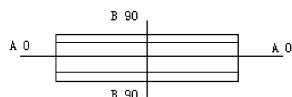
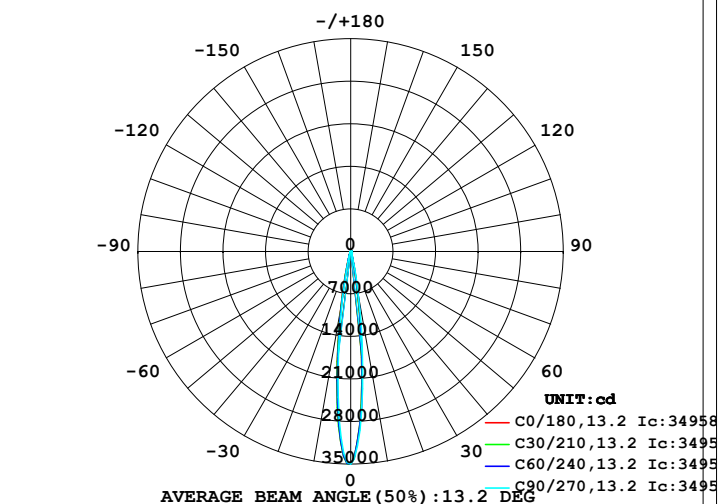


LUMINAIRE PHOTOMETRIC TEST REPORT

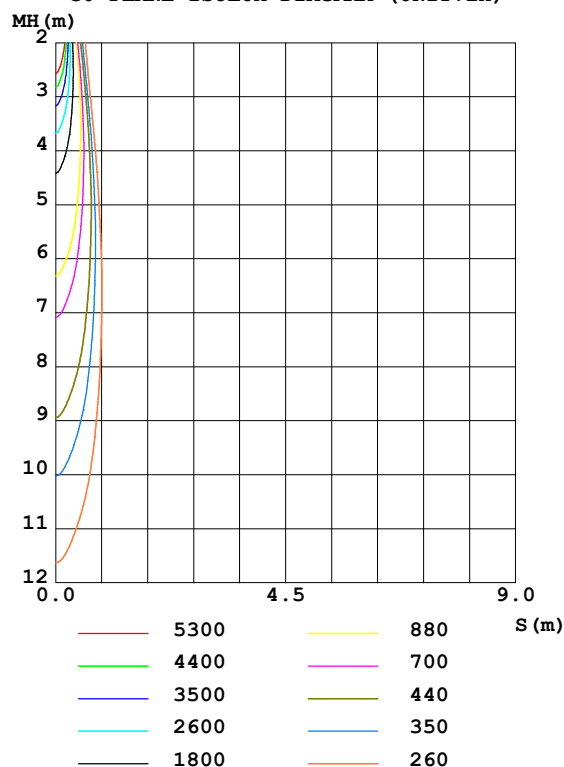
Test:U:225.6V I:0.1250A P:27.20W PF:0.9610 Freq:50.00Hz Lamp Flux:2824.51x1 lm		
NAME: TL44-28W-830-B-15-L	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:99	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 103.84 lm/W			
MODEL	2700K CRI80	Imax(cd)	34958	S/MH(C0/180)	0.25
NOMINAL POWER(W)	28	LOR(%)	100.0	S/MH(C90/270)	0.23
RATED VOLTAGE(V)	226	TOTAL FLUX(lm)	2824.5	η UP,DN(C0-180)	0.0,49.3
NOMINAL FLUX(lm)	2824.51	CIE CLASS	DIRECT	η UP,DN(C180-360)	0.0,50.7
LAMPS INSIDE	1	η up(%)	0.0	CIBSE SHR NOM	0.00
TEST VOLTAGE(V)	225.6	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:2018-11-12

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	605.3	667.4	750.9	898.3	952.0	852.8	791.3	637.7	0- 10	1692	1692	59.9, 59.9
20	64.98	68.77	74.75	82.56	86.21	77.27	73.13	65.44	10- 20	641.2	2333	82.6, 82.6
30	22.10	22.36	23.10	26.06	26.64	24.64	23.97	22.63	20- 30	189.2	2522	89.3, 89.3
40	11.76	11.24	11.64	13.76	14.00	13.07	12.93	12.44	30- 40	104.9	2627	93, 93
50	7.809	7.532	7.485	8.349	8.510	8.367	8.516	8.241	40- 50	76.91	2704	95.7, 95.7
60	5.548	5.318	5.292	5.786	5.904	5.590	5.718	5.722	50- 60	59.99	2764	97.8, 97.8
70	2.632	2.704	2.727	2.818	2.844	2.799	2.713	2.683	60- 70	36.79	2801	99.2, 99.2
80	0.6993	0.7632	0.7569	0.8579	0.8969	0.8806	0.7871	0.7445	70- 80	20.15	2821	99.9, 99.9
90	0.3226	0.3208	0.3180	0.3146	0.1825	0.1791	0.1715	0.1708	80- 90	3.810	2825	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): 2667.4 lm

%lum = 94.4%

%lamp = 94.4%

Conical surface Flux(120deg): 2763.8 lm

%lum = 97.8%

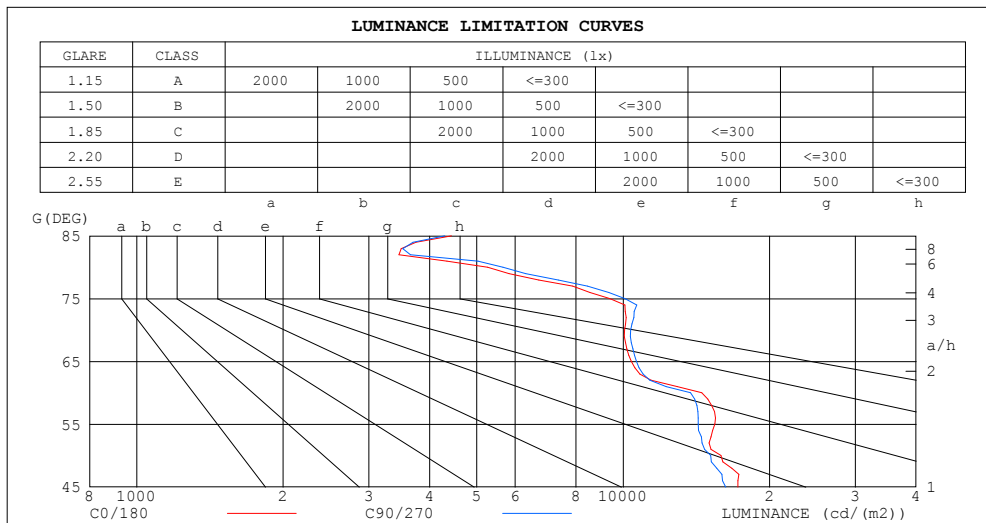
%lamp = 97.8%

C Range: 0 - 360DEG
 C Interval: 15.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators: WuXing
 Test Date: 2018-11-12

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:225.6V I:0.1250A P:27.20W PF:0.9610 Freq:50.00Hz Lamp Flux:2824.51x1 lm		
NAME: TL44-28W-830-B-15-L	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:99	Shielding Angle:



LUMINANCE cd/(m2)		
G (DEG)	C0/180	C90/270
85	4436	4297
80	5264	5661
75	9395	10089
70	10062	10355
65	10396	10656
60	14506	13747
55	15425	14267
50	15882	15125
45	17202	16254

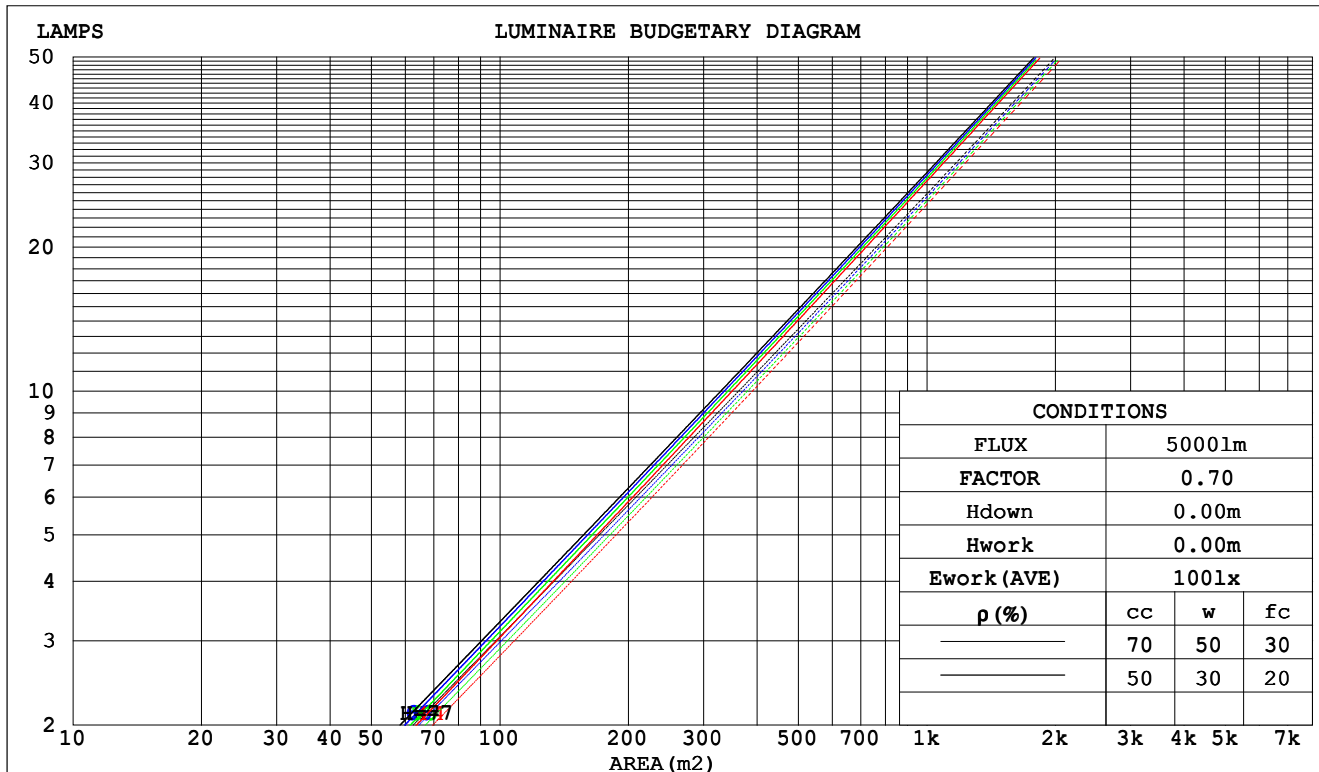
C Range: 0 - 360DEG
C Interval: 15.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:WuXing
Test Date:2018-11-12

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:225.6V I:0.1250A P:27.20W PF:0.9610 Freq:50.00Hz Lamp Flux:2824.51x1 lm		
NAME: TL44-28W-830-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	1.06	1.04	1.03	1.02	1.01	.00	.99	.98	.97
2.0	1.08	1.05	1.03	1.06	1.04	1.01	1.03	1.01	.99	1.00	.99	.97	.98	.96	.95	.94
3.0	1.04	1.00	.97	1.02	.99	.97	.00	.97	.95	.98	.96	.94	.96	.94	.92	.91
4.0	1.00	.96	.94	.99	.96	.93	.97	.94	.92	.95	.93	.91	.94	.92	.90	.89
5.0	.97	.93	.91	.96	.93	.90	.95	.92	.89	.93	.91	.89	.92	.90	.88	.87
6.0	.95	.91	.88	.94	.90	.88	.93	.89	.87	.91	.89	.87	.90	.88	.86	.85
7.0	.92	.89	.86	.92	.88	.86	.91	.88	.85	.90	.87	.85	.89	.86	.84	.84
8.0	.90	.87	.84	.90	.86	.84	.89	.86	.84	.88	.85	.83	.87	.85	.83	.82
9.0	.89	.85	.83	.88	.85	.82	.87	.84	.82	.87	.84	.82	.86	.84	.82	.81
10.0	.87	.83	.81	.87	.83	.81	.86	.83	.81	.85	.83	.81	.85	.82	.81	.80



C Range: 0 - 360DEG
 C Interval: 15.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:WuXing
 Test Date:2018-11-12

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:225.6V I:0.1250A P:27.20W PF:0.9610 Freq:50.00Hz Lamp Flux:2824.51x1 lm					
NAME: TL44-28W-830-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	.135	.077	.024	.128	.073	.023	.116	.066	.021	.104	.060	.019	.094	.054	.018	
2.0	.124	.068	.021	.119	.065	.020	.108	.060	.019	.099	.056	.017	.090	.051	.016	
3.0	.114	.061	.018	.109	.059	.018	.101	.055	.017	.093	.051	.016	.086	.048	.015	
4.0	.105	.055	.016	.101	.053	.016	.094	.050	.015	.088	.047	.014	.082	.044	.014	
5.0	.098	.050	.014	.094	.048	.014	.088	.046	.014	.083	.044	.013	.078	.041	.012	
6.0	.091	.046	.013	.088	.045	.013	.083	.043	.012	.078	.041	.012	.074	.039	.012	
7.0	.085	.042	.012	.083	.041	.012	.078	.040	.011	.074	.038	.011	.070	.037	.011	
8.0	.080	.039	.011	.078	.038	.011	.074	.037	.011	.071	.036	.010	.067	.034	.010	
9.0	.076	.037	.010	.074	.036	.010	.070	.035	.010	.067	.034	.010	.064	.033	.009	
10.0	.072	.034	.010	.070	.034	.009	.067	.033	.009	.064	.032	.009	.062	.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	.128	.098	.093	.088	.057	.054	.051	.018	.017	.017	
2.0	.150	.133	.118	.128	.114	.102	.088	.079	.071	.051	.046	.042	.016	.015	.014	
3.0	.134	.113	.096	.115	.098	.084	.079	.068	.059	.046	.040	.035	.015	.013	.011	
4.0	.121	.098	.080	.104	.084	.069	.072	.059	.049	.041	.034	.029	.013	.011	.009	
5.0	.110	.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	.092	.067	.049	.080	.058	.042	.055	.041	.030	.032	.024	.018	.010	.008	.006	
8.0	.085	.060	.042	.074	.052	.037	.051	.036	.026	.030	.021	.016	.010	.007	.005	
9.0	.079	.054	.037	.068	.047	.032	.047	.033	.023	.028	.019	.014	.009	.006	.005	
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:2018-11-12

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:225.6V I:0.1250A P:27.20W PF:0.9610 Freq:50.00Hz Lamp Flux:2824.51x1 lm										
NAME: TL44-28W-830-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	11.7	12.3	11.9	12.5	12.6	11.5	12.1	11.7	12.2	12.4
3H	12.7	13.2	12.9	13.4	13.6	12.6	13.1	12.8	13.3	13.5
4H	13.2	13.7	13.4	13.9	14.1	13.1	13.6	13.4	13.8	14.1
6H	13.3	13.8	13.6	14.1	14.3	13.3	13.8	13.6	14.0	14.3
8H	13.3	13.8	13.6	14.0	14.3	13.3	13.8	13.6	14.0	14.3
12H	13.3	13.8	13.6	14.0	14.3	13.3	13.8	13.6	14.0	14.3
4H 2H	12.2	12.7	12.4	12.9	13.1	12.0	12.5	12.3	12.7	13.0
3H	13.3	13.8	13.6	14.1	14.3	13.3	13.7	13.6	14.0	14.3
4H	13.9	14.4	14.3	14.7	15.0	13.9	14.4	14.2	14.7	14.9
6H	14.1	14.5	14.5	14.9	15.2	14.2	14.6	14.5	14.9	15.2
8H	14.1	14.5	14.5	14.8	15.2	14.2	14.5	14.5	14.9	15.2
12H	14.1	14.4	14.5	14.8	15.2	14.1	14.5	14.5	14.8	15.2
8H 4H	14.1	14.5	14.5	14.8	15.2	14.1	14.5	14.5	14.8	15.2
6H	14.3	14.6	14.8	15.0	15.4	14.4	14.7	14.8	15.1	15.5
8H	14.3	14.6	14.8	15.0	15.5	14.4	14.6	14.8	15.1	15.5
12H	14.3	14.6	14.8	15.0	15.5	14.4	14.6	14.8	15.0	15.5
12H 4H	14.1	14.4	14.5	14.8	15.2	14.0	14.4	14.4	14.8	15.1
6H	14.3	14.6	14.7	15.0	15.4	14.3	14.6	14.8	15.0	15.5
8H	14.3	14.5	14.8	15.0	15.4	14.3	14.6	14.8	15.0	15.5
Variations with the observer position at spacings:										
S = 1.0H	+ 0.2 / - 0.3					+ 0.2 / - 0.3				
1.5H	+ 0.3 / - 0.3					+ 0.2 / - 0.2				
2.0H	+ 0.4 / - 0.9					+ 0.3 / - 0.7				

CIE Pub.117, 2825 lm Total Lamp Luminous Flux Correct (8log(F/F0) = 3.6)

C Range: 0 - 360DEG
C Interval: 15.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:WuXing
Test Date:2018-11-12

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:225.6V I:0.1250A P:27.20W PF:0.9610 Freq:50.00Hz Lamp Flux:2824.51x1 lm		
NAME: TL44-28W-830-B-15-L	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:99	Shielding Angle:

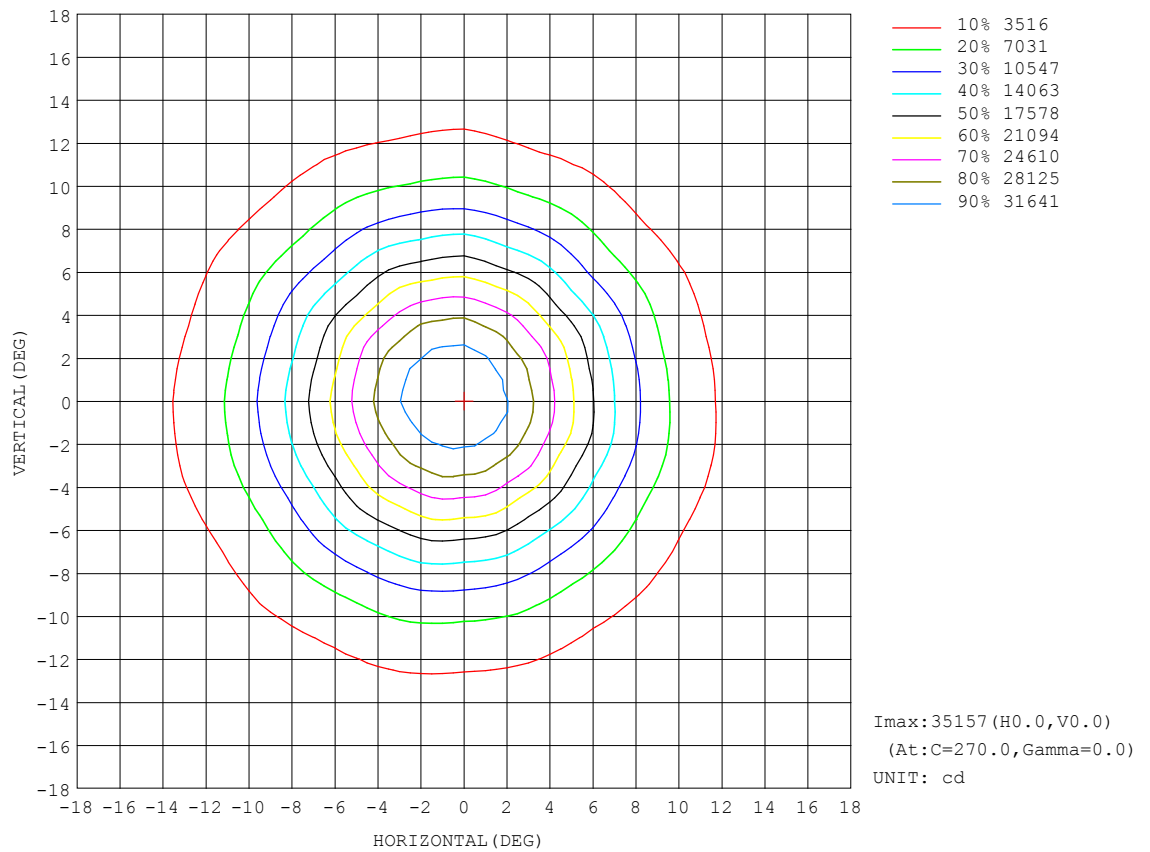
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS (PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	87	81	77	87	81	77	86	80	77	73
0.80	95	89	85	94	88	85	93	88	84	81
1.00	99	93	90	98	93	89	96	93	89	85
1.25	103	98	94	102	97	94	100	96	93	89
1.50	106	101	97	104	100	97	102	98	96	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	112	108	105	110	107	104	106	104	102	96
4.00	114	111	109	112	109	107	108	106	104	97
5.00	115	113	111	113	111	109	109	107	106	99
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:2018-11-12

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:225.6V I:0.1250A P:27.20W PF:0.9610 Freq:50.00Hz Lamp Flux:2824.51x1 lm		
NAME: TL44-28W-830-B-15-L	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:99	Shielding Angle:

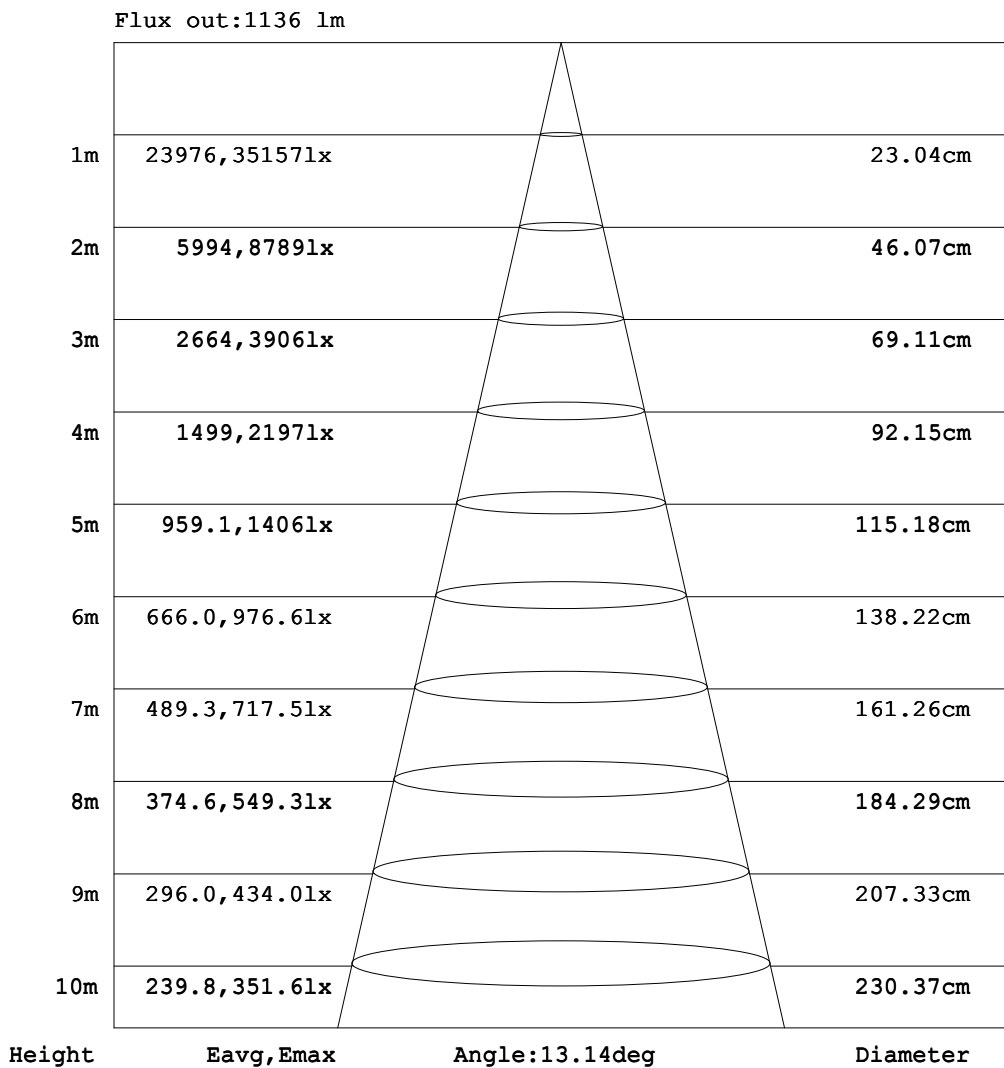


C Range: 0 - 360DEG
C Interval: 15.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:WuXing
Test Date:2018-11-12

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:225.6V I:0.1250A P:27.20W PF:0.9610 Freq:50.00Hz Lamp Flux:2824.51x1 lm		
NAME: TL44-28W-830-B-15-L	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:99	Shielding Angle:



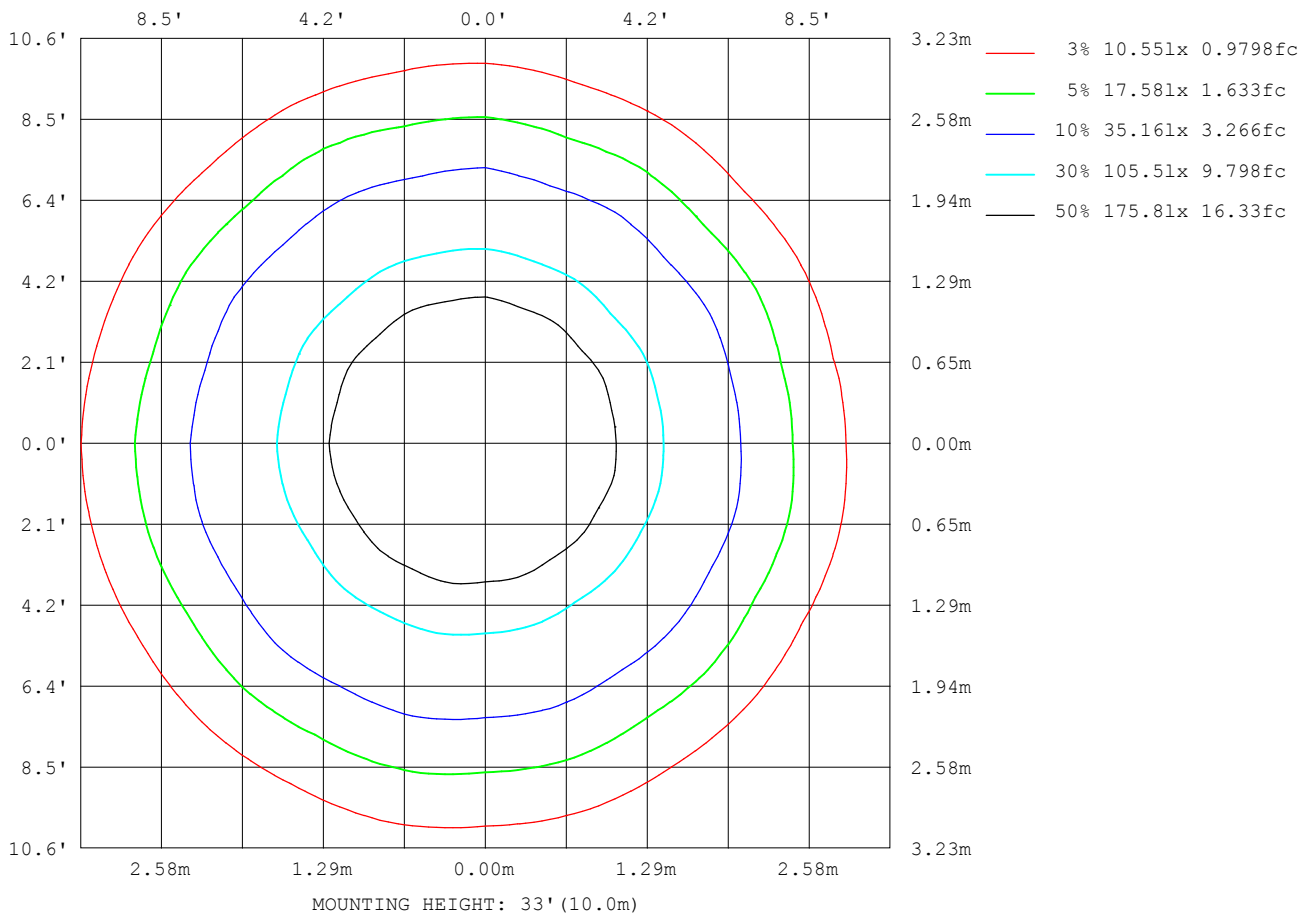
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
C Interval: 15.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:WuXing
Test Date:2018-11-12

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:225.6V I:0.1250A P:27.20W PF:0.9610 Freq:50.00Hz Lamp Flux:2824.51x1 lm		
NAME: TL44-28W-830-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:2018-11-12

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:225.6V I:0.1250A P:27.20W PF:0.9610 Freq:50.00Hz Lamp Flux:2824.51x1 lm		
NAME: TL44-28W-830-B-15-L	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:99	Shielding Angle:

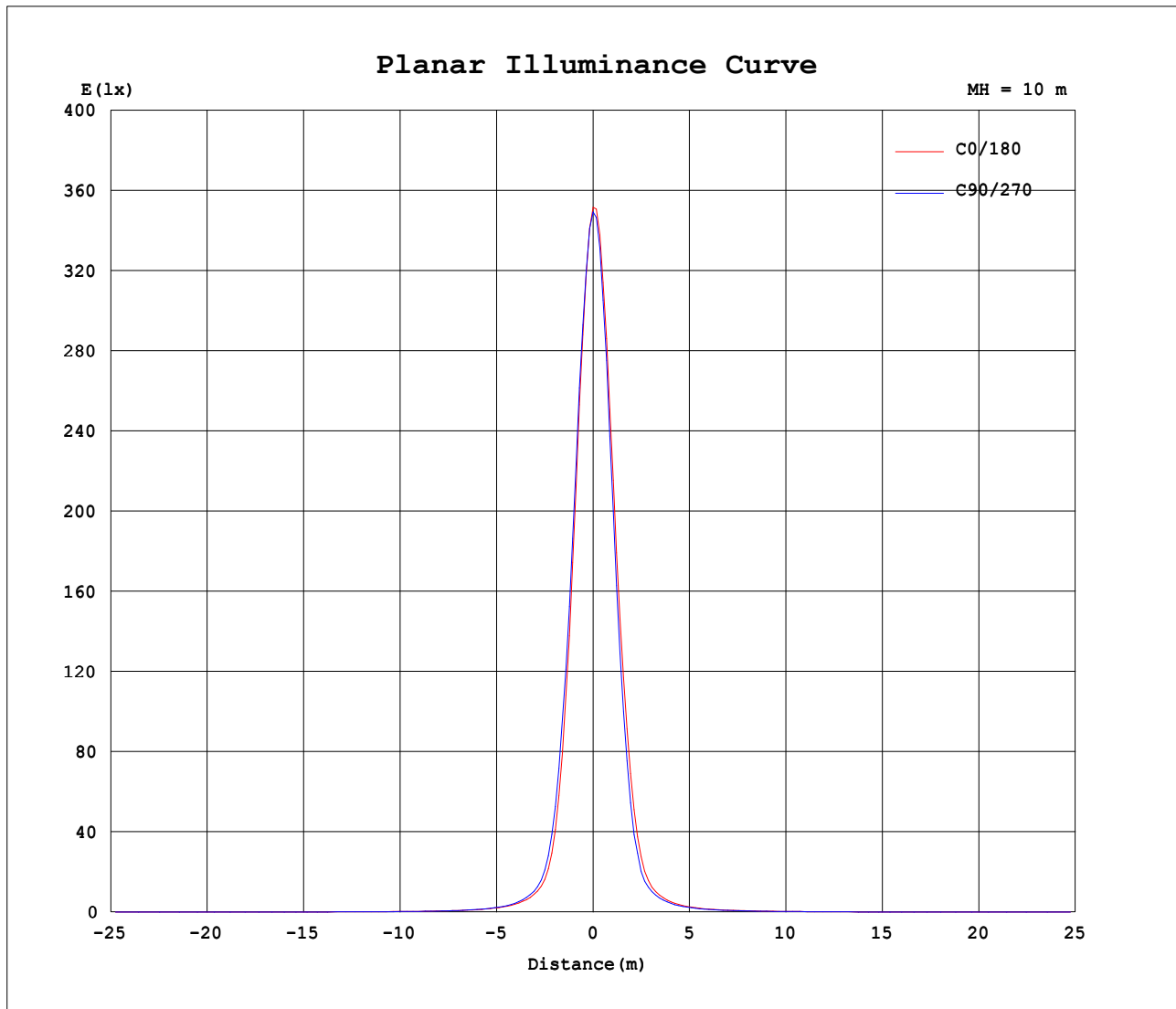
AvgL	cd/m2
L_0~180 (65) av	10666
L_0~180 (75) av	10195
L_0~180 (85) av	4079
L_90~270 (65) av	10644
L_90~270 (75) av	10092
L_90~270 (85) av	3892
L_45 (65) av	10815
L_45 (75) av	10542
L_45 (85) av	3951

Standard: GB/T 29293-2012

C Range: 0 - 360DEG
 C Interval: 15.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:WuXing
 Test Date:2018-11-12

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: 2018-11-12

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:

```