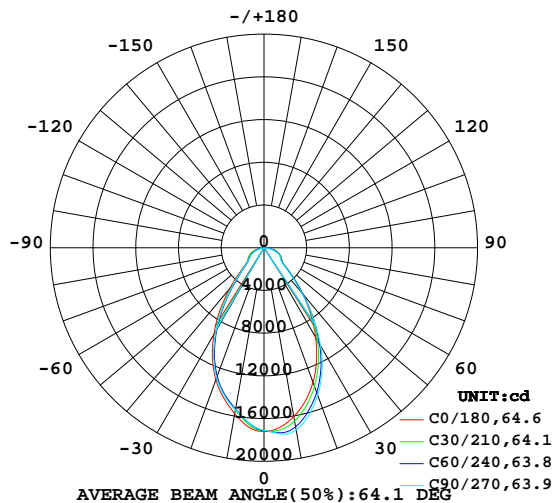


## LUMINAIRE PHOTOMETRIC TEST REPORT

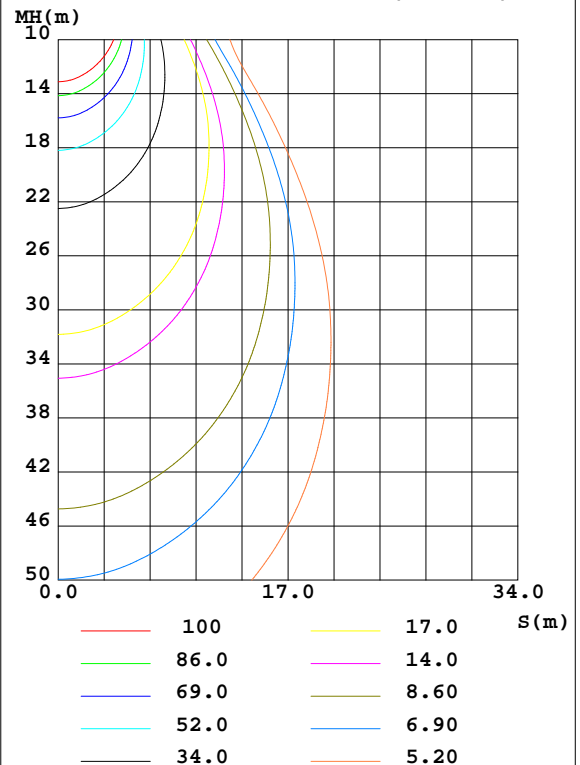
NAME: LED灯	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: EVERFINE	SUR.:21cm*16cm	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 140.41 lm/W			
MODEL	ZGSM-GCD160H4	Imax(cd)	17573	S/MH(C0/180)	0.93
NOMINAL POWER(W)	160	LOR(%)	100.3	S/MH(C90/270)	0.92
RATED VOLTAGE(V)	220	TOTAL FLUX(lm)	22465	$\eta$ UP,DN(C0-180)	0.0,53.2
NOMINAL FLUX(lm)	22400	CIE CLASS	DIRECT	$\eta$ UP,DN(C180-360)	0.0,47.0
LAMPS INSIDE	1	$\eta$ up(%)	0.0	CIBSE SHR NOM	1.00
TEST VOLTAGE(V)	220.1	$\eta$ down(%)	100.3	CIBSE SHR MAX	1.00

LUMINOUS INTENSITY DISTRIBUTION DIAGRAM



C0 PLANE ISOLUX DIAGRAM (UNIT:lx)



C Range: 0 - 360DEG  
 C Interval: 15.0DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:DAMIN  
 Test Date:2017

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 1.0DEG  
 Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.362  
 Humidity:65.0%  
 Test Distance:10.480m [K=1.0000]  
 Remarks:

## ZONAL FLUX DIAGRAM

## ZONAL FLUX DIAGRAM:

$\gamma$	C0	C45	C90	C135	C180	C225	C270	C315	$\gamma$	$\Phi$ zone	$\Phi$ total	%lum, lamp
10	1606	1677	1733	1638	1578	1534	1540	1561	0- 10	1583	1583	7.05,7.07
20	1342	1415	1469	1397	1317	1279	1297	1315	10- 20	4186	5769	25.7,25.8
30	968.9	1027	1062	995.3	940.3	879.6	897.6	919.4	20- 30	5349	11118	49.5,49.6
40	554.6	579.3	556.0	519.9	497.6	420.9	434.8	477.2	30- 40	4533	15652	69.7,69.9
50	236.9	248.6	235.5	211.6	208.3	194.5	197.9	213.1	40- 50	2555	18207	81,81.3
60	189.1	184.3	177.2	163.5	165.0	154.8	143.3	169.7	50- 60	1679	19886	88.5,88.8
70	142.9	143.3	132.8	119.8	116.4	96.33	82.78	112.8	60- 70	1421	21307	94.8,95.1
80	64.96	78.34	54.97	58.30	44.91	34.17	9.205	44.13	70- 80	903.1	22211	98.9,99.2
90	5.735	9.375	1.547	3.211	2.434	1.433	0.4955	2.209	80- 90	254.8	22465	100,100
100									90-100			
110									100-110			
120									110-120			
130									120-130			
140									130-140			
150									140-150			
160									150-160			
170									160-170			
180									170-180			
DEG	LUMINOUS INTENSITY:×10cd									UNIT:lm		

Conical surface Flux(90deg): 17151 lm

%lum = 76.3%

%lamp = 76.6%

Conical surface Flux(120deg): 19886 lm

%lum = 88.5%

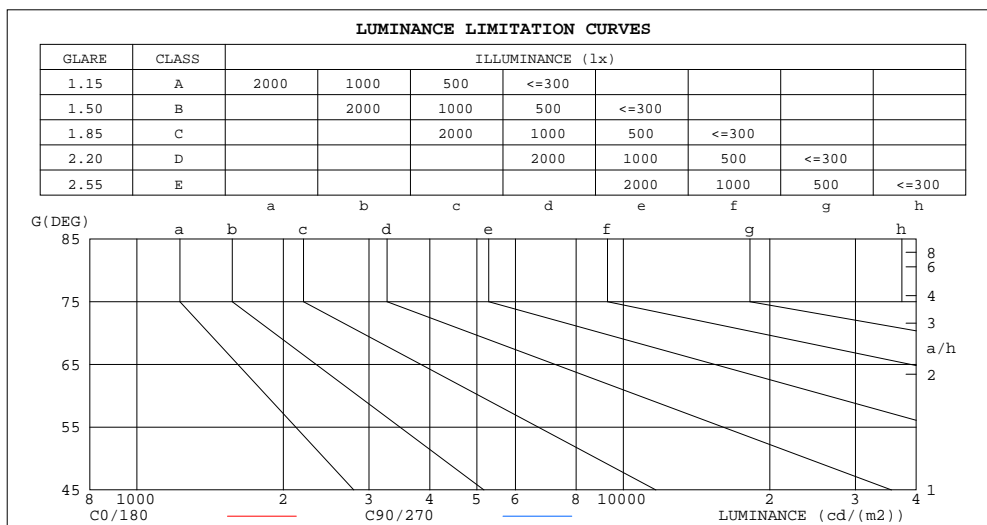
%lamp = 88.8%

C Range: 0 - 360DEG  
 C Interval: 15.0DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:DAMIN  
 Test Date:2017

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 1.0DEG  
 Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.362  
 Humidity:65.0%  
 Test Distance:10.480m [K=1.0000]  
 Remarks:

## LUMINANCE LIMITATION CURVES

NAME: LED灯	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: EVERFINE	SUR.:21cm*16cm	Shielding Angle:



LUMINANCE cd/(m2)		
G(DEG)	C0/180	C90/270
85	97557	39939
80	111333	94208
75	130170	106604
70	124345	115541
65	119332	112595
60	112541	105501
55	106571	100248
50	109673	109050
45	152773	147726

C Range: 0 - 360DEG  
C Interval: 15.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:DAMIN  
Test Date:2017

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 1.0DEG  
Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.362  
Humidity:65.0%  
Test Distance:10.480m [K=1.0000]  
Remarks:

## WEC AND CCEC

NAME: LED灯	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: EVERFINE	SUR.:21cm*16cm	Shielding Angle:

pcc	80%			70%			50%			30%			10%			0	
ρw	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0	
ρfc	20%			20%			20%			20%			20%			0	
RCR	RCR:Room Cavity Ratio						Wall Exitance Coefficients(WEC)										
0.0																	
1.0	.247	.140	.045	.240	.137	.044	.227	.130	.042	.215	.124	.040	.204	.118	.038		
2.0	.233	.128	.039	.227	.125	.038	.216	.120	.037	.205	.115	.036	.196	.111	.035		
3.0	.217	.116	.035	.212	.114	.034	.202	.110	.033	.193	.106	.032	.185	.102	.032		
4.0	.203	.105	.031	.198	.104	.031	.190	.101	.030	.182	.098	.029	.174	.095	.029		
5.0	.189	.096	.028	.185	.095	.028	.178	.093	.027	.171	.090	.027	.164	.088	.026		
6.0	.178	.089	.025	.174	.088	.025	.167	.086	.025	.161	.084	.025	.155	.082	.024		
7.0	.167	.083	.023	.164	.082	.023	.158	.080	.023	.152	.078	.023	.147	.077	.022		
8.0	.158	.077	.022	.155	.076	.022	.150	.075	.021	.145	.073	.021	.140	.072	.021		
9.0	.149	.072	.020	.147	.071	.020	.142	.070	.020	.137	.069	.020	.133	.068	.020		
10.0	.141	.068	.019	.139	.067	.019	.135	.066	.019	.131	.065	.018	.127	.064	.018		

ρcc	80%			70%			50%			30%			10%			0	
ρw	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0	
ρfc	20%			20%			20%			20%			20%			0	
RCR	RCR:Room Cavity Ratio						Ceiling Cavity Exitance Coefficients(CCEC)										
0.0	.191	.191	.191	.163	.163	.163	.111	.111	.111	.064	.064	.064	.020	.020	.020		
1.0	.176	.157	.140	.151	.135	.120	.103	.093	.083	.059	.054	.048	.019	.017	.016		
2.0	.165	.133	.106	.141	.114	.091	.097	.079	.064	.056	.046	.037	.018	.015	.012		
3.0	.155	.114	.082	.133	.099	.071	.091	.068	.050	.053	.040	.029	.017	.013	.010		
4.0	.146	.100	.066	.125	.087	.057	.086	.060	.040	.050	.035	.024	.016	.012	.008		
5.0	.138	.089	.054	.118	.077	.047	.081	.054	.033	.047	.032	.019	.015	.010	.006		
6.0	.130	.080	.045	.112	.070	.039	.077	.049	.027	.045	.029	.016	.014	.009	.005		
7.0	.124	.073	.038	.106	.063	.033	.073	.044	.023	.043	.026	.014	.014	.009	.005		
8.0	.118	.067	.032	.101	.058	.028	.070	.041	.020	.041	.024	.012	.013	.008	.004		
9.0	.112	.062	.028	.096	.054	.025	.067	.038	.018	.039	.022	.010	.013	.007	.003		
10.0	.107	.058	.025	.092	.050	.022	.064	.035	.015	.037	.021	.009	.012	.007	.003		

C Range: 0 - 360DEG  
C Interval: 15.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:DAMIN  
Test Date:2017

γ Range: 0 - 90DEG  
γ Interval: 1.0DEG  
Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.362  
Humidity:65.0%  
Test Distance:10.480m [K=1.0000]  
Remarks:

## UGR(Unified Glare Rating) Table

NAME: LED灯					TYPE:					WEIGHT:				
SPEC.:					DIM.:					SERIAL No.:				
MFR.: EVERFINE					SUR.:21cm*16cm					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	17.4	18.6	17.7	18.8	19.0	17.2	18.4	17.5	18.6	18.8				
3H	19.1	20.2	19.3	20.4	20.6	18.7	19.9	19.0	20.1	20.3				
4H	19.9	21.0	20.2	21.2	21.5	19.4	20.5	19.7	20.8	21.0				
6H	20.6	21.6	20.9	21.8	22.1	19.9	21.0	20.3	21.2	21.5				
8H	20.8	21.7	21.1	22.0	22.3	20.1	21.0	20.4	21.3	21.6				
12H	20.9	21.8	21.2	22.1	22.4	20.1	21.0	20.4	21.3	21.6				
4H 2H	17.9	19.0	18.2	19.3	19.5	17.8	18.9	18.1	19.1	19.3				
3H	19.9	20.8	20.2	21.1	21.4	19.6	20.5	19.9	20.8	21.1				
4H	20.9	21.8	21.3	22.1	22.4	20.5	21.3	20.9	21.7	22.0				
6H	21.8	22.5	22.2	22.9	23.2	21.2	21.9	21.5	22.3	22.6				
8H	22.0	22.8	22.4	23.1	23.5	21.4	22.1	21.8	22.4	22.8				
12H	22.2	22.9	22.6	23.2	23.6	21.4	22.1	21.9	22.5	22.9				
8H 4H	21.3	22.0	21.7	22.4	22.8	20.9	21.6	21.3	22.0	22.4				
6H	22.4	23.0	22.8	23.4	23.8	21.8	22.4	22.2	22.8	23.2				
8H	22.8	23.3	23.2	23.7	24.2	22.1	22.6	22.6	23.1	23.5				
12H	23.1	23.5	23.5	24.0	24.4	22.3	22.8	22.8	23.2	23.7				
12H 4H	21.3	22.0	21.8	22.4	22.8	21.0	21.6	21.4	22.0	22.4				
6H	22.5	23.0	22.9	23.4	23.9	21.9	22.5	22.4	22.9	23.3				
8H	22.9	23.4	23.4	23.8	24.3	22.3	22.8	22.8	23.2	23.7				
Variations with the observer position at spacings:														
S = 1.0H	+ 0.2 / - 0.3					+ 0.3 / - 0.4								
1.5H	+ 0.4 / - 0.3					+ 0.5 / - 0.4								
2.0H	+ 0.3 / - 0.3					+ 0.3 / - 0.3								

CIE Pub.117, 22400 lm Total Lamp Luminous Flux Correct (8log(F/F0) = 10.8)

C Range: 0 - 360DEG  
C Interval: 15.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:DAMIN  
Test Date:2017

γ Range: 0 - 90DEG  
γ Interval: 1.0DEG  
Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.362  
Humidity:65.0%  
Test Distance:10.480m [K=1.0000]  
Remarks:

## UTILIZATION FACTORS TABLE

NAME: LED灯	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: EVERFINE	SUR.:21cm*16cm	Shielding Angle:

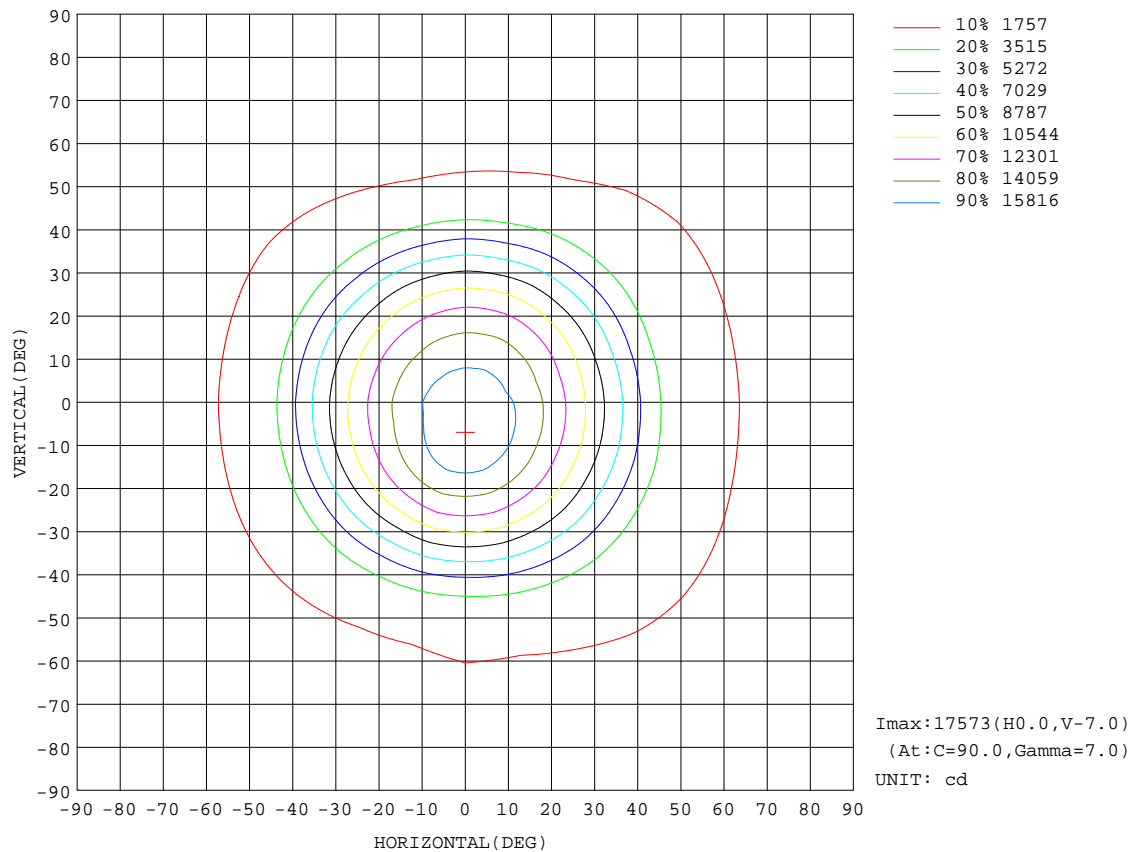
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS(PERCENT)    k(RI) x RCR = 5									
k = 0.60	73	64	59	73	64	59	72	64	59	54
0.80	82	73	68	81	73	68	80	72	67	62
1.00	88	80	74	87	79	74	85	80	74	68
1.25	94	86	81	92	85	80	90	84	79	74
1.50	97	90	85	96	89	84	93	88	83	77
2.00	102	96	91	100	95	90	97	92	89	82
2.50	105	99	95	103	98	94	100	95	92	85
3.00	107	102	98	105	101	97	102	98	95	87
4.00	110	106	103	108	104	101	104	101	99	91
5.00	112	109	106	110	107	104	106	103	101	93
ROOM INDEX	UF(total)									Direct
According to DIN EN 13032-2 2004										
Suspended										
SHRNOM = 1.25										

C Range: 0 - 360DEG  
C Interval: 15.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:DAMIN  
Test Date:2017

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 1.0DEG  
Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.362  
Humidity:65.0%  
Test Distance:10.480m [K=1.0000]  
Remarks:

## ISOCANDELA DIAGRAM

NAME: LED灯	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: EVERFINE	SUR.:21cm*16cm	Shielding Angle:



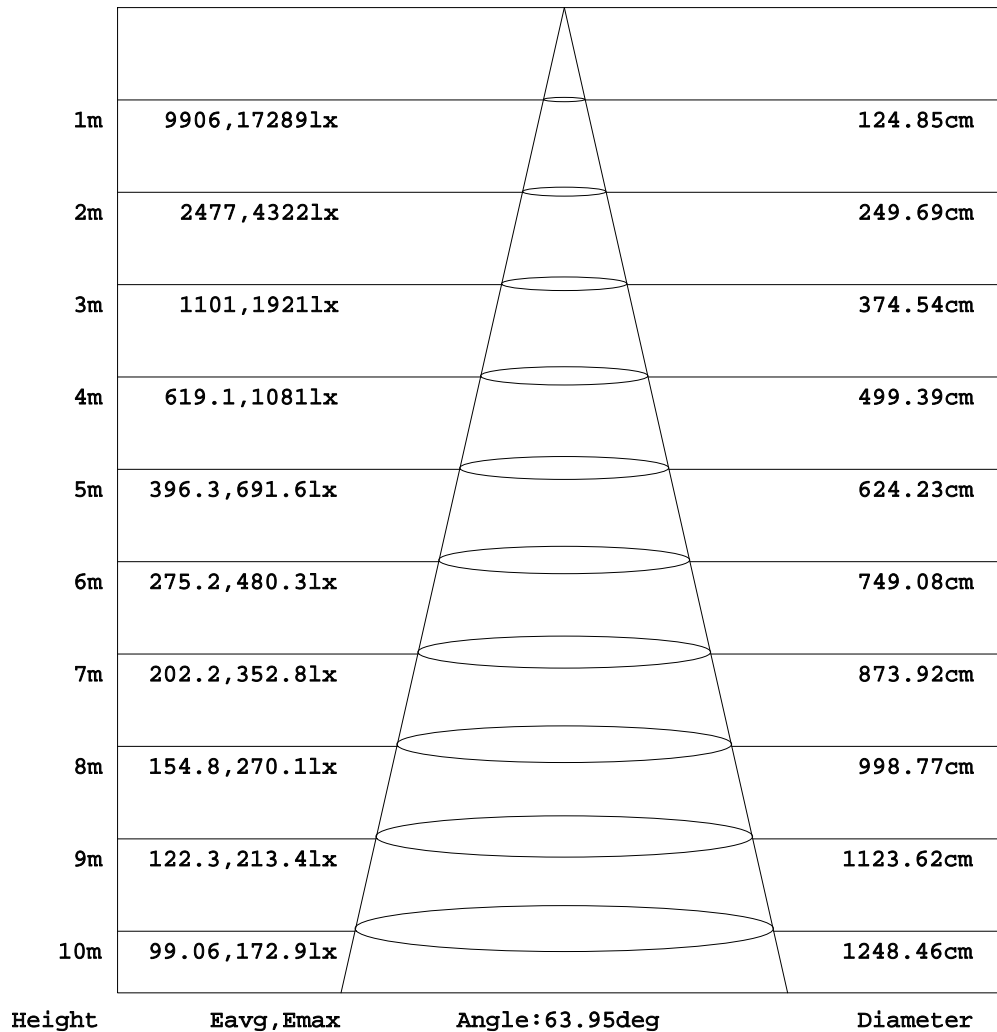
C Range: 0 - 360DEG  
C Interval: 15.0DEG  
Test Speed: HIGH  
Temperature: 25.3DEG  
Operators: DAMIN  
Test Date: 2017

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 1.0DEG  
Test System: EVERFINE GO-2000A\_V1 SYSTEM V2.0.362  
Humidity: 65.0%  
Test Distance: 10.480m [K=1.0000]  
Remarks:

AAI Figure

NAME: LED灯	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: EVERFINE	SUR.:21cm*16cm	Shielding Angle:

Flux out:12152 lm



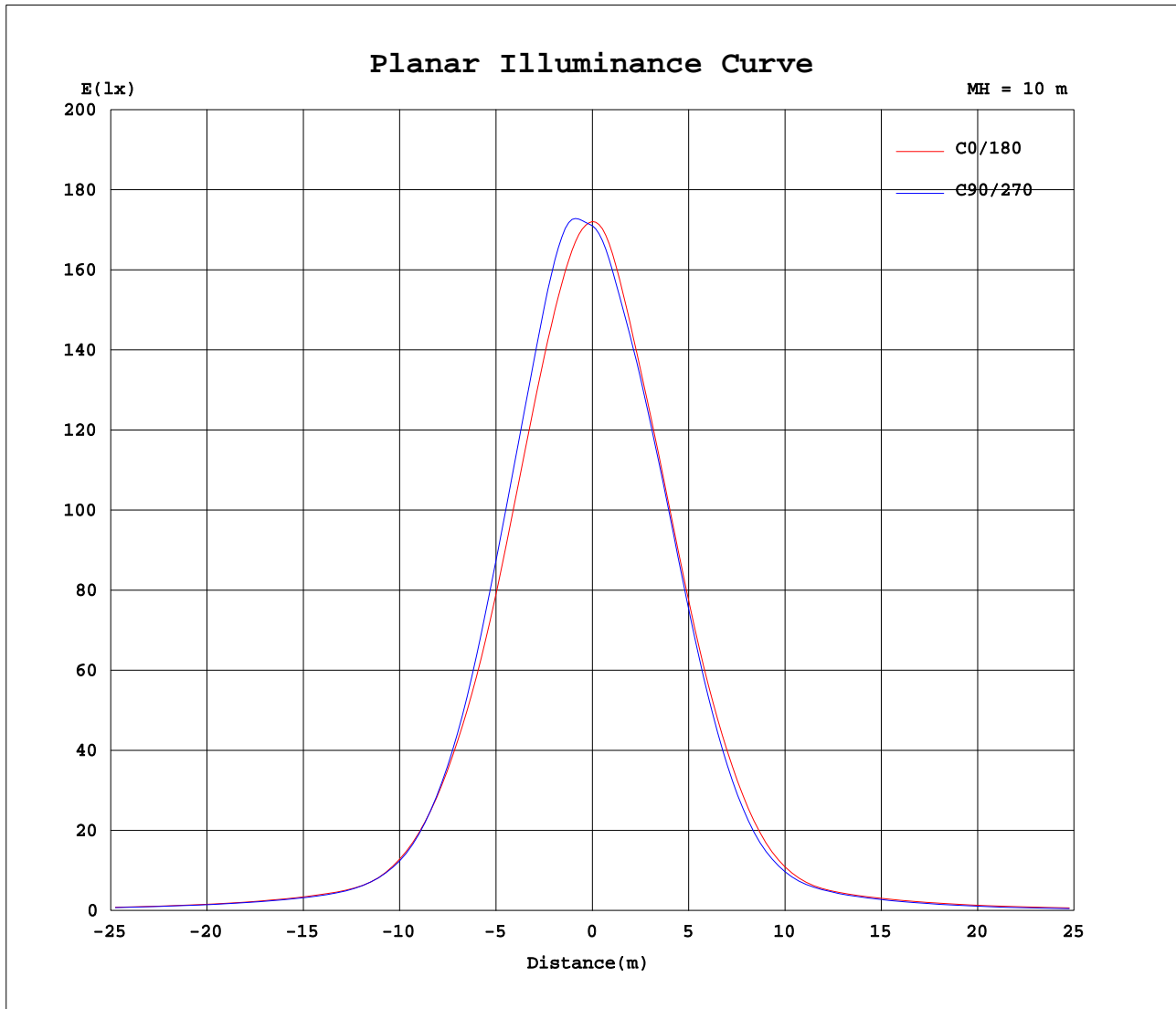
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG  
C Interval: 15.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:DAMIN  
Test Date:2017

γ Range: 0 - 90DEG  
γ Interval: 1.0DEG  
Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.362  
Humidity:65.0%  
Test Distance:10.480m [K=1.0000]  
Remarks:



## Planar Illuminance Curve



C Range: 0 - 360DEG  
C Interval: 15.0DEG  
Test Speed: HIGH  
Temperature: 25.3DEG  
Operators: DAMIN  
Test Date: 2017

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 1.0DEG  
Test System: EVERFINE GO-2000A\_V1 SYSTEM V2.0.362  
Humidity: 65.0%  
Test Distance: 10.480m [K=1.0000]  
Remarks:



NAME: LED灯	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: EVERFINE	SUR.:21cm*16cm	Shielding Angle:

UNIT:  $\times 10 \text{cd}$ [illegible]

```

γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.362
Humidity:65.0%
Test Distance:10.480m [K=1.0000]
Remarks:

```