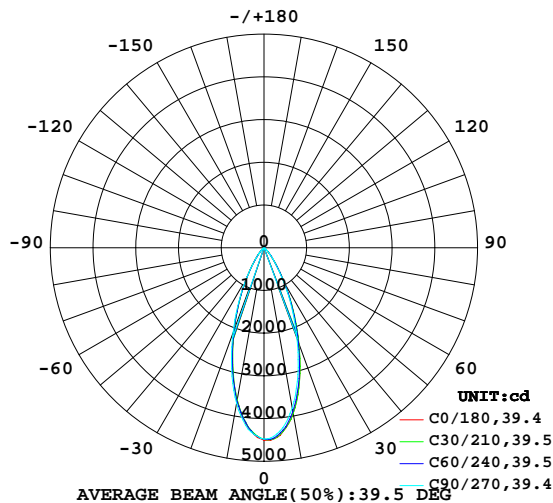


## LUMINAIRE PHOTOMETRIC TEST REPORT

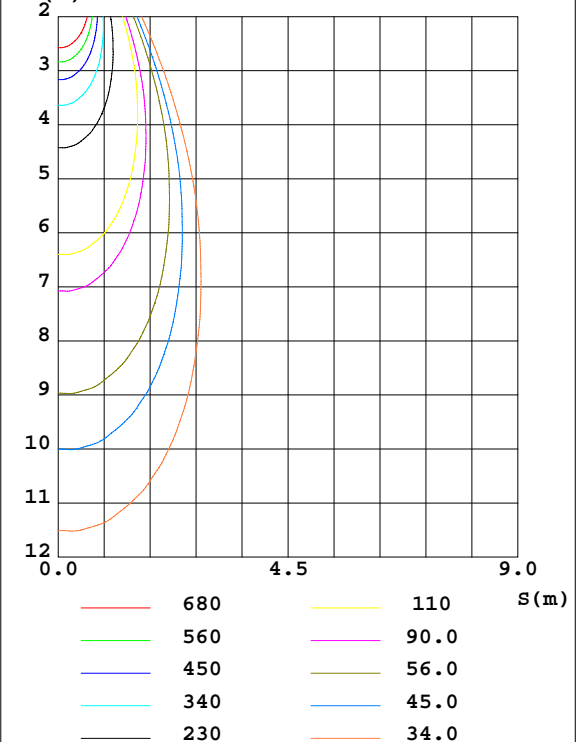
Test:U:229.88V I:0.1725A P:38.738W PF:0.9772 Freq:49.99Hz Lamp Flux:2328.05x1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.: 228*48	SERIAL No.:
MFR.:	SUR.:3.14*0.0.103*0.103	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 60.10 lm/W			
MODEL		Imax(cd)	4510	S/MH(C0/180)	0.67
NOMINAL POWER(W)	39	LOR(%)	100.0	S/MH(C90/270)	0.65
RATED VOLTAGE(V)	230.0	TOTAL FLUX(lm)	2328.0	$\eta$ UP,DN(C0-180)	0.0,51.8
NOMINAL FLUX(lm)	2328.05	CIE CLASS	DIRECT	$\eta$ UP,DN(C180-360)	0.0,48.2
LAMPS INSIDE	1	$\eta$ up(%)	0.0	CIBSE SHR NOM	0.50
TEST VOLTAGE(V)	230.0	$\eta$ down(%)	100.0	CIBSE SHR MAX	0.65

LUMINOUS INTENSITY DISTRIBUTION DIAGRAM



C0 PLANE ISOLUX DIAGRAM (UNIT:lx)



C Range: 0 - 360DEG  
C Interval: 15.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:  
Test Date:2022-07-20

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 1.0DEG  
Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.406.10  
Humidity:65.0%  
Test Distance:11.700m [K=1.0000]  
Remarks:

## ZONAL FLUX DIAGRAM

## ZONAL FLUX DIAGRAM:

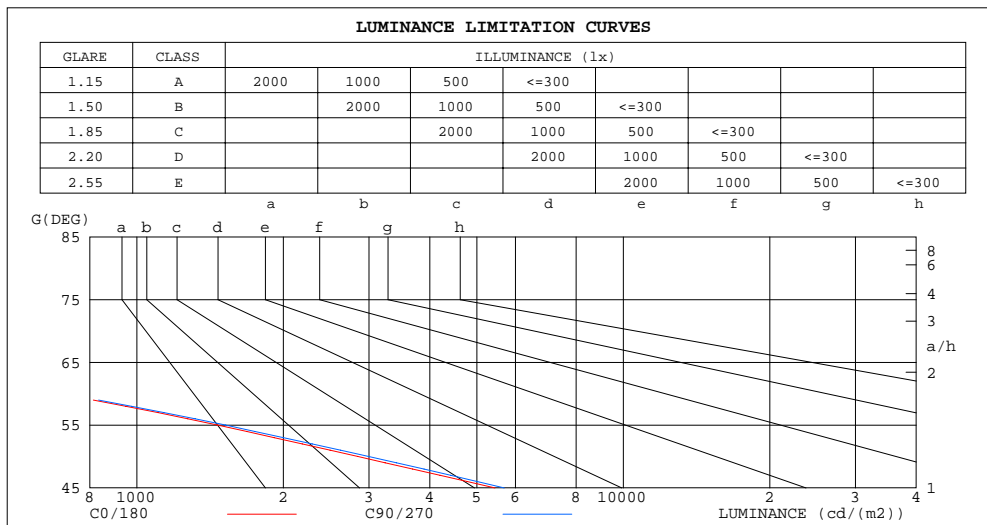
$\gamma$	C0	C45	C90	C135	C180	C225	C270	C315	$\gamma$	$\Phi$ zone	$\Phi$ total	$\Phi$ lum, lamp
10	3930	3935	3818	3690	3626	3608	3694	3813	0- 10	392.2	392.2	16.8,16.8
20	2378	2403	2265	2135	2050	2023	2118	2227	10- 20	826.2	1218	52.3,52.3
30	955.6	996.0	927.2	862.8	810.2	780.4	814.0	860.1	20- 30	671.6	1890	81.2,81.2
40	266.0	283.8	271.5	246.6	226.9	212.1	213.6	228.7	30- 40	306.9	2197	94.4,94.4
50	60.85	67.71	64.06	60.30	56.08	52.27	51.42	52.64	40- 50	99.10	2296	98.6,98.6
60	11.54	12.61	11.79	11.15	10.07	9.712	9.744	10.17	50- 60	25.89	2322	99.7,99.7
70	1.827	1.881	1.826	1.726	1.631	1.713	1.597	1.745	60- 70	4.479	2326	99.9,99.9
80	0.7650	0.6953	0.7223	0.6099	0.6263	0.7142	0.5924	0.7397	70- 80	1.218	2328	100,100
90	0.1203	0.1031	0.0945	0.0945	0.1890	0.1976	0.1804	0.1976	80- 90	0.3909	2328	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		

C Range: 0 - 360DEG  
 C Interval: 15.0DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:  
 Test Date:2022-07-20

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 1.0DEG  
 Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.406.10  
 Humidity:65.0%  
 Test Distance:11.700m [K=1.0000]  
 Remarks:

## LUMINANCE LIMITATION CURVES

Test:U:229.88V I:0.1725A P:38.738W PF:0.9772 Freq:49.99Hz Lamp Flux:2328.05x1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.: 228*48	SERIAL No.:
MFR.:	SUR.:3.14*0.0.103*0.103	Shielding Angle:



LUMINANCE cd/(m2)		
G(DEG)	C0/180	C90/270
85	136	127
80	132	125
75	139	137
70	160	160
65	279	279
60	693	708
55	1465	1522
50	2842	2992
45	5446	5693

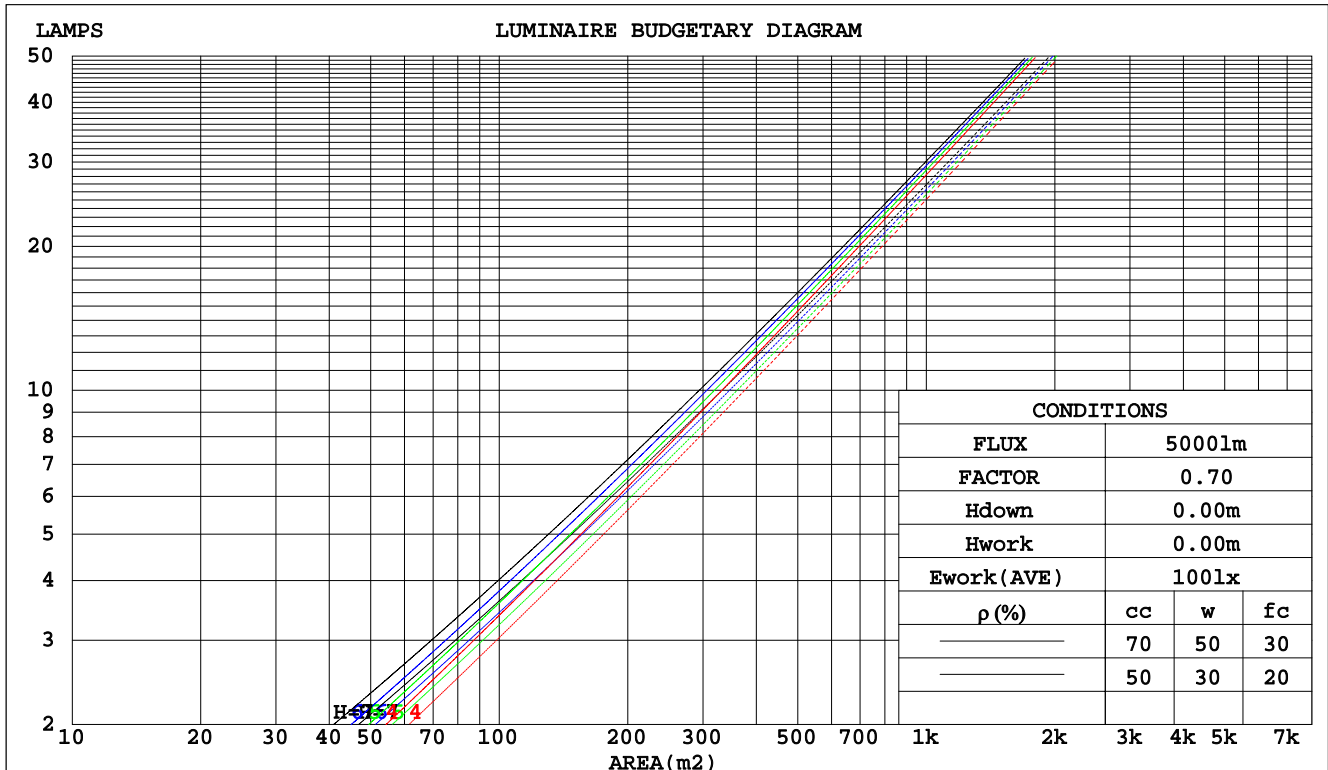
C Range: 0 - 360DEG  
C Interval: 15.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:  
Test Date:2022-07-20

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 1.0DEG  
Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.406.10  
Humidity:65.0%  
Test Distance:11.700m [K=1.0000]  
Remarks:

## CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

Test:U:229.88V I:0.1725A P:38.738W PF:0.9772 Freq:49.99Hz Lamp Flux:2328.05x1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.: 228*48	SERIAL No.:
MFR.:	SUR.:3.14*0.0.103*0.103	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	1.11	1.09	1.07	1.09	1.07	1.05	1.05	1.04	1.02	1.02	1.00	.99	.98	.97	.96	.95
2.0	1.05	1.01	.98	1.03	.90	.97	.90	.97	.95	.97	.95	.93	.94	.92	.91	.89
3.0	.98	.94	.90	.97	.93	.90	.94	.91	.88	.92	.89	.87	.90	.88	.85	.84
4.0	.93	.88	.84	.92	.87	.84	.90	.86	.83	.88	.84	.82	.86	.83	.81	.79
5.0	.88	.83	.79	.87	.82	.78	.85	.81	.78	.84	.80	.77	.82	.79	.76	.75
6.0	.83	.78	.74	.82	.77	.74	.81	.77	.73	.80	.76	.73	.78	.75	.72	.71
7.0	.79	.74	.70	.78	.73	.70	.77	.73	.69	.76	.72	.69	.75	.71	.69	.67
8.0	.75	.70	.66	.75	.70	.66	.74	.69	.66	.73	.69	.65	.72	.68	.65	.64
9.0	.72	.66	.63	.71	.66	.63	.70	.66	.63	.70	.65	.62	.69	.65	.62	.61
10.0	.69	.63	.60	.68	.63	.60	.67	.63	.60	.67	.62	.59	.66	.62	.59	.58



C Range: 0 - 360DEG  
 C Interval: 15.0DEG  
 Test Speed: HIGH  
 Temperature: 25.3DEG  
 Operators:  
 Test Date: 2022-07-20

γ Range: 0 - 90DEG  
 γ Interval: 1.0DEG  
 Test System: EVERFINE GO-2000A\_V1 SYSTEM V2.0.406.10  
 Humidity: 65.0%  
 Test Distance: 11.700m [K=1.0000]  
 Remarks:

## WEC AND CCEC

Test:U:229.88V I:0.1725A P:38.738W PF:0.9772 Freq:49.99Hz Lamp Flux:2328.05x1 lm					
NAME:		TYPE:		WEIGHT:	
SPEC.:		DIM.: 228*48		SERIAL No.:	
MFR.:		SUR.:3.14*0.0.103*0.103		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	.164	.093	.030	.158	.090	.029	.145	.083	.027	.134	.077	.025	.123	.071	.023	
2.0	.156	.086	.026	.151	.083	.026	.140	.078	.024	.130	.073	.023	.121	.069	.022	
3.0	.148	.079	.024	.143	.077	.023	.134	.073	.022	.126	.069	.021	.119	.066	.020	
4.0	.141	.073	.021	.137	.071	.021	.129	.068	.020	.122	.065	.020	.115	.063	.019	
5.0	.134	.068	.020	.130	.067	.019	.124	.064	.019	.118	.062	.018	.112	.060	.018	
6.0	.128	.064	.018	.125	.063	.018	.119	.061	.018	.113	.059	.017	.108	.057	.017	
7.0	.122	.060	.017	.119	.059	.017	.114	.058	.017	.109	.056	.016	.105	.054	.016	
8.0	.117	.057	.016	.114	.056	.016	.110	.055	.016	.105	.053	.015	.101	.052	.015	
9.0	.112	.054	.015	.110	.053	.015	.106	.052	.015	.102	.051	.015	.098	.050	.014	
10.0	.107	.051	.014	.105	.051	.014	.102	.050	.014	.098	.049	.014	.095	.048	.014	

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	.170	.157	.146	.146	.135	.126	.100	.093	.087	.057	.054	.050	.018	.017	.016	
2.0	.154	.133	.114	.132	.114	.099	.090	.079	.069	.052	.046	.040	.017	.015	.013	
3.0	.141	.113	.092	.121	.098	.079	.083	.068	.056	.048	.040	.033	.015	.013	.011	
4.0	.130	.099	.074	.112	.085	.065	.077	.059	.046	.044	.035	.027	.014	.011	.009	
5.0	.121	.087	.062	.104	.075	.054	.072	.052	.038	.041	.031	.022	.013	.010	.007	
6.0	.113	.077	.052	.097	.067	.045	.067	.047	.032	.039	.028	.019	.013	.009	.006	
7.0	.106	.070	.044	.091	.060	.038	.063	.042	.027	.037	.025	.016	.012	.008	.005	
8.0	.100	.063	.038	.086	.055	.033	.060	.038	.023	.035	.023	.014	.011	.007	.005	
9.0	.095	.058	.033	.082	.050	.028	.057	.035	.020	.033	.021	.012	.011	.007	.004	
10.0	.091	.053	.029	.078	.046	.025	.054	.033	.018	.032	.019	.011	.010	.006	.003	

C Range: 0 - 360DEG  
C Interval: 15.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:  
Test Date:2022-07-20

γ Range: 0 - 90DEG  
γ Interval: 1.0DEG  
Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.406.10  
Humidity:65.0%  
Test Distance:11.700m [K=1.0000]  
Remarks:

## UGR(Unified Glare Rating) Table

Test:U:229.88V I:0.1725A P:38.738W PF:0.9772 Freq:49.99Hz Lamp Flux:2328.05x1 lm											
NAME:			TYPE:			WEIGHT:					
SPEC.:			DIM.: 228*48			SERIAL No.:					
MFR.:			SUR.:3.14*0.0.103*0.103			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	13.2	14.1	13.5	14.3	14.4	13.2	14.0	13.4	14.2	14.4	
	3H	13.1	13.9	13.3	14.1	14.3	13.0	13.8	13.3	14.0	14.2
	4H	13.0	13.7	13.3	14.0	14.2	12.9	13.7	13.2	13.9	14.1
	6H	12.9	13.6	13.2	13.9	14.1	12.9	13.6	13.2	13.8	14.0
	8H	12.9	13.5	13.2	13.8	14.1	12.8	13.5	13.1	13.7	14.0
	12H	12.8	13.5	13.1	13.7	14.0	12.8	13.4	13.1	13.7	14.0
4H	2H	13.0	13.8	13.3	14.0	14.2	13.0	13.7	13.2	13.9	14.1
	3H	12.8	13.5	13.2	13.8	14.0	12.8	13.4	13.1	13.7	14.0
	4H	12.8	13.3	13.1	13.6	13.9	12.7	13.3	13.0	13.6	13.9
	6H	12.7	13.2	13.0	13.5	13.8	12.6	13.1	13.0	13.4	13.8
	8H	12.6	13.1	13.0	13.4	13.8	12.6	13.0	12.9	13.4	13.7
	12H	12.6	13.0	13.0	13.4	13.8	12.5	12.9	12.9	13.3	13.7
8H	4H	12.6	13.1	13.0	13.4	13.8	12.5	13.0	12.9	13.4	13.7
	6H	12.5	12.9	12.9	13.3	13.7	12.4	12.8	12.9	13.2	13.6
	8H	12.4	12.8	12.9	13.2	13.7	12.4	12.7	12.8	13.2	13.6
	12H	12.4	12.7	12.9	13.1	13.6	12.3	12.6	12.8	13.1	13.5
12H	4H	12.6	13.0	13.0	13.4	13.7	12.5	12.9	12.9	13.3	13.7
	6H	12.4	12.8	12.9	13.2	13.7	12.4	12.7	12.8	13.2	13.6
	8H	12.4	12.7	12.9	13.1	13.6	12.3	12.6	12.8	13.1	13.5
Variations with the observer position at spacings:											
S = 1.0H	+ 2.8 / -10.2					+ 2.9 / -10.1					
1.5H	+ 4.6 / - 7.1					+ 4.6 / - 7.2					
2.0H	+ 5.5 / - 9.6					+ 5.7 / -10.1					

CIE Pub.117, 2328 lm Total Lamp Luminous Flux Corrected ( $8\log(F/F_0) = 2.9$ )

C Range: 0 - 360DEG  
C Interval: 15.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:  
Test Date:2022-07-20

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 1.0DEG  
Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.406.10  
Humidity:65.0%  
Test Distance:11.700m [K=1.0000]  
Remarks:

## UTILIZATION FACTORS TABLE

Test:U:229.88V I:0.1725A P:38.738W PF:0.9772 Freq:49.99Hz Lamp Flux:2328.05x1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.: 228*48	SERIAL No.:
MFR.:	SUR.:3.14*0.0.103*0.103	Shielding Angle:

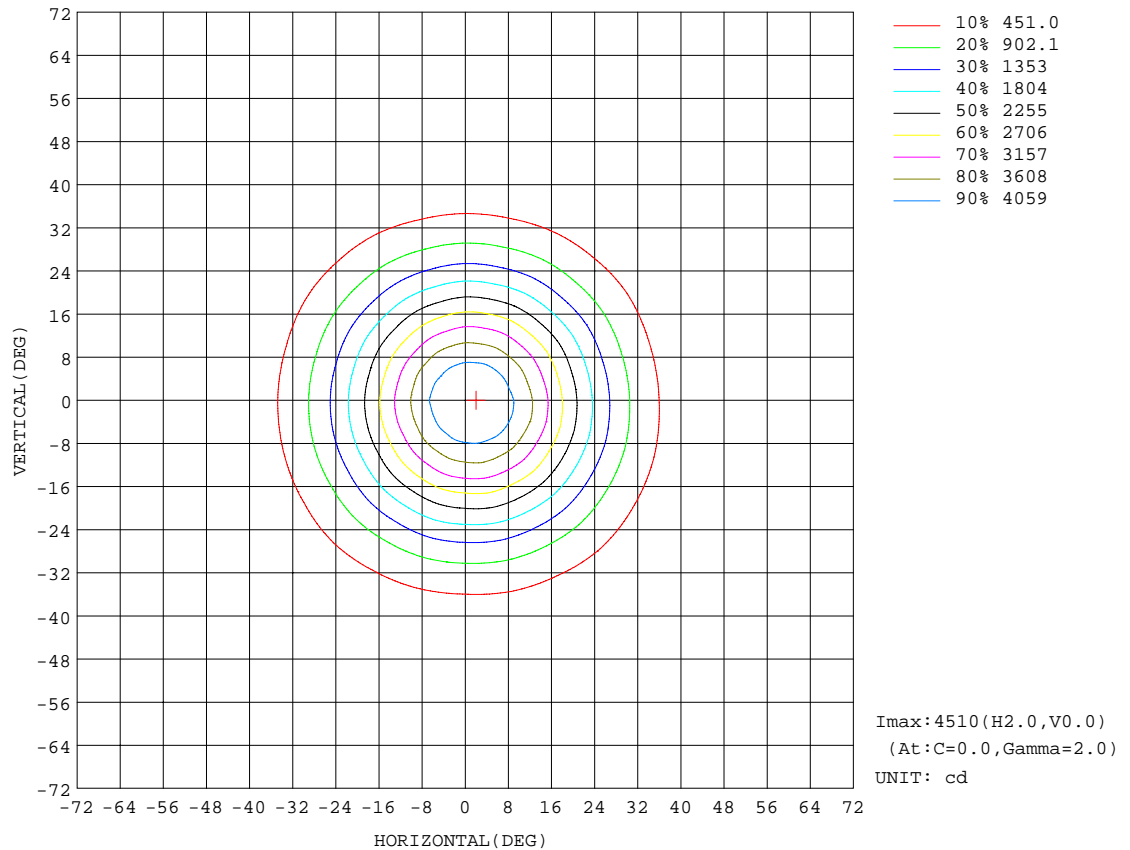
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS(PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	88	82	78	87	82	78	87	81	78	74
0.80	95	90	86	95	89	86	94	89	86	82
1.00	100	94	91	99	94	91	97	94	90	86
1.25	104	99	95	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	107	99
ROOM INDEX	UF(total)									Direct
According to DIN EN 13032-2 2004			Suspended					SHRNOM = 1.25		

C Range: 0 - 360DEG  
C Interval: 15.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:  
Test Date:2022-07-20

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 1.0DEG  
Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.406.10  
Humidity:65.0%  
Test Distance:11.700m [K=1.0000]  
Remarks:

## ISOCANDELA DIAGRAM

Test:U:229.88V I:0.1725A P:38.738W PF:0.9772 Freq:49.99Hz Lamp Flux:2328.05x1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.: 228*48	SERIAL No.:
MFR.:	SUR.:3.14*0.0.103*0.103	Shielding Angle:

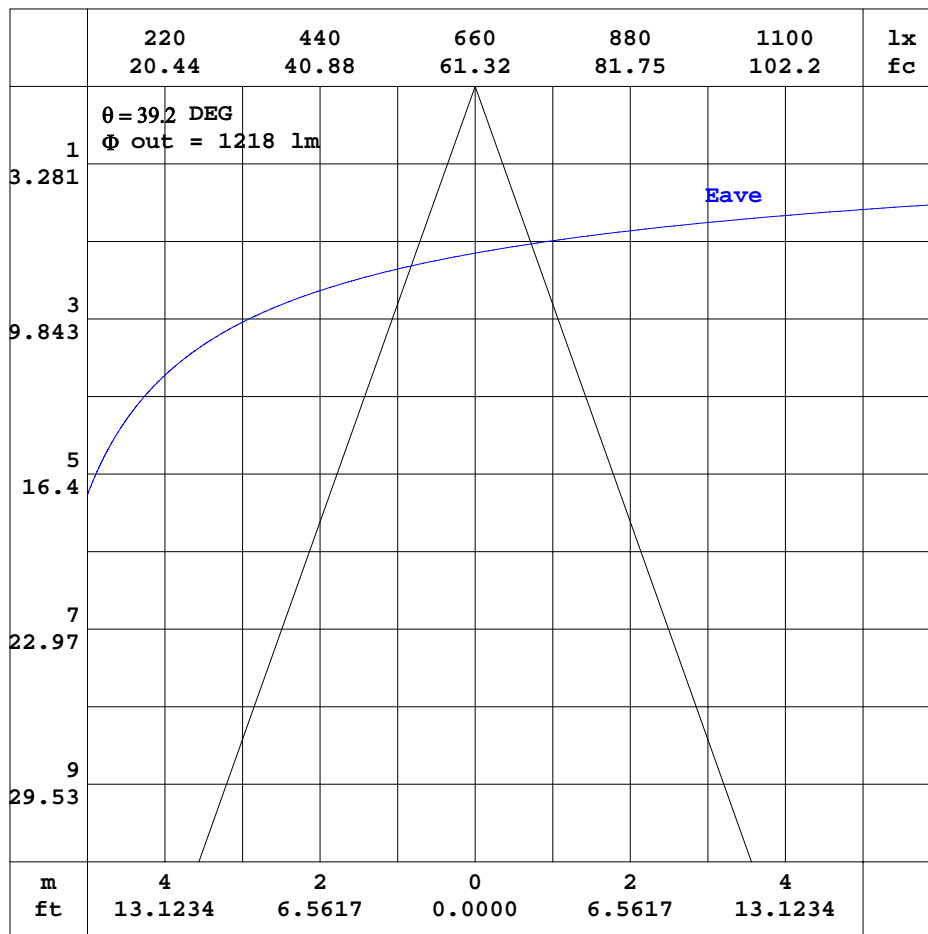


C Range: 0 - 360DEG  
C Interval: 15.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:  
Test Date:2022-07-20

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 1.0DEG  
Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.406.10  
Humidity:65.0%  
Test Distance:11.700m [K=1.0000]  
Remarks:

### AAI CURVES

Test:U:229.88V I:0.1725A P:38.738W PF:0.9772 Freq:49.99Hz Lamp Flux:2328.05x1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.: 228*48	SERIAL No.:
MFR.:	SUR.:3.14*0.0.103*0.103	Shielding Angle:



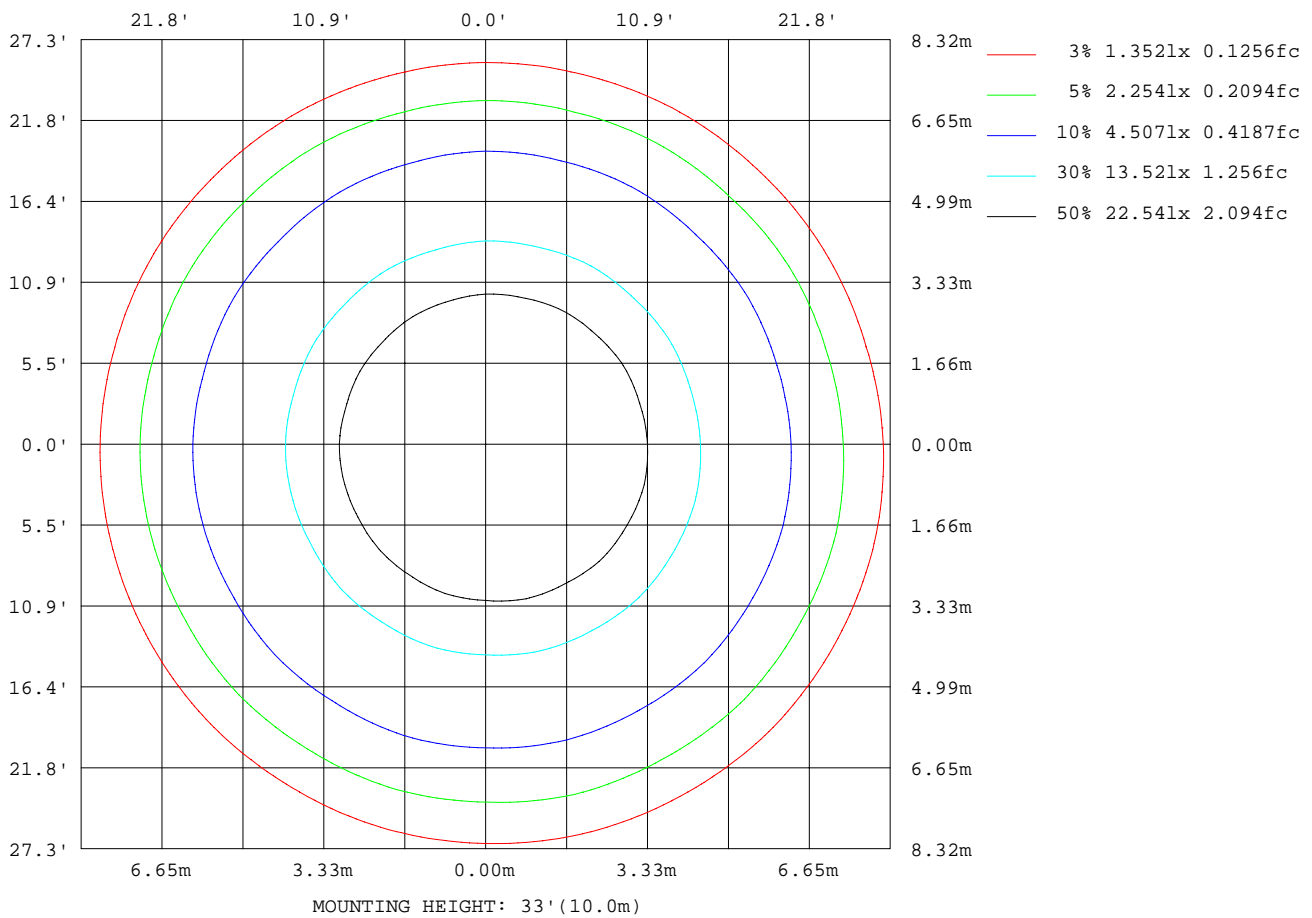
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG  
C Interval: 15.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:  
Test Date:2022-07-20

γ Range: 0 - 90DEG  
γ Interval: 1.0DEG  
Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.406.10  
Humidity:65.0%  
Test Distance:11.700m [K=1.0000]  
Remarks:

### ISOLUX DIAGRAM

Test:U:229.88V I:0.1725A P:38.738W PF:0.9772 Freq:49.99Hz Lamp Flux:2328.05x1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.: 228*48	SERIAL No.:
MFR.:	SUR.:3.14*0.0.103*0.103	Shielding Angle:



C Range: 0 - 360DEG  
C Interval: 15.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:  
Test Date:2022-07-20

γ Range: 0 - 90DEG  
γ Interval: 1.0DEG  
Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.406.10  
Humidity:65.0%  
Test Distance:11.700m [K=1.0000]  
Remarks:

## LED Avg.L Report

Test:U:229.88V I:0.1725A P:38.738W PF:0.9772 Freq:49.99Hz Lamp Flux:2328.05x1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.: 228*48	SERIAL No.:
MFR.:	SUR.:3.14*0.0.103*0.103	Shielding Angle:

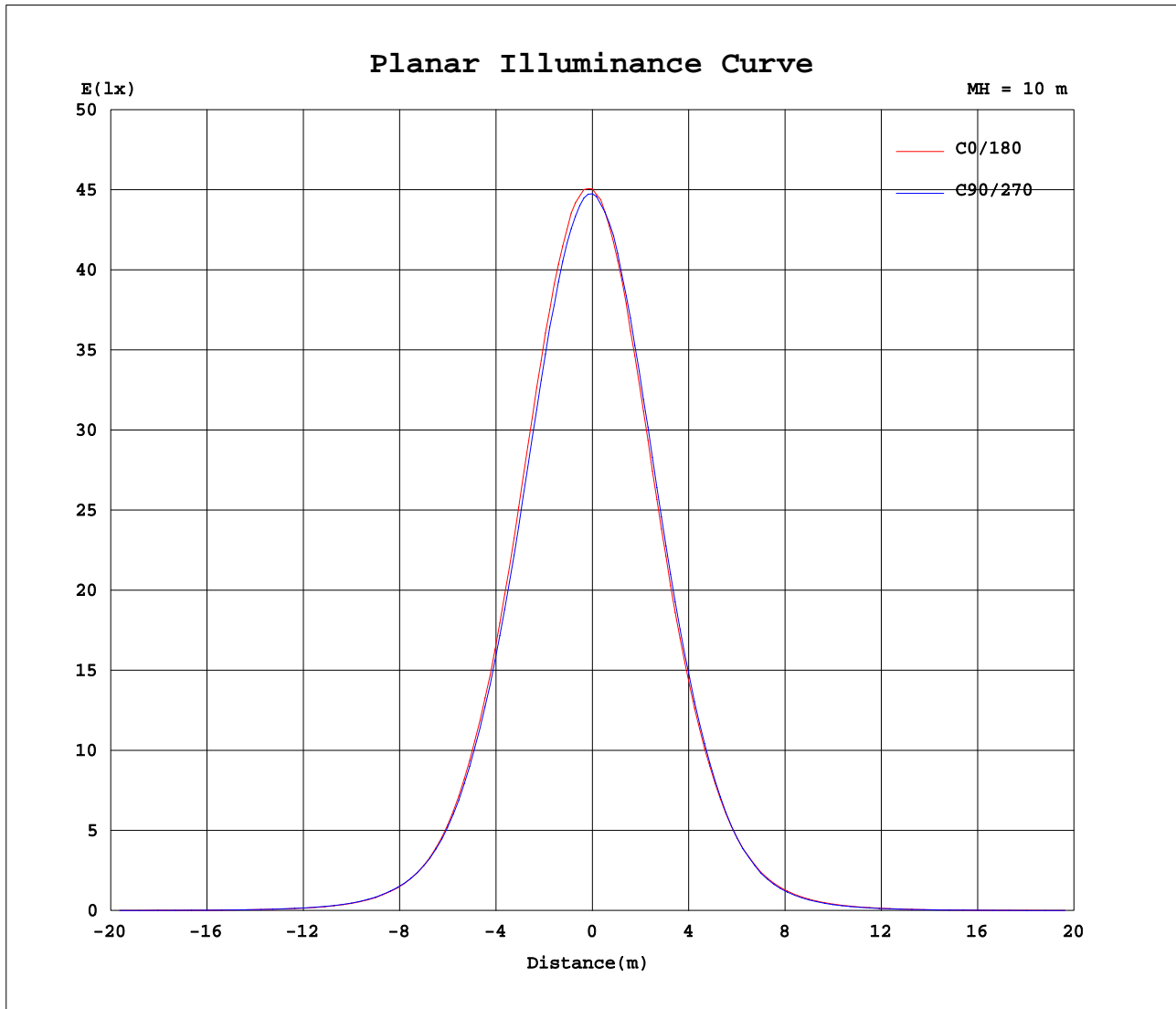
AvgL	cd/m2
L_0~180(65)av	256
L_0~180(75)av	132
L_0~180(85)av	115
L_90~270(65)av	257
L_90~270(75)av	127
L_90~270(85)av	114
L_45(65)av	260
L_45(75)av	133
L_45(85)av	109

Standard: GB/T 29293-2012

C Range: 0 - 360DEG  
C Interval: 15.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:  
Test Date:2022-07-20

γ Range: 0 - 90DEG  
γ Interval: 1.0DEG  
Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.406.10  
Humidity:65.0%  
Test Distance:11.700m [K=1.0000]  
Remarks:

## Planar Illuminance Curve



C Range: 0 - 360DEG  
C Interval: 15.0DEG  
Test Speed: HIGH  
Temperature: 25.3DEG  
Operators:  
Test Date: 2022-07-20

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 1.0DEG  
Test System: EVERFINE GO-2000A\_V1 SYSTEM V2.0.406.10  
Humidity: 65.0%  
Test Distance: 11.700m [K=1.0000]  
Remarks:

```

γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.406.10
Humidity:65.0%
Test Distance:11.700m [K=1.0000]
Remarks:

```

```

γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.406.10
Humidity:65.0%
Test Distance:11.700m [K=1.0000]
Remarks:

```