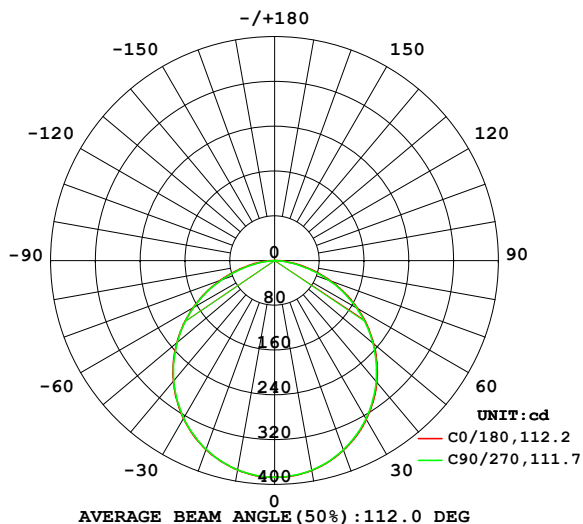


LUMINAIRE PHOTOMETRIC TEST REPORT

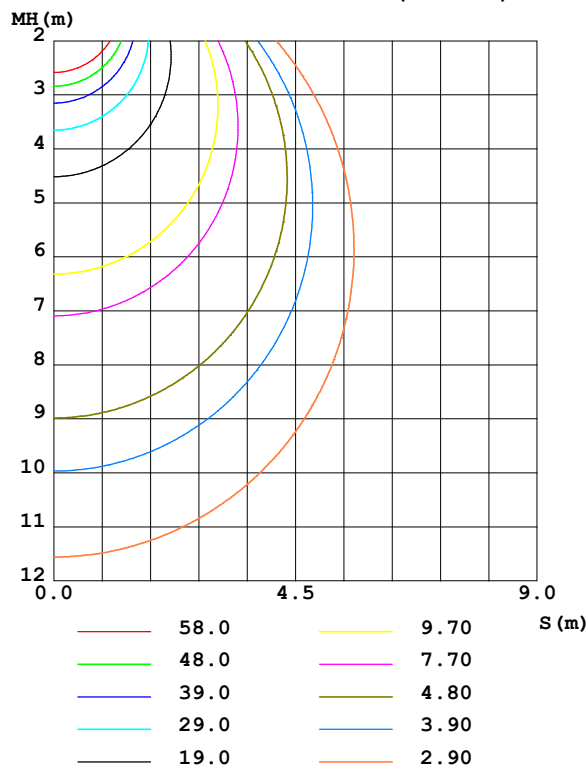
Test:U:230.38V I:0.0608A P:13.008W PF:0.9290 Freq:49.99Hz UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:1092.99x1 lm		
NameAA: PL1721-12W-DD	Type: 12W	Weight:
SPEC.: 3000K	DIM.:	Instrument No.: HUP-IES2
MFR.:	SUR.: 0.064	shielding angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 84.03 lm/W			
MODEL	PL1721-12W-DD	I _{max} (cd)	387.3	S/MH(C0/180)	1.25
NOMINAL POWER(W)	12	LOR(%)	100.0	S/MH(C90/270)	1.25
RATED VOLTAGE(V)	230	TOTAL FLUX(lm)	1093.0	η UP,DN(C0-180)	0.0,49.8
NOMINAL FLUX(lm)	1092.99	CIE CLASS	DIRECT	η UP,DN(C180-360)	0.0,50.2
LAMPS INSIDE	1	η up (%)	0.0	CIBSE SHR NOM	1.25
TEST VOLTAGE(V)	230	η down (%)	100.0	CIBSE SHR MAX	1.35

LUMINOUS INTENSITY DISTRIBUTION DIAGRAM



C0 PLANE ISOLUX DIAGRAM (UNIT:lx)



C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: HIGH
Temperature:25.3℃
Operators:LIXIAOFEI
Test Date:2023-10-17

γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000H_V1 SYSTEM V2.00.456
Humidity:65.0%
Test Distance:9.750m [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	380.0	379.9	379.7	380.0	380.7	380.4	380.2	379.6	0- 10	36.62	36.62	3.35,3.35
20	359.2	359.0	358.6	359.5	360.6	360.2	359.5	358.8	10- 20	104.8	141.4	12.9,12.9
30	325.8	325.6	325.0	326.4	327.7	327.1	326.2	325.3	20- 30	158.6	300.0	27.5,27.5
40	281.4	281.3	280.5	282.3	284.1	283.2	282.1	281.1	30- 40	191.0	491.0	44.9,44.9
50	228.2	228.0	227.0	229.1	231.1	230.2	229.2	227.8	40- 50	197.7	688.7	63,63
60	168.0	167.6	166.7	168.9	171.1	170.2	169.0	167.6	50- 60	178.2	866.9	79.3,79.3
70	102.8	103.0	100.2	103.9	106.3	106.0	103.8	103.3	60- 70	135.0	1002	91.7,91.7
80	41.51	38.86	34.31	39.38	44.42	41.88	37.76	39.64	70- 80	74.96	1077	98.5,98.5
90	0.0529	0.0331	0.0198	0.0198	0.0518	0.0398	0.0198	0.0464	80- 90	16.07	1093	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:cd									UNIT:lm		

Conical surface Flux(90deg): 590.68 lm

%lum = 54.0%

%lamp = 54.0%

Conical surface Flux(120deg): 866.92 lm

%lum = 79.3%

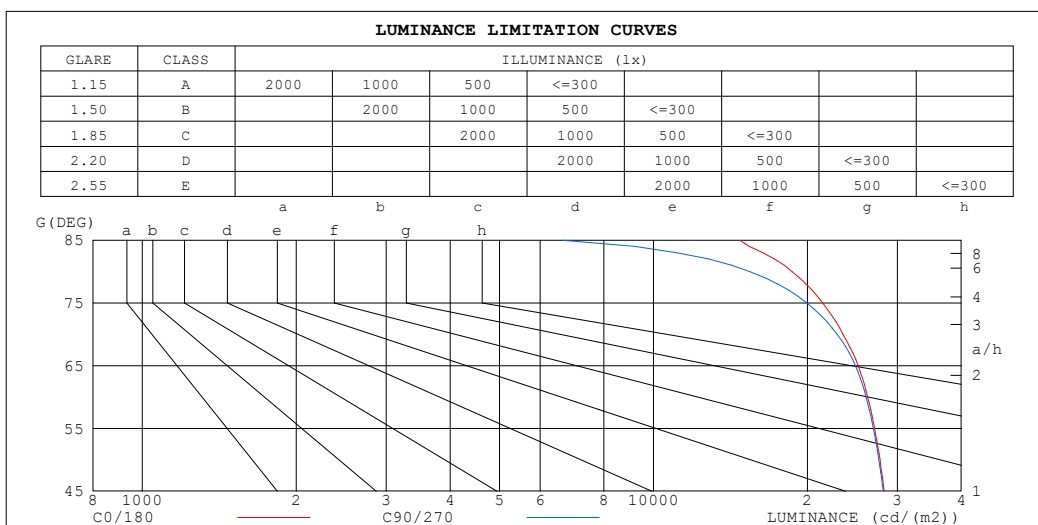
%lamp = 79.3%

C Range: 0 - 360DEG
 C Interval: 45.0DEG
 Test Speed: HIGH
 Temperature:25.3℃
 Operators:LIXIAOFEI
 Test Date:2023-10-17

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000H_V1 SYSTEM V2.00.456
 Humidity:65.0%
 Test Distance:9.750m [K=1.0000]
 Remarks:

LUMINANCE LIMITATION CURVES

Test:U:230.38V I:0.0608A P:13.008W PF:0.9290 Freq:49.99Hz UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:1092.99x1 lm		
NameAA: PL1721-12W-DD	Type: 12W	Weight:
SPEC.: 3000K	DIM.:	Instrument No.: HUP-IES2
MFR.:	SUR.: 0.064	shielding angle:



LUMINANCE cd/(m2)		
G (DEG)	C0/180	C90/270
85	14763	6637
80	18675	15437
75	21444	19935
70	23485	22882
65	25148	24852
60	26243	26045
55	27084	26918
50	27740	27590
45	28264	28137

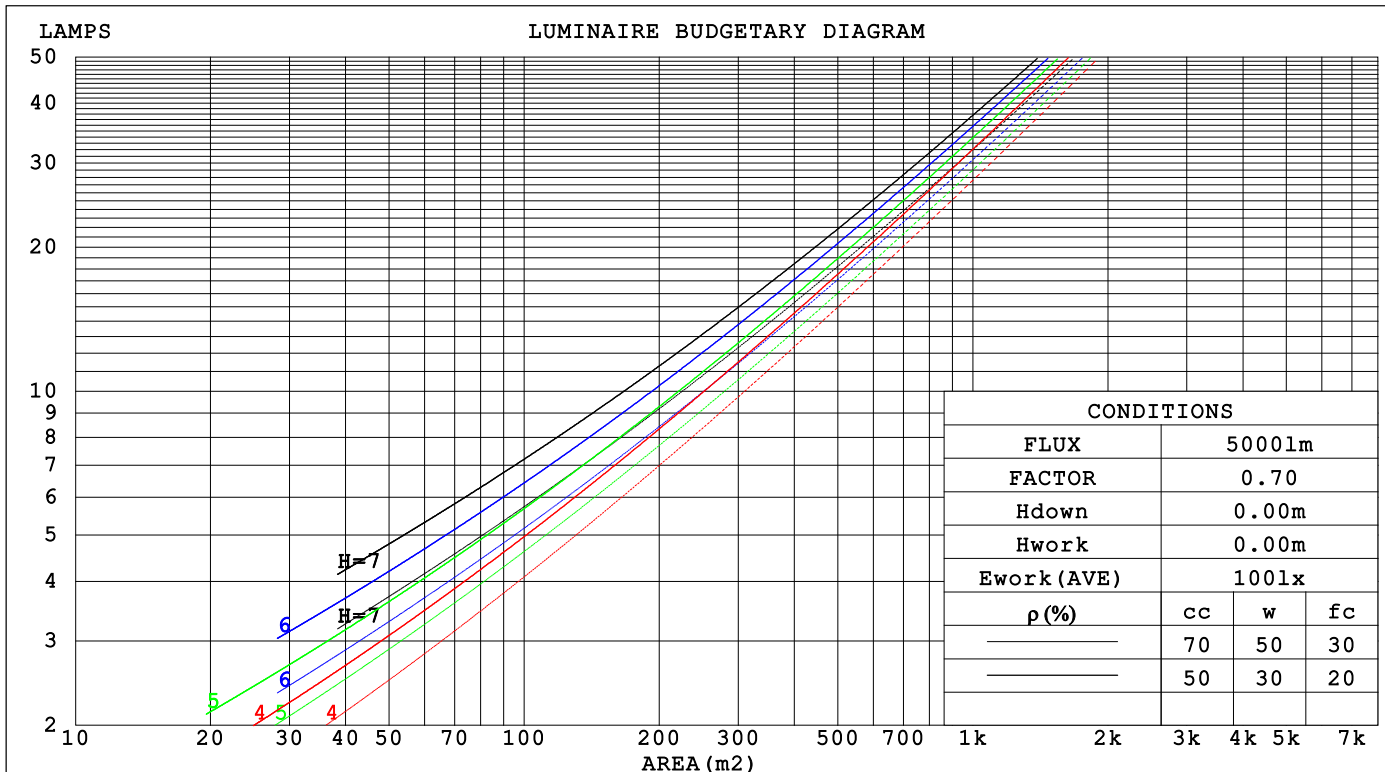
C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: HIGH
Temperature: 25.3°C
Operators: LIXIAOFEI
Test Date: 2023-10-17

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
Test System: EVERFINE GO-2000H_V1 SYSTEM V2.00.456
Humidity: 65.0%
Test Distance: 9.750m [K=1.0000]
Remarks:

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

Test:U:230.38V I:0.0608A P:13.008W PF:0.9290 Freq:49.99Hz		
UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:1092.99x1 lm		
NameAA: PL1721-12W-DD	Type: 12W	Weight:
SPEC.: 3000K	DIM.:	Instrument No.: HUP-IES2
MFR.:	SUR.: 0.064	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 Coefficients of Utilization(CU)															
0.0	1.19	1.19	1.19	1.16	1.16	1.16	1.11	1.11	1.11	1.06	1.06	1.06	1.02	1.02	1.02	1.00
1.0	1.04	.00	.96	1.02	.98	.95	.98	.94	.92	.94	.91	.89	.90	.88	.86	.84
2.0	.91	.84	.78	.89	.83	.77	.85	.80	.75	.82	.78	.74	.79	.75	.72	.70
3.0	.80	.71	.65	.78	.70	.64	.75	.69	.63	.72	.67	.62	.70	.65	.61	.59
4.0	.71	.62	.55	.69	.61	.55	.67	.59	.54	.64	.58	.53	.62	.57	.52	.50
5.0	.63	.54	.47	.62	.53	.47	.60	.52	.46	.58	.51	.46	.56	.50	.45	.43
6.0	.57	.48	.41	.56	.47	.41	.54	.46	.41	.52	.45	.40	.51	.45	.40	.38
7.0	.51	.43	.36	.51	.42	.36	.49	.41	.36	.48	.41	.36	.46	.40	.35	.33
8.0	.47	.38	.32	.46	.38	.32	.45	.37	.32	.44	.37	.32	.42	.36	.32	.30
9.0	.43	.35	.29	.42	.34	.29	.41	.34	.29	.40	.34	.29	.39	.33	.29	.27
10.0	.40	.32	.26	.39	.32	.26	.38	.31	.26	.37	.31	.26	.36	.30	.26	.24



C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: HIGH
Temperature:25.3℃
Operators:LIXIAOFEI
Test Date:2023-10-17

γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000H_V1 SYSTEM V2.00.456
Humidity:65.0%
Test Distance:9.750m [K=1.0000]
Remarks:

WEC AND CCEC

Test:U:230.38V I:0.0608A P:13.008W PF:0.9290 Freq:49.99Hz			UTHDi:0.00% ITHDi:0.00% KDisp:0			Lamp Flux:1092.99x1 lm		
NameAA: PL1721-12W-DD			Type: 12W			Weight:		
SPEC.: 3000K			DIM.:			Instrument No.: HUP-IES2		
MFR.:			SUR.: 0.064			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	.305	.173	.055	.298	.170	.054	.285	.163	.052	.272	.157	.050	.261	.151	.049		
2.0	.289	.158	.049	.283	.156	.048	.271	.151	.047	.260	.146	.046	.250	.142	.045		
3.0	.268	.143	.043	.263	.141	.042	.252	.137	.042	.243	.133	.041	.234	.130	.040		
4.0	.248	.129	.038	.243	.127	.038	.234	.124	.037	.225	.121	.037	.218	.118	.036		
5.0	.230	.117	.034	.225	.116	.034	.217	.113	.033	.210	.111	.033	.202	.108	.033		
6.0	.213	.107	.031	.209	.106	.030	.202	.104	.030	.195	.101	.030	.189	.099	.030		
7.0	.198	.098	.028	.195	.097	.028	.188	.095	.027	.182	.094	.027	.177	.092	.027		
8.0	.185	.091	.025	.182	.090	.025	.176	.088	.025	.171	.087	.025	.166	.085	.025		
9.0	.174	.084	.023	.171	.083	.023	.166	.082	.023	.161	.081	.023	.156	.079	.023		
10.0	.163	.078	.022	.161	.078	.022	.156	.077	.022	.152	.075	.021	.148	.074	.021		

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	.190	.190	.190	.163	.163	.163	.111	.111	.111	.064	.064	.064	.020	.020	.020		
1.0	.180	.156	.135	.154	.134	.116	.105	.092	.080	.061	.053	.047	.019	.017	.015		
2.0	.172	.132	.098	.147	.114	.085	.101	.079	.059	.058	.046	.035	.019	.015	.011		
3.0	.164	.114	.075	.141	.099	.065	.097	.068	.045	.056	.040	.027	.018	.013	.009		
4.0	.157	.101	.058	.134	.087	.051	.092	.061	.036	.053	.036	.021	.017	.012	.007		
5.0	.149	.091	.047	.128	.078	.041	.088	.055	.029	.051	.032	.017	.016	.010	.006		
6.0	.142	.082	.039	.122	.071	.034	.084	.050	.024	.049	.029	.014	.016	.010	.005		
7.0	.135	.075	.033	.116	.065	.029	.080	.046	.021	.047	.027	.012	.015	.009	.004		
8.0	.129	.069	.029	.111	.060	.025	.077	.042	.018	.045	.025	.011	.014	.008	.004		
9.0	.123	.065	.025	.106	.056	.022	.073	.039	.016	.043	.023	.009	.014	.008	.003		
10.0	.117	.060	.022	.101	.052	.020	.070	.037	.014	.041	.022	.008	.013	.007	.003		

C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: HIGH
Temperature:25.3℃
Operators:LIXIAOFEI
Test Date:2023-10-17

γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000H_V1 SYSTEM V2.00.456
Humidity:65.0%
Test Distance:9.750m [K=1.0000]
Remarks:

UGR(Unified Glare Rating) Table

Test:U:230.38V I:0.0608A P:13.008W PF:0.9290 Freq:49.99Hz UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:1092.99x1 lm										
NameAA: PL1721-12W-DD					Type: 12W			Weight:		
SPEC.: 3000K					DIM.:			Instrument No.: HUP-IES2		
MFR.:					SUR.: 0.064			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	24.3	25.9	24.6	26.1	26.3	24.3	25.8	24.6	26.0	26.2
3H	25.8	27.2	26.1	27.5	27.7	25.8	27.2	26.1	27.4	27.6
4H	26.4	27.7	26.7	28.0	28.2	26.3	27.6	26.6	27.9	28.1
6H	26.8	28.0	27.1	28.3	28.6	26.6	27.8	26.9	28.1	28.4
8H	26.9	28.1	27.2	28.4	28.7	26.6	27.8	27.0	28.1	28.4
12H	26.9	28.1	27.3	28.4	28.7	26.6	27.8	27.0	28.1	28.4
4H 2H	24.9	26.3	25.3	26.5	26.8	24.9	26.3	25.2	26.5	26.8
3H	26.6	27.8	27.0	28.1	28.4	26.5	27.7	26.9	28.0	28.3
4H	27.3	28.4	27.7	28.7	29.0	27.2	28.3	27.6	28.6	28.9
6H	27.8	28.7	28.2	29.1	29.5	27.6	28.5	28.0	28.9	29.3
8H	27.9	28.8	28.4	29.2	29.6	27.7	28.6	28.1	28.9	29.3
12H	28.0	28.8	28.5	29.2	29.6	27.7	28.5	28.1	28.9	29.3
8H 4H	27.5	28.4	27.9	28.8	29.2	27.4	28.3	27.8	28.7	29.1
6H	28.2	28.9	28.6	29.3	29.7	28.0	28.7	28.4	29.1	29.5
8H	28.4	29.0	28.8	29.4	29.9	28.1	28.8	28.6	29.2	29.6
12H	28.5	29.1	29.0	29.5	30.0	28.2	28.7	28.6	29.2	29.6
12H 4H	27.5	28.3	28.0	28.7	29.1	27.4	28.2	27.9	28.6	29.0
6H	28.2	28.8	28.6	29.3	29.7	28.0	28.7	28.5	29.1	29.5
8H	28.4	29.0	28.9	29.4	29.9	28.2	28.7	28.6	29.2	29.7
Variations with the observer position at spacings(CIE Pub.117):										
S = 1.0H	+ 0.2 / - 0.2					+ 0.2 / - 0.2				
1.5H	+ 0.2 / - 0.3					+ 0.2 / - 0.3				
2.0H	+ 0.2 / - 0.3					+ 0.2 / - 0.3				

CIE Pub.117, 1093 lm Total Lamp Luminous Flux Corrected (8log(F/F0) = 0.3)
Area: 0.0128 m2

C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: HIGH
Temperature:25.3℃
Operators:LIXIAOFEI
Test Date:2023-10-17

γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000H_V1 SYSTEM V2.00.456
Humidity:65.0%
Test Distance:9.750m [K=1.0000]
Remarks:

UTILIZATION FACTORS TABLE

Test:U:230.38V I:0.0608A P:13.008W PF:0.9290 Freq:49.99Hz		
UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:1092.99x1 lm		
NameAA: PL1721-12W-DD	Type: 12W	Weight:
SPEC.: 3000K	DIM.:	Instrument No.: HUP-IES2
MFR.:	SUR.: 0.064	shielding angle:

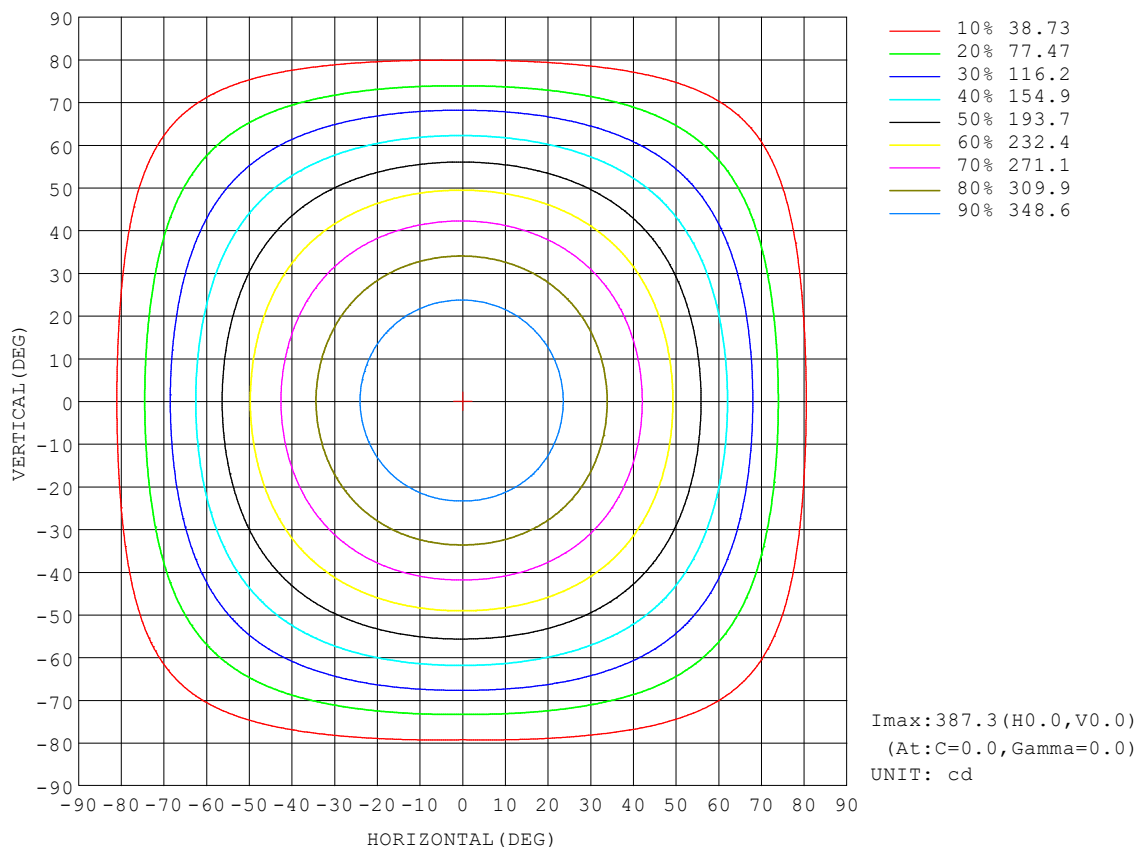
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS (PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	58	46	39	57	46	39	56	45	39	32
0.80	68	56	49	67	56	49	65	55	48	41
1.00	76	65	58	75	65	58	73	66	57	50
1.25	83	73	66	82	72	65	79	71	65	57
1.50	88	78	72	87	78	71	84	76	70	62
2.00	95	87	80	93	86	80	90	83	78	70
2.50	99	91	85	97	90	85	93	87	83	74
3.00	102	96	90	100	94	89	96	91	87	79
4.00	106	101	96	104	99	95	100	96	92	83
5.00	109	104	100	106	102	99	102	99	95	86
ROOM INDEX	UF (total)									Direct
According to DIN EN 13032-2 2004			Suspended					SHRNOM = 1.25		

C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: HIGH
Temperature: 25.3°C
Operators: LIXIAOFEI
Test Date: 2023-10-17

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
Test System: EVERFINE GO-2000H_V1 SYSTEM V2.00.456
Humidity: 65.0%
Test Distance: 9.750m [K=1.0000]
Remarks:

ISOCANDELA DIAGRAM

Test:U:230.38V I:0.0608A P:13.008W PF:0.9290 Freq:49.99Hz UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:1092.99x1 lm		
NameAA: PL1721-12W-DD	Type: 12W	Weight:
SPEC.: 3000K	DIM.:	Instrument No.: HUP-IES2
MFR.:	SUR.: 0.064	shielding angle:

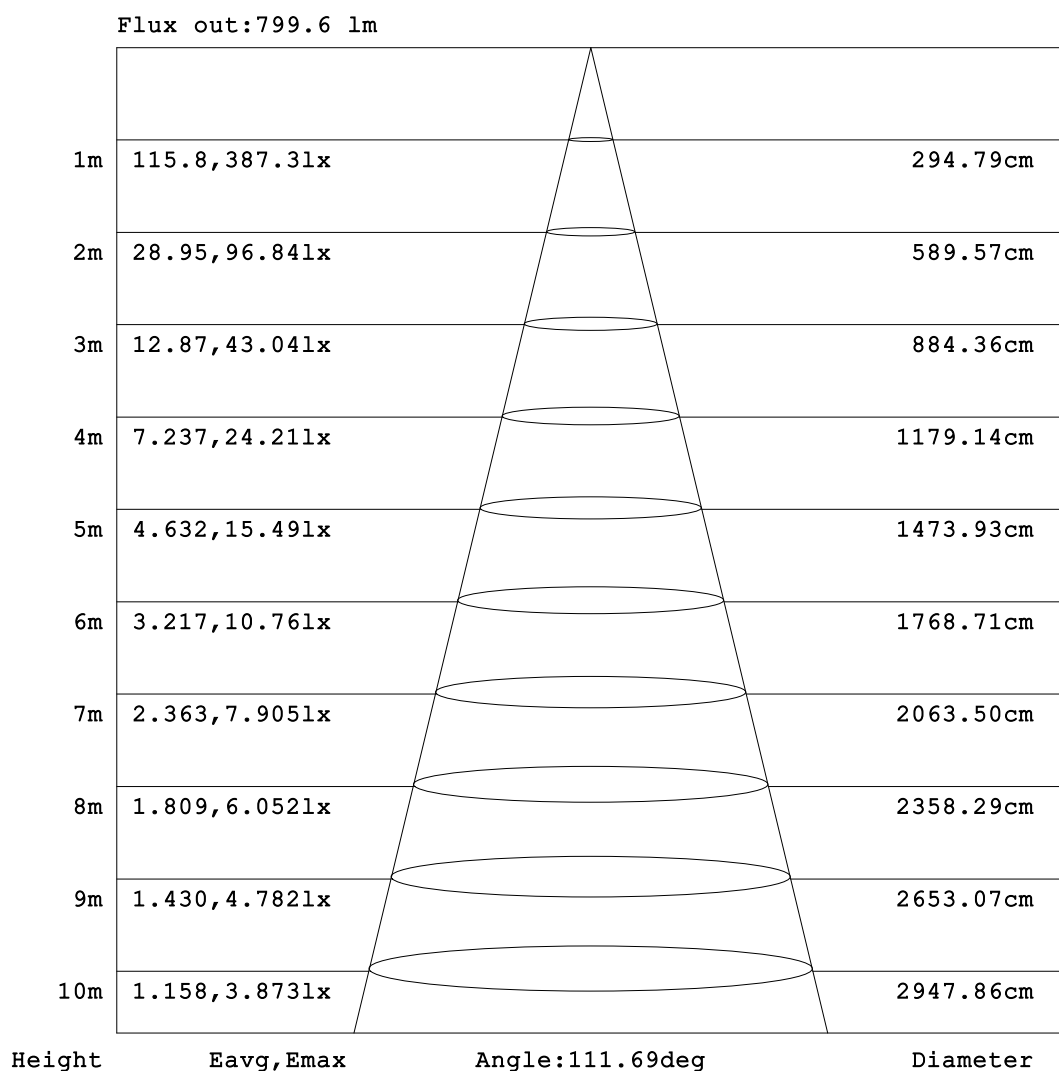


C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: HIGH
Temperature:25.3℃
Operators:LIXIAOFEI
Test Date:2023-10-17

γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000H_V1 SYSTEM V2.00.456
Humidity:65.0%
Test Distance:9.750m [K=1.0000]
Remarks:

AAI Figure

Test:U:230.38V I:0.0608A P:13.008W PF:0.9290 Freq:49.99Hz UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:1092.99x1 lm		
NameAA: PL1721-12W-DD	Type: 12W	Weight:
SPEC.: 3000K	DIM.:	Instrument No.: HUP-IES2
MFR.:	SUR.: 0.064	shielding angle:



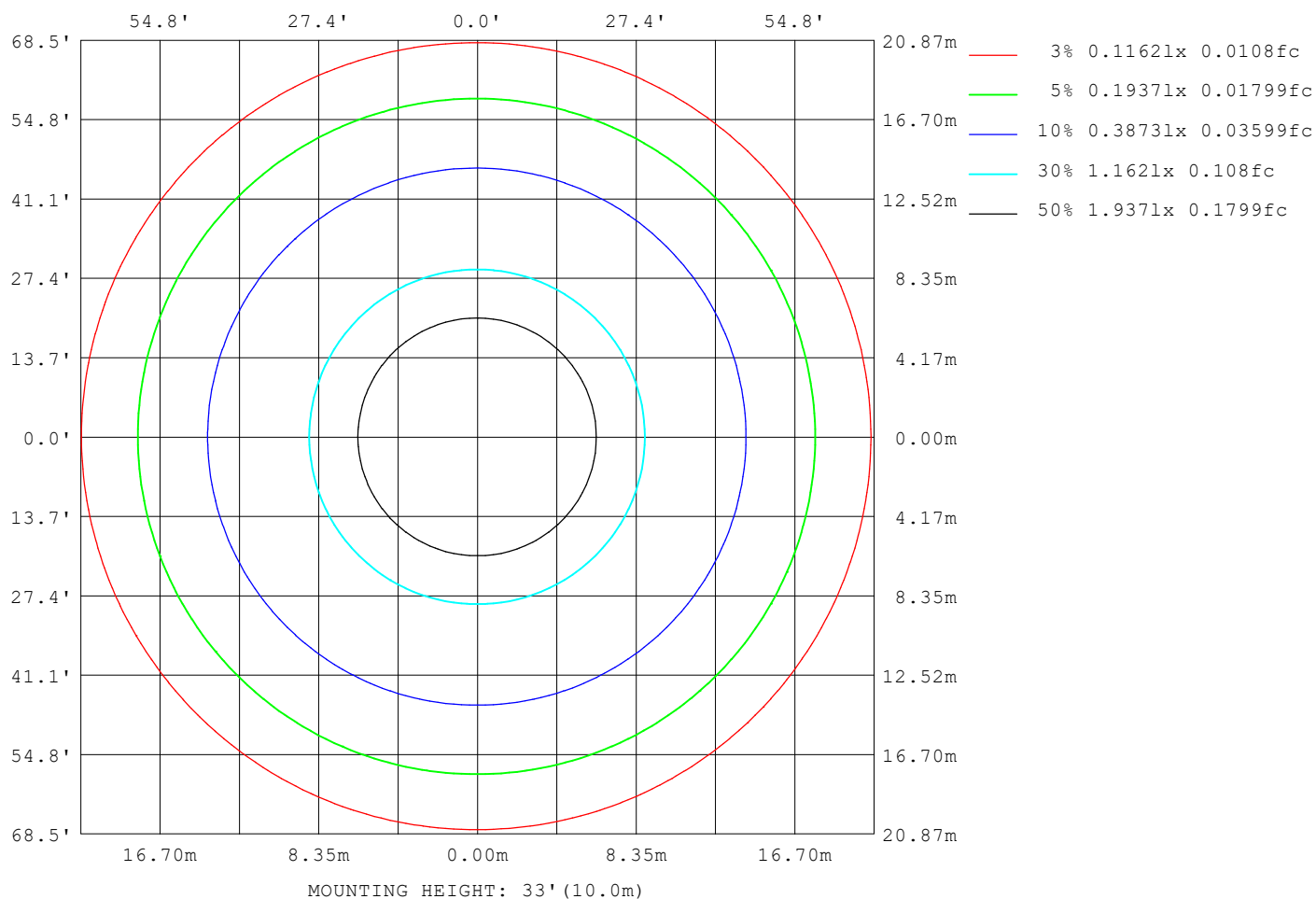
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
 C Interval: 45.0DEG
 Test Speed: HIGH
 Temperature:25.3℃
 Operators:LIXIAOFEI
 Test Date:2023-10-17

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000H_V1 SYSTEM V2.00.456
 Humidity:65.0%
 Test Distance:9.750m [K=1.0000]
 Remarks:

ISOLUX DIAGRAM

Test:U:230.38V I:0.0608A P:13.008W PF:0.9290 Freq:49.99Hz		
UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:1092.99x1 lm		
NameAA: PL1721-12W-DD	Type: 12W	Weight:
SPEC.: 3000K	DIM.:	Instrument No.: HUP-IES2
MFR.:	SUR.: 0.064	shielding angle:



C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: HIGH
Temperature:25.3℃
Operators:LIXIAOFEI
Test Date:2023-10-17

γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000H_V1 SYSTEM V2.00.456
Humidity:65.0%
Test Distance:9.750m [K=1.0000]
Remarks:

LED Avg.L Report

Test:U:230.38V I:0.0608A P:13.008W PF:0.9290 Freq:49.99Hz UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:1092.99x1 lm		
NameAA: PL1721-12W-DD	Type: 12W	Weight:
SPEC.: 3000K	DIM.:	Instrument No.: HUP-IES2
MFR.:	SUR.: 0.064	shielding angle:

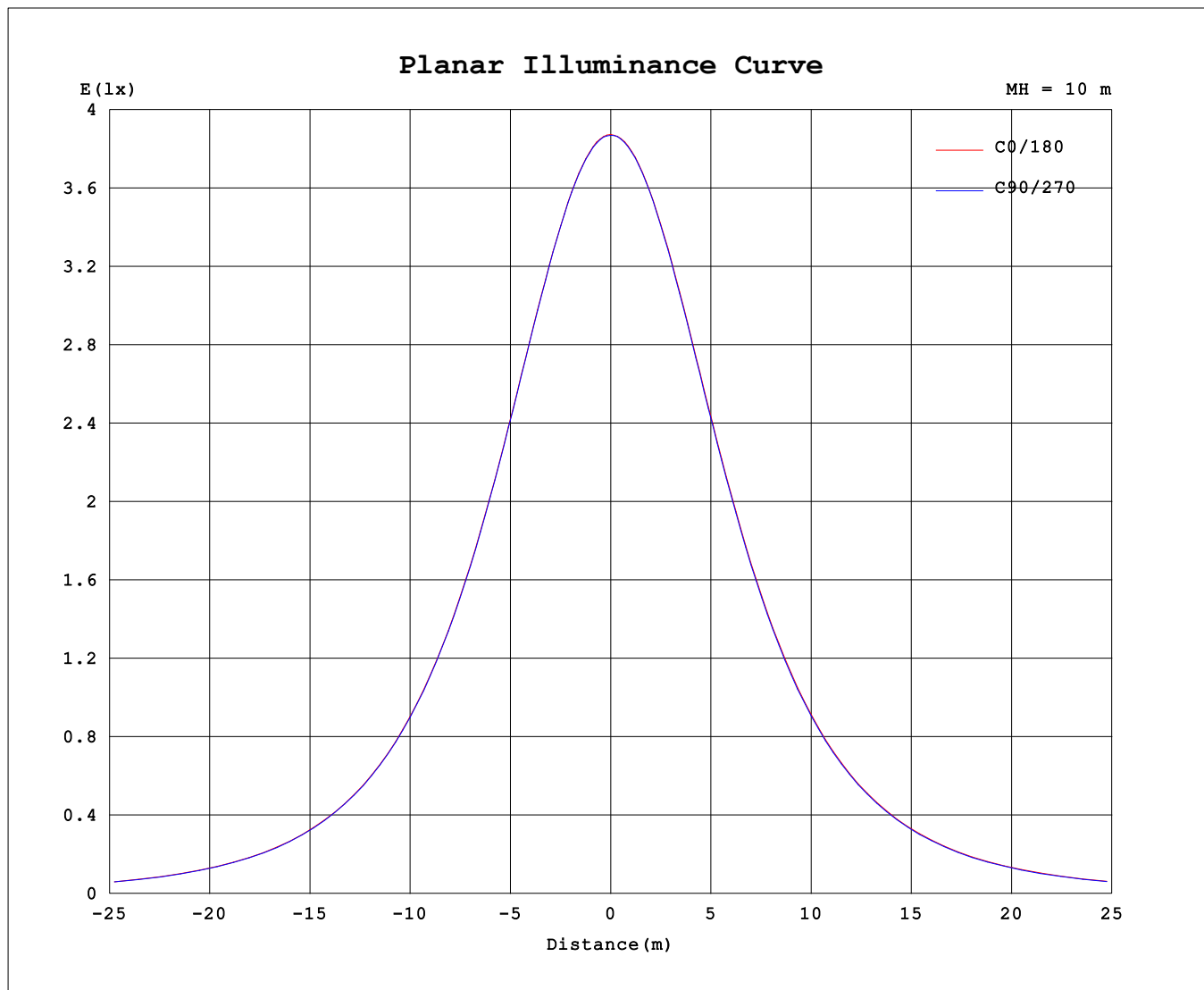
AvgL	cd/m2
L_0~180 (65) av	25446
L_0~180 (75) av	21939
L_0~180 (85) av	15627
L_90~270 (65) av	25089
L_90~270 (75) av	20498
L_90~270 (85) av	7847
L_45 (65) av	25263
L_45 (75) av	21536
L_45 (85) av	10852

Standard: GB/T 29293-2012

C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: HIGH
Temperature:25.3℃
Operators:LIXIAOFEI
Test Date:2023-10-17

γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000H_V1 SYSTEM V2.00.456
Humidity:65.0%
Test Distance:9.750m [K=1.0000]
Remarks:

Planar Illuminance Curve



C Range: 0 - 360DEG
 C Interval: 45.0DEG
 Test Speed: HIGH
 Temperature: 25.3 °C
 Operators: LIXIAOFEI
 Test Date: 2023-10-17

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System: EVERFINE GO-2000H_V1 SYSTEM V2.00.456
 Humidity: 65.0%
 Test Distance: 9.750m [K=1.0000]
 Remarks:

```

γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000H_V1 SYSTEM V2.00.456
Humidity:65.0%
Test Distance:9.750m [K=1.0000]
Remarks:

```