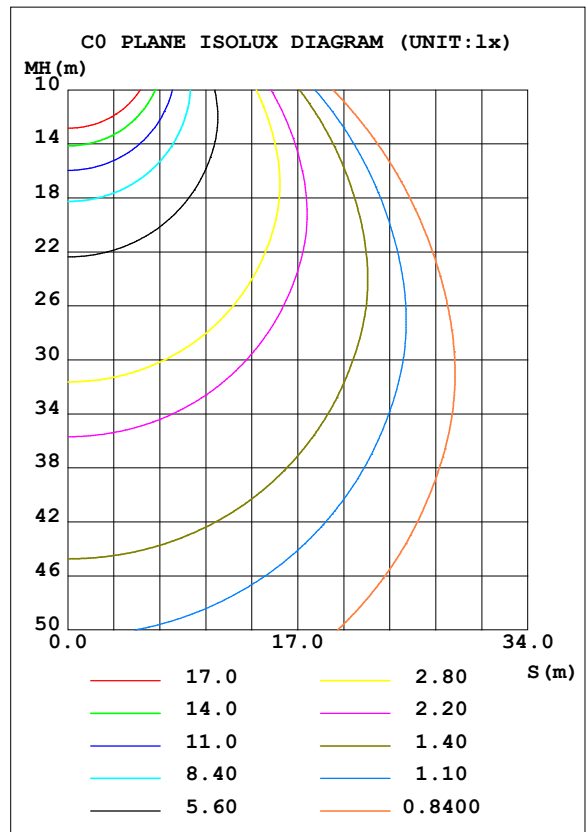
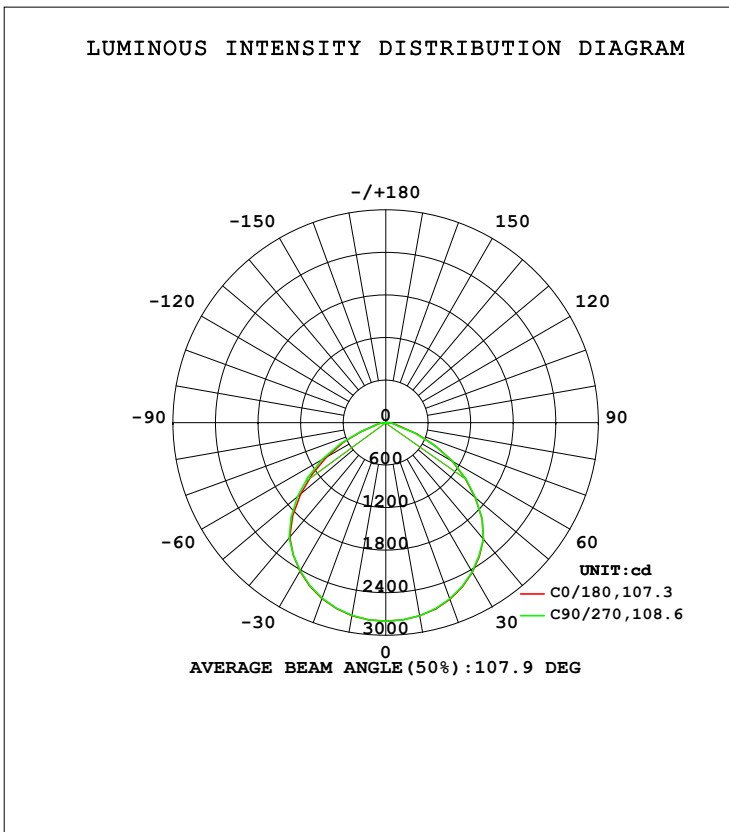


LUMINAIRE PHOTOMETRIC TEST REPORT

Test:U:220.19V I:0.3277A P:71.221W PF:0.9871 Freq:49.99Hz Lamp Flux:7330.41x1 lm		
NAME: PALERMO-162101	TYPE:LED	WEIGHT:
SPEC.:4000K	DIM.:	SERIAL No.:01
MANUFACTURE:BBT LIGHTING	SUR.:	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 102.92 lm/W			
MODEL	PL6060-GL-72W	I <sub>max</sub> (cd)	2801	S/MH (C0/180)	1.28
NOMINAL POWER (W)	72	LOR (%)	100.0	S/MH (C90/270)	1.28
RATED VOLTAGE (V)	220.0	TOTAL FLUX (lm)	7330.4	η UP, DN (C0-180)	0.1, 50.7
NOMINAL FLUX (lm)	7330.41	CIE CLASS	DIRECT	η UP, DN (C180-360)	0.1, 49.0
LAMPS INSIDE	1	η up (%)	0.2	CIBSE SHR NOM	1.25
TEST VOLTAGE (V)	220.0	η down (%)	99.8	CIBSE SHR MAX	1.35



C Range: 0 - 360DEG  
 C Interval: 90.0DEG  
 Test Speed: HIGH  
 Temperature: 25.3DEG  
 Operators: King  
 Test Date: 2023-06-08

γ Range: 0 - 120DEG  
 γ Interval: 5.0DEG  
 Test System: EVERFINE GO-2000B\_V1 SYSTEM V2.0.404.6  
 Humidity: 65.0%  
 Test Distance: 9.950m [K=1.0251]  
 Remarks:

## ZONAL FLUX DIAGRAM

## ZONAL FLUX DIAGRAM:

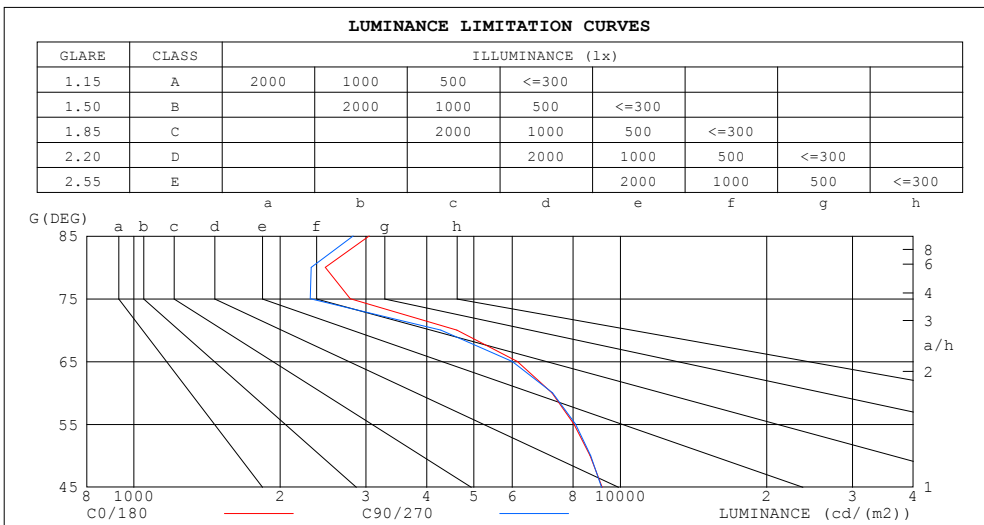
$\gamma$	C0	C90	C180	C270				$\gamma$	$\Phi$ zone	$\Phi$ total	%lum, lamp
10	2767	2765	2762	2758				0- 10	265.6	265.6	3.62,3.62
20	2650	2643	2639	2632				10- 20	766.1	1032	14.1,14.1
30	2440	2433	2420	2416				20- 30	1173	2205	30.1,30.1
40	2145	2141	2112	2120				30- 40	1431	3636	49.6,49.6
50	1653	1659	1568	1626				40- 50	1458	5095	69.5,69.5
60	1074	1078	966.7	1034				50- 60	1195	6290	85.8,85.8
70	468.4	434.8	369.7	388.5				60- 70	716.8	7006	95.6,95.6
80	127.6	119.4	110.2	114.0				70- 80	235.1	7241	98.8,98.8
90	12.81	7.403	2.026	2.494				80- 90	71.92	7313	99.8,99.8
100	2.753	2.909	3.847	3.837				90-100	3.915	7317	99.8,99.8
110	4.886	5.153	6.250	6.314				100-110	4.746	7322	99.9,99.9
120	6.896	7.205	8.337	8.430				110-120	6.619	7329	100,100
130	0	0	0	0				120-130	1.784	7330	100,100
140	0	0	0	0				130-140	0	7330	100,100
150	0	0	0	0				140-150	0	7330	100,100
160	0	0	0	0				150-160	0	7330	100,100
170	0	0	0	0				160-170	0	7330	100,100
180	0	0	0	0				170-180	0	7330	100,100
DEG	LUMINOUS INTENSITY:cd								UNIT:lm		

C Range: 0 - 360DEG  
 C Interval: 90.0DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:King  
 Test Date:2023-06-08

$\gamma$  Range: 0 - 120DEG  
 $\gamma$  Interval: 5.0DEG  
 $\gamma$  Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.0.404.6  
 Humidity:65.0%  
 Test Distance:9.950m [K=1.0251]  
 Remarks:

LUMINANCE LIMITATION CURVES

Test:U:220.19V I:0.3277A P:71.221W PF:0.9871 Freq:49.99Hz Lamp Flux:7330.41x1 lm		
NAME: PALERMO-162101	TYPE:LED	WEIGHT:
SPEC.:4000K	DIM.:	SERIAL No.:01
MANUFACTURE:BBT LIGHTING	SUR.:	Shielding Angle:



LUMINANCE cd/(m2)		
G (DEG)	C0/180	C90/270
85	3047	2825
80	2474	2315
75	2787	2305
70	4612	4279
65	6142	5995
60	7231	7261
55	8037	8091
50	8663	8687
45	9173	9155

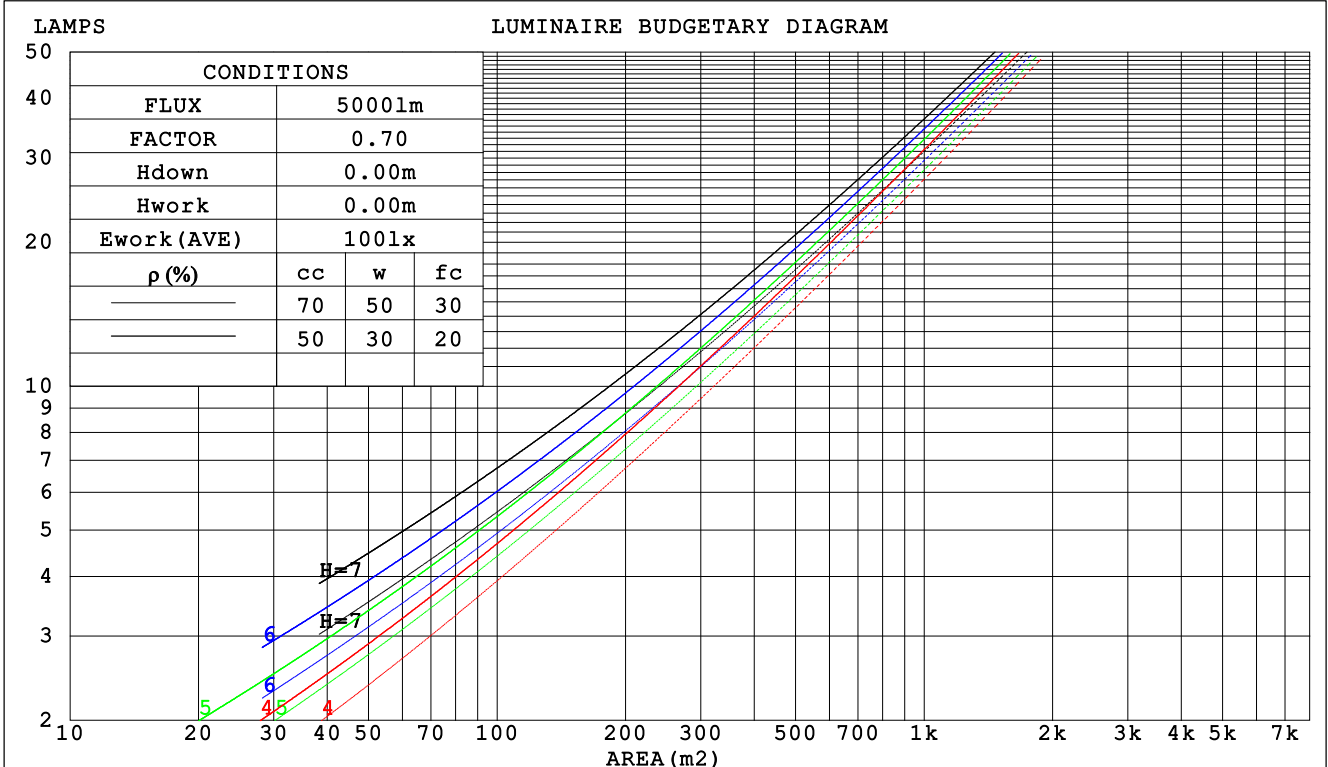
C Range: 0 - 360DEG  
 C Interval: 90.0DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:King  
 Test Date:2023-06-08

γ Range: 0 - 120DEG  
 γ Interval: 5.0DEG  
 Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.0.404.6  
 Humidity:65.0%  
 Test Distance:9.950m [K=1.0251]  
 Remarks:

**CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM**

Test:U:220.19V I:0.3277A P:71.221W PF:0.9871 Freq:49.99Hz Lamp Flux:7330.41x1 lm		
NAME: PALERMO-162101	TYPE:LED	WEIGHT:
SPEC.:4000K	DIM.:	SERIAL No.:01
MANUFACTURE:BBT LIGHTING	SUR.:	Shielding Angle:

$\rho_{cc}$	80%			70%			50%			30%			10%			0
$\rho_w$	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
$\rho_{fc}$	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	1.06	1.02	.98	1.03	.00	.97	.99	.96	.94	.95	.93	.91	.92	.90	.88	.86
2.0	.93	.87	.82	.91	.86	.81	.88	.83	.79	.85	.81	.77	.82	.78	.75	.73
3.0	.82	.75	.69	.81	.74	.68	.78	.72	.67	.75	.70	.66	.73	.68	.65	.63
4.0	.73	.65	.59	.72	.64	.58	.70	.63	.58	.67	.62	.57	.65	.60	.56	.54
5.0	.66	.57	.51	.65	.57	.51	.63	.56	.50	.61	.54	.50	.59	.53	.49	.47
6.0	.59	.51	.45	.58	.50	.44	.57	.49	.44	.55	.49	.44	.53	.48	.43	.41
7.0	.54	.45	.39	.53	.45	.39	.52	.44	.39	.50	.44	.39	.49	.43	.38	.37
8.0	.49	.41	.35	.49	.41	.35	.47	.40	.35	.46	.39	.35	.45	.39	.34	.33
9.0	.45	.37	.32	.45	.37	.32	.43	.36	.31	.42	.36	.31	.41	.35	.31	.29
10.0	.42	.34	.29	.41	.34	.29	.40	.33	.29	.39	.33	.28	.38	.32	.28	.27



C Range: 0 - 360DEG  
 C Interval: 90.0DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:King  
 Test Date:2023-06-08

$\gamma$  Range: 0 - 120DEG  
 $\gamma$  Interval: 5.0DEG  
 Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.0.404.6  
 Humidity:65.0%  
 Test Distance:9.950m [K=1.0251]  
 Remarks:

WEC AND CCEC

Test:U:220.19V I:0.3277A P:71.221W PF:0.9871 Freq:49.99Hz Lamp Flux:7330.41x1 lm		
NAME: PALERMO-162101	TYPE:LED	WEIGHT:
SPEC.:4000K	DIM.:	SERIAL No.:01
MANUFACTURE:BBT LIGHTING	SUR.:	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						Wall Exitance Coefficients (WEC)									
0.0																
1.0	.275	.156	.049	.268	.153	.049	.254	.146	.047	.242	.140	.045	.231	.134	.043	
2.0	.265	.145	.045	.259	.142	.044	.247	.137	.043	.236	.133	.042	.226	.128	.040	
3.0	.250	.133	.040	.244	.131	.039	.234	.127	.039	.224	.123	.038	.216	.119	.037	
4.0	.234	.121	.036	.229	.120	.035	.220	.117	.035	.211	.113	.034	.203	.111	.034	
5.0	.218	.111	.032	.214	.110	.032	.206	.107	.032	.198	.105	.031	.191	.102	.031	
6.0	.204	.102	.029	.200	.101	.029	.193	.099	.029	.186	.097	.028	.180	.095	.028	
7.0	.191	.095	.027	.188	.094	.027	.181	.092	.026	.175	.090	.026	.170	.088	.026	
8.0	.179	.088	.025	.176	.087	.025	.171	.085	.024	.165	.084	.024	.160	.082	.024	
9.0	.169	.082	.023	.166	.081	.023	.161	.080	.023	.156	.078	.022	.152	.077	.022	
10.0	.159	.076	.021	.157	.076	.021	.152	.075	.021	.148	.073	.021	.144	.072	.021	

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						Ceiling Cavity Exitance Coefficients (CCEC)									
0.0	.192	.192	.192	.164	.164	.164	.112	.112	.112	.064	.064	.064	.021	.021	.021	
1.0	.180	.158	.139	.154	.136	.120	.105	.093	.083	.061	.054	.048	.019	.017	.016	
2.0	.170	.134	.103	.146	.115	.089	.100	.080	.062	.058	.046	.036	.019	.015	.012	
3.0	.162	.116	.079	.139	.100	.068	.096	.070	.048	.055	.041	.028	.018	.013	.009	
4.0	.155	.102	.062	.133	.089	.054	.091	.062	.038	.053	.036	.023	.017	.012	.007	
5.0	.148	.092	.051	.127	.080	.044	.087	.056	.031	.051	.033	.019	.016	.011	.006	
6.0	.141	.083	.042	.121	.072	.037	.084	.051	.026	.048	.030	.016	.016	.010	.005	
7.0	.134	.077	.036	.116	.066	.031	.080	.047	.022	.046	.027	.013	.015	.009	.004	
8.0	.128	.071	.031	.110	.061	.027	.076	.043	.019	.044	.025	.012	.014	.008	.004	
9.0	.122	.066	.028	.105	.057	.024	.073	.040	.017	.043	.024	.010	.014	.008	.003	
10.0	.117	.062	.025	.101	.053	.022	.070	.038	.015	.041	.022	.009	.013	.007	.003	

C Range: 0 - 360DEG  
 C Interval: 90.0DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:King  
 Test Date:2023-06-08

γ Range: 0 - 120DEG  
 γ Interval: 5.0DEG  
 Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.0.404.6  
 Humidity:65.0%  
 Test Distance:9.950m [K=1.0251]  
 Remarks:

## UGR(Unified Glare Rating) Table

Test:U:220.19V I:0.3277A P:71.221W PF:0.9871 Freq:49.99Hz Lamp Flux:7330.41x1 lm										
NAME: PALERMO-162101					TYPE:LED			WEIGHT:		
SPEC.:4000K					DIM.:			SERIAL No.:01		
MANUFACTURE:BBT LIGHTING					SUR.:			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	20.1	21.6	20.4	21.8	22.0	20.1	21.6	20.4	21.8	22.0
3H	20.8	22.1	21.1	22.4	22.6	20.7	22.0	21.0	22.3	22.5
4H	20.9	22.1	21.2	22.4	22.6	20.7	22.0	21.1	22.2	22.5
6H	20.9	22.1	21.2	22.3	22.6	20.8	21.9	21.1	22.2	22.5
8H	20.9	22.1	21.3	22.3	22.6	20.8	21.9	21.1	22.2	22.5
12H	20.9	22.0	21.3	22.3	22.6	20.8	21.9	21.2	22.2	22.5
4H 2H	20.5	21.8	20.8	22.0	22.3	20.5	21.8	20.8	22.0	22.3
3H	21.2	22.3	21.6	22.6	22.9	21.2	22.2	21.5	22.5	22.8
4H	21.3	22.3	21.7	22.6	23.0	21.2	22.2	21.6	22.5	22.9
6H	21.4	22.3	21.8	22.7	23.0	21.3	22.2	21.7	22.5	22.9
8H	21.5	22.3	21.9	22.7	23.1	21.4	22.2	21.8	22.6	22.9
12H	21.6	22.3	22.0	22.7	23.1	21.4	22.2	21.9	22.6	23.0
8H 4H	21.3	22.1	21.7	22.5	22.9	21.2	22.0	21.6	22.4	22.8
6H	21.5	22.2	21.9	22.6	23.0	21.4	22.1	21.8	22.5	22.9
8H	21.6	22.2	22.1	22.7	23.1	21.5	22.1	22.0	22.5	23.0
12H	21.8	22.3	22.2	22.7	23.2	21.6	22.1	22.1	22.6	23.1
12H 4H	21.3	22.0	21.7	22.4	22.8	21.2	21.9	21.6	22.3	22.7
6H	21.5	22.1	22.0	22.5	23.0	21.4	22.0	21.9	22.4	22.9
8H	21.7	22.2	22.2	22.6	23.1	21.6	22.1	22.0	22.5	23.0
Variations with the observer position at spacings:										
S = 1.0H	+ 0.3 / - 0.2					+ 0.3 / - 0.2				
1.5H	+ 0.3 / - 0.4					+ 0.3 / - 0.4				
2.0H	+ 0.6 / - 0.7					+ 0.6 / - 0.8				

CIE Pub.117, 7330 lm Total Lamp Luminous Flux Corrected ( $8\log(F/F_0) = 6.9$ )

C Range: 0 - 360DEG  
C Interval: 90.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:King  
Test Date:2023-06-08

$\gamma$  Range: 0 - 120DEG  
 $\gamma$  Interval: 5.0DEG  
Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.0.404.6  
Humidity:65.0%  
Test Distance:9.950m [K=1.0251]  
Remarks:

## UTILIZATION FACTORS TABLE

Test:U:220.19V I:0.3277A P:71.221W PF:0.9871 Freq:49.99Hz Lamp Flux:7330.41x1 lm		
NAME:PALERMO-162101	TYPE:LED	WEIGHT:
SPEC.:4000K	DIM.:	SERIAL No.:01
MANUFACTURE:BBT LIGHTING	SUR.:	Shielding Angle:

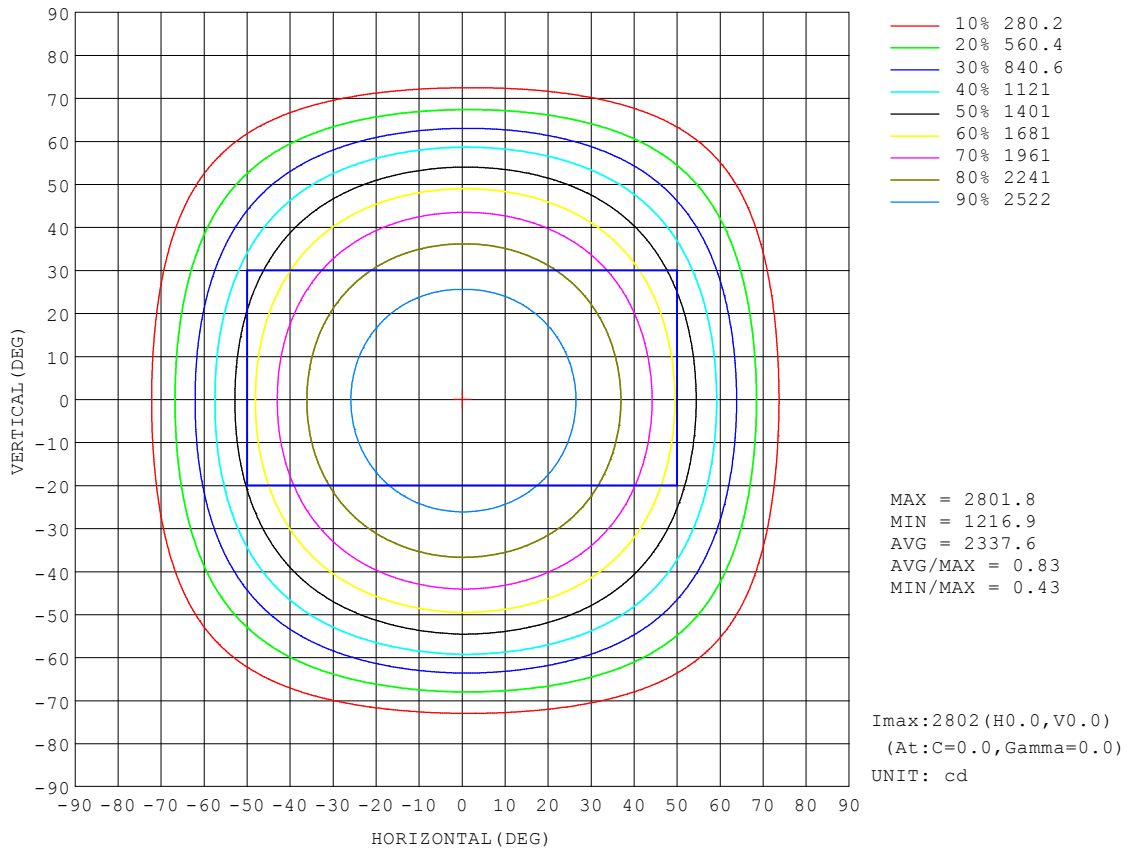
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS (PERCENT) $k(RI) \times RCR = 5$									
k = 0.60	60	49	42	59	48	42	58	48	42	35
0.80	70	59	52	69	59	52	68	58	52	45
1.00	79	69	62	78	68	62	76	69	61	54
1.25	86	77	70	85	76	70	82	74	69	62
1.50	91	82	76	89	81	75	87	79	74	67
2.00	98	90	84	96	89	83	92	87	82	74
2.50	101	94	89	99	93	88	95	90	86	78
3.00	104	98	93	102	97	92	98	94	90	82
4.00	108	103	99	105	101	97	101	98	94	86
5.00	110	106	102	107	104	100	103	100	97	88
ROOM INDEX	UF(total)									Direct
According to DIN EN 13032-2 2004			Suspended				SHRNOM = 1.25			

C Range: 0 - 360DEG  
C Interval: 90.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:King  
Test Date:2023-06-08

$\gamma$  Range: 0 - 120DEG  
 $\gamma$  Interval: 5.0DEG  
Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.0.404.6  
Humidity:65.0%  
Test Distance:9.950m [K=1.0251]  
Remarks:

### ISOCANDELA DIAGRAM

Test:U:220.19V I:0.3277A P:71.221W PF:0.9871 Freq:49.99Hz Lamp Flux:7330.4lx1 lm		
NAME: PALERMO-162101	TYPE:LED	WEIGHT:
SPEC.:4000K	DIM.:	SERIAL No.:01
MANUFACTURE:BBT LIGHTING	SUR.:	Shielding Angle:



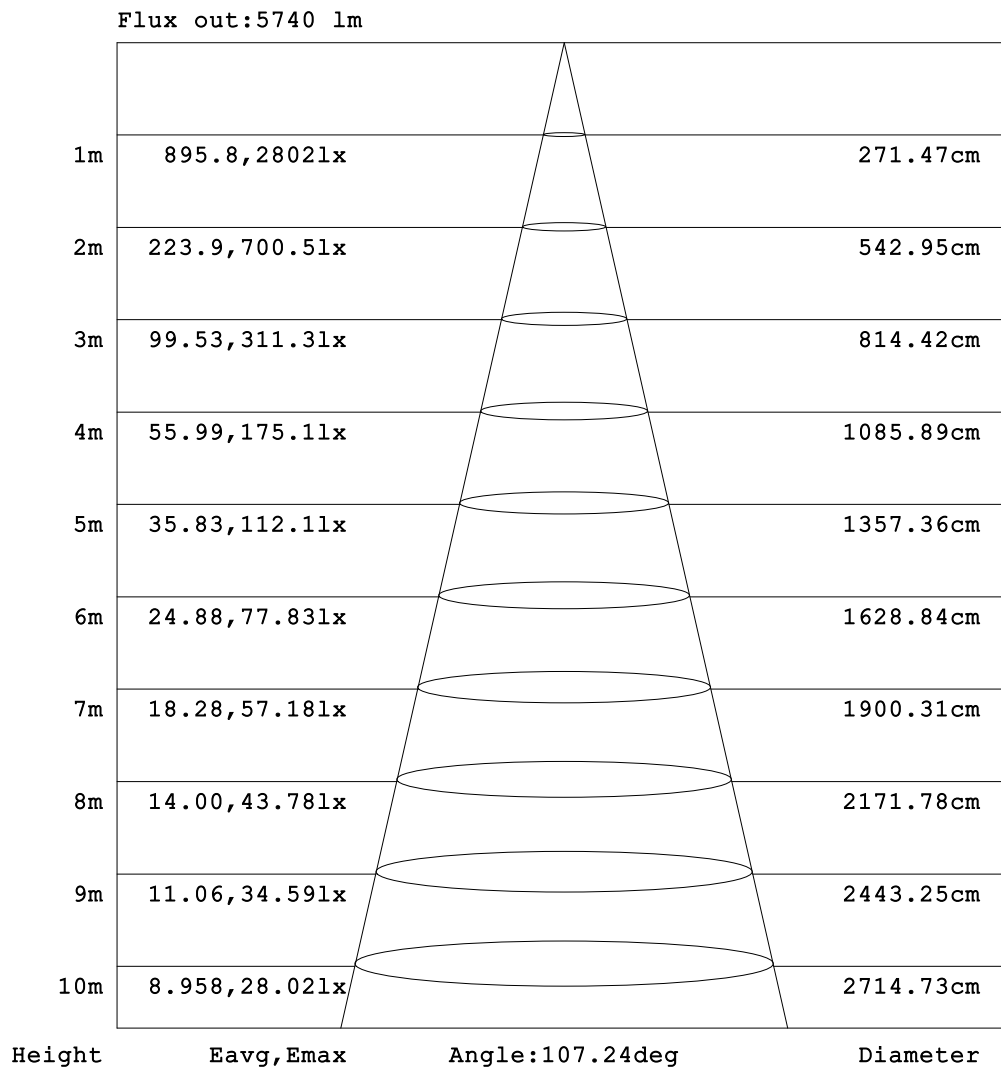
C Range: 0 - 360DEG  
 C Interval: 90.0DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:King  
 Test Date:2023-06-08

γ Range: 0 - 120DEG  
 γ Interval: 5.0DEG  
 Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.0.404.6  
 Humidity:65.0%  
 Test Distance:9.950m [K=1.0251]  
 Remarks:



**AAI Figure**

Test:U:220.19V I:0.3277A P:71.221W PF:0.9871 Freq:49.99Hz Lamp Flux:7330.41x1 lm		
NAME: PALERMO-162101	TYPE:LED	WEIGHT:
SPEC.:4000K	DIM.:	SERIAL No.:01
MANUFACTURE:BBT LIGHTING	SUR.:	Shielding Angle:



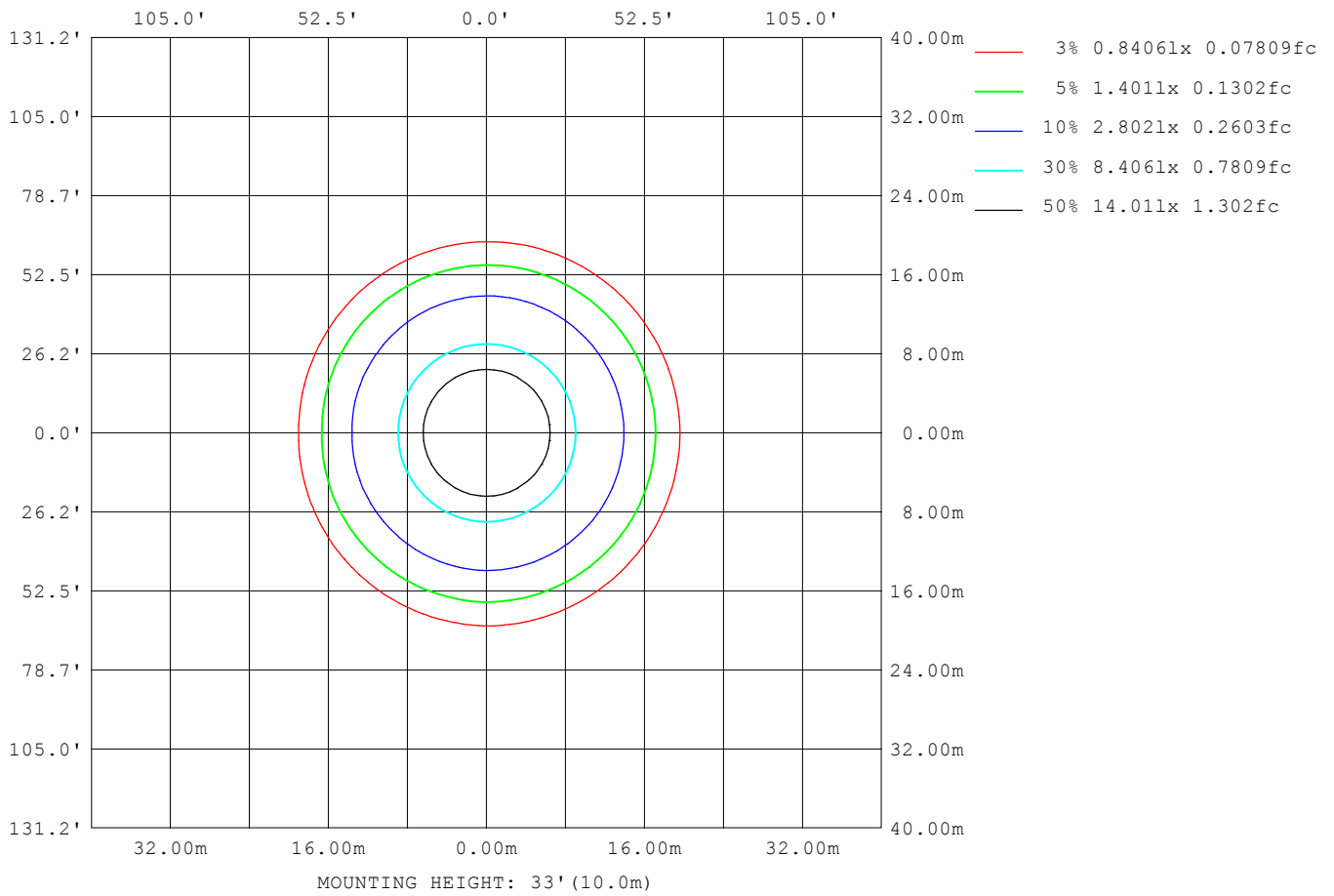
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG  
 C Interval: 90.0DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:King  
 Test Date:2023-06-08

γ Range: 0 - 120DEG  
 γ Interval: 5.0DEG  
 Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.0.404.6  
 Humidity:65.0%  
 Test Distance:9.950m [K=1.0251]  
 Remarks:

ISOLUX DIAGRAM

Test:U:220.19V I:0.3277A P:71.221W PF:0.9871 Freq:49.99Hz Lamp Flux:7330.41x1 lm		
NAME: PALERMO-162101	TYPE:LED	WEIGHT:
SPEC.:4000K	DIM.:	SERIAL No.:01
MANUFACTURE:BBT LIGHTING	SUR.:	Shielding Angle:



C Range: 0 - 360DEG  
 C Interval: 90.0DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:King  
 Test Date:2023-06-08

γ Range: 0 - 120DEG  
 γ Interval: 5.0DEG  
 Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.0.404.6  
 Humidity:65.0%  
 Test Distance:9.950m [K=1.0251]  
 Remarks:

## LED Avg.L Report

Test:U:220.19V I:0.3277A P:71.221W PF:0.9871 Freq:49.99Hz Lamp Flux:7330.41x1 lm		
NAME: PALERMO-162101	TYPE:LED	WEIGHT:
SPEC.:4000K	DIM.:	SERIAL No.:01
MANUFACTURE:BBT LIGHTING	SUR.:	Shielding Angle:

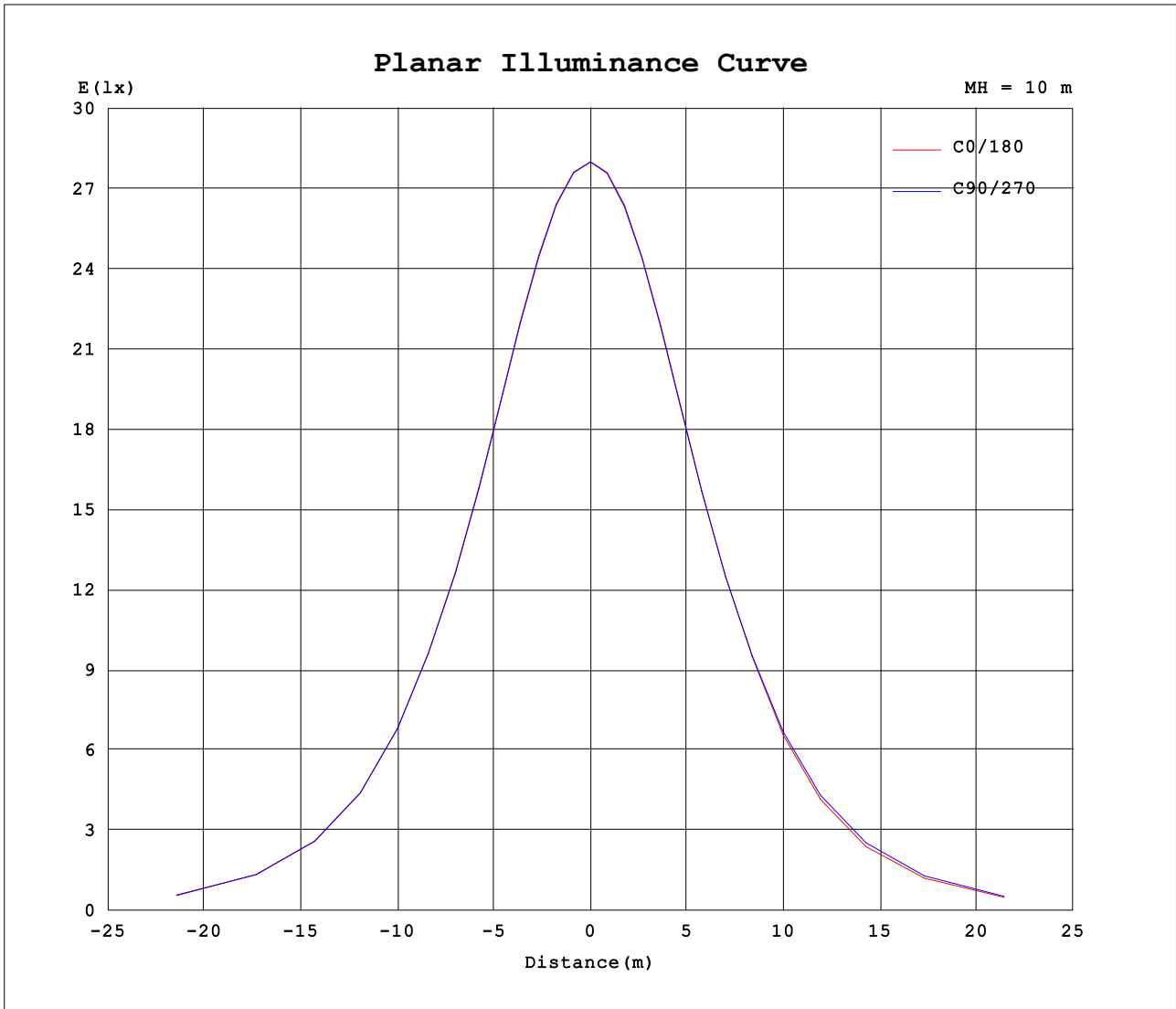
AvgL	cd/m2
L_0~180 (65) av	5706
L_0~180 (75) av	2469
L_0~180 (85) av	2710
L_90~270 (65) av	5826
L_90~270 (75) av	2206
L_90~270 (85) av	2702
L_45 (65) av	5754
L_45 (75) av	2285
L_45 (85) av	2684

Standard: GB/T 29293-2012

C Range: 0 - 360DEG  
C Interval: 90.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:King  
Test Date:2023-06-08

$\gamma$  Range: 0 - 120DEG  
 $\gamma$  Interval: 5.0DEG  
Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.0.404.6  
Humidity:65.0%  
Test Distance:9.950m [K=1.0251]  
Remarks:

Planar Illuminance Curve



C Range: 0 - 360DEG  
 C Interval: 90.0DEG  
 Test Speed: HIGH  
 Temperature: 25.3DEG  
 Operators: King  
 Test Date: 2023-06-08

γ Range: 0 - 120DEG  
 γ Interval: 5.0DEG  
 Test System: EVERFINE GO-2000B\_V1 SYSTEM V2.0.404.6  
 Humidity: 65.0%  
 Test Distance: 9.950m [K=1.0251]  
 Remarks:

LUMINOUS DISTRIBUTION INTENSITY DATA

Test:U:220.19V I:0.3277A P:71.221W PF:0.9871 Freq:49.99Hz Lamp Flux:7330.41x1 lm		
NAME: PALERMO-162101	TYPE:LED	WEIGHT:
SPEC.:4000K	DIM.:	SERIAL No.:01
MANUFACTURE:BBT LIGHTING	SUR.:	Shielding Angle:

Table--1

UNIT: cd

C (DEG) \ γ (DEG)	0	90	180	270															
0	2801	2801	2801	2801															
5	2793	2792	2792	2790															
10	2767	2765	2762	2758															
15	2719	2714	2712	2708															
20	2650	2643	2639	2632															
25	2556	2549	2542	2535															
30	2440	2433	2420	2416															
35	2302	2296	2277	2277															
40	2145	2141	2112	2120															
45	1926	1923	1857	1891															
50	1653	1659	1568	1626															
55	1369	1379	1269	1344															
60	1074	1078	967	1034															
65	771	753	662	710															
70	468	435	370	389															
75	214	177	165	162															
80	128	119	110	114															
85	78.8	73.1	61.5	66.7															
90	12.8	7.40	2.03	2.49															
95	1.97	2.07	2.81	2.79															
100	2.75	2.91	3.85	3.84															
105	3.80	4.02	5.08	5.07															
110	4.89	5.15	6.25	6.31															
115	5.89	6.14	7.28	7.38															
120	6.90	7.21	8.34	8.43															
125	0.00	0.00	0.00	0.00															
130	0.00	0.00	0.00	0.00															
135	0.00	0.00	0.00	0.00															
140	0.00	0.00	0.00	0.00															
145	0.00	0.00	0.00	0.00															
150	0.00	0.00	0.00	0.00															
155	0.00	0.00	0.00	0.00															
160	0.00	0.00	0.00	0.00															
165	0.00	0.00	0.00	0.00															
170	0.00	0.00	0.00	0.00															
175	0.00	0.00	0.00	0.00															
180	0.00	0.00	0.00	0.00															

C Range: 0 - 360DEG  
 C Interval: 90.0DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:King  
 Test Date:2023-06-08

γ Range: 0 - 120DEG  
 γ Interval: 5.0DEG  
 Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.0.404.6  
 Humidity:65.0%  
 Test Distance:9.950m [K=1.0251]  
 Remarks: