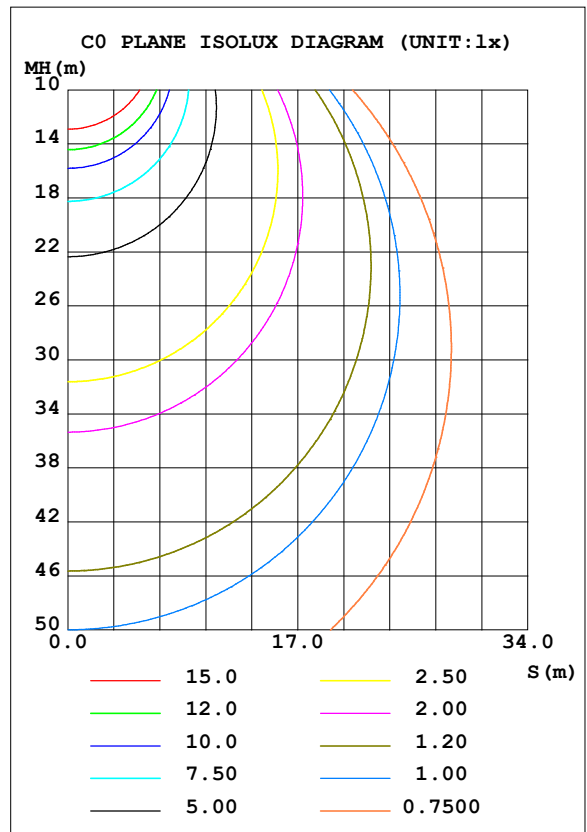
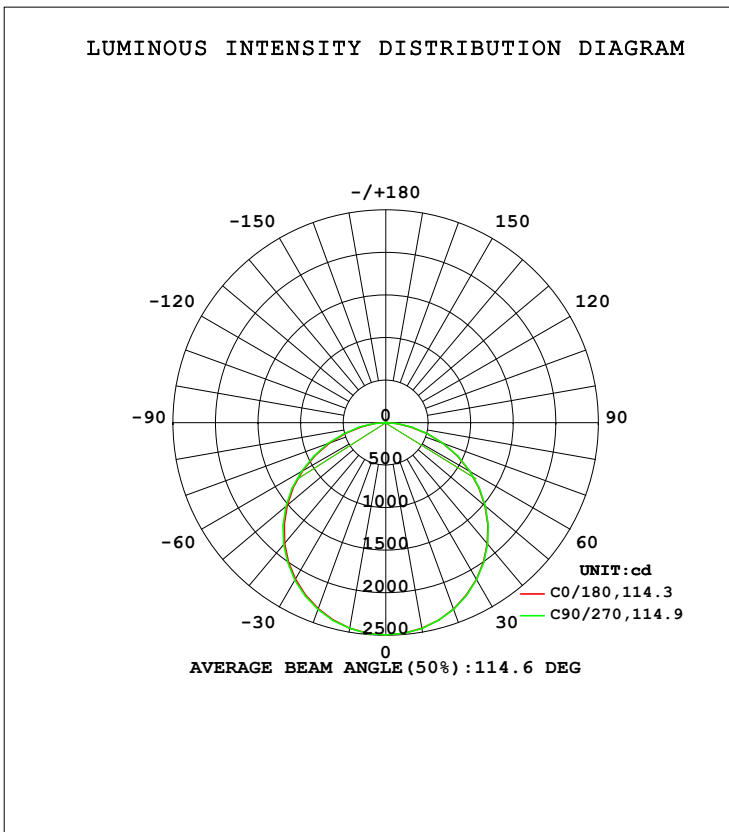


LUMINAIRE PHOTOMETRIC TEST REPORT

Test:U:220.18V I:0.3401A P:73.987W PF:0.9879 Freq:49.99Hz Lamp Flux:7344.88x1 lm		
NAME: MILANO-159200	TYPE:LED	WEIGHT:
SPEC.:6000K	DIM.: 595*595*30mm	SERIAL No.:01
MANUFACTURE:BBT LIGHTING	SUR.:	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 99.27 lm/W			
MODEL	PL6060-B-72W	I _{max} (cd)	2495	S/MH (C0/180)	1.27
NOMINAL POWER (W)	72	LOR (%)	100.0	S/MH (C90/270)	1.27
RATED VOLTAGE (V)	220.0	TOTAL FLUX (lm)	7344.9	η UP, DN (C0-180)	0.1, 49.9
NOMINAL FLUX (lm)	7344.88	CIE CLASS	DIRECT	η UP, DN (C180-360)	0.2, 49.8
LAMPS INSIDE	1	η up (%)	0.3	CIBSE SHR NOM	1.25
TEST VOLTAGE (V)	220.0	η down (%)	99.7	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=1.0402]
 Remarks:

ZONAL FLUX DIAGRAM

ZONAL FLUX DIAGRAM:

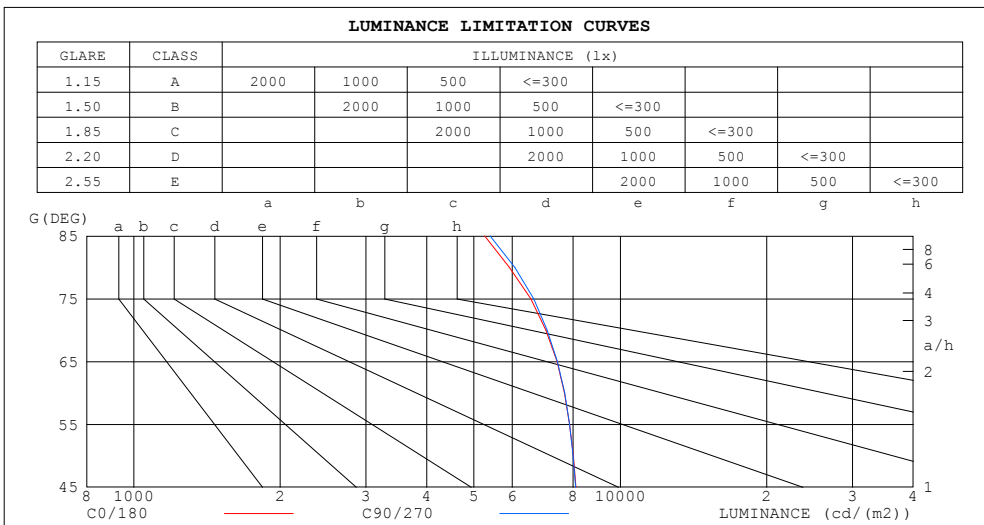
γ	C0	C90	C180	C270				γ	Φ zone	Φ total	%lum, lamp
10	2453	2455	2452	2454				0- 10	236.2	236.2	3.22,3.22
20	2331	2333	2326	2334				10- 20	678.2	914.4	12.4,12.4
30	2130	2135	2123	2137				20- 30	1033	1947	26.5,26.5
40	1859	1864	1851	1866				30- 40	1254	3201	43.6,43.6
50	1526	1529	1515	1534				40- 50	1311	4512	61.4,61.4
60	1139	1143	1126	1146				50- 60	1195	5707	77.7,77.7
70	712.6	720.0	700.9	724.5				60- 70	918.9	6626	90.2,90.2
80	304.5	313.5	291.4	318.4				70- 80	535.4	7161	97.5,97.5
90	18.26	15.43	14.64	18.68				80- 90	162.7	7324	99.7,99.7
100	3.714	3.765	4.494	4.513				90-100	7.494	7331	99.8,99.8
110	5.353	5.515	6.328	6.406				100-110	5.304	7337	99.9,99.9
120	6.903	7.129	7.921	8.023				110-120	6.635	7343	100,100
130	0	0	0	0				120-130	1.732	7345	100,100
140	0	0	0	0				130-140	0	7345	100,100
150	0	0	0	0				140-150	0	7345	100,100
160	0	0	0	0				150-160	0	7345	100,100
170	0	0	0	0				160-170	0	7345	100,100
180	0	0	0	0				170-180	0	7345	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

γ Range: 0 - 120DEG
 γ Interval: 5.0DEG
 γ Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.404.6
 Humidity:65.0%
 Test Distance:9.950m [K=1.0402]
 Remarks:

LUMINANCE LIMITATION CURVES

Test:U:220.18V I:0.3401A P:73.987W PF:0.9879 Freq:49.99Hz Lamp Flux:7344.88x1 lm		
NAME: MILANO-159200	TYPE:LED	WEIGHT:
SPEC.:6000K	DIM.: 595*595*30mm	SERIAL No.:01
MANUFACTURE:BBT LIGHTING	SUR.:	Shielding Angle:



LUMINANCE cd/(m2)		
G (DEG)	C0/180	C90/270
85	5265	5398
80	5914	6068
75	6547	6632
70	7027	7076
65	7418	7427
60	7681	7685
55	7868	7859
50	8006	7995
45	8110	8098

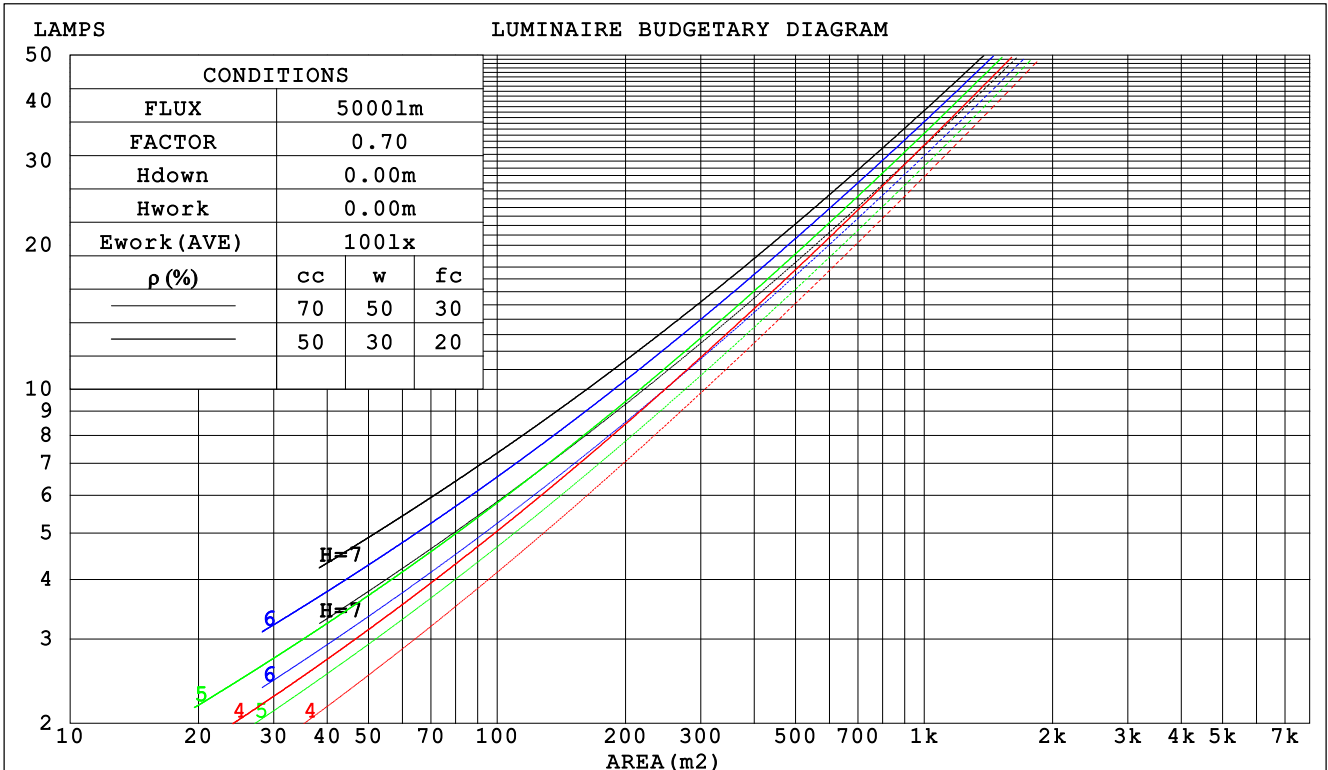
C Range: 0 - 360DEG
 C Interval: 90.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:King
 Test Date:2023-06-08

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=1.0402]
 Remarks:

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

Test:U:220.18V I:0.3401A P:73.987W PF:0.9879 Freq:49.99Hz Lamp Flux:7344.88x1 lm		
NAME: MILANO-159200	TYPE:LED	WEIGHT:
SPEC.:6000K	DIM.: 595*595*30mm	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															
	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	1.03	.99	.95	1.01	.97	.94	.97	.94	.91	.93	.90	.88	.89	.87	.85	.83
2.0	.90	.83	.77	.88	.82	.76	.84	.79	.74	.81	.77	.73	.78	.74	.71	.69
3.0	.79	.71	.64	.77	.69	.63	.74	.68	.62	.71	.66	.61	.69	.64	.60	.58
4.0	.70	.61	.54	.68	.60	.54	.66	.59	.53	.63	.57	.52	.61	.56	.51	.49
5.0	.62	.53	.46	.61	.52	.46	.59	.51	.46	.57	.50	.45	.55	.49	.44	.42
6.0	.56	.47	.40	.55	.46	.40	.53	.45	.40	.51	.45	.39	.50	.44	.39	.37
7.0	.51	.42	.36	.50	.41	.35	.48	.41	.35	.47	.40	.35	.45	.39	.35	.33
8.0	.46	.38	.32	.45	.37	.32	.44	.37	.31	.43	.36	.31	.42	.36	.31	.29
9.0	.42	.34	.28	.42	.34	.28	.41	.33	.28	.39	.33	.28	.38	.32	.28	.26
10.0	.39	.31	.26	.39	.31	.26	.38	.30	.26	.37	.30	.25	.36	.30	.25	.24



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=1.0402]
 Remarks:

WEC AND CCEC

Test:U:220.18V I:0.3401A P:73.987W PF:0.9879 Freq:49.99Hz Lamp Flux:7344.88x1 lm		
NAME: MILANO-159200	TYPE:LED	WEIGHT:
SPEC.:6000K	DIM.: 595*595*30mm	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	.316	.180	.057	.309	.176	.056	.295	.169	.054	.283	.163	.052	.271	.157	.051	
2.0	.296	.162	.050	.289	.159	.049	.277	.154	.048	.267	.150	.047	.256	.145	.046	
3.0	.273	.145	.044	.267	.143	.043	.257	.139	.042	.247	.135	.042	.238	.132	.041	
4.0	.251	.131	.038	.247	.129	.038	.237	.126	.038	.229	.123	.037	.220	.120	.036	
5.0	.232	.118	.034	.228	.117	.034	.220	.114	.034	.212	.112	.033	.205	.109	.033	
6.0	.215	.108	.031	.211	.107	.031	.204	.104	.030	.197	.102	.030	.190	.100	.030	
7.0	.200	.099	.028	.197	.098	.028	.190	.096	.028	.184	.094	.027	.178	.092	.027	
8.0	.187	.091	.026	.184	.090	.026	.178	.089	.025	.172	.087	.025	.167	.086	.025	
9.0	.175	.085	.024	.172	.084	.024	.167	.082	.023	.162	.081	.023	.157	.080	.023	
10.0	.164	.079	.022	.162	.078	.022	.157	.077	.022	.153	.076	.022	.148	.075	.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	.193	.193	.193	.165	.165	.165	.112	.112	.112	.065	.065	.065	.021	.021	.021	
1.0	.183	.158	.136	.157	.136	.117	.107	.093	.081	.062	.054	.047	.020	.017	.015	
2.0	.175	.134	.100	.150	.115	.086	.103	.080	.060	.059	.046	.035	.019	.015	.011	
3.0	.167	.117	.076	.143	.101	.066	.098	.070	.046	.057	.041	.027	.018	.013	.009	
4.0	.160	.103	.060	.137	.089	.052	.094	.062	.037	.055	.036	.022	.018	.012	.007	
5.0	.152	.093	.049	.131	.080	.043	.090	.056	.030	.052	.033	.018	.017	.011	.006	
6.0	.145	.085	.041	.125	.073	.036	.086	.051	.025	.050	.030	.015	.016	.010	.005	
7.0	.138	.078	.035	.119	.067	.031	.082	.047	.022	.048	.028	.013	.015	.009	.004	
8.0	.132	.072	.031	.113	.062	.027	.078	.044	.019	.046	.026	.011	.015	.008	.004	
9.0	.126	.067	.027	.108	.058	.024	.075	.041	.017	.044	.024	.010	.014	.008	.003	
10.0	.120	.063	.025	.103	.054	.021	.072	.038	.015	.042	.023	.009	.014	.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=1.0402]
 Remarks:

UGR(Unified Glare Rating) Table

Test:U:220.18V I:0.3401A P:73.987W PF:0.9879 Freq:49.99Hz Lamp Flux:7344.88x1 lm										
NAME: MILANO-159200					TYPE:LED			WEIGHT:		
SPEC.:6000K					DIM.: 595*595*30mm			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	20.3	21.8	22.0	20.1	21.6	20.3	21.8	22.0
3H	21.6	23.0	21.9	23.2	23.5	21.6	23.0	21.9	23.3	23.5
4H	22.2	23.5	22.5	23.8	24.1	22.2	23.6	22.5	23.8	24.1
6H	22.6	23.9	22.9	24.2	24.4	22.6	23.9	23.0	24.2	24.5
8H	22.7	23.9	23.1	24.2	24.5	22.8	24.0	23.1	24.3	24.6
12H	22.8	24.0	23.1	24.3	24.6	22.8	24.0	23.2	24.3	24.6
4H 2H	20.7	22.0	21.0	22.3	22.6	20.7	22.0	21.0	22.3	22.6
3H	22.4	23.6	22.7	23.9	24.2	22.4	23.6	22.8	23.9	24.2
4H	23.1	24.2	23.5	24.5	24.9	23.1	24.2	23.5	24.5	24.9
6H	23.6	24.6	24.0	25.0	25.3	23.7	24.6	24.1	25.0	25.4
8H	23.8	24.7	24.2	25.1	25.5	23.8	24.7	24.3	25.1	25.5
12H	23.9	24.7	24.3	25.1	25.5	24.0	24.8	24.4	25.2	25.6
8H 4H	23.4	24.3	23.8	24.6	25.0	23.4	24.3	23.8	24.7	25.1
6H	24.0	24.8	24.5	25.2	25.6	24.1	24.8	24.5	25.2	25.7
8H	24.3	24.9	24.7	25.4	25.8	24.3	25.0	24.8	25.4	25.9
12H	24.5	25.0	24.9	25.5	26.0	24.5	25.1	25.0	25.5	26.0
12H 4H	23.4	24.2	23.8	24.6	25.0	23.4	24.2	23.8	24.6	25.0
6H	24.1	24.7	24.6	25.2	25.6	24.1	24.8	24.6	25.2	25.7
8H	24.4	24.9	24.8	25.4	25.9	24.4	25.0	24.9	25.4	25.9
Variations with the observer position at spacings:										
S = 1.0H	+ 0.1 / - 0.2					+ 0.1 / - 0.2				
1.5H	+ 0.2 / - 0.3					+ 0.2 / - 0.3				
2.0H	+ 0.2 / - 0.3					+ 0.2 / - 0.3				

CIE Pub.117, 7345 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

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=1.0402]
Remarks:

UTILIZATION FACTORS TABLE

Test:U:220.18V I:0.3401A P:73.987W PF:0.9879 Freq:49.99Hz Lamp Flux:7344.88x1 lm		
NAME: MILANO-159200	TYPE:LED	WEIGHT:
SPEC.:6000K	DIM.: 595*595*30mm	SERIAL No.:01
MANUFACTURE:BBT LIGHTING	SUR.:	Shielding Angle:

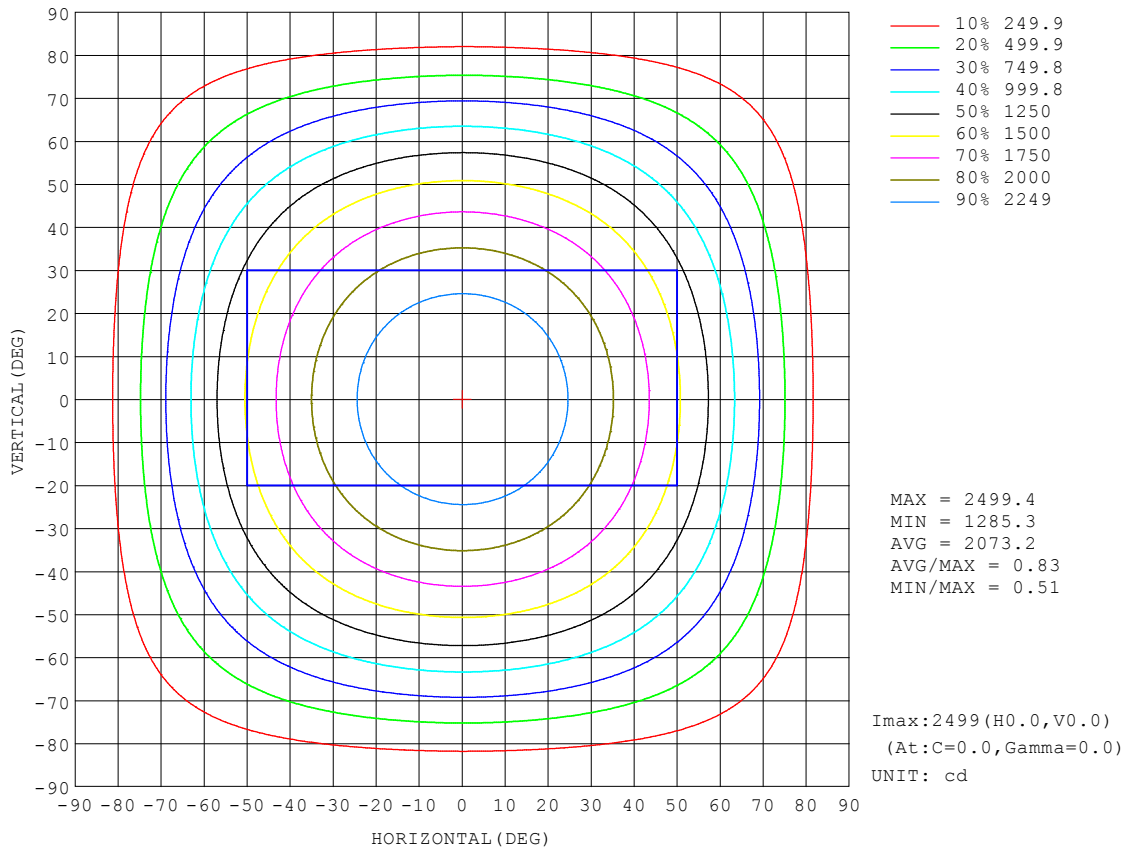
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS (PERCENT) $k(RI) \times RCR = 5$									
k = 0.60	57	45	38	56	45	38	55	44	38	31
0.80	67	55	48	66	55	48	64	54	47	40
1.00	75	64	57	74	63	56	72	65	56	49
1.25	82	72	65	81	71	64	78	70	63	56
1.50	88	77	70	86	77	70	83	75	69	61
2.00	94	86	79	93	85	78	89	82	77	69
2.50	98	90	84	96	89	83	92	86	82	73
3.00	102	95	89	100	93	88	95	90	86	77
4.00	106	100	95	103	98	94	99	95	91	82
5.00	108	103	99	106	101	98	101	98	95	85
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

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=1.0402]
Remarks:

ISOCANDELA DIAGRAM

Test:U:220.18V I:0.3401A P:73.987W PF:0.9879 Freq:49.99Hz Lamp Flux:7344.88x1 lm		
NAME: MILANO-159200	TYPE:LED	WEIGHT:
SPEC.:6000K	DIM.: 595*595*30mm	SERIAL No.:01
MANUFACTURE:BBT LIGHTING	SUR.:	Shielding Angle:

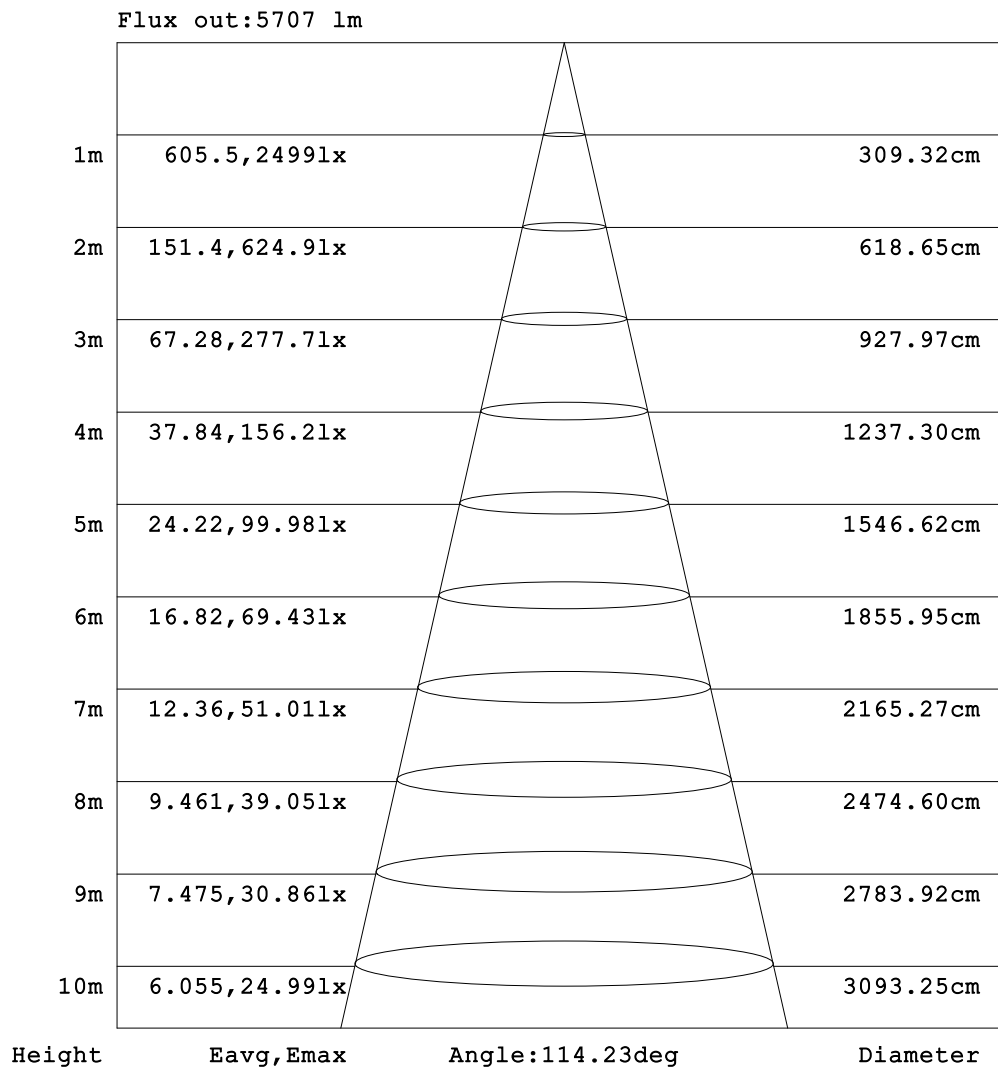


C Range: 0 - 360DEG
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 Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.404.6
 Humidity:65.0%
 Test Distance:9.950m [K=1.0402]
 Remarks:

AAI Figure

Test:U:220.18V I:0.3401A P:73.987W PF:0.9879 Freq:49.99Hz Lamp Flux:7344.88x1 lm		
NAME: MILANO-159200	TYPE:LED	WEIGHT:
SPEC.:6000K	DIM.: 595*595*30mm	SERIAL No.:01
MANUFACTURE:BBT LIGHTING	SUR.:	Shielding Angle:



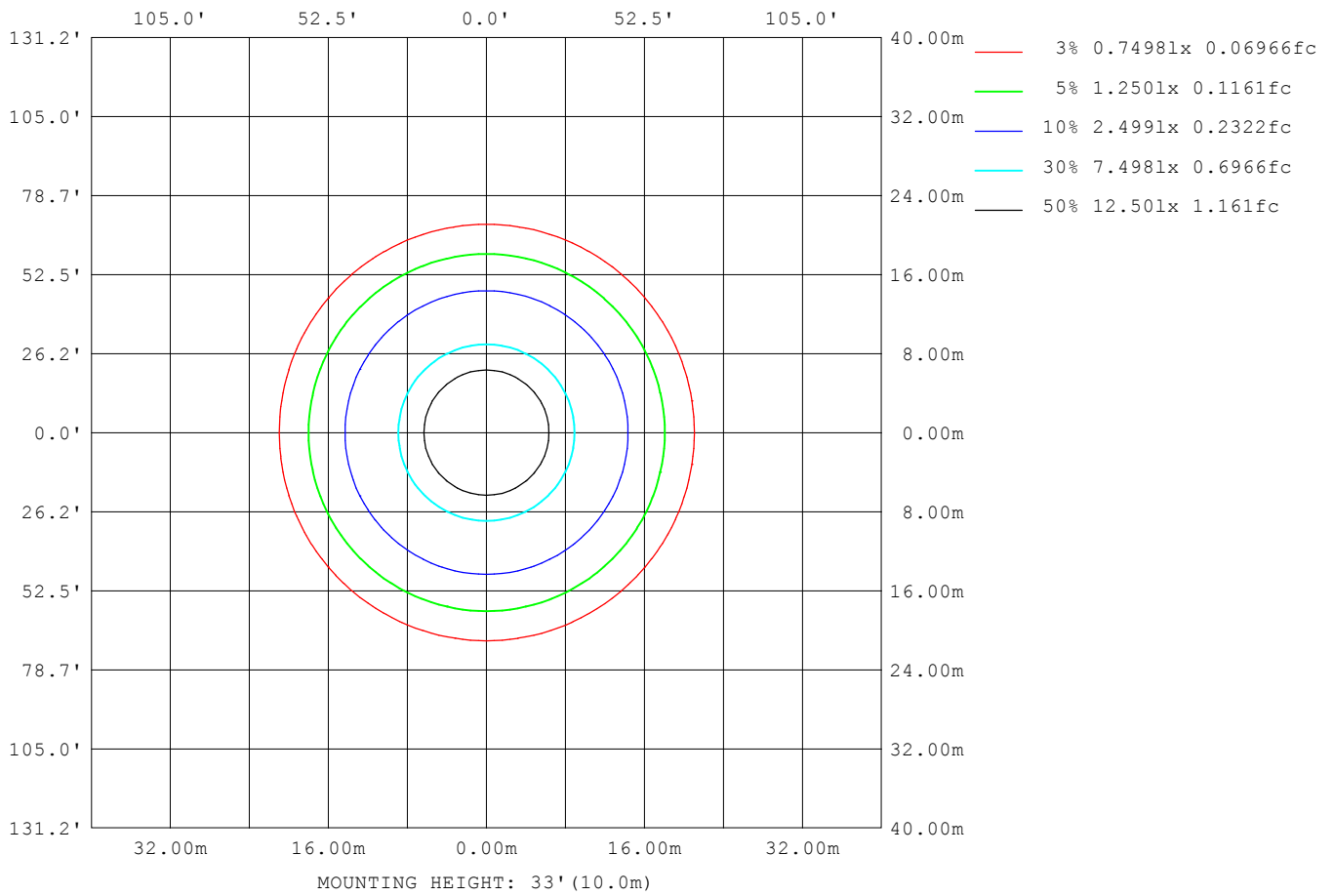
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

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=1.0402]
 Remarks:

ISOLUX DIAGRAM

Test:U:220.18V I:0.3401A P:73.987W PF:0.9879 Freq:49.99Hz Lamp Flux:7344.88x1 lm		
NAME: MILANO-159200	TYPE:LED	WEIGHT:
SPEC.:6000K	DIM.: 595*595*30mm	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=1.0402]
 Remarks:

LED Avg.L Report

Test:U:220.18V I:0.3401A P:73.987W PF:0.9879 Freq:49.99Hz Lamp Flux:7344.88x1 lm		
NAME: MILANO-159200	TYPE:LED	WEIGHT:
SPEC.:6000K	DIM.: 595*595*30mm	SERIAL No.:01
MANUFACTURE:BBT LIGHTING	SUR.:	Shielding Angle:

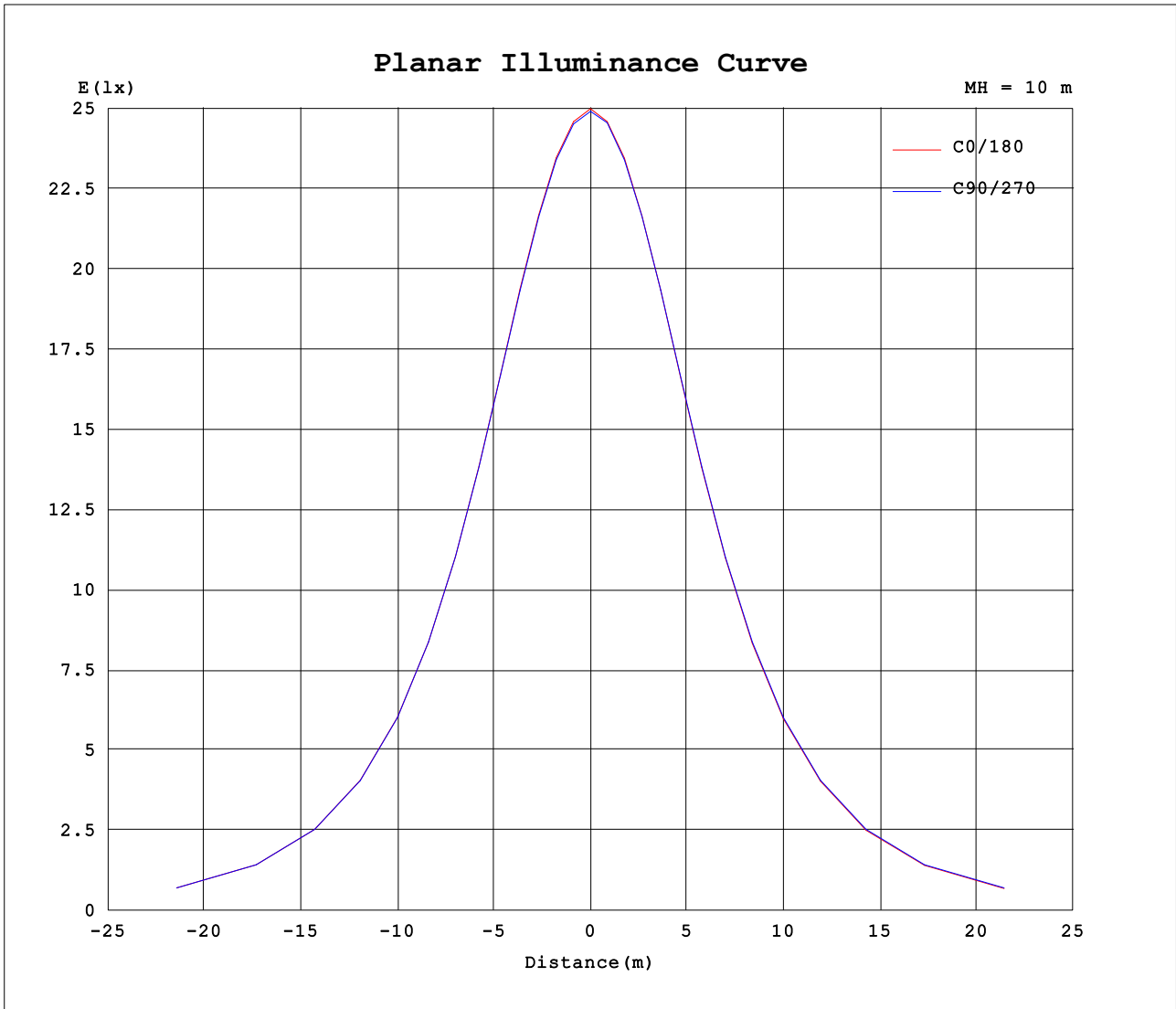
AvgL	cd/m2
L_0~180 (65) av	7352
L_0~180 (75) av	6450
L_0~180 (85) av	5039
L_90~270 (65) av	7454
L_90~270 (75) av	6662
L_90~270 (85) av	5538
L_45 (65) av	7413
L_45 (75) av	6577
L_45 (85) av	5337

Standard: GB/T 29293-2012

C Range: 0 - 360DEG
C Interval: 90.0DEG
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Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.404.6
Humidity:65.0%
Test Distance:9.950m [K=1.0402]
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=1.0402]
 Remarks:

LUMINOUS DISTRIBUTION INTENSITY DATA

Test:U:220.18V I:0.3401A P:73.987W PF:0.9879 Freq:49.99Hz Lamp Flux:7344.88x1 lm		
NAME: MILANO-159200	TYPE:LED	WEIGHT:
SPEC.:6000K	DIM.: 595*595*30mm	SERIAL No.:01
MANUFACTURE:BBT LIGHTING	SUR.:	Shielding Angle:

Table--1

UNIT: cd

C (DEG) γ (DEG)	0	90	180	270															
0	2495	2495	2495	2495															
5	2484	2484	2483	2488															
10	2453	2455	2452	2454															
15	2402	2404	2398	2405															
20	2331	2333	2326	2334															
25	2239	2244	2235	2245															
30	2130	2135	2123	2137															
35	2002	2008	1996	2009															
40	1859	1864	1851	1866															
45	1700	1704	1690	1707															
50	1526	1529	1515	1534															
55	1338	1341	1327	1345															
60	1139	1143	1126	1146															
65	929	934	916	937															
70	713	720	701	724															
75	502	511	489	514															
80	304	313	291	318															
85	136	140	125	147															
90	18.3	15.4	14.6	18.7															
95	2.92	2.97	3.60	3.61															
100	3.71	3.77	4.49	4.51															
105	4.56	4.68	5.42	5.44															
110	5.35	5.52	6.33	6.41															
115	6.10	6.31	7.11	7.23															
120	6.90	7.13	7.92	8.02															
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
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γ Range: 0 - 120DEG
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 Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.404.6
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 Remarks: