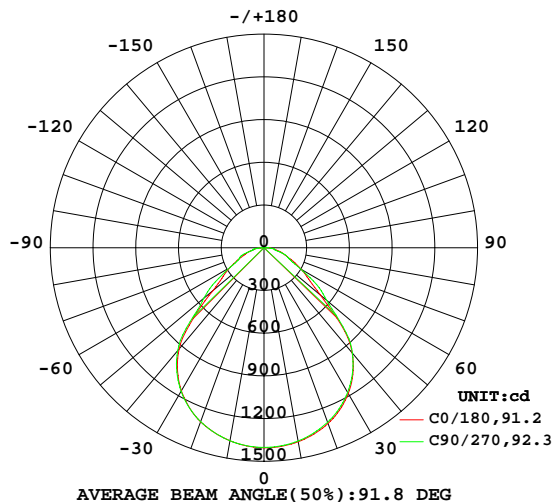


## LUMINAIRE PHOTOMETRIC TEST REPORT

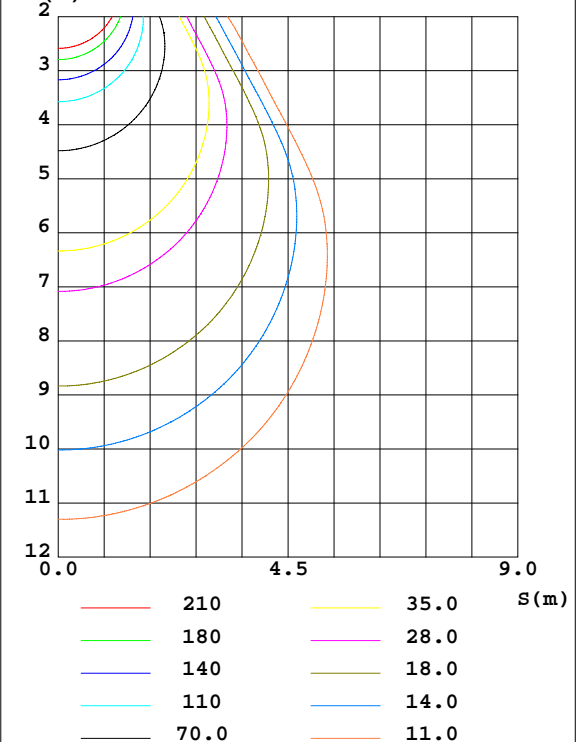
Test:U:229.63V I:0.1263A P:27.877W PF:0.9613 Freq:49.99Hz Lamp Flux:3049.89x1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.: 450*82	SERIAL No.:
MFR.:	SUR.:3.14*0.215*0.215	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 109.40 lm/W			
MODEL		I <sub>max</sub> (cd)	1405	S/MH(C0/180)	1.23
NOMINAL POWER(W)	30	LOR(%)	100.0	S/MH(C90/270)	1.24
RATED VOLTAGE(V)	230.0	TOTAL FLUX(lm)	3049.9	η UP,DN(C0-180)	0.0,50.6
NOMINAL FLUX(lm)	3049.89	CIE CLASS	DIRECT	η UP,DN(C180-360)	0.0,49.4
LAMPS INSIDE	1	η up(%)	0.0	CIBSE SHR NOM	1.25
TEST VOLTAGE(V)	230.0	η down(%)	100.0	CIBSE SHR MAX	1.35

LUMINOUS INTENSITY DISTRIBUTION DIAGRAM



C0 PLANE ISOLUX DIAGRAM (UNIT:lx)



C Range: 0 - 360DEG  
C Interval: 22.5DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:  
Test Date:2024-01-09

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:

## ZONAL FLUX DIAGRAM

## ZONAL FLUX DIAGRAM:

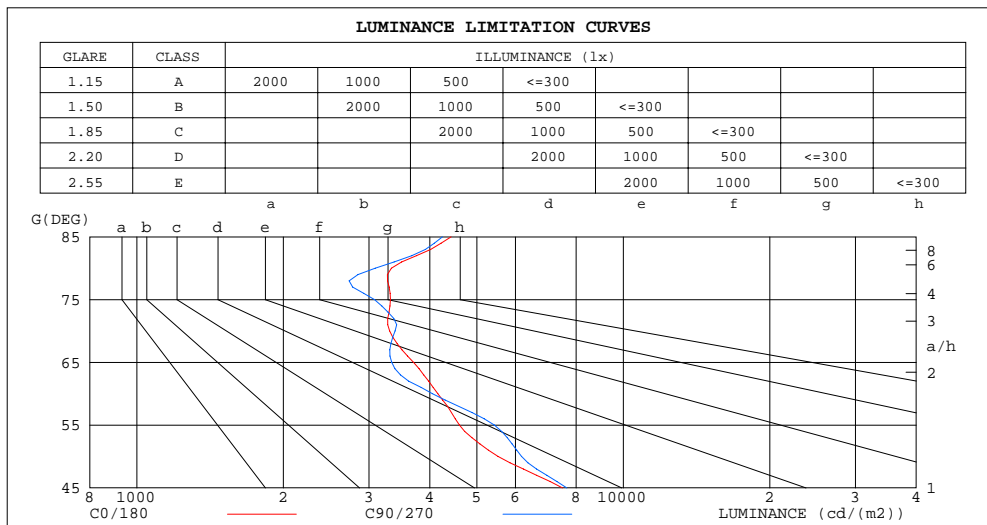
$\gamma$	C0	C45	C90	C135	C180	C225	C270	C315	$\gamma$	$\Phi$ zone	$\Phi$ total	$\Phi$ lum, lamp
10	1383	1381	1378	1374	1377	1375	1376	1378	0- 10	132.7	132.7	4.35,4.35
20	1314	1310	1305	1300	1301	1297	1300	1307	10- 20	380.1	512.8	16.8,16.8
30	1183	1183	1175	1163	1160	1159	1164	1171	20- 30	573.1	1086	35.6,35.6
40	964.5	979.9	965.9	937.5	927.5	941.2	942.8	945.5	30- 40	668.8	1755	57.5,57.5
50	515.1	598.8	575.8	460.0	466.3	570.0	552.2	485.4	40- 50	571.6	2326	76.3,76.3
60	301.3	295.2	293.6	277.2	273.1	233.1	274.1	278.9	50- 60	355.1	2681	87.9,87.9
70	164.1	143.1	168.4	117.3	146.5	158.4	172.8	115.1	60- 70	197.1	2879	94.4,94.4
80	84.01	90.17	77.83	74.93	72.00	78.77	77.99	85.00	70- 80	121.1	3000	98.4,98.4
90	8.187	8.454	4.802	2.053	1.710	1.710	1.675	3.986	80- 90	50.16	3050	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: 22.5DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:  
Test Date:2024-01-09

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 1.0DEG  
 $\gamma$  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:229.63V I:0.1263A P:27.877W PF:0.9613 Freq:49.99Hz Lamp Flux:3049.89x1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.: 450*82	SERIAL No.:
MFR.:	SUR.:3.14*0.215*0.215	Shielding Angle:



LUMINANCE cd/(m2)		
G(DEG)	C0/180	C90/270
85	4425	4247
80	3337	3091
75	3320	3078
70	3308	3395
65	3704	3340
60	4156	4050
55	4605	5430
50	5526	6178
45	7497	7651

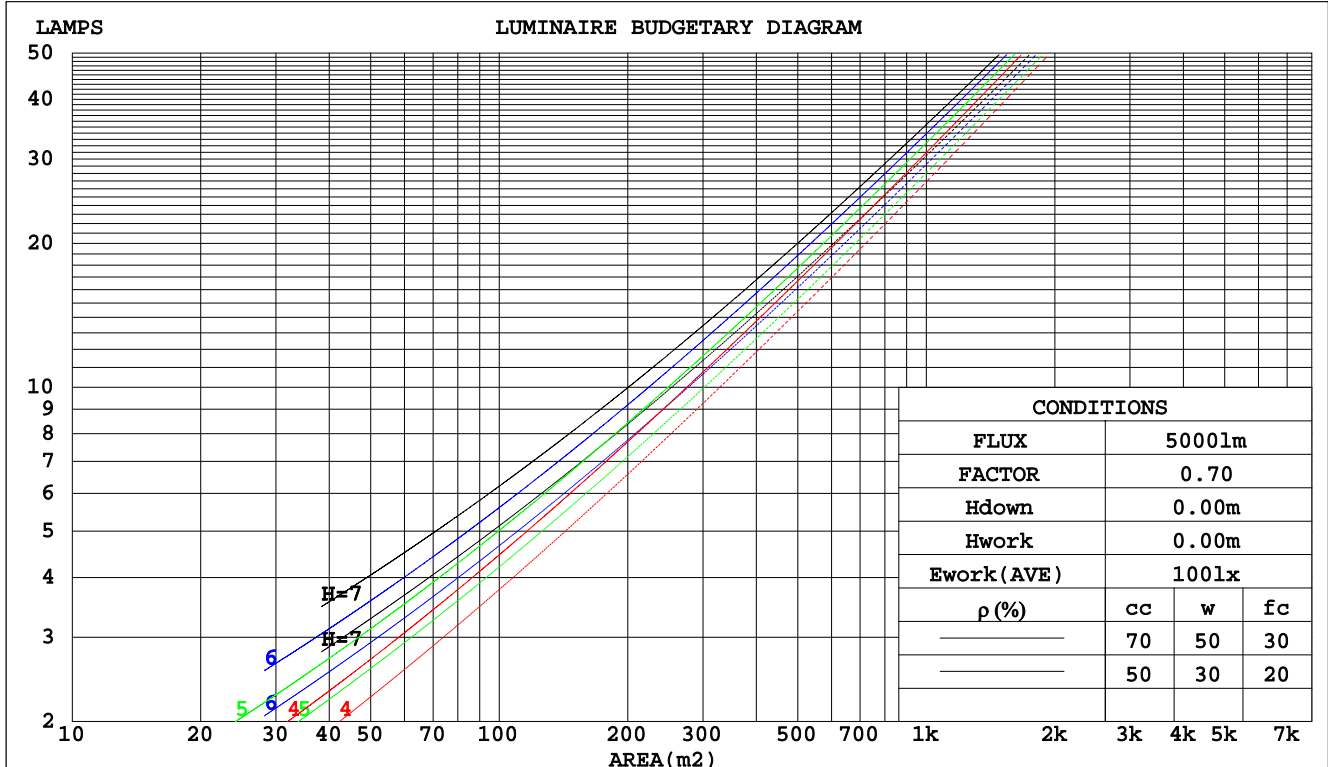
C Range: 0 - 360DEG  
C Interval: 22.5DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:  
Test Date:2024-01-09

$\gamma$  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:229.63V I:0.1263A P:27.877W PF:0.9613 Freq:49.99Hz Lamp Flux:3049.89x1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.: 450*82	SERIAL No.:
MFR.:	SUR.:3.14*0.215*0.215	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	1.06	1.02	.99	1.04	1.00	.97	.00	.97	.94	.96	.93	.91	.92	.90	.89	.87
2.0	.94	.88	.83	.93	.87	.82	.89	.84	.80	.86	.82	.79	.83	.80	.77	.75
3.0	.84	.77	.71	.83	.76	.71	.80	.74	.70	.77	.72	.68	.75	.71	.67	.65
4.0	.76	.68	.62	.75	.67	.62	.72	.66	.61	.70	.64	.60	.68	.63	.59	.57
5.0	.69	.61	.55	.68	.60	.54	.66	.59	.54	.64	.58	.53	.62	.57	.53	.51
6.0	.62	.54	.48	.62	.54	.48	.60	.53	.48	.58	.52	.47	.57	.51	.47	.45
7.0	.57	.49	.43	.56	.49	.43	.55	.48	.43	.53	.47	.43	.52	.47	.42	.40
8.0	.52	.44	.39	.52	.44	.39	.50	.44	.39	.49	.43	.39	.48	.42	.38	.37
9.0	.48	.41	.35	.48	.40	.35	.47	.40	.35	.46	.39	.35	.45	.39	.35	.33
10.0	.45	.37	.32	.44	.37	.32	.43	.37	.32	.42	.36	.32	.42	.36	.32	.30



C Range: 0 - 360DEG  
C Interval: 22.5DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:  
Test Date:2024-01-09

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:229.63V I:0.1263A P:27.877W PF:0.9613 Freq:49.99Hz Lamp Flux:3049.89x1 lm					
NAME:		TYPE:		WEIGHT:	
SPEC.:		DIM.: 450*82		SERIAL No.:	
MFR.:		SUR.:3.14*0.215*0.215		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	.269	.153	.048	.262	.149	.047	.249	.143	.046	.237	.137	.044	.226	.131	.042	
2.0	.254	.139	.043	.248	.137	.042	.237	.132	.041	.226	.127	.040	.216	.122	.039	
3.0	.238	.126	.038	.232	.124	.037	.222	.121	.037	.213	.117	.036	.205	.113	.035	
4.0	.222	.115	.034	.217	.114	.034	.208	.111	.033	.200	.108	.032	.193	.105	.032	
5.0	.207	.106	.031	.203	.104	.030	.196	.102	.030	.188	.099	.030	.182	.097	.029	
6.0	.194	.097	.028	.191	.096	.028	.184	.094	.027	.177	.092	.027	.171	.090	.027	
7.0	.183	.090	.026	.179	.089	.025	.173	.088	.025	.167	.086	.025	.162	.084	.025	
8.0	.172	.084	.024	.169	.083	.024	.163	.082	.023	.158	.080	.023	.153	.079	.023	
9.0	.162	.078	.022	.160	.078	.022	.155	.076	.022	.150	.075	.022	.145	.074	.021	
10.0	.153	.074	.020	.151	.073	.020	.147	.072	.020	.142	.071	.020	.138	.070	.020	

