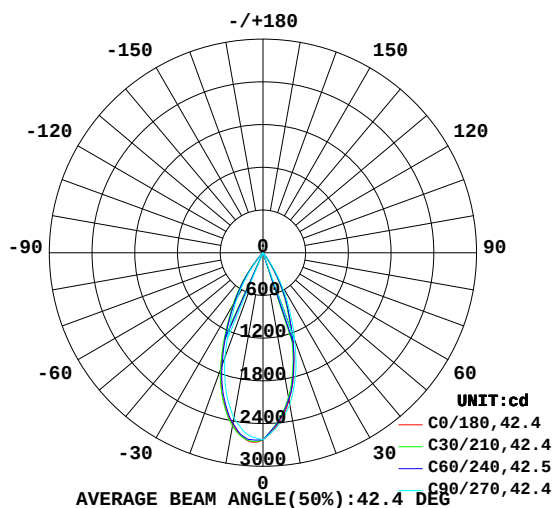


LUMINAIRE PHOTOMETRIC TEST REPORT

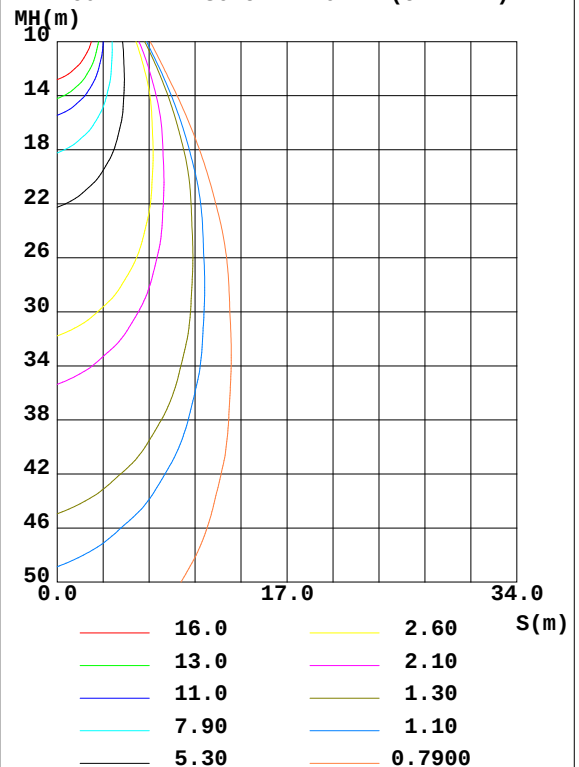
Test:U:230.38V I:0.0871A P:19.634W PF:0.9780 Freq:50.00Hz Lamp Flux:1411.74x1 lm		
NAME: 169-295	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: EVERFINE	SUR.:80	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 71.90 lm/W			
MODEL	169-295	Imax(cd)	2665	S/MH(C0/180)	0.75
NOMINAL POWER(W)	20	LOR(%)	100.0	S/MH(C90/270)	0.72
RATED VOLTAGE(V)	230	TOTAL FLUX(lm)	1411.7	η UP, DN(C0-180)	0.0, 46.6
NOMINAL FLUX(lm)	1411.74	CIE CLASS	DIRECT	η UP, DN(C180-360)	0.0, 53.4
LAMPS INSIDE	1	η up(%)	0.0	CIBSE SHR NOM	0.50
TEST VOLTAGE(V)	230	η down(%)	100.0	CIBSE SHR MAX	0.70

LUMINOUS INTENSITY DISTRIBUTION DIAGRAM



C0 PLANE ISOLUX DIAGRAM (UNIT:lx)



H(β) Range:-90 - 90DEG
H(β) Interval: 1.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:
Test Date:2021-09-04

V(B) Range:-85 - 85DEG
V(B) Interval: 2.0DEG
Test System:EVERFINE G0-2000B_V1 SYSTEM V2.0.404.7
Humidity:65.0%
Test Distance:8.240m [K=1.0000]
Remarks: 169-295

ZONAL FLUX DIAGRAM

ZONAL FLUX DIAGRAM:

γ	C0	C45	C90	C135	C180	C225	C270	C315	γ	Φ zone	Φ total	%lum, lamp
10	2103	2065	2169	2311	2445	2456	2357	2190	0- 10	231.2	231.2	16.4,16.4
20	1182	1154	1298	1535	1723	1730	1564	1322	10- 20	519.5	750.7	53.2,53.2
30	420.4	413.1	516.9	686.5	819.2	830.6	709.6	529.4	20- 30	451.1	1202	85.1,85.1
40	17.99	20.25	34.28	89.69	150.4	158.9	85.65	36.27	30- 40	187.1	1389	98.4,98.4
50	2.684	3.302	4.614	4.759	5.626	6.701	5.414	3.388	40- 50	17.43	1406	99.6,99.6
60	0.9373	1.585	2.774	2.525	1.736	2.130	1.932	1.217	50- 60	2.616	1409	99.8,99.8
70	0.2114	1.220	2.107	2.080	0.5528	0.6186	0.5244	0.3313	60- 70	1.317	1410	99.9,99.9
80	0.0690	1.357	1.840	1.911	0.1151	0.1049	0.1335	0.1278	70- 80	0.8614	1411	100,100
90	0.0690	0	0	0	0.0828	0	0	0	80- 90	0.5818	1412	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		

Conical surface Flux(90deg): 1403.1 lm

%lum = 99.4%

%lamp = 99.4%

Conical surface Flux(120deg): 1409 lm

%lum = 99.8%

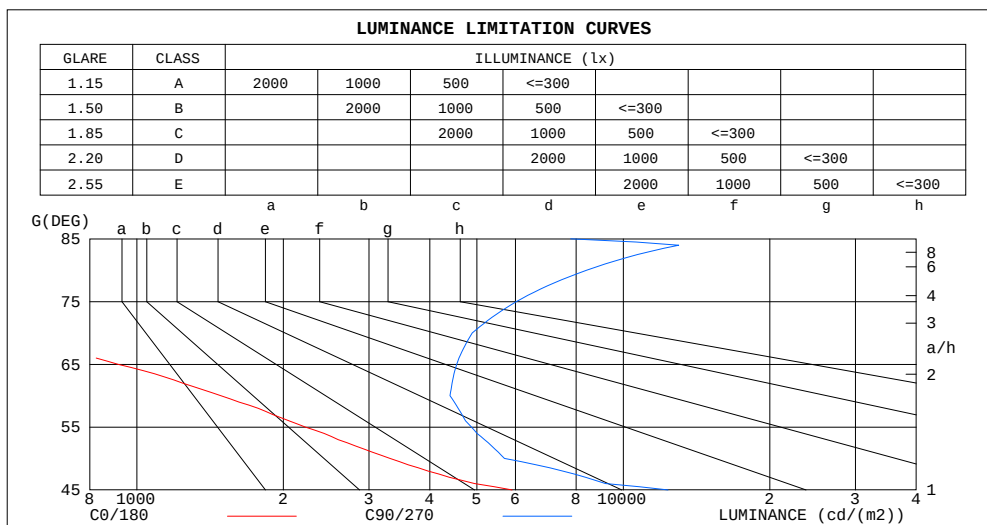
%lamp = 99.8%

H(β) Range:-90 - 90DEG
 H(β) Interval: 1.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:
 Test Date:2021-09-04

V(B) Range:-85 - 85DEG
 V(B) Interval: 2.0DEG
 Test System:EVERFINE G0-2000B_V1 SYSTEM V2.0.404.7
 Humidity:65.0%
 Test Distance:8.240m [K=1.0000]
 Remarks: 169-295

LUMINANCE LIMITATION CURVES

Test:U:230.38V I:0.0871A P:19.634W PF:0.9780 Freq:50.00Hz Lamp Flux:1411.74x1 lm		
NAME: 169-295	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: EVERFINE	SUR.:80	Shielding Angle:



LUMINANCE cd/(m2)		
G(DEG)	C0/180	C90/270
85	628	7792
80	315	8411
75	212	6030
70	490	4889
65	915	4546
60	1488	4403
55	2219	4873
50	3313	5697
45	5906	12355

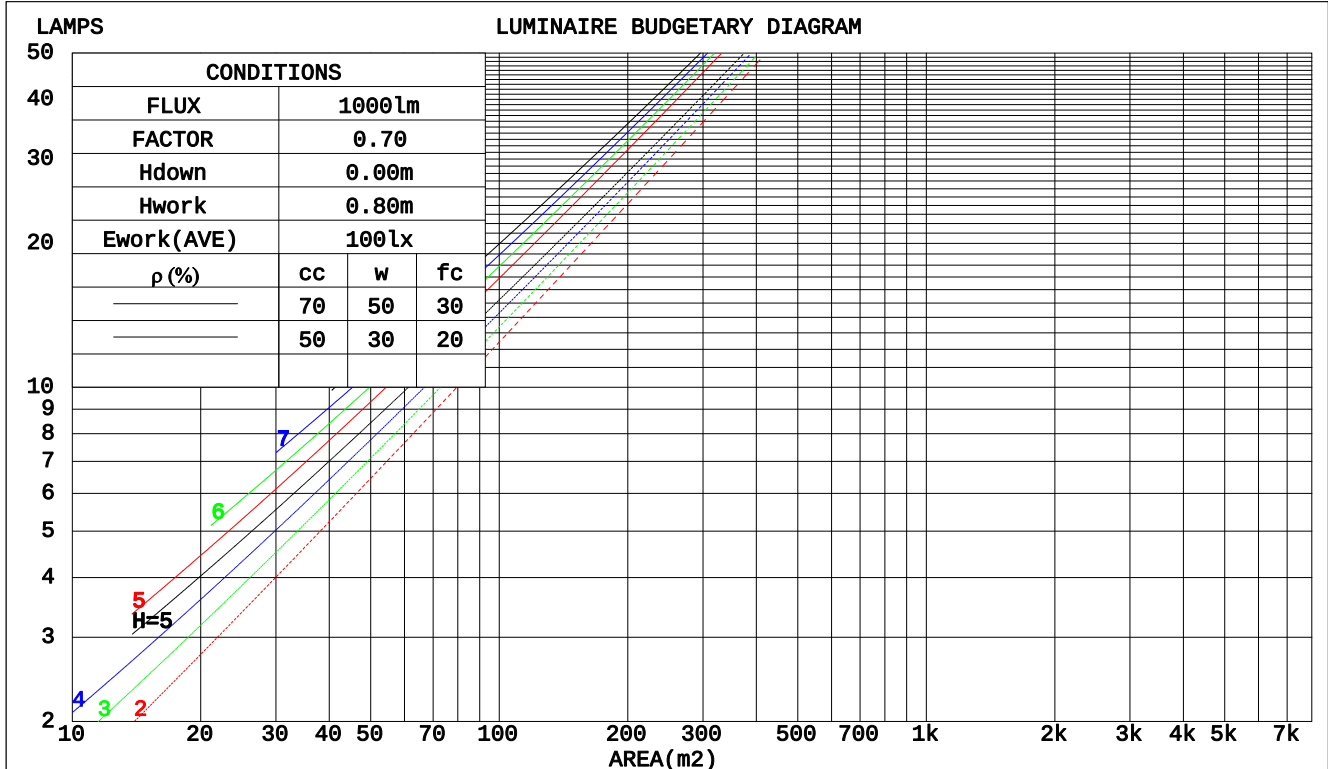
H(β) Range:-90 - 90DEG
H(β) Interval: 1.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:
Test Date:2021-09-04

V(B) Range:-85 - 85DEG
V(B) Interval: 2.0DEG
Test System:EVERFINE G0-2000B_V1 SYSTEM V2.0.404.7
Humidity:65.0%
Test Distance:8.240m [K=1.0000]
Remarks: 169-295

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

Test:U:230.38V I:0.0871A P:19.634W PF:0.9780 Freq:50.00Hz Lamp Flux:1411.74x1 lm		
NAME: 169-295	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: EVERFINE	SUR.:80	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	RCR:Room Cavity Ratio															



H(β) Range:-90 - 90DEG
H(β) Interval: 1.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:
Test Date:2021-09-04

V(B) Range:-85 - 85DEG
V(B) Interval: 2.0DEG
Test System:EVERFINE G0-2000B_V1 SYSTEM V2.0.404.7
Humidity:65.0%
Test Distance:8.240m [K=1.0000]
Remarks: 169-295

WEC AND CCEC

Test:U:230.38V I:0.0871A P:19.634W PF:0.9780 Freq:50.00Hz Lamp Flux:1411.74x1 lm											
NAME: 169-295						TYPE:			WEIGHT:		
SPEC.:						DIM.:			SERIAL No.:		
MFR.: EVERFINE						SUR.:80			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	RCR:Room Cavity Ratio						Wall Exitance Coefficients(WEC)									
0.0																
1.0	.161	.091	.029	.154	.088	.028	.141	.081	.026	.130	.075	.024	.119	.069	.022	
2.0	.152	.083	.026	.146	.081	.025	.136	.076	.023	.126	.071	.022	.117	.066	.021	
3.0	.144	.077	.023	.139	.074	.022	.130	.071	.021	.122	.067	.021	.115	.063	.020	
4.0	.136	.071	.021	.132	.069	.020	.125	.066	.020	.118	.063	.019	.111	.061	.018	
5.0	.130	.066	.019	.126	.065	.019	.120	.062	.018	.114	.060	.018	.108	.058	.017	
6.0	.124	.062	.018	.121	.061	.018	.115	.059	.017	.110	.057	.017	.105	.055	.016	
7.0	.119	.059	.017	.116	.058	.016	.111	.056	.016	.106	.054	.016	.102	.053	.016	
8.0	.114	.056	.016	.111	.055	.015	.107	.053	.015	.103	.052	.015	.099	.051	.015	
9.0	.109	.053	.015	.107	.052	.015	.103	.051	.014	.099	.050	.014	.096	.049	.014	
10.0	.105	.050	.014	.103	.050	.014	.099	.049	.014	.096	.048	.014	.093	.047	.013	

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	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	.145	.135	.126	.099	.093	.087	.057	.054	.051	.018	.017	.016		
2.0	.154	.133	.115	.132	.114	.099	.090	.079	.069	.052	.046	.041	.017	.015	.013		
3.0	.140	.113	.092	.120	.098	.080	.082	.068	.056	.048	.040	.033	.015	.013	.011		
4.0	.129	.098	.075	.111	.085	.065	.076	.059	.046	.044	.035	.027	.014	.011	.009		
5.0	.120	.087	.062	.103	.075	.054	.071	.052	.038	.041	.031	.023	.013	.010	.007		
6.0	.112	.077	.052	.096	.067	.045	.066	.047	.032	.038	.027	.019	.012	.009	.006		
7.0	.105	.069	.044	.090	.060	.038	.062	.042	.027	.036	.025	.016	.012	.008	.005		
8.0	.099	.063	.038	.085	.055	.033	.059	.038	.023	.034	.023	.014	.011	.007	.005		
9.0	.094	.058	.033	.081	.050	.029	.056	.035	.020	.033	.021	.012	.011	.007	.004		
10.0	.090	.053	.029	.077	.046	.025	.054	.032	.018	.031	.019	.011	.010	.006	.004		

H(β) Range:-90 - 90DEG
H(β) Interval: 1.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:
Test Date:2021-09-04

V(B) Range:-85 - 85DEG
V(B) Interval: 2.0DEG
Test System:EVERFINE G0-2000B_V1 SYSTEM V2.0.404.7
Humidity:65.0%
Test Distance:8.240m [K=1.0000]
Remarks: 169-295

UGR(Unified Glare Rating) Table

Test:U:230.38V I:0.0871A P:19.634W PF:0.9780 Freq:50.00Hz Lamp Flux:1411.74x1 lm										
NAME: 169-295					TYPE:			WEIGHT:		
SPEC.:					DIM.:			SERIAL No.:		
MFR.: EVERFINE					SUR.:80			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	16.2	17.0	16.4	17.1	17.3	18.5	19.3	18.7	19.5	19.6
3H	16.0	16.8	16.2	16.9	17.1	18.3	19.1	18.6	19.3	19.5
4H	15.9	16.6	16.2	16.8	17.1	18.3	19.0	18.6	19.2	19.4
6H	15.8	16.5	16.1	16.7	17.0	18.3	18.9	18.6	19.2	19.4
8H	15.8	16.4	16.1	16.7	16.9	18.3	18.9	18.6	19.2	19.4
12H	15.7	16.4	16.0	16.6	16.9	18.3	18.9	18.6	19.2	19.4
4H 2H	15.9	16.6	16.2	16.9	17.1	18.2	19.0	18.5	19.2	19.4
3H	15.7	16.4	16.1	16.6	16.9	18.1	18.7	18.4	19.0	19.3
4H	15.7	16.2	16.0	16.5	16.8	18.1	18.6	18.4	18.9	19.2
6H	15.6	16.1	15.9	16.4	16.7	18.1	18.6	18.4	18.9	19.2
8H	15.5	16.0	15.9	16.3	16.7	18.1	18.6	18.5	18.9	19.3
12H	15.5	15.9	15.9	16.3	16.7	18.1	18.6	18.5	18.9	19.3
8H 4H	15.5	16.0	15.9	16.4	16.7	17.9	18.4	18.3	18.7	19.1
6H	15.5	15.9	15.9	16.3	16.7	18.0	18.3	18.4	18.7	19.1
8H	15.5	15.9	16.0	16.3	16.7	18.0	18.4	18.5	18.8	19.2
12H	15.6	15.9	16.1	16.3	16.8	18.1	18.4	18.6	18.9	19.3
12H 4H	15.5	15.9	15.9	16.3	16.7	17.9	18.3	18.3	18.7	19.1
6H	15.5	15.9	16.0	16.3	16.7	17.9	18.3	18.4	18.7	19.1
8H	15.6	15.9	16.1	16.3	16.8	18.0	18.3	18.5	18.7	19.2
Variations with the observer position at spacings:										
S = 1.0H	+ 3.9 / - 3.3					+ 4.9 / - 4.4				
1.5H	+ 6.5 / - 3.1					+ 7.5 / - 4.5				
2.0H	+ 0.7 / - 0.4					+ 1.4 / - 0.5				

CIE Pub.117, 1412 lm Total Lamp Luminous Flux Corrected ($8\log(F/F_0) = 1.2$)

H(β) Range:-90 - 90DEG
H(β) Interval: 1.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:
Test Date:2021-09-04

V(B) Range:-85 - 85DEG
V(B) Interval: 2.0DEG
Test System:EVERFINE G0-2000B_V1 SYSTEM V2.0.404.7
Humidity:65.0%
Test Distance:8.240m [K=1.0000]
Remarks: 169-295

UTILIZATION FACTORS TABLE

Test:U:230.38V I:0.0871A P:19.634W PF:0.9780 Freq:50.00Hz Lamp Flux:1411.74x1 lm		
NAME: 169-295	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: EVERFINE	SUR.:80	Shielding Angle:

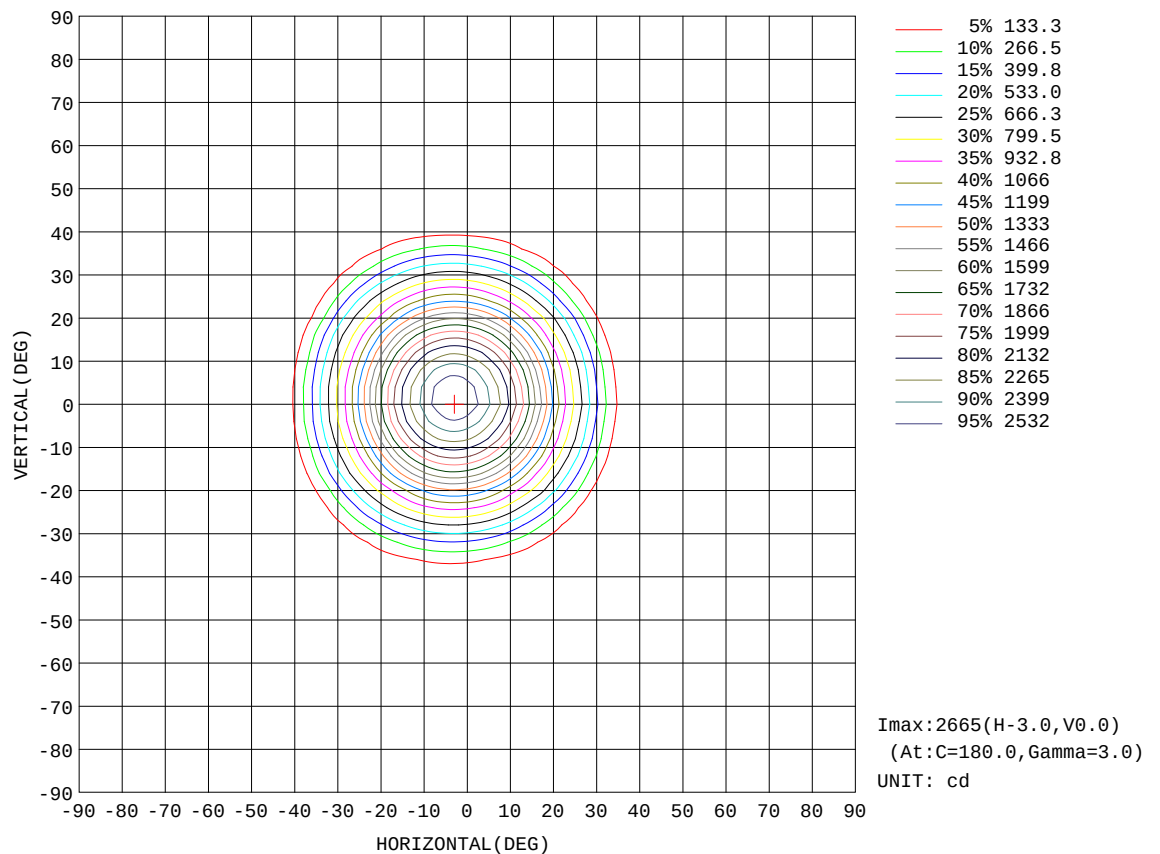
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS(PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	91	85	81	90	85	81	89	84	81	78
0.80	98	92	89	97	92	89	96	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		

H(β) Range:-90 - 90DEG
 H(β) Interval: 1.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:
 Test Date:2021-09-04

V(B) Range:-85 - 85DEG
 V(B) Interval: 2.0DEG
 Test System:EVERFINE G0-2000B_V1 SYSTEM V2.0.404.7
 Humidity:65.0%
 Test Distance:8.240m [K=1.0000]
 Remarks: 169-295

ISOCANDELA DIAGRAM

Test:U:230.38V I:0.0871A P:19.634W PF:0.9780 Freq:50.00Hz Lamp Flux:1411.74x1 lm		
NAME: 169-295	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: EVERFINE	SUR.:80	Shielding Angle:

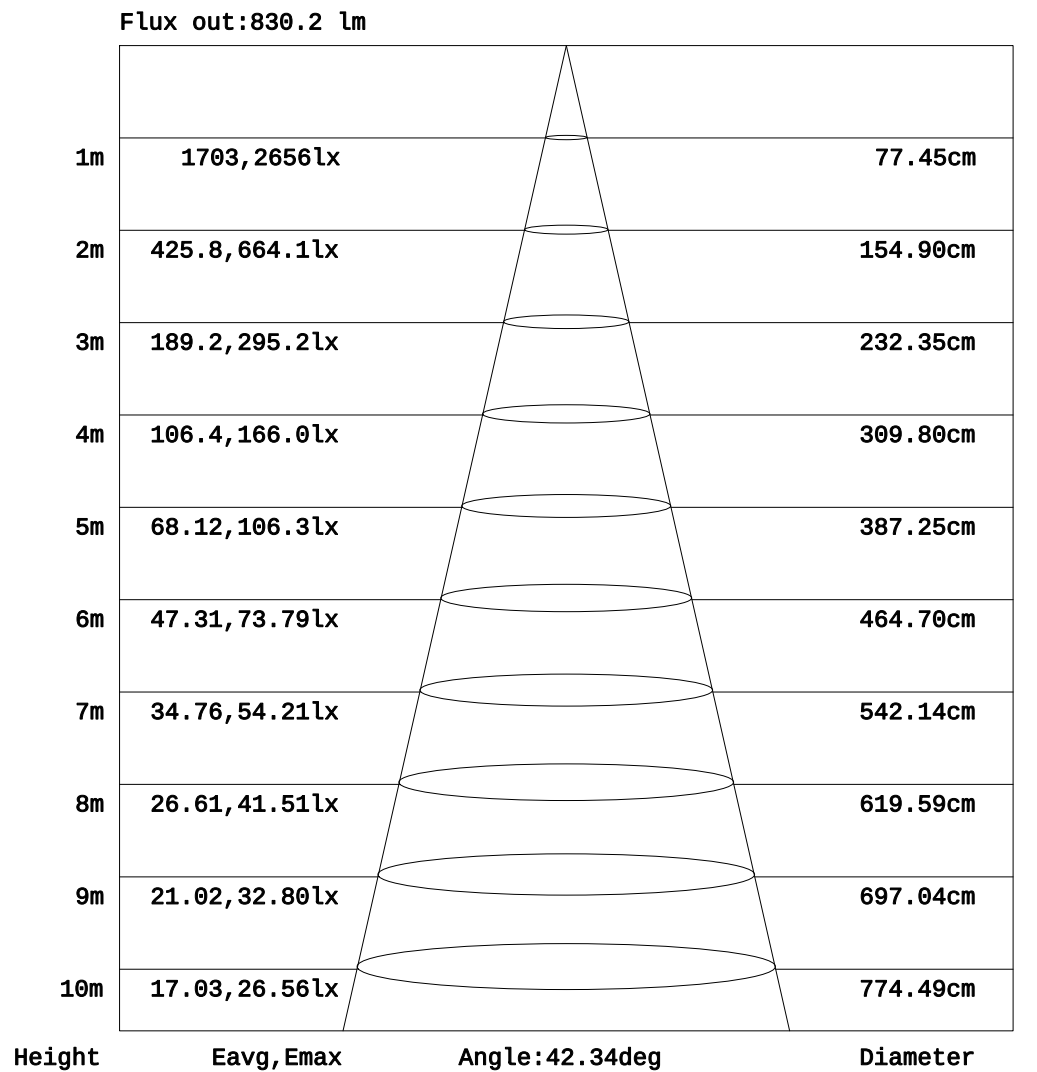


H(β) Range: -90 - 90DEG
H(β) Interval: 1.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators:
Test Date: 2021-09-04

V(B) Range: -85 - 85DEG
V(B) Interval: 2.0DEG
Test System: EVERFINE G0-2000B_V1 SYSTEM V2.0.404.7
Humidity: 65.0%
Test Distance: 8.240m [K=1.0000]
Remarks: 169-295

AAI Figure

Test:U:230.38V I:0.0871A P:19.634W PF:0.9780 Freq:50.00Hz Lamp Flux:1411.74x1 lm		
NAME: 169-295	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: EVERFINE	SUR.:80	Shielding Angle:



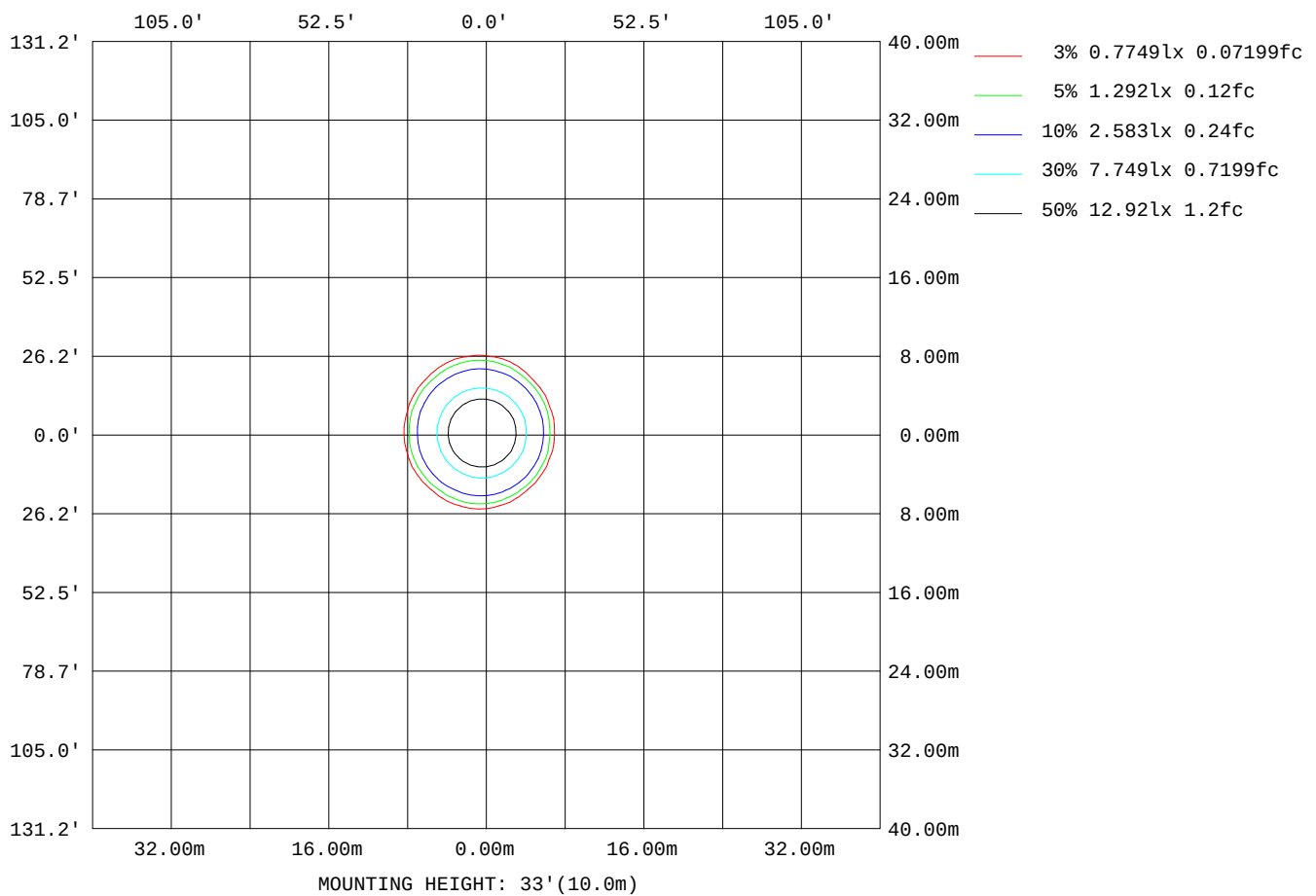
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

H(β) Range:-90 - 90DEG
H(β) Interval: 1.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:
Test Date:2021-09-04

V(B) Range:-85 - 85DEG
V(B) Interval: 2.0DEG
Test System:EVERFINE G0-2000B_V1 SYSTEM V2.0.404.7
Humidity:65.0%
Test Distance:8.240m [K=1.0000]
Remarks: 169-295

ISOLUX DIAGRAM

Test:U:230.38V I:0.0871A P:19.634W PF:0.9780 Freq:50.00Hz Lamp Flux:1411.74x1 lm		
NAME: 169-295	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: EVERFINE	SUR.:80	Shielding Angle:



H(β) Range:-90 - 90DEG
H(β) Interval: 1.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:
Test Date:2021-09-04

V(B) Range:-85 - 85DEG
V(B) Interval: 2.0DEG
Test System:EVERFINE G0-2000B_V1 SYSTEM V2.0.404.7
Humidity:65.0%
Test Distance:8.240m [K=1.0000]
Remarks: 169-295

LED Avg.L Report

Test:U:230.38V I:0.0871A P:19.634W PF:0.9780 Freq:50.00Hz Lamp Flux:1411.74x1 lm		
NAME: 169-295	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: EVERFINE	SUR.:80	Shielding Angle:

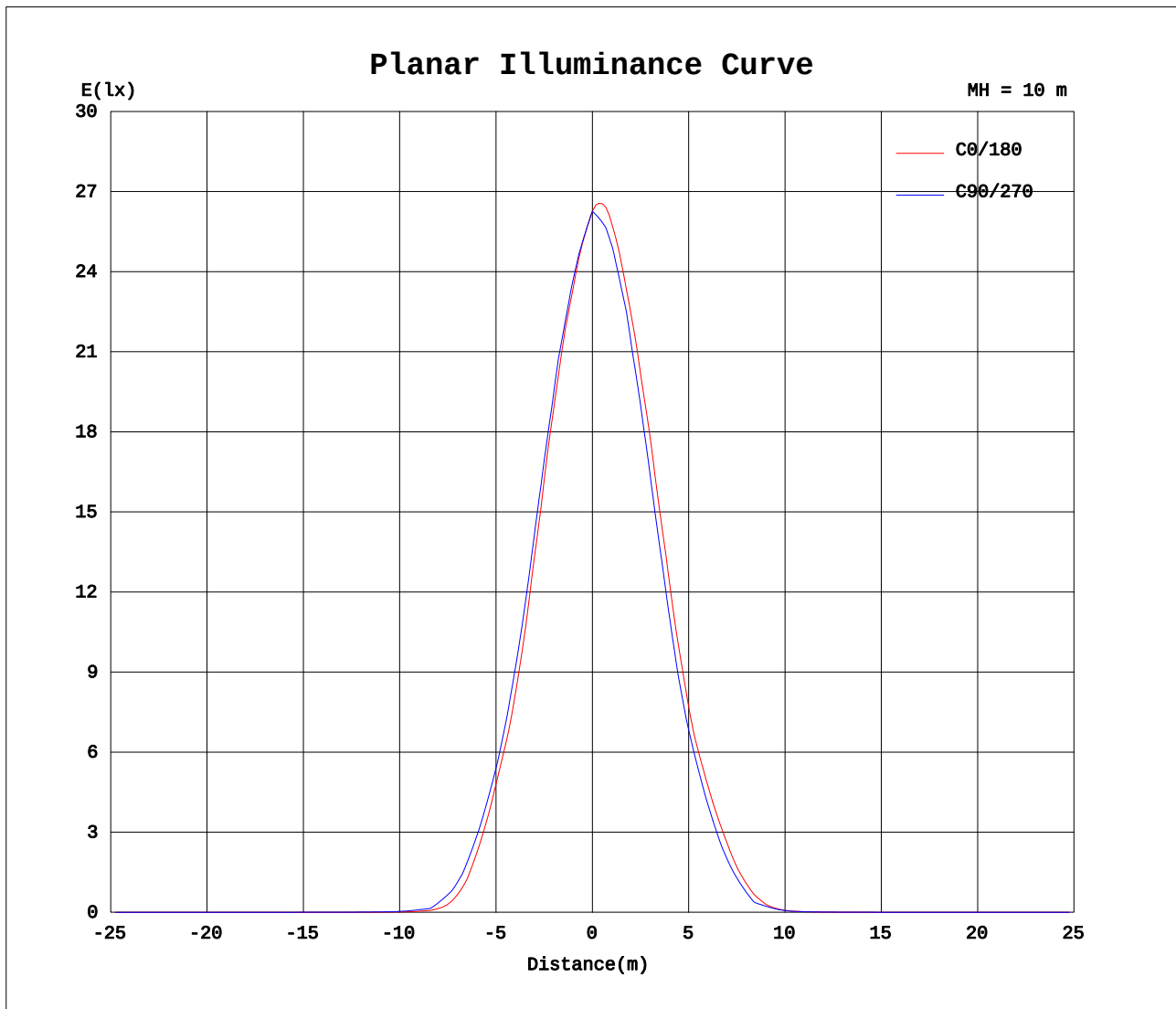
AvgL	cd/m2
L_0~180(65)av	1409
L_0~180(75)av	502
L_0~180(85)av	733
L_90~270(65)av	3354
L_90~270(75)av	3370
L_90~270(85)av	4242
L_45(65)av	2549
L_45(75)av	2826
L_45(85)av	7676

Standard: GB/T 29293-2012

H(β) Range:-90 - 90DEG
H(β) Interval: 1.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:
Test Date:2021-09-04

V(B) Range:-85 - 85DEG
V(B) Interval: 2.0DEG
Test System:EVERFINE G0-2000B_V1 SYSTEM V2.0.404.7
Humidity:65.0%
Test Distance:8.240m [K=1.0000]
Remarks: 169-295

Planar Illuminance Curve



H(β) Range:-90 - 90DEG
H(β) Interval: 1.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:
Test Date:2021-09-04

V(B) Range:-85 - 85DEG
V(B) Interval: 2.0DEG
Test System:EVERFINE G0-2000B_V1 SYSTEM V2.0.404.7
Humidity:65.0%
Test Distance:8.240m [K=1.0000]
Remarks: 169-295

LUMINOUS DISTRIBUTION INTENSITY DATA

Test:U:230.38V I:0.0871A P:19.634W PF:0.9780 Freq:50.00Hz Lamp Flux:1411.74x1 lm		
NAME: 169-295	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: EVERFINE	SUR.:80	Shielding Angle:

Table - -1

UNIT: cd

[illegible]

H(β) Range:-90 - 90DEG
H(β) Interval: 1.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:
Test Date:2021-09-04

V(B) Range:-85 - 85DEG
V(B) Interval: 2.0DEG
Test System:EVERFINE G0-2000B_V1 SYSTEM V2.0.404.7
Humidity:65.0%
Test Distance:8.240m [K=1.0000]
Remarks: 169-295

LUMINOUS DISTRIBUTION INTENSITY DATA

Test:U:230.38V I:0.0871A P:19.634W PF:0.9780 Freq:50.00Hz Lamp Flux:1411.74x1 lm		
NAME: 169-295	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: EVERFINE	SUR.:80	Shielding Angle:

Table - -2

UNIT: cd

[illegible]

H(β) Range:-90 - 90DEG
H(β) Interval: 1.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:
Test Date:2021-09-04

V(B) Range:-85 - 85DEG
V(B) Interval: 2.0DEG
Test System:EVERFINE G0-2000B_V1 SYSTEM V2.0.404.7
Humidity:65.0%
Test Distance:8.240m [K=1.0000]
Remarks: 169-295

LUMINOUS DISTRIBUTION INTENSITY DATA

Test:U:230.38V I:0.0871A P:19.634W PF:0.9780 Freq:50.00Hz Lamp Flux:1411.74x1 lm		
NAME: 169-295	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: EVERFINE	SUR.:80	Shielding Angle:

Table - - 3

UNIT: cd

[illegible]

H(β) Range:-90 - 90DEG
H(β) Interval: 1.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:
Test Date:2021-09-04

V(B) Range:-85 - 85DEG
V(B) Interval: 2.0DEG
Test System:EVERFINE G0-2000B_V1 SYSTEM V2.0.404.7
Humidity:65.0%
Test Distance:8.240m [K=1.0000]
Remarks: 169-295

LUMINOUS DISTRIBUTION INTENSITY DATA

Test:U:230.38V I:0.0871A P:19.634W PF:0.9780 Freq:50.00Hz Lamp Flux:1411.74x1 lm		
NAME: 169-295	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: EVERFINE	SUR.:80	Shielding Angle:

Table - -4

UNIT: cd

[illegible]

H(β) Range:-90 - 90DEG
H(β) Interval: 1.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:
Test Date:2021-09-04

V(B) Range:-85 - 85DEG
V(B) Interval: 2.0DEG
Test System:EVERFINE G0-2000B_V1 SYSTEM V2.0.404.7
Humidity:65.0%
Test Distance:8.240m [K=1.0000]
Remarks: 169-295