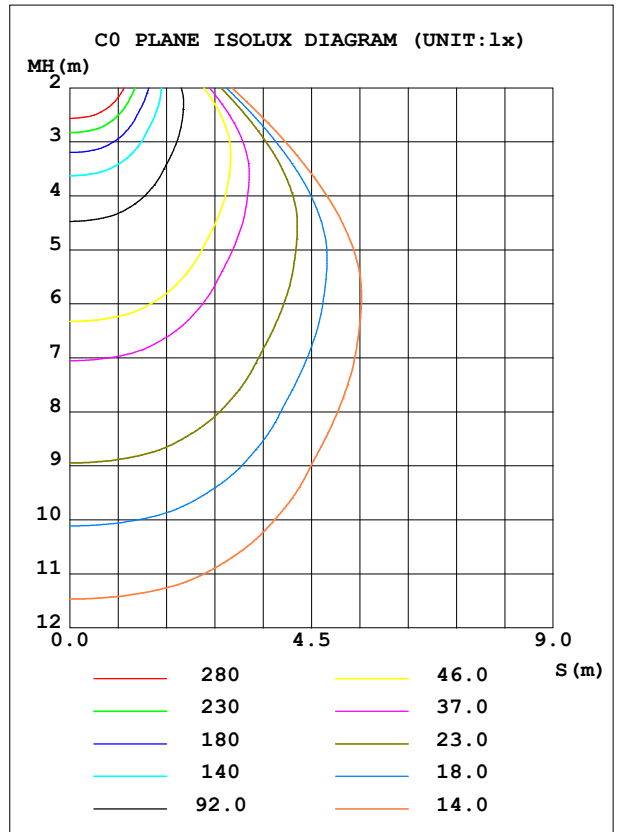
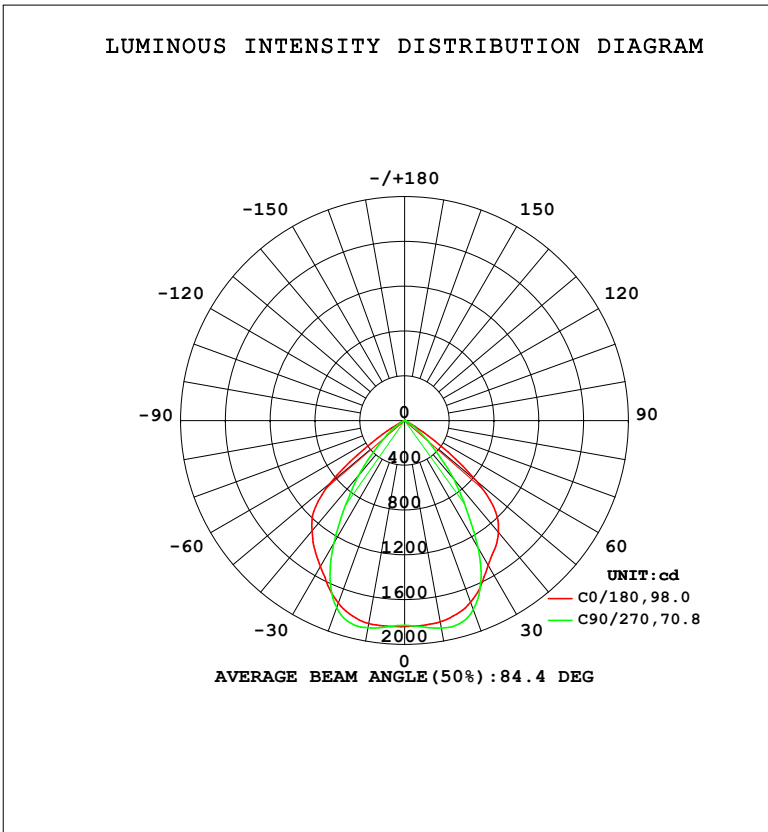


LUMINAIRE PHOTOMETRIC TEST REPORT

Test:U:240.01V I:0.1175A P:27.769W PF:0.9784 Freq:49.99Hz		
UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:3102.28x1 lm		
NAME: LT28W-120/30-AC	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-AC	Imax (cd)	1888	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)	3102.3	η UP, DN (C0-180)	0.0, 49.7
NOMINAL FLUX (lm)	3102.28	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	1842	1870	1880	1856	1826	1863	1883	1865	0- 10	176.5	176.5	5.69,5.69
20	1734	1853	1778	1839	1725	1851	1796	1847	10- 20	523.1	699.7	22.6,22.6
30	1506	1584	1266	1594	1494	1604	1315	1591	20- 30	769.4	1469	47.4,47.4
40	1287	1026	648.5	1039	1303	1052	685.8	1067	30- 40	782.7	2252	72.6,72.6
50	860.4	454.8	227.5	466.0	831.8	473.0	245.4	491.3	40- 50	583.9	2836	91.4,91.4
60	136.5	85.74	45.60	86.78	106.2	87.38	50.56	100.2	50- 60	237.0	3073	99,99
70	1.508	4.811	4.944	4.540	1.412	4.717	5.067	5.641	60- 70	27.20	3100	99.9,99.9
80	0.6600	0.7944	1.332	0.7087	0.5539	0.8416	1.338	0.8975	70- 80	2.014	3102	100,100
90	0	0	0	0	0	0	0	0	80- 90	0.3675	3102	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): 2579.6 lm

%lum = 83.2%

%lamp = 83.2%

Conical surface Flux(120deg): 3072.7 lm

%lum = 99.0%

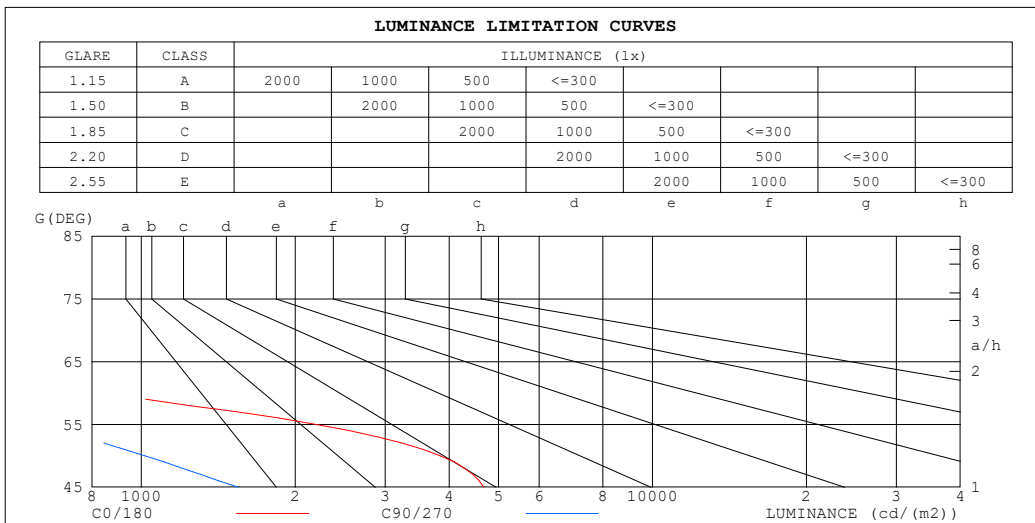
%lamp = 99.0%

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:240.01V I:0.1175A P:27.769W PF:0.9784 Freq:49.99Hz UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:3102.28x1 lm		
NAME: LT28W-120/30-AC	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	68
60	784	262
55	2200	600
50	3845	1017
45	4675	1550

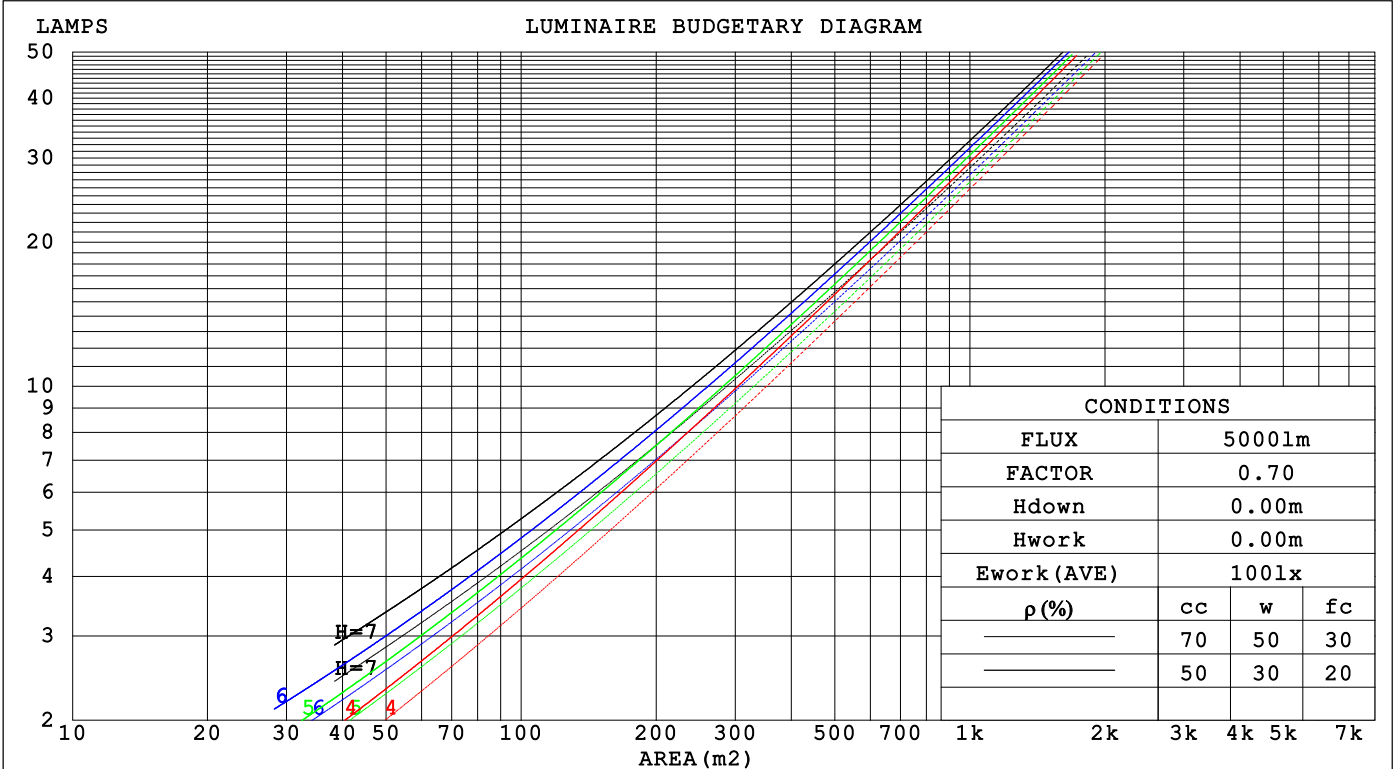
C Range: 0 - 360DEG
 C Interval: 45.0DEG
 Test Speed: HIGH
 Temperature:25.3 °C
 Operators:ZHANGYI
 Test Date:2023-08-18

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:240.01V I:0.1175A P:27.769W PF:0.9784 Freq:49.99Hz		
UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:3102.28x1 lm		
NAME: LT28W-120/30-AC	TYPE: 28W	WEIGHT:
SPEC.: 4000K	DIM.:	SERIAL No.: 1
MFR.:	SUR.: 1.192*0.292	Shielding Angle:

ρcc	80%			70%			50%			30%			10%			0
ρw	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
ρfc	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	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℃
 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:240.01V I:0.1175A P:27.769W PF:0.9784 Freq:49.99Hz		
UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:3102.28x1 lm		
NAME: LT28W-120/30-AC	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:240.01V I:0.1175A P:27.769W PF:0.9784 Freq:49.99Hz UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:3102.28x1 lm		
NAME: LT28W-120/30-AC	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	15.9	15.0	16.1	16.3	11.5	12.6	11.7	12.8	13.0
3H	14.6	15.7	14.9	15.9	16.1	11.3	12.3	11.5	12.6	12.8
4H	14.5	15.5	14.8	15.7	16.0	11.2	12.2	11.5	12.4	12.7
6H	14.4	15.3	14.7	15.6	15.8	11.1	12.0	11.4	12.3	12.5
8H	14.3	15.2	14.7	15.5	15.8	11.0	11.9	11.4	12.2	12.5
12H	14.3	15.2	14.6	15.4	15.7	11.0	11.9	11.3	12.1	12.4
4H 2H	14.5	15.5	14.8	15.8	16.0	11.3	12.4	11.6	12.6	12.8
3H	14.3	15.2	14.7	15.5	15.8	11.2	12.0	11.5	12.3	12.6
4H	14.2	15.0	14.6	15.3	15.6	11.1	11.8	11.4	12.2	12.5
6H	14.2	14.8	14.5	15.2	15.5	11.0	11.7	11.4	12.0	12.3
8H	14.1	14.7	14.5	15.1	15.5	10.9	11.6	11.3	11.9	12.3
12H	14.1	14.6	14.5	15.0	15.4	10.9	11.5	11.3	11.8	12.2
8H 4H	14.1	14.7	14.5	15.1	15.5	10.9	11.6	11.3	11.9	12.3
6H	14.0	14.5	14.4	14.9	15.3	10.8	11.3	11.3	11.7	12.2
8H	14.0	14.4	14.4	14.8	15.3	10.8	11.2	11.2	11.7	12.1
12H	13.9	14.3	14.4	14.7	15.2	10.7	11.1	11.2	11.6	12.0
12H 4H	14.1	14.6	14.5	15.0	15.4	10.9	11.5	11.3	11.8	12.2
6H	14.0	14.4	14.4	14.8	15.3	10.8	11.2	11.2	11.7	12.1
8H	13.9	14.3	14.4	14.7	15.2	10.7	11.1	11.2	11.6	12.0

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, 3102 lm Total Lamp Luminous Flux Corrected (8log(F/F0) = 3.9)
 Area: 0.3481 m2

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:

UTILIZATION FACTORS TABLE

Test:U:240.01V I:0.1175A P:27.769W PF:0.9784 Freq:49.99Hz UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:3102.28x1 lm		
NAME: LT28W-120/30-AC	TYPE: 28W	WEIGHT:
SPEC.: 4000K	DIM.:	SERIAL No.: 1
MFR.:	SUR.: 1.192*0.292	Shielding Angle:

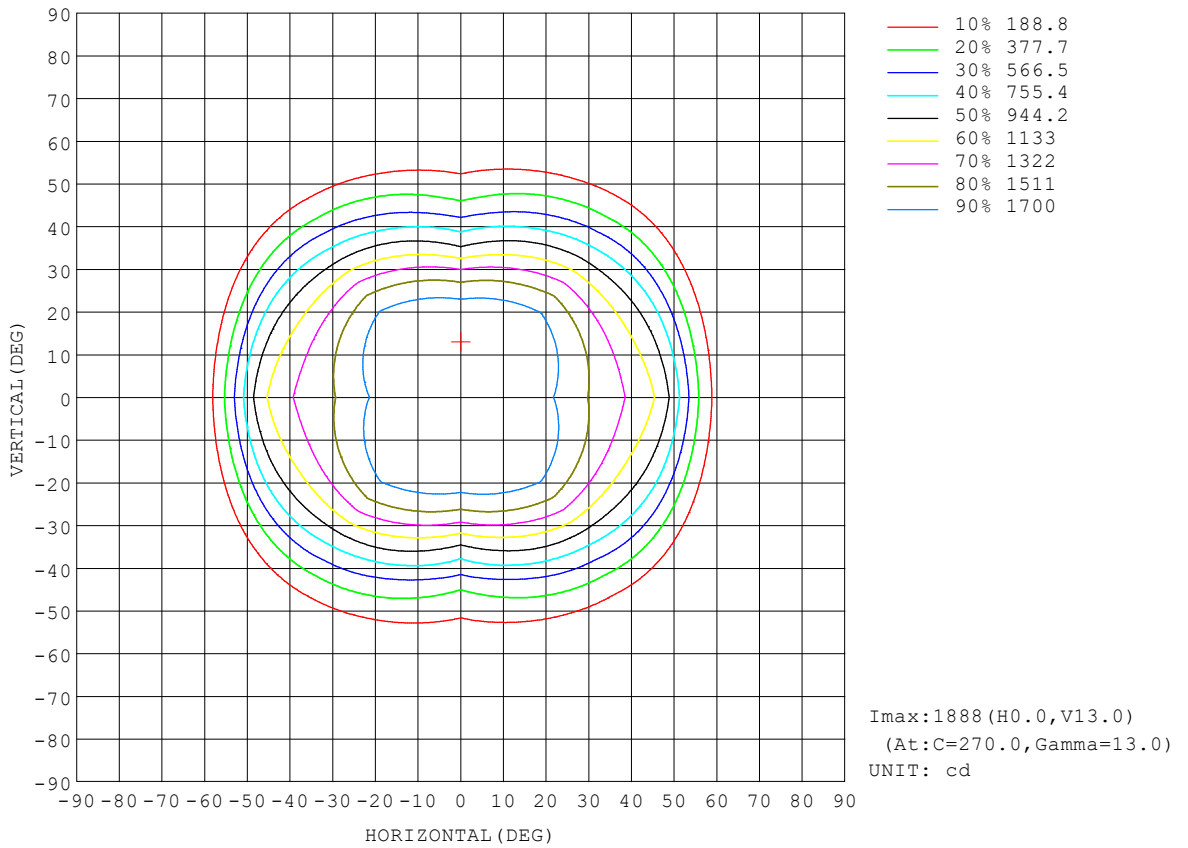
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS (PERCENT) $k(RI) \times RCR = 5$									
k = 0.60	74	65	60	73	65	60	72	64	59	55
0.80	83	75	70	83	75	70	81	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:240.01V I:0.1175A P:27.769W PF:0.9784 Freq:49.99Hz UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:3102.28x1 lm		
NAME: LT28W-120/30-AC	TYPE: 28W	WEIGHT:
SPEC.: 4000K	DIM.:	SERIAL No.: 1
MFR.:	SUR.: 1.192*0.292	Shielding Angle:

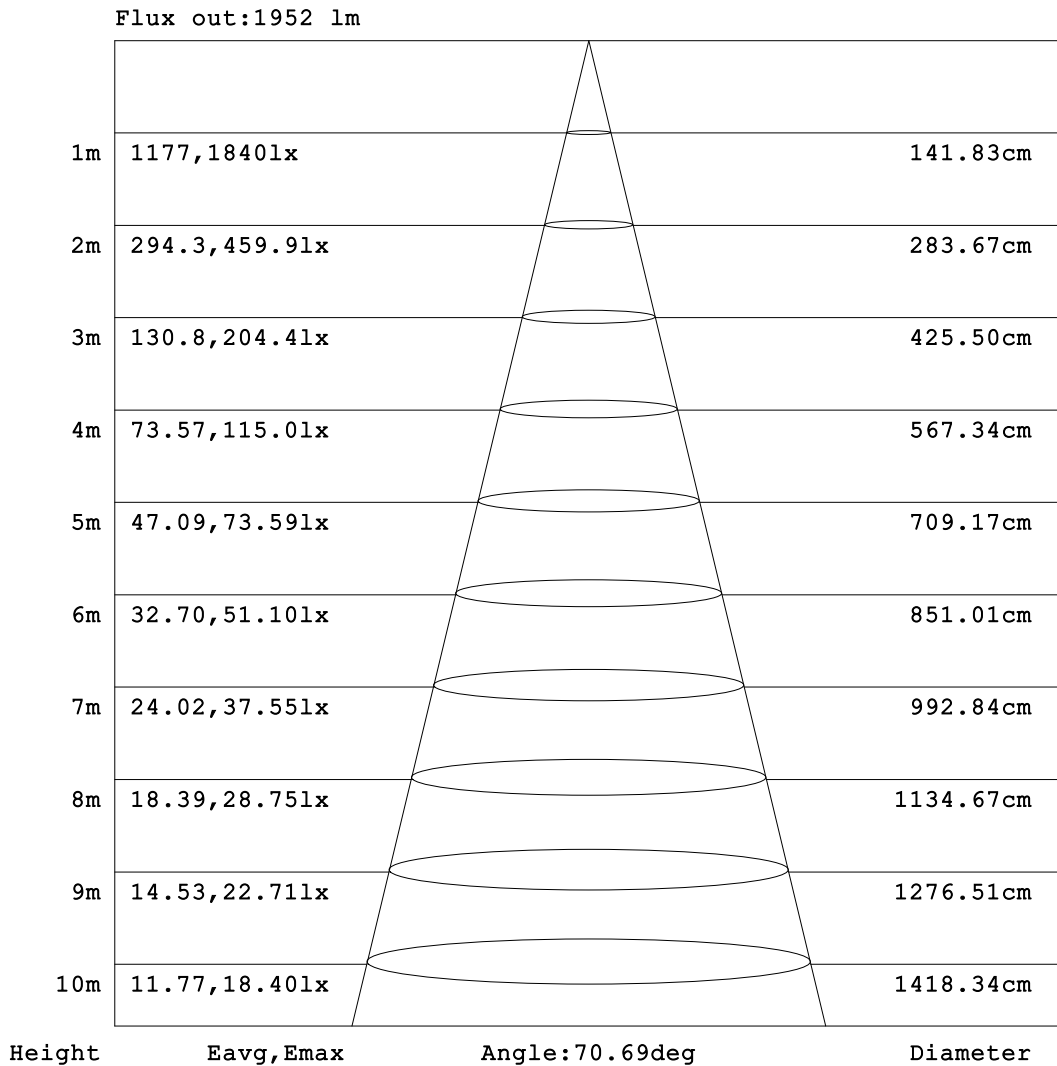


C Range: 0 - 360DEG
 C Interval: 45.0DEG
 Test Speed: HIGH
 Temperature:25.3℃
 Operators:ZHANGYI
 Test Date:2023-08-18

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:240.01V I:0.1175A P:27.769W PF:0.9784 Freq:49.99Hz		
UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:3102.28x1 lm		
NAME: LT28W-120/30-AC	TYPE: 28W	WEIGHT:
SPEC.: 4000K	DIM.:	SERIAL No.: 1
MFR.:	SUR.: 1.192*0.292	Shielding Angle:



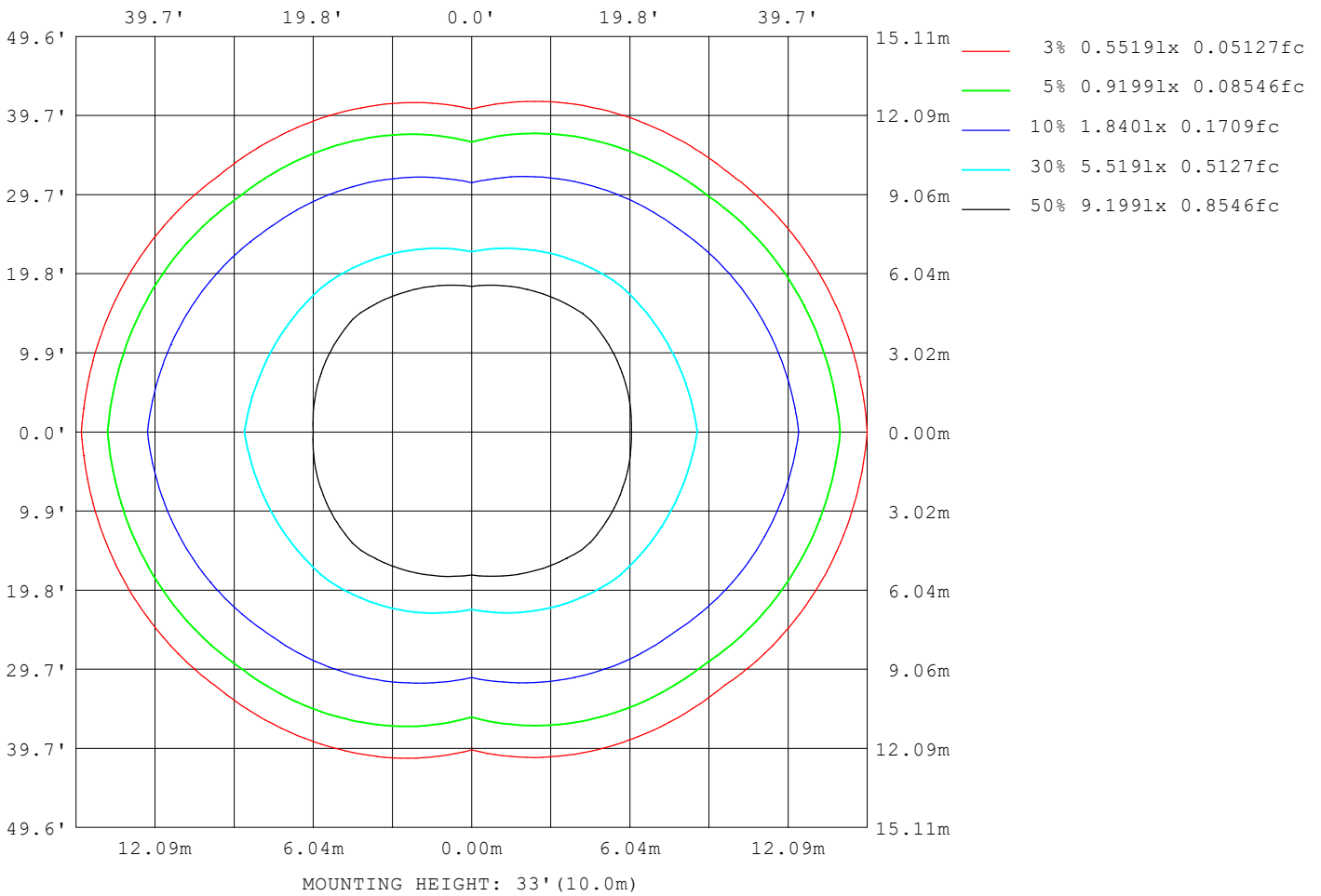
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

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:240.01V I:0.1175A P:27.769W PF:0.9784 Freq:49.99Hz UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:3102.28x1 lm		
NAME: LT28W-120/30-AC	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:240.01V I:0.1175A P:27.769W PF:0.9784 Freq:49.99Hz UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:3102.28x1 lm		
NAME: LT28W-120/30-AC	TYPE: 28W	WEIGHT:
SPEC.: 4000K	DIM.:	SERIAL No.: 1
MFR.:	SUR.: 1.192*0.292	Shielding Angle:

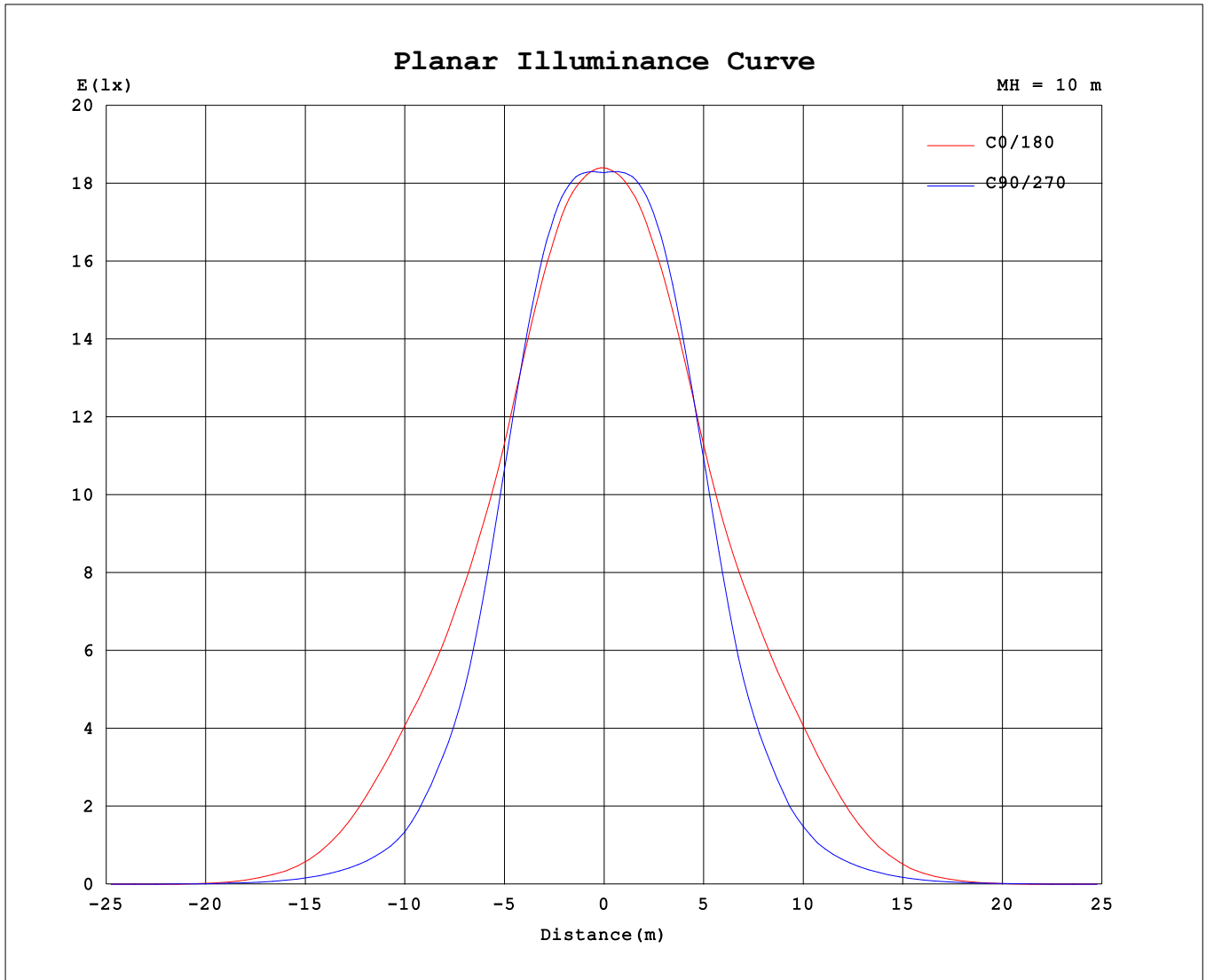
AvgL	cd/m2
L_0~180 (65) av	35
L_0~180 (75) av	10
L_0~180 (85) av	8
L_90~270 (65) av	74
L_90~270 (75) av	29
L_90~270 (85) av	14
L_45 (65) av	187
L_45 (75) av	19
L_45 (85) av	8

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:240.01V I:0.1175A P:27.769W PF:0.9784 Freq:49.99Hz UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:3102.28x1 lm		
NAME: LT28W-120/30-AC	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	1840	1833	1828	1826	1840	1833	1828	1826											
5	1843	1846	1849	1835	1836	1844	1850	1842											
10	1842	1870	1880	1856	1826	1863	1883	1865											
15	1805	1884	1871	1865	1790	1874	1879	1879											
20	1734	1853	1778	1839	1725	1851	1796	1847											
25	1626	1761	1575	1758	1619	1771	1608	1760											
30	1506	1584	1266	1594	1494	1604	1315	1591											
35	1404	1326	917	1341	1402	1352	960	1350											
40	1287	1026	648	1039	1303	1052	686	1067											
45	1151	726	381	740	1150	753	420	772											
50	860	455	227	466	832	473	245	491											
55	439	221	120	230	404	230	131	252											
60	137	85.7	45.6	86.8	106	87.4	50.6	100											
65	6.13	27.2	9.99	25.9	4.07	26.6	11.9	30.4											
70	1.51	4.81	4.94	4.54	1.41	4.72	5.07	5.64											
75	0.98	1.70	2.59	1.55	0.89	1.72	2.64	1.80											
80	0.66	0.79	1.33	0.71	0.55	0.84	1.34	0.90											
85	0.30	0.24	0.45	0.17	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: