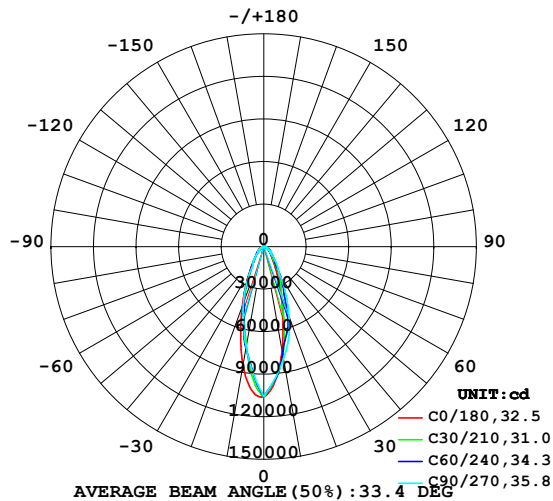


LUMINAIRE PHOTOMETRIC TEST REPORT

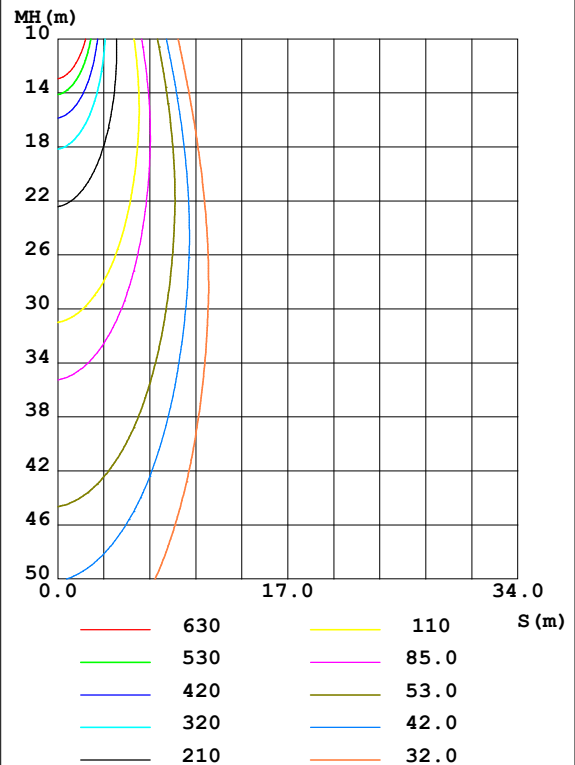
Test:U:119.14V I:3.4976A P:416.13W PF:0.9986 Freq:49.97Hz Lamp Flux:59198x1 lm		
NAME: GSM-60-U	TYPE:Flood Light	WEIGHT:N/A
SPEC.:400W/5000K/30°	DIM.: 190*150mm	SERIAL No.:N/A
MFR.: Grin Industrial Co., Ltd.	SUR.:N/A	Shielding Angle:N/A

DATA OF LAMP		PHOTOMETRIC DATA Eff: 142.26 lm/W			
MODEL	GSM-60-U	I _{max} (cd)	106103	S/MH(C0/180)	0.57
NOMINAL POWER(W)	400W	LOR(%)	100.0	S/MH(C90/270)	0.51
RATED VOLTAGE(V)	120	TOTAL FLUX(lm)	59198	η UP,DN(C0-180)	0.0,52.8
NOMINAL FLUX(lm)	59198	CIE CLASS	DIRECT	η UP,DN(C180-360)	0.0,47.2
LAMPS INSIDE	1	η up(%)	0.0	CIBSE SHR NOM	0.50
TEST VOLTAGE(V)	120	η down(%)	100.0	CIBSE SHR MAX	0.60

LUMINOUS INTENSITY DISTRIBUTION DIAGRAM



C0 PLANE ISOLUX DIAGRAM (UNIT:lx)



H(β) Range:-90 - 90DEG
H(β) Interval: 1.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:Gu
Test Date:2025-02-28

V(B) Range:-75 - 75DEG
V(B) Interval: 5.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.00.411
Humidity:65.0%
Test Distance:7.448m [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	743.8	768.6	804.0	766.6	848.3	717.0	720.4	718.2	0- 10	8305	8305	14,14
20	357.3	455.5	523.8	441.1	445.0	382.4	420.9	384.7	10- 20	15921	24226	40.9,40.9
30	158.1	208.2	216.4	227.8	197.0	195.7	159.0	175.5	20- 30	13450	37677	63.6,63.6
40	82.94	97.18	121.6	106.6	95.95	91.11	95.35	82.90	30- 40	8468	46145	77.9,78
50	53.78	57.78	60.82	62.00	59.63	55.84	52.52	51.93	40- 50	5683	51828	87.5,87.5
60	34.37	34.76	34.24	35.59	37.51	32.56	30.46	31.47	50- 60	3985	55813	94.3,94.3
70	16.97	16.97	15.90	15.98	19.24	14.49	14.26	14.92	60- 70	2427	58240	98.4,98.4
80	3.555	2.676	0	2.052	5.030	1.975	0	2.300	70- 80	908.1	59148	99.9,99.9
90	0.0731	0	0	0	0.0720	0	0	0	80- 90	50.37	59198	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:×100cd									UNIT:lm		

Conical surface Flux(90deg): 49263 lm

%lum = 83.2%

%lamp = 83.2%

Conical surface Flux(120deg): 55813 lm

%lum = 94.3%

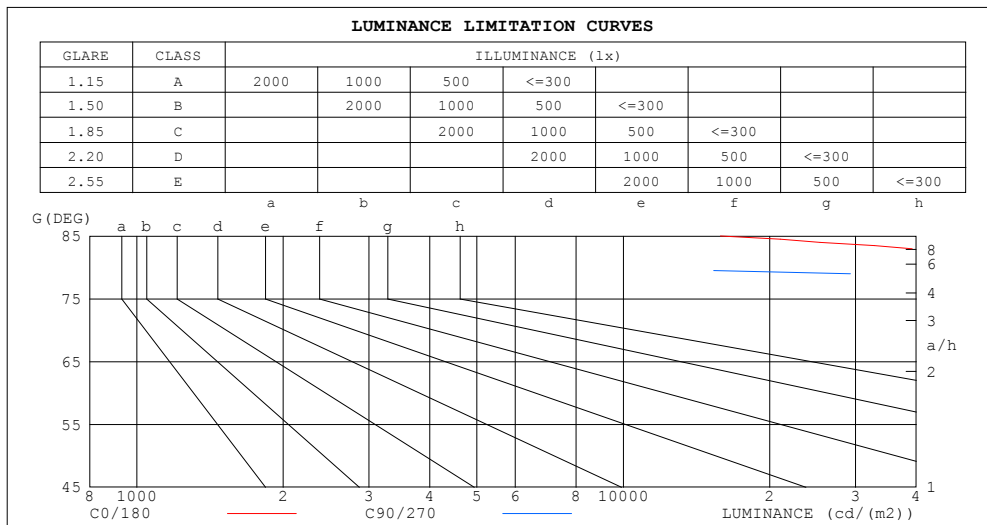
%lamp = 94.3%

$H(\beta)$ Range:-90 - 90DEG
 $H(\beta)$ Interval: 1.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:Gu
 Test Date:2025-02-28

V(B) Range:-75 - 75DEG
 V(B) Interval: 5.0DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.00.411
 Humidity:65.0%
 Test Distance:7.448m [K=1.0000]
 Remarks:

LUMINANCE LIMITATION CURVES

Test:U:119.14V I:3.4976A P:416.13W PF:0.9986 Freq:49.97Hz Lamp Flux:59198x1 lm		
NAME: GSM-60-U	TYPE:Flood Light	WEIGHT:N/A
SPEC.:400W/5000K/30°	DIM.: 190*150mm	SERIAL No.:N/A
MFR.: Grin Industrial Co., Ltd.	SUR.:N/A	Shielding Angle:N/A



LUMINANCE cd/(m2)		
G (DEG)	C0/180	C90/270
85	15835	0
80	85302	0
75	152320	108061
70	206688	193694
65	250579	246984
60	286445	285321
55	316444	345453
50	348587	394252
45	388984	437360

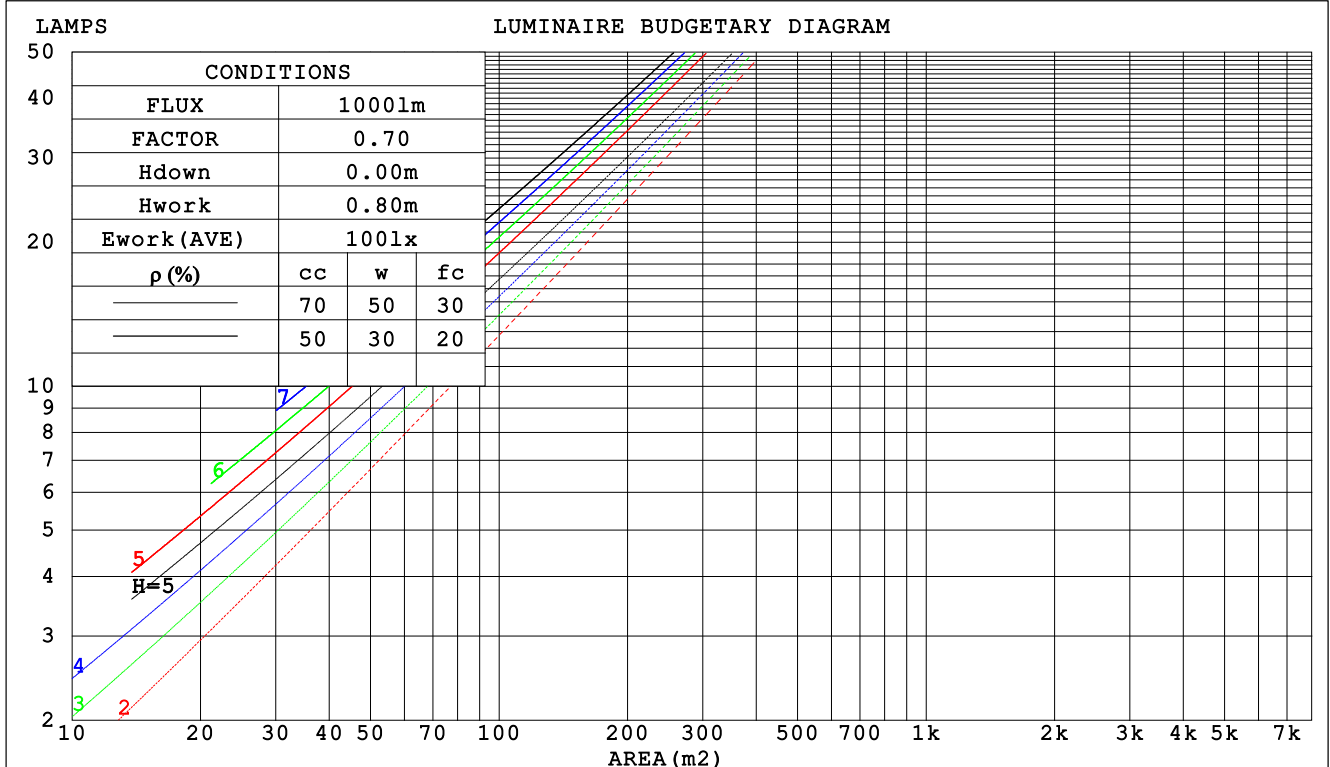
H(β) Range:-90 - 90DEG
H(β) Interval: 1.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:Gu
Test Date:2025-02-28

