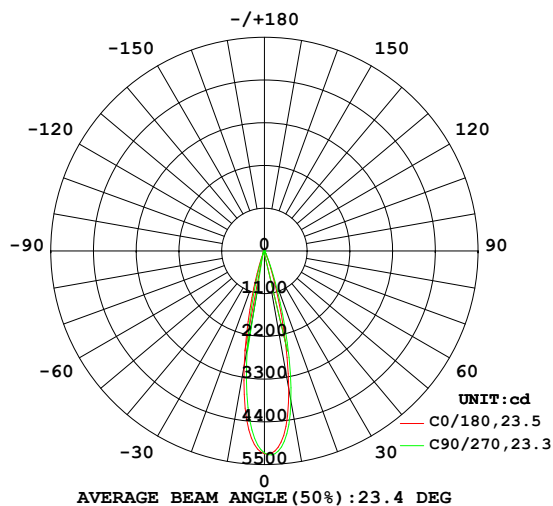


LUMINAIRE PHOTOMETRIC TEST REPORT

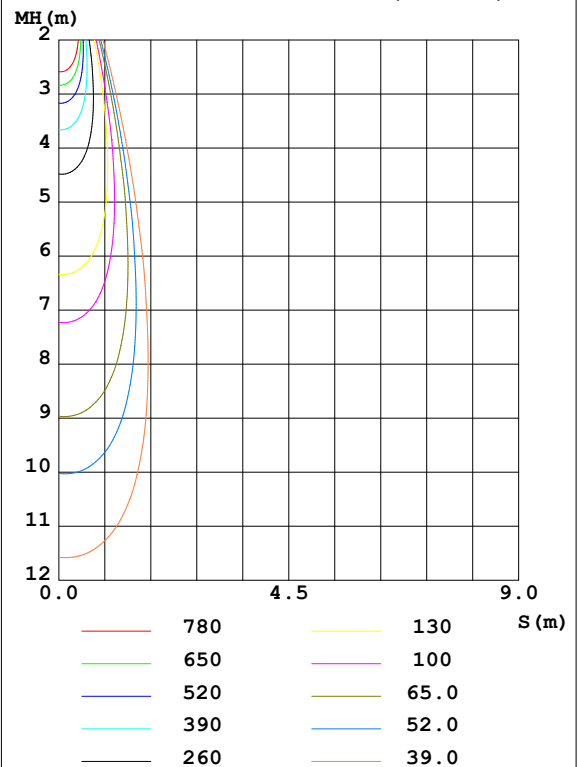
Test:U:220.6V I:0.0680A P:14.17W PF:0.9443 Freq:59.98Hz Lamp Flux:921.578x1 lm					
NAME: 3501LED		TYPE:		WEIGHT:	
SPEC.:P-3501LED-15W2724-CI40031R90-HEK700		DIM.:		SERIAL No.:	
MFR.: CETTIGA		SUR.:0.0003		Shielding Angle:	

DATA OF LAMP		PHOTOMETRIC DATA				Eff: 65.05 lm/W
MODEL	CLU701 1002	I _{max} (cd)	5254	S/MH (C0/180)	0.36	
NOMINAL POWER (W)	15W	LOR (%)	100.0	S/MH (C90/270)	0.33	
RATED VOLTAGE (V)	220.0	TOTAL FLUX (lm)	921.58	η UP, DN (C0-180)	0.2, 58.1	
NOMINAL FLUX (lm)	921.578	CIE CLASS	DIRECT	η UP, DN (C180-360)	0.1, 41.6	
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	

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: 2020-05-04

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System: EVERFINE GO-2000B_V1 SYSTEM V2.0.362
 Humidity: 65.0%
 Test Distance: 6.900m [K=1.0000]
 Remarks:

ZONAL FLUX DIAGRAM

ZONAL FLUX DIAGRAM:

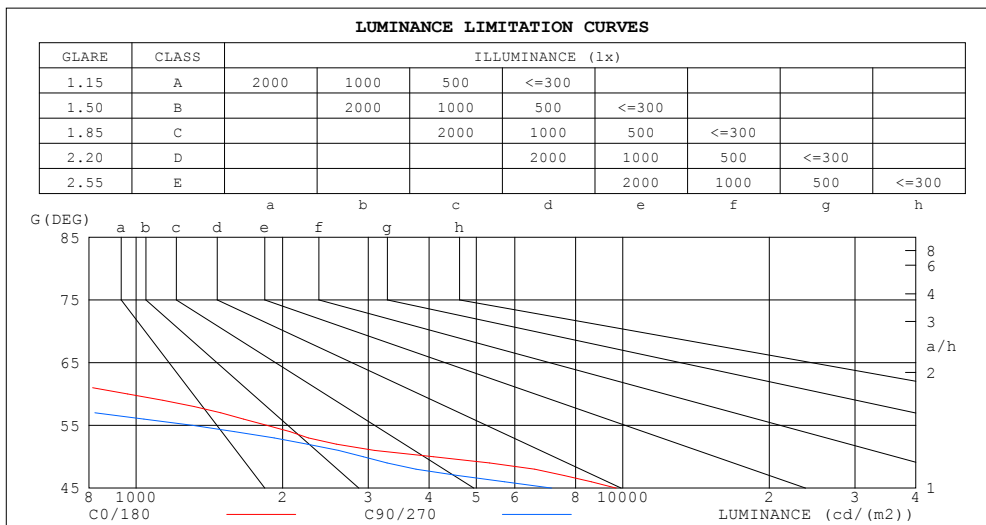
γ	C0	C90	C180	C270					γ	Φ zone	Φ total	%lum, lamp
10	3608	3919	3007	2545					0- 10	405.6	405.6	44,44
20	483.9	677.9	375.0	243.7					10- 20	412.3	817.9	88.8,88.8
30	59.95	67.16	51.90	43.54					20- 30	72.78	890.7	96.7,96.7
40	19.33	16.73	17.38	12.85					30- 40	19.86	910.6	98.8,98.8
50	3.934	2.824	3.256	2.171					40- 50	6.590	917.2	99.5,99.5
60	0.7207	0.2785	0.5624	0.2731					50- 60	1.247	918.4	99.7,99.7
70	0.0755	0.0117	0.0058	0.0638					60- 70	0.1700	918.6	99.7,99.7
80	0.0001	0	0	0.0290					70- 80	0.0232	918.6	99.7,99.7
90	0	0	0	0.0174					80- 90	0.0065	918.6	99.7,99.7
100	0	0	0	0.0116					90-100	0.0032	918.6	99.7,99.7
110	0	0	0.0174	0.0116					100-110	0.0044	918.6	99.7,99.7
120	0	0.0058	0.0406	0.0174					110-120	0.0092	918.6	99.7,99.7
130	0.0173	0.0348	0.0638	0.0232					120-130	0.0198	918.6	99.7,99.7
140	0.1738	0.1511	0.1336	0.0929					130-140	0.0475	918.7	99.7,99.7
150	1.333	1.114	0.7201	0.8408					140-150	0.2620	919.0	99.7,99.7
160	4.091	3.873	2.800	3.070					150-160	0.9659	919.9	99.8,99.8
170	5.252	5.292	4.286	4.277					160-170	1.214	921.1	100,100
180	4.457	4.405	4.410	4.376					170-180	0.4417	921.6	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:2020-05-04

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.362
Humidity:65.0%
Test Distance:6.900m [K=1.0000]
Remarks:

LUMINANCE LIMITATION CURVES

Test:U:220.6V I:0.0680A P:14.17W PF:0.9443 Freq:59.98Hz Lamp Flux:921.578x1 lm		
NAME: 3501LED	TYPE:	WEIGHT:
SPEC.:P-3501LED-15W2724-CI40031R90-HEK700	DIM.:	SERIAL No.:
MFR.: CETTIGA	SUR.:0.0003	Shielding Angle:



LUMINANCE cd/(m2)		
G (DEG)	C0/180	C90/270
85	0	0
80	0	0
75	90	15
70	147	23
65	468	46
60	961	371
55	1856	1307
50	4080	2929
45	9688	7138

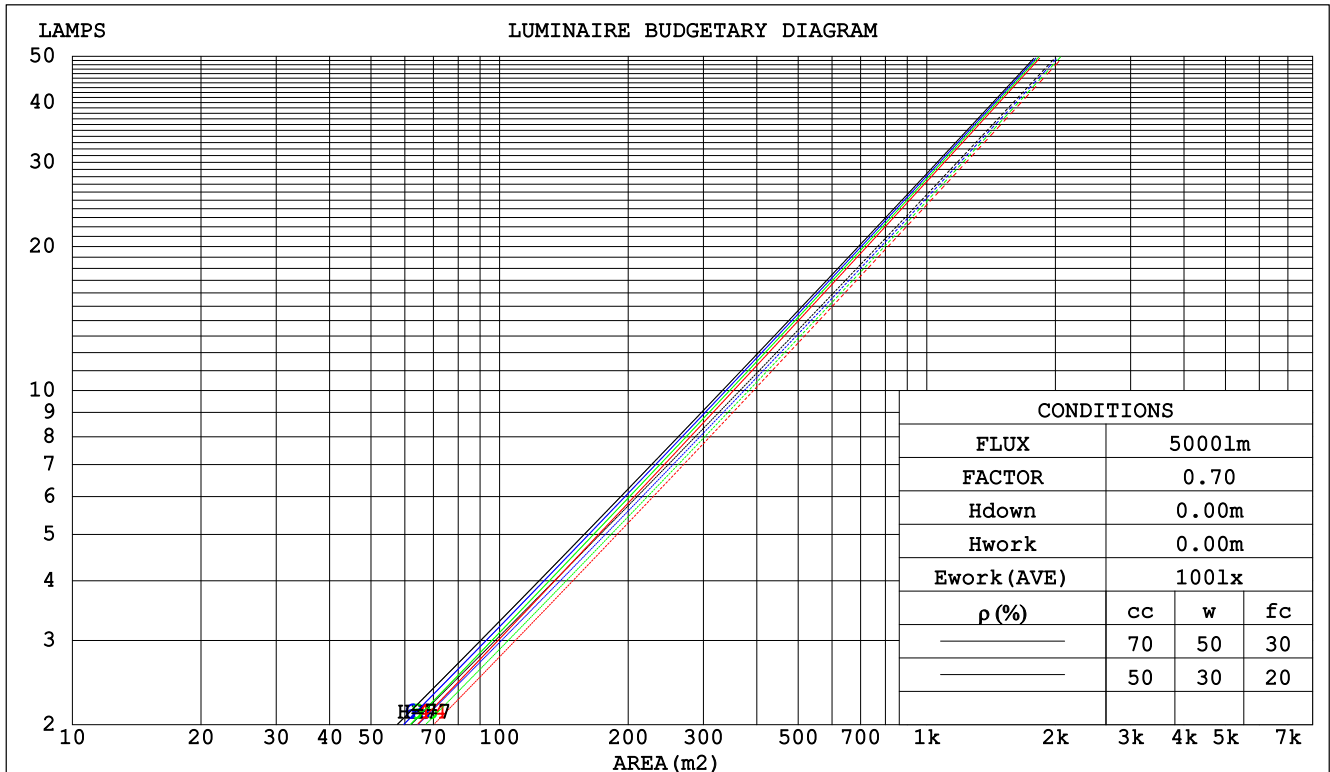
C Range: 0 - 360DEG
C Interval: 90.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:Xie Bi
Test Date:2020-05-04

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.362
Humidity:65.0%
Test Distance:6.900m [K=1.0000]
Remarks:

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

Test:U:220.6V I:0.0680A P:14.17W PF:0.9443 Freq:59.98Hz Lamp Flux:921.578x1 lm		
NAME: 3501LED	TYPE:	WEIGHT:
SPEC.:P-3501LED-15W2724-CI40031R90-HEK700	DIM.:	SERIAL No.:
MFR.: CETTIGA	SUR.:0.0003	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	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	1.12	1.10	1.11	1.10	1.08	1.07	1.06	1.05	1.03	1.03	1.02	1.00	.99	.99	.97
2.0	1.09	1.06	1.03	1.07	1.04	1.02	1.04	1.02	1.00	1.01	.99	.98	.98	.97	.96	.94
3.0	1.04	1.01	.99	1.03	1.00	.98	1.01	.98	.96	.98	.96	.95	.96	.95	.93	.92
4.0	1.01	.97	.95	.90	.97	.94	.98	.95	.93	.96	.94	.92	.94	.92	.91	.90
5.0	.98	.94	.91	.97	.94	.91	.95	.92	.90	.94	.91	.89	.92	.90	.89	.88
6.0	.95	.91	.89	.94	.91	.88	.93	.90	.88	.92	.89	.87	.91	.88	.87	.86
7.0	.92	.89	.86	.92	.88	.86	.91	.88	.85	.90	.87	.85	.89	.86	.85	.84
8.0	.90	.86	.84	.90	.86	.84	.89	.86	.83	.88	.85	.83	.87	.85	.83	.82
9.0	.88	.84	.82	.88	.84	.82	.87	.84	.81	.86	.83	.81	.85	.83	.81	.80
10.0	.86	.82	.80	.86	.82	.80	.85	.82	.80	.84	.82	.80	.84	.81	.79	.79



C Range: 0 - 360DEG
 C Interval: 90.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:Xie Bi
 Test Date:2020-05-04

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.362
 Humidity:65.0%
 Test Distance:6.900m [K=1.0000]
 Remarks:

WEC AND CCEC

Test:U:220.6V I:0.0680A P:14.17W PF:0.9443 Freq:59.98Hz Lamp Flux:921.578x1 lm					
NAME: 3501LED			TYPE:		WEIGHT:
SPEC.:P-3501LED-15W2724-CI40031R90-HEK700			DIM.:		SERIAL No.:
MFR.: CETTIGA			SUR.:0.0003		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	.128	.073	.023	.121	.069	.022	.108	.062	.020	.097	.056	.018	.086	.050	.016		
2.0	.117	.064	.020	.112	.062	.019	.101	.056	.018	.092	.052	.016	.083	.047	.015		
3.0	.108	.058	.017	.104	.056	.017	.095	.052	.016	.087	.048	.015	.080	.044	.014		
4.0	.101	.053	.015	.097	.051	.015	.090	.048	.014	.083	.045	.014	.077	.042	.013		
5.0	.095	.048	.014	.092	.047	.014	.085	.045	.013	.080	.042	.013	.074	.040	.012		
6.0	.089	.045	.013	.087	.044	.013	.081	.042	.012	.076	.040	.012	.072	.038	.011		
7.0	.085	.042	.012	.082	.041	.012	.078	.039	.011	.073	.038	.011	.069	.036	.011		
8.0	.080	.039	.011	.078	.039	.011	.074	.037	.011	.071	.036	.010	.067	.034	.010		
9.0	.077	.037	.010	.075	.036	.010	.071	.035	.010	.068	.034	.010	.065	.033	.010		
10.0	.073	.035	.010	.072	.035	.010	.069	.034	.009	.066	.033	.009	.063	.032	.009		

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	.170	.160	.151	.146	.138	.130	.100	.095	.090	.057	.055	.052	.018	.018	.017	
2.0	.151	.135	.122	.130	.116	.105	.089	.081	.073	.051	.047	.043	.016	.015	.014	
3.0	.136	.116	.100	.116	.100	.086	.080	.069	.061	.046	.040	.036	.015	.013	.012	
4.0	.123	.100	.083	.105	.087	.072	.073	.060	.051	.042	.035	.030	.013	.012	.010	
5.0	.112	.088	.070	.096	.076	.061	.066	.053	.043	.038	.031	.025	.012	.010	.008	
6.0	.103	.078	.060	.088	.067	.052	.061	.047	.037	.035	.028	.022	.011	.009	.007	
7.0	.095	.069	.051	.082	.060	.045	.056	.042	.032	.033	.025	.019	.011	.008	.006	
8.0	.088	.062	.045	.076	.054	.039	.052	.038	.028	.031	.022	.016	.010	.007	.005	
9.0	.082	.057	.039	.071	.049	.034	.049	.035	.024	.029	.020	.014	.009	.007	.005	
10.0	.077	.052	.035	.067	.045	.030	.046	.032	.022	.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:2020-05-04

γ Range: 0 - 180DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.362
Humidity:65.0%
Test Distance:6.900m [K=1.0000]
Remarks:

UGR(Unified Glare Rating) Table

Test:U:220.6V I:0.0680A P:14.17W PF:0.9443 Freq:59.98Hz Lamp Flux:921.578x1 lm											
NAME: 3501LED						TYPE:			WEIGHT:		
SPEC.:P-3501LED-15W2724-CI40031R90-HEK700						DIM.:			SERIAL No.:		
MFR.: CETTIGA						SUR.:0.0003			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		8.4	9.0	8.6	9.1	9.3	8.3	8.9	8.5	9.0	9.2
	3H	8.3	8.8	8.5	9.0	9.2	8.2	8.7	8.4	8.9	9.1
	4H	8.2	8.7	8.4	8.9	9.1	8.1	8.6	8.3	8.8	9.0
	6H	8.1	8.6	8.4	8.8	9.1	8.0	8.5	8.3	8.7	9.0
	8H	8.1	8.5	8.4	8.8	9.0	8.0	8.4	8.2	8.7	8.9
	12H	8.0	8.5	8.3	8.7	9.0	7.9	8.4	8.2	8.6	8.9
4H	2H	8.2	8.7	8.4	8.9	9.1	8.1	8.6	8.3	8.8	9.0
	3H	8.0	8.5	8.3	8.7	9.0	7.9	8.4	8.2	8.6	8.9
	4H	7.9	8.3	8.3	8.6	8.9	7.8	8.2	8.2	8.5	8.8
	6H	7.8	8.2	8.2	8.5	8.9	7.7	8.1	8.1	8.4	8.8
	8H	7.8	8.1	8.2	8.5	8.8	7.7	8.0	8.0	8.4	8.7
	12H	7.7	8.0	8.1	8.4	8.8	7.6	7.9	8.0	8.3	8.7
8H	4H	7.8	8.1	8.2	8.5	8.8	7.7	8.0	8.0	8.4	8.7
	6H	7.6	7.9	8.1	8.3	8.8	7.5	7.8	8.0	8.2	8.6
	8H	7.6	7.8	8.0	8.3	8.7	7.5	7.7	7.9	8.2	8.6
	12H	7.5	7.7	8.0	8.2	8.7	7.4	7.6	7.9	8.1	8.6
12H	4H	7.7	8.0	8.1	8.4	8.8	7.6	7.9	8.0	8.3	8.7
	6H	7.6	7.8	8.0	8.3	8.7	7.5	7.7	7.9	8.2	8.6
	8H	7.5	7.7	8.0	8.2	8.7	7.4	7.6	7.9	8.1	8.6
Variations with the observer position at spacings:											
S = 1.0H		+ 2.9 / -11.6					+ 3.2 / -14.7				
1.5H		+ 4.7 / - 9.5					+ 5.2 / - 9.8				
2.0H		+ 7.0 / -12.8					+ 6.6 / -14.8				

CIE Pub.117, 921.6 lm Total Lamp Luminous Flux Correct (8log(F/F0) = -0.3)

C Range: 0 - 360DEG
C Interval: 90.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:Xie Bi
Test Date:2020-05-04

γ Range: 0 - 180DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.362
Humidity:65.0%
Test Distance:6.900m [K=1.0000]
Remarks:

UTILIZATION FACTORS TABLE

Test:U:220.6V I:0.0680A P:14.17W PF:0.9443 Freq:59.98Hz Lamp Flux:921.578x1 lm		
NAME: 3501LED	TYPE:	WEIGHT:
SPEC.:P-3501LED-15W2724-CI40031R90-HEK700	DIM.:	SERIAL No.:
MFR.: CETTIGA	SUR.:0.0003	Shielding Angle:

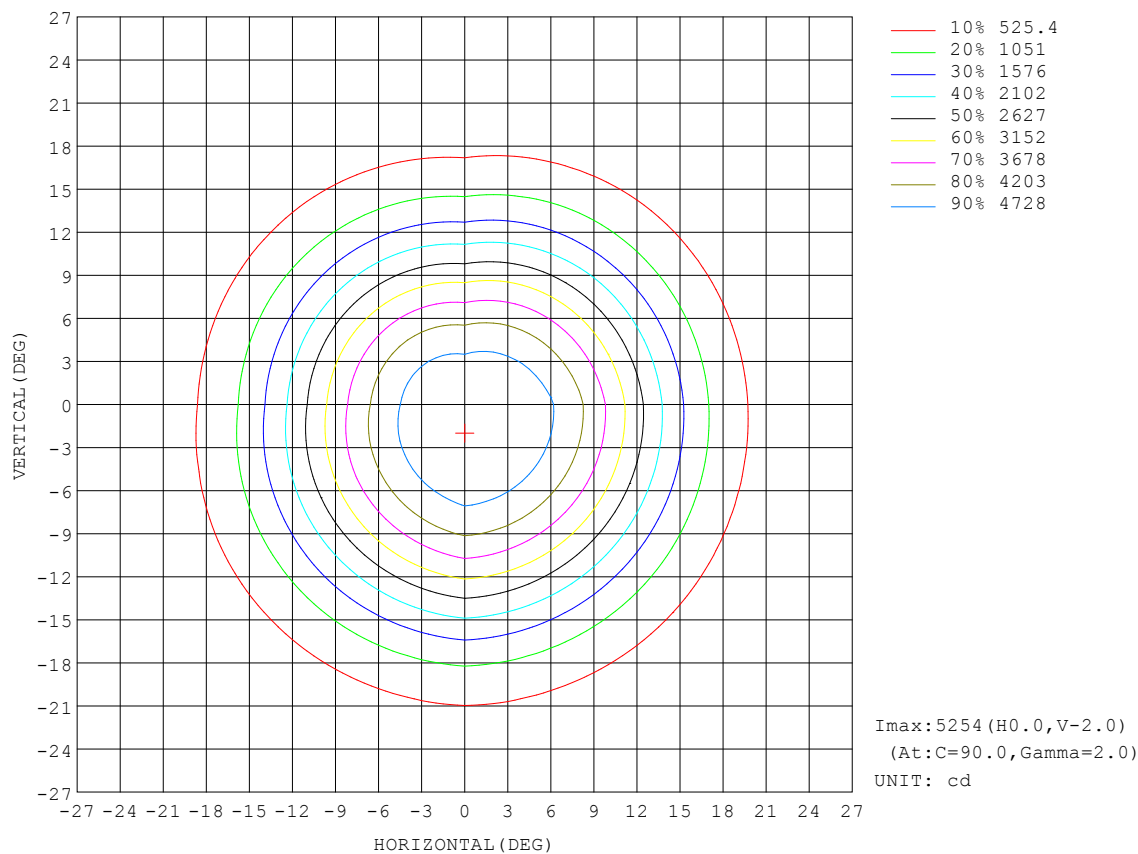
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS (PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	91	85	82	90	85	82	90	85	81	78
0.80	98	93	89	97	92	89	96	92	89	85
1.00	102	97	93	101	96	93	99	96	92	89
1.25	105	100	97	104	100	97	102	99	96	92
1.50	108	103	100	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	96
3.00	113	109	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	113	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:2020-05-04

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.362
Humidity:65.0%
Test Distance:6.900m [K=1.0000]
Remarks:

ISOCANDELA DIAGRAM

Test:U:220.6V I:0.0680A P:14.17W PF:0.9443 Freq:59.98Hz Lamp Flux:921.578x1 lm		
NAME: 3501LED	TYPE:	WEIGHT:
SPEC.:P-3501LED-15W2724-CI40031R90-HEK700	DIM.:	SERIAL No.:
MFR.: CETTIGA	SUR.:0.0003	Shielding Angle:

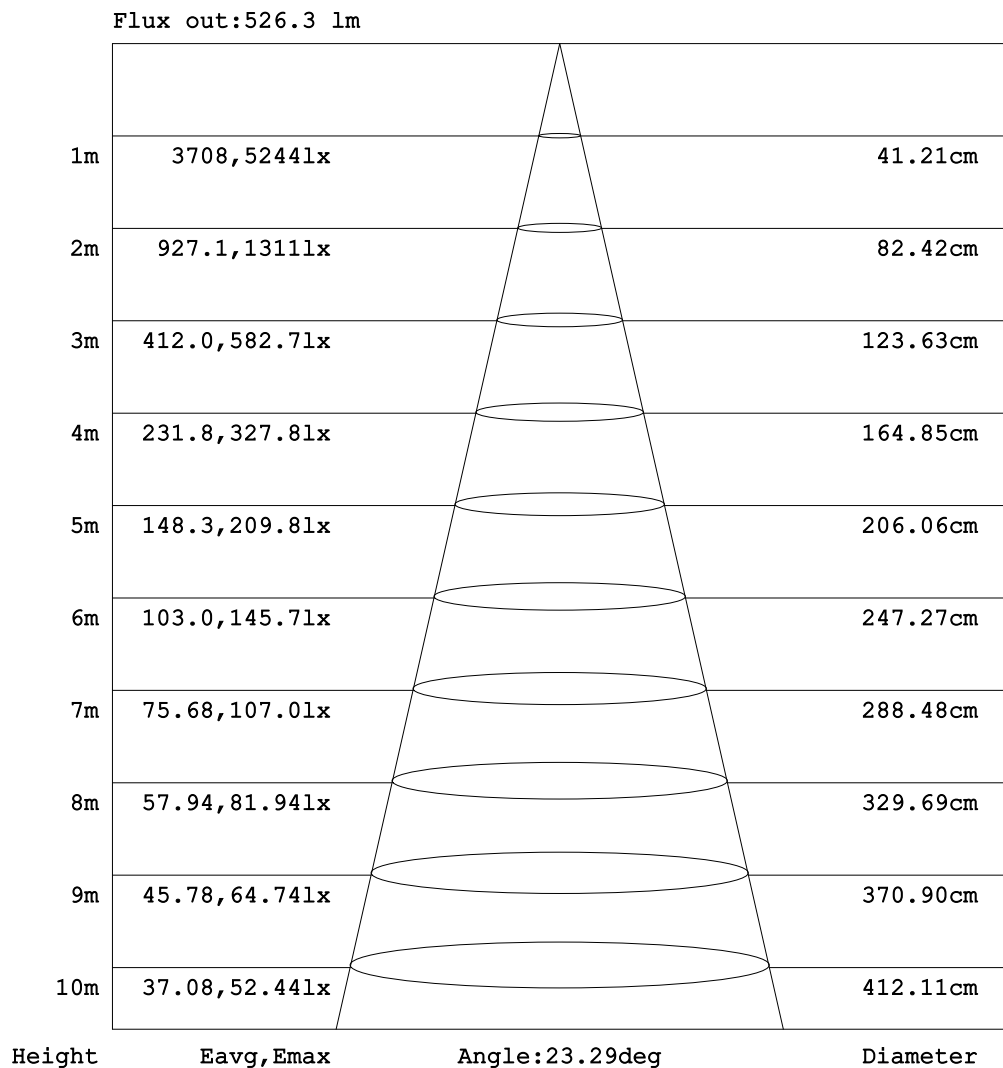


C Range: 0 - 360DEG
C Interval: 90.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:Xie Bi
Test Date:2020-05-04

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.362
Humidity:65.0%
Test Distance:6.900m [K=1.0000]
Remarks:

AAI Figure

Test:U:220.6V I:0.0680A P:14.17W PF:0.9443 Freq:59.98Hz Lamp Flux:921.578x1 lm		
NAME: 3501LED	TYPE:	WEIGHT:
SPEC.:P-3501LED-15W2724-CI40031R90-HEK700	DIM.:	SERIAL No.:
MFR.: CETTIGA	SUR.:0.0003	Shielding Angle:



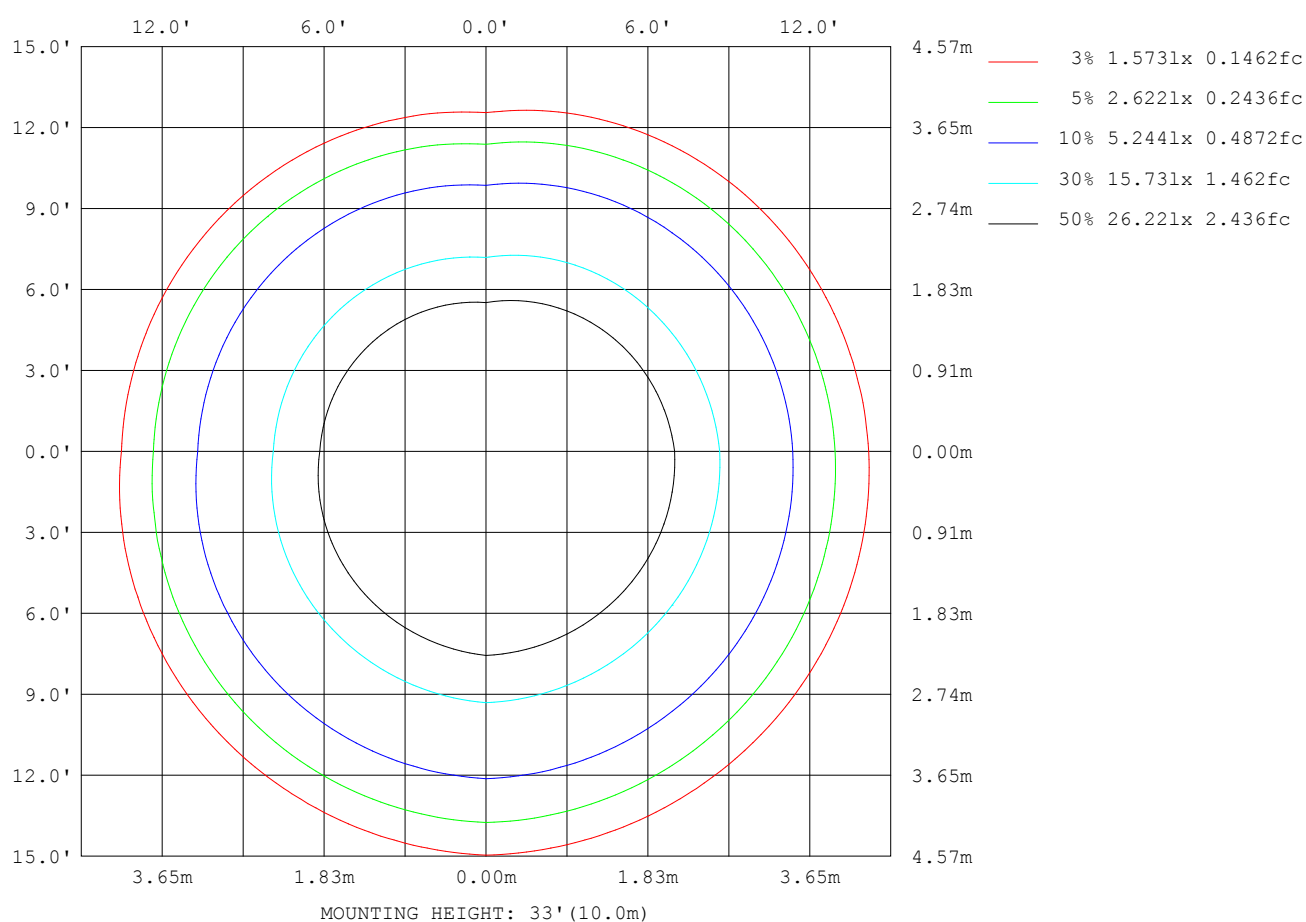
Note: The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
C Interval: 90.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators: Xie Bi
Test Date: 2020-05-04

γ Range: 0 - 180DEG
γ Interval: 1.0DEG
Test System: EVERFINE GO-2000B_V1 SYSTEM V2.0.362
Humidity: 65.0%
Test Distance: 6.900m [K=1.0000]
Remarks:

ISOLUX DIAGRAM

Test:U:220.6V I:0.0680A P:14.17W PF:0.9443 Freq:59.98Hz Lamp Flux:921.578x1 lm		
NAME: 3501LED	TYPE:	WEIGHT:
SPEC.:P-3501LED-15W2724-CI40031R90-HEK700	DIM.:	SERIAL No.:
MFR.: CETTIGA	SUR.:0.0003	Shielding Angle:



C Range: 0 - 360DEG
 C Interval: 90.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:Xie Bi
 Test Date:2020-05-04

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.362
 Humidity:65.0%
 Test Distance:6.900m [K=1.0000]
 Remarks:

LED Avg.L Report

Test:U:220.6V I:0.0680A P:14.17W PF:0.9443 Freq:59.98Hz Lamp Flux:921.578x1 lm		
NAME: 3501LED	TYPE:	WEIGHT:
SPEC.:P-3501LED-15W2724-CI40031R90-HEK700	DIM.:	SERIAL No.:
MFR.: CETTIGA	SUR.:0.0003	Shielding Angle:

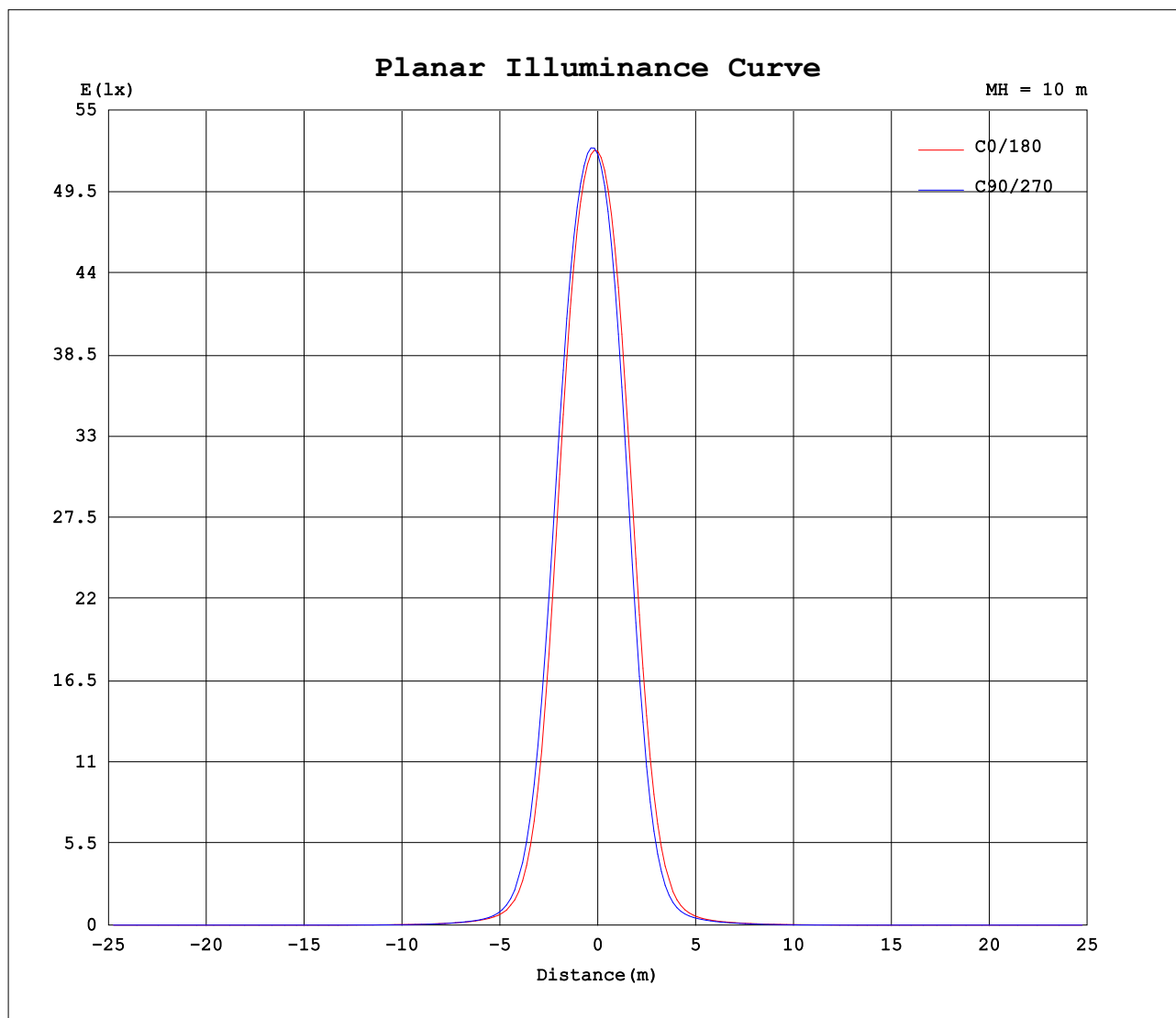
AvgL	cd/m2
L_0~180 (65) av	362
L_0~180 (75) av	45
L_0~180 (85) av	0
L_90~270 (65) av	105
L_90~270 (75) av	60
L_90~270 (85) av	89
L_45 (65) av	195
L_45 (75) av	52
L_45 (85) av	58

Standard: GB/T 29293-2012

C Range: 0 - 360DEG
 C Interval: 90.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:Xie Bi
 Test Date:2020-05-04

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.362
 Humidity:65.0%
 Test Distance:6.900m [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: 2020-05-04

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
Test System: EVERFINE GO-2000B_V1 SYSTEM V2.0.362
Humidity: 65.0%
Test Distance: 6.900m [K=1.0000]
Remarks:

LUMINOUS DISTRIBUTION INTENSITY DATA

Test:U:220.6V I:0.0680A P:14.17W PF:0.9443 Freq:59.98Hz Lamp Flux:921.578x1 lm		
NAME: 3501LED	TYPE:	WEIGHT:
SPEC.:P-3501LED-15W2724-CI40031R90-HEK700	DIM.:	SERIAL No.:
MFR.: CETTIGA	SUR.:0.0003	Shielding Angle:

Table--1

UNIT: cd

C (DEG) γ (DEG)	0	90	180	270															
0	5222	5200	5222	5200															
5	4938	5063	4622	4364															
10	3608	3919	3007	2545															
15	1662	2059	1247	920															
20	484	678	375	244															
25	136	183	112	83.7															
30	59.9	67.2	51.9	43.5															
35	33.2	35.1	29.8	24.8															
40	19.3	16.7	17.4	12.9															
45	10.3	7.57	9.23	5.77															
50	3.93	2.82	3.26	2.17															
55	1.60	1.12	1.51	0.87															
60	0.72	0.28	0.56	0.27															
65	0.30	0.03	0.16	0.10															
70	0.08	0.01	0.01	0.06															
75	0.03	0.01	0.00	0.04															
80	0.00	0.00	0.00	0.03															
85	0.00	0.00	0.00	0.02															
90	0.00	0.00	0.00	0.02															
95	0.00	0.00	0.00	0.01															
100	0.00	0.00	0.00	0.01															
105	0.00	0.00	0.01	0.01															
110	0.00	0.00	0.02	0.01															
115	0.00	0.00	0.02	0.01															
120	0.00	0.01	0.04	0.02															
125	0.00	0.02	0.05	0.02															
130	0.02	0.03	0.06	0.02															
135	0.02	0.07	0.08	0.02															
140	0.17	0.15	0.13	0.09															
145	0.49	0.41	0.27	0.28															
150	1.33	1.11	0.72	0.84															
155	2.67	2.36	1.63	1.86															
160	4.09	3.87	2.80	3.07															
165	5.06	5.04	3.83	3.99															
170	5.25	5.29	4.29	4.28															
175	4.81	4.83	4.33	4.14															
180	4.46	4.40	4.41	4.38															

C Range: 0 - 360DEG
C Interval: 90.0DEG
Test Speed: HIGH
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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%
Test Distance:6.900m [K=1.0000]
Remarks: