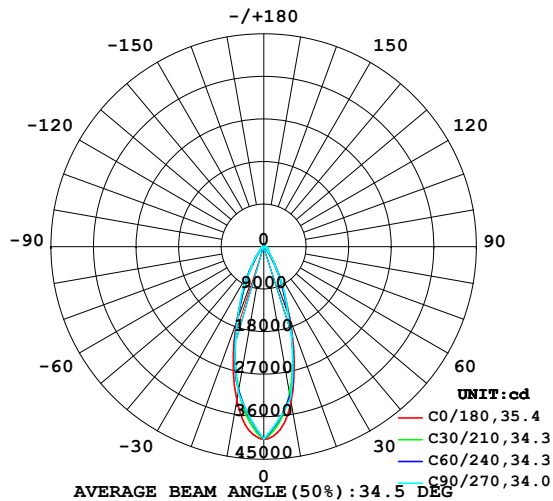


## LUMINAIRE PHOTOMETRIC TEST REPORT

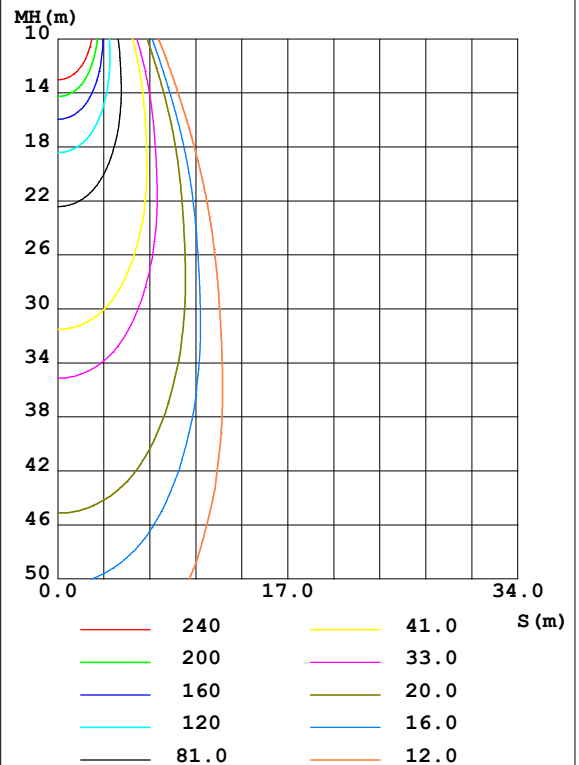
Test:U:220.0V I:0.6871A P:150.1W PF:0.9931 Lamp Flux:18562.5x1 lm		
NAME:	TYPE:LED	WEIGHT:
SPEC.:C470SP-Q2-P-03A 230V50HZ	DIM.:	SERIAL No.:1
MFR.: EVERFINE	SUR.:	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 123.65 lm/W			
MODEL	LHB-150W-3030	I <sub>max</sub> (cd)	40731	S/MH (C0/180)	0.58
NOMINAL POWER(W)	150	LOR(%)	100.0	S/MH (C90/270)	0.56
RATED VOLTAGE(V)	220	TOTAL FLUX(lm)	18562	η UP,DN (C0-180)	0.0,49.6
NOMINAL FLUX(lm)	18562.5	CIE CLASS	DIRECT	η UP,DN (C180-360)	0.0,50.4
LAMPS INSIDE	1	η up (%)	0.0	CIBSE SHR NOM	0.50
TEST VOLTAGE (V)	220	η down (%)	100.0	CIBSE SHR MAX	0.60

LUMINOUS INTENSITY DISTRIBUTION DIAGRAM



C0 PLANE ISOLUX DIAGRAM (UNIT:lx)



C Range: 0 - 360DEG  
C Interval: 5.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:DAMIN  
Test Date:2017-02-10

γ Range: 0 - 90DEG  
γ Interval: 0.5DEG  
Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.0.351  
Humidity:65.0%  
Test Distance:7.290m [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
5	3896	3699	3667	3681	3873	3636	3596	3653	0- 5	917.6	917.6	4.94,4.94
10	3334	3155	3261	3132	3297	3064	3119	3094	5- 10	2440	3358	18.1,18.1
15	2499	2443	2375	2432	2504	2392	2357	2419	10- 15	3274	6632	35.7,35.7
20	1605	1582	1489	1600	1681	1636	1595	1640	15- 20	3235	9867	53.2,53.2
25	968.5	913.3	995.1	951.2	1026	1023	1092	1001	20- 25	2632	12499	67.3,67.3
30	531.7	519.6	501.5	553.3	583.8	620.8	588.7	588.0	25- 30	1922	14421	77.7,77.7
35	284.0	287.2	331.2	308.8	317.3	353.5	383.8	327.9	30- 35	1252	15673	84.4,84.4
40	145.9	143.7	160.9	155.5	162.3	178.8	178.9	167.1	35- 40	791.0	16464	88.7,88.7
45	83.93	93.44	122.7	100.4	85.26	103.2	120.6	99.24	40- 45	467.2	16932	91.2,91.2
50	62.07	67.00	84.47	70.13	59.21	61.26	62.40	61.04	45- 50	325.4	17257	93,93
55	53.24	60.05	78.33	61.64	48.75	51.20	55.00	51.54	50- 55	265.9	17523	94.4,94.4
60	50.94	54.88	72.19	55.44	45.77	44.49	47.59	45.37	55- 60	248.2	17771	95.7,95.7
65	44.18	47.00	57.02	47.82	39.73	39.45	42.25	39.15	60- 65	233.3	18004	97,97
70	37.12	38.24	41.85	39.08	33.31	33.55	36.91	32.32	65- 70	205.0	18209	98.1,98.1
75	26.96	27.55	29.39	28.46	26.07	26.19	26.20	24.49	70- 75	165.8	18375	99,99
80	18.26	17.94	16.94	18.52	15.07	16.80	15.50	15.58	75- 80	116.7	18492	99.6,99.6
85	10.75	5.189	0	5.343	8.067	4.687	0	4.326	80- 85	61.47	18553	99.9,99.9
90	4.599	0	0	0	3.234	0	0	0	85- 90	9.275	18562	100,100
95									90- 95			
100									95-100			
105									100-105			
110									105-110			
115									110-115			
120									115-120			
125									120-125			
130									125-130			
135									130-135			
140									135-140			
145									140-145			
150									145-150			
155									150-155			
160									155-160			
165									160-165			
170									165-170			
175									170-175			
180									175-180			
DEG	LUMINOUS INTENSITY:×10cd									UNIT:lm		

Conical surface Flux(90deg): 16932 lm

%lum = 91.2%

%lamp = 91.2%

Conical surface Flux(120deg): 17771 lm

%lum = 95.7%

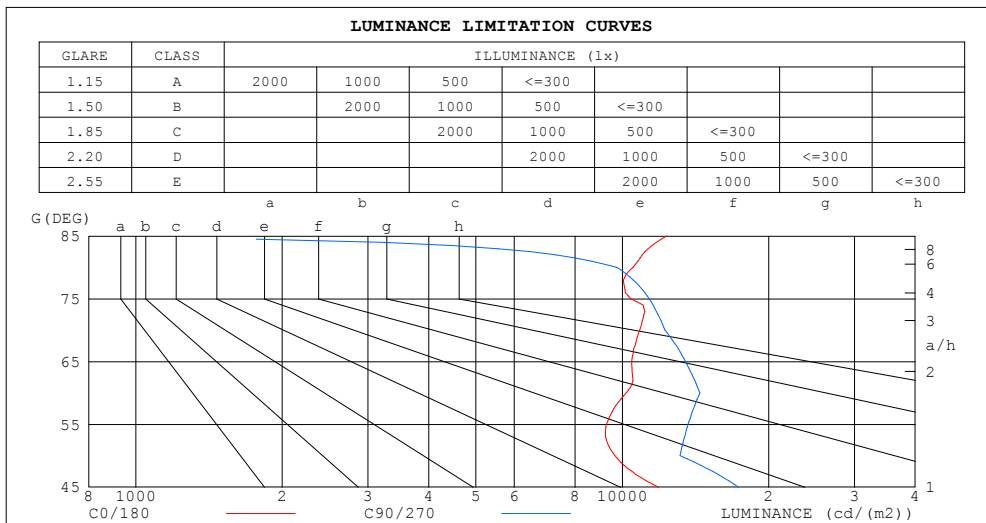
%lamp = 95.7%

C Range: 0 - 360DEG  
 C Interval: 5.0DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:DAMIN  
 Test Date:2017-02-10

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 0.5DEG  
 Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.0.351  
 Humidity:65.0%  
 Test Distance:7.290m [K=1.0000]  
 Remarks:

## LUMINANCE LIMITATION CURVES

Test:U:220.0V I:0.6871A P:150.1W PF:0.9931 Lamp Flux:18562.5x1 lm		
NAME:	TYPE:LED	WEIGHT:
SPEC.:C470SP-Q2-P-03A 230V50HZ	DIM.:	SERIAL No.:1
MFR.: EVERFINE	SUR.:	Shielding Angle:



LUMINANCE cd/(m2)		
G (DEG)	C0/180	C90/270
85	12338	0
80	10517	9753
75	10415	11357
70	10853	12237
65	10454	13492
60	10188	14437
55	9282	13656
50	9657	13142
45	11870	17352

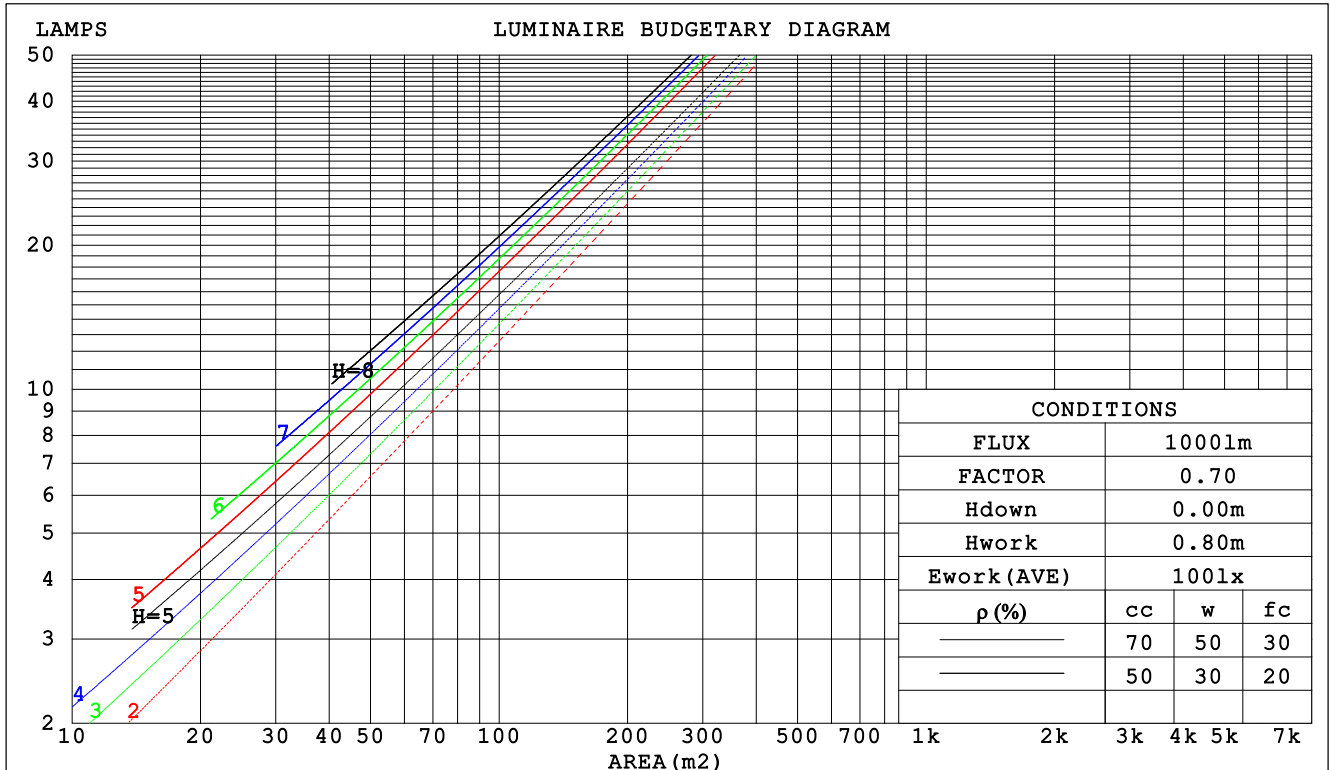
C Range: 0 - 360DEG  
C Interval: 5.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:DAMIN  
Test Date:2017-02-10

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 0.5DEG  
Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.0.351  
Humidity:65.0%  
Test Distance:7.290m [K=1.0000]  
Remarks:

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

Test:U:220.0V I:0.6871A P:150.1W PF:0.9931 Lamp Flux:18562.5x1 lm		
NAME:	TYPE:LED	WEIGHT:
SPEC.:C470SP-Q2-P-03A 230V50HZ	DIM.:	SERIAL No.:1
MFR.: EVERFINE	SUR.:	Shielding Angle:

pcc	80%			70%			50%			30%			10%			0
p <sub>w</sub>	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
p <sub>fc</sub>	20%			20%			20%			20%			20%			0
RCR	RCR:Room Cavity Ratio															



C Range: 0 - 360DEG  
 C Interval: 5.0DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:DAMIN  
 Test Date:2017-02-10

γ Range: 0 - 90DEG  
 γ Interval: 0.5DEG  
 Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.0.351  
 Humidity:65.0%  
 Test Distance:7.290m [K=1.0000]  
 Remarks:

## WEC AND CCEC

Test:U:220.0V I:0.6871A P:150.1W PF:0.9931 Lamp Flux:18562.5x1 lm		
NAME:	TYPE:LED	WEIGHT:
SPEC.:C470SP-Q2-P-03A 230V50HZ	DIM.:	SERIAL No.:1
MFR.: EVERFINE	SUR.:	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	.183	.104	.033	.176	.100	.032	.163	.094	.030	.152	.087	.028	.141	.082	.026		
2.0	.171	.094	.029	.166	.091	.028	.155	.086	.027	.145	.082	.026	.136	.077	.024		
3.0	.160	.085	.026	.156	.083	.025	.147	.079	.024	.138	.076	.023	.131	.072	.022		
4.0	.151	.078	.023	.146	.077	.023	.139	.074	.022	.131	.071	.021	.125	.068	.021		
5.0	.142	.072	.021	.138	.071	.021	.131	.068	.020	.125	.066	.020	.119	.064	.019		
6.0	.134	.067	.019	.131	.066	.019	.125	.064	.019	.119	.062	.018	.114	.060	.018		
7.0	.127	.063	.018	.124	.062	.018	.119	.060	.017	.114	.059	.017	.110	.057	.017		
8.0	.121	.059	.017	.118	.058	.016	.114	.057	.016	.109	.055	.016	.105	.054	.016		
9.0	.115	.056	.016	.113	.055	.015	.109	.054	.015	.105	.053	.015	.101	.051	.015		
10.0	.110	.053	.015	.108	.052	.015	.104	.051	.014	.101	.050	.014	.097	.049	.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	.172	.157	.144	.147	.135	.124	.100	.093	.086	.058	.054	.050	.019	.017	.016	
2.0	.156	.132	.113	.134	.114	.097	.092	.079	.068	.053	.046	.040	.017	.015	.013	
3.0	.143	.114	.090	.123	.098	.078	.084	.068	.055	.049	.040	.032	.016	.013	.011	
4.0	.133	.099	.073	.114	.085	.063	.078	.059	.045	.045	.035	.026	.015	.011	.009	
5.0	.123	.087	.060	.106	.075	.053	.073	.053	.037	.042	.031	.022	.014	.010	.007	
6.0	.115	.078	.051	.099	.067	.044	.068	.047	.031	.040	.028	.019	.013	.009	.006	
7.0	.108	.070	.043	.093	.061	.037	.064	.042	.027	.037	.025	.016	.012	.008	.005	
8.0	.102	.064	.037	.088	.055	.032	.061	.039	.023	.035	.023	.014	.011	.007	.005	
9.0	.097	.058	.032	.083	.050	.028	.058	.035	.020	.034	.021	.012	.011	.007	.004	
10.0	.092	.054	.028	.079	.047	.025	.055	.033	.018	.032	.019	.010	.010	.006	.003	

C Range: 0 - 360DEG  
C Interval: 5.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:DAMIN  
Test Date:2017-02-10

γ Range: 0 - 90DEG  
γ Interval: 0.5DEG  
Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.0.351  
Humidity:65.0%  
Test Distance:7.290m [K=1.0000]  
Remarks:

### UGR(Unified Glare Rating) Table

Test:U:220.0V I:0.6871A P:150.1W PF:0.9931 Lamp Flux:18562.5x1 lm										
NAME:					TYPE:LED			WEIGHT:		
SPEC.:C470SP-Q2-P-03A 230V50HZ					DIM.:			SERIAL No.:1		
MFR.: EVERFINE					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	16.5	17.4	16.7	17.5	17.7	17.4	18.3	17.6	18.5	18.6
3H	17.9	18.7	18.1	18.9	19.1	18.7	19.6	19.0	19.8	20.0
4H	18.5	19.3	18.8	19.6	19.8	19.3	20.1	19.6	20.3	20.5
6H	19.1	19.8	19.4	20.1	20.3	19.7	20.5	20.0	20.7	21.0
8H	19.3	20.0	19.6	20.3	20.5	19.8	20.5	20.1	20.8	21.0
12H	19.5	20.2	19.8	20.4	20.7	19.8	20.5	20.1	20.7	21.0
4H 2H	17.1	17.9	17.4	18.1	18.3	17.8	18.6	18.1	18.8	19.0
3H	18.8	19.4	19.1	19.7	20.0	19.3	20.0	19.7	20.3	20.6
4H	19.6	20.2	19.9	20.5	20.8	20.1	20.7	20.4	21.0	21.3
6H	20.2	20.8	20.6	21.1	21.5	20.6	21.2	21.0	21.5	21.8
8H	20.5	21.0	20.9	21.4	21.7	20.7	21.2	21.1	21.6	22.0
12H	20.7	21.2	21.1	21.6	22.0	20.7	21.2	21.1	21.5	21.9
8H 4H	19.9	20.4	20.3	20.7	21.1	20.3	20.8	20.7	21.2	21.5
6H	20.7	21.1	21.1	21.5	21.9	21.0	21.4	21.4	21.8	22.2
8H	21.1	21.5	21.5	21.9	22.3	21.2	21.5	21.6	22.0	22.4
12H	21.4	21.8	21.9	22.2	22.7	21.1	21.5	21.6	21.9	22.4
12H 4H	19.9	20.4	20.3	20.7	21.1	20.3	20.8	20.7	21.2	21.6
6H	20.8	21.2	21.2	21.6	22.0	21.1	21.4	21.5	21.9	22.3
8H	21.2	21.5	21.7	22.0	22.4	21.2	21.6	21.7	22.0	22.5
Variations with the observer position at spacings:										
S = 1.0H	+ 0.4 / - 0.4					+ 0.5 / - 0.4				
1.5H	+ 0.7 / - 0.3					+ 1.1 / - 0.4				
2.0H	+ 0.4 / - 0.2					+ 0.5 / - 0.5				

CIE Pub.117 Corrected 18562 lm Total Lamp Luminous Flux.(8log(F/F0) = 10.1)

C Range: 0 - 360DEG  
C Interval: 5.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:DAMIN  
Test Date:2017-02-10

γ Range: 0 - 90DEG  
γ Interval: 0.5DEG  
Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.0.351  
Humidity:65.0%  
Test Distance:7.290m [K=1.0000]  
Remarks:

### UTILIZATION FACTORS TABLE

Test:U:220.0V I:0.6871A P:150.1W PF:0.9931 Lamp Flux:18562.5x1 lm		
NAME:	TYPE:LED	WEIGHT:
SPEC.:C470SP-Q2-P-03A 230V50HZ	DIM.:	SERIAL No.:1
MFR.: EVERFINE	SUR.:	Shielding Angle:

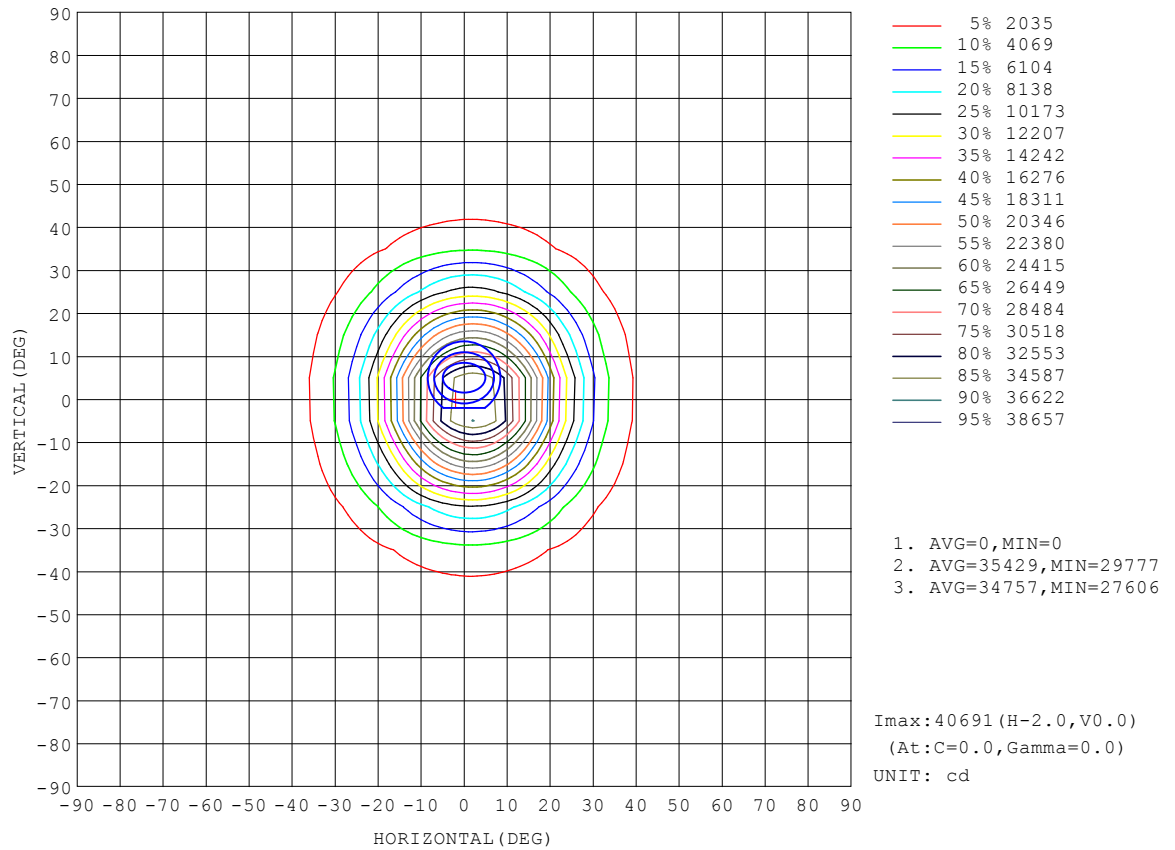
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS (PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	85	78	74	84	78	74	83	77	74	70
0.80	92	86	82	91	85	82	90	85	81	77
1.00	97	91	87	96	90	86	94	90	86	82
1.25	101	95	91	100	95	91	98	93	90	86
1.50	104	99	95	103	98	94	100	96	93	88
2.00	107	102	99	105	101	98	103	99	96	91
2.50	109	105	101	107	103	100	104	101	99	92
3.00	111	107	104	109	105	103	105	103	100	94
4.00	113	110	107	111	108	106	107	105	103	96
5.00	114	112	110	112	110	108	108	107	105	97
ROOM INDEX	UF (total)									Direct
According to DIN EN 13032-2 2004			Suspended					SHRNOM = 1.25		

C Range: 0 - 360DEG  
C Interval: 5.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:DAMIN  
Test Date:2017-02-10

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 0.5DEG  
Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.0.351  
Humidity:65.0%  
Test Distance:7.290m [K=1.0000]  
Remarks:

## ISOCANDELA DIAGRAM

Test:U:220.0V I:0.6871A P:150.1W PF:0.9931 Lamp Flux:18562.5x1 lm		
NAME:	TYPE:LED	WEIGHT:
SPEC.:C470SP-Q2-P-03A 230V50HZ	DIM.:	SERIAL No.:1
MFR.: EVERFINE	SUR.:	Shielding Angle:



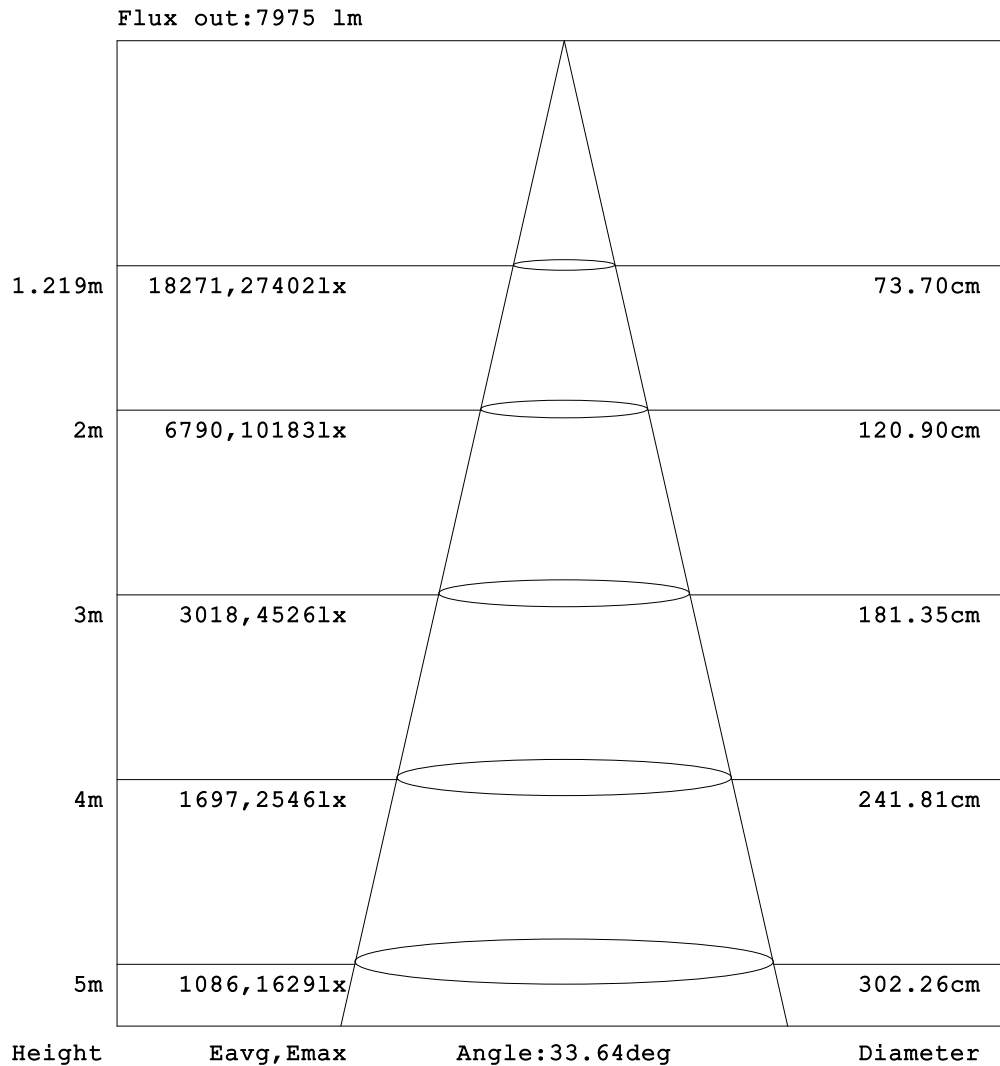
C Range: 0 - 360DEG  
C Interval: 5.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:DAMIN  
Test Date:2017-02-10

γ Range: 0 - 90DEG  
γ Interval: 0.5DEG  
Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.0.351  
Humidity:65.0%  
Test Distance:7.290m [K=1.0000]  
Remarks:



### AAI Figure

Test:U:220.0V I:0.6871A P:150.1W PF:0.9931 Lamp Flux:18562.5x1 lm		
NAME:	TYPE:LED	WEIGHT:
SPEC.:C470SP-Q2-P-03A 230V50HZ	DIM.:	SERIAL No.:1
MFR.: EVERFINE	SUR.:	Shielding Angle:



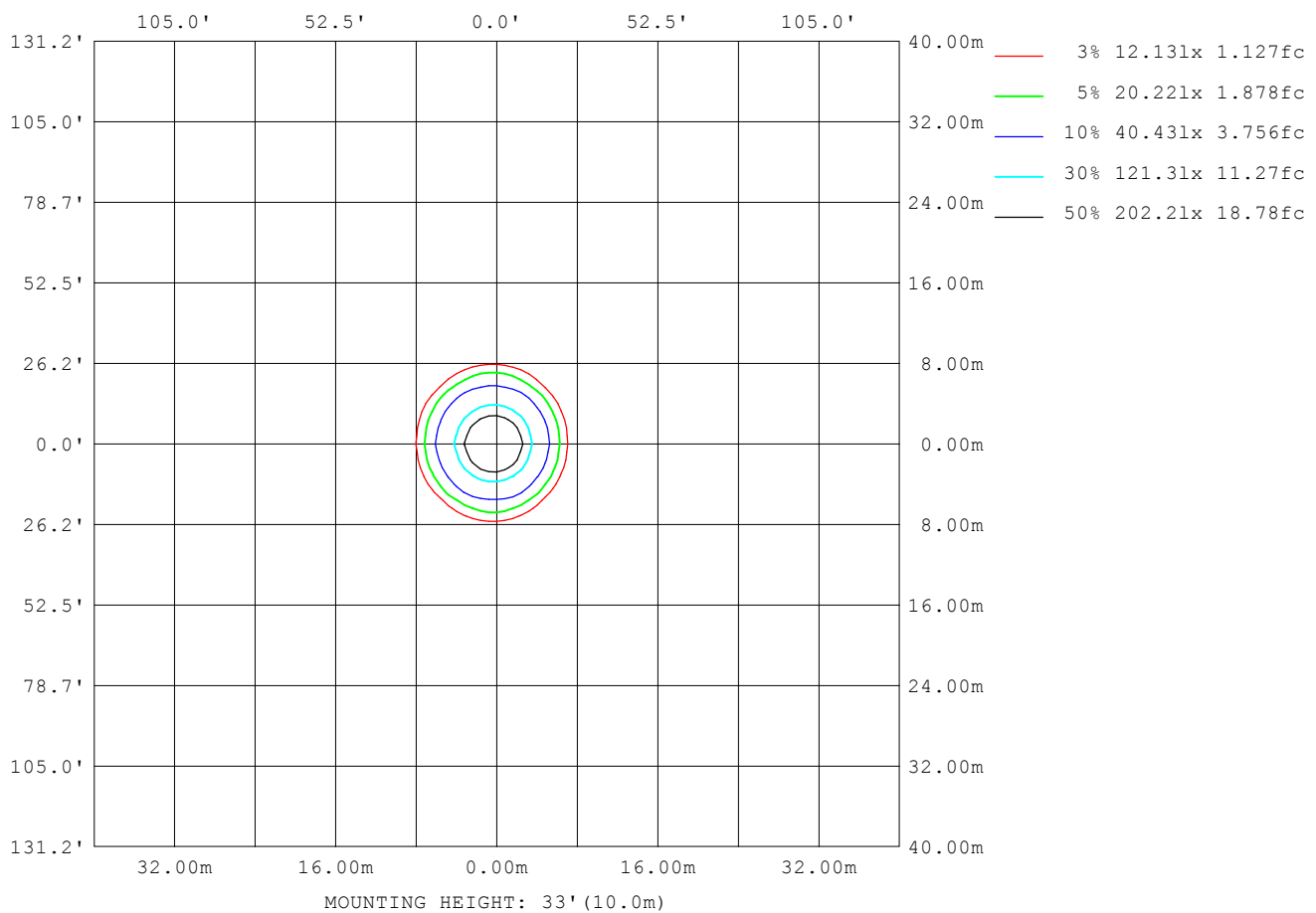
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG  
 C Interval: 5.0DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:DAMIN  
 Test Date:2017-02-10

γ Range: 0 - 90DEG  
 γ Interval: 0.5DEG  
 Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.0.351  
 Humidity:65.0%  
 Test Distance:7.290m [K=1.0000]  
 Remarks:

## ISOLUX DIAGRAM

Test:U:220.0V I:0.6871A P:150.1W PF:0.9931 Lamp Flux:18562.5x1 lm		
NAME:	TYPE:LED	WEIGHT:
SPEC.:C470SP-Q2-P-03A 230V50HZ	DIM.:	SERIAL No.:1
MFR.: EVERFINE	SUR.:	Shielding Angle:



C Range: 0 - 360DEG  
C Interval: 5.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:DAMIN  
Test Date:2017-02-10

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 0.5DEG  
Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.0.351  
Humidity:65.0%  
Test Distance:7.290m [K=1.0000]  
Remarks:

## LED Avg.L Report

Test:U:220.0V I:0.6871A P:150.1W PF:0.9931 Lamp Flux:18562.5x1 lm		
NAME:	TYPE:LED	WEIGHT:
SPEC.:C470SP-Q2-P-03A 230V50HZ	DIM.:	SERIAL No.:1
MFR.: EVERFINE	SUR.:	Shielding Angle:

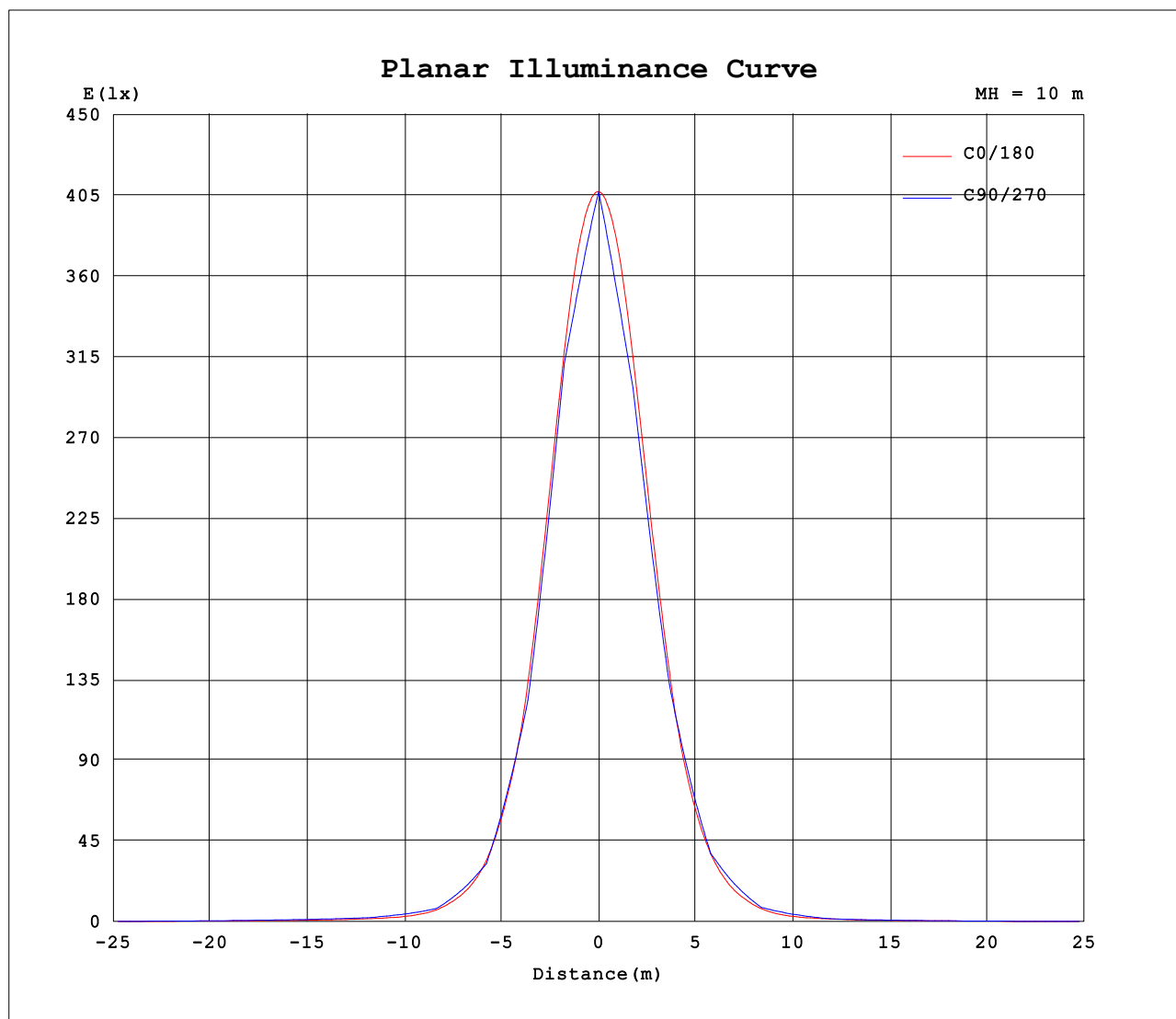
AvgL	cd/m2
L_0~180 (65) av	9927
L_0~180 (75) av	10243
L_0~180 (85) av	10797
L_90~270 (65) av	11744
L_90~270 (75) av	10741
L_90~270 (85) av	0
L_45 (65) av	10259
L_45 (75) av	10307
L_45 (85) av	5606

Standard: GB/T 29293-2012

C Range: 0 - 360DEG  
C Interval: 5.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:DAMIN  
Test Date:2017-02-10

γ Range: 0 - 90DEG  
γ Interval: 0.5DEG  
Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.0.351  
Humidity:65.0%  
Test Distance:7.290m [K=1.0000]  
Remarks:

## Planar Illuminance Curve



C Range: 0 - 360DEG  
C Interval: 5.0DEG  
Test Speed: HIGH  
Temperature: 25.3DEG  
Operators: DAMIN  
Test Date: 2017-02-10

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 0.5DEG  
Test System: EVERFINE GO-2000B\_V1 SYSTEM V2.0.351  
Humidity: 65.0%  
Test Distance: 7.290m [K=1.0000]  
Remarks:

```

Range: 0 - 90DEG
Interval: 0.5DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.351
Humidity:65.0%
Test Distance:7.290m [K=1.0000]
Remarks:

```

```

γ Range: 0 - 90DEG
γ Interval: 0.5DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.351
Humidity:65.0%
Test Distance:7.290m [K=1.0000]
Remarks:

```

```

γ Range: 0 - 90DEG
γ Interval: 0.5DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.351
Humidity:65.0%
Test Distance:7.290m [K=1.0000]
Remarks:

```

```

γ Range: 0 - 90DEG
γ Interval: 0.5DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.351
Humidity:65.0%
Test Distance:7.290m [K=1.0000]
Remarks:

```