V(B) Range:-75 - 75DEG
V(B) Interval: 5.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.00.411
Humidity:65.0%
Test Distance:7.448m [K=1.0000]
Remarks:

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

Test:U:119.14V I:3.4976A P:416.13W PF:0.9986 Freq:49.97Hz Lamp Flux:59198x1 lm		
NAME: GSM-60-U	TYPE:Flood Light	WEIGHT:N/A
SPEC.:400W/5000K/30°	DIM.: 190*150mm	SERIAL No.:N/A
MFR.: Grin Industrial Co., Ltd.	SUR.:N/A	Shielding Angle:N/A

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	Coefficients of Utilization(CU)															
RCR:Room Cavity Ratio																
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	1.10	1.07	1.04	1.07	1.05	1.03	1.03	1.01	.99	.99	.98	.96	.96	.95	.94	.92
2.0	1.01	.96	.92	.99	.95	.91	.96	.92	.89	.93	.90	.87	.90	.87	.85	.84
3.0	.93	.87	.83	.91	.86	.82	.89	.84	.81	.86	.83	.80	.84	.81	.78	.77
4.0	.86	.80	.75	.85	.79	.75	.83	.78	.74	.81	.77	.73	.79	.75	.72	.71
5.0	.80	.74	.69	.79	.73	.69	.77	.72	.68	.76	.71	.68	.74	.70	.67	.65
6.0	.75	.69	.64	.74	.68	.64	.73	.67	.63	.71	.67	.63	.70	.66	.63	.61
7.0	.71	.64	.60	.70	.64	.60	.69	.63	.59	.67	.63	.59	.66	.62	.59	.57
8.0	.67	.60	.56	.66	.60	.56	.65	.59	.56	.64	.59	.55	.63	.58	.55	.54
9.0	.63	.57	.53	.63	.57	.53	.62	.56	.52	.61	.56	.52	.60	.55	.52	.51
10.0	.60	.54	.50	.59	.54	.50	.59	.53	.50	.58	.53	.49	.57	.53	.49	.48



H(β) Range:-90 - 90DEG
H(β) Interval: 1.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:Gu
Test Date:2025-02-28

V(B) Range:-75 - 75DEG
V(B) Interval: 5.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.00.411
Humidity:65.0%
Test Distance:7.448m [K=1.0000]
Remarks:

WEC AND CCEC

Test:U:119.14V I:3.4976A P:416.13W PF:0.9986 Freq:49.97Hz Lamp Flux:59198x1 lm					
NAME: GSM-60-U			TYPE:Flood Light		WEIGHT:N/A
SPEC.:400W/5000K/30°			DIM.: 190*150mm		SERIAL No.:N/A
MFR.: Grin Industrial Co., Ltd.			SUR.:N/A		Shielding Angle:N/A

pcc	80%			70%			50%			30%			10%			0	
pw	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0	
pfc	20%			20%			20%			20%			20%			0	
RCR	RCR:Room Cavity Ratio						Wall Exitance Coefficients(WEC)										
0.0																	
1.0	.202	.115	.036	.195	.111	.035	.182	.105	.033	.171	.098	.032	.160	.093	.030		
2.0	.194	.106	.033	.188	.104	.032	.177	.099	.031	.167	.094	.029	.158	.089	.028		
3.0	.183	.098	.029	.178	.095	.029	.169	.092	.028	.160	.088	.027	.152	.084	.026		
4.0	.173	.090	.026	.168	.088	.026	.160	.085	.025	.153	.082	.025	.146	.079	.024		
5.0	.163	.083	.024	.159	.082	.024	.152	.079	.023	.145	.077	.023	.139	.074	.022		
6.0	.153	.077	.022	.150	.076	.022	.144	.074	.021	.138	.072	.021	.133	.070	.021		
7.0	.145	.072	.020	.142	.071	.020	.137	.069	.020	.131	.067	.020	.127	.066	.019		
8.0	.137	.067	.019	.135	.066	.019	.130	.065	.019	.125	.063	.018	.121	.062	.018		
9.0	.130	.063	.018	.128	.062	.018	.124	.061	.017	.120	.060	.017	.116	.059	.017		
10.0	.124	.059	.017	.122	.059	.016	.118	.058	.016	.114	.057	.016	.111	.056	.016		

pcc	80%			70%			50%			30%			10%			0
pw	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
pfc	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	.143	.148	.135	.123	.101	.093	.085	.058	.054	.049	.019	.017	.016	
2.0	.159	.132	.110	.136	.114	.095	.093	.079	.066	.054	.046	.039	.017	.015	.013	
3.0	.148	.114	.087	.127	.098	.075	.087	.068	.053	.050	.040	.031	.016	.013	.010	
4.0	.138	.099	.070	.118	.086	.061	.081	.060	.043	.047	.035	.025	.015	.011	.008	
5.0	.129	.088	.057	.111	.076	.050	.077	.053	.035	.044	.031	.021	.014	.010	.007	
6.0	.122	.079	.048	.105	.068	.042	.072	.048	.029	.042	.028	.018	.014	.009	.006	
7.0	.115	.071	.041	.099	.062	.035	.068	.043	.025	.040	.026	.015	.013	.008	.005	
8.0	.109	.065	.035	.094	.056	.030	.065	.040	.022	.038	.023	.013	.012	.008	.004	
9.0	.104	.060	.030	.089	.052	.026	.062	.037	.019	.036	.022	.011	.012	.007	.004	
10.0	.099	.055	.027	.085	.048	.023	.059	.034	.017	.034	.020	.010	.011	.007	.003	

H(β) Range:-90 - 90DEG
H(β) Interval: 1.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:Gu
Test Date:2025-02-28

V(B) Range:-75 - 75DEG
V(B) Interval: 5.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.00.411
Humidity:65.0%
Test Distance:7.448m [K=1.0000]
Remarks:

UGR(Unified Glare Rating) Table

Test:U:119.14V I:3.4976A P:416.13W PF:0.9986 Freq:49.97Hz Lamp Flux:59198x1 lm										
NAME: GSM-60-U					TYPE:Flood Light			WEIGHT:N/A		
SPEC.:400W/5000K/30°					DIM.: 190*150mm			SERIAL No.:N/A		
MFR.: Grin Industrial Co., Ltd.					SUR.:N/A			Shielding Angle:N/A		
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	16.4	17.4	16.6	17.6	17.7	16.8	17.9	17.0	18.0	18.2
3H	17.3	18.2	17.5	18.4	18.7	17.4	18.4	17.7	18.6	18.8
4H	17.5	18.5	17.8	18.7	18.9	17.5	18.4	17.8	18.7	18.9
6H	17.6	18.5	17.9	18.7	19.0	17.5	18.3	17.8	18.6	18.8
8H	17.6	18.4	17.9	18.7	19.0	17.4	18.3	17.7	18.5	18.8
12H	17.6	18.4	17.9	18.6	18.9	17.4	18.2	17.7	18.4	18.7
4H 2H	16.7	17.6	17.0	17.9	18.1	17.1	18.0	17.4	18.2	18.5
3H	17.8	18.6	18.1	18.9	19.1	17.9	18.7	18.2	18.9	19.2
4H	18.1	18.8	18.5	19.2	19.5	18.0	18.7	18.4	19.0	19.3
6H	18.3	18.9	18.6	19.2	19.6	17.9	18.6	18.3	18.9	19.3
8H	18.2	18.8	18.6	19.2	19.6	17.9	18.5	18.3	18.8	19.2
12H	18.2	18.7	18.6	19.1	19.5	17.8	18.4	18.3	18.8	19.2
8H 4H	18.1	18.7	18.5	19.1	19.5	18.0	18.6	18.4	19.0	19.3
6H	18.3	18.8	18.8	19.2	19.6	18.0	18.5	18.4	18.9	19.3
8H	18.3	18.8	18.8	19.2	19.6	17.9	18.4	18.4	18.8	19.2
12H	18.3	18.7	18.8	19.1	19.6	17.9	18.2	18.3	18.7	19.2
12H 4H	18.1	18.6	18.5	19.0	19.4	18.0	18.5	18.4	18.9	19.3
6H	18.3	18.7	18.7	19.1	19.6	17.9	18.4	18.4	18.8	19.2
8H	18.3	18.7	18.8	19.1	19.6	17.9	18.3	18.4	18.7	19.2
Variations with the observer position at spacings:										
S = 1.0H	+ 0.6 / - 0.8					+ 0.7 / - 0.9				
1.5H	+ 0.3 / - 0.7					+ 1.2 / - 0.5				
2.0H	+ 0.7 / - 0.9					+ 0.9 / - 1.1				

CIE Pub.117, 59198 lm Total Lamp Luminous Flux Correct (8log(F/F0) = 14.2)
Area: 0.024 m2

H(β) Range:-90 - 90DEG
H(β) Interval: 1.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:Gu
Test Date:2025-02-28

V(B) Range:-75 - 75DEG
V(B) Interval: 5.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.00.411
Humidity:65.0%
Test Distance:7.448m [K=1.0000]
Remarks:

UTILIZATION FACTORS TABLE

Test:U:119.14V I:3.4976A P:416.13W PF:0.9986 Freq:49.97Hz Lamp Flux:59198x1 lm		
NAME: GSM-60-U	TYPE:Flood Light	WEIGHT:N/A
SPEC.:400W/5000K/30°	DIM.: 190*150mm	SERIAL No.:N/A
MFR.: Grin Industrial Co., Ltd.	SUR.:N/A	Shielding Angle:N/A

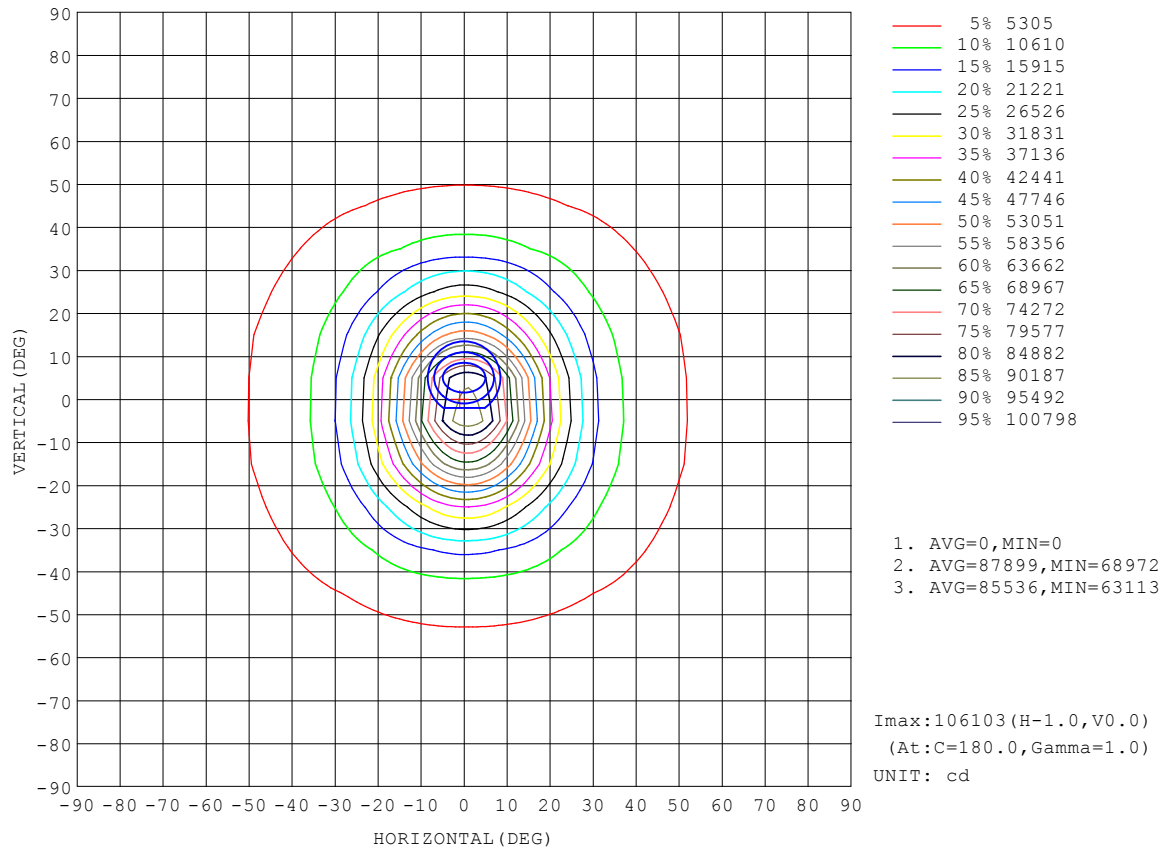
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS (PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	78	70	65	77	70	65	76	69	65	60
0.80	86	79	74	85	78	74	84	78	73	68
1.00	92	85	80	91	84	80	89	85	79	74
1.25	97	90	86	96	90	86	94	89	85	80
1.50	101	94	90	99	94	90	97	92	89	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	110	107	104	106	103	101	94
5.00	113	110	108	111	109	106	107	105	103	95
ROOM INDEX	UF (total)									Direct
According to DIN EN 13032-2 2004			Suspended					SHRNOM = 1.25		

$H(\beta)$ Range:-90 - 90DEG
 $H(\beta)$ Interval: 1.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:Gu
 Test Date:2025-02-28

$V(B)$ Range:-75 - 75DEG
 $V(B)$ Interval: 5.0DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.00.411
 Humidity:65.0%
 Test Distance:7.448m [K=1.0000]
 Remarks:

ISOCANDELA DIAGRAM

Test:U:119.14V I:3.4976A P:416.13W PF:0.9986 Freq:49.97Hz Lamp Flux:59198x1 lm		
NAME: GSM-60-U	TYPE:Flood Light	WEIGHT:N/A
SPEC.:400W/5000K/30°	DIM.: 190*150mm	SERIAL No.:N/A
MFR.: Grin Industrial Co., Ltd.	SUR.:N/A	Shielding Angle:N/A

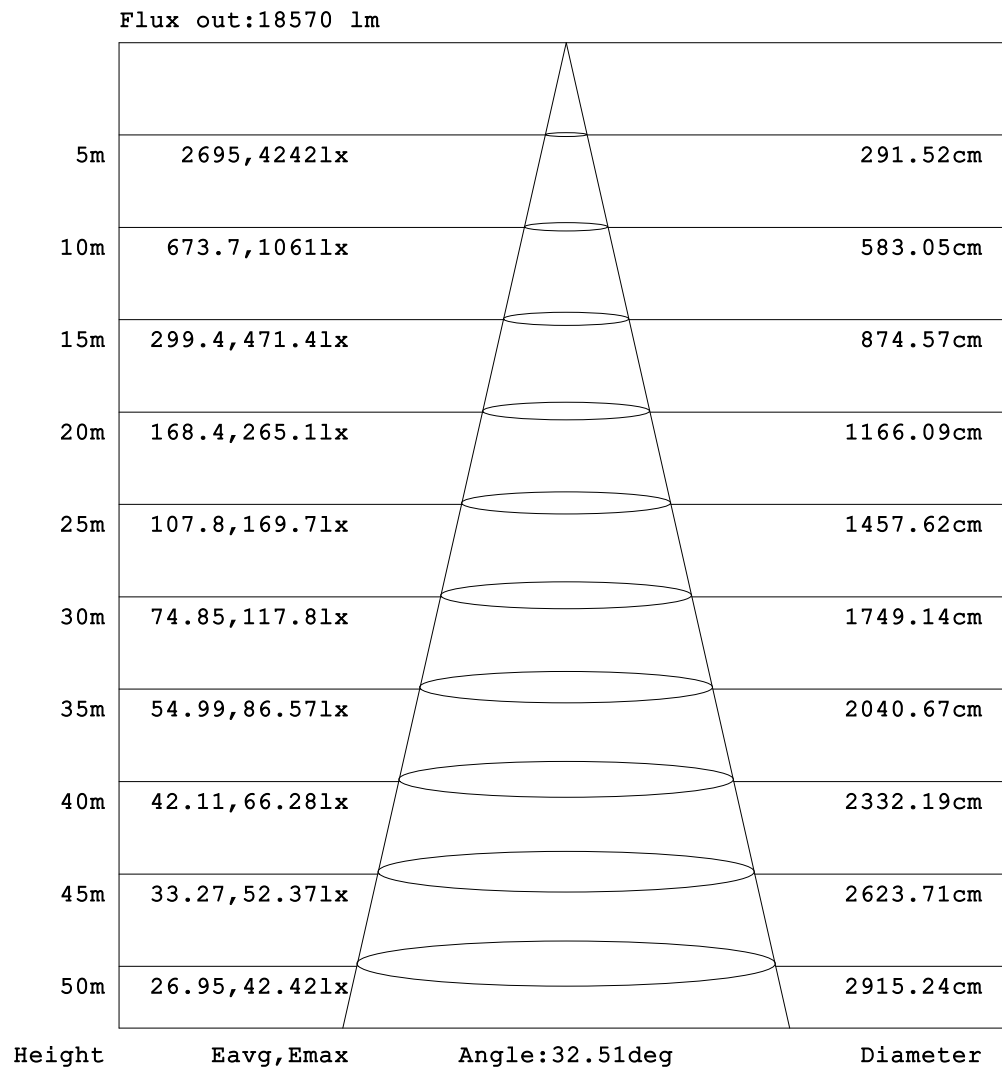


H(β) Range:-90 - 90DEG
H(β) Interval: 1.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:Gu
Test Date:2025-02-28

V(B) Range:-75 - 75DEG
V(B) Interval: 5.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.00.411
Humidity:65.0%
Test Distance:7.448m [K=1.0000]
Remarks:

AAI Figure

Test:U:119.14V I:3.4976A P:416.13W PF:0.9986 Freq:49.97Hz Lamp Flux:59198x1 lm		
NAME: GSM-60-U	TYPE:Flood Light	WEIGHT:N/A
SPEC.:400W/5000K/30°	DIM.: 190*150mm	SERIAL No.:N/A
MFR.: Grin Industrial Co., Ltd.	SUR.:N/A	Shielding Angle:N/A



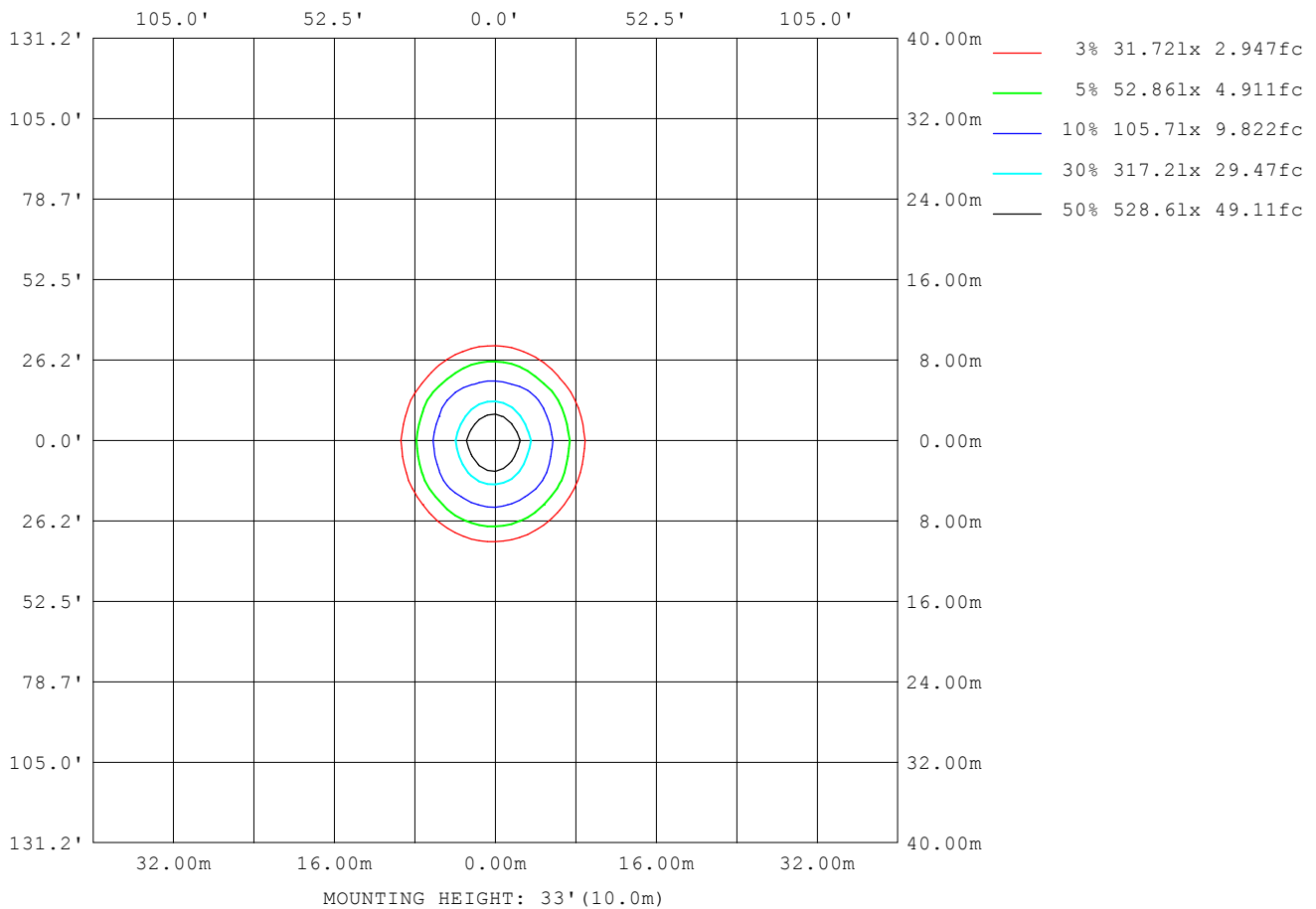
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

H(β) Range:-90 - 90DEG
H(β) Interval: 1.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:Gu
Test Date:2025-02-28

V(B) Range:-75 - 75DEG
V(B) Interval: 5.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.00.411
Humidity:65.0%
Test Distance:7.448m [K=1.0000]
Remarks:

ISOLUX DIAGRAM

Test:U:119.14V I:3.4976A P:416.13W PF:0.9986 Freq:49.97Hz Lamp Flux:59198x1 lm		
NAME: GSM-60-U	TYPE:Flood Light	WEIGHT:N/A
SPEC.:400W/5000K/30°	DIM.: 190*150mm	SERIAL No.:N/A
MFR.: Grin Industrial Co., Ltd.	SUR.:N/A	Shielding Angle:N/A



H(β) Range:-90 - 90DEG
H(β) Interval: 1.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:Gu
Test Date:2025-02-28

V(B) Range:-75 - 75DEG
V(B) Interval: 5.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.00.411
Humidity:65.0%
Test Distance:7.448m [K=1.0000]
Remarks:

LED Avg.L Report

Test:U:119.14V I:3.4976A P:416.13W PF:0.9986 Freq:49.97Hz Lamp Flux:59198x1 lm		
NAME: GSM-60-U	TYPE:Flood Light	WEIGHT:N/A
SPEC.:400W/5000K/30°	DIM.: 190*150mm	SERIAL No.:N/A
MFR.: Grin Industrial Co., Ltd.	SUR.:N/A	Shielding Angle:N/A

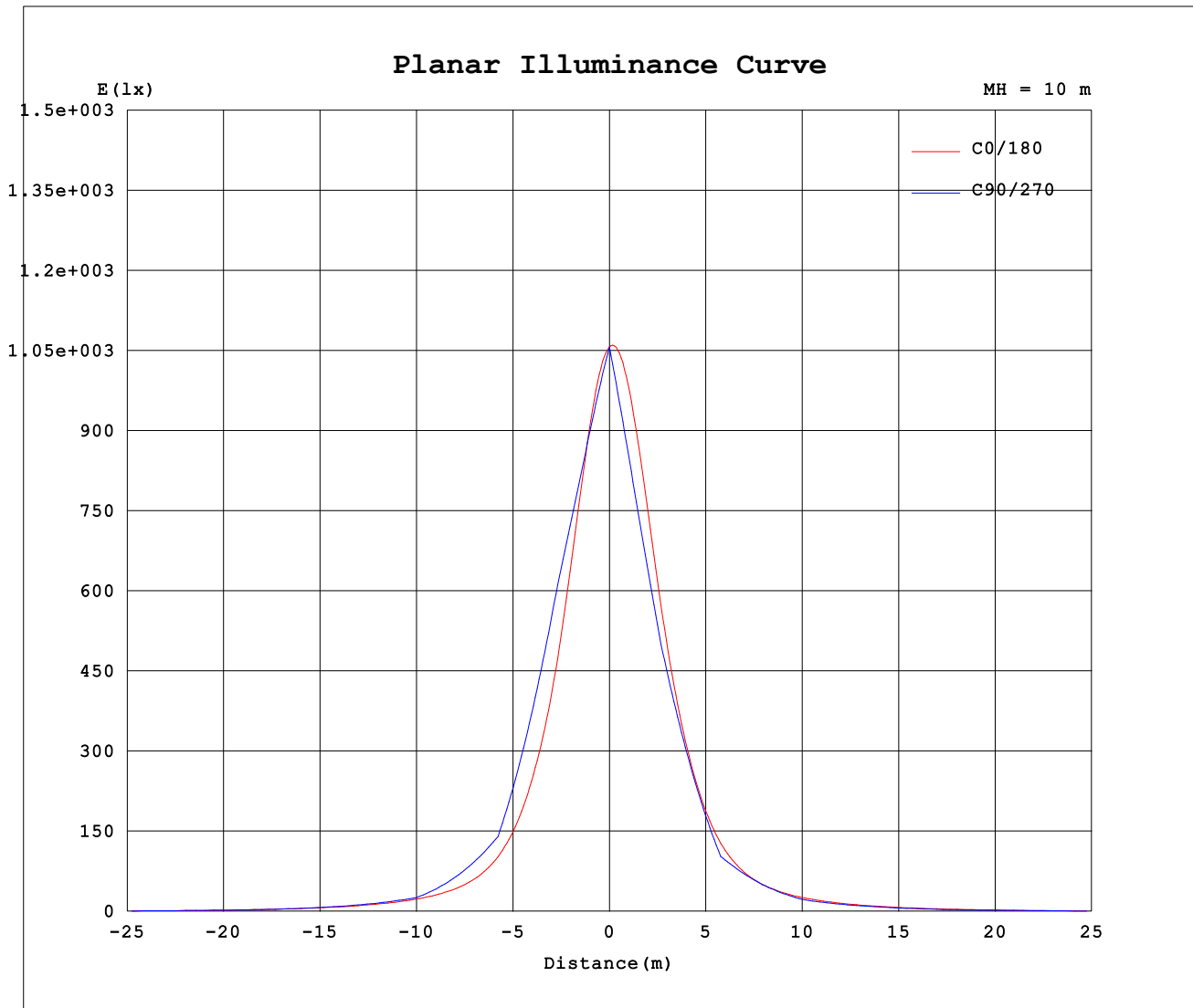
AvgL	cd/m2
L_0~180 (65) av	263515
L_0~180 (75) av	168442
L_0~180 (85) av	28793
L_90~270 (65) av	233663
L_90~270 (75) av	103562
L_90~270 (85) av	0
L_45 (65) av	235843
L_45 (75) av	137959
L_45 (85) av	0

Standard: GB/T 29293-2012

H(β) Range:-90 - 90DEG
H(β) Interval: 1.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:Gu
Test Date:2025-02-28

V(B) Range:-75 - 75DEG
V(B) Interval: 5.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.00.411
Humidity:65.0%
Test Distance:7.448m [K=1.0000]
Remarks:

Planar Illuminance Curve



H(β) Range:-90 - 90DEG
H(β) Interval: 1.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:Gu
Test Date:2025-02-28

V(B) Range:-75 - 75DEG
V(B) Interval: 5.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.00.411
Humidity:65.0%
Test Distance:7.448m [K=1.0000]
Remarks:

V(B) Range:-75 - 75DEG
V(B) Interval: 5.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.00.411
Humidity:65.0%
Test Distance:7.448m [K=1.0000]
Remarks:

```
V(B) Range:-75 - 75DEG
V(B) Interval: 5.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.00.411
Humidity:65.0%
Test Distance:7.448m [K=1.0000]
Remarks:
```

```
V(B) Range:-75 - 75DEG
V(B) Interval: 5.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.00.411
Humidity:65.0%
Test Distance:7.448m [K=1.0000]
Remarks:
```

V(B) Range:-75 - 75DEG
V(B) Interval: 5.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.00.411
Humidity:65.0%
Test Distance:7.448m [K=1.0000]
Remarks: