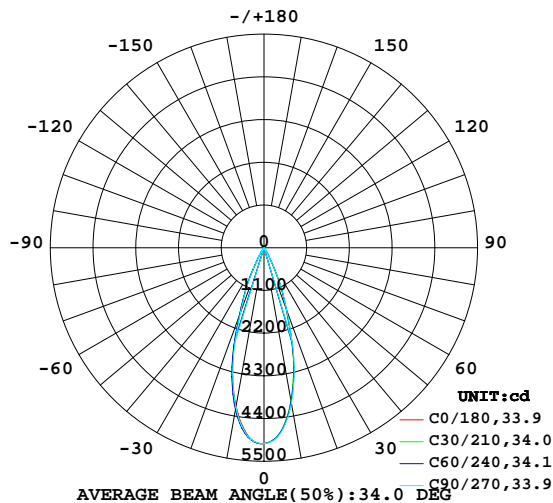


## LUMINAIRE PHOTOMETRIC TEST REPORT

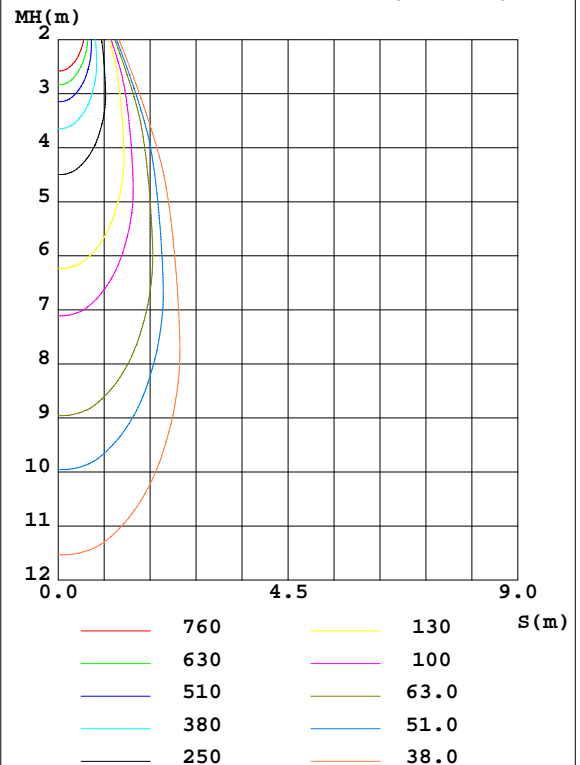
Test:U:225.1V I:0.1270A P:27.20W PF:0.9490 Freq:50.00Hz Lamp Flux:1744.96x1 lm					
NAME:		TYPE:		WEIGHT:	
SPEC.:		DIM.:		SERIAL No.:	
MFR.:		SUR.:60		Shielding Angle:	

DATA OF LAMP		PHOTOMETRIC DATA				Eff: 64.15 lm/W
MODEL	ALT70-27G30-36	I <sub>max</sub> (cd)	5051	S/MH(C0/180)	0.53	
NOMINAL POWER(W)	28	LOR(%)	100.0	S/MH(C90/270)	0.54	
RATED VOLTAGE(V)	226	TOTAL FLUX(lm)	1745.0	η UP,DN(C0-180)	0.0,51.0	
NOMINAL FLUX(lm)	1744.96	CIE CLASS	DIRECT	η UP,DN(C180-360)	0.0,49.0	
LAMPS INSIDE	1	η up(%)	0.0	CIBSE SHR NOM	0.50	
TEST VOLTAGE(V)	225.1	η down(%)	100.0	CIBSE SHR MAX	0.55	

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:AE  
 Test Date:2020-06-16

γ Range: 0 - 90DEG  
 γ Interval: 1.0DEG  
 Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.0.362  
 Humidity:65.0%  
 Test Distance:7.240m [K=1.0000]  
 Remarks:

## ZONAL FLUX DIAGRAM

## ZONAL FLUX DIAGRAM:

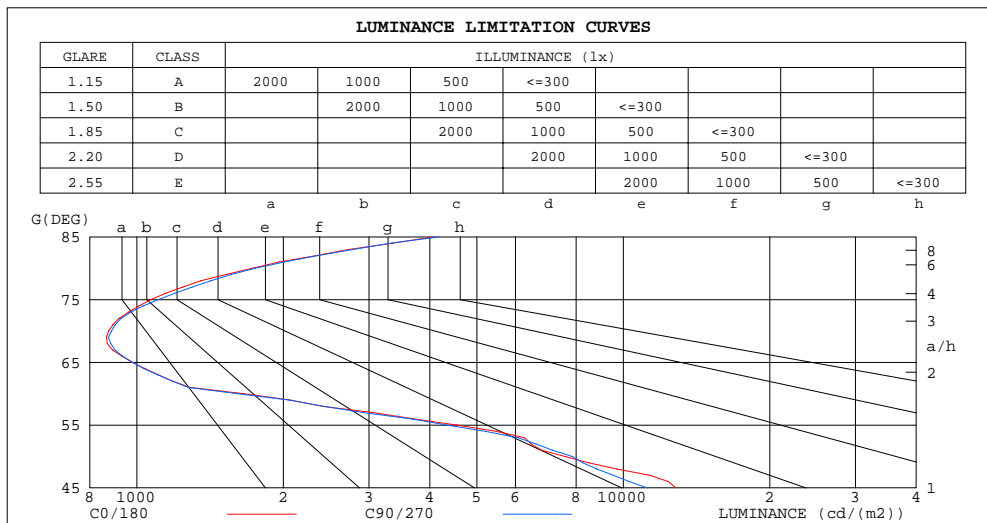
$\gamma$	C0	C45	C90	C135	C180	C225	C270	C315	$\gamma$	$\Phi$ zone	$\Phi$ total	$\%lum, lamp$
10	4148	4267	4171	4070	4009	3980	4067	4079	0- 10	436.9	436.9	25,25
20	1848	1913	1762	1714	1669	1644	1701	1770	10- 20	809.3	1246	71.4,71.4
30	289.3	304.1	267.6	272.2	256.7	230.7	260.2	266.6	20- 30	403.4	1650	94.5,94.5
40	44.25	46.09	41.84	38.98	36.37	37.03	39.85	40.41	30- 40	67.27	1717	98.4,98.4
50	13.74	15.10	14.25	13.28	12.39	12.85	13.15	13.16	40- 50	18.66	1735	99.5,99.5
60	2.339	2.545	2.273	1.845	1.826	1.833	1.934	2.143	50- 60	6.466	1742	99.8,99.8
70	0.8444	0.8332	0.8574	0.7556	0.8514	0.9042	0.8685	0.9243	60- 70	1.220	1743	99.9,99.9
80	0.8476	0.8846	0.8608	0.8851	0.7302	0.7435	0.7197	0.7400	70- 80	0.8454	1744	99.9,99.9
90	1.250	1.240	1.248	1.249	0.6877	0.6809	0.6614	0.6538	80- 90	0.9455	1745	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:AE  
 Test Date:2020-06-16

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 1.0DEG  
 Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.0.362  
 Humidity:65.0%  
 Test Distance:7.240m [K=1.0000]  
 Remarks:

## LUMINANCE LIMITATION CURVES

Test:U:225.1V I:0.1270A P:27.20W PF:0.9490 Freq:50.00Hz Lamp Flux:1744.96x1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:60	Shielding Angle:



LUMINANCE cd/(m2)		
G(DEG)	C0/180	C90/270
85	4082	4192
80	1730	1754
75	1070	1107
70	875	887
65	978	981
60	1658	1609
55	4544	4342
50	7577	7846
45	12830	11205

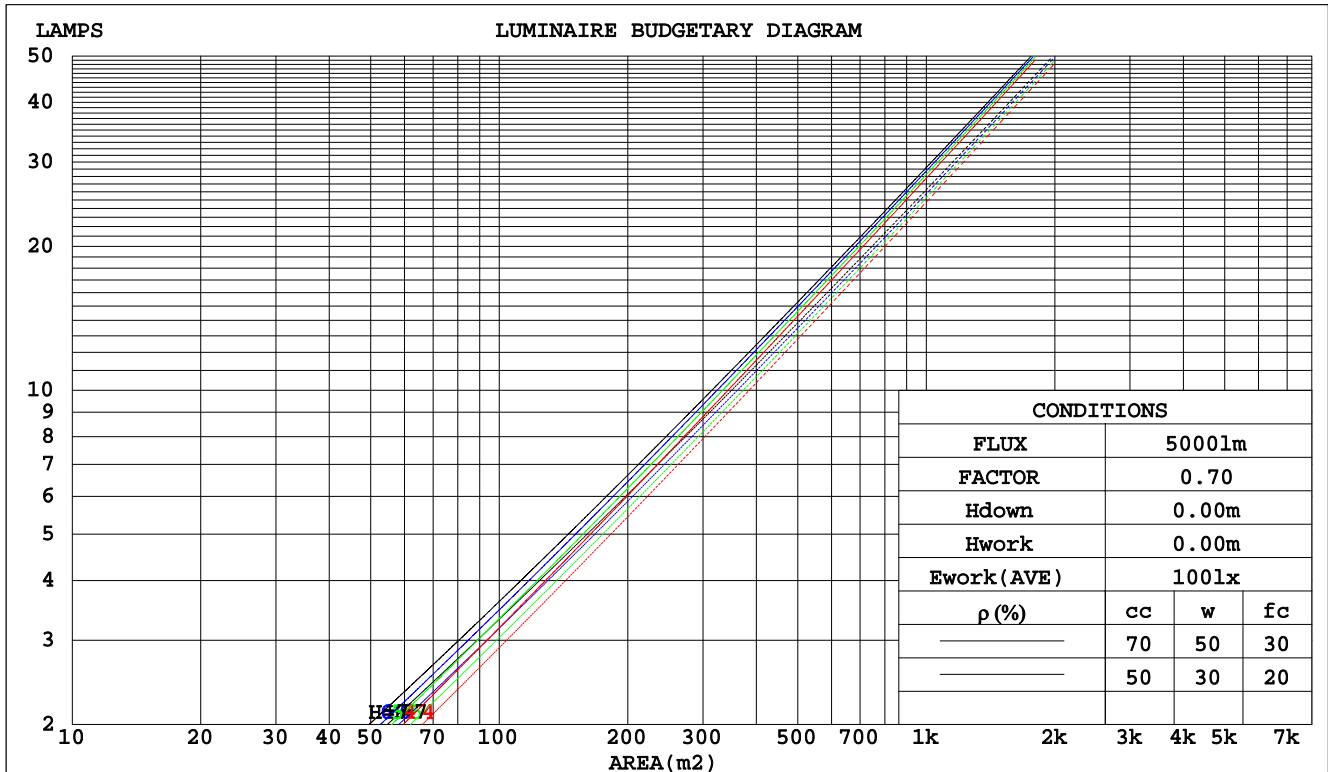
C Range: 0 - 360DEG  
C Interval: 15.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:AE  
Test Date:2020-06-16

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 1.0DEG  
Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.0.362  
Humidity:65.0%  
Test Distance:7.240m [K=1.0000]  
Remarks:

## CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

Test:U:225.1V I:0.1270A P:27.20W PF:0.9490 Freq:50.00Hz Lamp Flux:1744.96x1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:60	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	1.12	1.10	1.09	1.10	1.08	1.07	1.06	1.05	1.04	1.03	1.02	1.01	.99	.98	.98	.96
2.0	1.07	1.03	1.01	1.05	1.02	.00	1.02	.00	.97	.99	.97	.95	.96	.95	.93	.92
3.0	1.02	.98	.95	1.00	.97	.94	.98	.95	.92	.95	.93	.91	.93	.91	.90	.88
4.0	.97	.93	.90	.96	.92	.89	.94	.91	.88	.92	.89	.87	.90	.88	.86	.85
5.0	.93	.88	.85	.92	.88	.85	.90	.87	.84	.89	.86	.83	.87	.85	.83	.82
6.0	.89	.85	.81	.89	.84	.81	.87	.83	.81	.86	.83	.80	.85	.82	.80	.78
7.0	.86	.81	.78	.85	.81	.78	.84	.80	.77	.83	.80	.77	.82	.79	.77	.76
8.0	.83	.78	.75	.82	.78	.75	.81	.77	.75	.80	.77	.74	.79	.76	.74	.73
9.0	.80	.75	.72	.79	.75	.72	.78	.75	.72	.78	.74	.72	.77	.74	.71	.70
10.0	.77	.73	.70	.77	.72	.70	.76	.72	.69	.75	.72	.69	.75	.71	.69	.68



C Range: 0 - 360DEG  
 C Interval: 15.0DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:AE  
 Test Date:2020-06-16

γ Range: 0 - 90DEG  
 γ Interval: 1.0DEG  
 Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.0.362  
 Humidity:65.0%  
 Test Distance:7.240m [K=1.0000]  
 Remarks:

## WEC AND CCEC

Test:U:225.1V I:0.1270A P:27.20W PF:0.9490 Freq:50.00Hz Lamp Flux:1744.96x1 lm					
NAME:		TYPE:		WEIGHT:	
SPEC.:		DIM.:		SERIAL No.:	
MFR.:		SUR.:60		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	.146	.083	.026	.139	.079	.025	.127	.073	.023	.116	.067	.021	.105	.061	.020	
2.0	.136	.075	.023	.131	.072	.022	.120	.067	.021	.111	.062	.019	.102	.058	.018	
3.0	.128	.068	.020	.123	.066	.020	.114	.062	.019	.106	.058	.018	.099	.055	.017	
4.0	.120	.062	.018	.116	.061	.018	.109	.058	.017	.102	.055	.017	.096	.052	.016	
5.0	.114	.058	.017	.110	.057	.017	.104	.054	.016	.098	.052	.015	.093	.050	.015	
6.0	.108	.054	.016	.105	.053	.015	.100	.051	.015	.095	.049	.014	.090	.047	.014	
7.0	.103	.051	.014	.101	.050	.014	.096	.048	.014	.091	.047	.014	.087	.045	.013	
8.0	.099	.048	.014	.096	.047	.013	.092	.046	.013	.088	.045	.013	.085	.043	.013	
9.0	.094	.046	.013	.093	.045	.013	.089	.044	.012	.085	.043	.012	.082	.042	.012	
10.0	.091	.044	.012	.089	.043	.012	.086	.042	.012	.083	.041	.012	.080	.040	.011	

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	.169	.158	.147	.145	.135	.127	.099	.093	.088	.057	.054	.051	.018	.017	.016	
2.0	.151	.133	.117	.130	.114	.101	.089	.079	.070	.051	.046	.041	.016	.015	.013	
3.0	.137	.113	.094	.118	.098	.082	.081	.068	.057	.047	.040	.034	.015	.013	.011	
4.0	.125	.098	.078	.107	.085	.067	.074	.059	.047	.043	.035	.028	.014	.011	.009	
5.0	.115	.086	.065	.099	.074	.056	.068	.052	.040	.039	.031	.024	.013	.010	.008	
6.0	.107	.076	.054	.092	.066	.047	.063	.046	.033	.037	.027	.020	.012	.009	.007	
7.0	.099	.068	.046	.085	.059	.040	.059	.041	.029	.034	.024	.017	.011	.008	.006	
8.0	.093	.061	.040	.080	.053	.035	.055	.037	.025	.032	.022	.015	.010	.007	.005	
9.0	.088	.056	.035	.075	.049	.030	.052	.034	.021	.030	.020	.013	.010	.007	.004	
10.0	.083	.051	.030	.071	.045	.026	.050	.031	.019	.029	.019	.011	.009	.006	.004	

C Range: 0 - 360DEG  
C Interval: 15.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:AE  
Test Date:2020-06-16

γ Range: 0 - 90DEG  
γ Interval: 1.0DEG  
Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.0.362  
Humidity:65.0%  
Test Distance:7.240m [K=1.0000]  
Remarks:

## UGR(Unified Glare Rating) Table

Test:U:225.1V I:0.1270A P:27.20W PF:0.9490 Freq:50.00Hz Lamp Flux:1744.96x1 lm											
NAME:			TYPE:			WEIGHT:					
SPEC.:			DIM.:			SERIAL No.:					
MFR.:			SUR.:60			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	3H	9.8	10.5	10.0	10.7	10.9	9.5	10.2	9.7	10.4	10.5
	4H	9.7	10.4	9.9	10.5	10.7	9.4	10.0	9.6	10.2	10.4
	6H	9.6	10.3	9.9	10.5	10.7	9.3	9.9	9.6	10.1	10.4
	8H	9.6	10.2	9.9	10.4	10.6	9.3	9.8	9.5	10.1	10.3
	8H	9.6	10.1	9.9	10.4	10.6	9.2	9.8	9.5	10.1	10.3
	12H	9.6	10.1	9.9	10.4	10.7	9.3	9.8	9.6	10.1	10.4
4H	2H	9.6	10.3	9.9	10.5	10.7	9.3	9.9	9.6	10.1	10.4
	3H	9.5	10.0	9.8	10.3	10.6	9.2	9.7	9.5	10.0	10.2
	4H	9.4	9.9	9.7	10.2	10.5	9.1	9.6	9.4	9.9	10.2
	6H	9.4	9.8	9.7	10.1	10.5	9.1	9.5	9.4	9.8	10.2
	8H	9.4	9.8	9.8	10.1	10.5	9.1	9.5	9.5	9.8	10.2
	12H	9.4	9.8	9.8	10.2	10.6	9.2	9.5	9.6	9.9	10.3
8H	4H	9.3	9.7	9.7	10.0	10.4	9.0	9.4	9.3	9.7	10.1
	6H	9.2	9.6	9.7	10.0	10.4	8.9	9.3	9.4	9.7	10.1
	8H	9.3	9.6	9.7	10.0	10.5	9.0	9.3	9.5	9.7	10.2
	12H	9.5	9.7	9.9	10.2	10.6	9.2	9.5	9.7	9.9	10.4
12H	4H	9.2	9.6	9.6	10.0	10.4	8.9	9.3	9.3	9.7	10.0
	6H	9.2	9.5	9.7	9.9	10.4	8.9	9.2	9.4	9.6	10.1
	8H	9.3	9.5	9.8	10.0	10.5	9.0	9.3	9.5	9.7	10.2
Variations with the observer position at spacings:											
S = 1.0H	+ 2.8 / - 5.6					+ 2.7 / - 5.4					
1.5H	+ 4.2 / - 4.4					+ 4.0 / - 4.1					
2.0H	+ 4.3 / - 4.3					+ 3.7 / - 4.1					

CIE Pub.117, 1745 lm Total Lamp Luminous Flux Correct ( $8\log(F/F_0) = 1.9$ )

C Range: 0 - 360DEG  
C Interval: 15.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:AE  
Test Date:2020-06-16

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 1.0DEG  
Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.0.362  
Humidity:65.0%  
Test Distance:7.240m [K=1.0000]  
Remarks:

### UTILIZATION FACTORS TABLE

Test:U:225.1V I:0.1270A P:27.20W PF:0.9490 Freq:50.00Hz Lamp Flux:1744.96x1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:60	Shielding Angle:

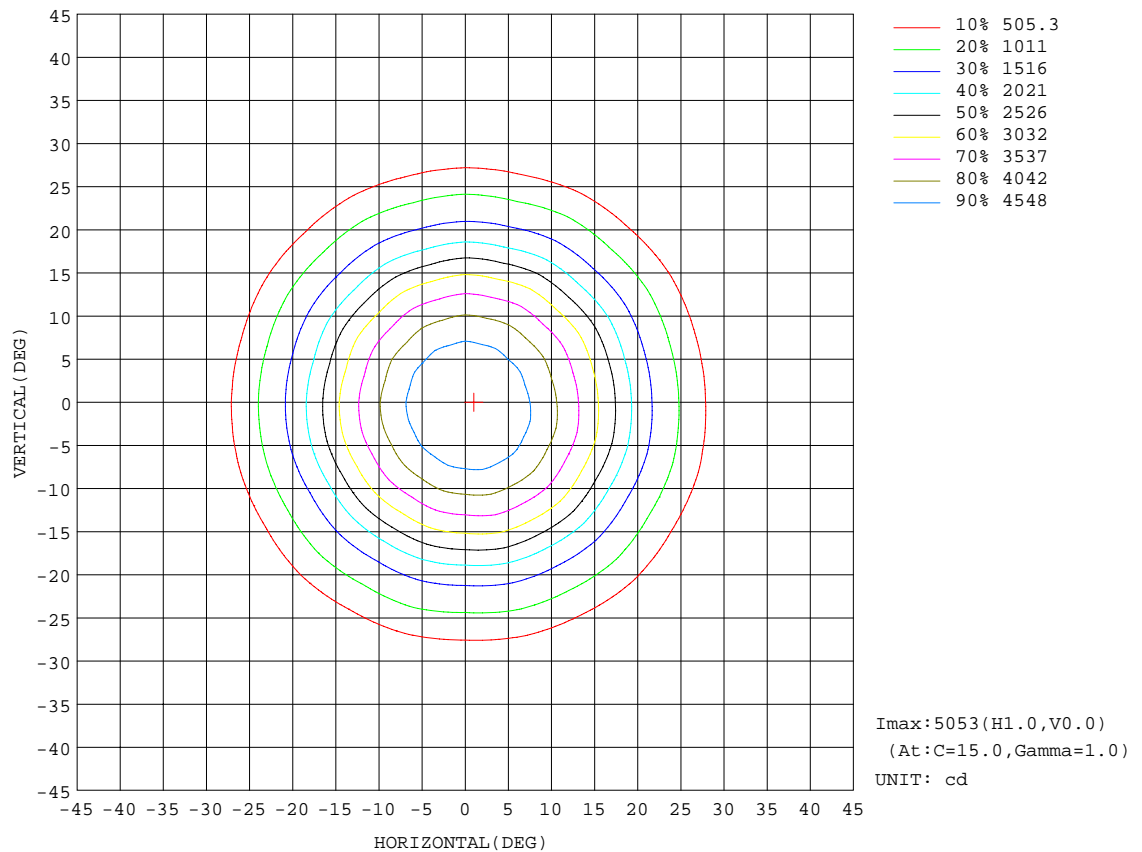
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS(PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	91	85	81	90	85	81	89	84	81	78
0.80	98	92	89	97	92	89	96	91	88	85
1.00	101	96	93	101	96	93	99	96	92	89
1.25	105	100	97	104	100	97	102	99	96	92
1.50	107	103	100	106	102	100	104	101	99	94
2.00	110	106	103	108	105	102	106	103	101	96
2.50	111	108	105	110	106	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	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: 15.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:AE  
Test Date:2020-06-16

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 1.0DEG  
Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.0.362  
Humidity:65.0%  
Test Distance:7.240m [K=1.0000]  
Remarks:

## ISOCANDELA DIAGRAM

Test:U:225.1V I:0.1270A P:27.20W PF:0.9490 Freq:50.00Hz Lamp Flux:1744.96x1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:60	Shielding Angle:



C Range: 0 - 360DEG  
C Interval: 15.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:AE  
Test Date:2020-06-16

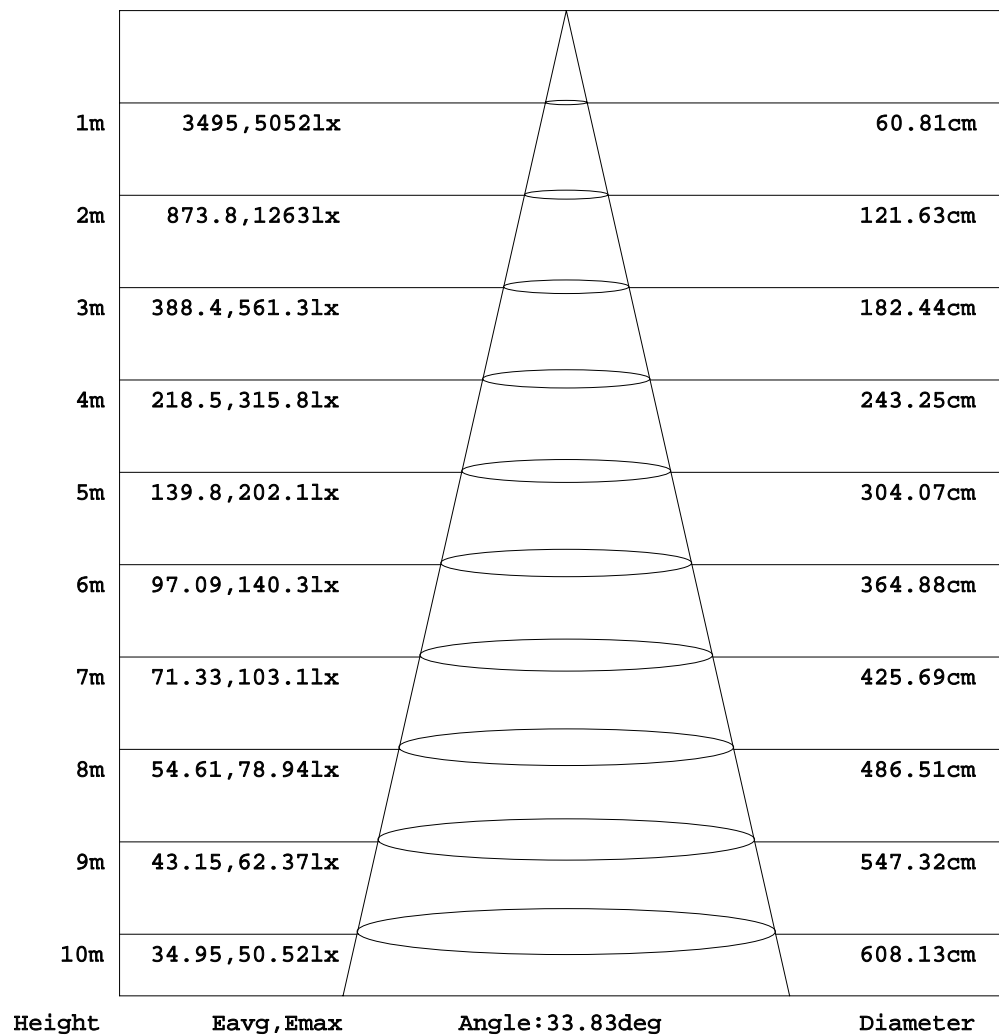
$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 1.0DEG  
Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.0.362  
Humidity:65.0%  
Test Distance:7.240m [K=1.0000]  
Remarks:



### AAI Figure

Test:U:225.1V I:0.1270A P:27.20W PF:0.9490 Freq:50.00Hz Lamp Flux:1744.96x1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:60	Shielding Angle:

Flux out:1026 lm



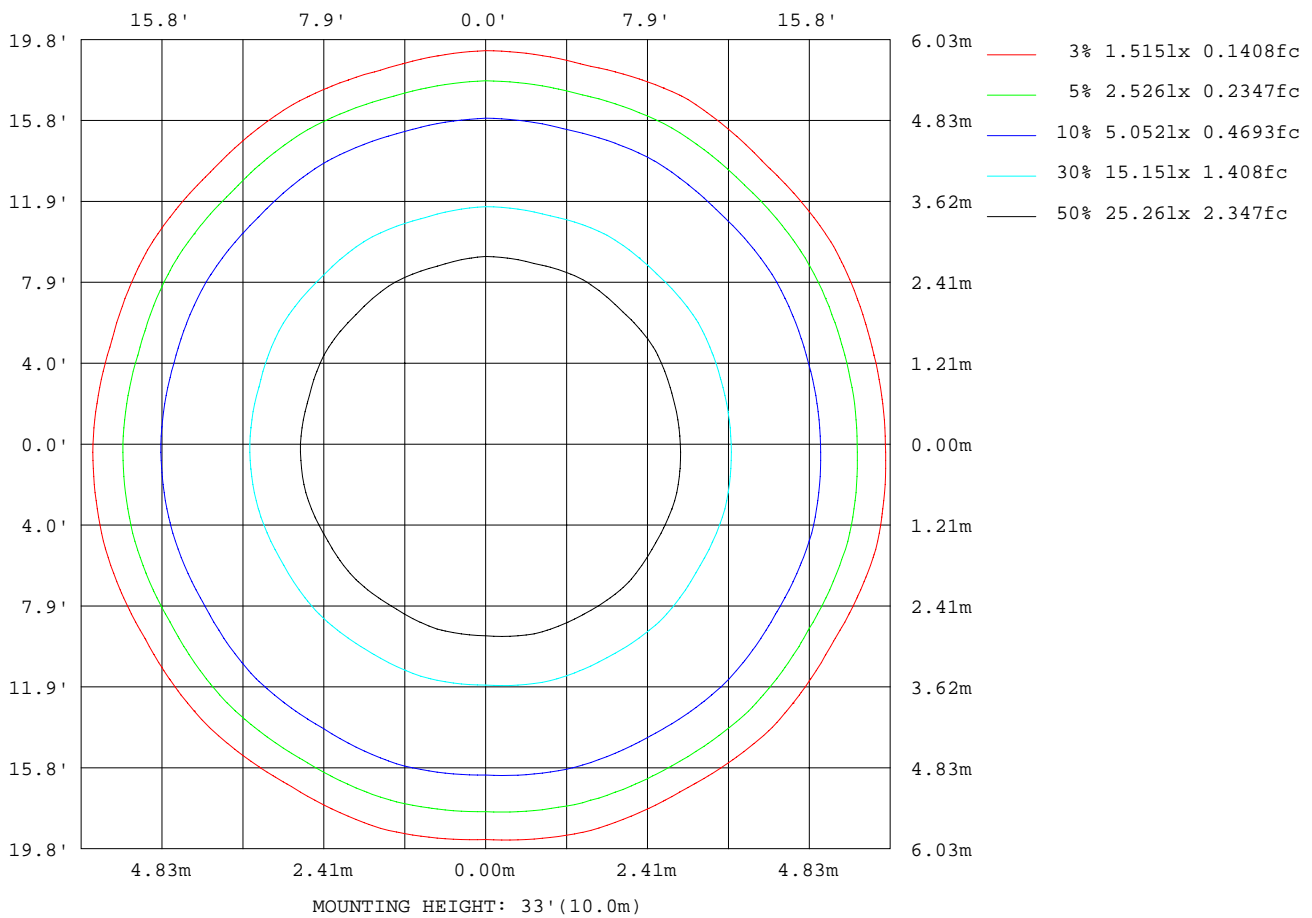
Note: The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG  
 C Interval: 15.0DEG  
 Test Speed: HIGH  
 Temperature: 25.3DEG  
 Operators: AE  
 Test Date: 2020-06-16

γ Range: 0 - 90DEG  
 γ Interval: 1.0DEG  
 Test System: EVERFINE GO-2000B\_V1 SYSTEM V2.0.362  
 Humidity: 65.0%  
 Test Distance: 7.240m [K=1.0000]  
 Remarks:

### ISOLUX DIAGRAM

Test:U:225.1V I:0.1270A P:27.20W PF:0.9490 Freq:50.00Hz Lamp Flux:1744.96x1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:60	Shielding Angle:



C Range: 0 - 360DEG  
C Interval: 15.0DEG  
Test Speed: HIGH  
Temperature: 25.3DEG  
Operators: AE  
Test Date: 2020-06-16

γ Range: 0 - 90DEG  
γ Interval: 1.0DEG  
Test System: EVERFINE GO-2000B\_V1 SYSTEM V2.0.362  
Humidity: 65.0%  
Test Distance: 7.240m [K=1.0000]  
Remarks:

## LED Avg.L Report

Test:U:225.1V I:0.1270A P:27.20W PF:0.9490 Freq:50.00Hz Lamp Flux:1744.96x1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:60	Shielding Angle:

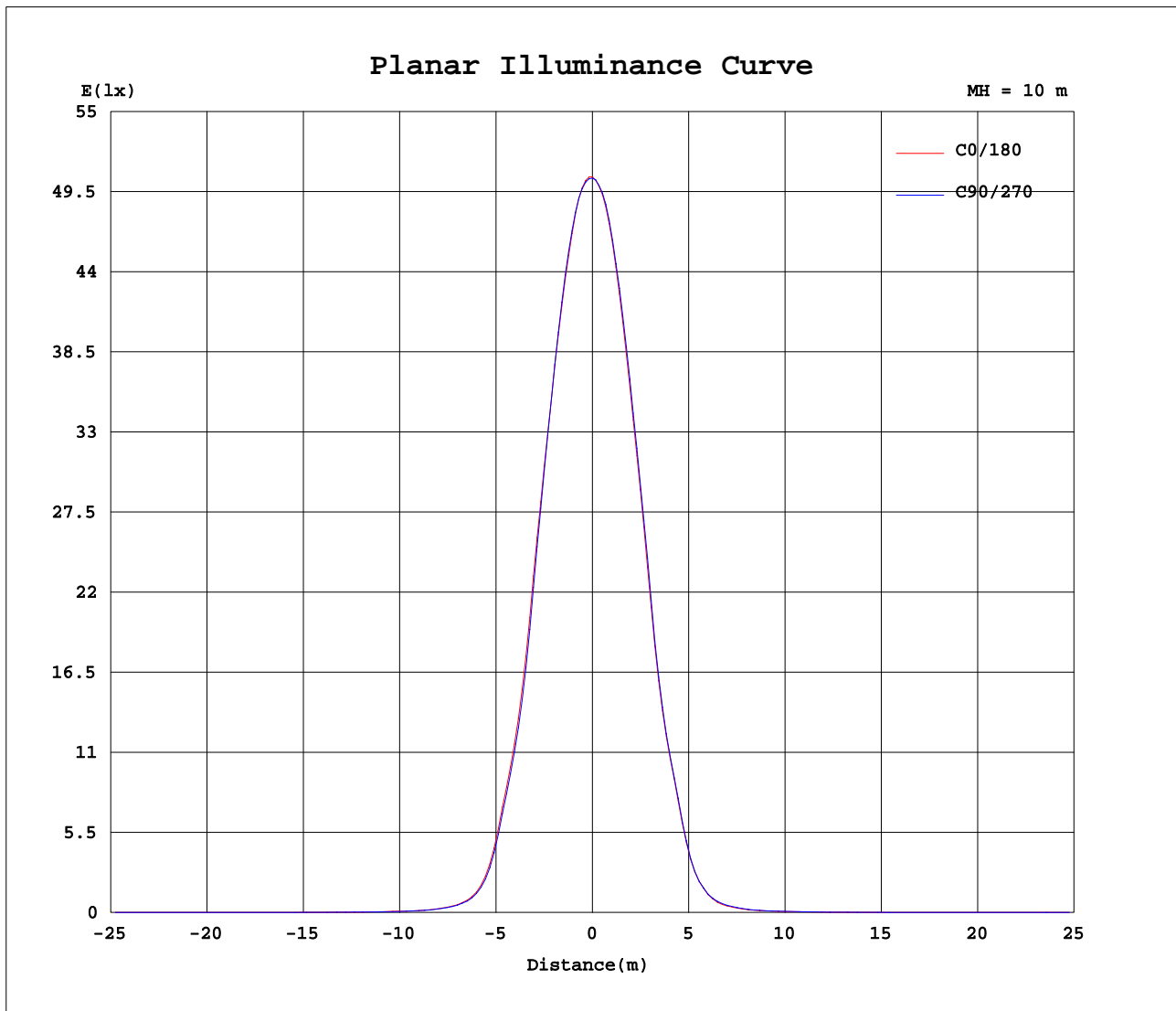
AvgL	cd/m2
L_0~180(65)av	962
L_0~180(75)av	1061
L_0~180(85)av	3448
L_90~270(65)av	969
L_90~270(75)av	1065
L_90~270(85)av	3454
L_45(65)av	959
L_45(75)av	1080
L_45(85)av	3549

Standard: GB/T 29293-2012

C Range: 0 - 360DEG  
 C Interval: 15.0DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:AE  
 Test Date:2020-06-16

γ Range: 0 - 90DEG  
 γ Interval: 1.0DEG  
 Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.0.362  
 Humidity:65.0%  
 Test Distance:7.240m [K=1.0000]  
 Remarks:

## Planar Illuminance Curve



C Range: 0 - 360DEG  
C Interval: 15.0DEG  
Test Speed: HIGH  
Temperature: 25.3DEG  
Operators: AE  
Test Date: 2020-06-16

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 1.0DEG  
Test System: EVERFINE GO-2000B\_V1 SYSTEM V2.0.362  
Humidity: 65.0%  
Test Distance: 7.240m [K=1.0000]  
Remarks:

```

γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.362
Humidity:65.0%
Test Distance:7.240m [K=1.0000]
Remarks:

```

```

γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.362
Humidity:65.0%
Test Distance:7.240m [K=1.0000]
Remarks:

```