	.246	.185	.141	.212	.160	.123	.146	.112	.087	.085	.066	.052	.027	.022	.017	
7.0	.239	.178	.136	.206	.155	.118	.142	.108	.084	.083	.064	.050	.027	.021	.017	
8.0	.233	.173	.132	.200	.150	.115	.139	.105	.081	.081	.062	.049	.026	.020	.016	
9.0	.227	.168	.128	.195	.146	.112	.135	.103	.080	.079	.061	.047	.026	.020	.016	
10.0	.221	.164	.126	.190	.142	.110	.132	.100	.078	.077	.059	.047	.025	.019	.015	

C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2021-05-21

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-3000H_V1 SYSTEM V2.00.411
 Humidity:65.0%
 Test Distance:9.000m [K=1.0000]
 Remarks:

UGR(Unified Glare Rating) Table

Test:U:23.994V I:0.1645A P:3.9470W PF:1.0000 Freq:50.00Hz Lamp Flux:192.17x1 lm										
NAME: HD-P31025					TYPE:			WEIGHT:		
SPEC.:					DIM.:			SERIAL No.:		
MFR.: HONDEL Lighting					SUR.:			Shielding Angle:		
ceiling/cavity	0.7	0.7	0.5	0.5	0.3	0.7	0.7	0.5	0.5	0.3
walls	0.5	0.3	0.5	0.3	0.3	0.5	0.3	0.5	0.3	0.3
working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Room dimensions	Viewed crosswise					Viewed endwise				
x = 2H y = 2H	27.8	29.2	28.3	29.6	30.1	25.2	26.6	25.6	27.0	27.5
3H	30.4	31.7	30.8	32.1	32.6	26.6	27.9	27.1	28.4	28.9
4H	31.7	32.9	32.2	33.4	33.9	27.2	28.4	27.7	28.9	29.4
6H	33.2	34.3	33.7	34.8	35.4	27.5	28.7	28.0	29.2	29.7
8H	34.0	35.1	34.5	35.6	36.1	27.6	28.7	28.1	29.2	29.8
12H	34.9	35.9	35.4	36.4	37.0	27.6	28.7	28.2	29.2	29.8
4H 2H	28.4	29.6	28.9	30.1	30.6	26.5	27.7	27.0	28.2	28.7
3H	31.2	32.2	31.7	32.8	33.3	28.2	29.3	28.7	29.8	30.4
4H	32.7	33.7	33.3	34.2	34.8	28.9	29.9	29.5	30.5	31.1
6H	34.4	35.3	35.0	35.8	36.5	29.5	30.3	30.1	30.9	31.5
8H	35.3	36.1	35.9	36.7	37.4	29.6	30.4	30.2	31.0	31.7
12H	36.3	37.1	37.0	37.7	38.4	29.7	30.5	30.3	31.1	31.7
8H 4H	33.0	33.8	33.6	34.4	35.1	30.0	30.8	30.6	31.4	32.1
6H	35.0	35.7	35.6	36.3	37.0	30.9	31.6	31.5	32.2	32.9
8H	36.1	36.7	36.8	37.4	38.1	31.3	31.9	31.9	32.5	33.2
12H	37.4	37.9	38.1	38.6	39.4	31.5	32.0	32.2	32.7	33.5
12H 4H	33.0	33.8	33.7	34.4	35.1	30.3	31.1	31.0	31.7	32.4
6H	35.1	35.7	35.7	36.3	37.1	31.5	32.1	32.1	32.7	33.4
8H	36.3	36.8	37.0	37.5	38.2	32.0	32.5	32.7	33.2	33.9
Variations with the observer position at spacings:										
S = 1.0H	+ 0.1 / - 0.1					+ 0.1 / - 0.2				
1.5H	+ 0.2 / - 0.3					+ 0.2 / - 0.3				
2.0H	+ 0.2 / - 0.4					+ 0.3 / - 0.5				

CIE Pub.117, 19.2 lm Total Lamp Luminous Flux Corrected (8log(F/F0) = -6.4)
Area: 0.001 m2

C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2021-05-21

γ Range: 0 - 180DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-3000H_V1 SYSTEM V2.00.411
Humidity:65.0%
Test Distance:9.000m [K=1.0000]
Remarks:

UTILIZATION FACTORS TABLE

Test:U:23.994V I:0.1645A P:3.9470W PF:1.0000 Freq:50.00Hz Lamp Flux:192.17x1 lm		
NAME: HD-P31025	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: HONDEL Lighting	SUR.:	Shielding Angle:

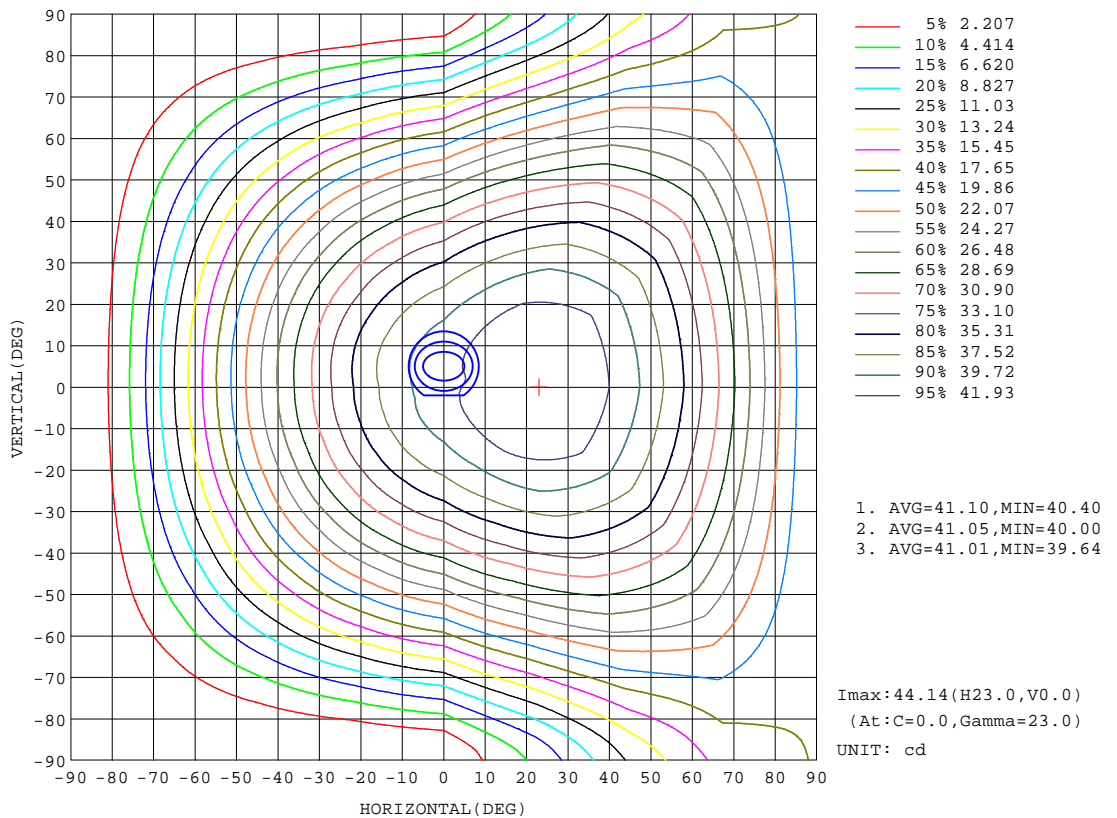
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS(PERCENT) k(RI) x RCR = 5									
k = 0.60	51	39	32	50	39	32	48	38	31	25
0.80	61	48	40	59	47	40	57	46	39	32
1.00	69	56	48	67	55	48	64	56	47	39
1.25	76	64	56	74	63	55	70	60	54	45
1.50	81	69	62	78	68	61	74	65	59	49
2.00	88	78	70	85	76	69	80	72	66	56
2.50	92	83	76	89	81	74	84	77	71	60
3.00	96	87	81	93	85	79	87	81	75	63
4.00	100	93	87	97	90	85	90	85	81	68
5.00	103	97	92	99	94	89	93	88	85	71
ROOM INDEX	UF(total)									Direct
According to DIN EN 13032-2 2004			Suspended				SHRNOM = 1.25			

C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2021-05-21

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-3000H_V1 SYSTEM V2.00.411
 Humidity:65.0%
 Test Distance:9.000m [K=1.0000]
 Remarks:

ISOCANDELA DIAGRAM

Test:U:23.994V I:0.1645A P:3.9470W PF:1.0000 Freq:50.00Hz Lamp Flux:192.17x1 lm		
NAME: HD-P31025	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: HONDEL Lighting	SUR.:	Shielding Angle:



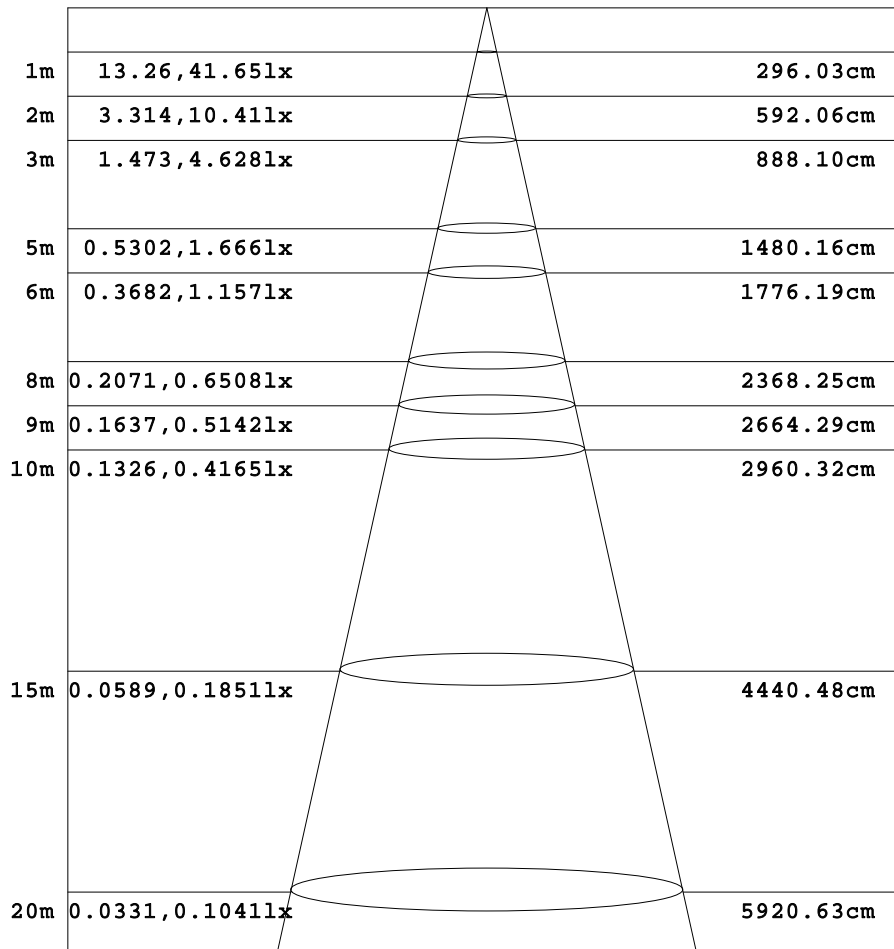
C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2021-05-21

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-3000H_V1 SYSTEM V2.00.411
 Humidity:65.0%
 Test Distance:9.000m [K=1.0000]
 Remarks:

AAI Figure

Test:U:23.994V I:0.1645A P:3.9470W PF:1.0000 Freq:50.00Hz Lamp Flux:192.17x1 lm		
NAME: HD-P31025	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: HONDEL Lighting	SUR.:	Shielding Angle:

Flux out:91.54 lm



Height Eavg, Emax Angle:111.91deg Diameter

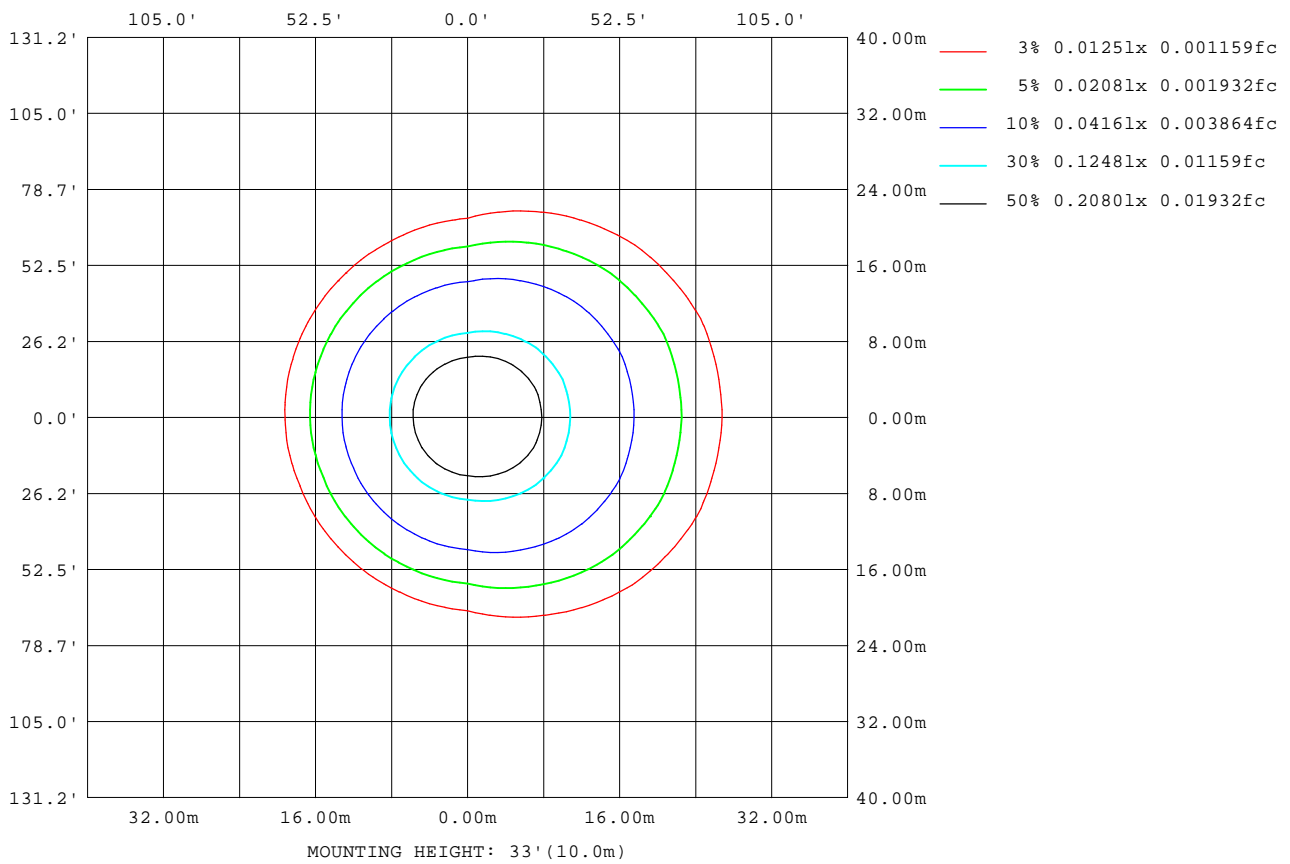
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2021-05-21

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-3000H_V1 SYSTEM V2.00.411
 Humidity:65.0%
 Test Distance:9.000m [K=1.0000]
 Remarks:

ISOLUX DIAGRAM

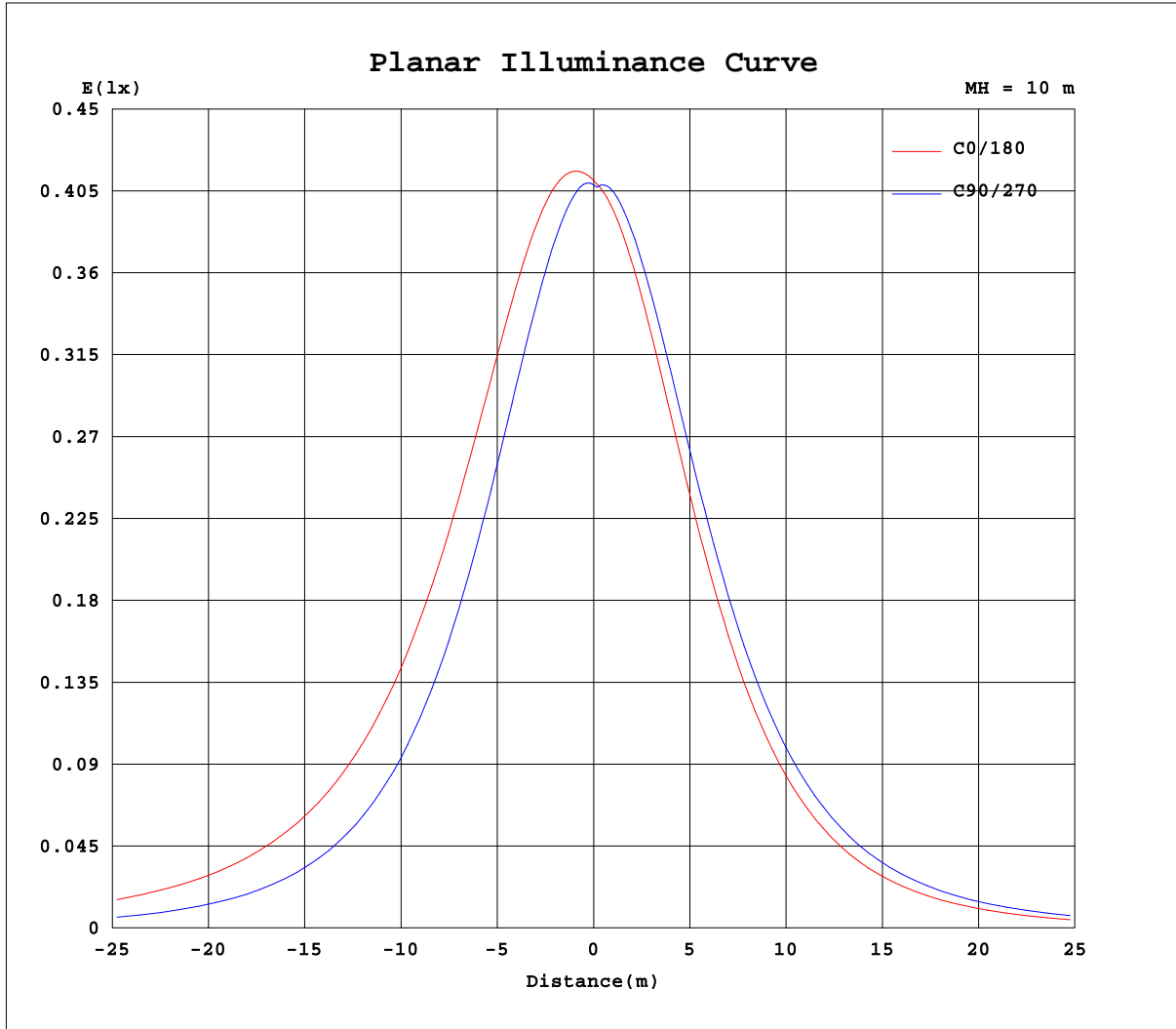
Test:U:23.994V I:0.1645A P:3.9470W PF:1.0000 Freq:50.00Hz Lamp Flux:192.17x1 lm		
NAME: HD-P31025	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: HONDEL Lighting	SUR.:	Shielding Angle:



C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators: DAMIN
 Test Date: 2021-05-21

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System: EVERFINE GO-3000H_V1 SYSTEM V2.00.411
 Humidity: 65.0%
 Test Distance: 9.000m [K=1.0000]
 Remarks:

Planar Illuminance Curve



C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators: DAMIN
 Test Date: 2021-05-21

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System: EVERFINE GO-3000H_V1 SYSTEM V2.00.411
 Humidity: 65.0%
 Test Distance: 9.000m [K=1.0000]
 Remarks:

LUMINOUS DISTRIBUTION INTENSITY DATA

Test:U:23.994V I:0.1645A P:3.9470W PF:1.0000 Freq:50.00Hz Lamp Flux:192.17x1 lm		
NAME: HD-P31025	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: HONDEL Lighting	SUR.:	Shielding Angle:

Table--1

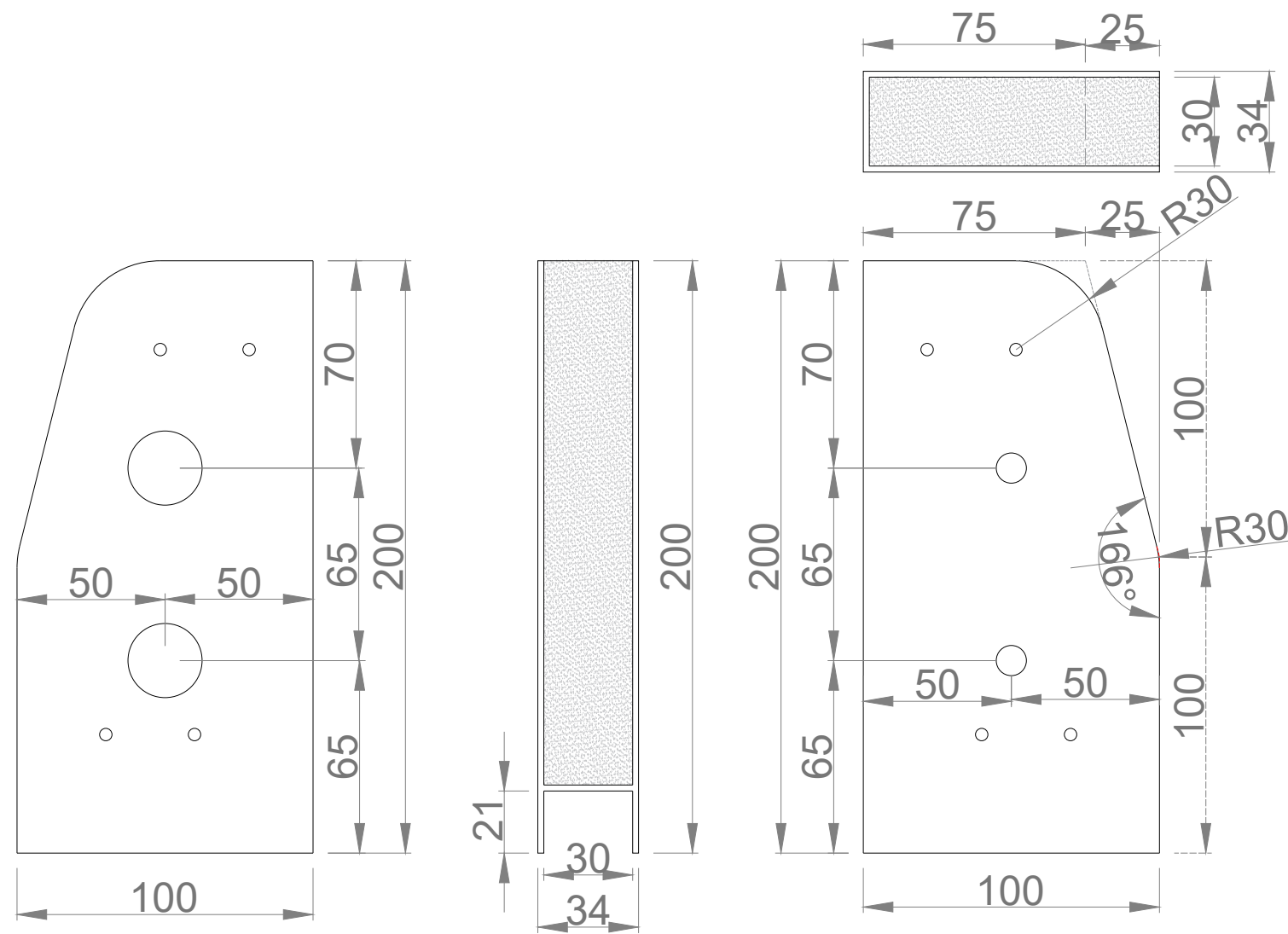
UNIT: cd

C(DEG) γ (DEG)	0	22.5	45	67.5	90	112.5	135	157.5	180	202.5	225	247.5	270	292.5	315	337.5			
0	41.1	41.0	40.9	40.9	40.8	40.8	40.7	40.7	41.1	41.0	40.9	40.9	40.8	40.8	40.7	40.7			
5	42.1	42.1	41.8	41.4	41.0	40.7	40.4	40.2	40.2	40.3	40.6	40.9	41.1	41.4	41.7	41.8			
10	43.0	43.0	42.3	41.2	40.3	39.8	39.4	39.2	39.1	39.5	39.9	40.3	40.8	41.6	42.4	42.8			
15	43.7	43.6	42.3	40.7	39.3	38.6	38.1	37.8	37.7	38.3	38.7	39.3	40.0	41.3	42.7	43.6			
20	44.1	43.8	42.1	39.8	37.9	37.0	36.3	36.0	36.0	36.6	37.1	37.8	38.8	40.6	42.6	44.0			
25	44.1	43.7	41.5	38.6	36.2	35.1	34.4	34.0	34.0	34.6	35.2	36.1	37.2	39.7	42.2	44.0			
30	43.7	43.2	40.6	37.1	34.2	32.9	32.1	31.7	31.7	32.4	33.1	34.1	35.4	38.4	41.5	43.6			
35	43.0	42.3	39.3	35.3	31.9	30.5	29.6	29.1	29.3	29.9	30.6	31.7	33.2	36.7	40.4	42.8			
40	41.9	41.1	37.7	33.2	29.3	27.8	26.9	26.4	26.6	27.2	28.0	29.2	30.8	34.8	39.0	41.7			
45	40.5	39.5	35.8	30.8	26.5	25.0	24.0	23.4	23.7	24.3	25.1	26.4	28.1	32.6	37.2	40.2			
50	38.7	37.6	33.6	28.2	23.5	21.9	20.9	20.4	20.7	21.3	22.1	23.4	25.1	30.1	35.1	38.4			
55	36.7	35.4	31.2	25.4	20.4	18.7	17.7	17.2	17.5	18.1	19.0	20.2	22.0	27.4	32.8	36.4			
60	34.3	33.0	28.5	22.3	17.1	15.4	14.5	13.9	14.3	14.8	15.7	16.9	18.7	24.4	30.2	34.0			
65	31.7	30.3	25.6	19.2	13.7	12.1	11.1	10.6	11.0	11.5	12.3	13.5	15.3	21.3	27.4	31.3			
70	28.9	27.4	22.5	15.9	10.2	8.76	7.88	7.38	7.82	8.24	9.00	10.1	11.8	18.0	24.3	28.5			
75	25.8	24.3	19.3	12.6	6.85	5.54	4.81	4.44	4.84	5.17	5.80	6.72	8.26	14.6	21.1	25.4			
80	22.8	21.2	16.2	9.35	3.72	2.72	2.30	2.19	2.51	2.67	3.01	3.65	4.90	11.3	17.9	22.3			
85	19.9	18.4	13.4	6.60	1.25	0.83	0.82	0.87	1.15	1.19	1.18	1.26	2.02	8.27	14.9	19.4			
90	17.8	16.3	11.4	4.90	0.30	0.14	0.13	0.12	0.25	0.28	0.30	0.23	0.27	6.04	12.6	17.1			
95	16.1	14.7	10.1	4.29	0.05	0.04	0.06	0.06	0.11	0.12	0.17	0.16	0.17	5.12	11.1	15.3			
100	15.1	13.8	9.58	4.00	0.05	0.05	0.05	0.07	0.12	0.11	0.16	0.17	0.19	4.85	10.4	14.2			
105	14.4	13.2	9.14	3.78	0.05	0.04	0.05	0.07	0.13	0.10	0.15	0.17	0.21	4.60	9.91	13.6			
110	13.7	12.5	8.65	3.55	0.06	0.04	0.06	0.08	0.13	0.10	0.13	0.16	0.21	4.32	9.38	12.9			
115	12.9	11.8	8.12	3.29	0.06	0.04	0.06	0.09	0.14	0.11	0.11	0.07	0.19	4.02	8.80	12.2			
120	12.0	11.0	7.54	3.04	0.06	0.05	0.07	0.10	0.15	0.12	0.10	0.08	0.16	3.68	8.17	11.3			
125	11.0	10.1	6.91	2.76	0.07	0.06	0.08	0.10	0.15	0.13	0.11	0.09	0.14	3.33	7.50	10.4			
130	9.89	9.11	6.25	2.46	0.07	0.07	0.09	0.11	0.16	0.14	0.12	0.10	0.12	2.99	6.79	9.47			
135	8.79	8.11	5.54	2.16	0.08	0.09	0.10	0.12	0.17	0.14	0.13	0.11	0.13	2.63	6.05	8.46			
140	7.66	7.07	4.81	1.84	0.09	0.10	0.11	0.13	0.17	0.14	0.13	0.12	0.14	2.25	5.27	7.41			
145	6.51	5.99	4.05	1.51	0.10	0.11	0.12	0.14	0.17	0.15	0.14	0.13	0.14	1.87	4.47	6.33			
150	5.35	4.90	3.28	1.19	0.11	0.12	0.13	0.14	0.17	0.15	0.14	0.13	0.14	1.49	3.66	5.22			
155	4.17	3.81	2.51	0.89	0.12	0.13	0.14	0.15	0.17	0.15	0.14	0.14	0.14	1.13	2.84	4.11			
160	3.02	2.73	1.77	0.61	0.13	0.13	0.14	0.15	0.16	0.15	0.15	0.14	0.14	0.79	2.05	3.01			
165	1.90	1.71	1.08	0.38	0.13	0.14	0.15	0.15	0.16	0.15	0.15	0.14	0.15	0.51	1.31	1.96			
170	0.94	0.83	0.54	0.21	0.14	0.14	0.15	0.15	0.16	0.15	0.14	0.14	0.15	0.27	0.68	1.03			
175	0.28	0.25	0.18	0.15	0.14	0.15	0.15	0.16	0.15	0.15	0.14	0.14	0.15	0.15	0.25	0.36			
180	0.16	0.15	0.15	0.14	0.15	0.15	0.16	0.16	0.16	0.15	0.15	0.14	0.15	0.15	0.16	0.16			

C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2021-05-21

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-3000H_V1 SYSTEM V2.00.411
 Humidity:65.0%
 Test Distance:9.000m [K=1.0000]
 Remarks:

Pavement KERB Lamp Dimension Type-2



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REMARK:

*Subject to actual conditions
on site*

PROJECT:

HONDEL

CLIENT:

CONTRACTOR:

MANUFACTURER:

**Shenzhen Hongda United
Technology Co.,LTD**

DRAWING TITLE :

HONDEL Pavement KERB Lamp Dimension

REVISION	DRAWN	DATE	DESCRIPTION
V00		Jan-2021	ISSUE FOR APPROVL

DRAWN:

COORDINATED:

CHECKED: D. L

APPROVED:

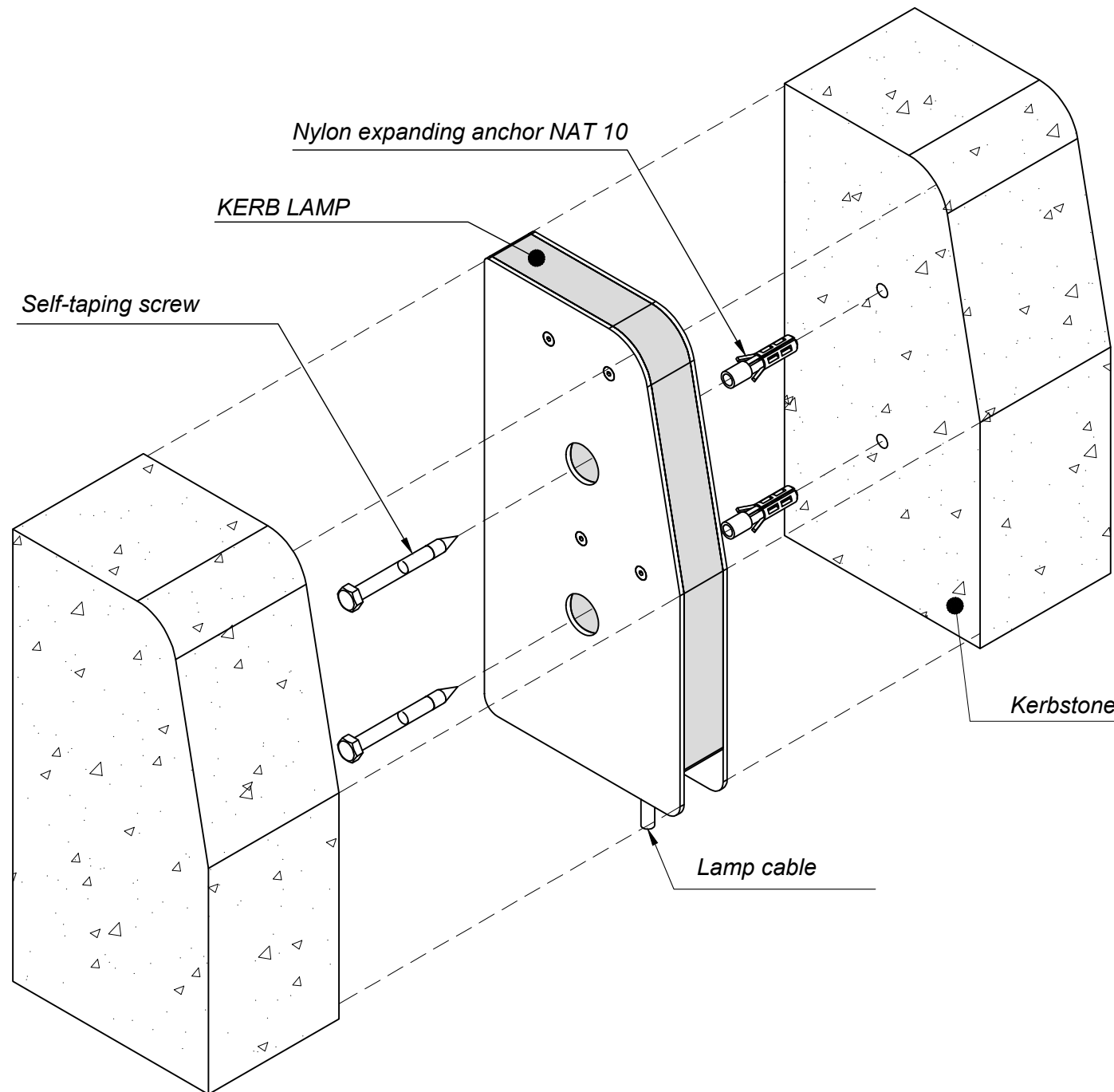
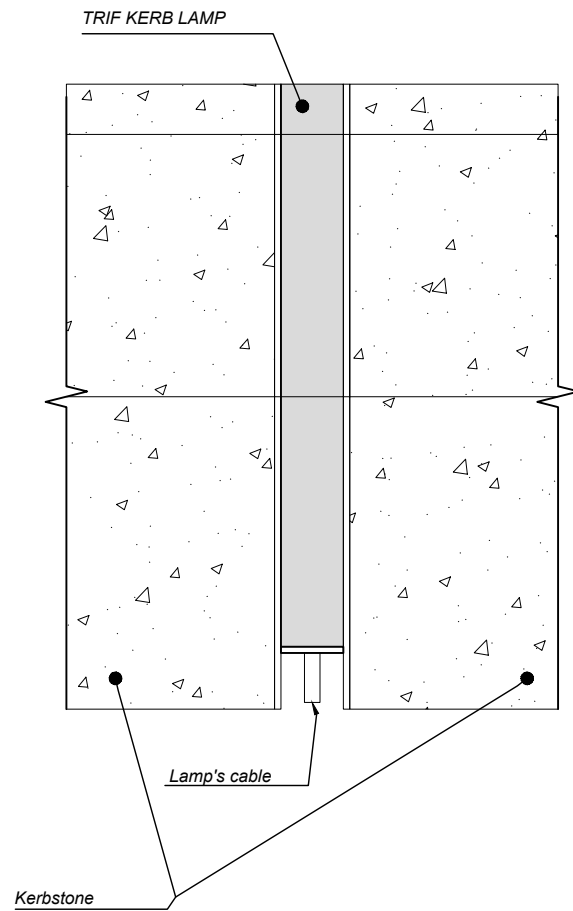
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Mounting scheme

KERB
Mounting scheme



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MANUFACTURER:

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Technology Co.,LTD

DRAWING TITLE :

HONDEL Mounting Scheme

REVISION	DRAWN	DATE	DESCRIPTION
V00		Jan-2021	ISSUE FOR APPROVAL

DRAWN: **BIAK LU**

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CHECKED: D. L

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HD-K01-02

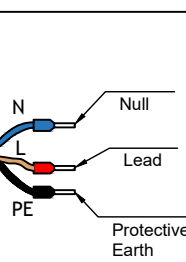
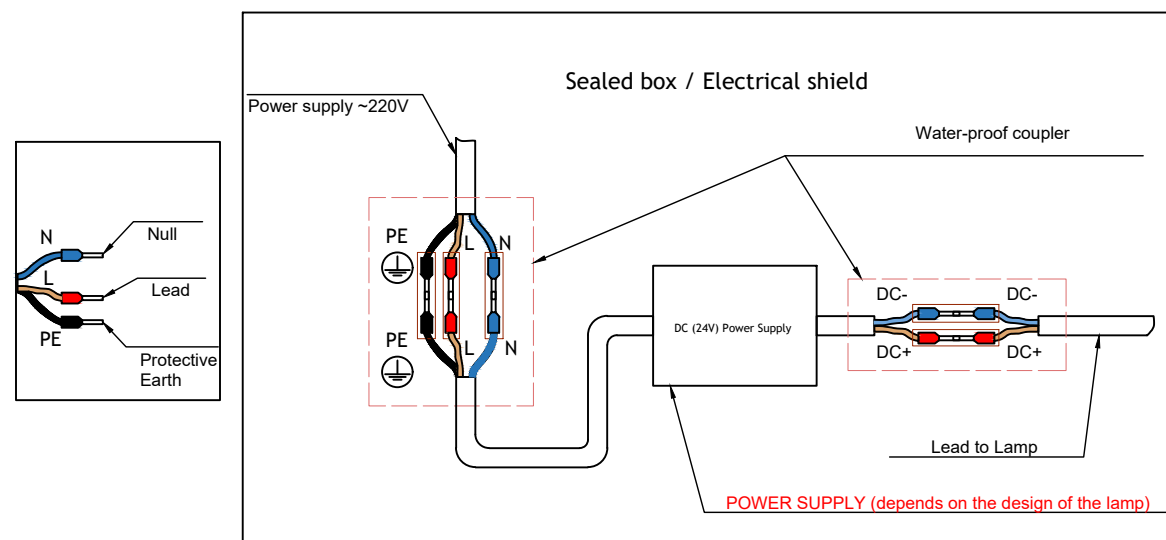


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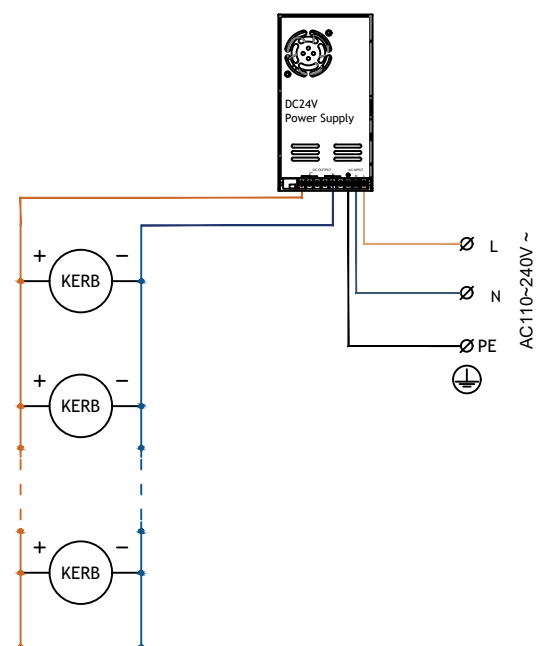
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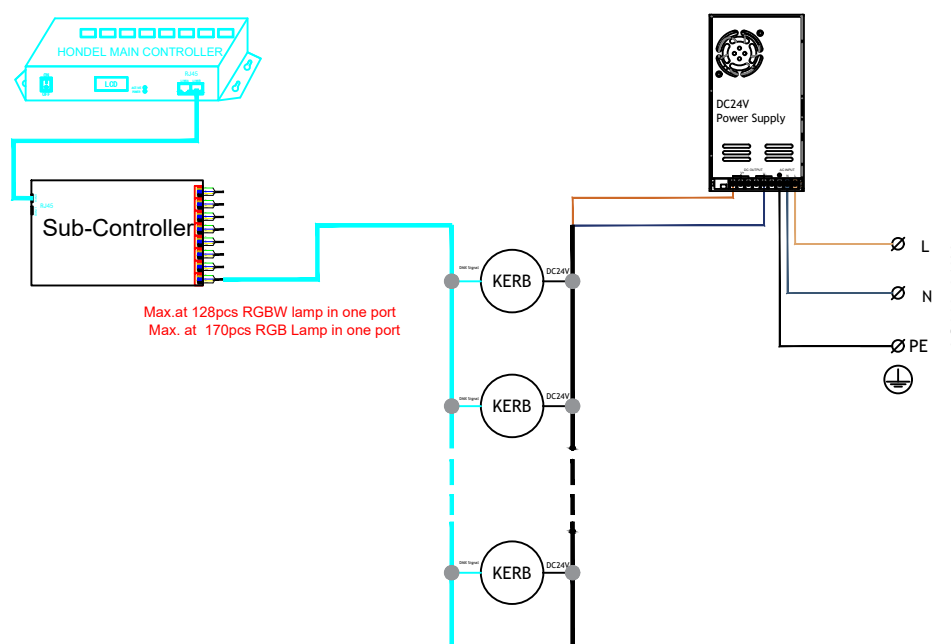
KERB Electrical connection



ELECTRIC SCHEME Single color lamp connection for paving With DC voltage source



ELECTRIC SCHEME DMX512 lamp connection



REMARK:
Subject to actual conditions on site

PROJECT:
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CLIENT:

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MANUFACTURER:
Shenzhen Hongda United Technology Co.,LTD

DRAWING TITLE :
HONDEL Electric scheme

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V00		Jan-2021	ISSUE FOR APPROVAL

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COORDINATED:

CHECKED: D. L

APPROVED:

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