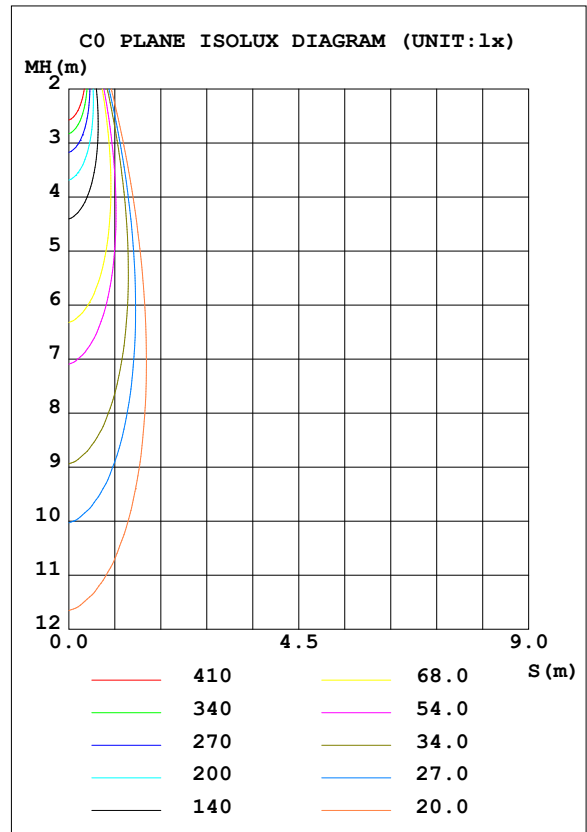
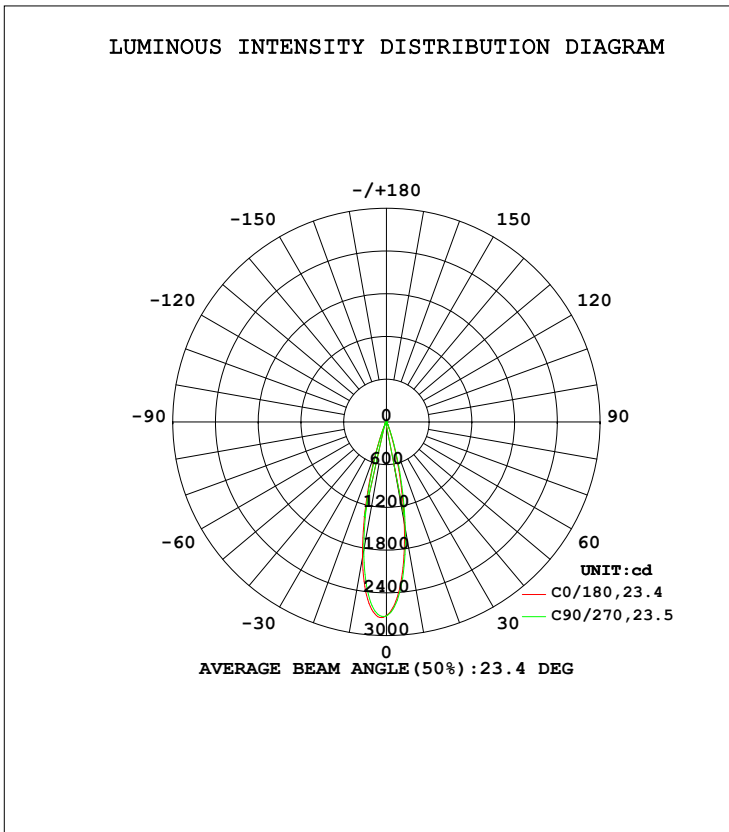


LUMINAIRE PHOTOMETRIC TEST REPORT

Test:U:232.47V I:0.0412A P:7.6805W PF:0.8025 Freq:49.37Hz Lamp Flux:495.8x1 lm		
NAME: 1601LED	TYPE:	WEIGHT:
SPEC.:P-1601LED-7W2724-CI50012R90-YML100	DIM.:	SERIAL No.:
MFR.: CETTIGA	SUR.:	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 64.55 lm/W			
MODEL	CLU7A3 0403	I _{max} (cd)	2747	S/MH (C0/180)	0.42
NOMINAL POWER (W)	7W	LOR (%)	100.0	S/MH (C90/270)	0.41
RATED VOLTAGE (V)	220.0	TOTAL FLUX (lm)	495.80	η UP, DN (C0-180)	0.2, 43.3
NOMINAL FLUX (lm)	495.8	CIE CLASS	DIRECT	η UP, DN (C180-360)	0.1, 56.3
LAMPS INSIDE	1	η up (%)	0.3	CIBSE SHR NOM	0.00
TEST VOLTAGE (V)	220.2	η down (%)	99.7	CIBSE SHR MAX	1.00



C Range: 0 - 360DEG
 C Interval: 90.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators: Xie Bi
 Test Date: 2024-04-16

γ Range: 0 - 180DEG
 γ Interval: 0.5DEG
 Test System: EVERFINE GO-2000A_V1 SYSTEM V2.00.417
 Humidity: 65.0%
 Test Distance: 6.810m [K=1.0000]
 Remarks:

ZONAL FLUX DIAGRAM

ZONAL FLUX DIAGRAM:

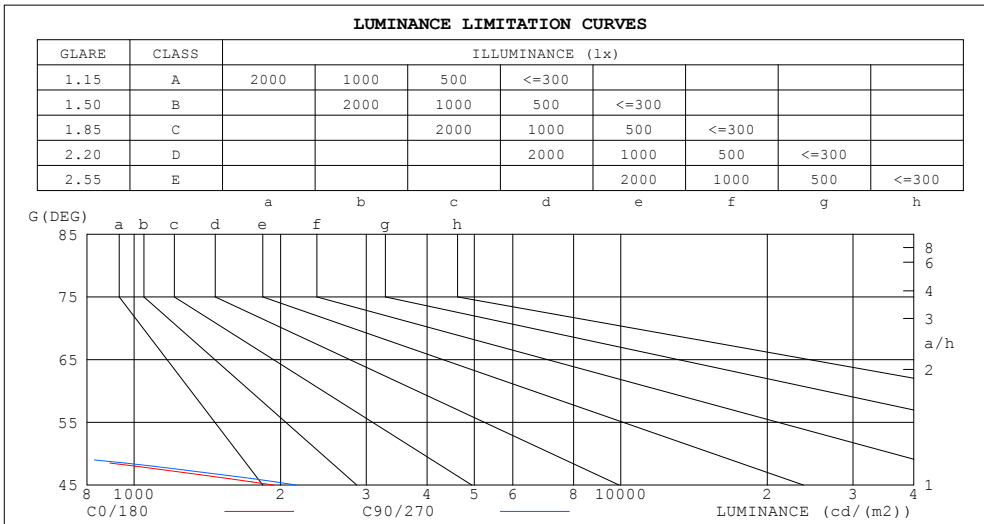
γ	C0	C90	C180	C270				γ	Φ zone	Φ total	%lum, lamp
10	1441	1527	1933	1829				0- 10	208.2	208.2	42,42
20	193.3	231.0	351.7	321.7				10- 20	227.5	435.7	87.9,87.9
30	28.39	31.22	40.32	37.03				20- 30	45.19	480.9	97,97
40	5.805	6.083	8.336	7.475				30- 40	10.78	491.6	99.2,99.2
50	0.6286	0.6545	0.9777	0.8496				40- 50	2.305	493.9	99.6,99.6
60	0.0455	0.0750	0.0959	0.0942				50- 60	0.2428	494.2	99.7,99.7
70	0	0	0	0				60- 70	0.0154	494.2	99.7,99.7
80	0	0	0	0				70- 80	0	494.2	99.7,99.7
90	0	0	0	0				80- 90	0	494.2	99.7,99.7
100	0	0	0	0				90-100	0	494.2	99.7,99.7
110	0	0	0	0				100-110	0	494.2	99.7,99.7
120	0	0	0	0				110-120	0	494.2	99.7,99.7
130	0	0.0157	0.0035	0				120-130	0.0008	494.2	99.7,99.7
140	0.1272	0.1415	0.0315	0.0261				130-140	0.0217	494.2	99.7,99.7
150	0.9877	0.9139	0.2792	0.3014				140-150	0.1724	494.4	99.7,99.7
160	2.413	2.387	1.238	1.299				150-160	0.5393	494.9	99.8,99.8
170	2.675	2.739	2.211	2.213				160-170	0.6318	495.6	100,100
180	2.281	2.391	2.272	2.387				170-180	0.2288	495.8	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:2024-04-16

γ Range: 0 - 180DEG
 γ Interval: 0.5DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.00.417
 Humidity:65.0%
 Test Distance:6.810m [K=1.0000]
 Remarks:

LUMINANCE LIMITATION CURVES

Test:U:232.47V I:0.0412A P:7.6805W PF:0.8025 Freq:49.37Hz Lamp Flux:495.8x1 lm		
NAME: 1601LED	TYPE:	WEIGHT:
SPEC.:P-1601LED-7W2724-CI50012R90-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	0	0
65	0	0
60	57	94
55	134	202
50	615	640
45	1936	2154

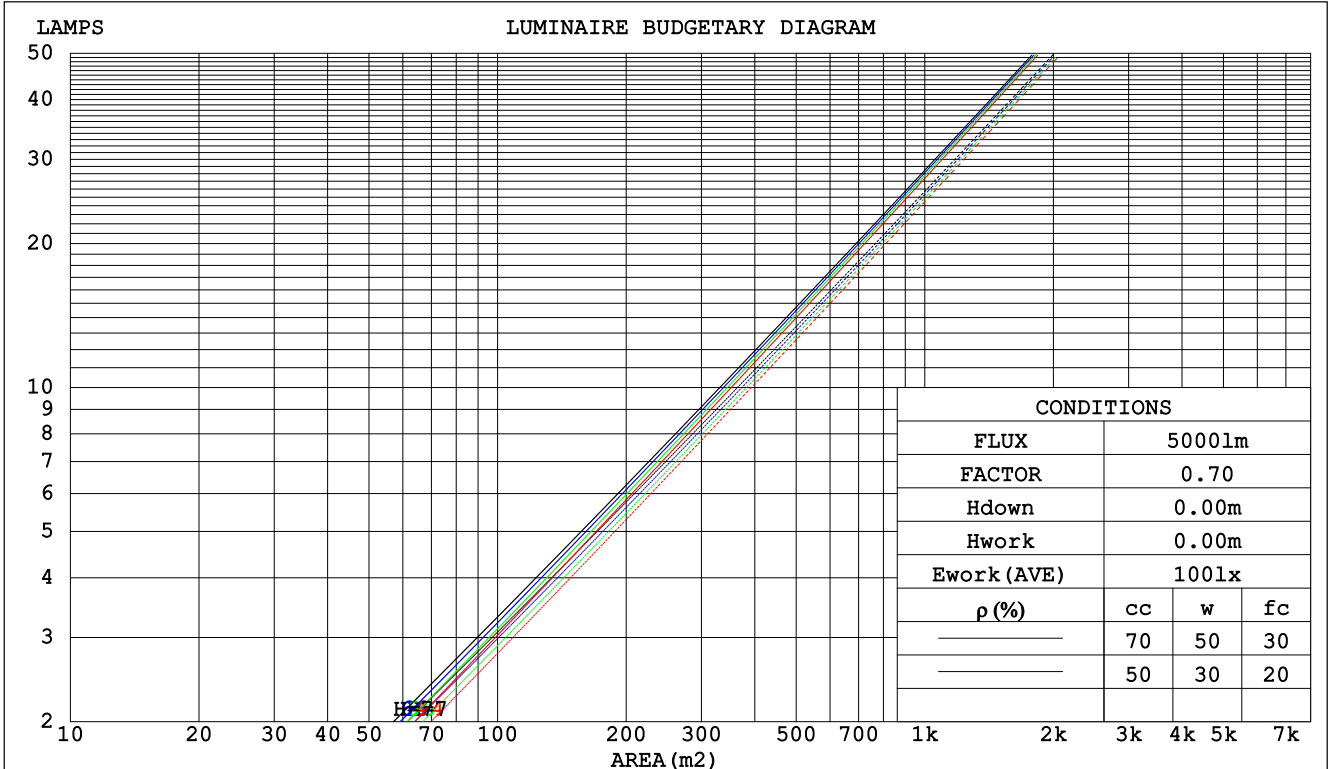
C Range: 0 - 360DEG
 C Interval: 90.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:Xie Bi
 Test Date:2024-04-16

γ Range: 0 - 180DEG
 γ Interval: 0.5DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.00.417
 Humidity:65.0%
 Test Distance:6.810m [K=1.0000]
 Remarks:

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

Test:U:232.47V I:0.0412A P:7.6805W PF:0.8025 Freq:49.37Hz Lamp Flux:495.8x1 lm		
NAME: 1601LED	TYPE:	WEIGHT:
SPEC.:P-1601LED-7W2724-CI50012R90-YML100	DIM.:	SERIAL No.:
MFR.: CETTIGA	SUR.:	Shielding Angle:

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						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	1.10	1.11	1.10	1.08	1.07	1.06	1.05	1.03	1.02	1.02	.00	.99	.99	.97
2.0	1.08	1.06	1.03	1.07	1.04	1.02	1.04	1.02	.00	1.01	.99	.98	.98	.97	.96	.94
3.0	1.04	1.01	.98	1.03	.00	.98	1.01	.98	.96	.98	.96	.95	.96	.94	.93	.92
4.0	1.01	.97	.94	.00	.96	.94	.98	.95	.93	.96	.94	.92	.94	.92	.91	.89
5.0	.98	.94	.91	.97	.93	.91	.95	.92	.90	.94	.91	.89	.92	.90	.88	.87
6.0	.95	.91	.88	.94	.90	.88	.93	.90	.87	.91	.89	.87	.90	.88	.86	.85
7.0	.92	.88	.86	.91	.88	.85	.90	.87	.85	.89	.87	.84	.88	.86	.84	.83
8.0	.90	.86	.83	.89	.86	.83	.88	.85	.83	.87	.85	.82	.87	.84	.82	.81
9.0	.87	.84	.81	.87	.83	.81	.86	.83	.81	.85	.83	.81	.85	.82	.80	.79
10.0	.85	.82	.79	.85	.82	.79	.84	.81	.79	.84	.81	.79	.83	.81	.79	.78



C Range: 0 - 360DEG
 C Interval: 90.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:Xie Bi
 Test Date:2024-04-16

γ Range: 0 - 180DEG
 γ Interval: 0.5DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.00.417
 Humidity:65.0%
 Test Distance:6.810m [K=1.0000]
 Remarks:

WEC AND CCEC

Test:U:232.47V I:0.0412A P:7.6805W PF:0.8025 Freq:49.37Hz Lamp Flux:495.8x1 lm		
NAME: 1601LED	TYPE:	WEIGHT:
SPEC.:P-1601LED-7W2724-CI50012R90-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						Wall Exitance Coefficients(WEC)									
0.0																
1.0	.129	.073	.023	.122	.070	.022	.109	.063	.020	.098	.056	.018	.087	.051	.016	
2.0	.118	.065	.020	.113	.062	.019	.102	.057	.018	.093	.052	.016	.084	.048	.015	
3.0	.110	.058	.017	.105	.056	.017	.096	.052	.016	.089	.048	.015	.081	.045	.014	
4.0	.102	.053	.016	.098	.051	.015	.091	.048	.014	.084	.045	.014	.078	.043	.013	
5.0	.096	.049	.014	.093	.048	.014	.087	.045	.013	.081	.043	.013	.076	.040	.012	
6.0	.090	.045	.013	.088	.044	.013	.082	.042	.012	.078	.040	.012	.073	.038	.011	
7.0	.086	.042	.012	.083	.042	.012	.079	.040	.011	.075	.038	.011	.071	.037	.011	
8.0	.082	.040	.011	.079	.039	.011	.075	.038	.011	.072	.036	.010	.068	.035	.010	
9.0	.078	.038	.011	.076	.037	.010	.072	.036	.010	.069	.035	.010	.066	.034	.010	
10.0	.074	.036	.010	.073	.035	.010	.070	.034	.010	.067	.033	.009	.064	.032	.009	

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						Ceiling Cavity Exitance Coefficients(CCEC)									
0.0	.193	.193	.193	.165	.165	.165	.113	.113	.113	.065	.065	.065	.021	.021	.021	
1.0	.170	.160	.151	.146	.138	.130	.100	.095	.090	.057	.055	.052	.018	.018	.017	
2.0	.152	.135	.121	.130	.116	.105	.089	.081	.073	.051	.047	.043	.016	.015	.014	
3.0	.136	.116	.099	.117	.100	.086	.080	.069	.061	.046	.040	.036	.015	.013	.012	
4.0	.123	.100	.083	.106	.087	.072	.073	.060	.051	.042	.035	.030	.014	.012	.010	
5.0	.112	.088	.070	.096	.076	.061	.066	.053	.043	.038	.031	.025	.012	.010	.008	
6.0	.103	.078	.059	.089	.067	.052	.061	.047	.037	.035	.028	.022	.011	.009	.007	
7.0	.095	.069	.051	.082	.060	.045	.057	.042	.032	.033	.025	.019	.011	.008	.006	
8.0	.089	.062	.045	.076	.054	.039	.053	.038	.028	.031	.022	.016	.010	.007	.005	
9.0	.083	.057	.039	.071	.049	.034	.049	.035	.024	.029	.020	.014	.009	.007	.005	
10.0	.078	.052	.035	.067	.045	.030	.047	.032	.021	.027	.019	.013	.009	.006	.004	

C Range: 0 - 360DEG
 C Interval: 90.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:Xie Bi
 Test Date:2024-04-16

γ Range: 0 - 180DEG
 γ Interval: 0.5DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.00.417
 Humidity:65.0%
 Test Distance:6.810m [K=1.0000]
 Remarks:

UGR(Unified Glare Rating) Table

Test:U:232.47V I:0.0412A P:7.6805W PF:0.8025 Freq:49.37Hz Lamp Flux:495.8x1 lm										
NAME: 1601LED					TYPE:			WEIGHT:		
SPEC.:P-1601LED-7W2724-CI50012R90-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	5.7	6.3	5.9	6.5	6.6	6.1	6.7	6.3	6.8	7.0
3H	5.6	6.1	5.8	6.3	6.5	6.0	6.5	6.2	6.7	6.9
4H	5.5	6.0	5.8	6.3	6.5	5.9	6.4	6.1	6.6	6.8
6H	5.4	5.9	5.7	6.2	6.4	5.8	6.3	6.1	6.5	6.8
8H	5.4	5.9	5.7	6.1	6.4	5.8	6.2	6.1	6.5	6.7
12H	5.3	5.8	5.7	6.1	6.3	5.7	6.2	6.0	6.4	6.7
4H 2H	5.5	6.0	5.8	6.3	6.5	5.9	6.4	6.1	6.6	6.8
3H	5.3	5.8	5.7	6.1	6.3	5.7	6.2	6.0	6.4	6.7
4H	5.2	5.7	5.6	6.0	6.3	5.6	6.0	6.0	6.3	6.6
6H	5.1	5.5	5.5	5.9	6.2	5.5	5.9	5.9	6.2	6.6
8H	5.1	5.4	5.5	5.8	6.2	5.5	5.8	5.8	6.2	6.5
12H	5.0	5.4	5.4	5.7	6.1	5.4	5.7	5.8	6.1	6.5
8H 4H	5.1	5.4	5.5	5.8	6.2	5.5	5.8	5.8	6.2	6.5
6H	5.0	5.3	5.4	5.7	6.1	5.3	5.6	5.8	6.0	6.4
8H	4.9	5.2	5.4	5.6	6.0	5.3	5.5	5.7	6.0	6.4
12H	4.8	5.1	5.3	5.5	6.0	5.2	5.4	5.7	5.9	6.4
12H 4H	5.0	5.4	5.4	5.7	6.1	5.4	5.7	5.8	6.1	6.5
6H	4.9	5.2	5.4	5.6	6.0	5.3	5.5	5.7	6.0	6.4
8H	4.8	5.1	5.3	5.5	6.0	5.2	5.4	5.7	5.9	6.4
Variations with the observer position at spacings:										
S = 1.0H	+ 3.5 / -22.9					+ 3.7 / -20.1				
1.5H	+ 5.9 / -18.4					+ 6.1 / -17.7				
2.0H	+ 7.7 / -36.1					+ 7.8 / -31.8				

CIE Pub.117, 495.8 lm Total Lamp Luminous Flux Correct (8log(F/F0) = -2.4)
 Area: 0.00159 m2

C Range: 0 - 360DEG
 C Interval: 90.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:Xie Bi
 Test Date:2024-04-16

γ Range: 0 - 180DEG
 γ Interval: 0.5DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.00.417
 Humidity:65.0%
 Test Distance:6.810m [K=1.0000]
 Remarks:

UTILIZATION FACTORS TABLE

Test:U:232.47V I:0.0412A P:7.6805W PF:0.8025 Freq:49.37Hz Lamp Flux:495.8x1 lm		
NAME: 1601LED	TYPE:	WEIGHT:
SPEC.:P-1601LED-7W2724-CI50012R90-YML100	DIM.:	SERIAL No.:
MFR.: CETTIGA	SUR.:	Shielding Angle:

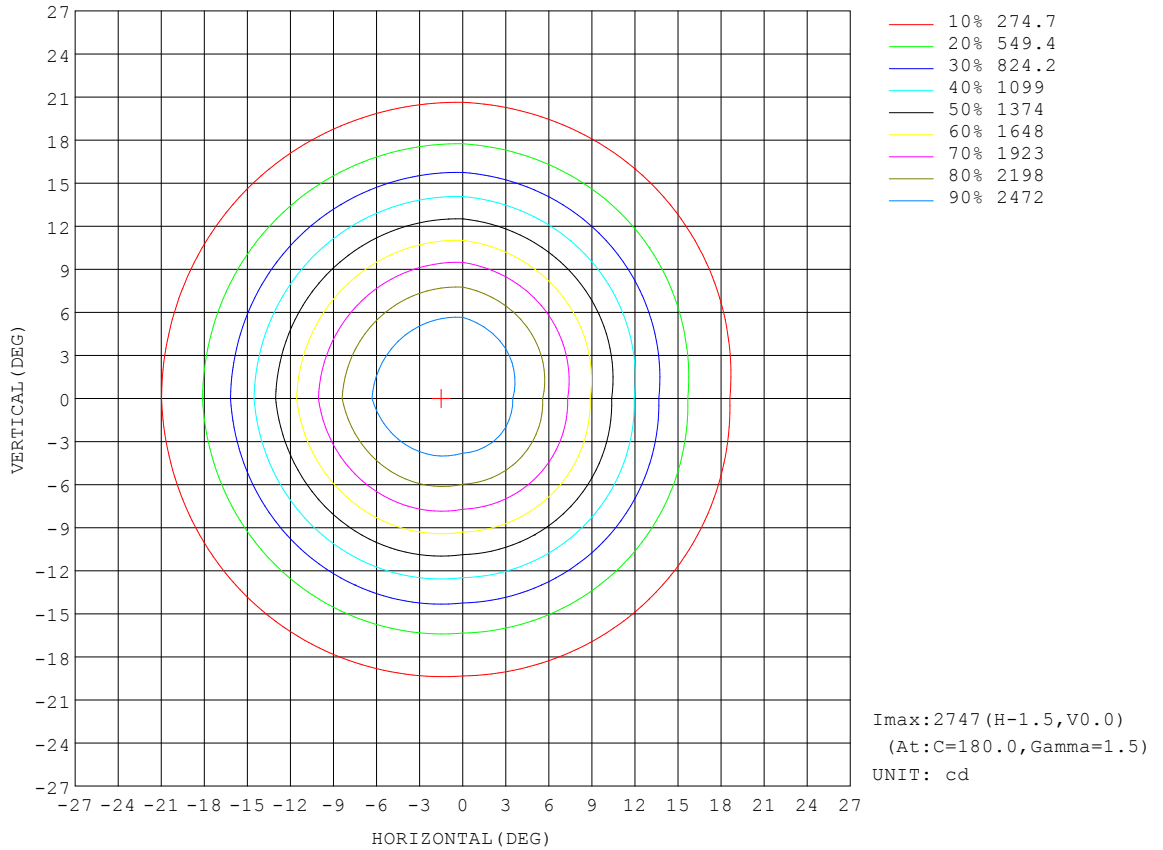
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS (PERCENT) $k(RI) \times RCR = 5$									
k = 0.60	91	85	82	91	85	82	90	85	82	79
0.80	98	93	90	97	92	89	96	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:2024-04-16

γ Range: 0 - 180DEG
 γ Interval: 0.5DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.00.417
 Humidity:65.0%
 Test Distance:6.810m [K=1.0000]
 Remarks:

ISOCANDELA DIAGRAM

Test:U:232.47V I:0.0412A P:7.6805W PF:0.8025 Freq:49.37Hz Lamp Flux:495.8x1 lm		
NAME: 1601LED	TYPE:	WEIGHT:
SPEC.:P-1601LED-7W2724-CI50012R90-YML100	DIM.:	SERIAL No.:
MFR.: CETTIGA	SUR.:	Shielding Angle:

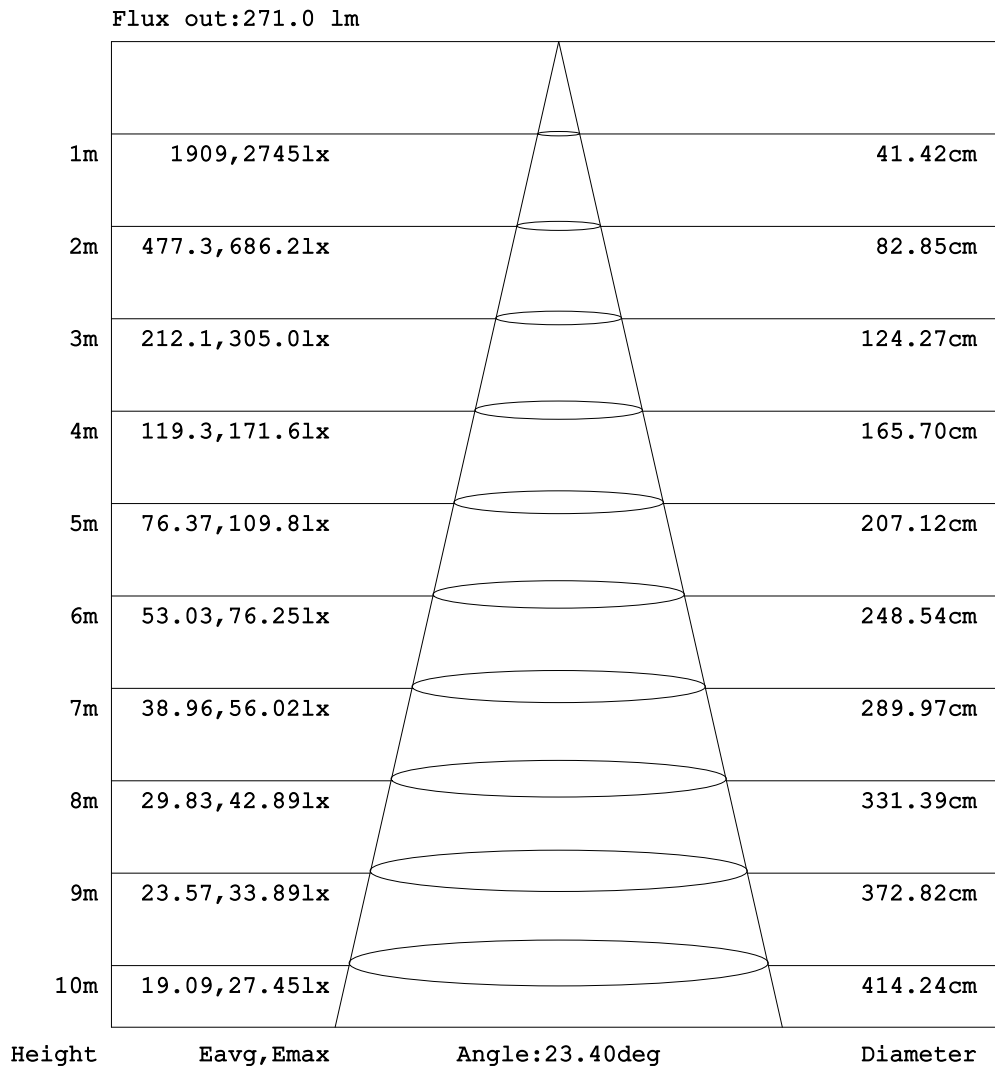


C Range: 0 - 360DEG
 C Interval: 90.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:Xie Bi
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γ Range: 0 - 180DEG
 γ Interval: 0.5DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.00.417
 Humidity:65.0%
 Test Distance:6.810m [K=1.0000]
 Remarks:

AAI Figure

Test:U:232.47V I:0.0412A P:7.6805W PF:0.8025 Freq:49.37Hz Lamp Flux:495.8x1 lm		
NAME: 1601LED	TYPE:	WEIGHT:
SPEC.:P-1601LED-7W2724-CI50012R90-YML100	DIM.:	SERIAL No.:
MFR.: CETTIGA	SUR.:	Shielding Angle:



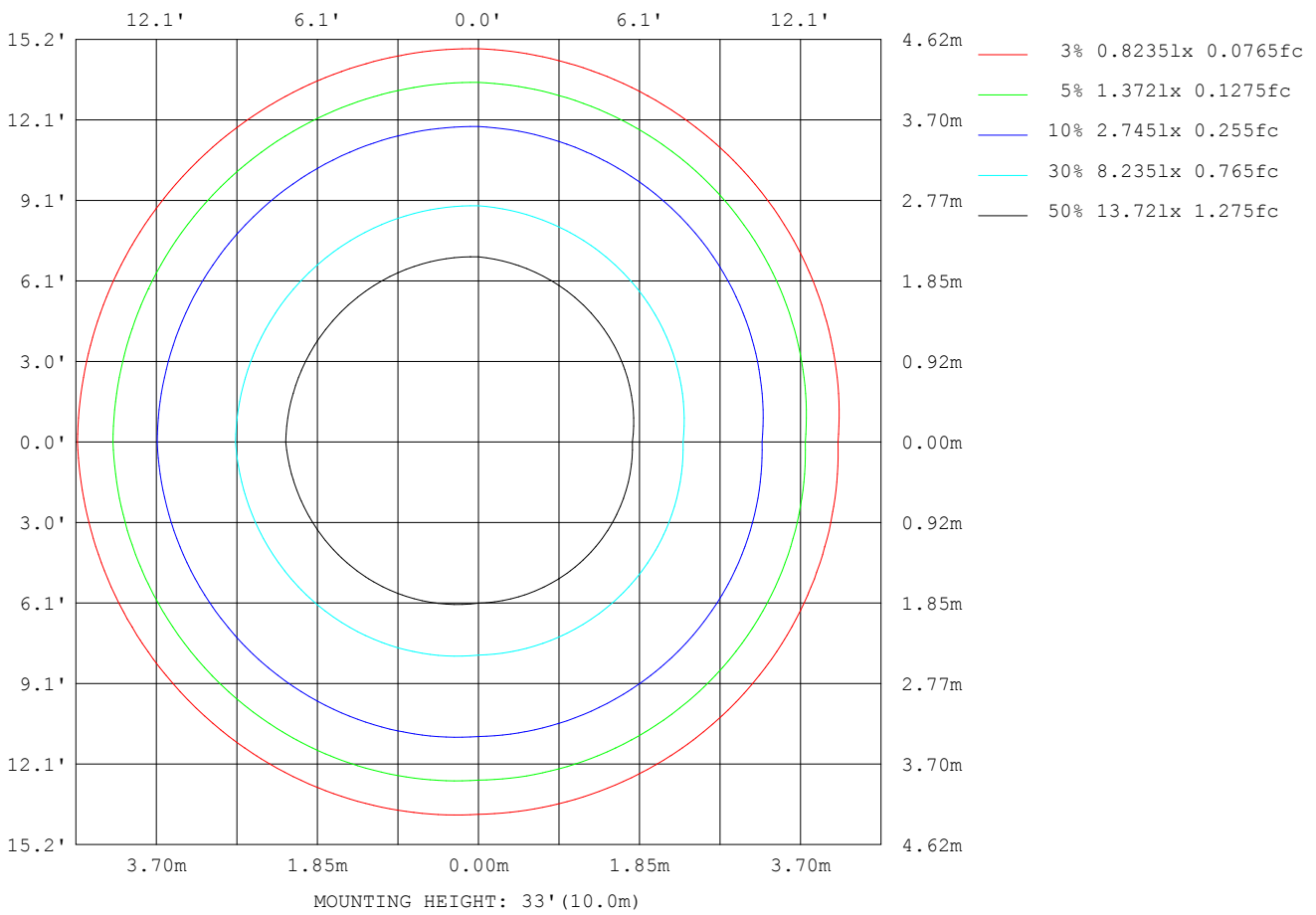
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
 C Interval: 90.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:Xie Bi
 Test Date:2024-04-16

γ Range: 0 - 180DEG
 γ Interval: 0.5DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.00.417
 Humidity:65.0%
 Test Distance:6.810m [K=1.0000]
 Remarks:

ISOLUX DIAGRAM

Test:U:232.47V I:0.0412A P:7.6805W PF:0.8025 Freq:49.37Hz Lamp Flux:495.8x1 lm		
NAME: 1601LED	TYPE:	WEIGHT:
SPEC.:P-1601LED-7W2724-CI50012R90-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:2024-04-16

γ Range: 0 - 180DEG
 γ Interval: 0.5DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.00.417
 Humidity:65.0%
 Test Distance:6.810m [K=1.0000]
 Remarks:

LED Avg.L Report

Test:U:232.47V I:0.0412A P:7.6805W PF:0.8025 Freq:49.37Hz Lamp Flux:495.8x1 lm		
NAME: 1601LED	TYPE:	WEIGHT:
SPEC.:P-1601LED-7W2724-CI50012R90-YML100	DIM.:	SERIAL No.:
MFR.: CETTIGA	SUR.:	Shielding Angle:

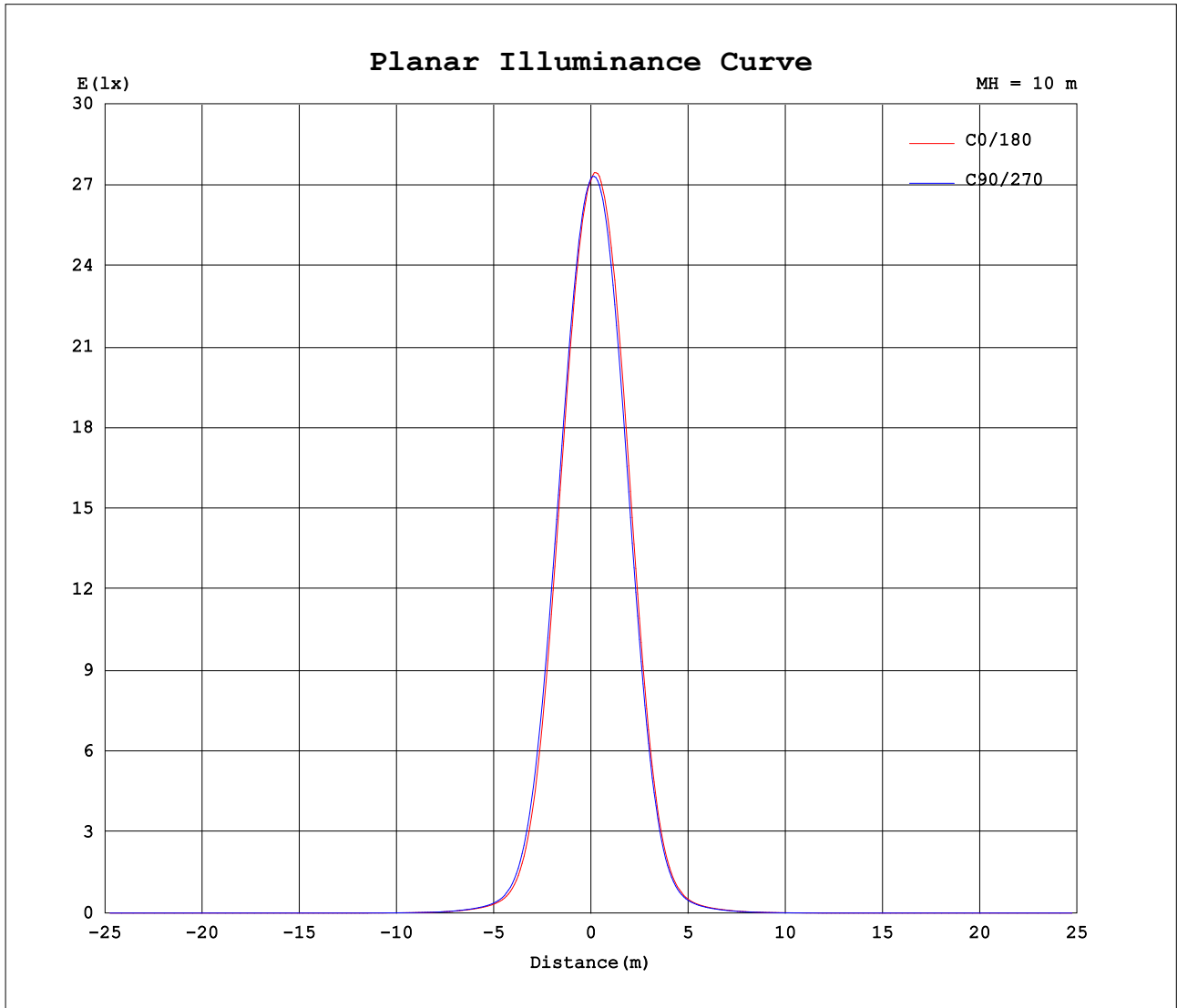
AvgL	cd/m2
L_0~180 (65) av	0
L_0~180 (75) av	0
L_0~180 (85) av	0
L_90~270 (65) av	5
L_90~270 (75) av	0
L_90~270 (85) av	0
L_45 (65) av	3
L_45 (75) av	0
L_45 (85) av	0

Standard: GB/T 29293-2012

C Range: 0 - 360DEG
 C Interval: 90.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:Xie Bi
 Test Date:2024-04-16

γ Range: 0 - 180DEG
 γ Interval: 0.5DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.00.417
 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:2024-04-16

γ Range: 0 - 180DEG
 γ Interval: 0.5DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.00.417
 Humidity:65.0%
 Test Distance:6.810m [K=1.0000]
 Remarks:

LUMINOUS DISTRIBUTION INTENSITY DATA

Test:U:232.47V I:0.0412A P:7.6805W PF:0.8025 Freq:49.37Hz Lamp Flux:495.8x1 lm		
NAME: 1601LED	TYPE:	WEIGHT:
SPEC.:P-1601LED-7W2724-CI50012R90-YML100	DIM.:	SERIAL No.:
MFR.: CETTIGA	SUR.:	Shielding Angle:

Table--1

UNIT: cd

C (DEG) \ γ (DEG)	0	90	180	270															
0	2717	2725	2717	2725															
5	2286	2331	2602	2542															
10	1441	1527	1933	1829															
15	635	722	1014	943															
20	193	231	352	322															
25	59.7	69.2	102	92.2															
30	28.4	31.2	40.3	37.0															
35	13.4	14.6	19.7	17.6															
40	5.81	6.08	8.34	7.48															
45	2.18	2.42	3.10	2.87															
50	0.63	0.65	0.98	0.85															
55	0.12	0.18	0.26	0.23															
60	0.05	0.07	0.10	0.09															
65	0.00	0.00	0.00	0.01															
70	0.00	0.00	0.00	0.00															
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	0.00	0.00	0.00															
125	0.00	0.00	0.00	0.00															
130	0.00	0.02	0.00	0.00															
135	0.02	0.05	0.01	0.01															
140	0.13	0.14	0.03	0.03															
145	0.42	0.39	0.10	0.10															
150	0.99	0.91	0.28	0.30															
155	1.73	1.67	0.66	0.71															
160	2.41	2.39	1.24	1.30															
165	2.79	2.79	1.85	1.87															
170	2.68	2.74	2.21	2.21															
175	2.37	2.48	2.25	2.30															
180	2.28	2.39	2.27	2.39															

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 C Interval: 90.0DEG
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