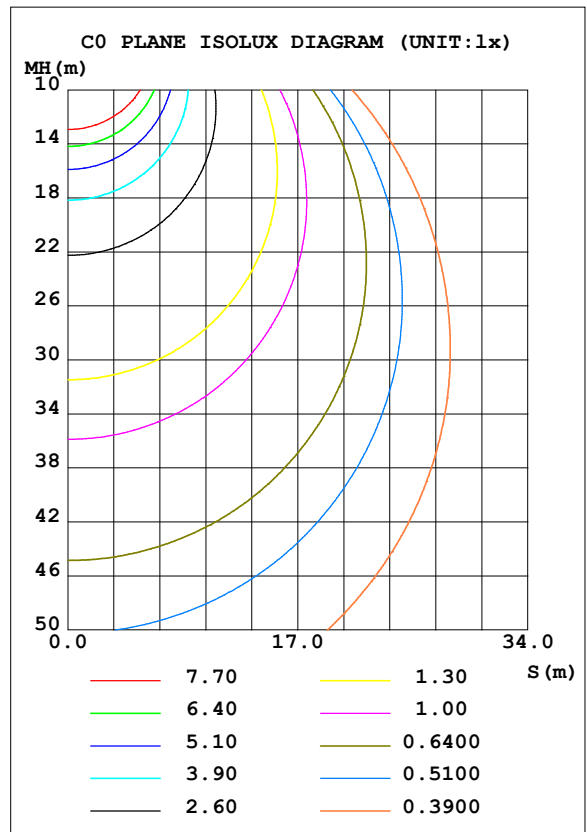
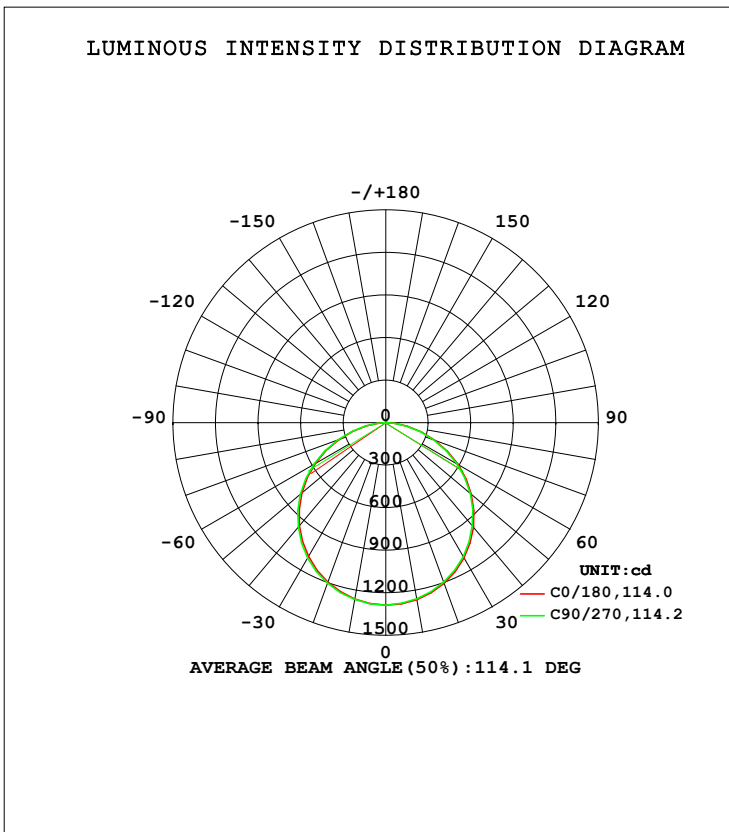


LUMINAIRE PHOTOMETRIC TEST REPORT

Test:U:220.27V I:0.1754A P:37.558W PF:0.9721 Freq:49.99Hz Lamp Flux:3751.48x1 lm		
NAME: SUN P.50-182100	TYPE:LED	WEIGHT:
SPEC.:3000K	DIM.:	SERIAL No.:01
MANUFACTURE:BBT LIGHTING	SUR.:	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 99.89 lm/W			
MODEL	PL6060-50-40W	I _{max} (cd)	1286	S/MH (C0/180)	1.26
NOMINAL POWER (W)	40	LOR (%)	100.0	S/MH (C90/270)	1.27
RATED VOLTAGE (V)	220	TOTAL FLUX (lm)	3751.5	η UP, DN (C0-180)	0.1, 50.1
NOMINAL FLUX (lm)	3751.48	CIE CLASS	DIRECT	η UP, DN (C180-360)	0.1, 49.7
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=1.0251]
 Remarks:

ZONAL FLUX DIAGRAM

ZONAL FLUX DIAGRAM:

