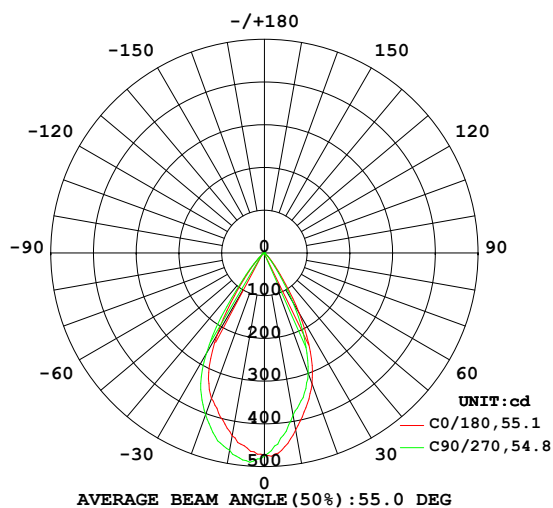


LUMINAIRE PHOTOMETRIC TEST REPORT

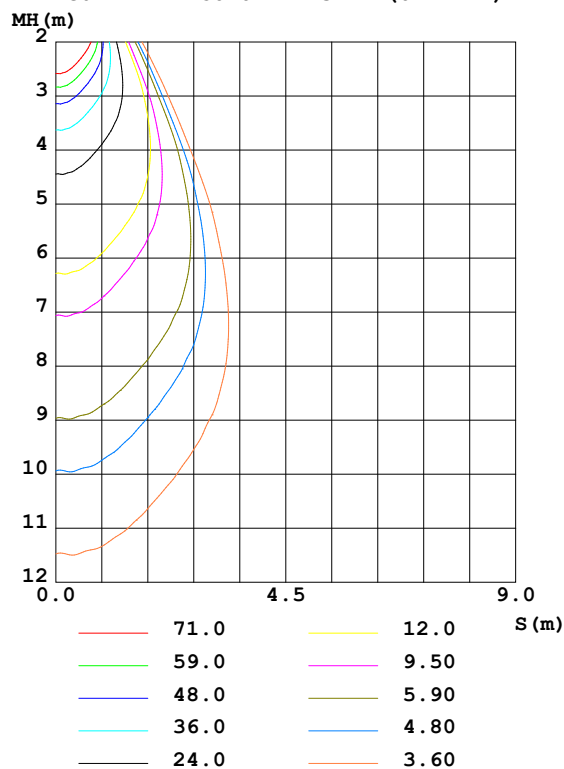
Test:U:231.4V I:0.0265A P:5.378W PF:0.8788 Freq:49.37Hz Lamp Flux:366.083x1 lm		
NAME: W1654LED	TYPE:	WEIGHT:
SPEC.: P-W1654LED-5W2755-CR12036R90-OS700	DIM.:	SERIAL No.:
MFR.: CETTIGA	SUR.:	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 68.07 lm/W			
MODEL	CMA 1303	I _{max} (cd)	491.0	S/MH (C0/180)	0.87
NOMINAL POWER (W)	5W	LOR (%)	100.0	S/MH (C90/270)	0.93
RATED VOLTAGE (V)	220.0	TOTAL FLUX (lm)	366.08	η UP, DN (C0-180)	0.2, 41.7
NOMINAL FLUX (lm)	366.083	CIE CLASS	DIRECT	η UP, DN (C180-360)	0.1, 58.0
LAMPS INSIDE	1	η up (%)	0.3	CIBSE SHR NOM	0.75
TEST VOLTAGE (V)	220.2	η down (%)	99.7	CIBSE SHR MAX	0.85

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: 2022-05-17

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:

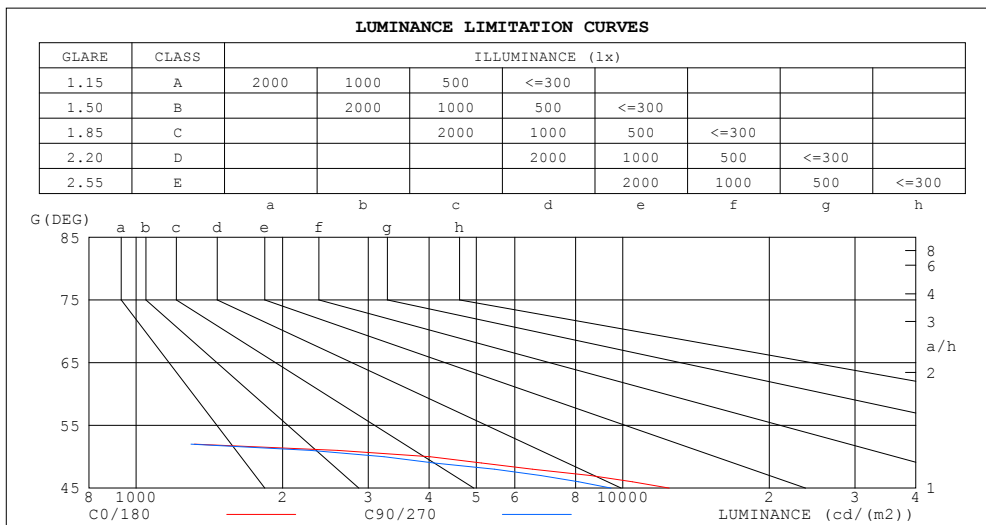
γ	C0	C90	C180	C270					γ	Φ zone	Φ total	%lum, lamp
10	420.8	386.0	434.6	469.0					0- 10	43.01	43.01	11.7,11.7
20	325.9	299.3	362.5	402.4					10- 20	109.3	152.3	41.6,41.6
30	162.7	134.0	221.3	271.8					20- 30	127.5	279.8	76.4,76.4
40	32.94	24.19	56.66	67.41					30- 40	66.97	346.8	94.7,94.7
50	4.107	3.303	9.920	11.39					40- 50	16.69	363.5	99.3,99.3
60	0.0507	0.0035	0.1534	0.1274					50- 60	1.515	365.0	99.7,99.7
70	0	0	0.0295	0.0418					60- 70	0.0471	365.0	99.7,99.7
80	0	0	0	0					70- 80	0.0035	365.0	99.7,99.7
90	0	0	0	0					80- 90	0	365.0	99.7,99.7
100	0	0	0	0					90-100	0	365.0	99.7,99.7
110	0	0	0	0					100-110	0	365.0	99.7,99.7
120	0.0017	0.0227	0.0018	0					110-120	0.0014	365.0	99.7,99.7
130	0.1236	0.1744	0.0401	0.0104					120-130	0.0333	365.1	99.7,99.7
140	0.3853	0.4693	0.1763	0.1273					130-140	0.1372	365.2	99.8,99.8
150	0.6572	0.7621	0.3977	0.3364					140-150	0.2567	365.4	99.8,99.8
160	0.8823	1.005	0.5966	0.5406					150-160	0.2988	365.7	99.9,99.9
170	1.064	1.095	0.8634	0.8124					160-170	0.2403	366.0	100,100
180	1.088	1.083	1.078	1.081					170-180	0.0964	366.1	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:2022-05-17

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:231.4V I:0.0265A P:5.378W PF:0.8788 Freq:49.37Hz Lamp Flux:366.083x1 lm		
NAME: W1654LED	TYPE:	WEIGHT:
SPEC.: P-W1654LED-5W2755-CR12036R90-OS700	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	0	0
65	29	0
60	64	4
55	130	76
50	4018	3232
45	12456	9457

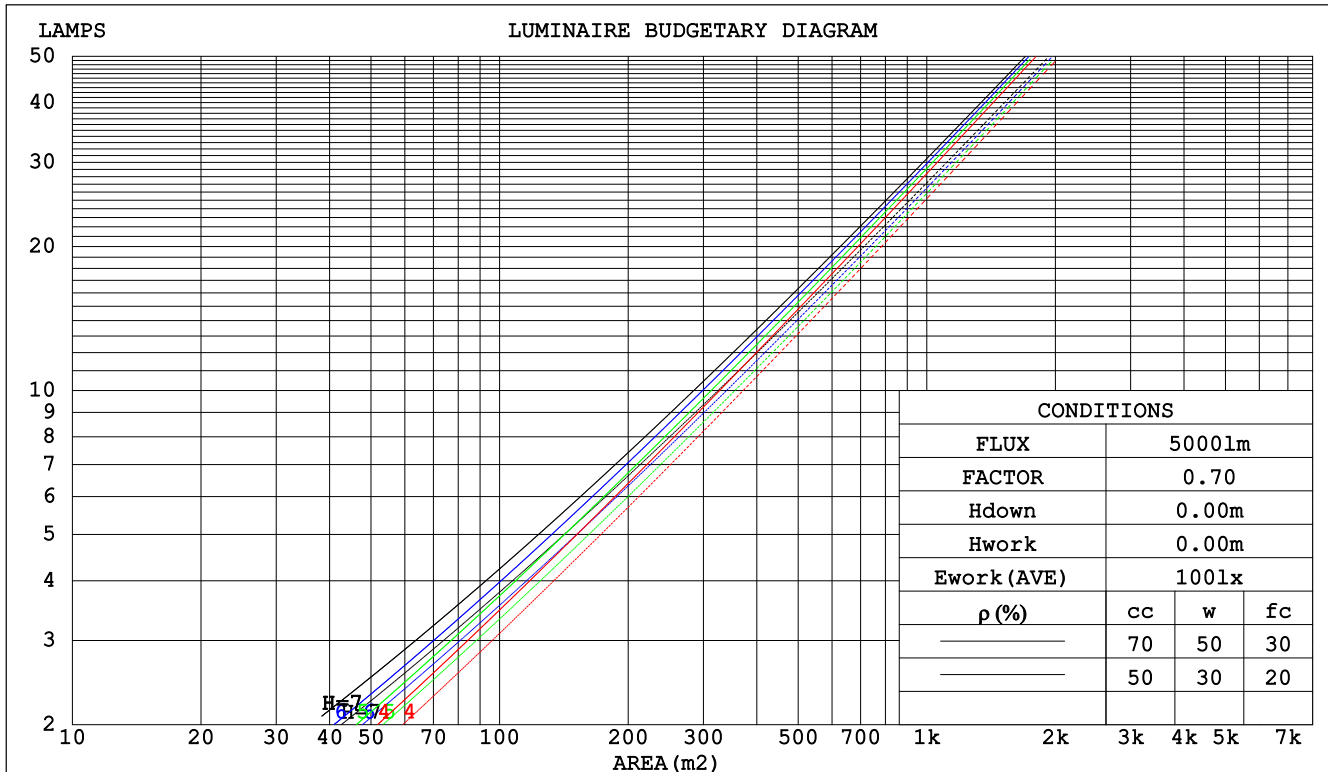
C Range: 0 - 360DEG
C Interval: 90.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators: Xie Bi
Test Date: 2022-05-17

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:231.4V I:0.0265A P:5.378W PF:0.8788 Freq:49.37Hz Lamp Flux:366.083x1 lm		
NAME: W1654LED	TYPE:	WEIGHT:
SPEC.:P-W1654LED-5W2755-CR12036R90-OS700	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	1.11	1.09	1.06	1.09	1.07	1.05	1.05	1.03	1.02	1.01	.00	.98	.98	.97	.96	.94
2.0	1.04	.00	.97	1.02	.98	.95	.99	.96	.93	.96	.93	.91	.93	.91	.89	.88
3.0	.97	.92	.89	.96	.91	.88	.93	.89	.86	.91	.88	.85	.88	.86	.84	.82
4.0	.91	.86	.82	.90	.85	.81	.88	.84	.80	.86	.82	.79	.84	.81	.78	.77
5.0	.86	.80	.76	.85	.79	.75	.83	.78	.75	.81	.77	.74	.80	.76	.73	.72
6.0	.81	.75	.71	.80	.74	.70	.78	.74	.70	.77	.73	.69	.76	.72	.69	.68
7.0	.76	.70	.66	.75	.70	.66	.74	.69	.66	.73	.68	.65	.72	.68	.65	.64
8.0	.72	.66	.62	.71	.66	.62	.70	.65	.62	.69	.65	.61	.68	.64	.61	.60
9.0	.68	.62	.58	.67	.62	.58	.67	.62	.58	.66	.61	.58	.65	.61	.58	.56
10.0	.64	.59	.55	.64	.59	.55	.63	.58	.55	.62	.58	.55	.62	.58	.55	.53



C Range: 0 - 360DEG
 C Interval: 90.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:Xie Bi
 Test Date:2022-05-17

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:231.4V I:0.0265A P:5.378W PF:0.8788 Freq:49.37Hz Lamp Flux:366.083x1 lm		
NAME: W1654LED	TYPE:	WEIGHT:
SPEC.:P-W1654LED-5W2755-CR12036R90-OS700	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 Coeffcients (WEC)										
0.0																	
1.0	.171	.097	.031	.165	.094	.030	.152	.087	.028	.140	.081	.026	.129	.075	.024		
2.0	.164	.090	.028	.158	.087	.027	.147	.082	.025	.138	.077	.024	.128	.073	.023		
3.0	.156	.083	.025	.151	.081	.024	.142	.077	.023	.134	.073	.022	.126	.070	.022		
4.0	.149	.077	.023	.145	.076	.022	.137	.073	.022	.129	.070	.021	.123	.067	.020		
5.0	.142	.072	.021	.138	.071	.021	.132	.069	.020	.125	.066	.020	.119	.064	.019		
6.0	.136	.068	.019	.133	.067	.019	.127	.065	.019	.121	.063	.018	.116	.061	.018		
7.0	.130	.064	.018	.127	.063	.018	.122	.062	.018	.117	.060	.017	.112	.058	.017		
8.0	.125	.061	.017	.122	.060	.017	.117	.059	.017	.113	.057	.017	.109	.056	.016		
9.0	.120	.058	.016	.117	.057	.016	.113	.056	.016	.109	.055	.016	.105	.053	.015		
10.0	.115	.055	.015	.113	.055	.015	.109	.053	.015	.105	.052	.015	.102	.051	.015		

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	.112	.112	.112	.065	.065	.065	.021	.021	.021	
1.0	.173	.160	.148	.148	.137	.127	.101	.094	.088	.058	.055	.051	.019	.018	.017	
2.0	.157	.135	.116	.135	.116	.100	.092	.080	.070	.053	.047	.041	.017	.015	.013	
3.0	.145	.116	.093	.124	.100	.080	.085	.069	.056	.049	.041	.033	.016	.013	.011	
4.0	.134	.101	.076	.115	.087	.066	.079	.061	.046	.046	.036	.027	.015	.012	.009	
5.0	.126	.089	.063	.108	.077	.054	.074	.054	.038	.043	.032	.023	.014	.010	.008	
6.0	.118	.080	.053	.102	.069	.046	.070	.049	.032	.041	.029	.019	.013	.009	.006	
7.0	.112	.072	.045	.096	.063	.039	.066	.044	.028	.039	.026	.016	.012	.008	.005	
8.0	.106	.066	.039	.091	.057	.034	.063	.040	.024	.037	.024	.014	.012	.008	.005	
9.0	.101	.061	.034	.087	.053	.030	.060	.037	.021	.035	.022	.013	.011	.007	.004	
10.0	.097	.057	.030	.083	.049	.026	.058	.035	.019	.034	.020	.011	.011	.007	.004	

C Range: 0 - 360DEG
C Interval: 90.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:Xie Bi
Test Date:2022-05-17

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:231.4V I:0.0265A P:5.378W PF:0.8788 Freq:49.37Hz Lamp Flux:366.083x1 lm												
NAME: W1654LED					TYPE:			WEIGHT:				
SPEC.:P-W1654LED-5W2755-CR12036R90-OS700					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		19.5	20.4	19.7	20.6	20.8	18.4	19.4	18.7	19.5	19.7	
		3H	19.3	20.2	19.6	20.4	20.6	18.3	19.1	18.5	19.3	19.5
		4H	19.2	20.0	19.5	20.3	20.5	18.2	19.0	18.5	19.2	19.4
		6H	19.2	19.9	19.5	20.1	20.4	18.1	18.8	18.4	19.1	19.3
		8H	19.1	19.8	19.4	20.1	20.3	18.1	18.8	18.4	19.0	19.3
		12H	19.1	19.7	19.4	20.0	20.3	18.0	18.7	18.3	19.0	19.2
4H	2H	19.2	20.0	19.5	20.3	20.5	18.2	19.0	18.5	19.2	19.4	
	3H	19.1	19.7	19.4	20.0	20.3	18.0	18.7	18.3	19.0	19.2	
	4H	19.0	19.6	19.3	19.9	20.2	17.9	18.5	18.3	18.8	19.1	
	6H	18.9	19.4	19.3	19.7	20.1	17.8	18.4	18.2	18.7	19.0	
	8H	18.8	19.3	19.2	19.7	20.0	17.8	18.3	18.2	18.6	19.0	
	12H	18.8	19.2	19.2	19.6	20.0	17.7	18.2	18.1	18.5	18.9	
8H	4H	18.8	19.3	19.2	19.7	20.0	17.8	18.3	18.2	18.6	19.0	
	6H	18.7	19.1	19.1	19.5	19.9	17.7	18.1	18.1	18.5	18.9	
	8H	18.7	19.0	19.1	19.4	19.9	17.6	18.0	18.1	18.4	18.8	
	12H	18.6	18.9	19.1	19.4	19.8	17.5	17.9	18.0	18.3	18.8	
12H	4H	18.8	19.2	19.2	19.6	20.0	17.7	18.2	18.1	18.5	18.9	
	6H	18.7	19.0	19.1	19.4	19.9	17.6	18.0	18.1	18.4	18.8	
	8H	18.6	18.9	19.1	19.4	19.8	17.5	17.9	18.0	18.3	18.8	
Variations with the observer position at spacings:												
S = 1.0H		+ 3.9 / -34.2					+ 3.3 / -37.6					
1.5H		+ 6.2 / -31.3					+ 5.6 / -31.2					
2.0H		+ 8.2 / -33.8					+ 7.6 / - 1.\$					

CIE Pub.117, 366.1 lm Total Lamp Luminous Flux Correct (8log(F/F0) = -3.5)

C Range: 0 - 360DEG
C Interval: 90.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:Xie Bi
Test Date:2022-05-17

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:231.4V I:0.0265A P:5.378W PF:0.8788 Freq:49.37Hz Lamp Flux:366.083x1 lm		
NAME: W1654LED	TYPE:	WEIGHT:
SPEC.: P-W1654LED-5W2755-CR12036R90-OS700	DIM.:	SERIAL No.:
MFR.: CETTIGA	SUR.:	Shielding Angle:

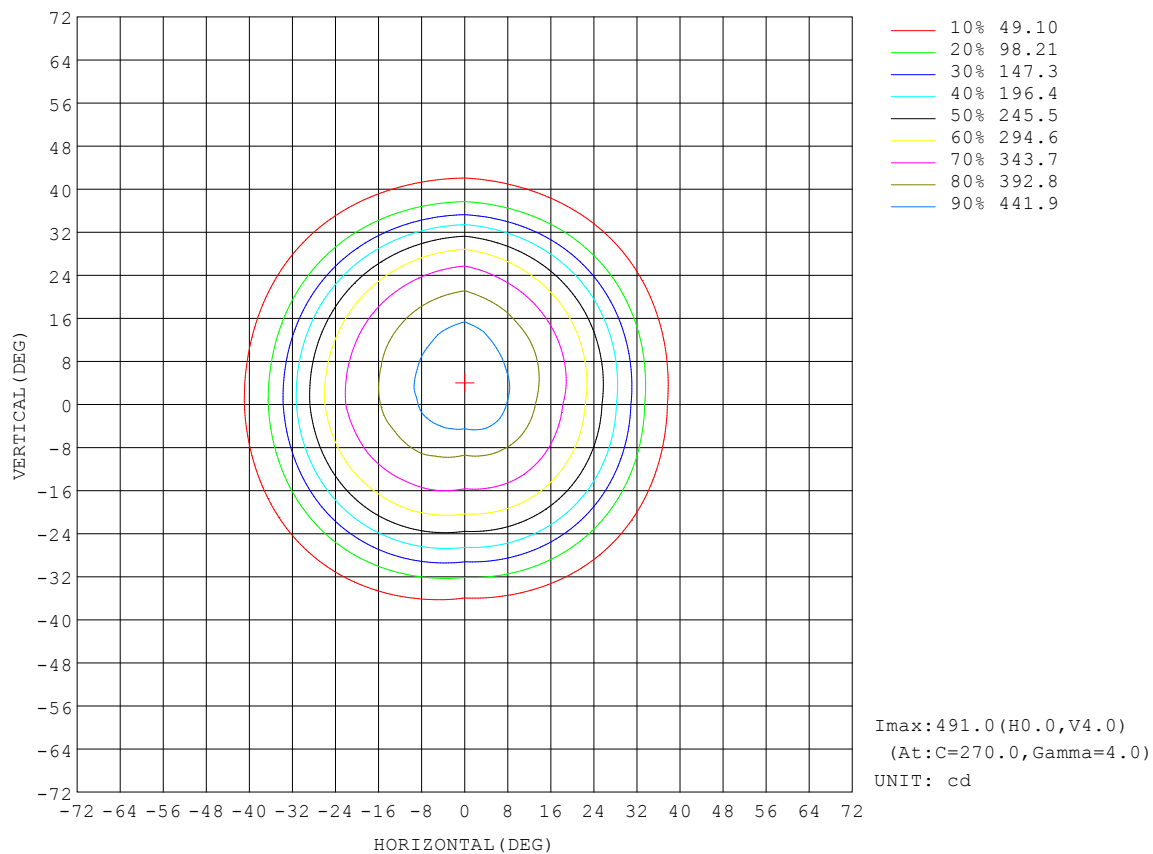
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS (PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	88	82	78	88	82	78	87	82	78	75
0.80	96	90	86	95	90	86	94	89	86	82
1.00	100	95	91	99	94	91	98	94	90	86
1.25	104	99	96	103	98	95	101	97	94	90
1.50	106	102	99	105	101	98	103	100	97	93
2.00	109	105	102	108	104	101	105	102	100	94
2.50	111	107	104	109	106	103	106	103	101	95
3.00	112	109	106	110	107	105	107	105	103	96
4.00	114	111	109	112	110	108	108	107	105	98
5.00	115	113	111	113	111	110	109	108	106	99
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: 2022-05-17

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:231.4V I:0.0265A P:5.378W PF:0.8788 Freq:49.37Hz Lamp Flux:366.083x1 lm		
NAME: W1654LED	TYPE:	WEIGHT:
SPEC.: P-W1654LED-5W2755-CR12036R90-OS700	DIM.:	SERIAL No.:
MFR.: CETTIGA	SUR.:	Shielding Angle:



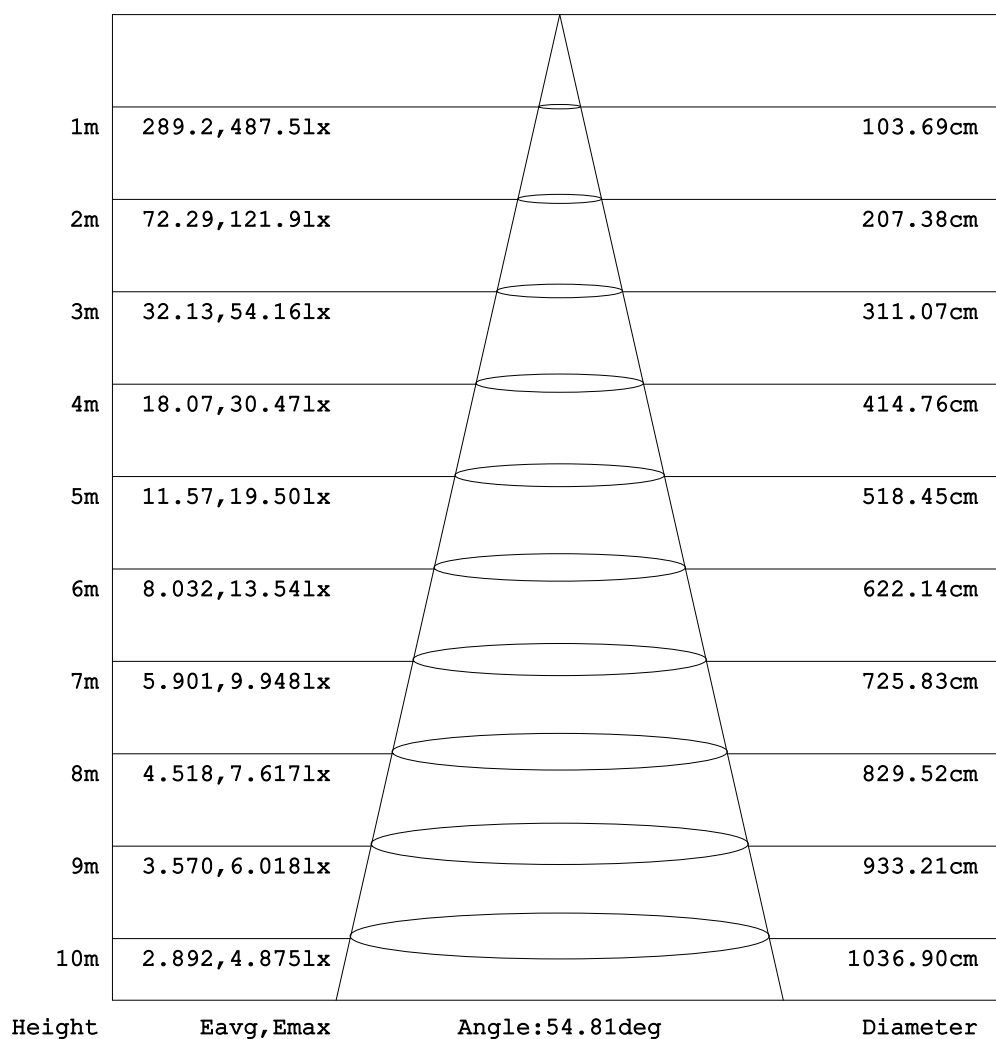
C Range: 0 - 360DEG
C Interval: 90.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators: Xie Bi
Test Date: 2022-05-17

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:231.4V I:0.0265A P:5.378W PF:0.8788 Freq:49.37Hz Lamp Flux:366.083x1 lm		
NAME: W1654LED	TYPE:	WEIGHT:
SPEC.: P-W1654LED-5W2755-CR12036R90-OS700	DIM.:	SERIAL No.:
MFR.: CETTIGA	SUR.:	Shielding Angle:

Flux out:256.8 lm



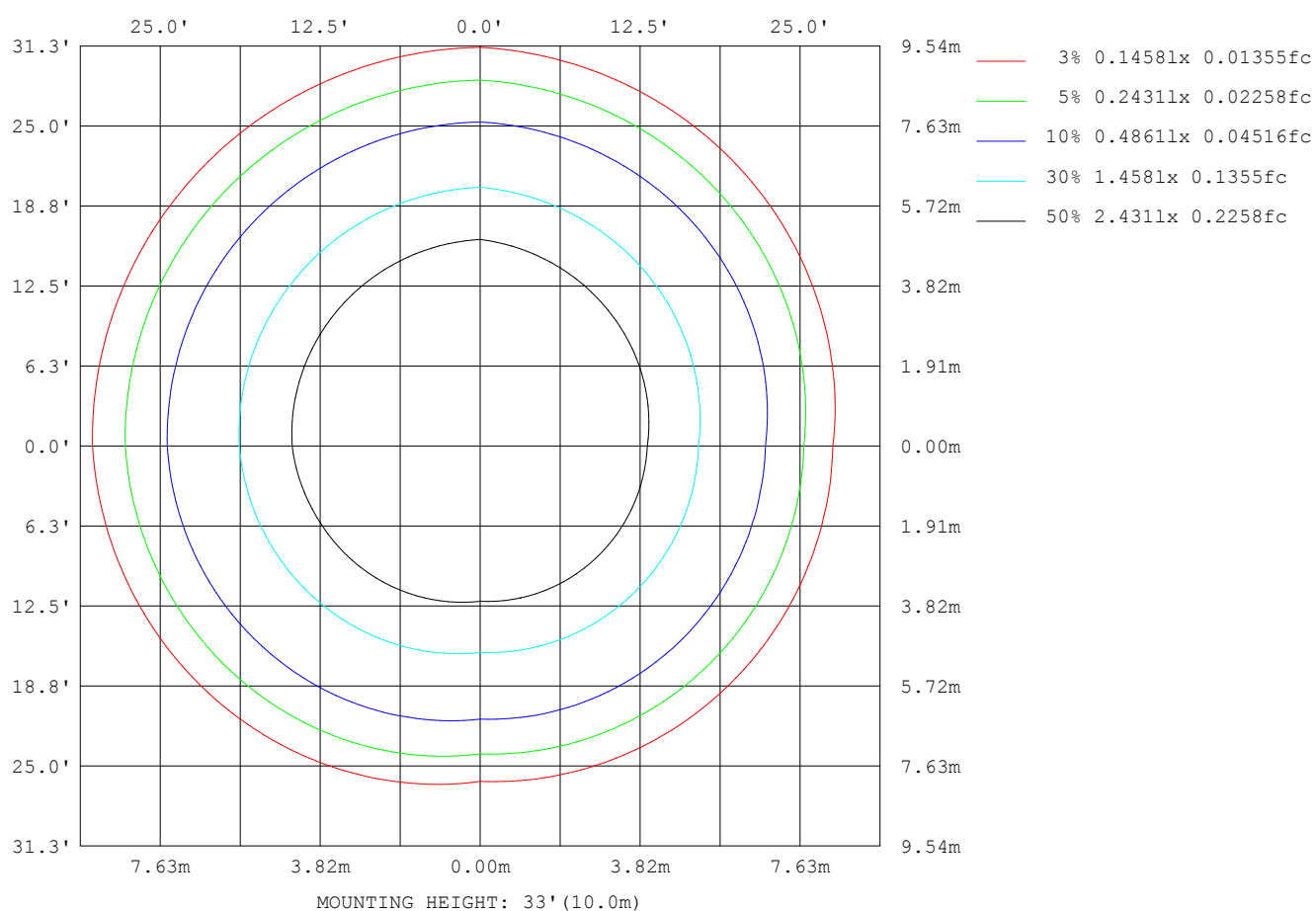
Note: The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
 C Interval: 90.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators: Xie Bi
 Test Date: 2022-05-17

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:231.4V I:0.0265A P:5.378W PF:0.8788 Freq:49.37Hz Lamp Flux:366.083x1 lm		
NAME: W1654LED	TYPE:	WEIGHT:
SPEC.: P-W1654LED-5W2755-CR12036R90-OS700	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: 2022-05-17

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:231.4V I:0.0265A P:5.378W PF:0.8788 Freq:49.37Hz Lamp Flux:366.083x1 lm		
NAME: W1654LED	TYPE:	WEIGHT:
SPEC.:P-W1654LED-5W2755-CR12036R90-OS700	DIM.:	SERIAL No.:
MFR.: CETTIGA	SUR.:	Shielding Angle:

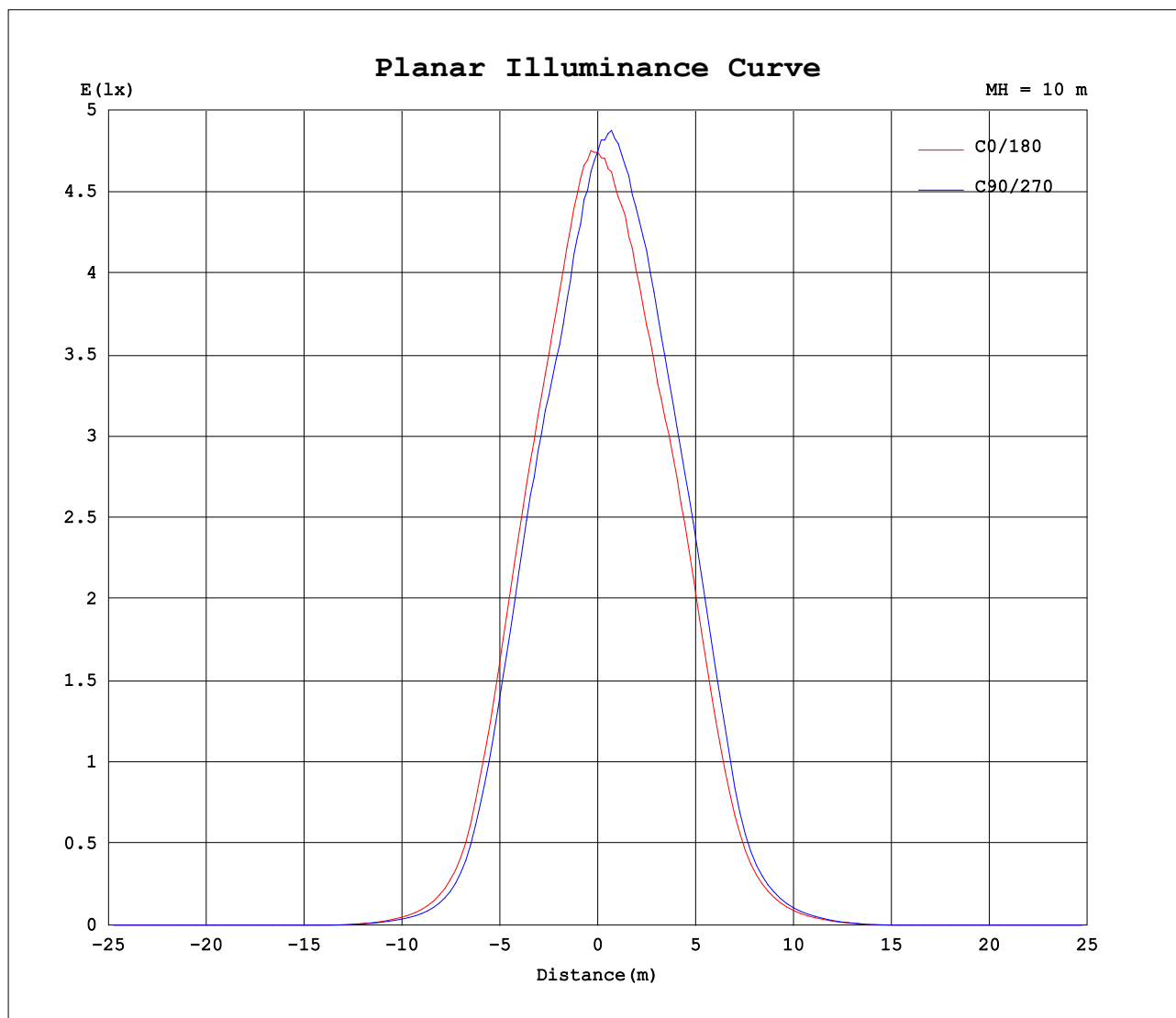
AvgL	cd/m2
L_0~180 (65) av	93
L_0~180 (75) av	0
L_0~180 (85) av	0
L_90~270 (65) av	44
L_90~270 (75) av	2
L_90~270 (85) av	0
L_45 (65) av	69
L_45 (75) av	1
L_45 (85) av	0

Standard: GB/T 29293-2012

C Range: 0 - 360DEG
C Interval: 90.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:Xie Bi
Test Date:2022-05-17

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: 2022-05-17

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:231.4V I:0.0265A P:5.378W PF:0.8788 Freq:49.37Hz Lamp Flux:366.083x1 lm		
NAME: W1654LED	TYPE:	WEIGHT:
SPEC.:P-W1654LED-5W2755-CR12036R90-OS700	DIM.:	SERIAL No.:
MFR.: CETTIGA	SUR.:	Shielding Angle:

Table--1

UNIT: cd

C (DEG) γ (DEG)	0	90	180	270															
0	474	475	474	475															
5	464	435	459	488															
10	421	386	435	469															
15	375	351	398	444															
20	326	299	362	402															
25	254	222	309	353															
30	163	134	221	272															
35	75.7	58.6	122	153															
40	32.9	24.2	56.7	67.4															
45	14.0	10.6	25.4	30.0															
50	4.11	3.30	9.92	11.4															
55	0.12	0.07	1.30	1.28															
60	0.05	0.00	0.15	0.13															
65	0.02	0.00	0.11	0.06															
70	0.00	0.00	0.03	0.04															
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	0.00	0.00															
120	0.00	0.02	0.00	0.00															
125	0.05	0.08	0.01	0.00															
130	0.12	0.17	0.04	0.01															
135	0.24	0.31	0.09	0.05															
140	0.39	0.47	0.18	0.13															
145	0.52	0.62	0.28	0.23															
150	0.66	0.76	0.40	0.34															
155	0.78	0.89	0.50	0.45															
160	0.88	1.00	0.60	0.54															
165	0.98	1.07	0.71	0.66															
170	1.06	1.09	0.86	0.81															
175	1.09	1.10	1.00	0.96															
180	1.09	1.08	1.08	1.08															

C Range: 0 - 360DEG
 C Interval: 90.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:Xie Bi
 Test Date:2022-05-17

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: