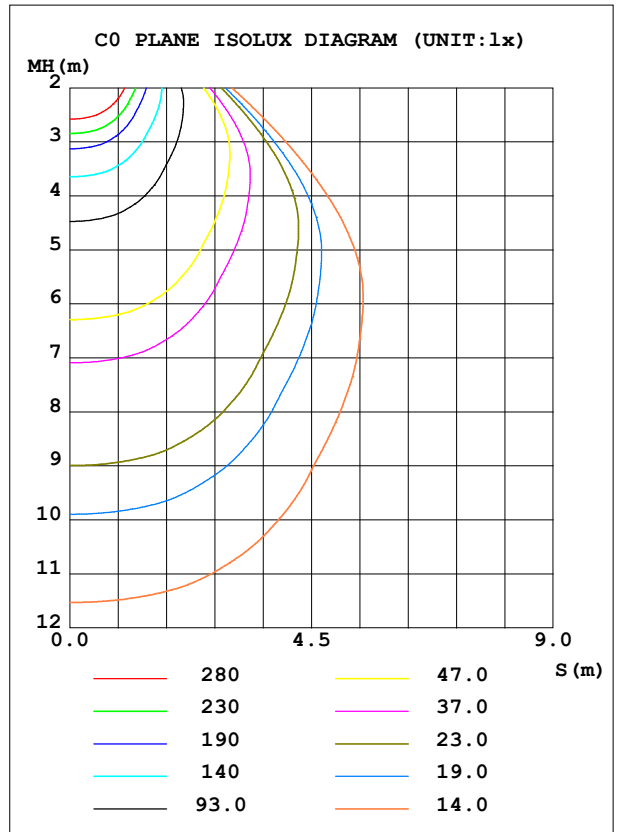
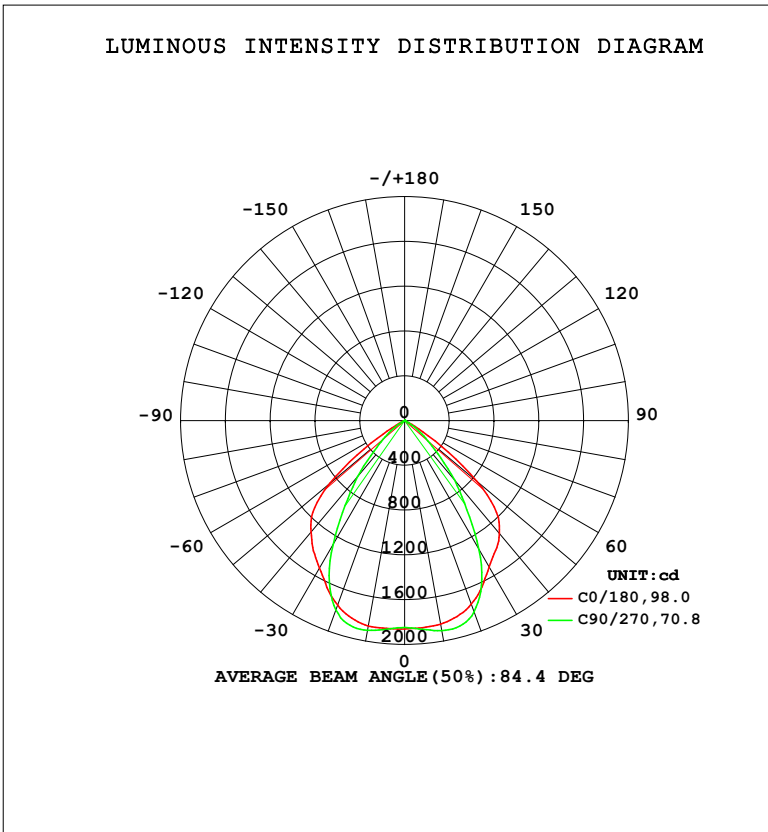


LUMINAIRE PHOTOMETRIC TEST REPORT

Test:U:240.25V I:0.1175A P:27.599W PF:0.9784 Freq:49.99Hz		
UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:3137.12x1 lm		
NAME: LT28W-120/30	TYPE: 28W	WEIGHT:
SPEC.: 4000K	DIM.:	SERIAL No.: 1
MFR.:	SUR.: 1.192*0.292	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA			
MODEL	LT28W-120/30	Imax (cd)	1910	S/MH (C0/180)	1.22
NOMINAL POWER (W)	28	LOR (%)	100.0	S/MH (C90/270)	1.05
RATED VOLTAGE (V)	240	TOTAL FLUX (lm)	3137.1	η UP, DN (C0-180)	0.0, 49.7
NOMINAL FLUX (lm)	3137.12	CIE CLASS	DIRECT	η UP, DN (C180-360)	0.0, 50.3
LAMPS INSIDE	1	η up (%)	0.0	CIBSE SHR NOM	1.00
TEST VOLTAGE (V)	240	η down (%)	100.0	CIBSE SHR MAX	1.15



C Range: 0 - 360DEG
 C Interval: 45.0DEG
 Test Speed: HIGH
 Temperature: 25.3 °C
 Operators: ZHANGYI
 Test Date: 2023-08-18

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System: EVERFINE GO-2000H_V1 SYSTEM V2.00.456
 Humidity: 65.0%
 Test Distance: 9.750m [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	1863	1891	1901	1877	1846	1884	1904	1886	0- 10	178.5	178.5	5.69,5.69
20	1754	1874	1798	1860	1744	1871	1816	1868	10- 20	529.0	707.5	22.6,22.6
30	1523	1602	1280	1612	1511	1622	1330	1609	20- 30	778.0	1486	47.4,47.4
40	1302	1037	655.8	1051	1317	1064	693.5	1079	30- 40	791.5	2277	72.6,72.6
50	870.0	459.9	230.0	471.2	841.1	478.3	248.1	496.8	40- 50	590.5	2868	91.4,91.4
60	138.1	86.70	46.11	87.76	107.4	88.36	51.13	101.3	50- 60	239.7	3107	99,99
70	1.525	4.865	5.000	4.591	1.427	4.770	5.124	5.704	60- 70	27.50	3135	99.9,99.9
80	0.6675	0.8033	1.347	0.7166	0.5601	0.8510	1.353	0.9076	70- 80	2.037	3137	100,100
90	0	0	0	0	0	0	0	0	80- 90	0.3716	3137	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): 2608.6 lm

%lum = 83.2%

%lamp = 83.2%

Conical surface Flux(120deg): 3107.2 lm

%lum = 99.0%

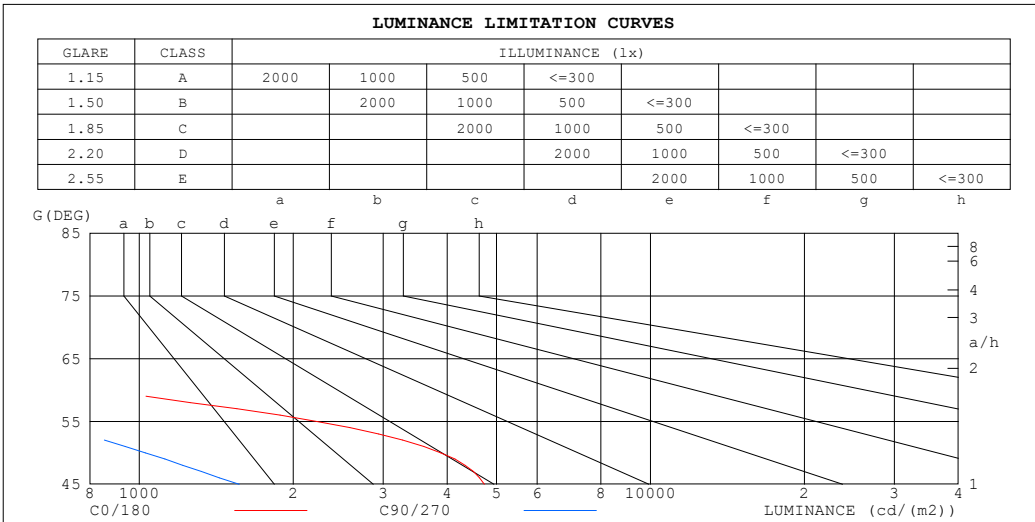
%lamp = 99.0%

C Range: 0 - 360DEG
 C Interval: 45.0DEG
 Test Speed: HIGH
 Temperature:25.3℃
 Operators:ZHANGYI
 Test Date:2023-08-18

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000H_V1 SYSTEM V2.00.456
 Humidity:65.0%
 Test Distance:9.750m [K=1.0000]
 Remarks:

LUMINANCE LIMITATION CURVES

Test:U:240.25V I:0.1175A P:27.599W PF:0.9784 Freq:49.99Hz UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:3137.12x1 lm		
NAME: LT28W-120/30	TYPE: 28W	WEIGHT:
SPEC.: 4000K	DIM.:	SERIAL No.: 1
MFR.:	SUR.: 1.192*0.292	Shielding Angle:



LUMINANCE cd/(m2)		
G (DEG)	C0/180	C90/270
85	10	15
80	11	22
75	11	29
70	13	42
65	42	69
60	793	265
55	2225	607
50	3888	1028
45	4727	1567

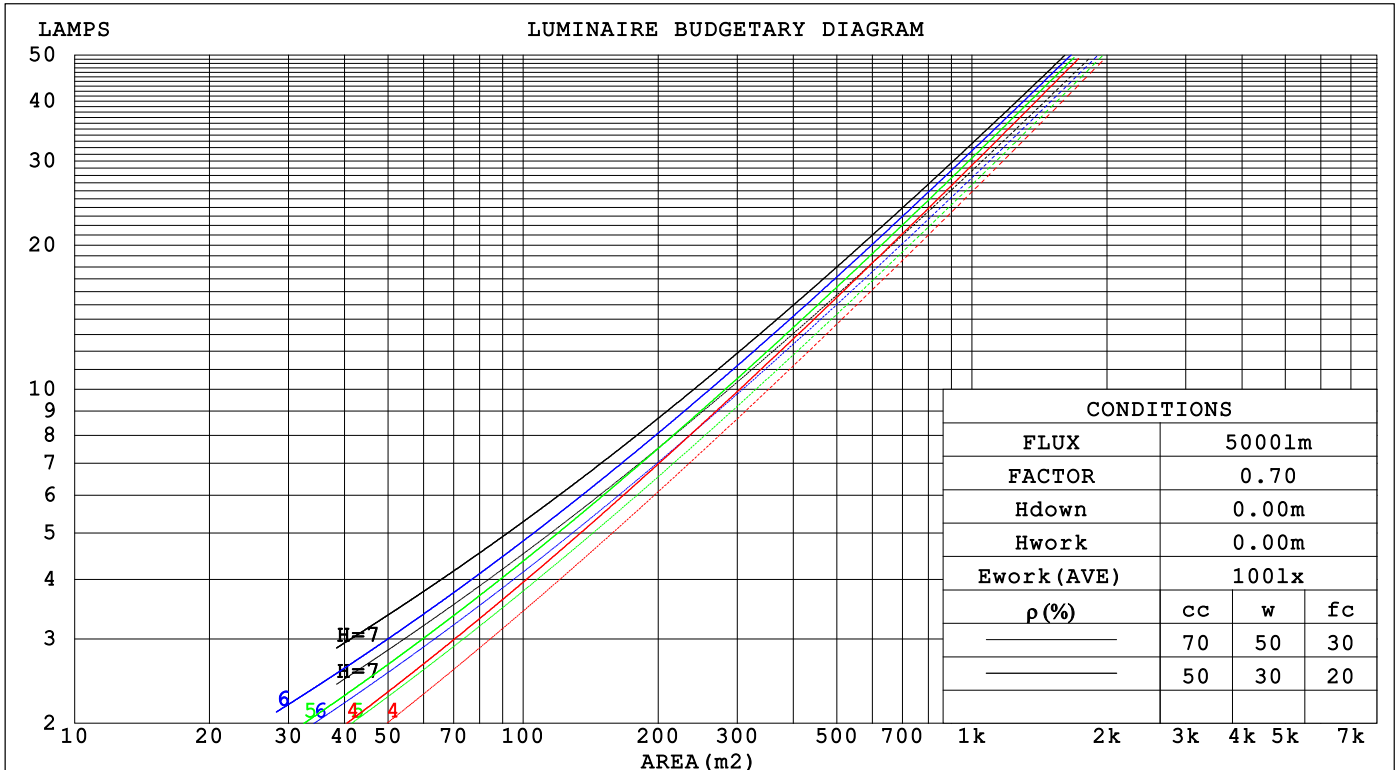
C Range: 0 - 360DEG
 C Interval: 45.0DEG
 Test Speed: HIGH
 Temperature: 25.3 °C
 Operators: ZHANGYI
 Test Date: 2023-08-18

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System: EVERFINE GO-2000H_V1 SYSTEM V2.00.456
 Humidity: 65.0%
 Test Distance: 9.750m [K=1.0000]
 Remarks:

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

Test:U:240.25V I:0.1175A P:27.599W PF:0.9784 Freq:49.99Hz		
UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:3137.12x1 lm		
NAME: LT28W-120/30	TYPE: 28W	WEIGHT:
SPEC.: 4000K	DIM.:	SERIAL No.: 1
MFR.:	SUR.: 1.192*0.292	Shielding Angle:

pcc	80%			70%			50%			30%			10%			0
	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	
p _w	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	
p _{fc}	20%			20%			20%			20%			20%			
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	1.00
1.0	1.09	1.06	1.04	1.07	1.04	1.02	1.03	1.01	.99	.99	.97	.96	.96	.94	.93	.91
2.0	.00	.95	.91	.98	.93	.90	.94	.91	.88	.91	.88	.86	.89	.86	.84	.82
3.0	.91	.85	.80	.89	.84	.79	.87	.82	.78	.84	.80	.77	.82	.78	.76	.74
4.0	.83	.76	.71	.82	.76	.71	.80	.74	.70	.77	.73	.69	.75	.71	.68	.66
5.0	.76	.69	.64	.75	.68	.63	.73	.67	.63	.71	.66	.62	.70	.65	.62	.60
6.0	.70	.63	.58	.69	.62	.57	.67	.61	.57	.66	.61	.56	.64	.60	.56	.54
7.0	.64	.57	.52	.64	.57	.52	.62	.56	.52	.61	.55	.51	.60	.55	.51	.49
8.0	.60	.52	.48	.59	.52	.47	.58	.52	.47	.57	.51	.47	.56	.50	.47	.45
9.0	.55	.48	.44	.55	.48	.43	.54	.48	.43	.53	.47	.43	.52	.47	.43	.41
10.0	.51	.45	.40	.51	.44	.40	.50	.44	.40	.49	.44	.40	.48	.43	.40	.38



C Range: 0 - 360DEG
 C Interval: 45.0DEG
 Test Speed: HIGH
 Temperature:25.3°C
 Operators:ZHANGYI
 Test Date:2023-08-18

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000H_V1 SYSTEM V2.00.456
 Humidity:65.0%
 Test Distance:9.750m [K=1.0000]
 Remarks:

WEC AND CCEC

Test:U:240.25V I:0.1175A P:27.599W PF:0.9784 Freq:49.99Hz		
UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:3137.12x1 lm		
NAME: LT28W-120/30	TYPE: 28W	WEIGHT:
SPEC.: 4000K	DIM.:	SERIAL No.: 1
MFR.:	SUR.: 1.192*0.292	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	.208	.118	.037	.201	.115	.036	.189	.108	.035	.177	.102	.033	.166	.096	.031	
2.0	.204	.112	.034	.198	.109	.034	.187	.104	.032	.177	.099	.031	.168	.095	.030	
3.0	.196	.105	.031	.191	.103	.031	.182	.099	.030	.173	.095	.029	.165	.091	.028	
4.0	.188	.098	.029	.183	.096	.028	.175	.093	.028	.167	.090	.027	.160	.087	.027	
5.0	.179	.091	.026	.175	.090	.026	.168	.087	.026	.161	.085	.025	.155	.083	.025	
6.0	.171	.085	.024	.167	.084	.024	.161	.082	.024	.155	.080	.024	.149	.078	.023	
7.0	.162	.080	.023	.159	.079	.023	.153	.078	.022	.148	.076	.022	.143	.074	.022	
8.0	.155	.076	.021	.152	.075	.021	.147	.073	.021	.142	.072	.021	.137	.070	.021	
9.0	.147	.071	.020	.145	.071	.020	.140	.069	.020	.136	.068	.019	.132	.067	.019	
10.0	.141	.067	.019	.138	.067	.019	.134	.066	.018	.130	.065	.018	.126	.063	.018	

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	.173	.157	.142	.148	.135	.123	.101	.093	.085	.058	.054	.049	.019	.017	.016	
2.0	.161	.132	.109	.137	.114	.094	.094	.079	.065	.054	.046	.038	.017	.015	.013	
3.0	.150	.114	.085	.129	.098	.073	.088	.068	.052	.051	.040	.030	.016	.013	.010	
4.0	.142	.100	.067	.122	.086	.059	.084	.060	.041	.048	.035	.024	.016	.011	.008	
5.0	.134	.089	.055	.115	.077	.048	.079	.054	.034	.046	.031	.020	.015	.010	.007	
6.0	.128	.080	.045	.110	.069	.039	.076	.048	.028	.044	.028	.017	.014	.009	.005	
7.0	.122	.073	.038	.105	.063	.033	.072	.044	.024	.042	.026	.014	.014	.009	.005	
8.0	.116	.067	.033	.100	.058	.028	.069	.041	.020	.040	.024	.012	.013	.008	.004	
9.0	.111	.062	.028	.096	.054	.025	.066	.038	.018	.039	.022	.010	.013	.007	.003	
10.0	.106	.057	.025	.092	.050	.022	.064	.035	.015	.037	.021	.009	.012	.007	.003	

C Range: 0 - 360DEG
 C Interval: 45.0DEG
 Test Speed: HIGH
 Temperature:25.3℃
 Operators:ZHANGYI
 Test Date:2023-08-18

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000H_V1 SYSTEM V2.00.456
 Humidity:65.0%
 Test Distance:9.750m [K=1.0000]
 Remarks:

UGR(Unified Glare Rating) Table

Test:U:240.25V I:0.1175A P:27.599W PF:0.9784 Freq:49.99Hz UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:3137.12x1 lm		
NAME: LT28W-120/30	TYPE: 28W	WEIGHT:
SPEC.: 4000K	DIM.:	SERIAL No.: 1
MFR.:	SUR.: 1.192*0.292	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	14.8	16.0	15.1	16.2	16.4	11.5	12.7	11.7	12.9	13.0
3H	14.6	15.7	14.9	15.9	16.1	11.3	12.4	11.6	12.6	12.8
4H	14.5	15.5	14.8	15.8	16.0	11.2	12.2	11.5	12.5	12.7
6H	14.4	15.4	14.7	15.6	15.9	11.1	12.1	11.4	12.3	12.6
8H	14.4	15.3	14.7	15.6	15.8	11.1	12.0	11.4	12.2	12.5
12H	14.3	15.2	14.7	15.5	15.8	11.0	11.9	11.4	12.2	12.5
4H 2H	14.6	15.6	14.9	15.8	16.0	11.4	12.4	11.7	12.6	12.9
3H	14.4	15.2	14.7	15.5	15.8	11.2	12.1	11.5	12.3	12.6
4H	14.3	15.1	14.6	15.4	15.7	11.1	11.9	11.5	12.2	12.5
6H	14.2	14.9	14.6	15.2	15.6	11.0	11.7	11.4	12.0	12.4
8H	14.1	14.8	14.5	15.1	15.5	11.0	11.6	11.4	12.0	12.3
12H	14.1	14.7	14.5	15.0	15.4	10.9	11.5	11.3	11.9	12.3
8H 4H	14.1	14.8	14.5	15.1	15.5	11.0	11.6	11.4	12.0	12.3
6H	14.1	14.6	14.5	15.0	15.4	10.9	11.4	11.3	11.8	12.2
8H	14.0	14.5	14.5	14.9	15.3	10.8	11.3	11.3	11.7	12.1
12H	14.0	14.3	14.4	14.8	15.3	10.8	11.2	11.2	11.6	12.1
12H 4H	14.1	14.7	14.5	15.0	15.4	10.9	11.5	11.3	11.9	12.3
6H	14.0	14.5	14.5	14.9	15.3	10.8	11.3	11.3	11.7	12.1
8H	14.0	14.3	14.4	14.8	15.3	10.8	11.2	11.2	11.6	12.1

Variations with the observer position at spacings(CIE Pub.117):		
S = 1.0H	+ 1.7 / - 3.9	+ 2.6 / - 7.6
1.5H	+ 2.1 / - 3.9	+ 2.2 / - 4.4
2.0H	+ 5.0 / -13.9	+ 4.1 / - 9.1

CIE Pub.117, 3137 lm Total Lamp Luminous Flux Corrected (8log(F/F0) = 4.0)
 Area: 0.3481 m2

C Range: 0 - 360DEG	γ Range: 0 - 90DEG
C Interval: 45.0DEG	γ Interval: 1.0DEG
Test Speed: HIGH	Test System:EVERFINE GO-2000H_V1 SYSTEM V2.00.456
Temperature:25.3℃	Humidity:65.0%
Operators:ZHANGYI	Test Distance:9.750m [K=1.0000]
Test Date:2023-08-18	Remarks:

UTILIZATION FACTORS TABLE

Test:U:240.25V I:0.1175A P:27.599W PF:0.9784 Freq:49.99Hz UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:3137.12x1 lm		
NAME: LT28W-120/30	TYPE: 28W	WEIGHT:
SPEC.: 4000K	DIM.:	SERIAL No.: 1
MFR.:	SUR.: 1.192*0.292	Shielding Angle:

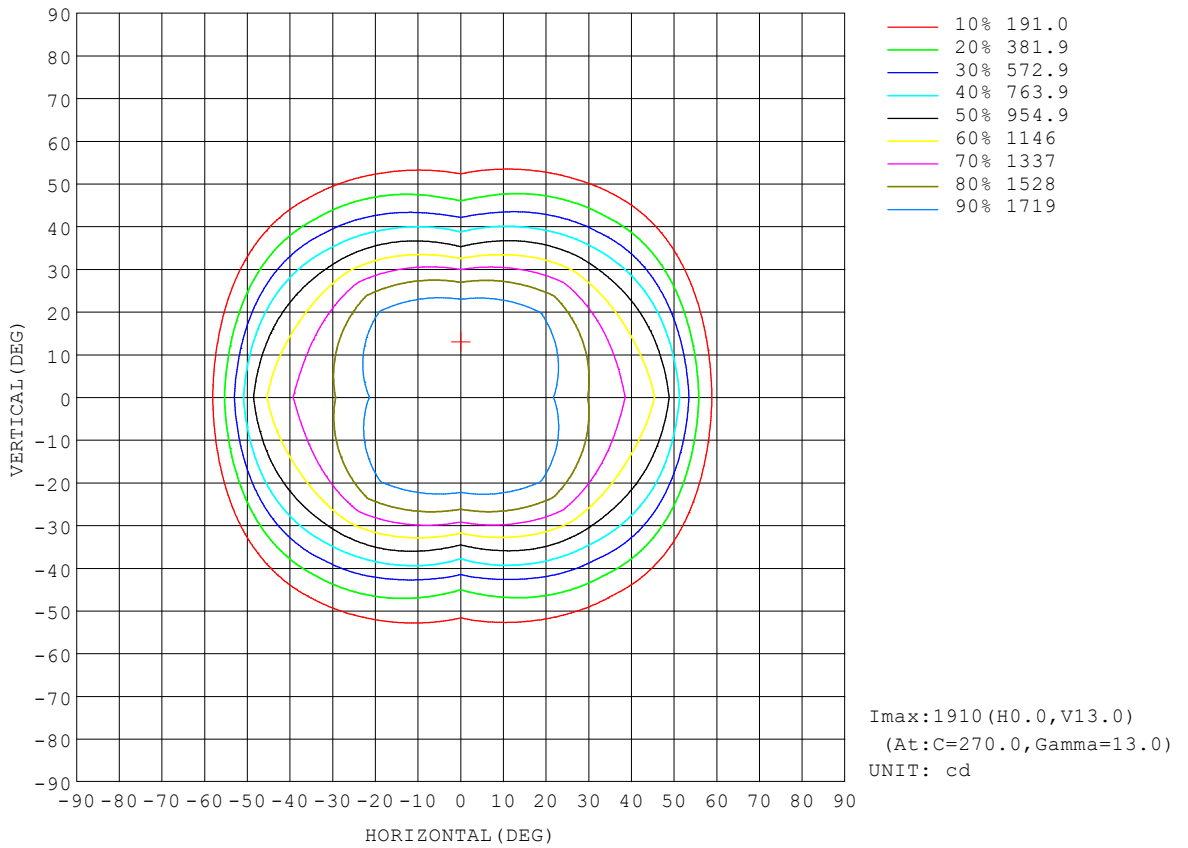
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS (PERCENT) $k(RI) \times RCR = 5$									
k = 0.60	74	65	60	73	65	60	72	64	59	55
0.80	83	75	70	83	75	70	81	74	69	64
1.00	91	83	78	90	83	78	88	83	77	72
1.25	97	90	85	95	89	85	93	88	84	79
1.50	100	94	90	99	93	89	97	92	88	83
2.00	105	99	95	103	98	95	100	96	93	87
2.50	107	102	98	105	101	97	102	98	96	89
3.00	109	105	101	107	103	100	104	101	98	91
4.00	112	108	105	109	106	104	106	103	101	93
5.00	113	110	107	111	108	106	107	104	103	94
ROOM INDEX	UF(total)									Direct
According to DIN EN 13032-2 2004			Suspended				SHRNOM = 1.25			

C Range: 0 - 360DEG
 C Interval: 45.0DEG
 Test Speed: HIGH
 Temperature:25.3°C
 Operators:ZHANGYI
 Test Date:2023-08-18

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000H_V1 SYSTEM V2.00.456
 Humidity:65.0%
 Test Distance:9.750m [K=1.0000]
 Remarks:

ISOCANDELA DIAGRAM

Test:U:240.25V I:0.1175A P:27.599W PF:0.9784 Freq:49.99Hz UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:3137.12x1 lm		
NAME: LT28W-120/30	TYPE: 28W	WEIGHT:
SPEC.: 4000K	DIM.:	SERIAL No.: 1
MFR.:	SUR.: 1.192*0.292	Shielding Angle:

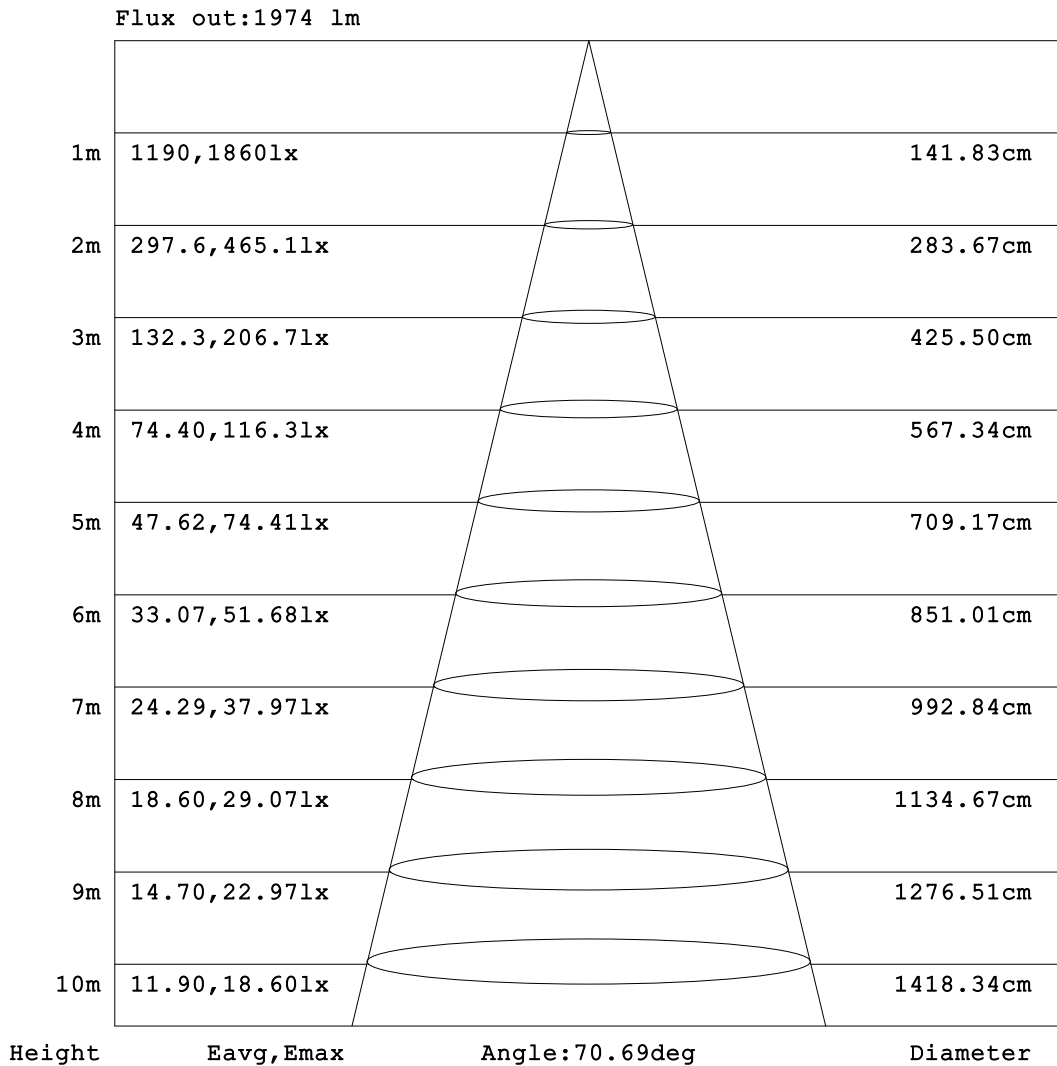


C Range: 0 - 360DEG
 C Interval: 45.0DEG
 Test Speed: HIGH
 Temperature:25.3℃
 Operators:ZHANGYI
 Test Date:2023-08-18

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000H_V1 SYSTEM V2.00.456
 Humidity:65.0%
 Test Distance:9.750m [K=1.0000]
 Remarks:

AAI Figure

Test:U:240.25V I:0.1175A P:27.599W PF:0.9784 Freq:49.99Hz		
UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:3137.12x1 lm		
NAME: LT28W-120/30	TYPE: 28W	WEIGHT:
SPEC.: 4000K	DIM.:	SERIAL No.: 1
MFR.:	SUR.: 1.192*0.292	Shielding Angle:



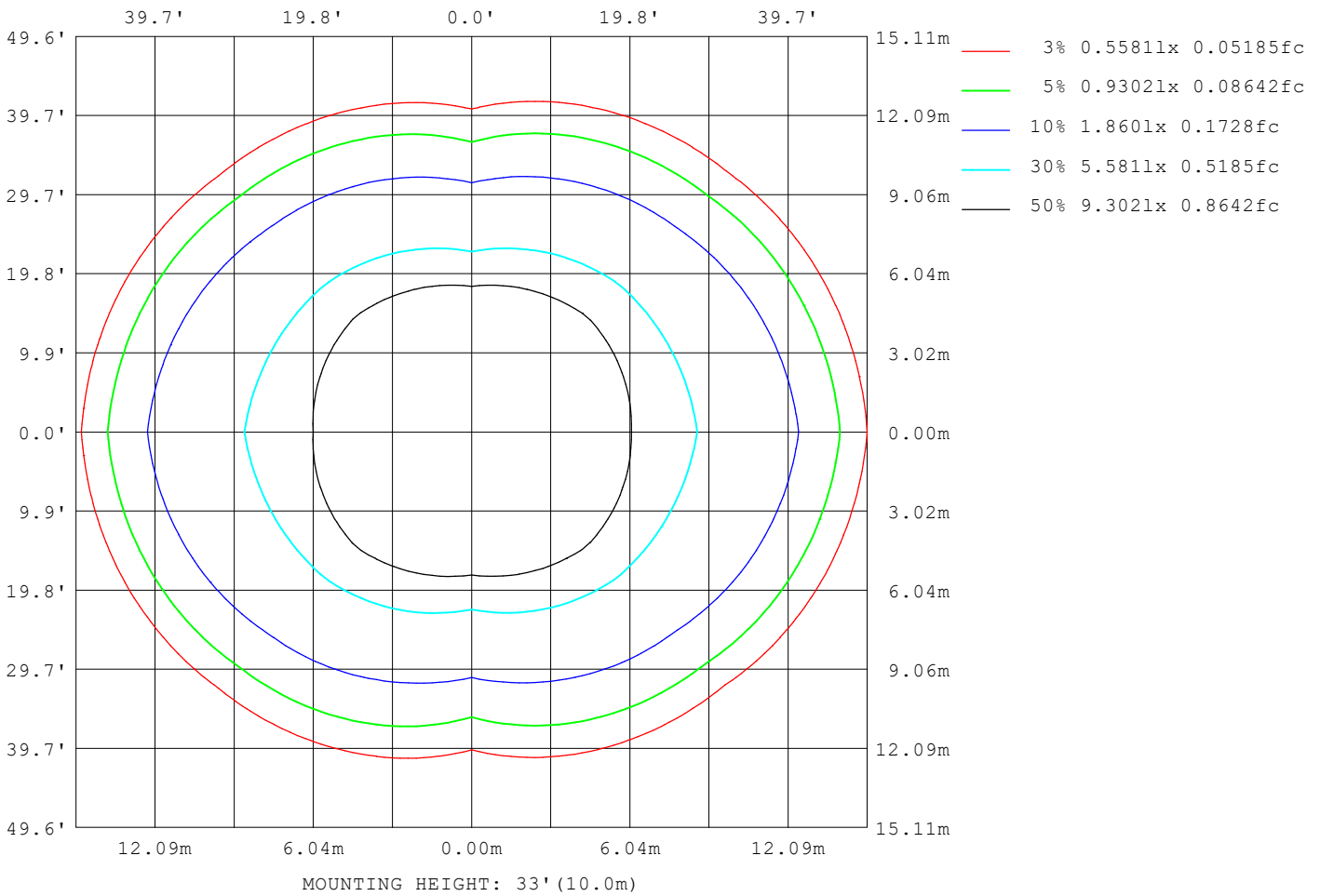
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
 C Interval: 45.0DEG
 Test Speed: HIGH
 Temperature:25.3°C
 Operators:ZHANGYI
 Test Date:2023-08-18

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000H_V1 SYSTEM V2.00.456
 Humidity:65.0%
 Test Distance:9.750m [K=1.0000]
 Remarks:

ISOLUX DIAGRAM

Test:U:240.25V I:0.1175A P:27.599W PF:0.9784 Freq:49.99Hz UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:3137.12x1 lm		
NAME: LT28W-120/30	TYPE: 28W	WEIGHT:
SPEC.: 4000K	DIM.:	SERIAL No.: 1
MFR.:	SUR.: 1.192*0.292	Shielding Angle:



C Range: 0 - 360DEG
 C Interval: 45.0DEG
 Test Speed: HIGH
 Temperature:25.3°C
 Operators:ZHANGYI
 Test Date:2023-08-18

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000H_V1 SYSTEM V2.00.456
 Humidity:65.0%
 Test Distance:9.750m [K=1.0000]
 Remarks:

LED Avg.L Report

Test:U:240.25V I:0.1175A P:27.599W PF:0.9784 Freq:49.99Hz UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:3137.12x1 lm		
NAME: LT28W-120/30	TYPE: 28W	WEIGHT:
SPEC.: 4000K	DIM.:	SERIAL No.: 1
MFR.:	SUR.: 1.192*0.292	Shielding Angle:

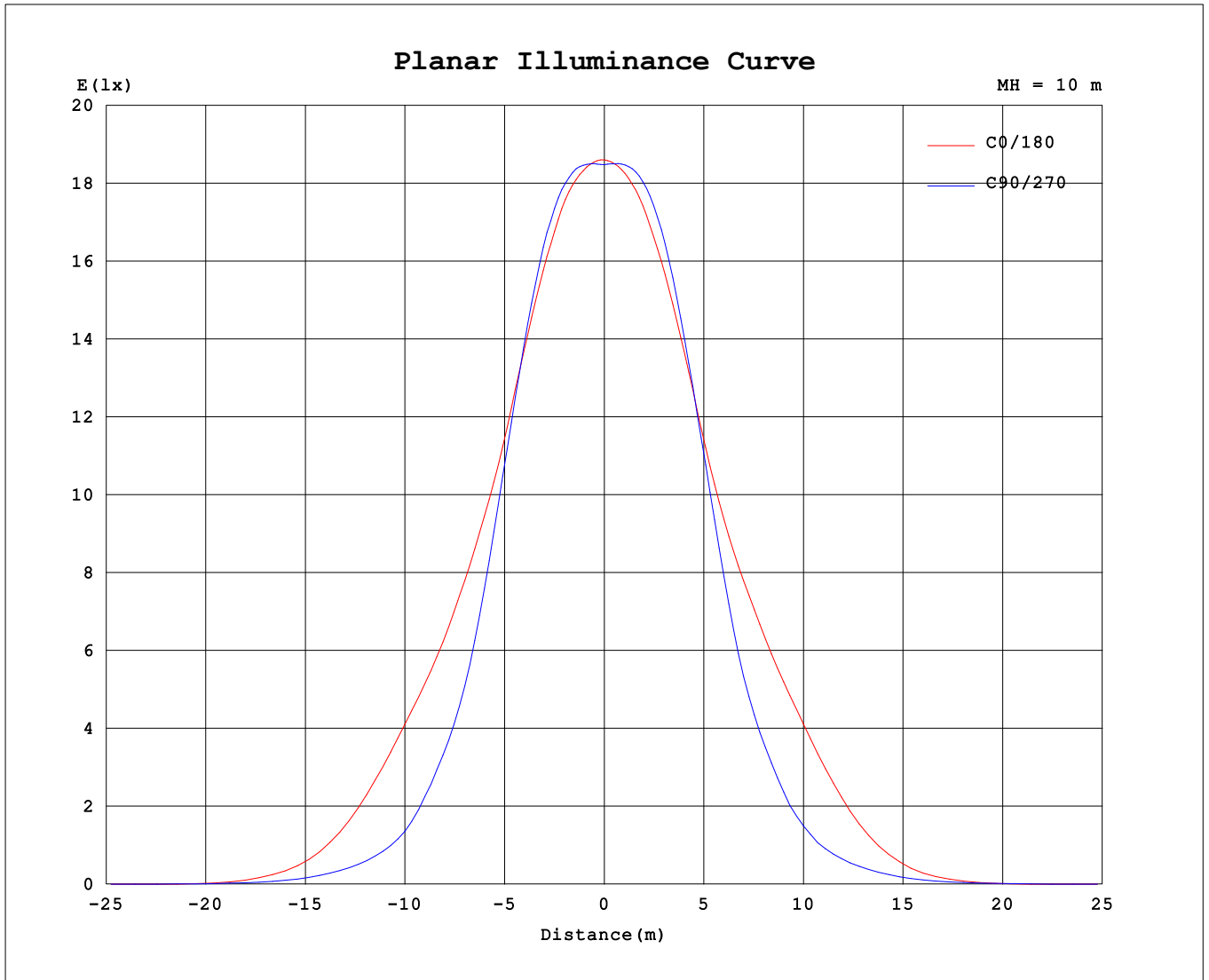
AvgL	cd/m2
L_0~180 (65) av	35
L_0~180 (75) av	11
L_0~180 (85) av	8
L_90~270 (65) av	75
L_90~270 (75) av	29
L_90~270 (85) av	14
L_45 (65) av	189
L_45 (75) av	19
L_45 (85) av	9

Standard: GB/T 29293-2012

C Range: 0 - 360DEG
 C Interval: 45.0DEG
 Test Speed: HIGH
 Temperature:25.3℃
 Operators:ZHANGYI
 Test Date:2023-08-18

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000H_V1 SYSTEM V2.00.456
 Humidity:65.0%
 Test Distance:9.750m [K=1.0000]
 Remarks:

Planar Illuminance Curve



C Range: 0 - 360DEG
 C Interval: 45.0DEG
 Test Speed: HIGH
 Temperature: 25.3 °C
 Operators: ZHANGYI
 Test Date: 2023-08-18

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System: EVERFINE GO-2000H_V1 SYSTEM V2.00.456
 Humidity: 65.0%
 Test Distance: 9.750m [K=1.0000]
 Remarks:

LUMINOUS DISTRIBUTION INTENSITY DATA

Test:U:240.25V I:0.1175A P:27.599W PF:0.9784 Freq:49.99Hz UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:3137.12x1 lm		
NAME: LT28W-120/30	TYPE: 28W	WEIGHT:
SPEC.: 4000K	DIM.:	SERIAL No.: 1
MFR.:	SUR.: 1.192*0.292	Shielding Angle:

Table--1

UNIT: cd

C (DEG) \ γ (DEG)	0	45	90	135	180	225	270	315											
0	1860	1854	1848	1847	1860	1854	1848	1847											
5	1863	1867	1870	1856	1856	1865	1870	1863											
10	1863	1891	1901	1877	1846	1884	1904	1886											
15	1826	1905	1892	1886	1810	1895	1901	1900											
20	1754	1874	1798	1860	1744	1871	1816	1868											
25	1644	1781	1593	1778	1638	1790	1626	1780											
30	1523	1602	1280	1612	1511	1622	1330	1609											
35	1420	1341	927	1356	1418	1367	971	1365											
40	1302	1037	656	1051	1317	1064	693	1079											
45	1164	734	386	748	1162	761	425	781											
50	870	460	230	471	841	478	248	497											
55	444	223	121	233	409	232	133	254											
60	138	86.7	46.1	87.8	107	88.4	51.1	101											
65	6.20	27.5	10.1	26.2	4.12	26.9	12.0	30.8											
70	1.52	4.86	5.00	4.59	1.43	4.77	5.12	5.70											
75	0.99	1.72	2.62	1.57	0.90	1.74	2.67	1.82											
80	0.67	0.80	1.35	0.72	0.56	0.85	1.35	0.91											
85	0.30	0.24	0.45	0.18	0.18	0.29	0.41	0.33											
90	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00											

C Range: 0 - 360DEG
 C Interval: 45.0DEG
 Test Speed: HIGH
 Temperature:25.3℃
 Operators:ZHANGYI
 Test Date:2023-08-18

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000H_V1 SYSTEM V2.00.456
 Humidity:65.0%
 Test Distance:9.750m [K=1.0000]
 Remarks: