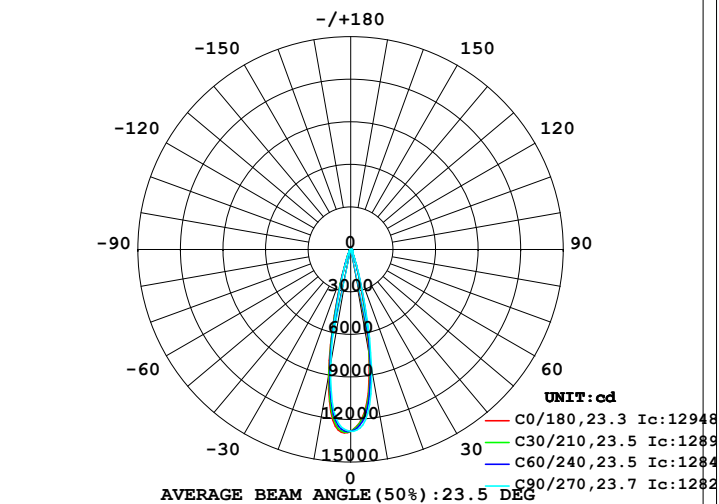


LUMINAIRE PHOTOMETRIC TEST REPORT

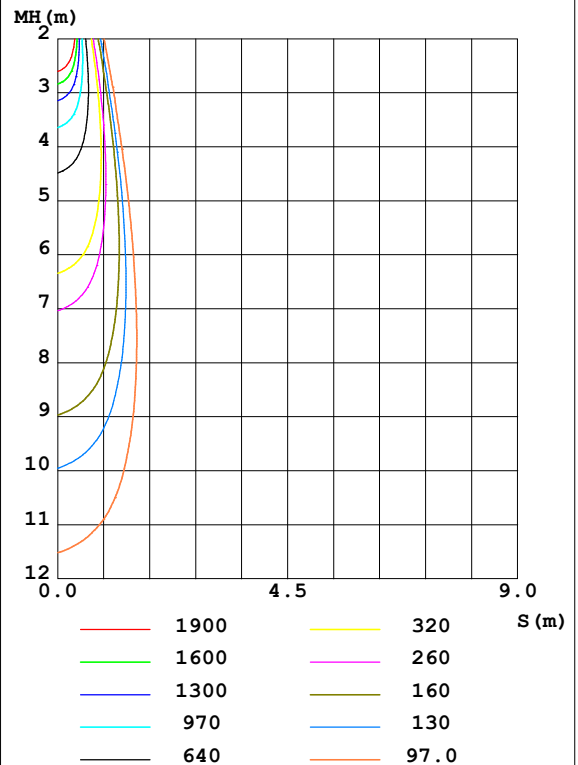
Test:U:225.4V I:0.1260A P:27.10W PF:0.9570 Freq:50.00Hz Lamp Flux:2644.62x1 lm					
NAME: TL44-28W-940-B-24-L		TYPE:		WEIGHT:	
SPEC.:		DIM.:		SERIAL No.:	
MFR.:		SUR.:99		Shielding Angle:	

DATA OF LAMP		PHOTOMETRIC DATA				Eff: 97.59 lm/W
MODEL	3000K CRI90	I _{max} (cd)	12964	S/MH(C0/180)	0.39	
NOMINAL POWER(W)	28	LOR(%)	100.0	S/MH(C90/270)	0.37	
RATED VOLTAGE(V)	226	TOTAL FLUX(lm)	2644.6	η UP,DN(C0-180)	0.0,50.6	
NOMINAL FLUX(lm)	2644.62	CIE CLASS	DIRECT	η UP,DN(C180-360)	0.0,49.4	
LAMPS INSIDE	1	η up(%)	0.0	CIBSE SHR NOM	0.00	
TEST VOLTAGE(V)	225.4	η down(%)	100.0	CIBSE SHR MAX	1.00	

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:WuXing
 Test Date:2018-12-20

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.265
 Humidity:65.0%
 Test Distance:7.240m [K=1.0000]
 Remarks:

ZONAL FLUX DIAGRAM

ZONAL FLUX DIAGRAM:

γ	C0	C45	C90	C135	C180	C225	C270	C315	γ	Φ zone	Φ total	%lum, lamp
10	744.9	792.3	846.9	906.3	901.1	847.6	814.1	749.2	0- 10	1026	1026	38.8, 38.8
20	107.3	117.5	128.7	138.8	137.4	128.1	120.4	107.2	10- 20	1011	2037	77, 77
30	26.54	28.47	31.47	33.07	32.95	32.73	30.60	26.79	20- 30	272.3	2309	87.3, 87.3
40	12.78	13.35	15.07	16.03	15.96	15.39	14.32	12.58	30- 40	129.6	2439	92.2, 92.2
50	7.276	7.456	7.765	7.763	7.764	7.761	7.544	7.136	40- 50	80.33	2519	95.3, 95.3
60	5.384	5.550	5.396	4.977	4.982	5.382	5.363	5.256	50- 60	56.60	2576	97.4, 97.4
70	3.537	3.511	3.337	3.281	3.296	3.464	3.466	3.473	60- 70	42.11	2618	99, 99
80	0.9151	0.9868	0.8475	0.7425	0.6828	0.8163	0.8492	0.8169	70- 80	23.12	2641	99.9, 99.9
90	0.2874	0.2870	0.2859	0.2819	0.1751	0.1749	0.1717	0.1718	80- 90	3.592	2645	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: ×10cd									UNIT: lm		

Conical surface Flux(90deg): 2484.1 lm

%lum = 93.9%

%lamp = 93.9%

Conical surface Flux(120deg): 2575.8 lm

%lum = 97.4%

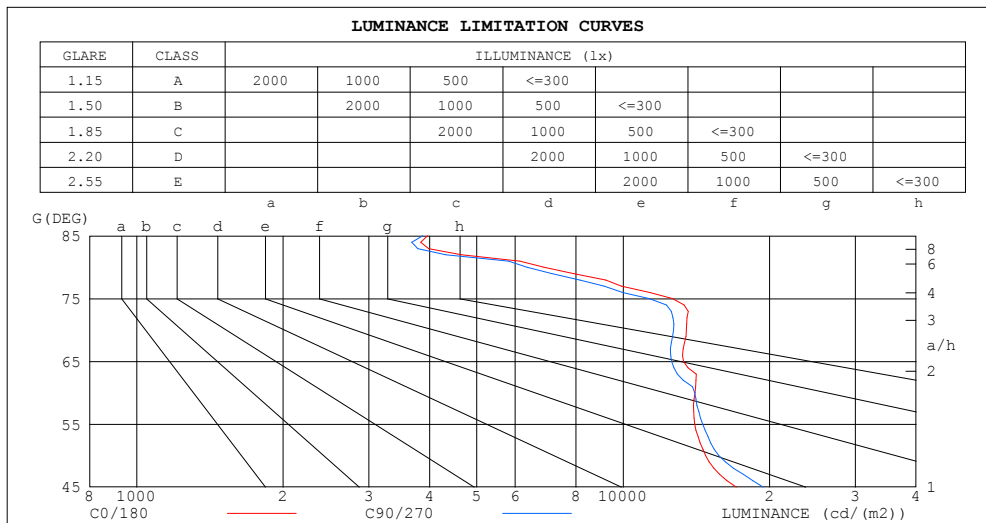
%lamp = 97.4%

C Range: 0 - 360DEG
 C Interval: 15.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators: WuXing
 Test Date: 2018-12-20

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System: EVERFINE GO-2000B_V1 SYSTEM V2.0.265
 Humidity: 65.0%
 Test Distance: 7.240m [K=1.0000]
 Remarks:

LUMINANCE LIMITATION CURVES

Test:U:225.4V I:0.1260A P:27.10W PF:0.9570 Freq:50.00Hz Lamp Flux:2644.62x1 lm		
NAME: TL44-28W-940-B-24-L	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:99	Shielding Angle:



LUMINANCE cd/(m2)		
G (DEG)	C0/180	C90/270
85	3959	3870
80	6874	6346
75	12634	11316
70	13488	12686
65	13302	12588
60	14047	14033
55	14039	14580
50	14766	15708
45	17086	19417

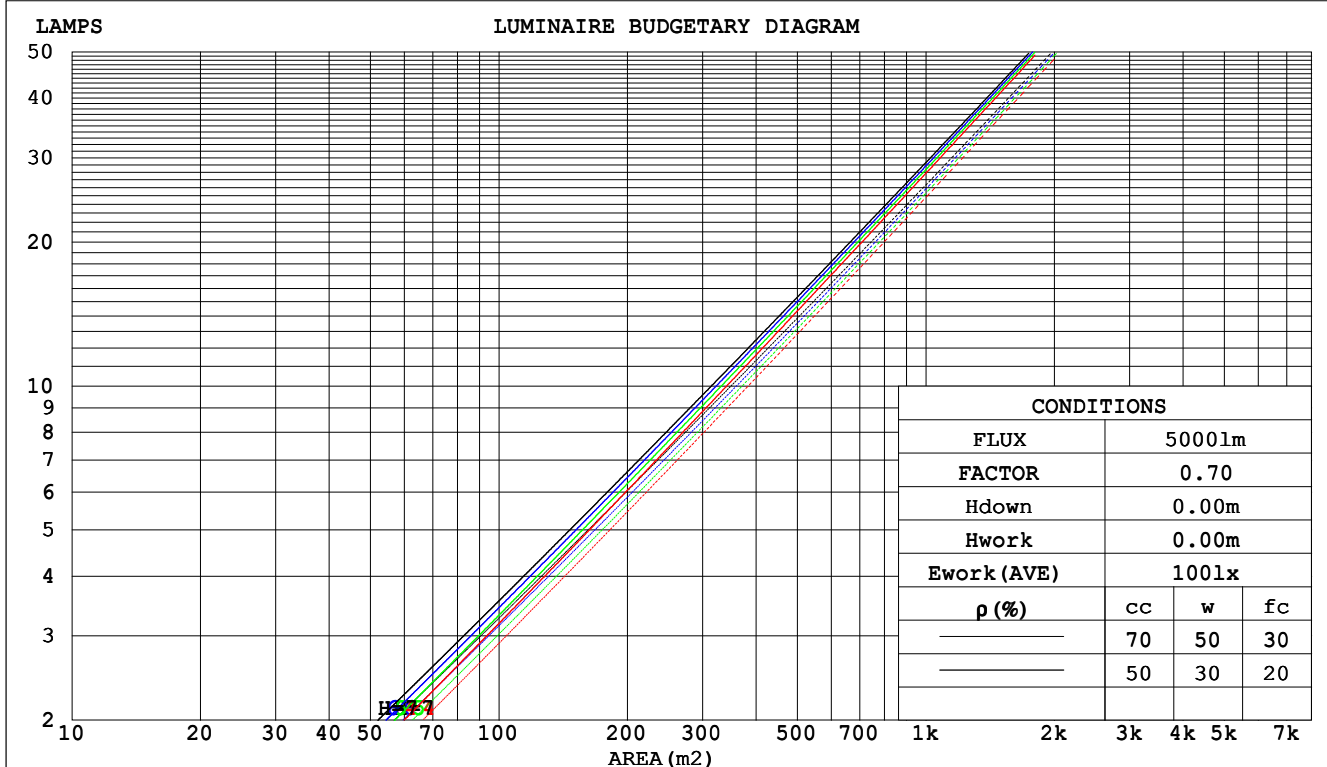
C Range: 0 - 360DEG
C Interval: 15.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:WuXing
Test Date:2018-12-20

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.265
Humidity:65.0%
Test Distance:7.240m [K=1.0000]
Remarks:

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

Test:U:225.4V I:0.1260A P:27.10W PF:0.9570 Freq:50.00Hz Lamp Flux:2644.62x1 lm		
NAME: TL44-28W-940-B-24-L	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:99	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	1.08	1.10	1.08	1.06	1.06	1.05	1.03	1.02	1.01	1.00	.99	.98	.97	.96
2.0	1.06	1.03	1.00	1.05	1.02	.99	1.01	.99	.97	.99	.97	.95	.96	.94	.93	.91
3.0	1.01	.97	.94	.90	.96	.93	.97	.94	.92	.95	.93	.91	.93	.91	.89	.88
4.0	.97	.93	.89	.96	.92	.89	.94	.90	.88	.92	.89	.87	.90	.88	.86	.85
5.0	.93	.89	.85	.92	.88	.85	.91	.87	.84	.89	.86	.84	.88	.85	.83	.82
6.0	.90	.85	.82	.89	.85	.82	.88	.84	.81	.87	.83	.81	.85	.83	.80	.79
7.0	.87	.82	.79	.86	.82	.79	.85	.81	.79	.84	.81	.78	.83	.80	.78	.77
8.0	.84	.80	.77	.84	.80	.77	.83	.79	.76	.82	.79	.76	.81	.78	.76	.75
9.0	.82	.78	.75	.81	.77	.75	.81	.77	.74	.80	.77	.74	.79	.76	.74	.73
10.0	.80	.75	.73	.79	.75	.73	.79	.75	.72	.78	.75	.72	.77	.74	.72	.71



C Range: 0 - 360DEG
 C Interval: 15.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:WuXing
 Test Date:2018-12-20

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.265
 Humidity:65.0%
 Test Distance:7.240m [K=1.0000]
 Remarks:

WEC AND CCEC

Test:U:225.4V I:0.1260A P:27.10W PF:0.9570 Freq:50.00Hz Lamp Flux:2644.62x1 lm					
NAME: TL44-28W-940-B-24-L			TYPE:		WEIGHT:
SPEC.:			DIM.:		SERIAL No.:
MFR.:			SUR.:99		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	.150	.086	.027	.144	.082	.026	.131	.075	.024	.120	.069	.022	.109	.063	.020		
2.0	.140	.077	.024	.134	.074	.023	.124	.069	.021	.114	.064	.020	.106	.060	.019		
3.0	.130	.069	.021	.125	.067	.020	.116	.063	.019	.108	.059	.018	.101	.056	.017		
4.0	.121	.063	.018	.117	.061	.018	.110	.058	.017	.103	.055	.017	.096	.052	.016		
5.0	.113	.058	.017	.110	.056	.016	.103	.054	.016	.098	.051	.015	.092	.049	.015		
6.0	.106	.053	.015	.103	.052	.015	.098	.050	.015	.093	.048	.014	.088	.046	.014		
7.0	.100	.049	.014	.098	.049	.014	.093	.047	.014	.089	.045	.013	.084	.044	.013		
8.0	.095	.046	.013	.093	.046	.013	.088	.044	.013	.085	.043	.012	.081	.042	.012		
9.0	.090	.044	.012	.088	.043	.012	.084	.042	.012	.081	.041	.012	.078	.040	.011		
10.0	.086	.041	.011	.084	.041	.011	.081	.040	.011	.078	.039	.011	.075	.038	.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	.126	.099	.093	.087	.057	.054	.051	.018	.017	.016	
2.0	.152	.133	.116	.130	.114	.101	.089	.079	.070	.051	.046	.041	.017	.015	.013	
3.0	.137	.113	.094	.118	.098	.082	.081	.068	.057	.047	.040	.034	.015	.013	.011	
4.0	.125	.098	.077	.107	.085	.067	.074	.059	.047	.043	.035	.028	.014	.011	.009	
5.0	.115	.086	.065	.099	.074	.056	.068	.052	.040	.039	.030	.024	.013	.010	.008	
6.0	.106	.076	.055	.091	.066	.048	.063	.046	.034	.036	.027	.020	.012	.009	.007	
7.0	.098	.068	.047	.084	.059	.041	.058	.041	.029	.034	.024	.017	.011	.008	.006	
8.0	.091	.061	.040	.079	.053	.035	.054	.037	.025	.032	.022	.015	.010	.007	.005	
9.0	.086	.055	.035	.074	.048	.031	.051	.034	.022	.030	.020	.013	.010	.007	.004	
10.0	.081	.051	.031	.069	.044	.027	.048	.031	.019	.028	.018	.011	.009	.006	.004	

C Range: 0 - 360DEG
C Interval: 15.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:WuXing
Test Date:2018-12-20

γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.265
Humidity:65.0%
Test Distance:7.240m [K=1.0000]
Remarks:

UGR(Unified Glare Rating) Table

Test:U:225.4V I:0.1260A P:27.10W PF:0.9570 Freq:50.00Hz Lamp Flux:2644.62x1 lm											
NAME: TL44-28W-940-B-24-L					TYPE:			WEIGHT:			
SPEC.:					DIM.:			SERIAL No.:			
MFR.:					SUR.:99			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		12.5	13.2	12.7	13.4	13.5	12.8	13.5	13.0	13.6	13.8
	3H	14.0	14.6	14.2	14.8	15.0	14.0	14.7	14.3	14.9	15.0
	4H	14.6	15.3	14.9	15.5	15.7	14.6	15.2	14.8	15.4	15.6
	6H	14.8	15.4	15.1	15.7	15.9	14.8	15.4	15.0	15.6	15.8
	8H	14.8	15.4	15.1	15.7	15.9	14.8	15.3	15.1	15.6	15.8
	12H	14.8	15.4	15.1	15.6	15.9	14.7	15.3	15.0	15.6	15.8
4H	2H	13.1	13.7	13.4	14.0	14.2	13.3	13.9	13.6	14.2	14.4
	3H	14.8	15.3	15.1	15.6	15.9	14.8	15.3	15.1	15.6	15.9
	4H	15.5	16.1	15.9	16.3	16.6	15.5	16.0	15.8	16.3	16.6
	6H	15.8	16.3	16.2	16.6	16.9	15.7	16.2	16.1	16.5	16.8
	8H	15.8	16.2	16.2	16.6	17.0	15.7	16.1	16.1	16.5	16.8
	12H	15.8	16.2	16.2	16.6	16.9	15.7	16.1	16.1	16.4	16.8
8H	4H	15.7	16.2	16.1	16.5	16.9	15.7	16.1	16.1	16.4	16.8
	6H	16.1	16.4	16.5	16.8	17.2	16.0	16.3	16.4	16.7	17.1
	8H	16.1	16.4	16.5	16.8	17.3	16.0	16.3	16.4	16.7	17.1
	12H	16.1	16.3	16.5	16.8	17.2	16.0	16.2	16.4	16.7	17.1
12H	4H	15.7	16.1	16.1	16.5	16.9	15.6	16.0	16.0	16.4	16.8
	6H	16.0	16.4	16.5	16.8	17.2	15.9	16.3	16.4	16.7	17.1
	8H	16.1	16.3	16.5	16.8	17.2	16.0	16.2	16.4	16.7	17.1
Variations with the observer position at spacings:											
S = 1.0H	+ 0.3 / - 0.4					+ 0.3 / - 0.5					
1.5H	+ 0.3 / - 0.3					+ 0.4 / - 0.3					
2.0H	+ 0.2 / - 0.4					+ 0.4 / - 0.5					

CIE Pub.117, 2645 lm Total Lamp Luminous Flux Correct ($8\log(F/F_0) = 3.4$)

C Range: 0 - 360DEG
C Interval: 15.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:WuXing
Test Date:2018-12-20

γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.265
Humidity:65.0%
Test Distance:7.240m [K=1.0000]
Remarks:

UTILIZATION FACTORS TABLE

Test:U:225.4V I:0.1260A P:27.10W PF:0.9570 Freq:50.00Hz Lamp Flux:2644.62x1 lm		
NAME: TL44-28W-940-B-24-L	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:99	Shielding Angle:

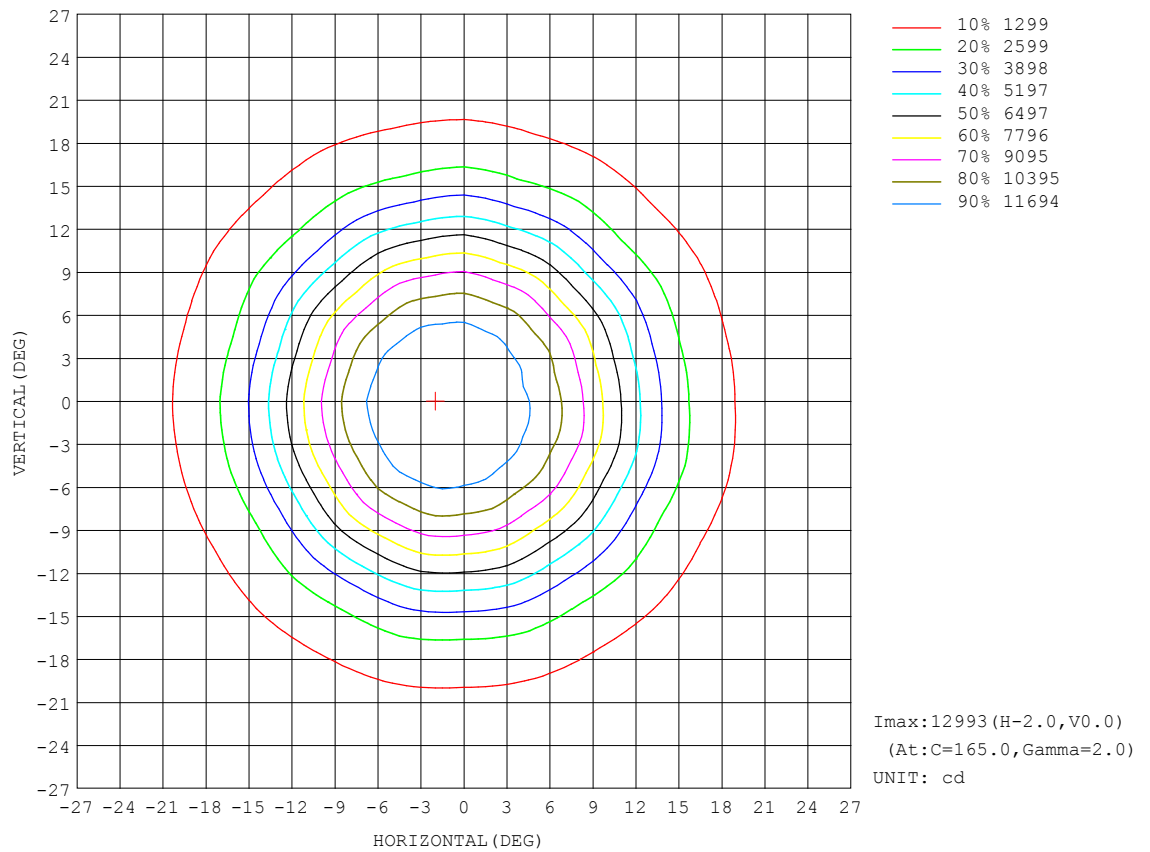
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS (PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	87	80	76	86	80	76	85	80	76	73
0.80	94	88	84	93	88	84	92	87	84	80
1.00	99	93	89	98	92	89	96	92	88	84
1.25	102	97	94	101	97	93	99	95	92	88
1.50	105	100	97	104	100	96	102	98	95	91
2.00	108	104	100	107	103	100	104	101	98	93
2.50	110	106	103	108	105	102	105	102	100	94
3.00	111	108	105	110	106	104	106	104	102	95
4.00	114	111	108	111	109	107	108	106	104	97
5.00	115	113	111	113	111	109	109	107	106	98
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:WuXing
Test Date:2018-12-20

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.265
Humidity:65.0%
Test Distance:7.240m [K=1.0000]
Remarks:

ISOCANDELA DIAGRAM

Test:U:225.4V I:0.1260A P:27.10W PF:0.9570 Freq:50.00Hz Lamp Flux:2644.62x1 lm		
NAME: TL44-28W-940-B-24-L	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:99	Shielding Angle:

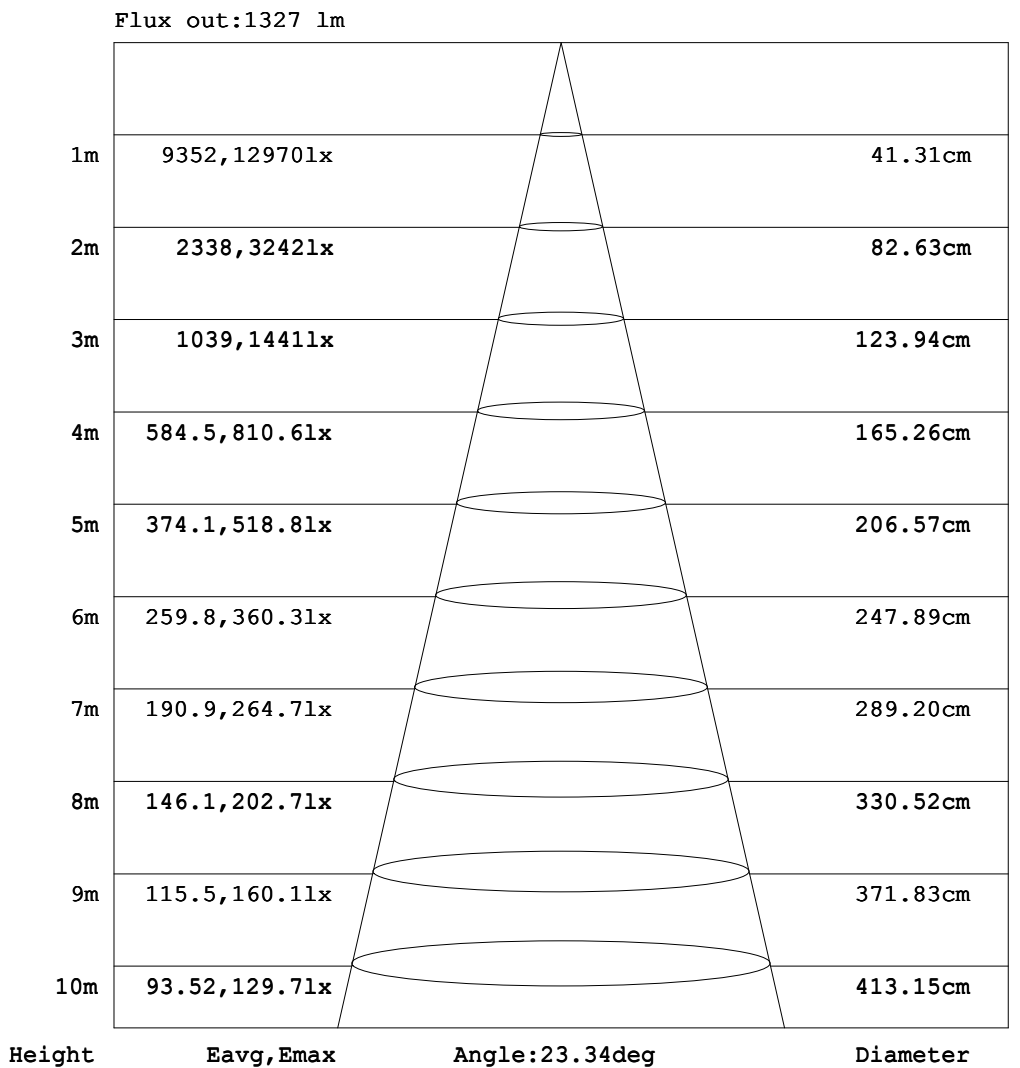


C Range: 0 - 360DEG
C Interval: 15.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:WuXing
Test Date:2018-12-20

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.265
Humidity:65.0%
Test Distance:7.240m [K=1.0000]
Remarks:

AAI Figure

Test:U:225.4V I:0.1260A P:27.10W PF:0.9570 Freq:50.00Hz Lamp Flux:2644.62x1 lm		
NAME: TL44-28W-940-B-24-L	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:99	Shielding Angle:



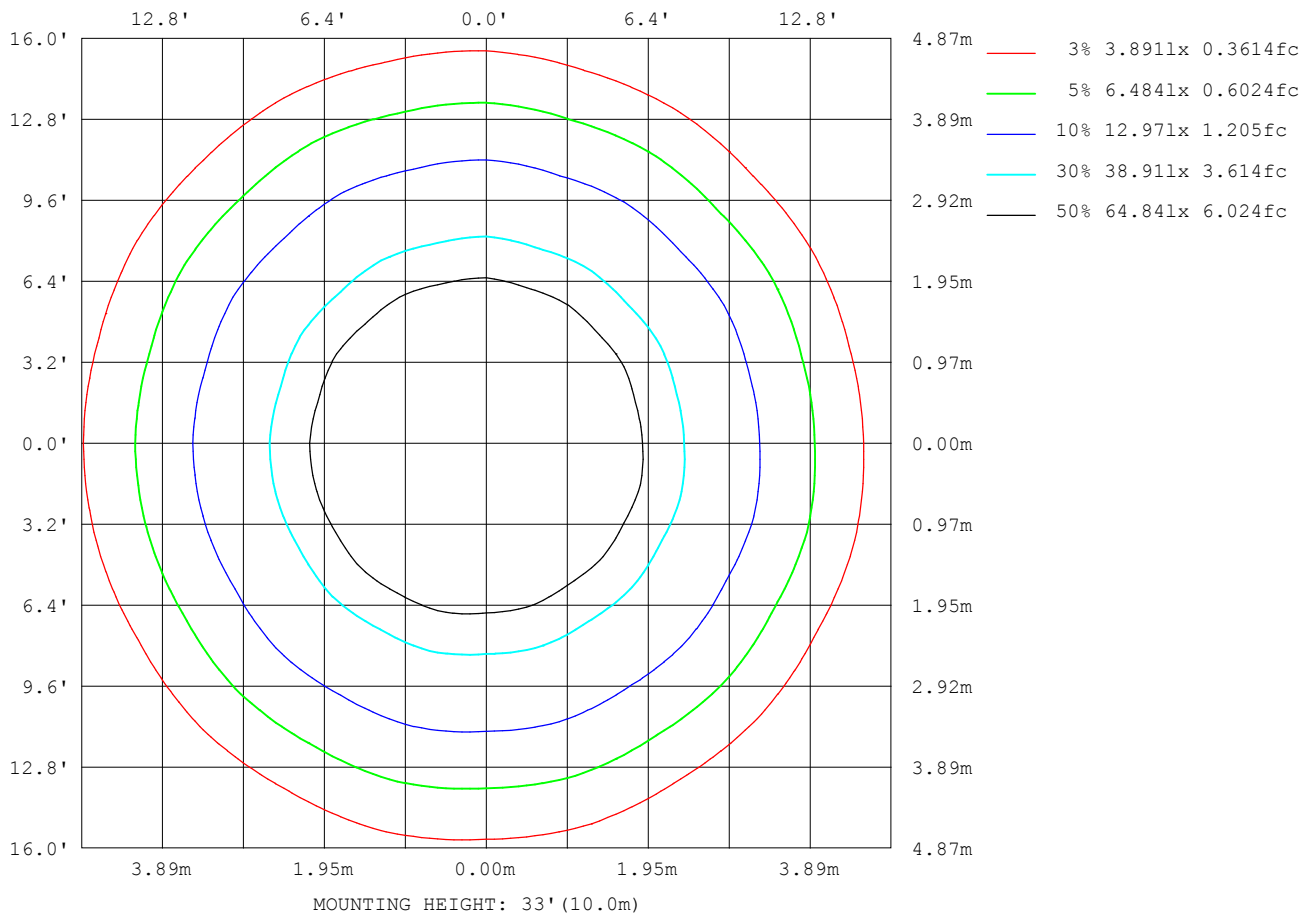
Note: The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
 C Interval: 15.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators: WuXing
 Test Date: 2018-12-20

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System: EVERFINE GO-2000B_V1 SYSTEM V2.0.265
 Humidity: 65.0%
 Test Distance: 7.240m [K=1.0000]
 Remarks:

ISOLUX DIAGRAM

Test:U:225.4V I:0.1260A P:27.10W PF:0.9570 Freq:50.00Hz Lamp Flux:2644.62x1 lm		
NAME: TL44-28W-940-B-24-L	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:99	Shielding Angle:



C Range: 0 - 360DEG
C Interval: 15.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:WuXing
Test Date:2018-12-20

γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.265
Humidity:65.0%
Test Distance:7.240m [K=1.0000]
Remarks:

LED Avg.L Report

Test:U:225.4V I:0.1260A P:27.10W PF:0.9570 Freq:50.00Hz Lamp Flux:2644.62x1 lm		
NAME: TL44-28W-940-B-24-L	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:99	Shielding Angle:

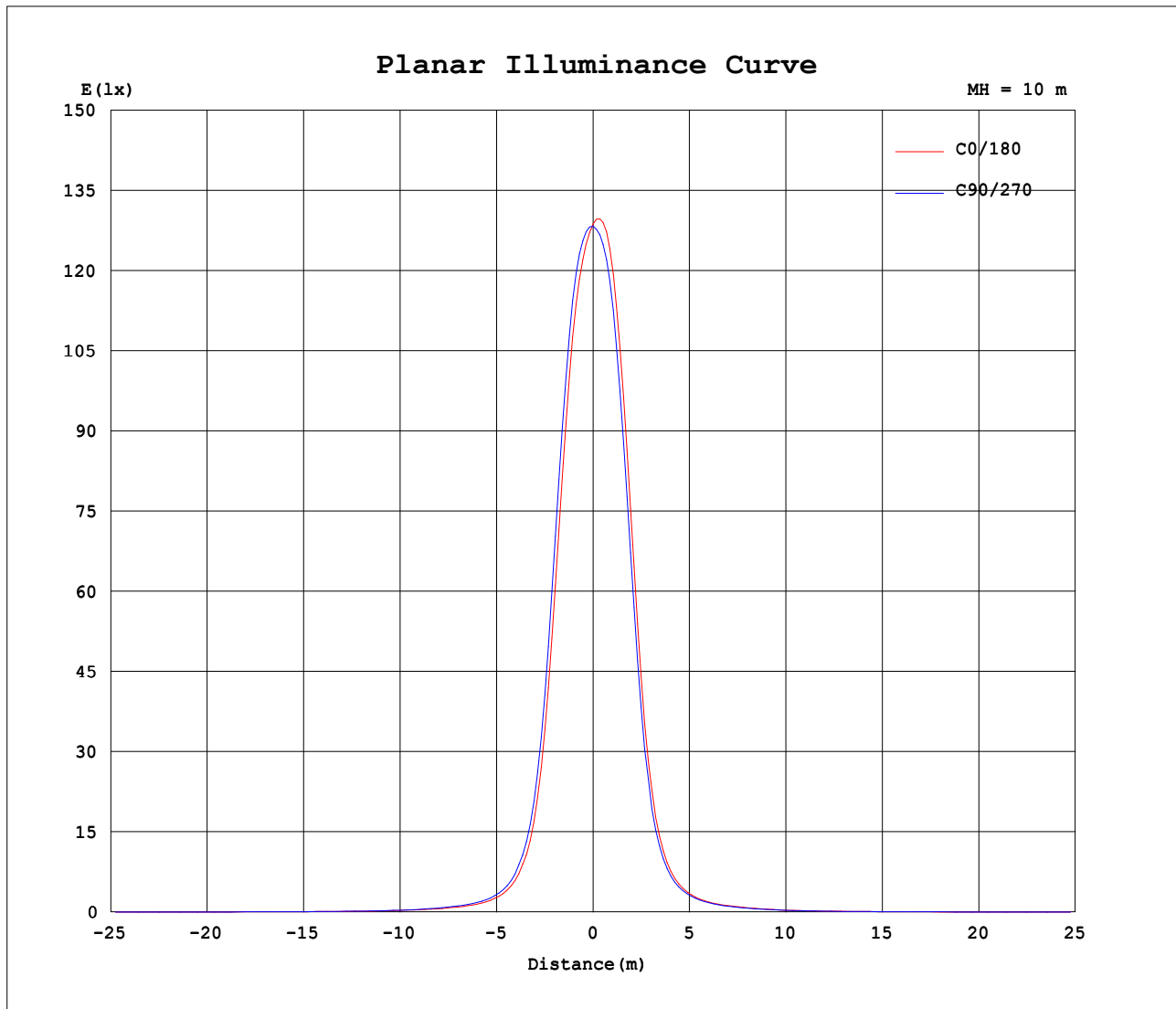
AvgL	cd/m2
L_0~180 (65) av	12752
L_0~180 (75) av	11303
L_0~180 (85) av	3412
L_90~270 (65) av	12791
L_90~270 (75) av	11612
L_90~270 (85) av	3334
L_45 (65) av	12849
L_45 (75) av	11388
L_45 (85) av	3377

Standard: GB/T 29293-2012

C Range: 0 - 360DEG
 C Interval: 15.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:WuXing
 Test Date:2018-12-20

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.265
 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: WuXing
Test Date: 2018-12-20

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
Test System: EVERFINE GO-2000B_V1 SYSTEM V2.0.265
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 V2.0.265
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 V2.0.265
Humidity:65.0%
Test Distance:7.240m [K=1.0000]
Remarks:

```