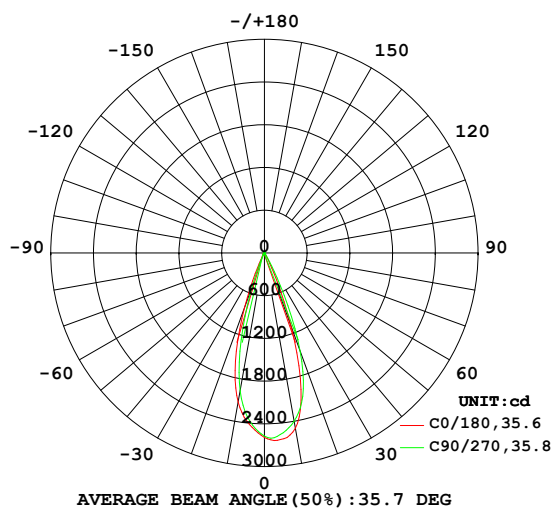


LUMINAIRE PHOTOMETRIC TEST REPORT

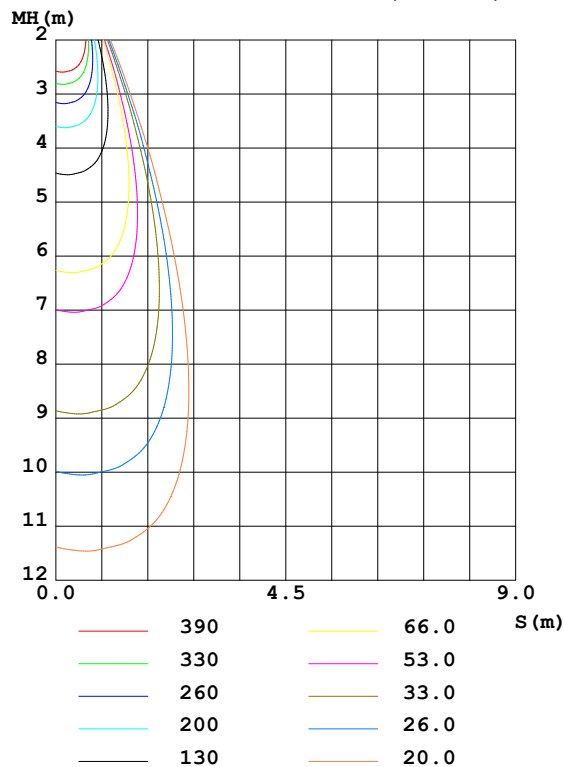
Test:U:231.22V I:0.0580A P:12.652W PF:0.9432 Freq:49.37Hz Lamp Flux:884.185x1 lm					
NAME: W21301LED-X			TYPE:		WEIGHT:
SPEC.:P-W21301LED-X-12W2736-CI35031R90-YML100			DIM.:		SERIAL No.:
MFR.: CETTIGA			SUR.:		Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA				Eff: 69.89 lm/W
MODEL	CLU701 1002	I _{max} (cd)	2638	S/MH (C0/180)	0.52	
NOMINAL POWER (W)	12W	LOR (%)	100.0	S/MH (C90/270)	0.46	
RATED VOLTAGE (V)	220.0	TOTAL FLUX (lm)	884.18	η UP, DN (C0-180)	0.2, 59.8	
NOMINAL FLUX (lm)	884.185	CIE CLASS	DIRECT	η UP, DN (C180-360)	0.1, 39.9	
LAMPS INSIDE	1	η up (%)	0.3	CIBSE SHR NOM	0.50	
TEST VOLTAGE (V)	220.2	η down (%)	99.7	CIBSE SHR MAX	0.55	

LUMINOUS INTENSITY DISTRIBUTION DIAGRAM



C0 PLANE ISOLUX DIAGRAM (UNIT:lx)



C Range: 0 - 360DEG
 C Interval: 90.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators: Xie Bi
 Test Date: 2022-10-20

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System: EVERFINE GO-2000B_V1 SYSTEM V2.0.362
 Humidity: 65.0%
 Test Distance: 6.810m [K=1.0000]
 Remarks:

ZONAL FLUX DIAGRAM

ZONAL FLUX DIAGRAM:

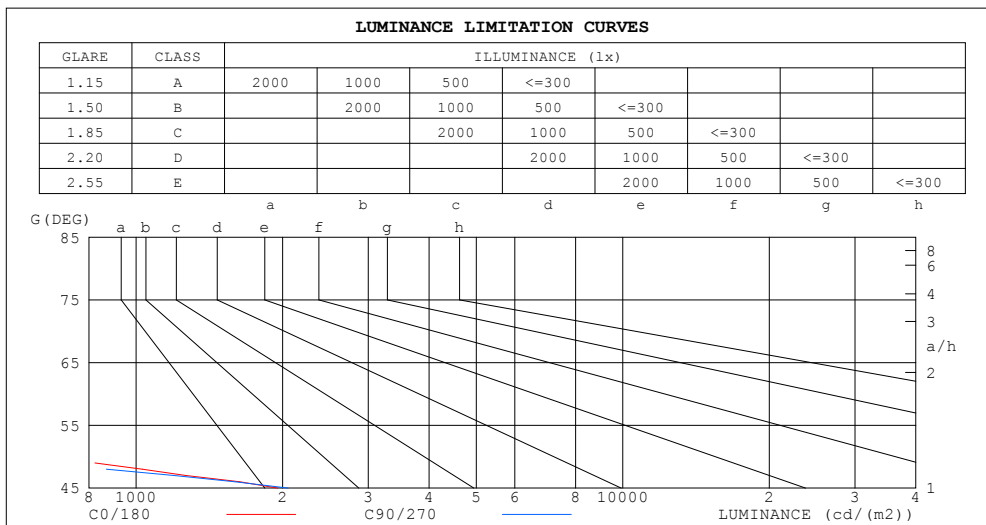
γ	C0	C90	C180	C270					γ	Φ zone	Φ total	%lum, lamp
10	2501	2400	2127	1966					0- 10	230.6	230.6	26.1,26.1
20	1096	1464	820.9	505.2					10- 20	457.4	688.0	77.8,77.8
30	63.03	148.8	45.54	28.05					20- 30	172.2	860.2	97.3,97.3
40	12.66	14.71	10.50	6.745					30- 40	17.20	877.4	99.2,99.2
50	1.611	0.9903	1.025	0.5042					40- 50	3.650	881.1	99.6,99.6
60	0.1171	0.0227	0.0522	0.0297					50- 60	0.3167	881.4	99.7,99.7
70	0.0018	0	0.0017	0.0052					60- 70	0.0157	881.4	99.7,99.7
80	0	0	0	0					70- 80	0.0003	881.4	99.7,99.7
90	0	0	0	0					80- 90	0	881.4	99.7,99.7
100	0	0	0	0					90-100	0	881.4	99.7,99.7
110	0	0	0.0035	0.0035					100-110	0.0002	881.4	99.7,99.7
120	0	0	0.0192	0.0139					110-120	0.0049	881.4	99.7,99.7
130	0.0156	0.0122	0.0366	0.0331					120-130	0.0120	881.4	99.7,99.7
140	0.3467	0.2044	0.1696	0.2859					130-140	0.0719	881.5	99.7,99.7
150	1.591	1.257	1.059	1.344					140-150	0.4295	881.9	99.7,99.7
160	3.147	2.978	2.457	2.689					150-160	0.9397	882.8	99.8,99.8
170	4.259	4.119	3.391	3.578					160-170	0.9388	883.8	100,100
180	4.612	4.766	4.626	4.754					170-180	0.3980	884.2	100,100
DEG	LUMINOUS INTENSITY:cd									UNIT:lm		

C Range: 0 - 360DEG
C Interval: 90.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:Xie Bi
Test Date:2022-10-20

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.362
Humidity:65.0%
Test Distance:6.810m [K=1.0000]
Remarks:

LUMINANCE LIMITATION CURVES

Test:U:231.22V I:0.0580A P:12.652W PF:0.9432 Freq:49.37Hz Lamp Flux:884.185x1 lm		
NAME: W21301LED-X	TYPE:	WEIGHT:
SPEC.:P-W21301LED-X-12W2736-CI35031R90-YML100	DIM.:	SERIAL No.:
MFR.: CETTIGA	SUR.:	Shielding Angle:



LUMINANCE cd/(m2)		
G (DEG)	C0/180	C90/270
85	0	0
80	0	0
75	0	0
70	1	0
65	9	5
60	61	12
55	191	108
50	653	401
45	1953	2053

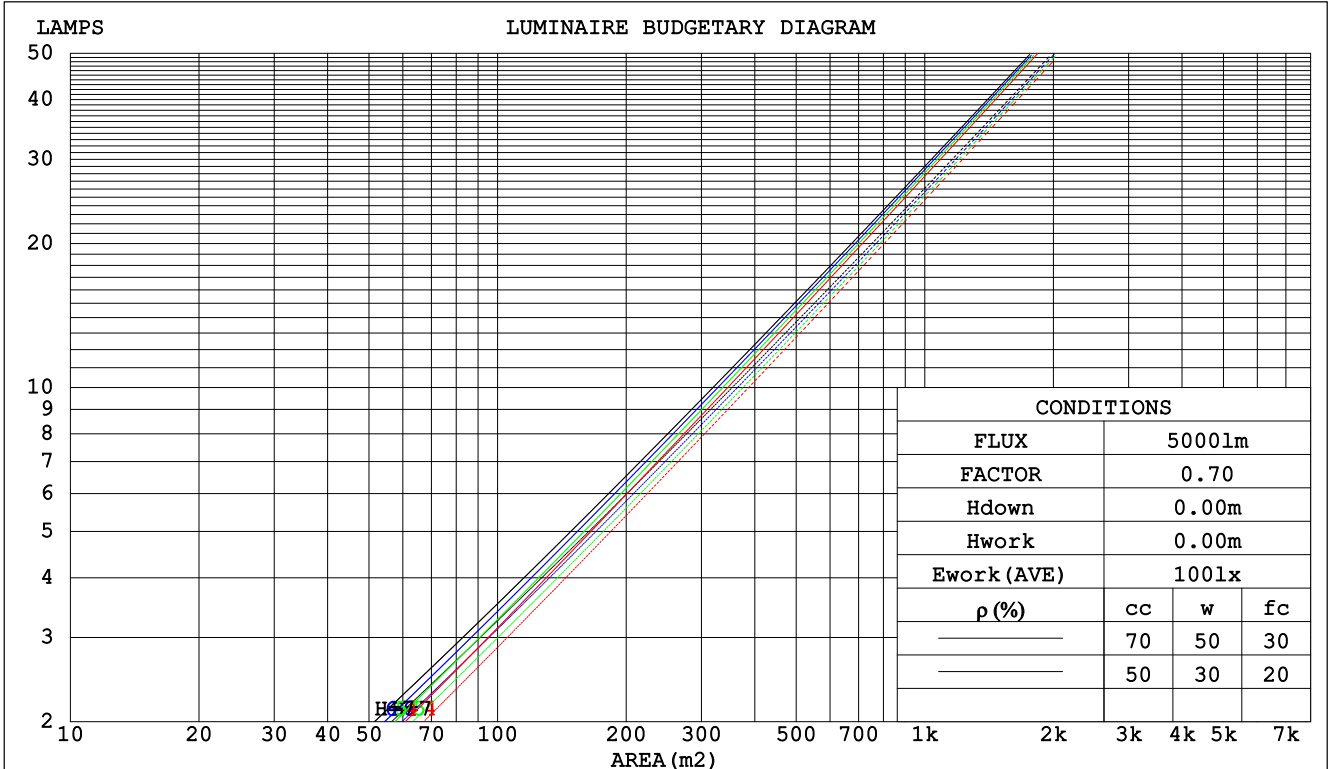
C Range: 0 - 360DEG
C Interval: 90.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:Xie Bi
Test Date:2022-10-20

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.362
Humidity:65.0%
Test Distance:6.810m [K=1.0000]
Remarks:

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

Test:U:231.22V I:0.0580A P:12.652W PF:0.9432 Freq:49.37Hz Lamp Flux:884.185x1 lm		
NAME: W21301LED-X	TYPE:	WEIGHT:
SPEC.:P-W21301LED-X-12W2736-CI35031R90-YML100	DIM.:	SERIAL No.:
MFR.: CETTIGA	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	1.19	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	.00
1.0	1.13	1.11	1.09	1.10	1.09	1.07	1.06	1.05	1.04	1.03	1.02	1.01	.99	.98	.98	.96
2.0	1.07	1.04	1.01	1.05	1.03	1.00	1.02	1.00	.98	.99	.98	.96	.97	.95	.94	.93
3.0	1.02	.99	.96	1.01	.98	.95	.98	.96	.93	.96	.94	.92	.94	.92	.91	.89
4.0	.98	.94	.91	.97	.93	.90	.95	.92	.89	.93	.90	.88	.91	.89	.87	.86
5.0	.94	.90	.87	.93	.89	.86	.92	.88	.86	.90	.87	.85	.89	.86	.84	.83
6.0	.91	.86	.83	.90	.86	.83	.89	.85	.82	.87	.84	.82	.86	.83	.81	.80
7.0	.87	.83	.80	.87	.83	.80	.86	.82	.79	.85	.81	.79	.84	.81	.79	.78
8.0	.84	.80	.77	.84	.80	.77	.83	.79	.77	.82	.79	.76	.81	.78	.76	.75
9.0	.82	.77	.75	.81	.77	.74	.80	.77	.74	.80	.76	.74	.79	.76	.74	.73
10.0	.79	.75	.72	.79	.75	.72	.78	.74	.72	.77	.74	.72	.77	.74	.71	.71



C Range: 0 - 360DEG
 C Interval: 90.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:Xie Bi
 Test Date:2022-10-20

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.362
 Humidity:65.0%
 Test Distance:6.810m [K=1.0000]
 Remarks:

WEC AND CCEC

Test:U:231.22V I:0.0580A P:12.652W PF:0.9432 Freq:49.37Hz Lamp Flux:884.185x1 lm					
NAME: W21301LED-X			TYPE:		WEIGHT:
SPEC.:P-W21301LED-X-12W2736-CI35031R90-YML100			DIM.:		SERIAL No.:
MFR.: CETTIGA			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	.141	.080	.025	.134	.076	.024	.121	.070	.022	.110	.063	.020	.099	.057	.019		
2.0	.131	.072	.022	.125	.069	.021	.115	.064	.020	.105	.059	.018	.096	.054	.017		
3.0	.122	.065	.019	.117	.063	.019	.109	.059	.018	.101	.055	.017	.093	.052	.016		
4.0	.115	.060	.018	.111	.058	.017	.104	.055	.016	.097	.052	.016	.090	.049	.015		
5.0	.109	.055	.016	.105	.054	.016	.099	.052	.015	.093	.049	.015	.088	.047	.014		
6.0	.103	.052	.015	.100	.051	.015	.095	.049	.014	.090	.047	.014	.085	.045	.013		
7.0	.098	.049	.014	.096	.048	.014	.091	.046	.013	.087	.044	.013	.082	.043	.013		
8.0	.094	.046	.013	.092	.045	.013	.088	.044	.012	.084	.042	.012	.080	.041	.012		
9.0	.090	.044	.012	.088	.043	.012	.084	.042	.012	.081	.041	.012	.078	.039	.011		
10.0	.087	.042	.012	.085	.041	.011	.081	.040	.011	.078	.039	.011	.075	.038	.011		

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	.193	.193	.193	.165	.165	.165	.113	.113	.113	.065	.065	.065	.021	.021	.021	
1.0	.171	.160	.150	.146	.137	.129	.100	.095	.089	.058	.055	.052	.018	.018	.017	
2.0	.153	.135	.120	.131	.116	.104	.090	.080	.072	.052	.047	.042	.017	.015	.014	
3.0	.138	.116	.098	.119	.100	.085	.081	.069	.059	.047	.041	.035	.015	.013	.011	
4.0	.126	.100	.081	.108	.087	.070	.074	.060	.049	.043	.035	.029	.014	.012	.010	
5.0	.116	.088	.068	.100	.076	.059	.069	.053	.042	.040	.031	.025	.013	.010	.008	
6.0	.107	.078	.058	.092	.068	.050	.064	.047	.035	.037	.028	.021	.012	.009	.007	
7.0	.100	.070	.049	.086	.061	.043	.059	.043	.031	.035	.025	.018	.011	.008	.006	
8.0	.094	.064	.043	.081	.055	.037	.056	.039	.027	.032	.023	.016	.010	.007	.005	
9.0	.088	.058	.038	.076	.050	.033	.053	.035	.023	.031	.021	.014	.010	.007	.005	
10.0	.083	.053	.033	.072	.046	.029	.050	.033	.021	.029	.019	.012	.009	.006	.004	

C Range: 0 - 360DEG
C Interval: 90.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:Xie Bi
Test Date:2022-10-20

γ Range: 0 - 180DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.362
Humidity:65.0%
Test Distance:6.810m [K=1.0000]
Remarks:

UGR(Unified Glare Rating) Table

Test:U:231.22V I:0.0580A P:12.652W PF:0.9432 Freq:49.37Hz Lamp Flux:884.185x1 lm											
NAME: W21301LED-X						TYPE:			WEIGHT:		
SPEC.:P-W21301LED-X-12W2736-CI35031R90-YML100						DIM.:			SERIAL No.:		
MFR.: CETTIGA						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		3.5	4.1	3.7	4.3	4.5	5.2	5.8	5.4	6.0	6.1
	3H	3.3	3.9	3.6	4.1	4.3	5.0	5.6	5.2	5.8	6.0
	4H	3.2	3.8	3.5	4.1	4.3	4.9	5.5	5.2	5.7	5.9
	6H	3.2	3.7	3.4	4.0	4.2	4.8	5.4	5.1	5.6	5.9
	8H	3.1	3.7	3.4	3.9	4.2	4.8	5.3	5.1	5.6	5.8
	12H	3.1	3.6	3.4	3.9	4.1	4.7	5.3	5.1	5.5	5.8
4H	2H	3.2	3.8	3.5	4.1	4.3	4.9	5.5	5.2	5.7	5.9
	3H	3.1	3.6	3.4	3.9	4.1	4.7	5.3	5.1	5.5	5.8
	4H	3.0	3.4	3.3	3.7	4.0	4.6	5.1	5.0	5.4	5.7
	6H	2.9	3.3	3.2	3.6	4.0	4.5	5.0	4.9	5.3	5.6
	8H	2.8	3.2	3.2	3.6	3.9	4.5	4.9	4.9	5.2	5.6
	12H	2.8	3.1	3.2	3.5	3.9	4.4	4.8	4.8	5.2	5.6
8H	4H	2.8	3.2	3.2	3.6	3.9	4.5	4.9	4.9	5.2	5.6
	6H	2.7	3.0	3.1	3.4	3.8	4.4	4.7	4.8	5.1	5.5
	8H	2.6	2.9	3.1	3.3	3.8	4.3	4.6	4.8	5.0	5.5
	12H	2.6	2.8	3.0	3.3	3.7	4.3	4.5	4.7	4.9	5.4
12H	4H	2.8	3.1	3.2	3.5	3.9	4.4	4.8	4.8	5.2	5.6
	6H	2.6	2.9	3.1	3.3	3.8	4.3	4.6	4.8	5.0	5.5
	8H	2.6	2.8	3.0	3.3	3.7	4.3	4.5	4.7	4.9	5.4
Variations with the observer position at spacings:											
S = 1.0H		+ 3.2 / -20.8					+ 3.6 / -24.7				
1.5H		+ 5.5 / -16.8					+ 6.0 / -18.7				
2.0H		+ 7.8 / -26.1					+ 8.3 / -27.7				

CIE Pub.117, 884.2 lm Total Lamp Luminous Flux Correct (8log(F/F0) = -0.4)
Area: 0.00384 m2

C Range: 0 - 360DEG
C Interval: 90.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:Xie Bi
Test Date:2022-10-20

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.362
Humidity:65.0%
Test Distance:6.810m [K=1.0000]
Remarks:

UTILIZATION FACTORS TABLE

Test:U:231.22V I:0.0580A P:12.652W PF:0.9432 Freq:49.37Hz Lamp Flux:884.185x1 lm		
NAME: W21301LED-X	TYPE:	WEIGHT:
SPEC.:P-W21301LED-X-12W2736-CI35031R90-YML100	DIM.:	SERIAL No.:
MFR.: CETTIGA	SUR.:	Shielding Angle:

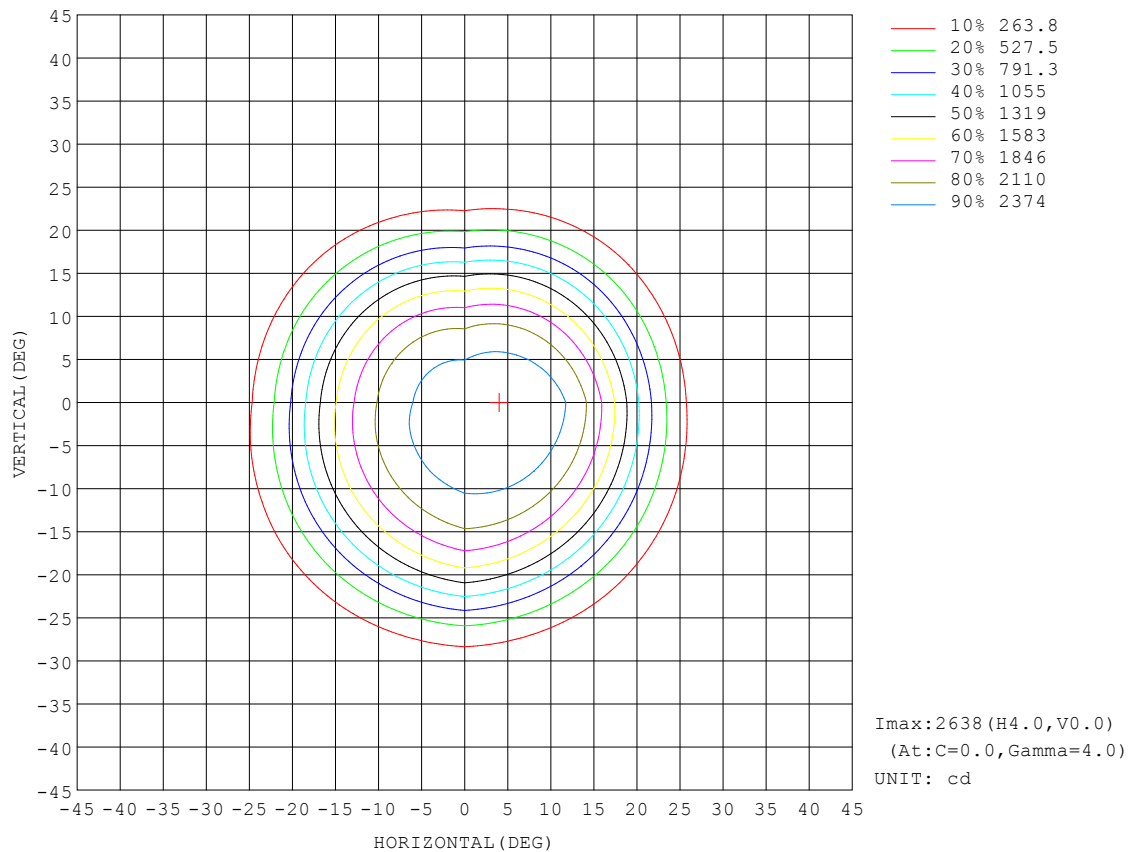
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS (PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	91	85	82	91	85	82	90	85	82	79
0.80	98	93	90	97	93	89	96	92	89	86
1.00	102	97	94	101	96	93	99	96	93	89
1.25	105	101	98	104	100	97	102	99	96	92
1.50	108	103	101	106	103	100	104	101	99	95
2.00	110	106	103	108	105	102	106	103	101	96
2.50	111	108	105	110	107	104	107	104	102	97
3.00	113	110	107	111	108	106	107	105	104	97
4.00	114	112	110	112	110	109	109	107	106	99
5.00	116	114	112	114	112	110	110	108	107	100
ROOM INDEX	UF (total)									Direct
According to DIN EN 13032-2 2004			Suspended					SHRNOM = 1.25		

C Range: 0 - 360DEG
C Interval: 90.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:Xie Bi
Test Date:2022-10-20

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.362
Humidity:65.0%
Test Distance:6.810m [K=1.0000]
Remarks:

ISOCANDELA DIAGRAM

Test:U:231.22V I:0.0580A P:12.652W PF:0.9432 Freq:49.37Hz Lamp Flux:884.185x1 lm		
NAME: W21301LED-X	TYPE:	WEIGHT:
SPEC.:P-W21301LED-X-12W2736-CI35031R90-YML100	DIM.:	SERIAL No.:
MFR.: CETTIGA	SUR.:	Shielding Angle:

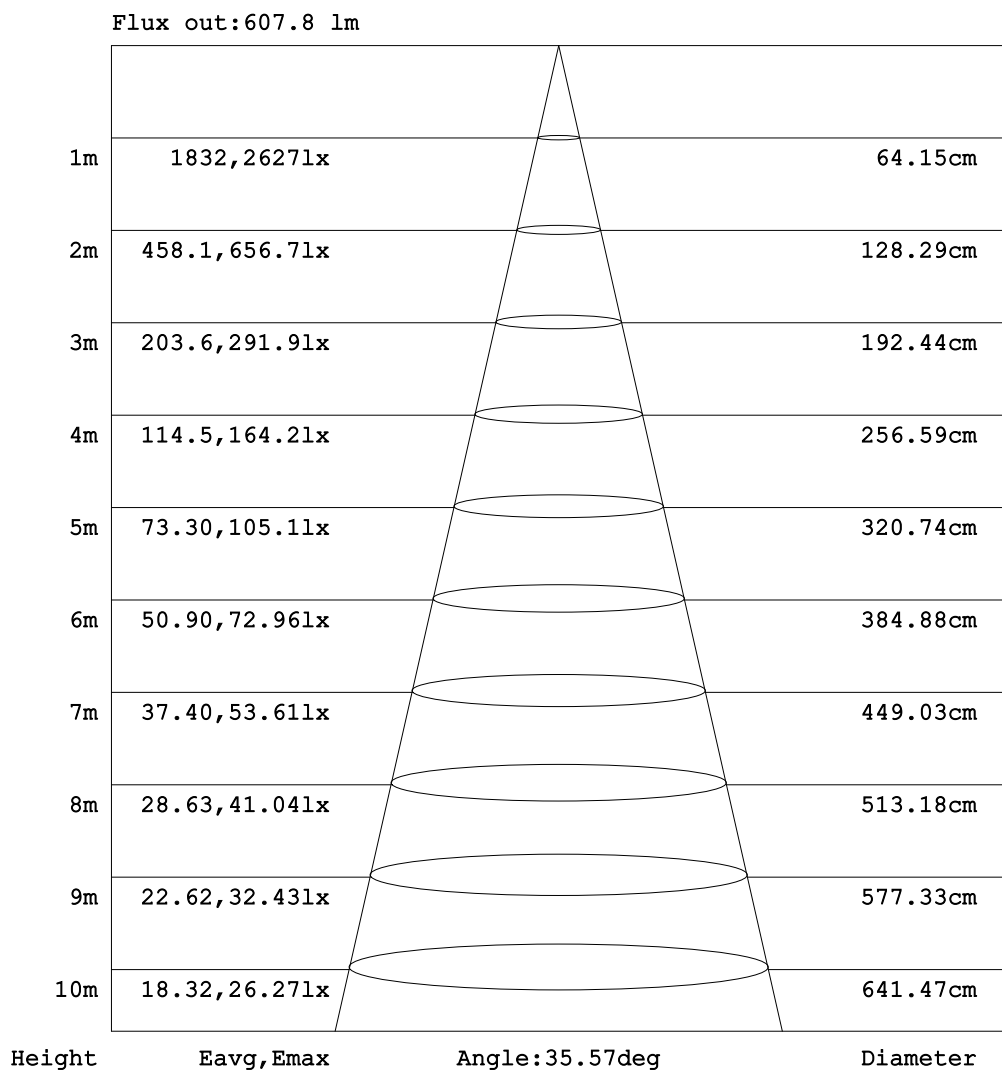


C Range: 0 - 360DEG
C Interval: 90.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:Xie Bi
Test Date:2022-10-20

γ Range: 0 - 180DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.362
Humidity:65.0%
Test Distance:6.810m [K=1.0000]
Remarks:

AAI Figure

Test:U:231.22V I:0.0580A P:12.652W PF:0.9432 Freq:49.37Hz Lamp Flux:884.185x1 lm		
NAME: W21301LED-X	TYPE:	WEIGHT:
SPEC.:P-W21301LED-X-12W2736-CI35031R90-YML100	DIM.:	SERIAL No.:
MFR.: CETTIGA	SUR.:	Shielding Angle:



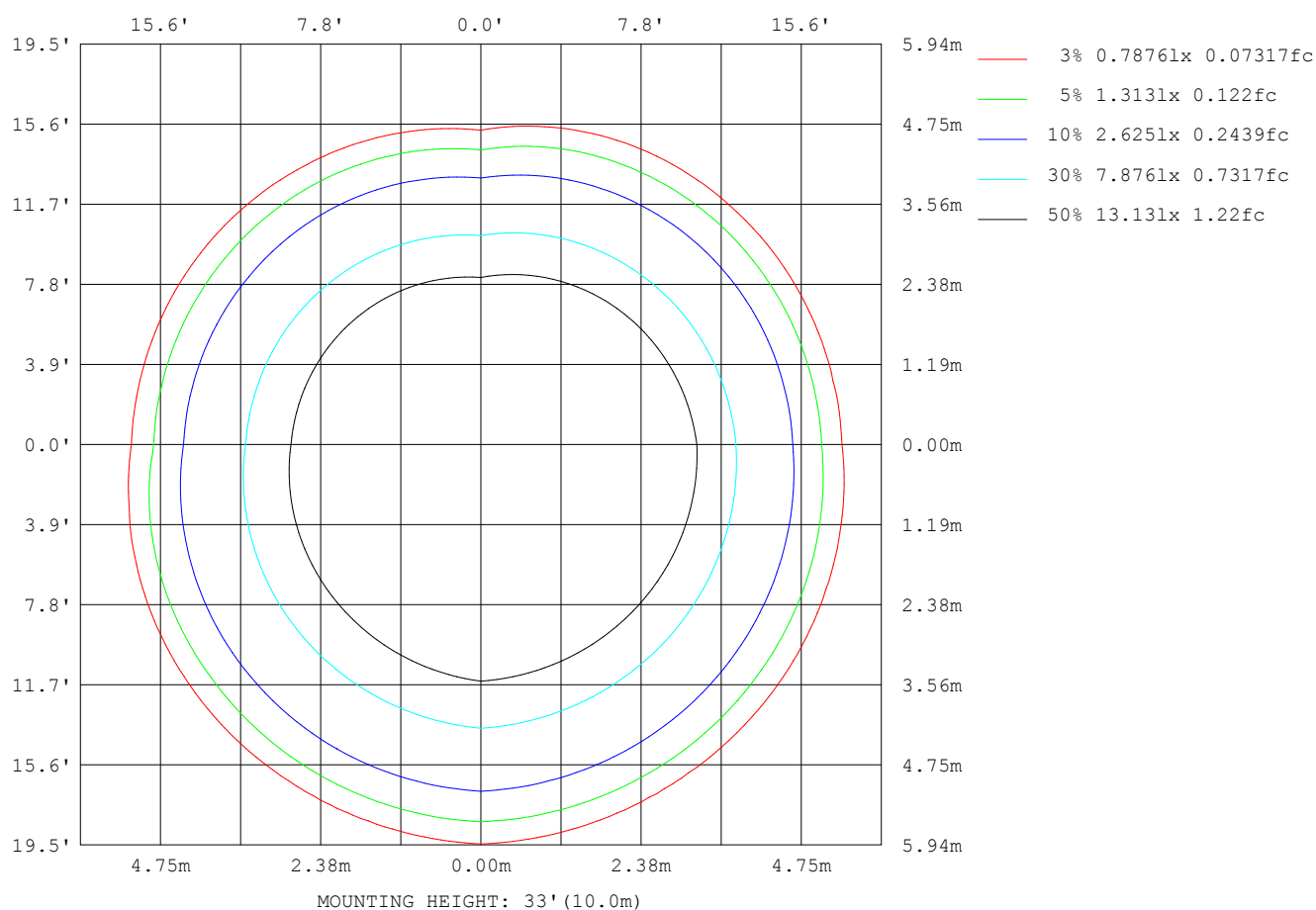
Note: The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
 C Interval: 90.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators: Xie Bi
 Test Date: 2022-10-20

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System: EVERFINE GO-2000B_V1 SYSTEM V2.0.362
 Humidity: 65.0%
 Test Distance: 6.810m [K=1.0000]
 Remarks:

ISOLUX DIAGRAM

Test:U:231.22V I:0.0580A P:12.652W PF:0.9432 Freq:49.37Hz Lamp Flux:884.185x1 lm		
NAME: W21301LED-X	TYPE:	WEIGHT:
SPEC.:P-W21301LED-X-12W2736-CI35031R90-YML100	DIM.:	SERIAL No.:
MFR.: CETTIGA	SUR.:	Shielding Angle:



C Range: 0 - 360DEG
C Interval: 90.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:Xie Bi
Test Date:2022-10-20

γ Range: 0 - 180DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.362
Humidity:65.0%
Test Distance:6.810m [K=1.0000]
Remarks:

LED Avg.L Report

Test:U:231.22V I:0.0580A P:12.652W PF:0.9432 Freq:49.37Hz Lamp Flux:884.185x1 lm		
NAME: W21301LED-X	TYPE:	WEIGHT:
SPEC.:P-W21301LED-X-12W2736-CI35031R90-YML100	DIM.:	SERIAL No.:
MFR.: CETTIGA	SUR.:	Shielding Angle:

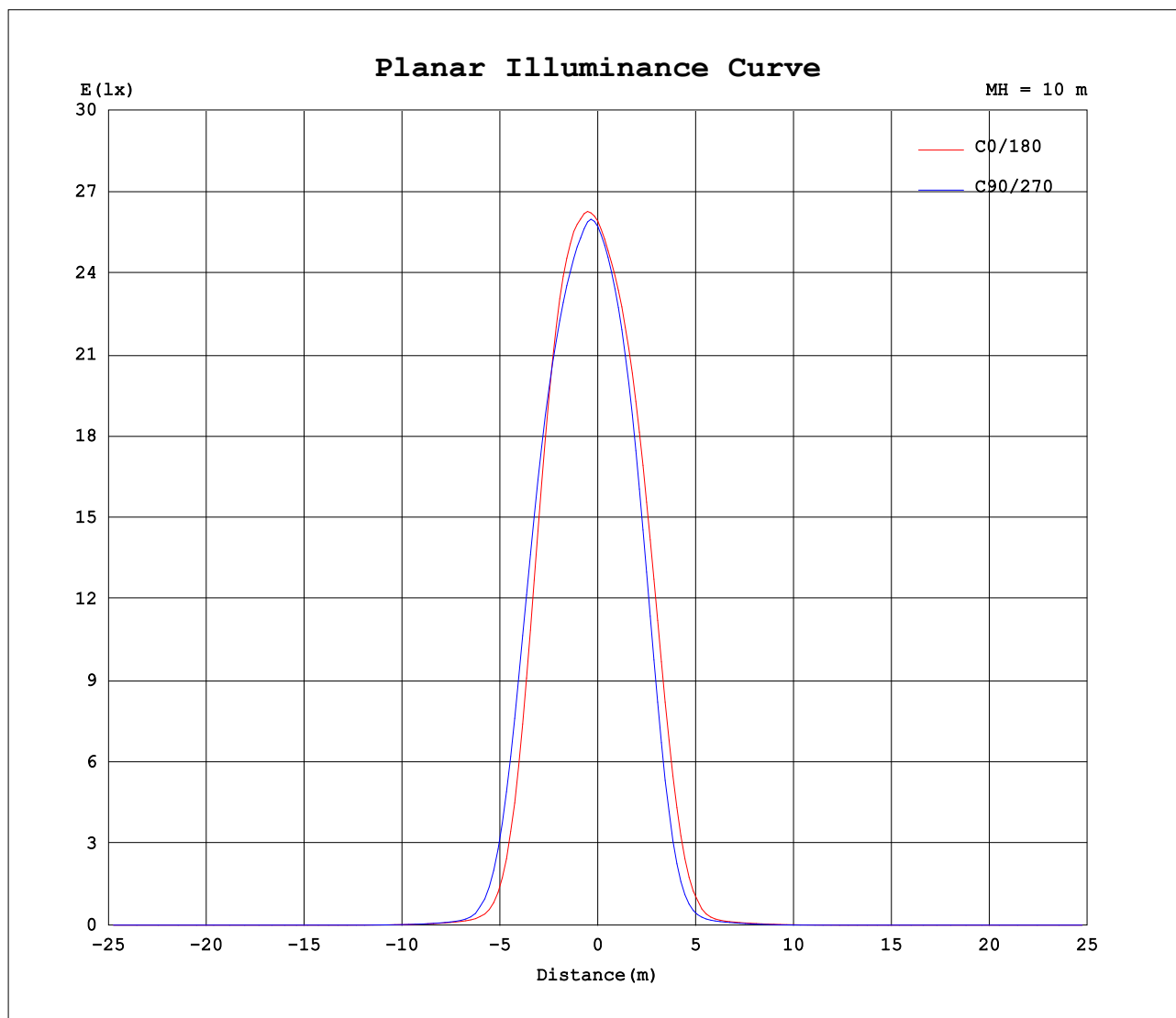
AvgL	cd/m2
L_0~180 (65) av	10
L_0~180 (75) av	0
L_0~180 (85) av	0
L_90~270 (65) av	8
L_90~270 (75) av	0
L_90~270 (85) av	0
L_45 (65) av	8
L_45 (75) av	0
L_45 (85) av	0

Standard: GB/T 29293-2012

C Range: 0 - 360DEG
 C Interval: 90.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:Xie Bi
 Test Date:2022-10-20

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.362
 Humidity:65.0%
 Test Distance:6.810m [K=1.0000]
 Remarks:

Planar Illuminance Curve



C Range: 0 - 360DEG
C Interval: 90.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators: Xie Bi
Test Date: 2022-10-20

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
Test System: EVERFINE GO-2000B_V1 SYSTEM V2.0.362
Humidity: 65.0%
Test Distance: 6.810m [K=1.0000]
Remarks:

LUMINOUS DISTRIBUTION INTENSITY DATA

Test:U:231.22V I:0.0580A P:12.652W PF:0.9432 Freq:49.37Hz Lamp Flux:884.185x1 lm		
NAME: W21301LED-X	TYPE:	WEIGHT:
SPEC.:P-W21301LED-X-12W2736-CI35031R90-YML100	DIM.:	SERIAL No.:
MFR.: CETTIGA	SUR.:	Shielding Angle:

Table--1

UNIT: cd

C (DEG) γ (DEG)	0	90	180	270															
0	2591	2571	2591	2571															
5	2629	2559	2419	2370															
10	2501	2400	2127	1966															
15	1988	2082	1573	1262															
20	1096	1464	821	505															
25	328	660	237	104															
30	63.0	149	45.5	28.1															
35	24.8	31.9	20.3	14.9															
40	12.7	14.7	10.5	6.75															
45	5.30	5.57	4.10	1.99															
50	1.61	0.99	1.02	0.50															
55	0.42	0.24	0.29	0.14															
60	0.12	0.02	0.05	0.03															
65	0.01	0.01	0.02	0.02															
70	0.00	0.00	0.00	0.01															
75	0.00	0.00	0.00	0.00															
80	0.00	0.00	0.00	0.00															
85	0.00	0.00	0.00	0.00															
90	0.00	0.00	0.00	0.00															
95	0.00	0.00	0.00	0.00															
100	0.00	0.00	0.00	0.00															
105	0.00	0.00	0.00	0.00															
110	0.00	0.00	0.00	0.00															
115	0.00	0.00	0.01	0.01															
120	0.00	0.00	0.02	0.01															
125	0.00	0.00	0.03	0.02															
130	0.02	0.01	0.04	0.03															
135	0.09	0.05	0.06	0.09															
140	0.35	0.20	0.17	0.29															
145	0.86	0.60	0.49	0.71															
150	1.59	1.26	1.06	1.34															
155	2.38	2.11	1.77	2.06															
160	3.15	2.98	2.46	2.69															
165	3.77	3.67	2.98	3.14															
170	4.26	4.12	3.39	3.58															
175	4.61	4.52	3.98	4.24															
180	4.61	4.77	4.63	4.75															

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C Interval: 90.0DEG
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γ Range: 0 - 180DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.362
Humidity:65.0%
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