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	.177	.156	.138	.152	.134	.118	.104	.092	.082	.060	.053	.048	.019	.017	.015	
2.0	.167	.132	.103	.143	.114	.089	.098	.079	.062	.057	.046	.036	.018	.015	.012	
3.0	.158	.114	.079	.136	.098	.068	.093	.068	.048	.054	.040	.028	.017	.013	.009	
4.0	.150	.100	.062	.129	.087	.054	.089	.060	.038	.051	.035	.023	.016	.012	.007	
5.0	.143	.090	.051	.123	.078	.044	.084	.054	.031	.049	.032	.018	.016	.010	.006	
6.0	.136	.081	.042	.117	.070	.036	.080	.049	.026	.047	.029	.015	.015	.009	.005	
7.0	.129	.074	.035	.111	.064	.031	.077	.045	.022	.045	.027	.013	.014	.009	.004	
8.0	.123	.068	.030	.106	.059	.027	.073	.042	.019	.043	.025	.011	.014	.008	.004	
9.0	.118	.063	.027	.101	.055	.023	.070	.039	.016	.041	.023	.010	.013	.007	.003	
10.0	.112	.059	.024	.097	.051	.021	.067	.036	.015	.039	.021	.009	.013	.007	.003	

C Range: 0 - 360DEG  
C Interval: 22.5DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:  
Test Date:2024-01-09

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:229.63V I:0.1263A P:27.877W PF:0.9613 Freq:49.99Hz Lamp Flux:3049.89x1 lm												
NAME:					TYPE:			WEIGHT:				
SPEC.:					DIM.: 450*82			SERIAL No.:				
MFR.:					SUR.:3.14*0.215*0.215			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	2H	18.0	19.4	18.2	19.5	19.7	18.1	19.4	18.3	19.6	19.8	
	3H	18.8	20.0	19.1	20.3	20.5	18.7	20.0	19.0	20.2	20.4	
	4H	19.2	20.4	19.5	20.6	20.8	19.0	20.2	19.3	20.5	20.7	
	6H	19.5	20.6	19.8	20.9	21.2	19.3	20.4	19.6	20.7	21.0	
	8H	19.7	20.8	20.0	21.1	21.3	19.5	20.6	19.8	20.9	21.2	
	12H	19.9	20.9	20.3	21.2	21.5	19.7	20.8	20.1	21.0	21.3	
	4H	2H	18.2	19.4	18.5	19.6	19.9	18.2	19.4	18.5	19.7	19.9
		3H	19.2	20.2	19.5	20.5	20.8	19.0	20.1	19.4	20.4	20.7
		4H	19.7	20.7	20.1	21.0	21.3	19.5	20.5	19.9	20.8	21.1
		6H	20.2	21.1	20.6	21.4	21.8	20.0	20.8	20.4	21.2	21.5
		8H	20.5	21.3	20.9	21.7	22.0	20.3	21.1	20.7	21.4	21.8
		12H	20.8	21.5	21.3	21.9	22.3	20.6	21.3	21.0	21.7	22.1
8H	4H	19.9	20.7	20.3	21.1	21.4	19.7	20.5	20.1	20.9	21.3	
	6H	20.6	21.2	21.0	21.6	22.1	20.4	21.1	20.9	21.5	21.9	
	8H	21.0	21.6	21.5	22.0	22.5	20.8	21.4	21.3	21.8	22.3	
	12H	21.5	22.0	22.0	22.4	22.9	21.3	21.8	21.8	22.2	22.7	
12H	4H	19.9	20.7	20.4	21.0	21.4	19.8	20.5	20.2	20.9	21.3	
	6H	20.7	21.3	21.2	21.7	22.1	20.5	21.1	21.0	21.5	22.0	
	8H	21.2	21.7	21.7	22.1	22.6	21.0	21.5	21.5	22.0	22.4	
Variations with the observer position at spacings:												
S = 1.0H		+ 0.5 / - 0.5					+ 0.5 / - 0.4					
1.5H		+ 0.2 / - 0.5					+ 0.2 / - 0.3					
2.0H		+ 0.9 / - 0.6					+ 0.9 / - 0.6					

CIE Pub.117, 3050 lm Total Lamp Luminous Flux Corrected ( $8\log(F/F_0) = 3.9$ )

C Range: 0 - 360DEG  
 C Interval: 22.5DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:  
 Test Date:2024-01-09

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:

## UTILIZATION FACTORS TABLE

Test:U:229.63V I:0.1263A P:27.877W PF:0.9613 Freq:49.99Hz Lamp Flux:3049.89x1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.: 450*82	SERIAL No.:
MFR.:	SUR.:3.14*0.215*0.215	Shielding Angle:

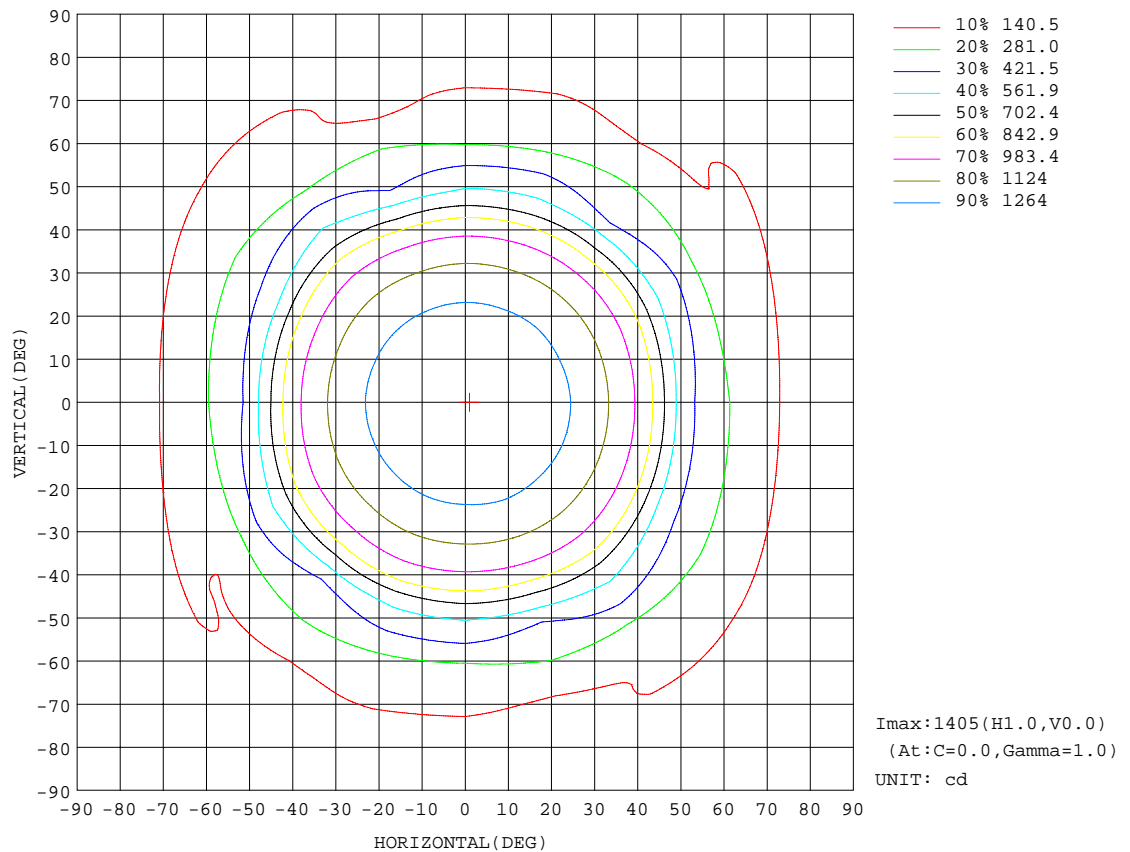
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS(PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	65	55	49	64	54	48	63	54	48	43
0.80	75	65	58	74	64	58	72	64	58	52
1.00	83	73	67	82	73	67	80	74	66	60
1.25	89	80	74	88	80	74	85	78	73	67
1.50	94	85	80	92	85	79	89	83	78	71
2.00	99	92	87	98	91	86	94	89	85	78
2.50	102	96	91	101	95	90	97	92	88	81
3.00	105	99	95	103	98	94	99	95	92	84
4.00	108	104	100	106	102	98	102	99	96	87
5.00	110	106	103	108	104	101	104	101	98	89
ROOM INDEX	UF(total)									Direct
According to DIN EN 13032-2 2004			Suspended					SHRNOM = 1.25		

C Range: 0 - 360DEG  
 C Interval: 22.5DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:  
 Test Date:2024-01-09

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:

## ISOCANDELA DIAGRAM

Test:U:229.63V I:0.1263A P:27.877W PF:0.9613 Freq:49.99Hz Lamp Flux:3049.89x1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.: 450*82	SERIAL No.:
MFR.:	SUR.:3.14*0.215*0.215	Shielding Angle:



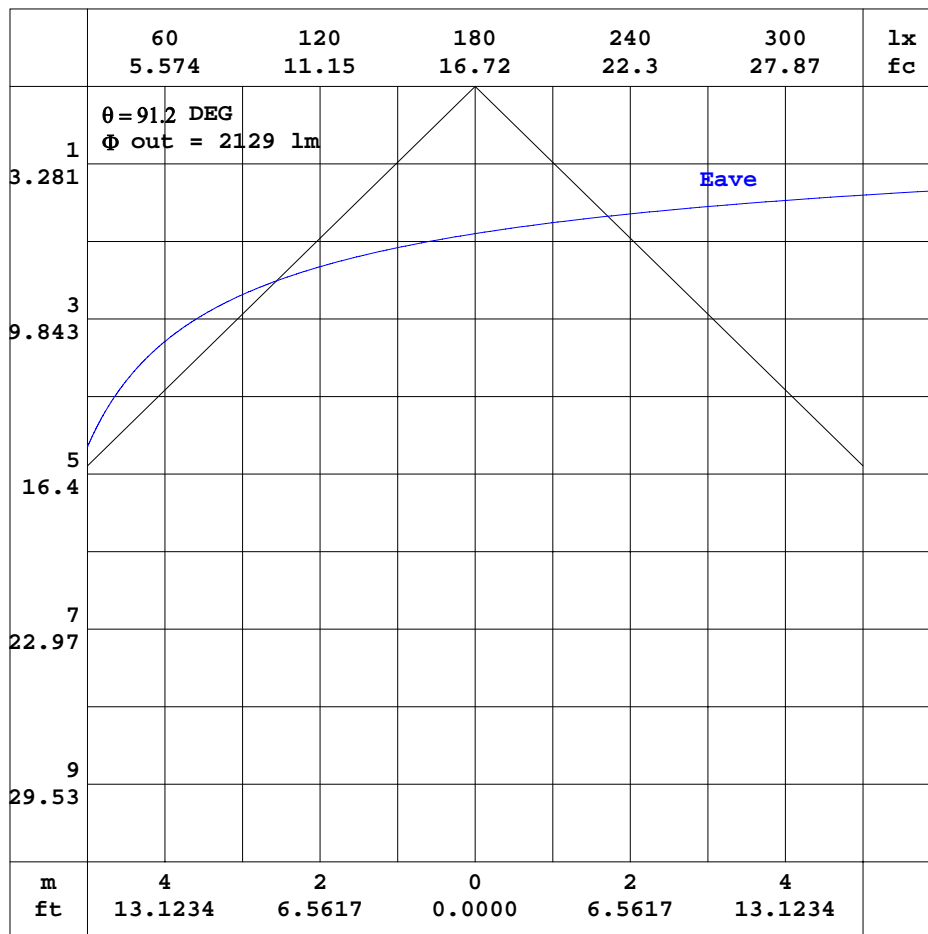
C Range: 0 - 360DEG  
C Interval: 22.5DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:  
Test Date:2024-01-09

$\gamma$  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:229.63V I:0.1263A P:27.877W PF:0.9613 Freq:49.99Hz Lamp Flux:3049.89x1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.: 450*82	SERIAL No.:
MFR.:	SUR.:3.14*0.215*0.215	Shielding Angle:



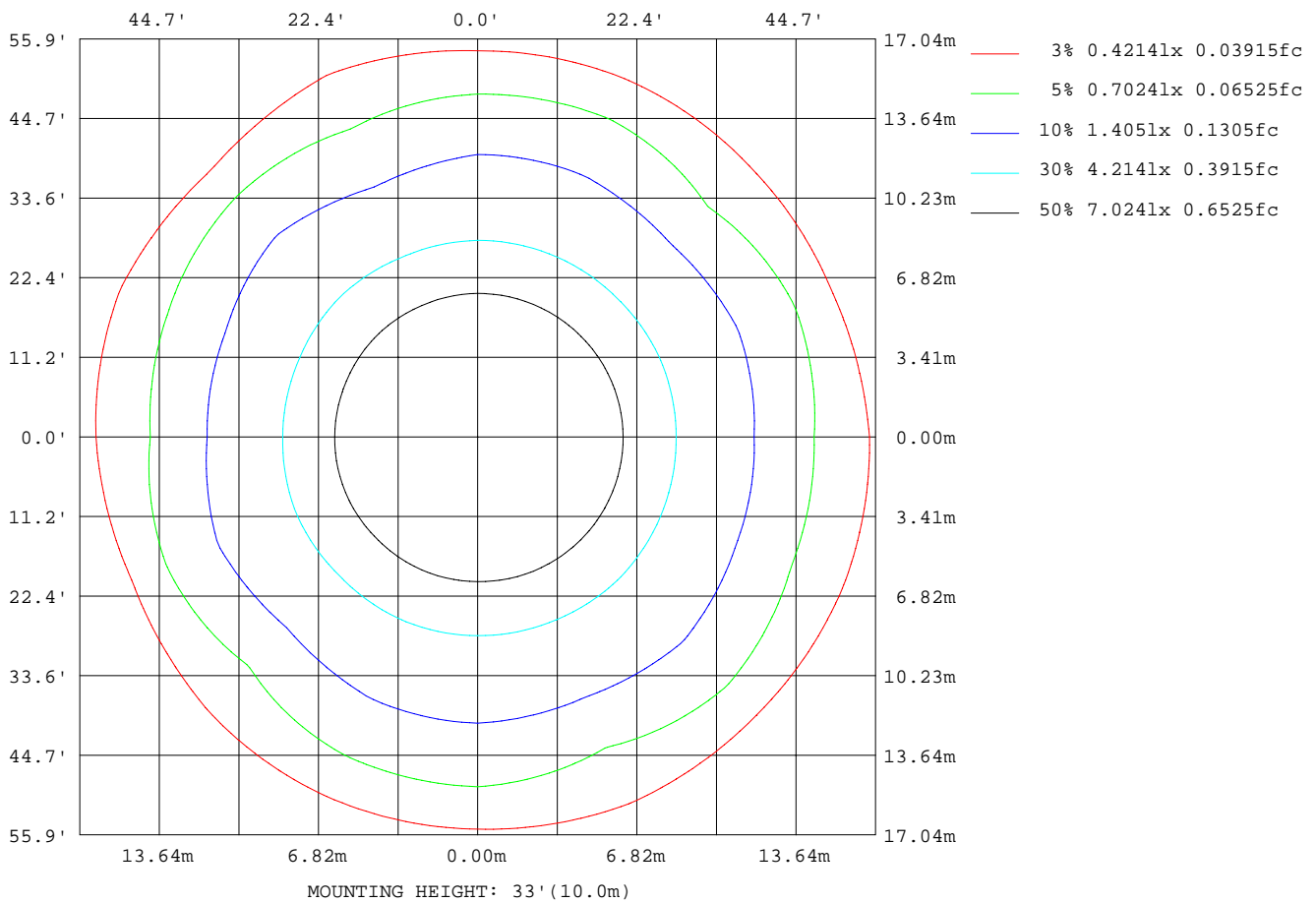
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG  
C Interval: 22.5DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:  
Test Date:2024-01-09

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 1.0DEG  
 $\gamma$  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:229.63V I:0.1263A P:27.877W PF:0.9613 Freq:49.99Hz Lamp Flux:3049.89x1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.: 450*82	SERIAL No.:
MFR.:	SUR.:3.14*0.215*0.215	Shielding Angle:



C Range: 0 - 360DEG  
C Interval: 22.5DEG  
Test Speed: HIGH  
Temperature: 25.3DEG  
Operators:  
Test Date: 2024-01-09

$\gamma$  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:

## LED Avg.L Report

Test:U:229.63V I:0.1263A P:27.877W PF:0.9613 Freq:49.99Hz Lamp Flux:3049.89x1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.: 450*82	SERIAL No.:
MFR.:	SUR.:3.14*0.215*0.215	Shielding Angle:

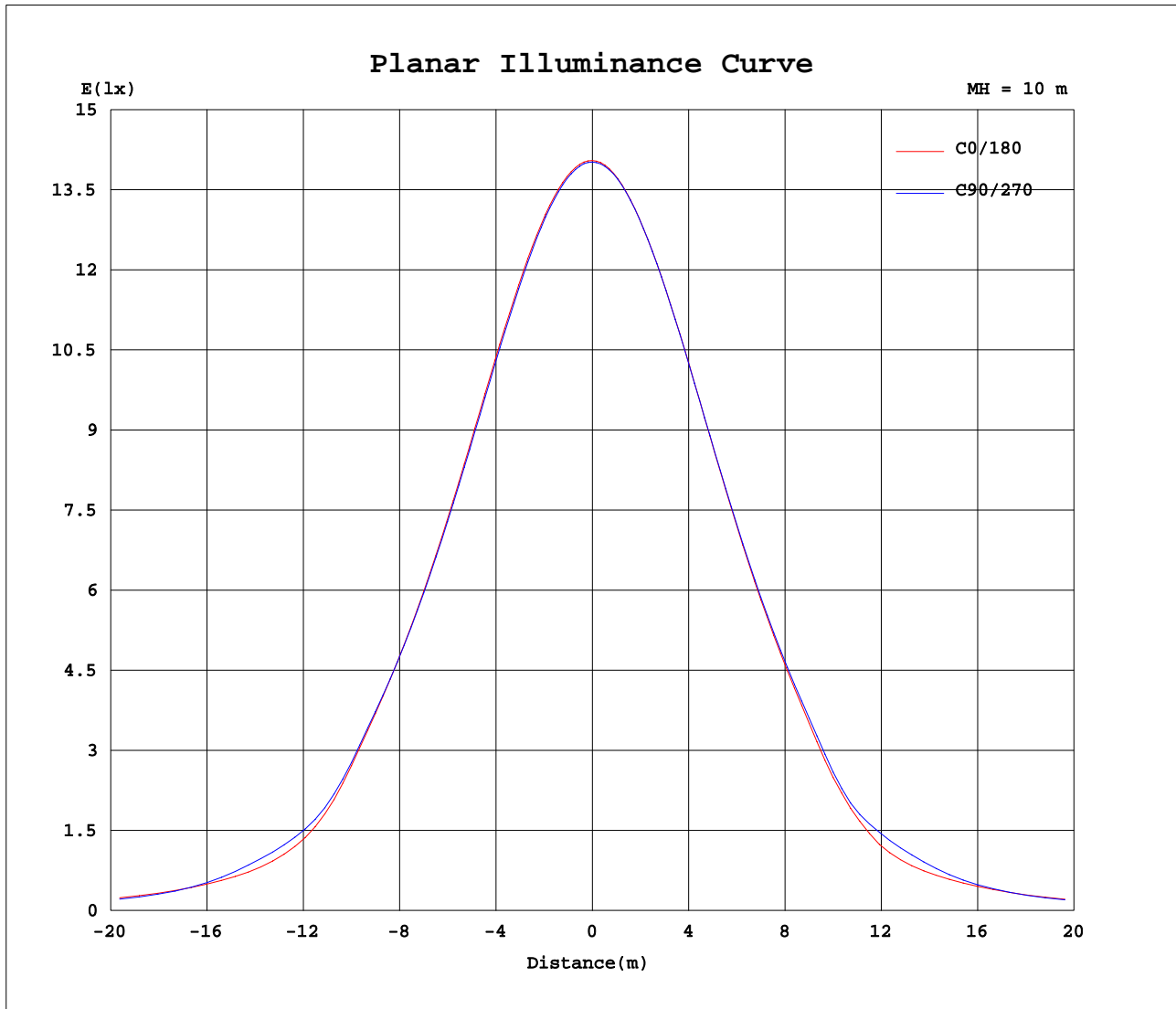
AvgL	cd/m2
L_0~180(65)av	3499
L_0~180(75)av	3139
L_0~180(85)av	3905
L_90~270(65)av	3274
L_90~270(75)av	3003
L_90~270(85)av	4003
L_45(65)av	2831
L_45(75)av	3166
L_45(85)av	3879

Standard: GB/T 29293-2012

C Range: 0 - 360DEG  
C Interval: 22.5DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:  
Test Date:2024-01-09

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: 22.5DEG  
Test Speed: HIGH  
Temperature: 25.3DEG  
Operators:  
Test Date: 2024-01-09

$\gamma$  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:

```