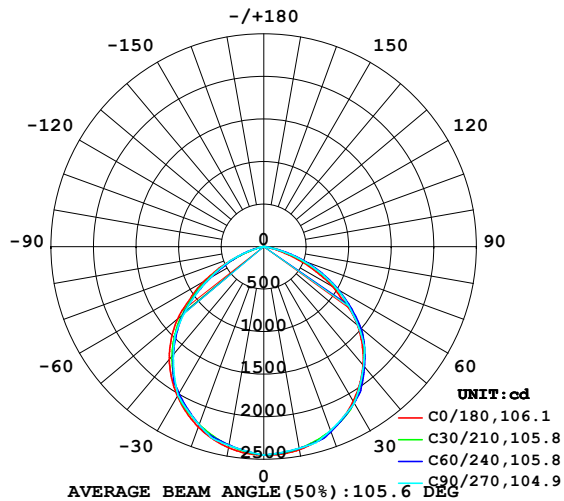


## LUMINAIRE PHOTOMETRIC TEST REPORT

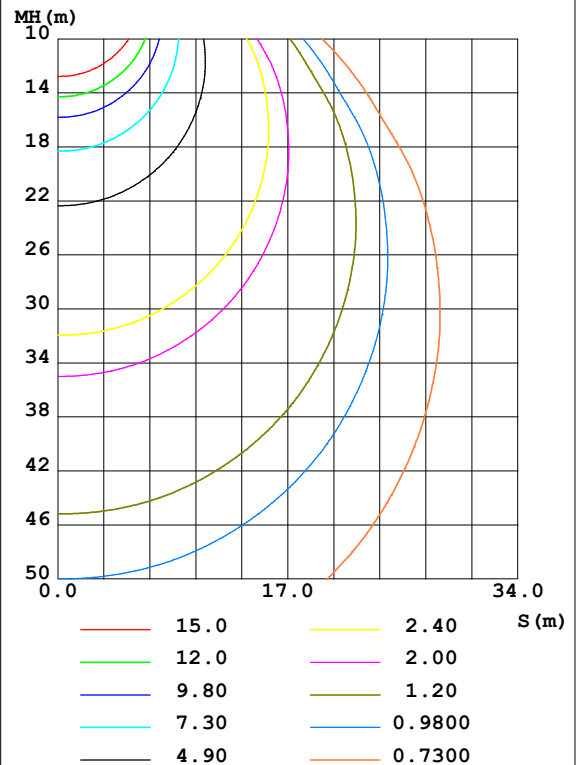
Test:U:120.89V I:0.4999A P:60.271W PF:0.9973 Freq:59.98Hz Lamp Flux:6077.9x1 lm		
NAME: GHRM-10-U	TYPE:Flood Light	WEIGHT:N/A
SPEC.:60W/1600K/110°	DIM.: 190*150mm	SERIAL No.:N/A
MFR.: Grin Industrial Co., Ltd.	SUR.:N/A	Shielding Angle:N/A

DATA OF LAMP		PHOTOMETRIC DATA Eff: 100.84 lm/W			
MODEL	GHRM-10-U	I <sub>max</sub> (cd)	2450	S/MH(C0/180)	1.24
NOMINAL POWER(W)	60W	LOR(%)	100.0	S/MH(C90/270)	1.22
RATED VOLTAGE(V)	120	TOTAL FLUX(lm)	6077.9	η UP,DN(C0-180)	0.0,52.5
NOMINAL FLUX(lm)	6077.9	CIE CLASS	DIRECT	η UP,DN(C180-360)	0.0,47.5
LAMPS INSIDE	1	η up(%)	0.0	CIBSE SHR NOM	1.25
TEST VOLTAGE(V)	120	η down(%)	100.0	CIBSE SHR MAX	1.35

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:2025-03-13

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:

$\gamma$	C0	C45	C90	C135	C180	C225	C270	C315	$\gamma$	$\Phi$ zone	$\Phi$ total	%lum, lamp
10	2423	2406	2406	2390	2398	2366	2372	2381	0- 10	230.4	230.4	3.79,3.79
20	2304	2322	2298	2286	2255	2236	2228	2270	10- 20	660.9	891.3	14.7,14.7
30	2100	2114	2126	2059	2030	1988	2017	2034	20- 30	999.8	1891	31.1,31.1
40	1816	1860	1826	1787	1729	1686	1654	1748	30- 40	1198	3089	50.8,50.8
50	1438	1472	1449	1368	1324	1229	1222	1299	40- 50	1206	4295	70.7,70.7
60	927.2	1001	995.6	880.4	803.7	726.4	719.8	796.7	50- 60	987.9	5283	86.9,86.9
70	383.1	505.3	496.3	393.2	280.3	253.2	293.8	306.8	60- 70	598.0	5881	96.8,96.8
80	42.54	90.27	0	47.74	28.35	20.54	0	26.88	70- 80	189.7	6071	99.9,99.9
90	0.8732	0	0	0	1.082	0	0	0	80- 90	7.218	6078	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): 3704 lm

%lum = 60.9%

%lamp = 60.9%

Conical surface Flux(120deg): 5283.1 lm

%lum = 86.9%

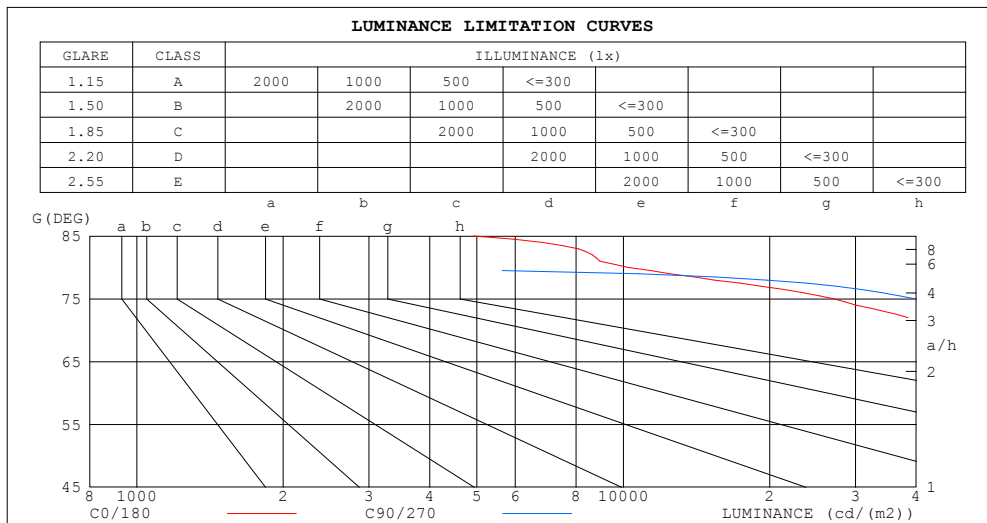
%lamp = 86.9%

$H(\beta)$  Range:-90 - 90DEG  
 $H(\beta)$  Interval: 1.0DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:Gu  
 Test Date:2025-03-13

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:120.89V I:0.4999A P:60.271W PF:0.9973 Freq:59.98Hz Lamp Flux:6077.9x1 lm		
NAME: GHRM-10-U	TYPE:Flood Light	WEIGHT:N/A
SPEC.:60W/1600K/110°	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	4919	0
80	10206	0
75	27055	39706
70	46668	60461
65	64611	73544
60	77267	82967
55	85383	88796
50	93220	93934
45	96542	98752

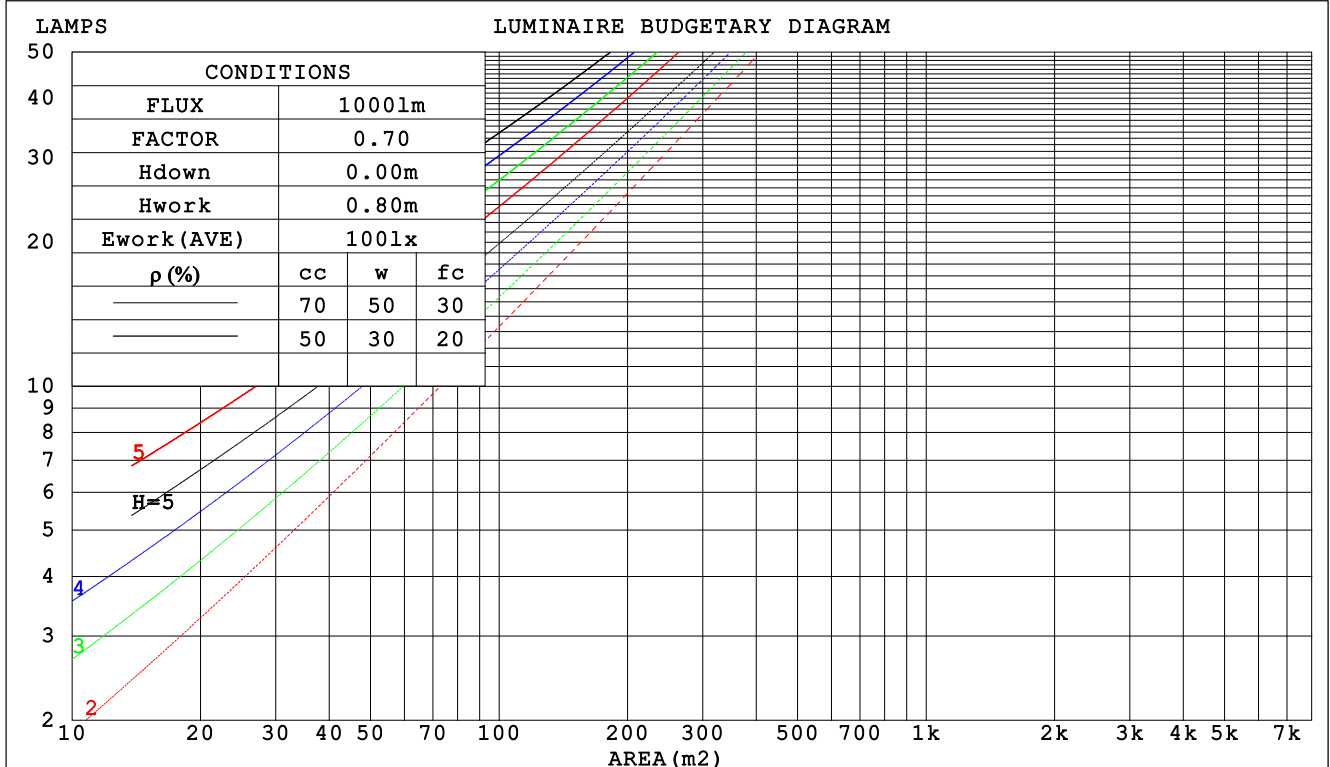
H( $\beta$ ) Range:-90 - 90DEG  
H( $\beta$ ) Interval: 1.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:Gu  
Test Date:2025-03-13

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:120.89V I:0.4999A P:60.271W PF:0.9973 Freq:59.98Hz Lamp Flux:6077.9x1 lm		
NAME: GHRM-10-U	TYPE:Flood Light	WEIGHT:N/A
SPEC.:60W/1600K/110°	DIM.: 190*150mm	SERIAL No.:N/A
MFR.: Grin Industrial Co., Ltd.	SUR.:N/A	Shielding Angle:N/A

$\rho_{cc}$	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	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	1.06	1.03	.99	1.04	1.01	.98	.90	.97	.95	.96	.94	.92	.92	.91	.89	.87
2.0	.94	.88	.83	.92	.86	.82	.89	.84	.80	.85	.81	.78	.82	.79	.76	.74
3.0	.83	.76	.70	.82	.75	.69	.79	.73	.68	.76	.71	.67	.74	.69	.66	.64
4.0	.74	.66	.60	.73	.65	.59	.70	.64	.58	.68	.62	.58	.66	.61	.57	.55
5.0	.66	.58	.52	.65	.57	.51	.63	.56	.51	.61	.55	.50	.60	.54	.50	.48
6.0	.60	.51	.45	.59	.51	.45	.57	.50	.45	.56	.49	.44	.54	.48	.44	.42
7.0	.55	.46	.40	.54	.46	.40	.52	.45	.40	.51	.44	.40	.49	.44	.39	.37
8.0	.50	.42	.36	.49	.41	.36	.48	.41	.36	.47	.40	.35	.45	.40	.35	.33
9.0	.46	.38	.32	.45	.38	.32	.44	.37	.32	.43	.37	.32	.42	.36	.32	.30
10.0	.42	.35	.29	.42	.34	.29	.41	.34	.29	.40	.34	.29	.39	.33	.29	.27



H( $\beta$ ) Range:-90 - 90DEG  
H( $\beta$ ) Interval: 1.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:Gu  
Test Date:2025-03-13

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:120.89V I:0.4999A P:60.271W PF:0.9973 Freq:59.98Hz Lamp Flux:6077.9x1 lm					
NAME: GHRM-10-U			TYPE:Flood Light		WEIGHT:N/A
SPEC.:60W/1600K/110°			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	.265	.150	.048	.258	.147	.047	.245	.140	.045	.233	.134	.043	.222	.128	.041		
2.0	.259	.142	.044	.253	.139	.043	.242	.134	.042	.231	.130	.041	.221	.125	.039		
3.0	.246	.131	.039	.240	.129	.039	.230	.125	.038	.221	.121	.037	.212	.118	.036		
4.0	.231	.120	.035	.226	.118	.035	.217	.115	.034	.209	.112	.034	.201	.109	.033		
5.0	.216	.110	.032	.212	.109	.032	.204	.106	.031	.196	.104	.031	.190	.101	.030		
6.0	.202	.101	.029	.198	.100	.029	.191	.098	.029	.185	.096	.028	.179	.094	.028		
7.0	.190	.094	.027	.186	.093	.026	.180	.091	.026	.174	.089	.026	.169	.088	.026		
8.0	.178	.087	.024	.175	.086	.024	.170	.085	.024	.164	.083	.024	.159	.082	.024		
9.0	.168	.081	.023	.165	.080	.023	.160	.079	.022	.155	.078	.022	.151	.077	.022		
10.0	.158	.076	.021	.156	.075	.021	.151	.074	.021	.147	.073	.021	.143	.072	.021		

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	.177	.157	.138	.152	.134	.119	.104	.092	.082	.060	.053	.048	.019	.017	.015	
2.0	.168	.132	.102	.144	.114	.088	.099	.079	.061	.057	.046	.036	.018	.015	.012	
3.0	.160	.114	.078	.137	.098	.067	.094	.068	.047	.054	.040	.028	.017	.013	.009	
4.0	.152	.101	.061	.131	.087	.053	.090	.061	.037	.052	.035	.022	.017	.012	.007	
5.0	.145	.090	.049	.125	.078	.043	.086	.054	.030	.050	.032	.018	.016	.010	.006	
6.0	.138	.082	.041	.119	.071	.036	.082	.049	.025	.048	.029	.015	.015	.010	.005	
7.0	.132	.075	.034	.113	.065	.030	.078	.045	.021	.046	.027	.013	.015	.009	.004	
8.0	.126	.069	.030	.108	.060	.026	.075	.042	.018	.044	.025	.011	.014	.008	.004	
9.0	.120	.064	.026	.103	.055	.023	.072	.039	.016	.042	.023	.010	.014	.008	.003	
10.0	.115	.060	.023	.099	.052	.020	.069	.036	.014	.040	.022	.009	.013	.007	.003	

H( $\beta$ ) Range:-90 - 90DEG  
 H( $\beta$ ) Interval: 1.0DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:Gu  
 Test Date:2025-03-13

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:120.89V I:0.4999A P:60.271W PF:0.9973 Freq:59.98Hz Lamp Flux:6077.9x1 lm										
NAME: GHRM-10-U					TYPE:Flood Light			WEIGHT:N/A		
SPEC.:60W/1600K/110°					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	22.4	23.8	22.6	24.0	24.2	22.6	24.0	22.9	24.2	24.4
3H	23.2	24.5	23.5	24.7	25.0	23.7	25.0	24.0	25.2	25.4
4H	23.3	24.5	23.6	24.8	25.0	23.9	25.1	24.2	25.4	25.6
6H	23.3	24.4	23.6	24.7	25.0	23.9	25.0	24.2	25.3	25.6
8H	23.2	24.3	23.5	24.6	24.9	23.8	24.9	24.1	25.2	25.5
12H	23.2	24.2	23.5	24.5	24.8	23.8	24.8	24.1	25.1	25.4
4H 2H	22.9	24.1	23.2	24.4	24.6	23.1	24.3	23.4	24.6	24.8
3H	23.9	24.9	24.2	25.2	25.5	24.3	25.4	24.7	25.7	26.0
4H	24.1	25.0	24.4	25.3	25.7	24.6	25.6	25.0	25.9	26.2
6H	24.1	24.9	24.4	25.3	25.6	24.6	25.5	25.0	25.8	26.2
8H	24.0	24.8	24.4	25.2	25.6	24.6	25.4	25.0	25.7	26.1
12H	24.0	24.7	24.4	25.1	25.5	24.5	25.3	25.0	25.6	26.0
8H 4H	24.2	25.0	24.6	25.3	25.7	24.7	25.5	25.1	25.9	26.2
6H	24.2	24.9	24.7	25.3	25.7	24.7	25.4	25.2	25.8	26.2
8H	24.2	24.8	24.7	25.2	25.7	24.7	25.2	25.1	25.7	26.1
12H	24.2	24.7	24.7	25.1	25.6	24.6	25.1	25.1	25.6	26.0
12H 4H	24.1	24.9	24.6	25.2	25.6	24.7	25.4	25.1	25.8	26.2
6H	24.2	24.8	24.7	25.2	25.6	24.7	25.3	25.1	25.7	26.1
8H	24.2	24.7	24.7	25.1	25.6	24.6	25.1	25.1	25.6	26.1
Variations with the observer position at spacings:										
S = 1.0H	+ 0.3 / - 0.4					+ 0.3 / - 0.4				
1.5H	+ 0.3 / - 0.6					+ 0.3 / - 0.5				
2.0H	+ 0.5 / - 0.6					+ 0.4 / - 0.5				

CIE Pub.117, 6078 lm Total Lamp Luminous Flux Correct ( $8\log(F/F_0) = 6.3$ )  
Area: 0.024 m<sup>2</sup>

H( $\beta$ ) Range:-90 - 90DEG  
H( $\beta$ ) Interval: 1.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:Gu  
Test Date:2025-03-13

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:120.89V I:0.4999A P:60.271W PF:0.9973 Freq:59.98Hz Lamp Flux:6077.9x1 lm		
NAME: GHRM-10-U	TYPE:Flood Light	WEIGHT:N/A
SPEC.:60W/1600K/110°	DIM.: 190*150mm	SERIAL No.:N/A
MFR.: Grin Industrial Co., Ltd.	SUR.:N/A	Shielding Angle:N/A

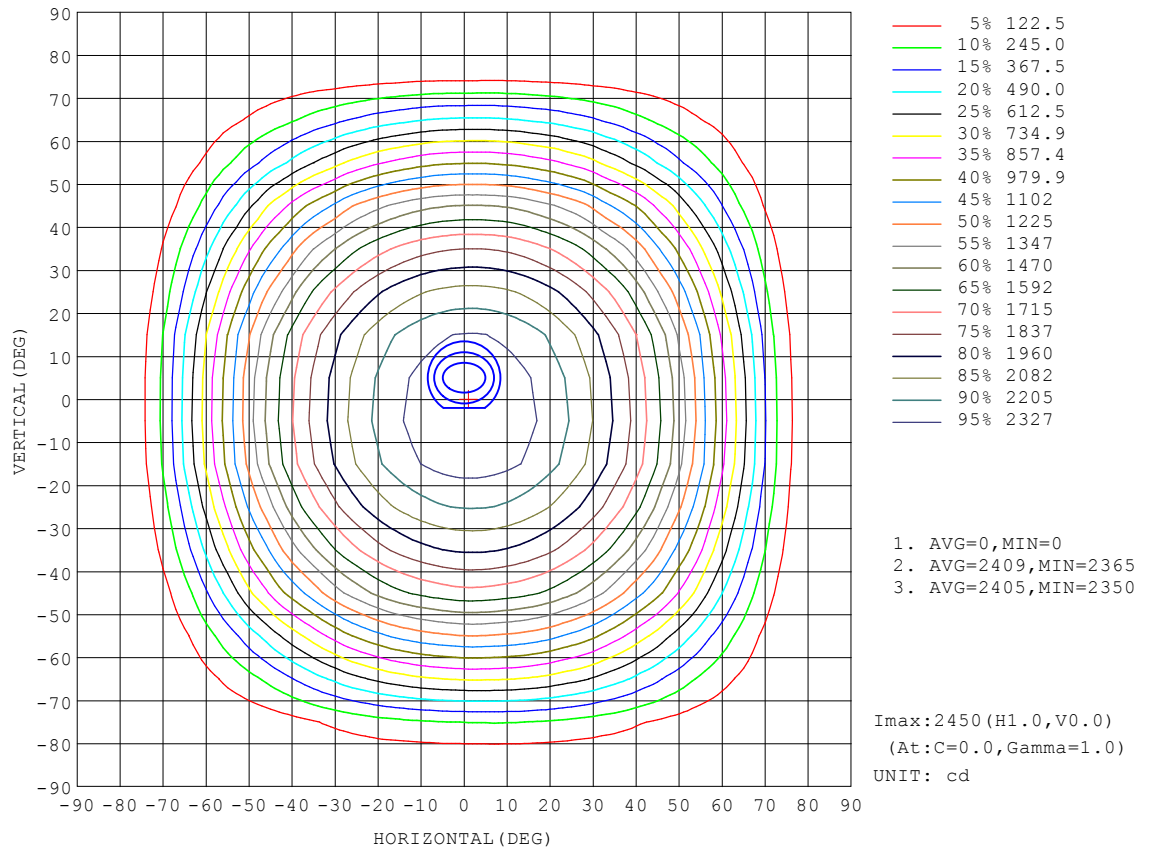
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS (PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	61	50	43	60	49	43	59	49	43	36
0.80	71	60	53	70	60	53	68	59	53	46
1.00	80	70	63	79	69	63	77	70	62	56
1.25	87	77	71	86	77	71	83	75	70	63
1.50	92	83	77	90	82	76	87	80	75	68
2.00	98	91	85	97	90	84	93	87	83	76
2.50	102	95	90	100	94	89	96	91	87	79
3.00	105	99	94	103	97	93	99	94	91	83
4.00	108	103	99	106	102	98	102	98	95	87
5.00	110	106	103	108	104	101	104	101	98	89
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:2025-03-13

$V(B)$  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:120.89V I:0.4999A P:60.271W PF:0.9973 Freq:59.98Hz Lamp Flux:6077.9x1 lm		
NAME: GHRM-10-U	TYPE:Flood Light	WEIGHT:N/A
SPEC.:60W/1600K/110°	DIM.: 190*150mm	SERIAL No.:N/A
MFR.: Grin Industrial Co., Ltd.	SUR.:N/A	Shielding Angle:N/A



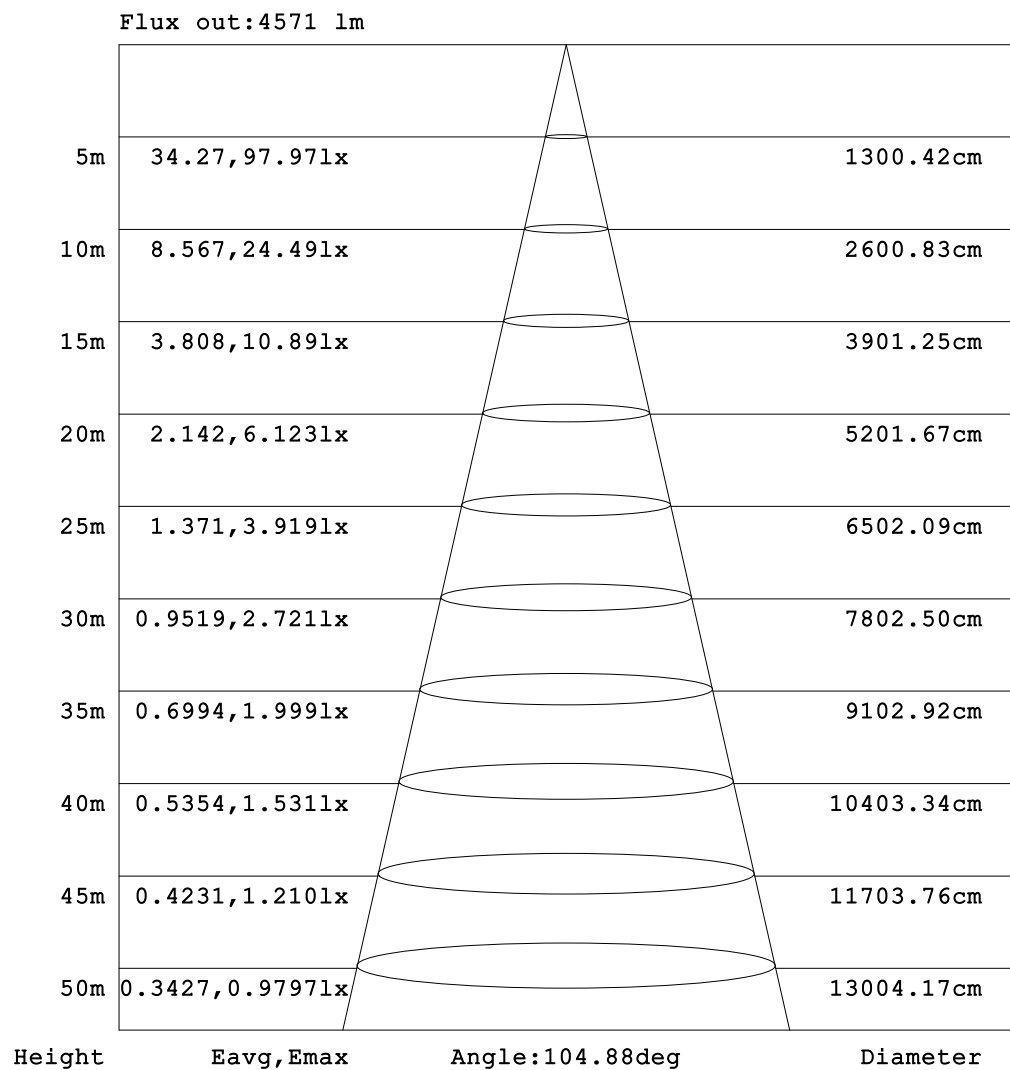
H( $\beta$ ) Range:-90 - 90DEG  
H( $\beta$ ) Interval: 1.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:Gu  
Test Date:2025-03-13

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:120.89V I:0.4999A P:60.271W PF:0.9973 Freq:59.98Hz Lamp Flux:6077.9x1 lm		
NAME: GHRM-10-U	TYPE:Flood Light	WEIGHT:N/A
SPEC.:60W/1600K/110°	DIM.: 190*150mm	SERIAL No.:N/A
MFR.: Grin Industrial Co., Ltd.	SUR.:N/A	Shielding Angle:N/A



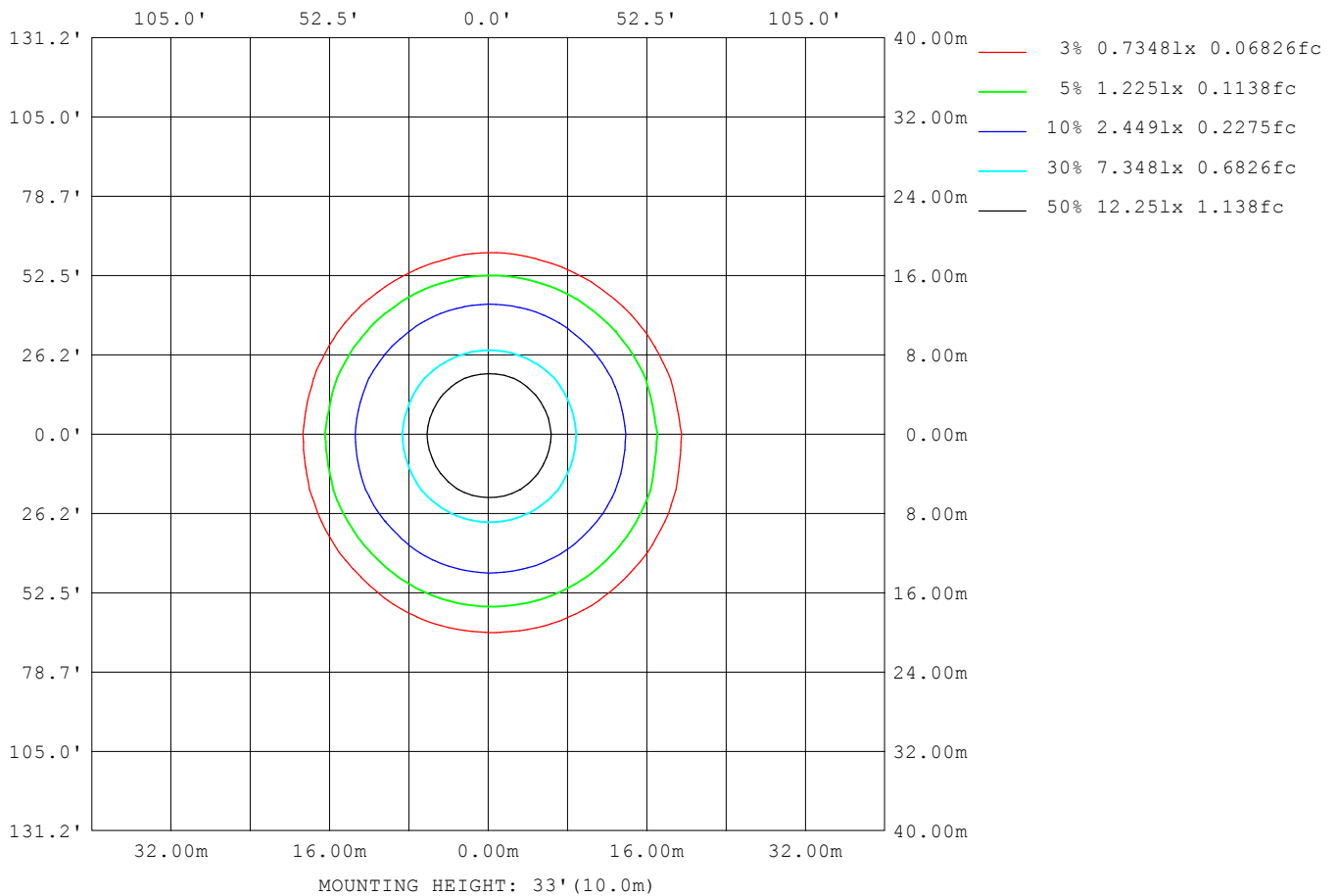
Note: The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

H( $\beta$ ) Range:-90 - 90DEG  
H( $\beta$ ) Interval: 1.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:Gu  
Test Date:2025-03-13

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:120.89V I:0.4999A P:60.271W PF:0.9973 Freq:59.98Hz Lamp Flux:6077.9x1 lm		
NAME: GHRM-10-U	TYPE:Flood Light	WEIGHT:N/A
SPEC.:60W/1600K/110°	DIM.: 190*150mm	SERIAL No.:N/A
MFR.: Grin Industrial Co., Ltd.	SUR.:N/A	Shielding Angle:N/A



H( $\beta$ ) Range:-90 - 90DEG  
H( $\beta$ ) Interval: 1.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:Gu  
Test Date:2025-03-13

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:120.89V I:0.4999A P:60.271W PF:0.9973 Freq:59.98Hz Lamp Flux:6077.9x1 lm		
NAME: GHRM-10-U	TYPE:Flood Light	WEIGHT:N/A
SPEC.:60W/1600K/110°	DIM.: 190*150mm	SERIAL No.:N/A
MFR.: Grin Industrial Co., Ltd.	SUR.:N/A	Shielding Angle:N/A

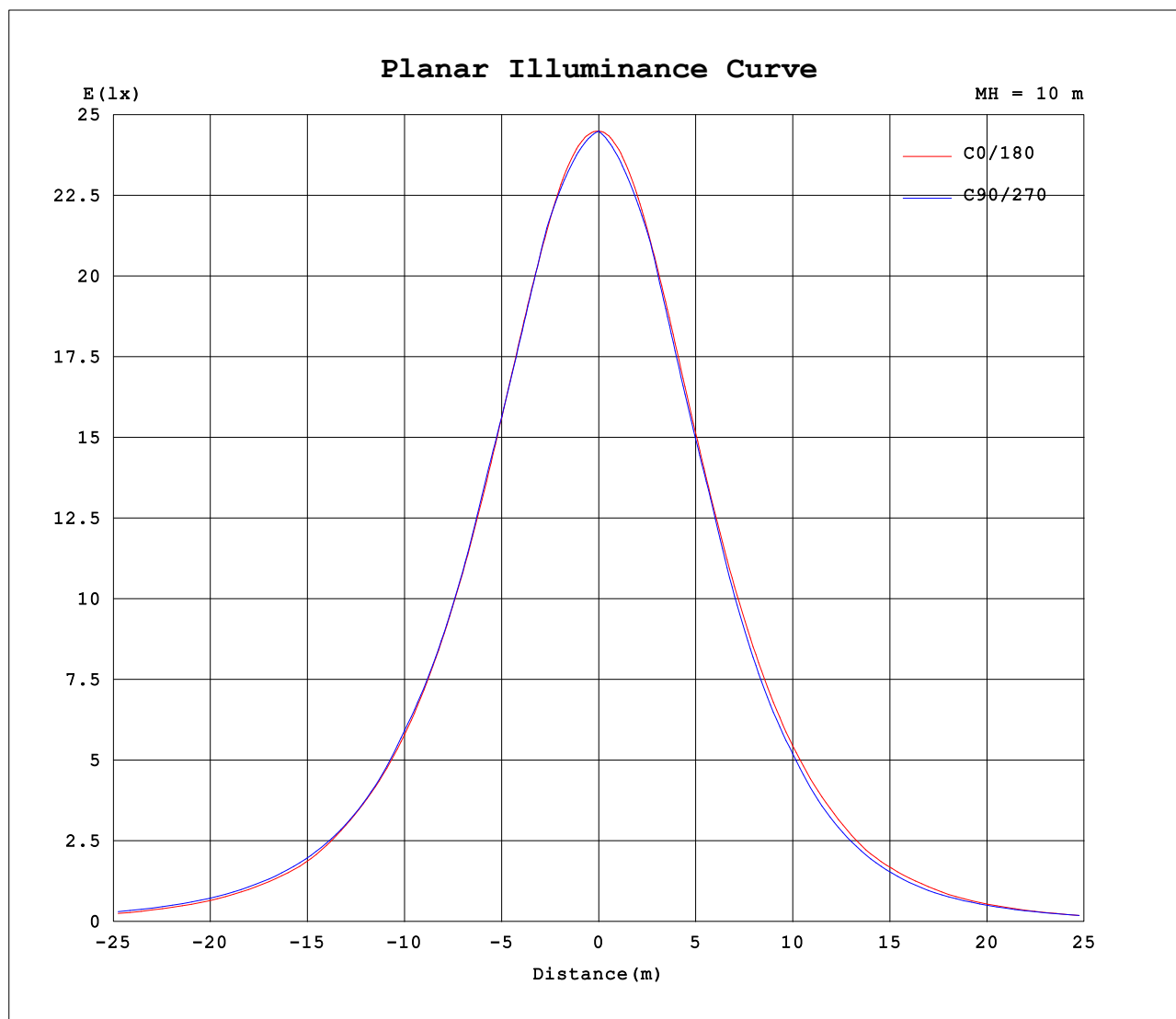
AvgL	cd/m2
L_0~180 (65) av	58721
L_0~180 (75) av	21681
L_0~180 (85) av	2968
L_90~270 (65) av	61755
L_90~270 (75) av	26350
L_90~270 (85) av	0
L_45 (65) av	58190
L_45 (75) av	31240
L_45 (85) av	0

Standard: GB/T 29293-2012

H( $\beta$ ) Range:-90 - 90DEG  
H( $\beta$ ) Interval: 1.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:Gu  
Test Date:2025-03-13

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( $\beta$ ) Range:-90 - 90DEG  
H( $\beta$ ) Interval: 1.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:Gu  
Test Date:2025-03-13

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: