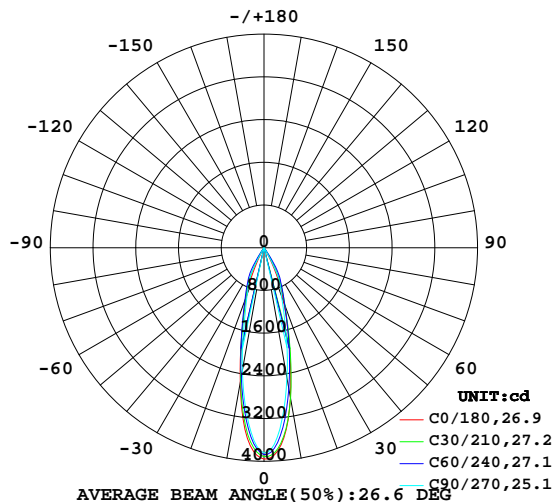


LUMINAIRE PHOTOMETRIC TEST REPORT

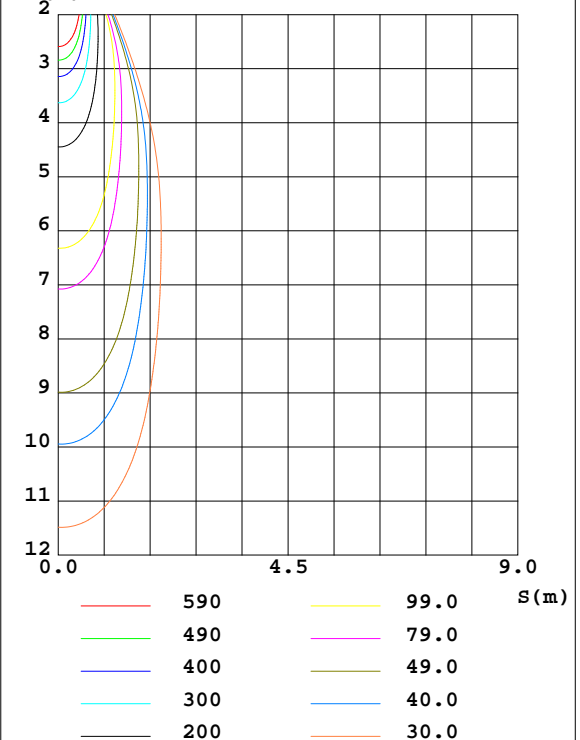
Test:U:47.996V I:0.3411A P:16.371W PF:1.0000 Freq:49.99Hz Lamp Flux:1117.42x1 lm		
NAME: 40012-B-12W-3000K	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:88	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 68.25 lm/W			
MODEL	40012	I _{max} (cd)	3956	S/MH(C0/180)	0.43
NOMINAL POWER(W)	17W	LOR(%)	100.0	S/MH(C90/270)	0.41
RATED VOLTAGE(V)	220.0	TOTAL FLUX(lm)	1117.4	η UP,DN(C0-180)	0.0,51.7
NOMINAL FLUX(lm)	1117.42	CIE CLASS	DIRECT	η UP,DN(C180-360)	0.0,48.3
LAMPS INSIDE	1	η up(%)	0.0	CIBSE SHR NOM	0.50
TEST VOLTAGE(V)	220.0	η down(%)	100.0	CIBSE SHR MAX	0.50

LUMINOUS INTENSITY DISTRIBUTION DIAGRAM



C0 PLANE ISOLUX DIAGRAM (UNIT:lx)



C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:1
Test Date:2022-06-28

γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-SPEX500_V1 SYSTEM V2.00.416
Humidity:65.0%
Test Distance:3.106m [K=1.0000]
Remarks: 3197-60°

ZONAL FLUX DIAGRAM

ZONAL FLUX DIAGRAM:

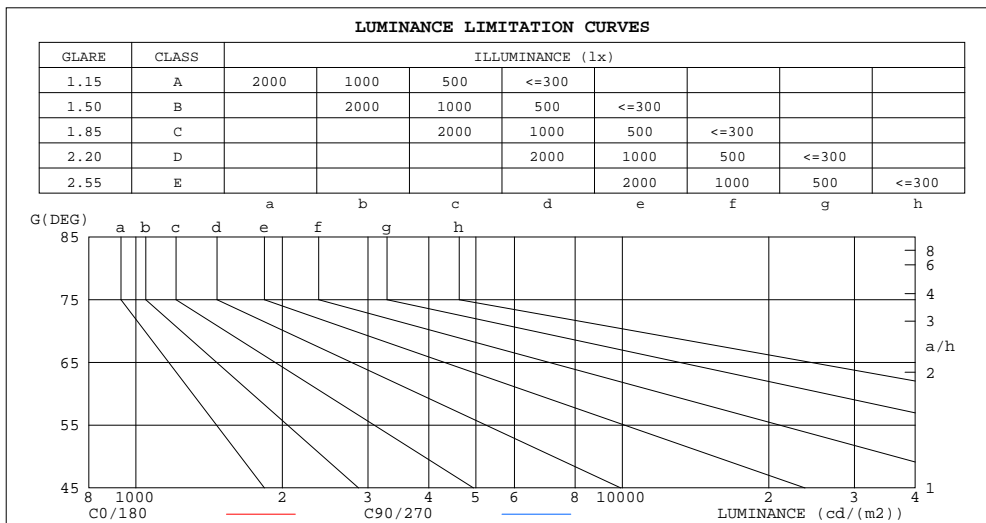
γ	C0	C45	C90	C135	C180	C225	C270	C315	γ	Φ zone	Φ total	Φ lum, lamp
10	2851	2773	2482	2462	2566	2495	2341	2466	0- 10	301.1	301.1	26.9,26.9
20	1095	1144	971.8	1031	958.0	1031	918.4	1035	10- 20	456.1	757.2	67.8,67.8
30	118.2	424.0	178.1	384.6	76.41	364.8	149.7	388.6	20- 30	296.1	1053	94.3,94.3
40	9.349	12.93	9.313	11.93	8.153	10.56	8.175	11.17	30- 40	56.39	1110	99.3,99.3
50	5.296	5.459	4.648	4.870	4.684	4.994	4.743	5.295	40- 50	5.545	1115	99.8,99.8
60	0.8813	0.5084	0.3792	0.4873	0.9205	0.4650	0.3630	0.4764	50- 60	2.030	1117	100,100
70	0.0478	0.0226	0.0106	0.0218	0.0459	0.0231	0.0172	0.0205	60- 70	0.1452	1117	100,100
80	0	0	0	0	0	0	0	0	70- 80	0.0071	1117	100,100
90	0	0	0	0	0	0	0	0	80- 90	0	1117	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: 30.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:1
Test Date:2022-06-28

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
Test System:EVERFINE GO-SPEX500_V1 SYSTEM V2.00.416
Humidity:65.0%
Test Distance:3.106m [K=1.0000]
Remarks: 3197-60°

LUMINANCE LIMITATION CURVES

Test:U:47.996V I:0.3411A P:16.371W PF:1.0000 Freq:49.99Hz Lamp Flux:1117.42x1 lm		
NAME: 40012-B-12W-3000K	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:88	Shielding Angle:



LUMINANCE cd/(m2)		
G(DEG)	C0/180	C90/270
85	0	0
80	0	0
75	3	0
70	6	1
65	20	6
60	73	32
55	172	135
50	343	301
45	417	408

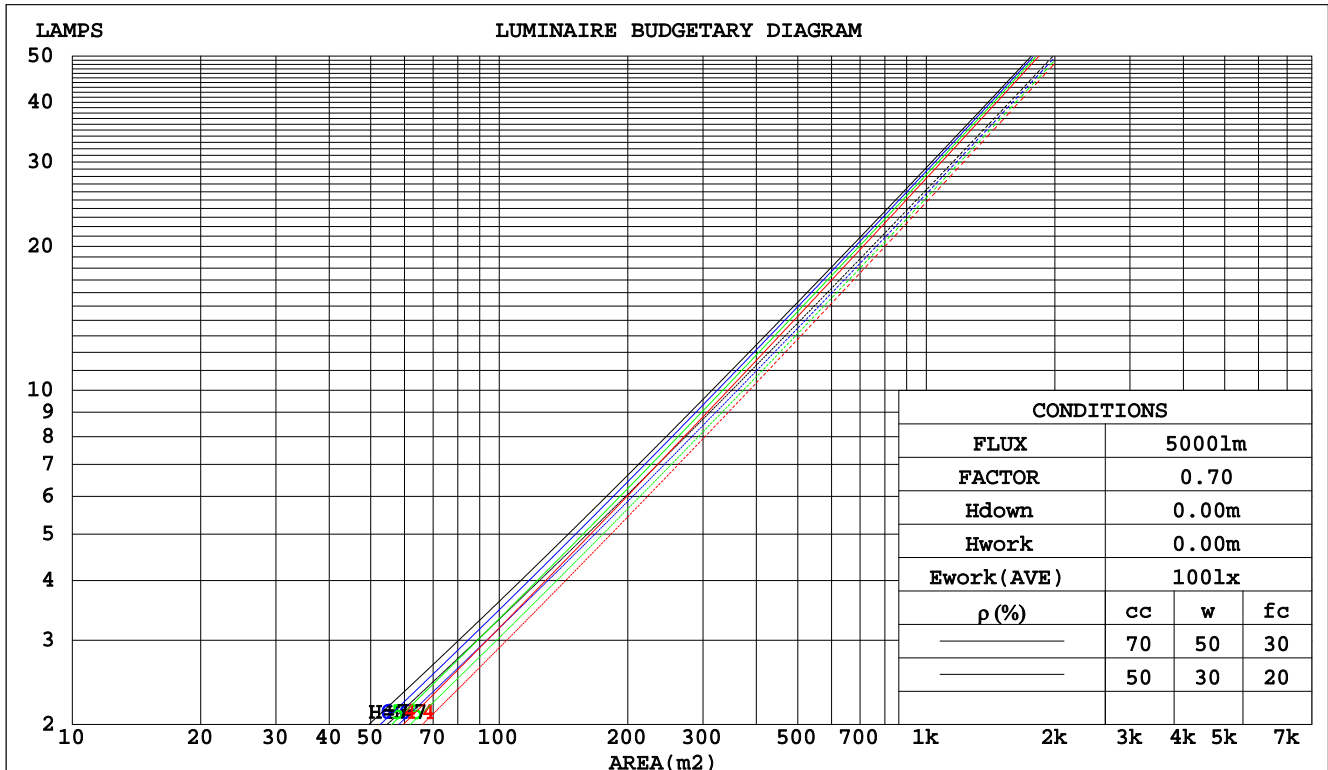
C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:1
Test Date:2022-06-28

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
Test System:EVERFINE GO-SPEX500_V1 SYSTEM V2.00.416
Humidity:65.0%
Test Distance:3.106m [K=1.0000]
Remarks: 3197-60°

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

Test:U:47.996V I:0.3411A P:16.371W PF:1.0000 Freq:49.99Hz Lamp Flux:1117.42x1 lm		
NAME: 40012-B-12W-3000K	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:88	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	.00
1.0	1.12	1.10	1.09	1.10	1.09	1.07	1.06	1.05	1.04	1.03	1.02	1.01	.99	.98	.98	.96
2.0	1.07	1.04	1.01	1.05	1.02	.00	1.02	.00	.98	.99	.97	.96	.96	.95	.94	.92
3.0	1.02	.98	.95	1.00	.97	.94	.98	.95	.92	.96	.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	.89	.85	.92	.88	.85	.90	.87	.84	.89	.86	.83	.88	.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: 30.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:1
 Test Date:2022-06-28

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-SPEX500_V1 SYSTEM V2.00.416
 Humidity:65.0%
 Test Distance:3.106m [K=1.0000]
 Remarks: 3197-60°

WEC AND CCEC

Test:U:47.996V I:0.3411A P:16.371W PF:1.0000 Freq:49.99Hz Lamp Flux:1117.42x1 lm		
NAME: 40012-B-12W-3000K	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:88	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	.145	.082	.026	.138	.079	.025	.126	.072	.023	.115	.066	.021	.104	.060	.019		
2.0	.136	.074	.023	.130	.072	.022	.120	.067	.021	.110	.062	.019	.102	.057	.018		
3.0	.127	.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	.095	.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	.012		

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	.117	.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	.076	.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: 30.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:1
Test Date:2022-06-28

γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-SPEX500_V1 SYSTEM V2.00.416
Humidity:65.0%
Test Distance:3.106m [K=1.0000]
Remarks: 3197-60°

UGR(Unified Glare Rating) Table

Test:U:47.996V I:0.3411A P:16.371W PF:1.0000 Freq:49.99Hz Lamp Flux:1117.42x1 lm										
NAME: 40012-B-12W-3000K					TYPE:			WEIGHT:		
SPEC.:					DIM.:			SERIAL No.:		
MFR.:					SUR.:88			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						2.6 3.4 2.8 3.5 3.7				
3H						2.5 3.1 2.7 3.3 3.5				
4H						2.4 3.0 2.7 3.2 3.5				
6H						2.3 2.9 2.6 3.1 3.4				
8H						2.3 2.8 2.6 3.1 3.3				
12H						2.2 2.8 2.5 3.0 3.3				
4H 2H						2.4 3.0 2.7 3.2 3.5				
3H						2.2 2.8 2.5 3.0 3.3				
4H						2.1 2.6 2.5 2.9 3.2				
6H						2.0 2.5 2.4 2.8 3.1				
8H						2.0 2.4 2.4 2.7 3.1				
12H						1.9 2.3 2.3 2.7 3.1				
8H 4H						2.0 2.4 2.4 2.7 3.1				
6H						1.9 2.2 2.3 2.6 3.0				
8H						1.8 2.1 2.3 2.5 3.0				
12H						1.8 2.0 2.2 2.5 2.9				
12H 4H						1.9 2.3 2.3 2.7 3.1				
6H						1.8 2.1 2.3 2.5 3.0				
8H						1.8 2.0 2.2 2.5 2.9				
Variations with the observer position at spacings:										
S = 1.0H						+ 3.0 / - 9.2				
1.5H						+ 3.3 / - 5.7				
2.0H						+ 4.8 / -20.8				

CIE Pub.117, 1117 lm Total Lamp Luminous Flux Correct (8log(F/F0) = 0.4)
Area: 0.024 m2

C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:1
Test Date:2022-06-28

γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-SPEX500_V1 SYSTEM V2.00.416
Humidity:65.0%
Test Distance:3.106m [K=1.0000]
Remarks: 3197-60°

UTILIZATION FACTORS TABLE

Test:U:47.996V I:0.3411A P:16.371W PF:1.0000 Freq:49.99Hz Lamp Flux:1117.42x1 lm		
NAME: 40012-B-12W-3000K	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:88	Shielding Angle:

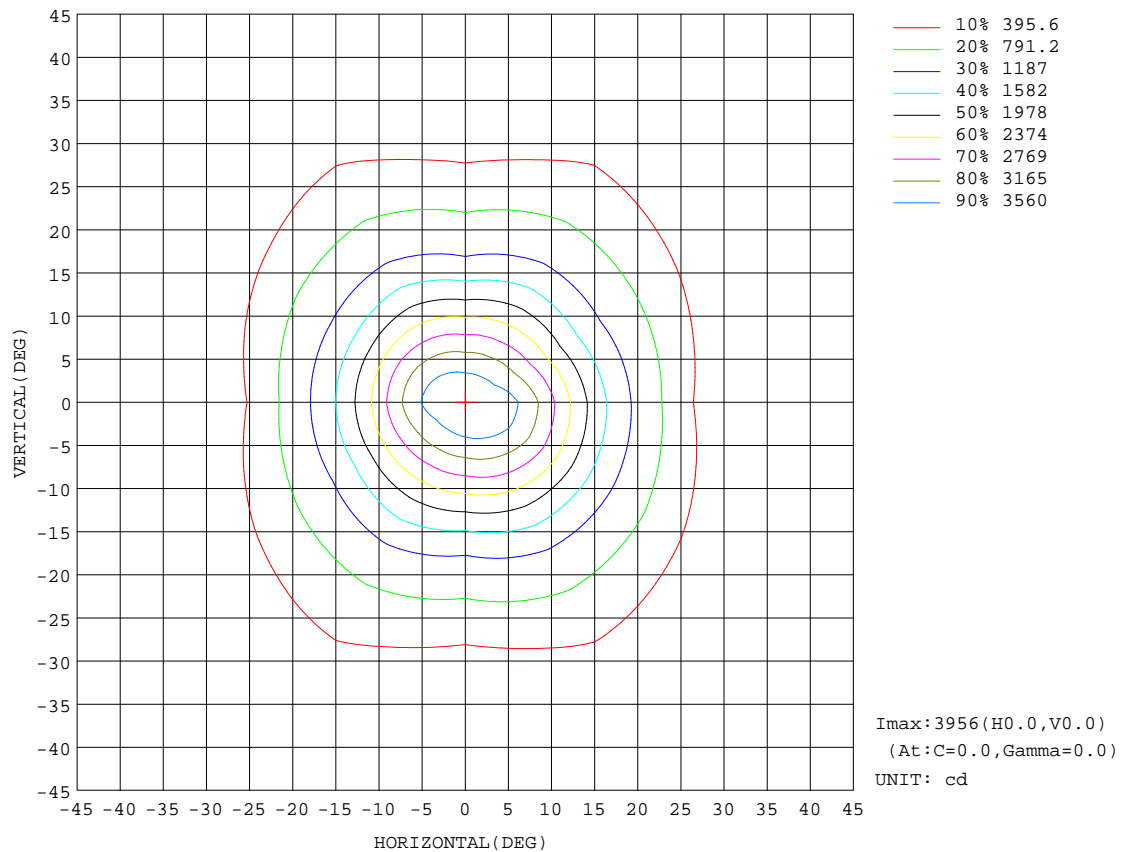
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS(PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	91	85	82	91	85	82	90	85	82	79
0.80	98	93	90	97	93	90	96	92	89	86
1.00	102	97	94	101	96	93	100	96	93	89
1.25	105	101	98	104	100	97	102	99	96	93
1.50	108	104	101	107	103	100	104	101	99	95
2.00	110	106	103	109	105	103	106	103	101	96
2.50	111	108	105	110	107	104	107	104	102	97
3.00	113	110	107	111	108	106	108	106	104	98
4.00	115	112	110	113	110	109	109	107	106	99
5.00	116	114	112	114	112	111	110	109	107	100
ROOM INDEX	UF(total)									Direct
According to DIN EN 13032-2 2004			Suspended					SHRNOM = 1.25		

C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:1
Test Date:2022-06-28

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
Test System:EVERFINE GO-SPEX500_V1 SYSTEM V2.00.416
Humidity:65.0%
Test Distance:3.106m [K=1.0000]
Remarks: 3197-60°

ISOCANDELA DIAGRAM

Test:U:47.996V I:0.3411A P:16.371W PF:1.0000 Freq:49.99Hz Lamp Flux:1117.42x1 lm		
NAME: 40012-B-12W-3000K	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:88	Shielding Angle:

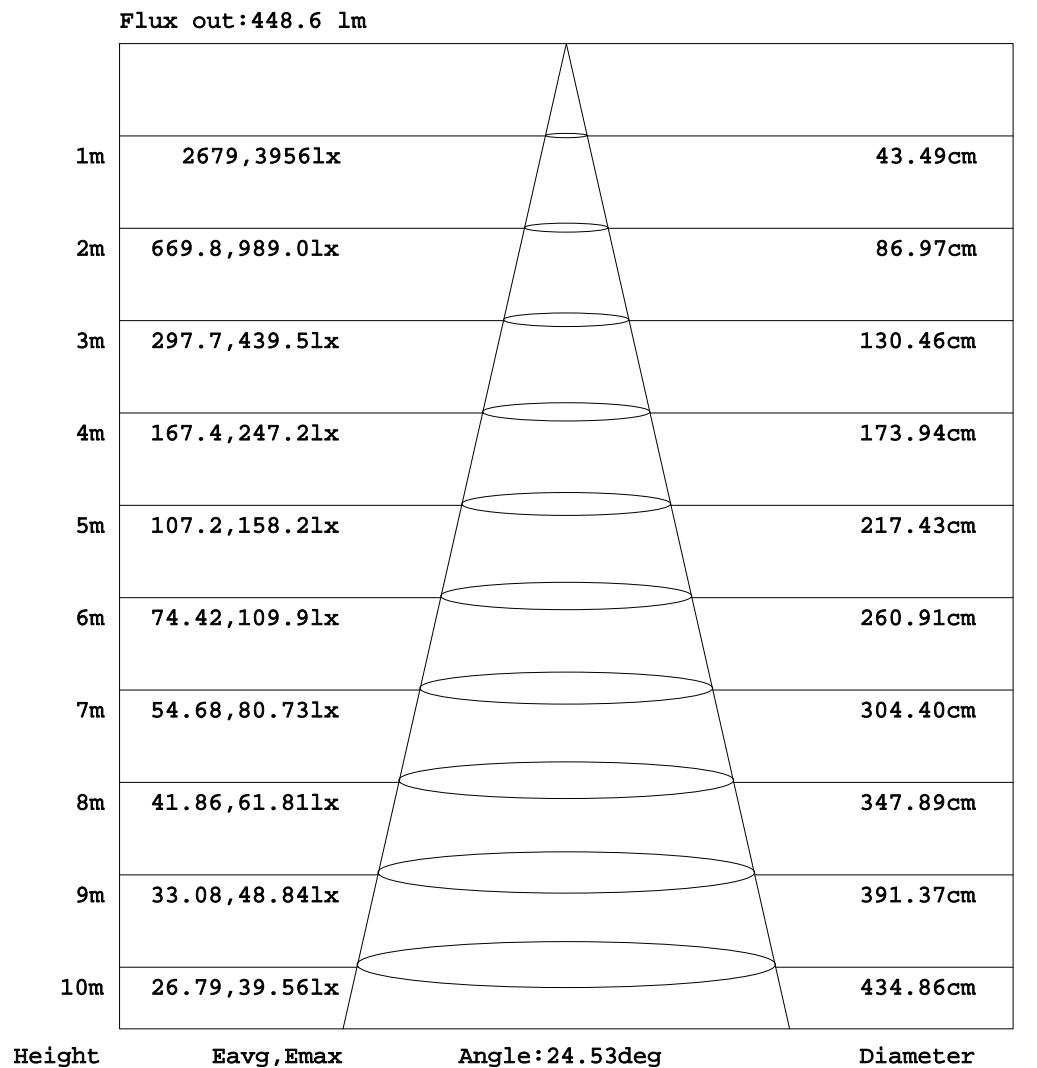


C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:1
Test Date:2022-06-28

γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-SPEX500_V1 SYSTEM V2.00.416
Humidity:65.0%
Test Distance:3.106m [K=1.0000]
Remarks: 3197-60°

AAI Figure

Test:U:47.996V I:0.3411A P:16.371W PF:1.0000 Freq:49.99Hz Lamp Flux:1117.42x1 lm		
NAME: 40012-B-12W-3000K	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:88	Shielding Angle:



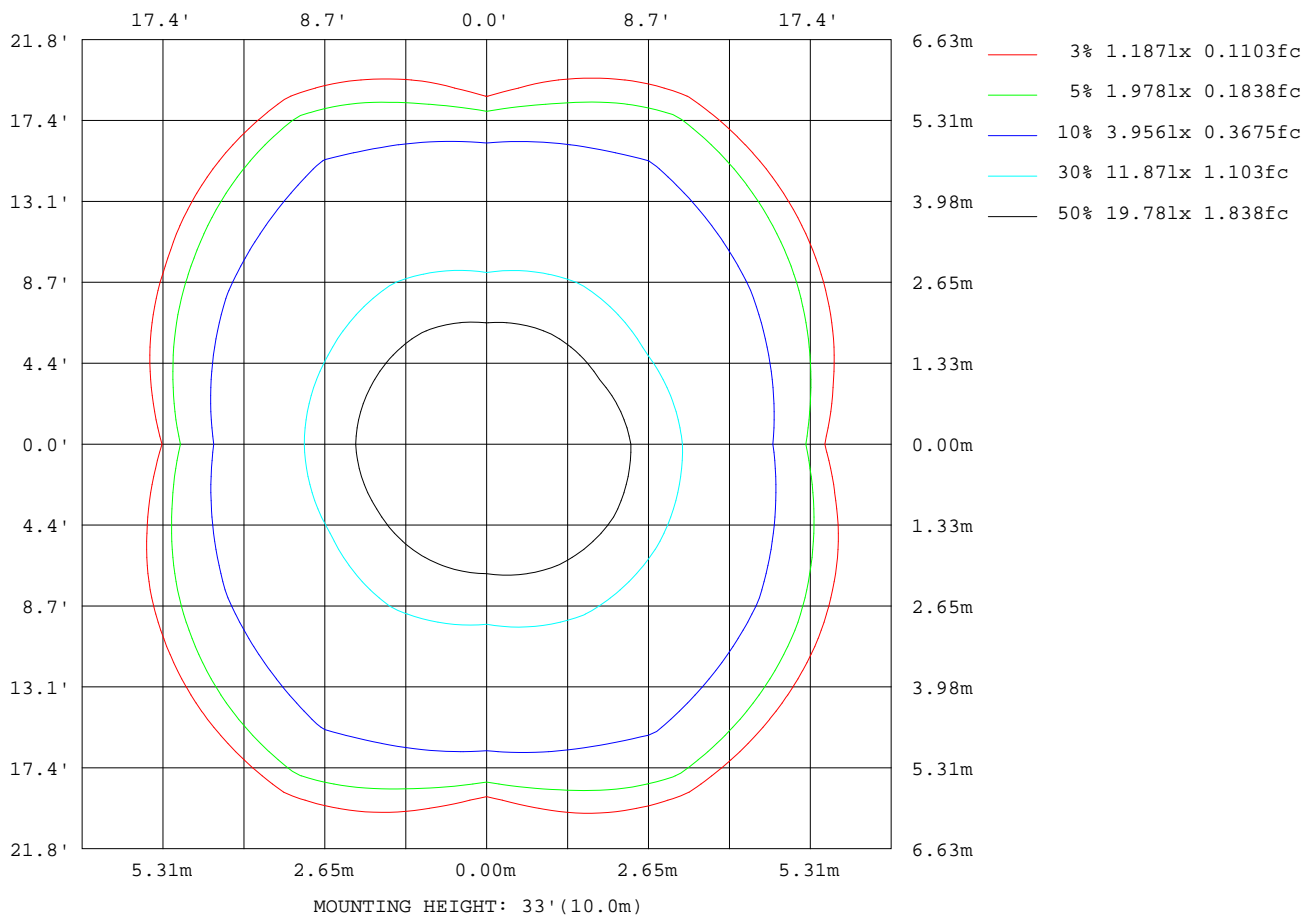
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
 C Interval: 30.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:1
 Test Date:2022-06-28

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-SPEX500_V1 SYSTEM V2.00.416
 Humidity:65.0%
 Test Distance:3.106m [K=1.0000]
 Remarks: 3197-60°

ISOLUX DIAGRAM

Test:U:47.996V I:0.3411A P:16.371W PF:1.0000 Freq:49.99Hz Lamp Flux:1117.42x1 lm		
NAME: 40012-B-12W-3000K	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:88	Shielding Angle:



C Range: 0 - 360DEG
 C Interval: 30.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators: 1
 Test Date: 2022-06-28

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System: EVERFINE GO-SPEX500_V1 SYSTEM V2.00.416
 Humidity: 65.0%
 Test Distance: 3.106m [K=1.0000]
 Remarks: 3197-60°

LED Avg.L Report

Test:U:47.996V I:0.3411A P:16.371W PF:1.0000 Freq:49.99Hz Lamp Flux:1117.42x1 lm		
NAME: 40012-B-12W-3000K	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:88	Shielding Angle:

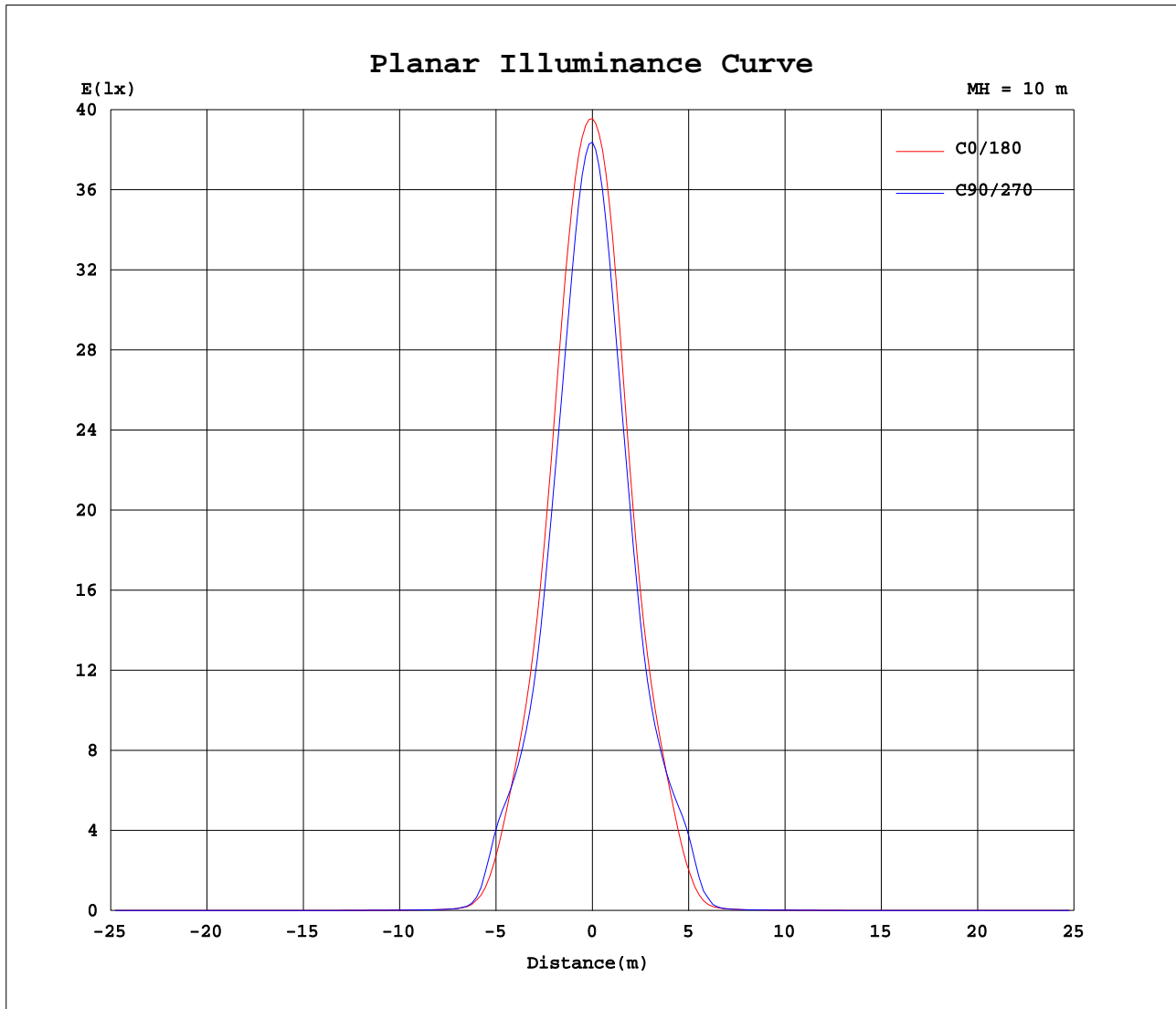
AvgL	cd/m2
L_0~180(65)av	19
L_0~180(75)av	3
L_0~180(85)av	0
L_90~270(65)av	5
L_90~270(75)av	0
L_90~270(85)av	0
L_45(65)av	7
L_45(75)av	0
L_45(85)av	0

Standard: GB/T 29293-2012

C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:1
Test Date:2022-06-28

γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-SPEX500_V1 SYSTEM V2.00.416
Humidity:65.0%
Test Distance:3.106m [K=1.0000]
Remarks: 3197-60°

Planar Illuminance Curve



C Range: 0 - 360DEG
 C Interval: 30.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators: 1
 Test Date: 2022-06-28

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System: EVERFINE GO-SPEX500_V1 SYSTEM V2.00.416
 Humidity: 65.0%
 Test Distance: 3.106m [K=1.0000]
 Remarks: 3197-60°

```

γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-SPEX500_V1 SYSTEM V2.00.416
Humidity:65.0%
Test Distance:3.106m [K=1.0000]
Remarks: 3197-60°

```