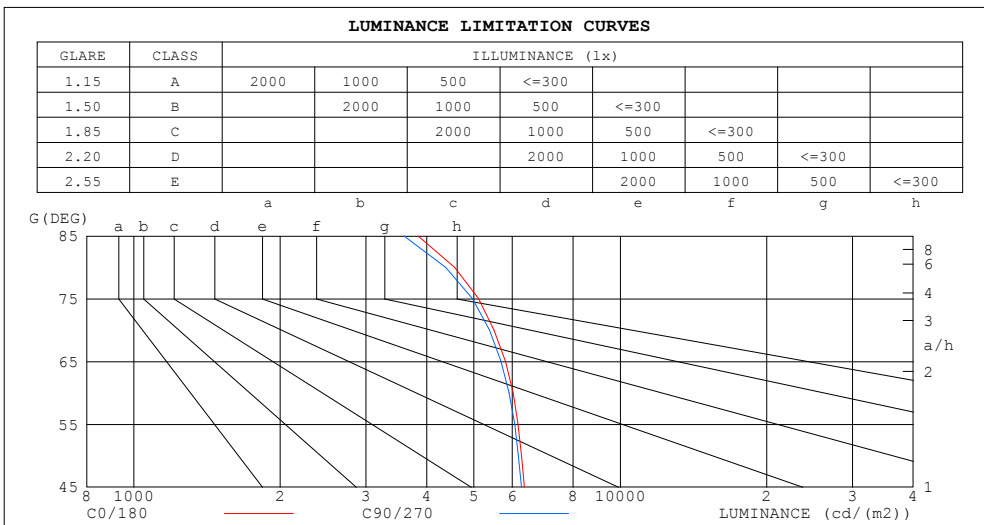
γ	C0	C90	C180	C270				γ	Φ zone	Φ total	%lum, lamp
10	1267	1262	1262	1267				0- 10	121.7	121.7	3.24,3.24
20	1206	1197	1196	1205				10- 20	349.5	471.2	12.6,12.6
30	1103	1092	1091	1102				20- 30	531.9	1003	26.7,26.7
40	963.8	950.7	948.0	960.9				30- 40	644.8	1648	43.9,43.9
50	789.0	778.0	772.9	786.8				40- 50	672.9	2321	61.9,61.9
60	589.7	578.8	571.0	585.2				50- 60	611.5	2932	78.2,78.2
70	368.6	361.4	350.9	363.8				60- 70	467.4	3400	90.6,90.6
80	155.2	149.1	140.3	150.8				70- 80	267.4	3667	97.7,97.7
90	3.486	2.126	1.682	2.496				80- 90	74.40	3741	99.7,99.7
100	2.002	2.216	2.556	2.440				90-100	2.312	3744	99.8,99.8
110	2.927	3.215	3.626	3.482				100-110	2.963	3747	99.9,99.9
120	3.829	4.227	4.659	4.445				110-120	3.776	3750	100,100
130	0	0	0	0				120-130	0.9916	3751	100,100
140	0	0	0	0				130-140	0	3751	100,100
150	0	0	0	0				140-150	0	3751	100,100
160	0	0	0	0				150-160	0	3751	100,100
170	0	0	0	0				160-170	0	3751	100,100
180	0	0	0	0				170-180	0	3751	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=1.0251]
 Remarks:

LUMINANCE LIMITATION CURVES

Test:U:220.27V I:0.1754A P:37.558W PF:0.9721 Freq:49.99Hz Lamp Flux:3751.48x1 lm		
NAME: SUN P.50-182100	TYPE:LED	WEIGHT:
SPEC.:3000K	DIM.:	SERIAL No.:01
MANUFACTURE:BBT LIGHTING	SUR.:	Shielding Angle:



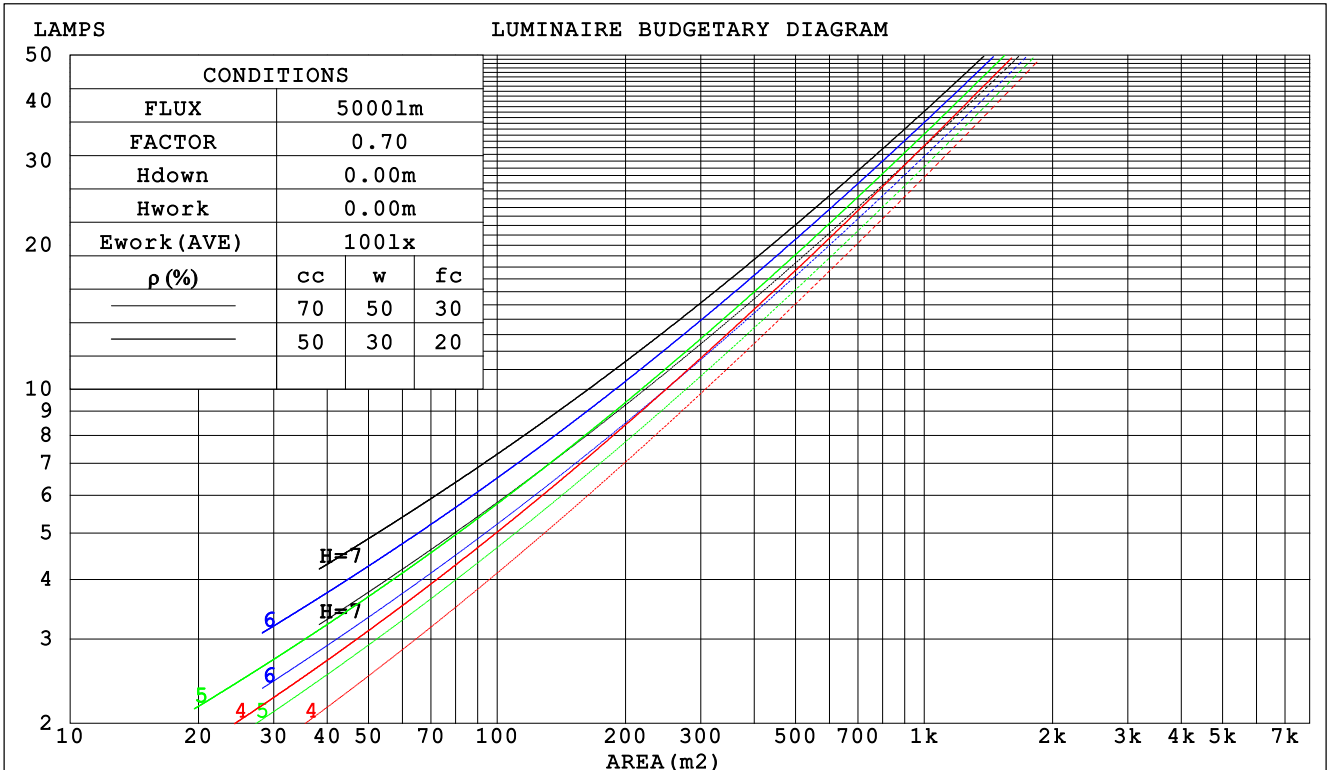
C Range: 0 - 360DEG
 C Interval: 90.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:King
 Test Date:2023-06-08

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:

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

Test:U:220.27V I:0.1754A P:37.558W PF:0.9721 Freq:49.99Hz Lamp Flux:3751.48x1 lm		
NAME: SUN P.50-182100	TYPE:LED	WEIGHT:
SPEC.:3000K	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						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	1.04	.99	.95	1.01	.97	.94	.97	.94	.91	.93	.90	.88	.89	.87	.85	.83
2.0	.90	.83	.77	.88	.82	.77	.85	.79	.75	.81	.77	.73	.78	.75	.71	.69
3.0	.79	.71	.64	.77	.70	.64	.74	.68	.62	.72	.66	.61	.69	.64	.60	.58
4.0	.70	.61	.54	.69	.60	.54	.66	.59	.53	.64	.57	.52	.61	.56	.52	.49
5.0	.62	.53	.47	.61	.53	.46	.59	.52	.46	.57	.50	.45	.55	.49	.45	.43
6.0	.56	.47	.41	.55	.47	.40	.53	.46	.40	.52	.45	.40	.50	.44	.39	.37
7.0	.51	.42	.36	.50	.42	.36	.48	.41	.35	.47	.40	.35	.46	.39	.35	.33
8.0	.46	.38	.32	.46	.37	.32	.44	.37	.32	.43	.36	.31	.42	.36	.31	.29
9.0	.43	.34	.29	.42	.34	.29	.41	.33	.28	.40	.33	.28	.39	.33	.28	.26
10.0	.39	.31	.26	.39	.31	.26	.38	.31	.26	.37	.30	.26	.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=1.0251]
 Remarks:

WEC AND CCEC

Test:U:220.27V I:0.1754A P:37.558W PF:0.9721 Freq:49.99Hz Lamp Flux:3751.48x1 lm		
NAME: SUN P.50-182100	TYPE:LED	WEIGHT:
SPEC.:3000K	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	.312	.178	.056	.305	.174	.055	.292	.167	.053	.279	.161	.052	.268	.155	.050	
2.0	.294	.161	.049	.287	.158	.049	.275	.153	.048	.264	.148	.046	.254	.144	.045	
3.0	.271	.144	.043	.266	.142	.043	.255	.138	.042	.246	.135	.041	.237	.131	.041	
4.0	.250	.130	.038	.245	.128	.038	.236	.125	.037	.228	.122	.037	.219	.119	.036	
5.0	.231	.118	.034	.227	.117	.034	.219	.114	.034	.211	.111	.033	.204	.109	.033	
6.0	.214	.108	.031	.211	.106	.031	.203	.104	.030	.196	.102	.030	.190	.100	.030	
7.0	.200	.099	.028	.196	.098	.028	.189	.096	.028	.183	.094	.027	.178	.092	.027	
8.0	.186	.091	.026	.183	.090	.025	.177	.089	.025	.172	.087	.025	.167	.085	.025	
9.0	.175	.084	.024	.172	.084	.023	.166	.082	.023	.161	.081	.023	.157	.080	.023	
10.0	.164	.079	.022	.162	.078	.022	.157	.077	.022	.152	.076	.021	.148	.074	.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	.156	.136	.117	.107	.093	.081	.061	.054	.047	.020	.017	.015	
2.0	.175	.134	.100	.150	.115	.086	.102	.080	.060	.059	.046	.035	.019	.015	.012	
3.0	.167	.116	.076	.143	.100	.066	.098	.070	.046	.057	.041	.027	.018	.013	.009	
4.0	.159	.103	.060	.137	.089	.052	.094	.062	.037	.054	.036	.022	.017	.012	.007	
5.0	.152	.093	.049	.130	.080	.043	.090	.056	.030	.052	.033	.018	.017	.011	.006	
6.0	.145	.084	.041	.124	.073	.036	.086	.051	.025	.050	.030	.015	.016	.010	.005	
7.0	.138	.077	.035	.119	.067	.031	.082	.047	.022	.048	.028	.013	.015	.009	.004	
8.0	.131	.072	.031	.113	.062	.027	.078	.044	.019	.046	.026	.011	.015	.008	.004	
9.0	.125	.067	.027	.108	.058	.024	.075	.041	.017	.044	.024	.010	.014	.008	.003	
10.0	.120	.062	.024	.103	.054	.021	.071	.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=1.0251]
 Remarks:

UGR(Unified Glare Rating) Table

Test:U:220.27V I:0.1754A P:37.558W PF:0.9721 Freq:49.99Hz Lamp Flux:3751.48x1 lm										
NAME: SUN P.50-182100					TYPE:LED			WEIGHT:		
SPEC.:3000K					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	19.2	20.8	19.5	21.0	21.2	19.2	20.7	19.4	20.9	21.1
3H	20.8	22.2	21.1	22.4	22.7	20.7	22.1	21.0	22.3	22.6
4H	21.4	22.7	21.7	23.0	23.2	21.3	22.6	21.6	22.9	23.1
6H	21.8	23.0	22.1	23.3	23.6	21.6	22.9	22.0	23.2	23.5
8H	21.9	23.1	22.2	23.4	23.7	21.7	23.0	22.1	23.2	23.5
12H	21.9	23.1	22.3	23.4	23.7	21.8	23.0	22.1	23.3	23.6
4H 2H	19.9	21.2	20.2	21.5	21.7	19.8	21.1	20.1	21.4	21.7
3H	21.6	22.7	21.9	23.0	23.3	21.5	22.7	21.8	23.0	23.3
4H	22.3	23.3	22.6	23.7	24.0	22.2	23.3	22.6	23.6	23.9
6H	22.8	23.7	23.2	24.1	24.5	22.7	23.6	23.1	24.0	24.4
8H	22.9	23.8	23.3	24.2	24.6	22.8	23.7	23.2	24.1	24.5
12H	23.0	23.8	23.4	24.2	24.6	22.9	23.7	23.3	24.1	24.5
8H 4H	22.5	23.4	22.9	23.8	24.2	22.4	23.3	22.9	23.7	24.1
6H	23.2	23.9	23.6	24.3	24.7	23.1	23.8	23.5	24.2	24.6
8H	23.4	24.0	23.8	24.5	24.9	23.3	23.9	23.7	24.3	24.8
12H	23.5	24.1	24.0	24.5	25.0	23.4	24.0	23.9	24.4	24.9
12H 4H	22.5	23.3	22.9	23.7	24.1	22.4	23.3	22.9	23.7	24.1
6H	23.2	23.9	23.7	24.3	24.7	23.1	23.8	23.6	24.2	24.6
8H	23.4	24.0	23.9	24.5	24.9	23.3	23.9	23.8	24.4	24.8
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, 3751 lm Total Lamp Luminous Flux Corrected ($8\log(F/F_0) = 4.6$)

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:

UTILIZATION FACTORS TABLE

Test:U:220.27V I:0.1754A P:37.558W PF:0.9721 Freq:49.99Hz Lamp Flux:3751.48x1 lm		
NAME: SUN P.50-182100	TYPE:LED	WEIGHT:
SPEC.:3000K	DIM.:	SERIAL No.:01
MANUFACTURE:BBT LIGHTING	SUR.:	Shielding Angle:

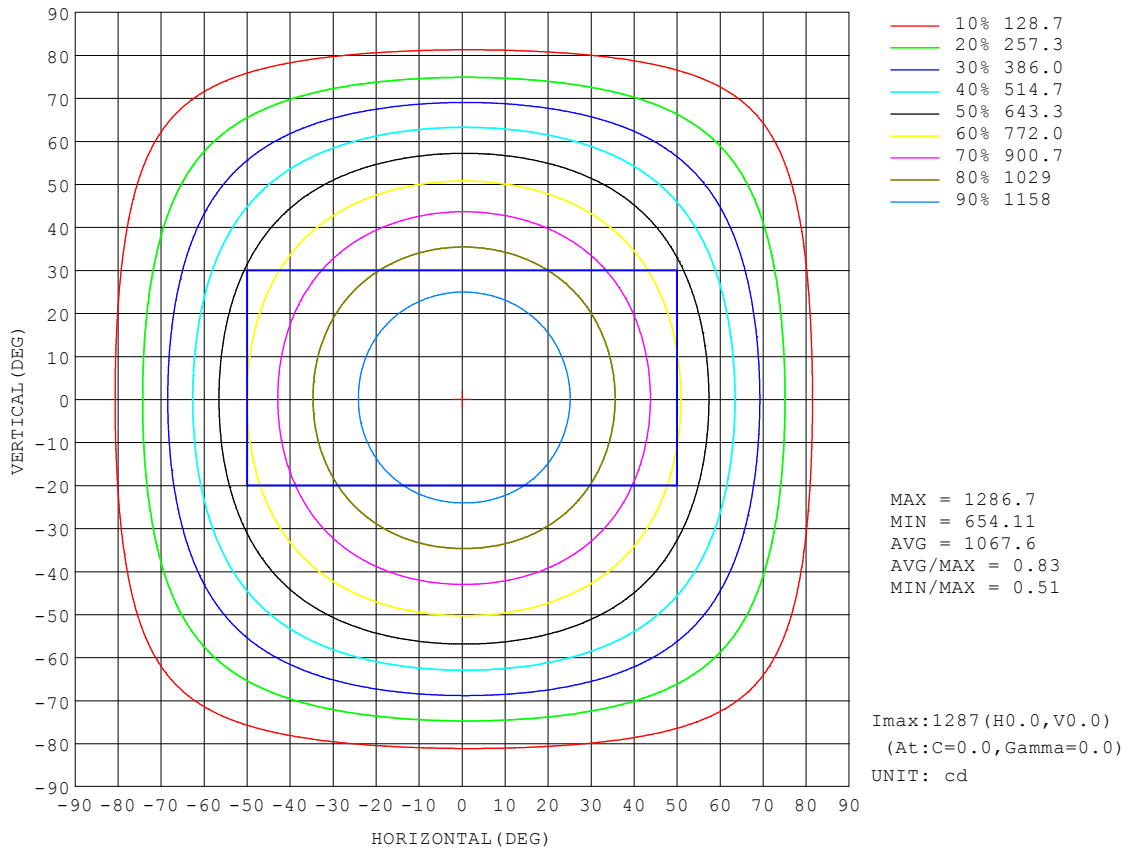
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS (PERCENT) $k(RI) \times RCR = 5$									
k = 0.60	57	45	38	56	45	38	55	45	38	32
0.80	67	55	48	66	55	48	64	54	47	40
1.00	76	64	57	74	64	57	72	65	56	49
1.25	83	72	65	81	71	64	79	70	64	56
1.50	88	78	71	86	77	70	83	75	69	61
2.00	95	86	79	93	85	79	89	83	77	69
2.50	99	91	85	97	89	84	93	87	82	73
3.00	102	95	89	100	93	88	96	91	86	78
4.00	106	100	96	104	98	94	99	95	91	82
5.00	108	104	99	106	102	98	101	98	95	86
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=1.0251]
Remarks:

ISOCANDELA DIAGRAM

Test:U:220.27V I:0.1754A P:37.558W PF:0.9721 Freq:49.99Hz Lamp Flux:3751.48x1 lm		
NAME:SUN P.50-182100	TYPE:LED	WEIGHT:
SPEC.:3000K	DIM.:	SERIAL No.:01
MANUFACTURE:BBT LIGHTING	SUR.:	Shielding Angle:

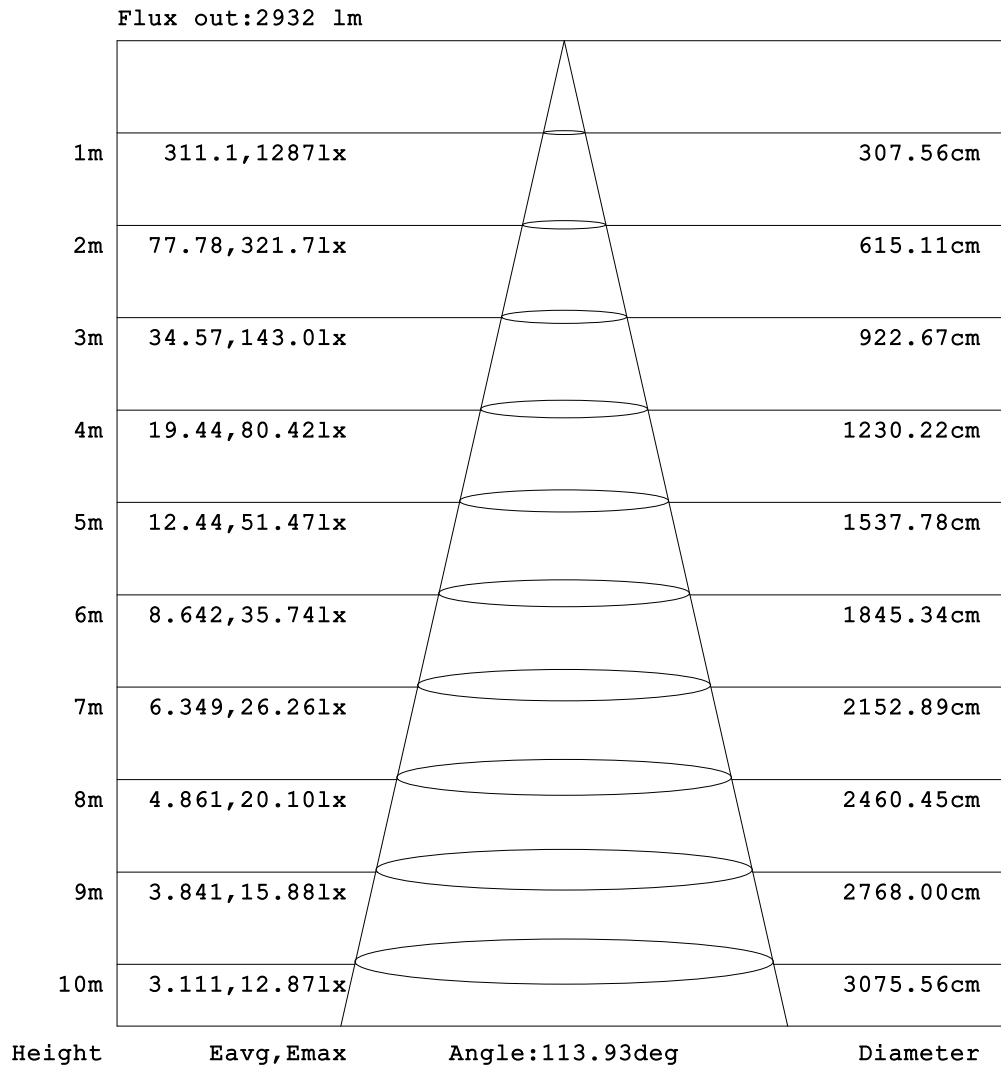


C Range: 0 - 360DEG
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 Test Speed: HIGH
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γ Range: 0 - 120DEG
 γ Interval: 5.0DEG
 Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.404.6
 Humidity:65.0%
 Test Distance:9.950m [K=1.0251]
 Remarks:

AAI Figure

Test:U:220.27V I:0.1754A P:37.558W PF:0.9721 Freq:49.99Hz Lamp Flux:3751.48x1 lm		
NAME:SUN P.50-182100	TYPE:LED	WEIGHT:
SPEC.:3000K	DIM.:	SERIAL No.:01
MANUFACTURE:BBT LIGHTING	SUR.:	Shielding Angle:



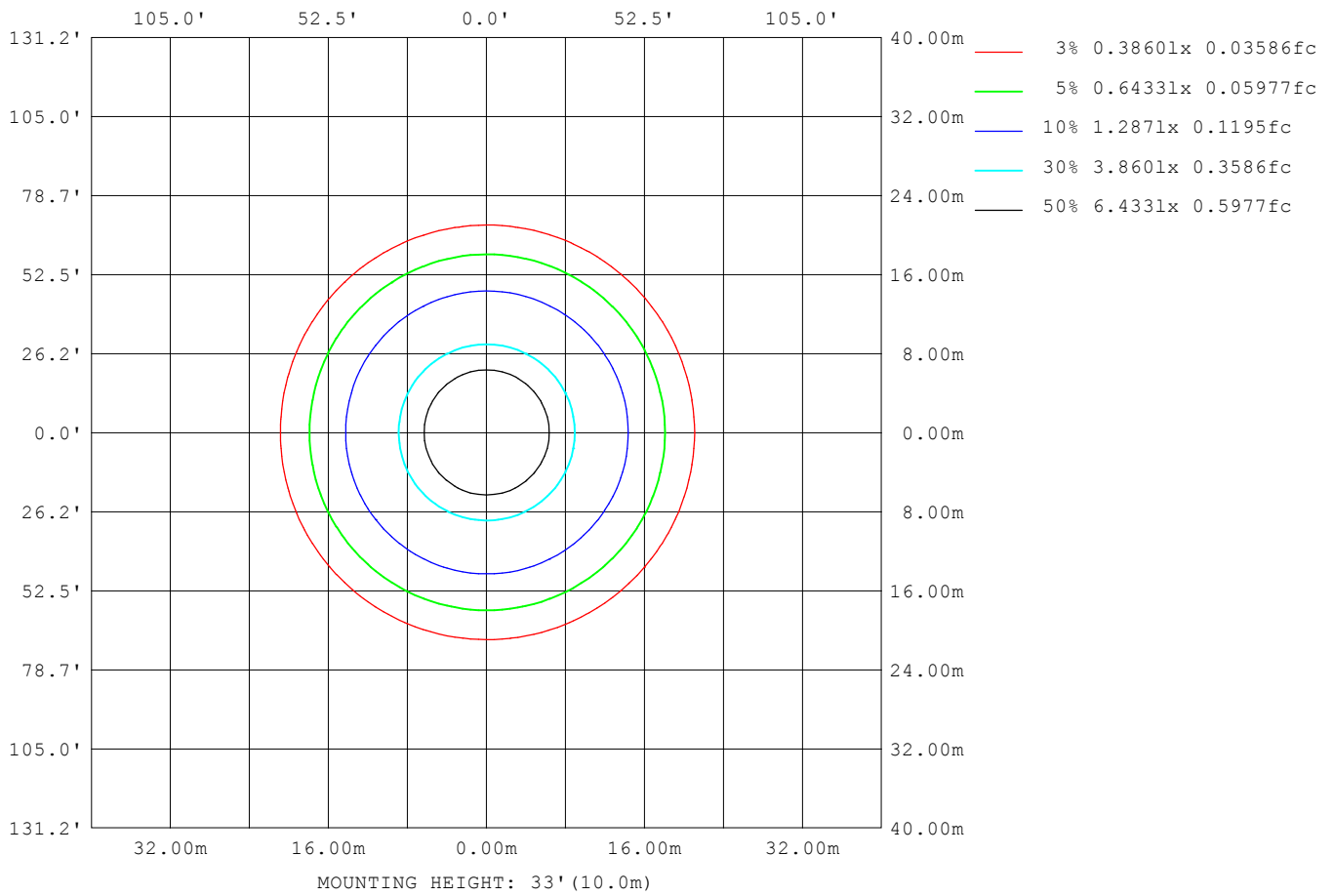
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

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:220.27V I:0.1754A P:37.558W PF:0.9721 Freq:49.99Hz Lamp Flux:3751.48x1 lm		
NAME: SUN P.50-182100	TYPE:LED	WEIGHT:
SPEC.:3000K	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:220.27V I:0.1754A P:37.558W PF:0.9721 Freq:49.99Hz Lamp Flux:3751.48x1 lm		
NAME: SUN P.50-182100	TYPE:LED	WEIGHT:
SPEC.:3000K	DIM.:	SERIAL No.:01
MANUFACTURE:BBT LIGHTING	SUR.:	Shielding Angle:

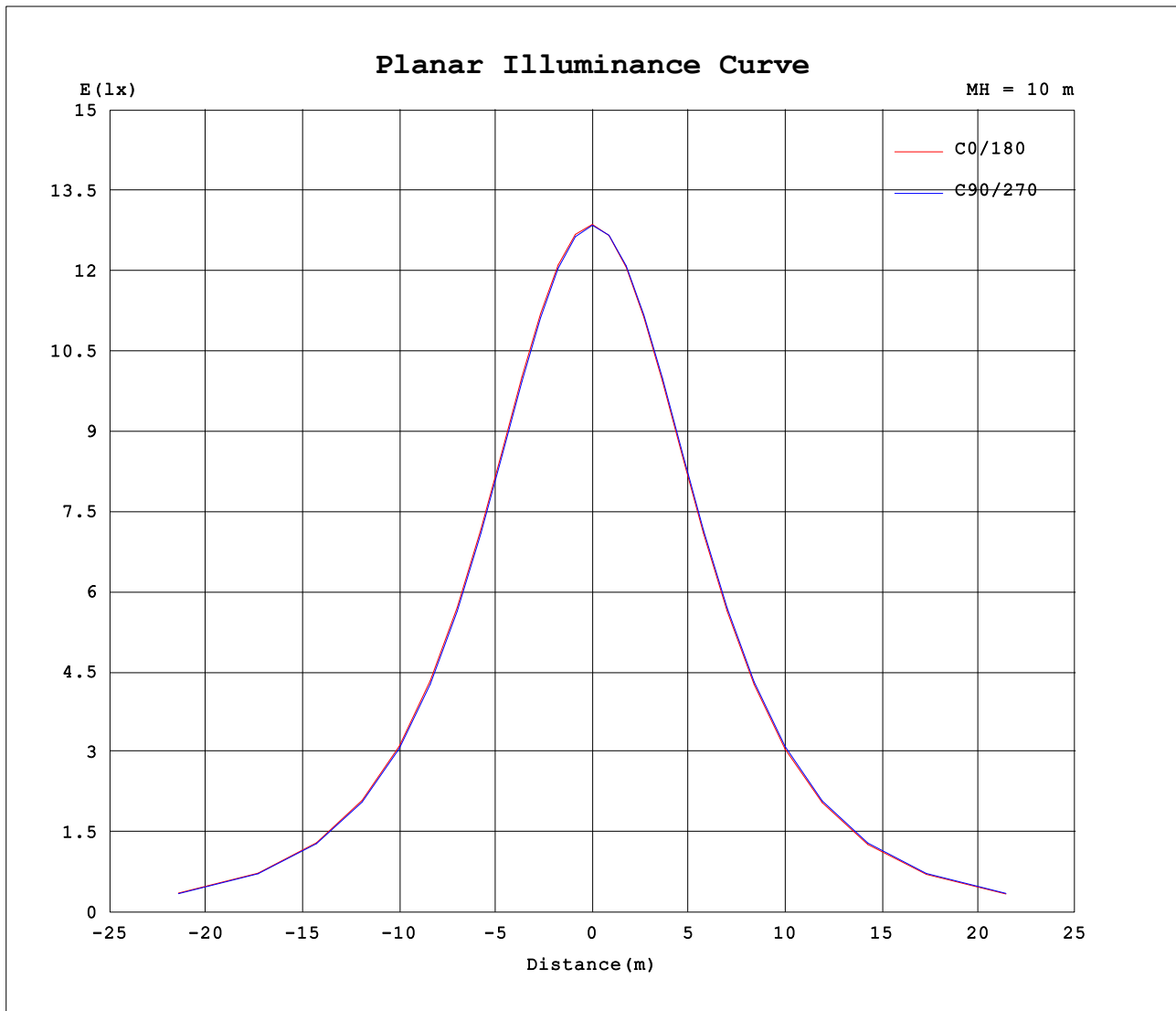
AvgL	cd/m2
L_0~180 (65) av	5699
L_0~180 (75) av	4937
L_0~180 (85) av	3527
L_90~270 (65) av	5719
L_90~270 (75) av	4988
L_90~270 (85) av	3616
L_45 (65) av	5705
L_45 (75) av	4958
L_45 (85) av	3563

Standard: GB/T 29293-2012

C Range: 0 - 360DEG
C Interval: 90.0DEG
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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:

Planar Illuminance Curve



C Range: 0 - 360DEG
 C Interval: 90.0DEG
 Test Speed: HIGH
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 Operators: King
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γ Range: 0 - 120DEG
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 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:220.27V I:0.1754A P:37.558W PF:0.9721 Freq:49.99Hz Lamp Flux:3751.48x1 lm		
NAME: SUN P.50-182100	TYPE:LED	WEIGHT:
SPEC.:3000K	DIM.:	SERIAL No.:01
MANUFACTURE:BBT LIGHTING	SUR.:	Shielding Angle:

Table--1

UNIT: cd

C (DEG) \ γ (DEG)	0	90	180	270															
0	1286	1286	1286	1286															
5	1282	1279	1280	1282															
10	1267	1262	1262	1267															
15	1242	1235	1235	1241															
20	1206	1197	1196	1205															
25	1159	1150	1149	1158															
30	1103	1092	1091	1102															
35	1038	1025	1024	1036															
40	964	951	948	961															
45	880	869	864	878															
50	789	778	773	787															
55	693	683	675	689															
60	590	579	571	585															
65	481	471	463	476															
70	369	361	351	364															
75	259	252	242	254															
80	155	149	140	151															
85	65.6	61.4	54.9	62.1															
90	3.49	2.13	1.68	2.50															
95	1.59	1.76	2.10	1.99															
100	2.00	2.22	2.56	2.44															
105	2.44	2.70	3.10	2.96															
110	2.93	3.21	3.63	3.48															
115	3.41	3.72	4.15	3.99															
120	3.83	4.23	4.66	4.45															
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: