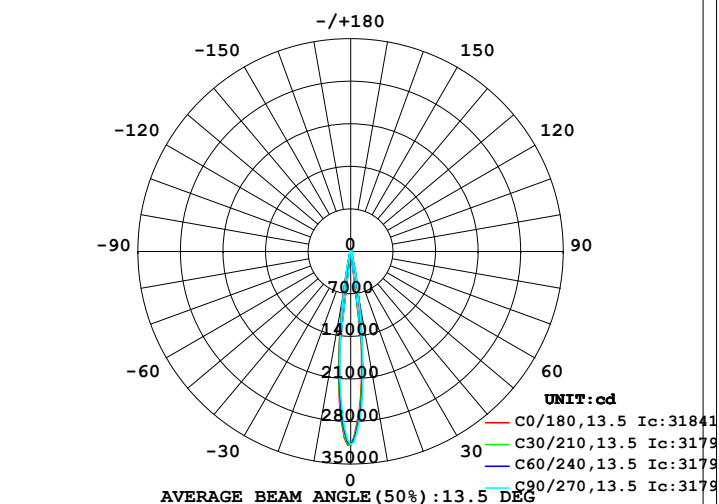


LUMINAIRE PHOTOMETRIC TEST REPORT

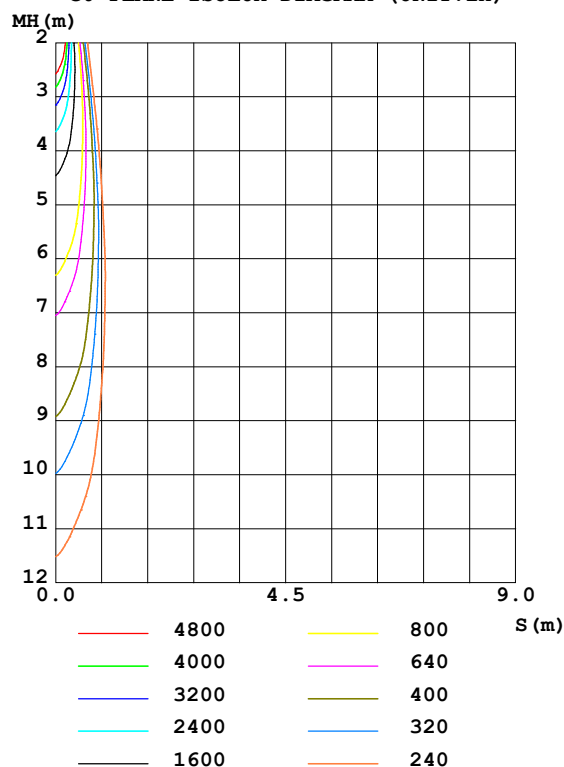
Test:U:225.4V I:0.1250A P:27.10W PF:0.9570 Freq:50.00Hz Lamp Flux:2644.84x1 lm					
NAME: TL44-28W-940-B-15-L		TYPE:		WEIGHT:	
SPEC.:		DIM.:		SERIAL No.:	
MFR.:		SUR.:99		Shielding Angle:	

DATA OF LAMP		PHOTOMETRIC DATA				Eff: 97.60 lm/W
MODEL	2700K CRI90	I _{max} (cd)	31896	S/MH(C0/180)	0.24	
NOMINAL POWER(W)	28	LOR(%)	100.0	S/MH(C90/270)	0.23	
RATED VOLTAGE(V)	226	TOTAL FLUX(lm)	2644.8	η UP,DN(C0-180)	0.0,52.4	
NOMINAL FLUX(lm)	2644.84	CIE CLASS	DIRECT	η UP,DN(C180-360)	0.0,47.6	
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	705.3	796.6	787.8	791.5	725.4	625.8	650.5	637.2	0- 10	1569	1569	59.3, 59.3
20	72.93	78.22	74.41	70.21	64.54	60.62	63.80	66.54	10- 20	594.5	2163	81.8, 81.8
30	23.46	24.58	24.17	23.58	22.08	21.02	22.28	22.74	20- 30	178.6	2342	88.6, 88.6
40	12.97	13.34	13.21	12.42	11.62	11.19	12.61	12.70	30- 40	102.7	2445	92.4, 92.4
50	7.994	8.332	8.542	8.309	7.932	7.771	8.182	8.018	40- 50	77.39	2522	95.4, 95.4
60	5.264	5.427	5.718	6.025	5.817	5.616	5.791	5.639	50- 60	60.32	2582	97.6, 97.6
70	2.767	2.812	2.853	2.932	2.930	2.798	2.766	2.778	60- 70	38.00	2620	99.1, 99.1
80	0.7823	0.8491	0.8832	0.9284	0.9209	0.7892	0.7376	0.7522	70- 80	20.67	2641	99.9, 99.9
90	0.2931	0.2929	0.2936	0.2943	0.1626	0.1605	0.1576	0.1603	80- 90	3.748	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: $\times 10\text{cd}$									UNIT: lm		

Conical surface Flux(90deg): 2485.4 lm

%lum = 94.0%

%lamp = 94.0%

Conical surface Flux(120deg): 2582.4 lm

%lum = 97.6%

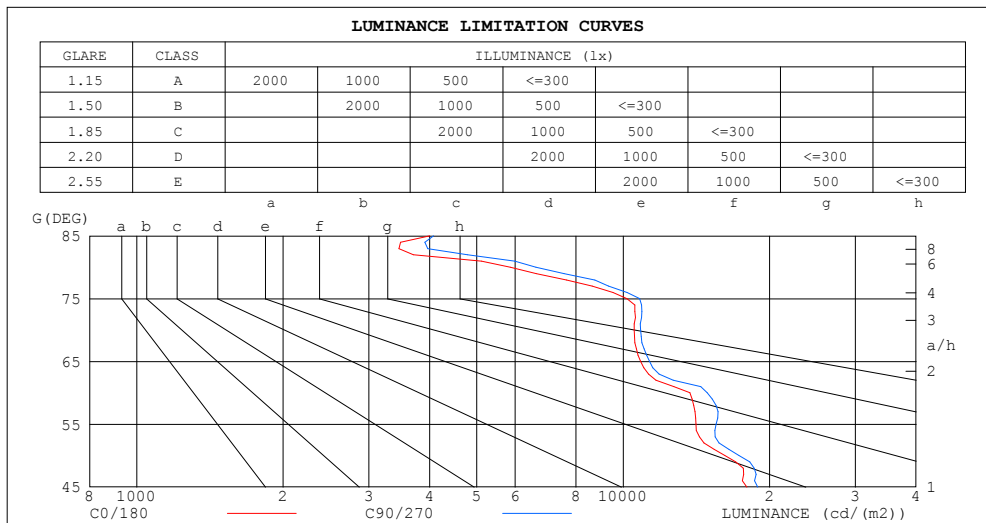
%lamp = 97.6%

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:0.1250A P:27.10W PF:0.9570 Freq:50.00Hz Lamp Flux:2644.84x1 lm		
NAME: TL44-28W-940-B-15-L	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:99	Shielding Angle:



LUMINANCE cd/(m2)		
G (DEG)	C0/180	C90/270
85	4000	4075
80	5865	6618
75	10176	10817
70	10531	10852
65	10858	11339
60	13706	14879
55	14108	15528
50	16188	17291
45	17958	18902

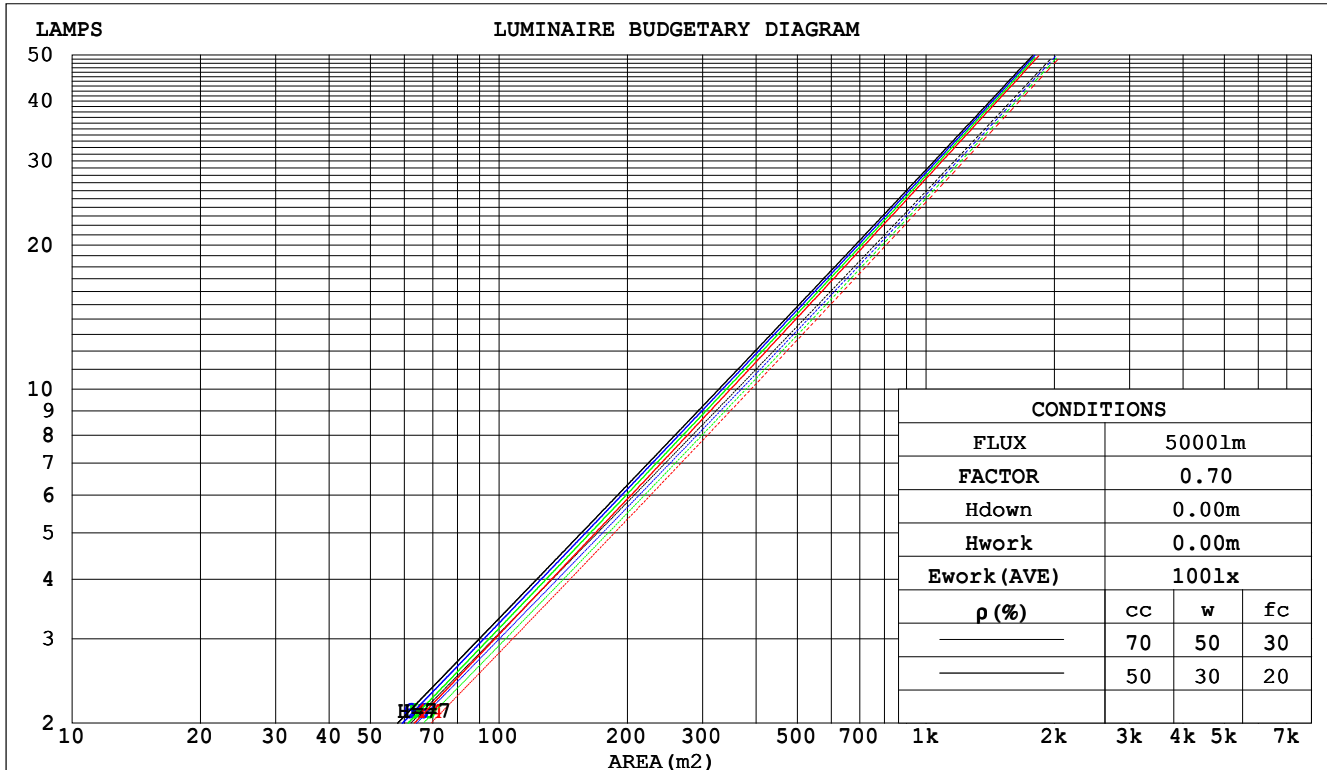
C Range: 0 - 360DEG
C Interval: 15.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:WuXing
Test Date:2018-12-20

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:0.1250A P:27.10W PF:0.9570 Freq:50.00Hz Lamp Flux:2644.84x1 lm		
NAME: TL44-28W-940-B-15-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	1.13	1.11	1.09	1.11	1.09	1.08	1.07	1.05	1.04	1.03	1.02	1.01	.00	.99	.98	.97
2.0	1.08	1.05	1.02	1.06	1.03	1.01	1.03	1.01	.99	1.00	.98	.97	.97	.96	.95	.93
3.0	1.03	.00	.97	1.02	.99	.96	.00	.97	.95	.97	.95	.93	.95	.94	.92	.91
4.0	.00	.96	.93	.99	.95	.93	.97	.94	.92	.95	.93	.91	.93	.91	.90	.88
5.0	.97	.93	.90	.96	.92	.90	.94	.91	.89	.93	.90	.88	.92	.89	.87	.86
6.0	.94	.90	.87	.93	.90	.87	.92	.89	.87	.91	.88	.86	.90	.87	.86	.85
7.0	.92	.88	.85	.91	.88	.85	.90	.87	.85	.89	.86	.84	.88	.86	.84	.83
8.0	.90	.86	.84	.89	.86	.83	.88	.85	.83	.88	.85	.83	.87	.84	.82	.82
9.0	.88	.84	.82	.88	.84	.82	.87	.84	.82	.86	.83	.81	.86	.83	.81	.80
10.0	.86	.83	.81	.86	.83	.80	.85	.82	.80	.85	.82	.80	.84	.82	.80	.79



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:0.1250A P:27.10W PF:0.9570 Freq:50.00Hz Lamp Flux:2644.84x1 lm					
NAME: TL44-28W-940-B-15-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	.137	.078	.025	.130	.074	.024	.118	.067	.022	.106	.061	.020	.096	.056	.018		
2.0	.126	.069	.021	.120	.066	.020	.110	.061	.019	.101	.057	.018	.092	.052	.016		
3.0	.116	.062	.018	.111	.060	.018	.103	.056	.017	.095	.052	.016	.088	.048	.015		
4.0	.107	.055	.016	.103	.054	.016	.096	.051	.015	.089	.048	.014	.083	.045	.014		
5.0	.099	.050	.015	.096	.049	.014	.090	.047	.014	.084	.044	.013	.079	.042	.013		
6.0	.092	.046	.013	.090	.045	.013	.084	.043	.013	.080	.041	.012	.075	.040	.012		
7.0	.086	.043	.012	.084	.042	.012	.080	.040	.012	.075	.039	.011	.072	.037	.011		
8.0	.081	.040	.011	.079	.039	.011	.075	.038	.011	.072	.036	.010	.068	.035	.010		
9.0	.077	.037	.010	.075	.036	.010	.071	.035	.010	.068	.034	.010	.065	.033	.010		
10.0	.073	.035	.010	.071	.034	.010	.068	.033	.009	.065	.032	.009	.063	.031	.009		

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	.168	.158	.148	.144	.135	.127	.099	.093	.088	.057	.054	.051	.018	.017	.017	
2.0	.150	.133	.118	.129	.114	.102	.088	.079	.071	.051	.046	.042	.016	.015	.014	
3.0	.135	.113	.096	.116	.098	.083	.079	.068	.058	.046	.040	.034	.015	.013	.011	
4.0	.122	.098	.080	.104	.085	.069	.072	.059	.049	.042	.035	.029	.013	.011	.009	
5.0	.111	.085	.067	.095	.074	.058	.065	.052	.041	.038	.030	.024	.012	.010	.008	
6.0	.101	.075	.057	.087	.065	.049	.060	.046	.035	.035	.027	.021	.011	.009	.007	
7.0	.093	.067	.049	.080	.058	.042	.055	.041	.030	.032	.024	.018	.010	.008	.006	
8.0	.086	.060	.042	.074	.052	.037	.051	.036	.026	.030	.022	.015	.010	.007	.005	
9.0	.080	.054	.037	.069	.047	.032	.048	.033	.023	.028	.019	.014	.009	.006	.004	
10.0	.074	.049	.032	.064	.043	.028	.044	.030	.020	.026	.018	.012	.008	.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:0.1250A P:27.10W PF:0.9570 Freq:50.00Hz Lamp Flux:2644.84x1 lm											
NAME: TL44-28W-940-B-15-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		12.3	12.9	12.5	13.1	13.2	12.7	13.3	12.9	13.4	13.6
	3H	13.3	13.9	13.5	14.1	14.2	13.6	14.2	13.8	14.4	14.6
	4H	13.8	14.4	14.1	14.6	14.8	14.1	14.7	14.4	14.9	15.1
	6H	14.0	14.5	14.3	14.8	15.0	14.3	14.9	14.6	15.1	15.3
	8H	14.0	14.5	14.3	14.7	15.0	14.3	14.9	14.6	15.1	15.3
	12H	14.0	14.5	14.3	14.7	15.0	14.3	14.8	14.6	15.1	15.3
4H	2H	12.8	13.3	13.0	13.5	13.7	13.1	13.6	13.3	13.8	14.0
	3H	14.0	14.5	14.3	14.7	15.0	14.2	14.7	14.5	15.0	15.2
	4H	14.6	15.0	14.9	15.3	15.6	14.8	15.3	15.2	15.6	15.9
	6H	14.8	15.2	15.2	15.6	15.9	15.1	15.5	15.5	15.9	16.2
	8H	14.8	15.2	15.2	15.5	15.9	15.1	15.5	15.5	15.9	16.2
	12H	14.8	15.1	15.2	15.5	15.9	15.1	15.5	15.5	15.8	16.2
8H	4H	14.7	15.1	15.1	15.5	15.8	15.0	15.4	15.4	15.7	16.1
	6H	15.0	15.4	15.5	15.7	16.2	15.3	15.6	15.7	16.0	16.4
	8H	15.0	15.3	15.5	15.7	16.2	15.3	15.6	15.8	16.0	16.5
	12H	15.0	15.3	15.5	15.7	16.2	15.3	15.6	15.8	16.0	16.5
12H	4H	14.7	15.1	15.1	15.4	15.8	14.9	15.3	15.3	15.7	16.0
	6H	15.0	15.3	15.5	15.7	16.2	15.3	15.6	15.7	16.0	16.4
	8H	15.0	15.3	15.5	15.7	16.2	15.3	15.6	15.8	16.0	16.5
Variations with the observer position at spacings:											
S = 1.0H	+ 0.3 / - 0.4					+ 0.3 / - 0.4					
1.5H	+ 0.1 / - 0.4					+ 0.2 / - 0.3					
2.0H	+ 0.4 / - 0.7					+ 0.4 / - 0.8					

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:0.1250A P:27.10W PF:0.9570 Freq:50.00Hz Lamp Flux:2644.84x1 lm		
NAME: TL44-28W-940-B-15-L	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:99	Shielding Angle:

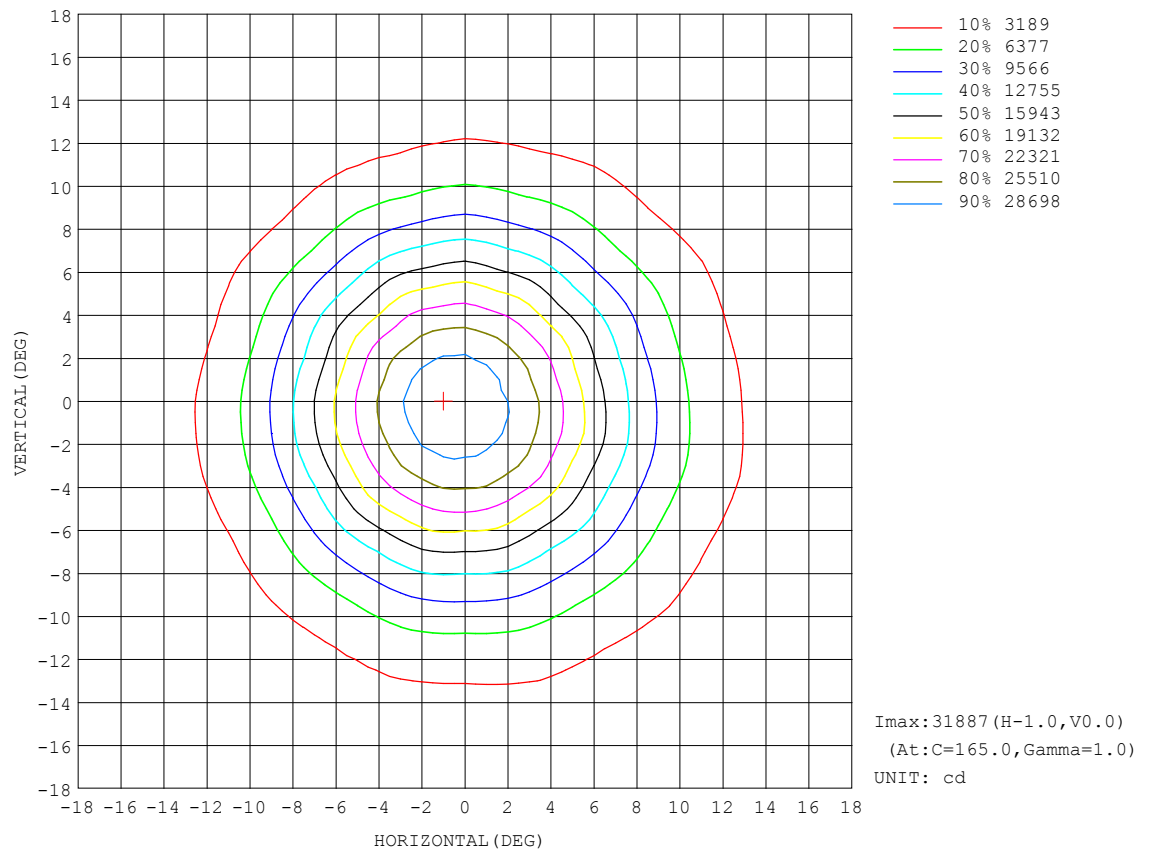
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS (PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	87	80	77	86	80	77	86	80	76	73
0.80	94	88	84	94	88	84	92	87	84	80
1.00	99	93	89	98	92	89	96	92	88	84
1.25	103	97	94	102	97	93	100	96	93	88
1.50	105	100	97	104	100	97	102	98	95	91
2.00	108	104	101	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	107	104	106	104	102	95
4.00	114	111	108	112	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:0.1250A P:27.10W PF:0.9570 Freq:50.00Hz Lamp Flux:2644.84x1 lm		
NAME: TL44-28W-940-B-15-L	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:99	Shielding Angle:

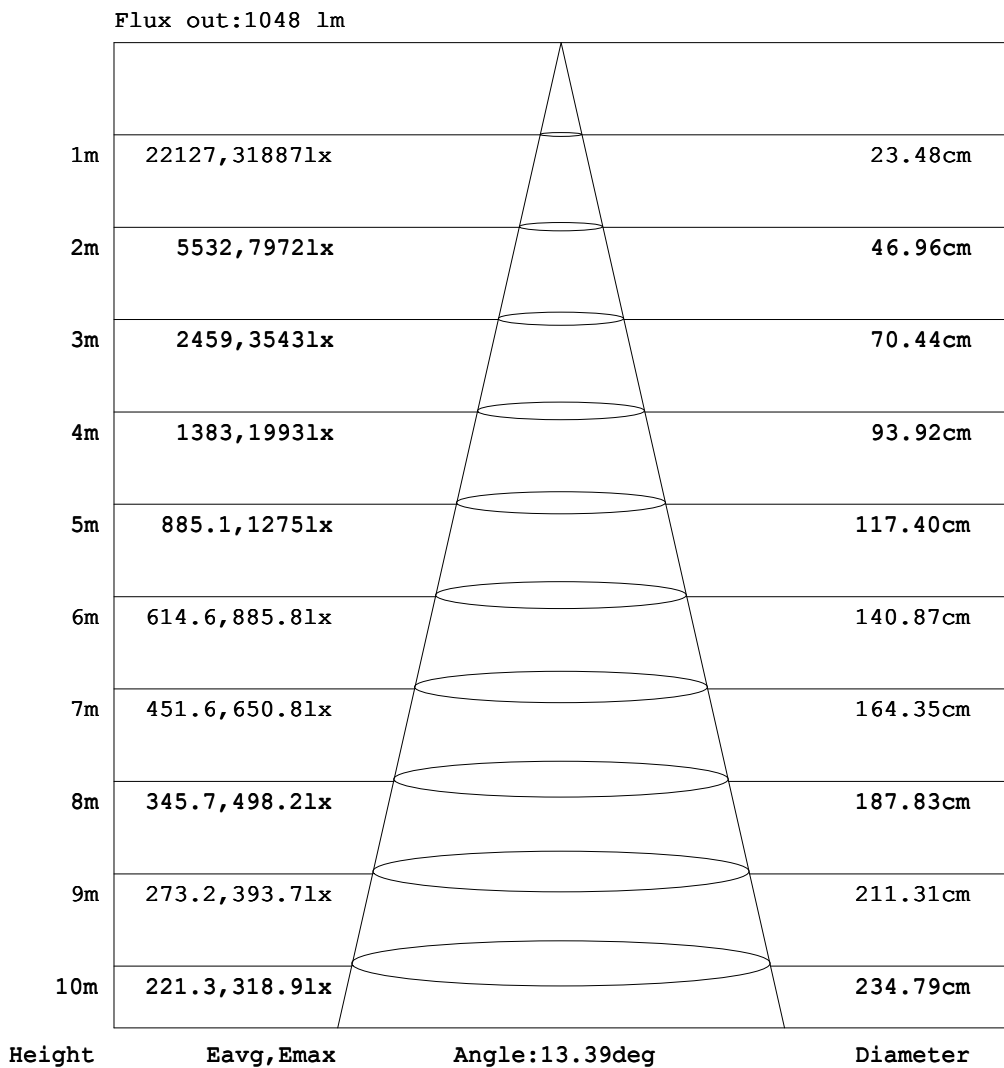


C Range: 0 - 360DEG
C Interval: 15.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:WuXing
Test Date:2018-12-20

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:0.1250A P:27.10W PF:0.9570 Freq:50.00Hz Lamp Flux:2644.84x1 lm		
NAME: TL44-28W-940-B-15-L	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:99	Shielding Angle:



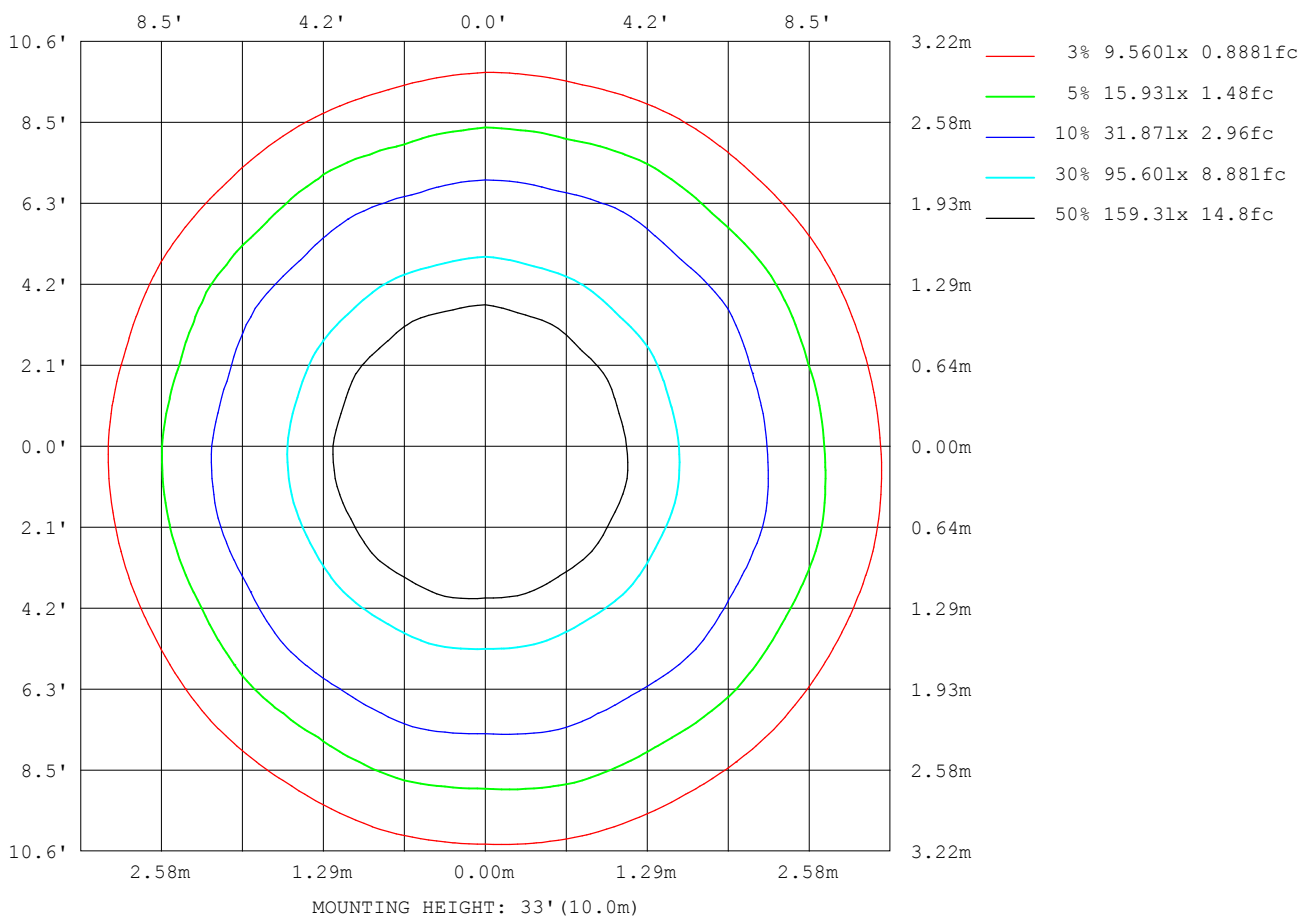
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

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:0.1250A P:27.10W PF:0.9570 Freq:50.00Hz Lamp Flux:2644.84x1 lm		
NAME: TL44-28W-940-B-15-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:0.1250A P:27.10W PF:0.9570 Freq:50.00Hz Lamp Flux:2644.84x1 lm		
NAME: TL44-28W-940-B-15-L	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:99	Shielding Angle:

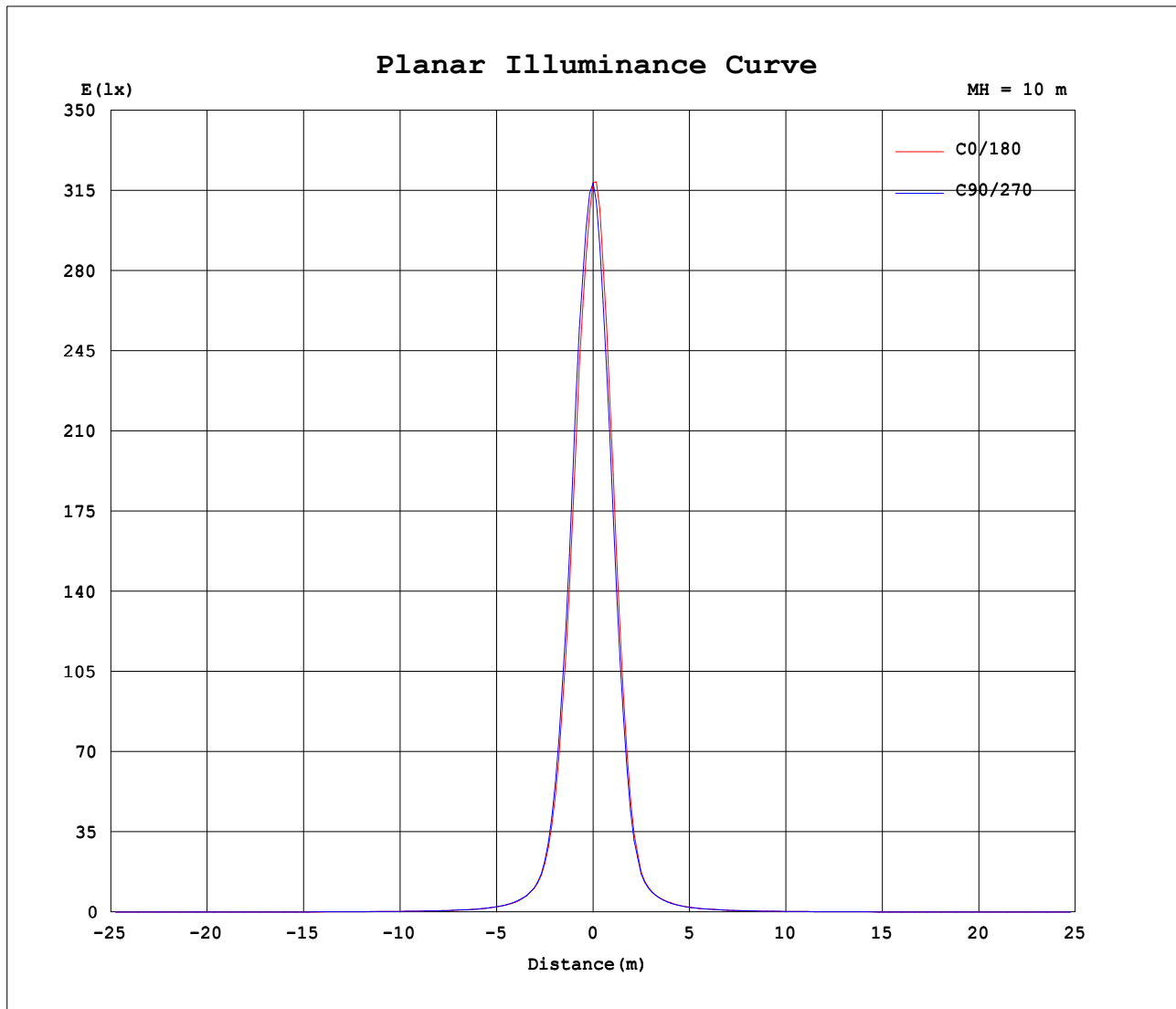
AvgL	cd/m2
L_0~180 (65) av	11219
L_0~180 (75) av	10716
L_0~180 (85) av	3668
L_90~270 (65) av	11165
L_90~270 (75) av	10405
L_90~270 (85) av	3612
L_45 (65) av	11215
L_45 (75) av	10486
L_45 (85) av	3631

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:

```