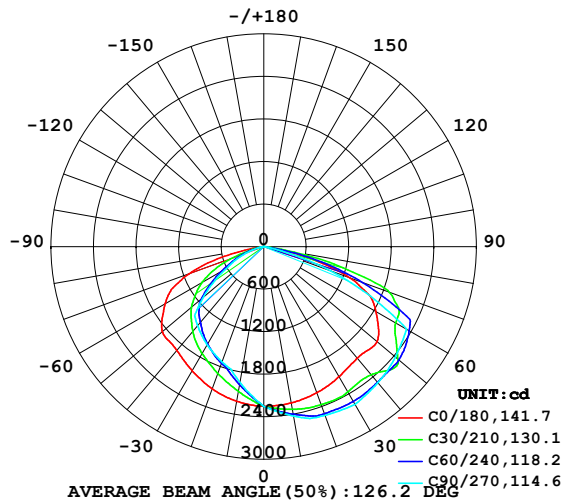


LUMINAIRE PHOTOMETRIC TEST REPORT

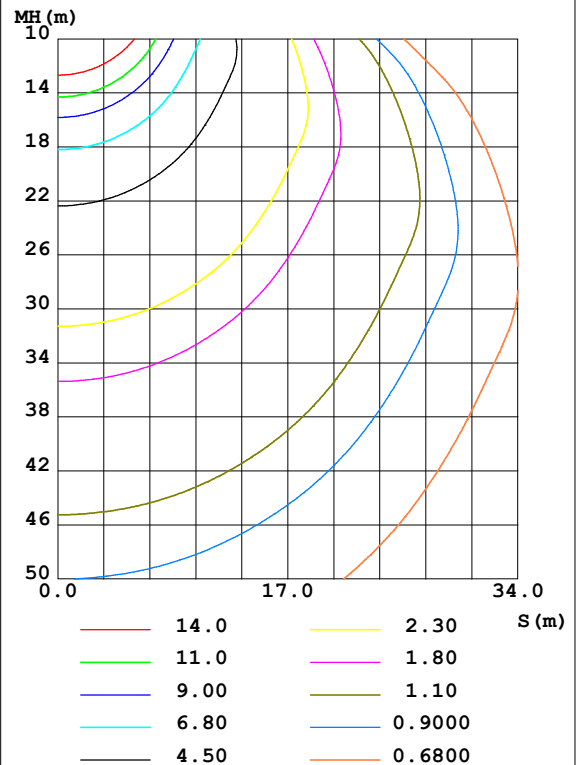
Test:U:120.90V I:0.6610A P:79.710W PF:0.9974 Freq:59.98Hz Lamp Flux:7928.9x1 lm		
NAME: GHSL-13-U	TYPE:Flood Light	WEIGHT:N/A
SPEC.:80W/1600K/T4	DIM.: 190*150mm	SERIAL No.:N/A
MFR.: Grin Industrial Co., Ltd.	SUR.:N/A	Shielding Angle:N/A

DATA OF LAMP		PHOTOMETRIC DATA Eff: 99.47 lm/W			
MODEL	GHSL-13-U	I _{max} (cd)	2572	S/MH(C0/180)	1.35
NOMINAL POWER(W)	80W	LOR(%)	100.0	S/MH(C90/270)	1.06
RATED VOLTAGE(V)	120	TOTAL FLUX(lm)	7928.9	η UP,DN(C0-180)	0.0,63.2
NOMINAL FLUX(lm)	7928.9	CIE CLASS	DIRECT	η UP,DN(C180-360)	0.0,36.8
LAMPS INSIDE	1	η up(%)	0.0	CIBSE SHR NOM	1.50
TEST VOLTAGE(V)	120	η down(%)	100.0	CIBSE SHR MAX	1.55

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:2025-03-14

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	2238	2369	2425	2348	2213	2020	1947	2036	0- 10	211.6	211.6	2.67, 2.67
20	2191	2468	2532	2416	2133	1803	1729	1834	10- 20	613.0	824.6	10.4, 10.4
30	2120	2448	2572	2374	2021	1637	1600	1686	20- 30	969.5	1794	22.6, 22.6
40	2055	2431	2505	2318	1911	1431	1454	1485	30- 40	1257	3051	38.5, 38.5
50	2085	2436	2424	2260	1868	1186	1118	1236	40- 50	1476	4527	57.1, 57.1
60	1826	2307	2327	2089	1605	823.1	590.5	872.5	50- 60	1513	6040	76.2, 76.2
70	1289	2143	1004	1832	1123	413.3	260.0	452.6	60- 70	1295	7335	92.5, 92.5
80	191.9	527.4	0	309.2	193.0	35.15	0	37.58	70- 80	571.7	7906	99.7, 99.7
90	2.210	0	0	0	2.641	0	0	0	80- 90	22.42	7929	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): 3766.7 lm

%lum = 47.5%

%lamp = 47.5%

Conical surface Flux(120deg): 6040.1 lm

%lum = 76.2%

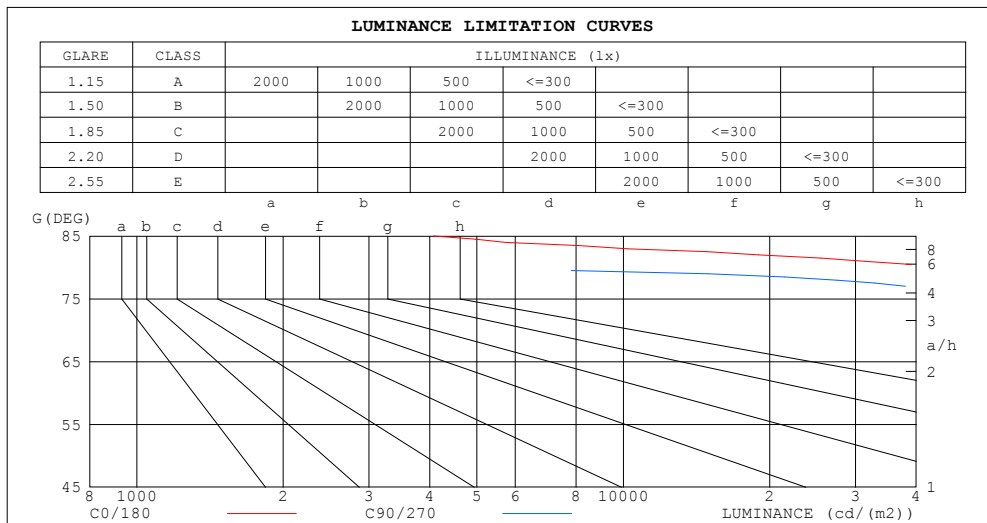
%lamp = 76.2%

$H(\beta)$ Range:-90 - 90DEG
 $H(\beta)$ Interval: 1.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:Gu
 Test Date:2025-03-14

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:120.90V I:0.6610A P:79.710W PF:0.9974 Freq:59.98Hz Lamp Flux:7928.9x1 lm		
NAME: GHSL-13-U	TYPE:Flood Light	WEIGHT:N/A
SPEC.:80W/1600K/T4	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	4075	0
80	46039	0
75	121190	55053
70	157088	122372
65	163022	163996
60	152203	193934
55	143297	172379
50	135171	157116
45	122001	145583

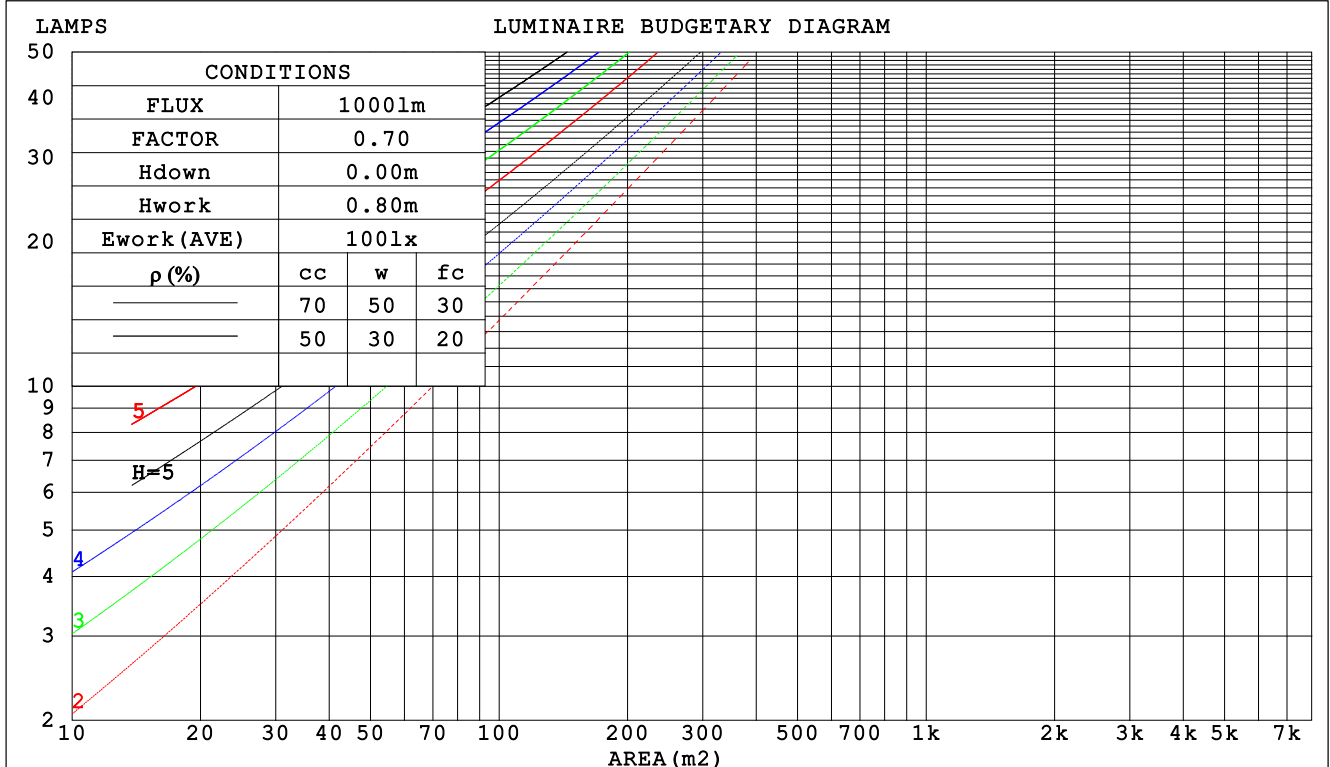
H(β) Range:-90 - 90DEG
H(β) Interval: 1.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:Gu
Test Date:2025-03-14

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:120.90V I:0.6610A P:79.710W PF:0.9974 Freq:59.98Hz Lamp Flux:7928.9x1 lm		
NAME: GHSL-13-U	TYPE:Flood Light	WEIGHT:N/A
SPEC.:80W/1600K/T4	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	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	1.00
1.0	1.04	.00	.96	1.02	.98	.94	.97	.94	.91	.93	.91	.88	.90	.88	.86	.84
2.0	.90	.83	.77	.88	.81	.76	.84	.79	.74	.81	.76	.72	.78	.74	.71	.68
3.0	.78	.69	.62	.76	.68	.62	.73	.66	.61	.70	.65	.60	.68	.63	.59	.56
4.0	.68	.59	.52	.67	.58	.52	.64	.57	.51	.62	.55	.50	.60	.54	.49	.47
5.0	.60	.51	.44	.59	.50	.44	.57	.49	.43	.55	.48	.43	.53	.47	.42	.40
6.0	.54	.44	.38	.53	.44	.38	.51	.43	.37	.49	.42	.37	.48	.41	.37	.34
7.0	.48	.39	.33	.48	.39	.33	.46	.38	.33	.45	.38	.32	.43	.37	.32	.30
8.0	.44	.35	.29	.43	.35	.29	.42	.34	.29	.41	.34	.29	.39	.33	.28	.26
9.0	.40	.32	.26	.40	.31	.26	.38	.31	.26	.37	.30	.25	.36	.30	.25	.23
10.0	.37	.29	.23	.36	.29	.23	.35	.28	.23	.34	.28	.23	.33	.27	.23	.21



H(β) Range:-90 - 90DEG
H(β) Interval: 1.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:Gu
Test Date:2025-03-14

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:120.90V I:0.6610A P:79.710W PF:0.9974 Freq:59.98Hz Lamp Flux:7928.9x1 lm					
NAME: GHSL-13-U			TYPE:Flood Light		WEIGHT:N/A
SPEC.:80W/1600K/T4			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	.310	.176	.056	.303	.173	.055	.289	.166	.053	.277	.160	.051	.266	.154	.050	
2.0	.300	.164	.050	.294	.162	.050	.282	.157	.049	.271	.152	.048	.261	.148	.047	
3.0	.280	.149	.045	.275	.147	.044	.264	.143	.044	.255	.139	.043	.246	.136	.042	
4.0	.259	.135	.040	.254	.133	.039	.245	.130	.039	.236	.127	.038	.228	.124	.038	
5.0	.240	.122	.035	.235	.121	.035	.227	.118	.035	.219	.116	.034	.212	.113	.034	
6.0	.222	.111	.032	.218	.110	.032	.211	.108	.031	.204	.106	.031	.197	.104	.031	
7.0	.206	.102	.029	.203	.101	.029	.196	.099	.029	.190	.097	.028	.184	.096	.028	
8.0	.192	.094	.026	.189	.093	.026	.183	.092	.026	.178	.090	.026	.172	.089	.026	
9.0	.180	.087	.024	.177	.086	.024	.172	.085	.024	.167	.084	.024	.162	.082	.024	
10.0	.169	.081	.022	.166	.080	.022	.161	.079	.022	.157	.078	.022	.153	.077	.022	

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	.180	.156	.134	.154	.134	.116	.106	.092	.080	.061	.053	.047	.019	.017	.015	
2.0	.173	.132	.097	.148	.114	.084	.102	.079	.058	.059	.046	.034	.019	.015	.011	
3.0	.166	.114	.073	.143	.099	.063	.098	.069	.044	.057	.040	.026	.018	.013	.009	
4.0	.159	.101	.057	.137	.087	.049	.094	.061	.035	.054	.036	.021	.018	.012	.007	
5.0	.152	.091	.046	.131	.079	.040	.090	.055	.028	.052	.032	.017	.017	.011	.005	
6.0	.145	.083	.038	.125	.072	.033	.086	.050	.023	.050	.029	.014	.016	.010	.005	
7.0	.138	.076	.032	.119	.066	.028	.082	.046	.020	.048	.027	.012	.015	.009	.004	
8.0	.132	.070	.028	.113	.061	.024	.078	.043	.017	.046	.025	.010	.015	.008	.003	
9.0	.125	.065	.025	.108	.057	.021	.075	.040	.015	.044	.023	.009	.014	.008	.003	
10.0	.120	.061	.022	.103	.053	.019	.072	.037	.014	.042	.022	.008	.014	.007	.003	

H(β) Range:-90 - 90DEG
 H(β) Interval: 1.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:Gu
 Test Date:2025-03-14

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:120.90V I:0.6610A P:79.710W PF:0.9974 Freq:59.98Hz Lamp Flux:7928.9x1 lm										
NAME: GHSL-13-U					TYPE:Flood Light			WEIGHT:N/A		
SPEC.:80W/1600K/T4					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	24.9	26.5	25.2	26.7	26.9	25.6	27.2	25.8	27.4	27.6
3H	27.0	28.4	27.3	28.7	28.9	26.9	28.4	27.2	28.6	28.8
4H	27.5	28.9	27.8	29.1	29.4	27.0	28.4	27.3	28.7	28.9
6H	27.5	28.8	27.9	29.1	29.4	26.9	28.2	27.3	28.5	28.8
8H	27.5	28.7	27.8	29.0	29.3	26.9	28.1	27.2	28.4	28.7
12H	27.4	28.6	27.8	28.9	29.2	26.8	28.0	27.2	28.3	28.6
4H 2H	26.3	27.7	26.6	27.9	28.2	26.7	28.1	27.0	28.3	28.6
3H	28.6	29.8	28.9	30.1	30.4	28.2	29.4	28.5	29.7	30.0
4H	29.1	30.2	29.5	30.5	30.9	28.4	29.5	28.7	29.8	30.1
6H	29.2	30.1	29.6	30.5	30.9	28.3	29.3	28.7	29.6	30.0
8H	29.1	30.0	29.5	30.4	30.8	28.3	29.2	28.7	29.5	29.9
12H	29.1	29.9	29.5	30.3	30.7	28.2	29.1	28.6	29.4	29.8
8H 4H	29.6	30.5	30.0	30.8	31.2	29.0	29.9	29.4	30.2	30.6
6H	29.7	30.5	30.2	30.9	31.3	29.0	29.7	29.4	30.1	30.5
8H	29.7	30.4	30.1	30.8	31.2	28.9	29.6	29.4	30.0	30.5
12H	29.7	30.2	30.1	30.7	31.2	28.9	29.5	29.4	29.9	30.4
12H 4H	29.5	30.4	30.0	30.8	31.2	28.9	29.8	29.4	30.2	30.6
6H	29.7	30.4	30.2	30.8	31.2	29.0	29.6	29.4	30.1	30.5
8H	29.7	30.3	30.2	30.7	31.2	28.9	29.5	29.4	30.0	30.4
Variations with the observer position at spacings:										
S = 1.0H	+ 0.2 / - 0.2					+ 0.2 / - 0.3				
1.5H	+ 0.1 / - 0.3					+ 0.3 / - 0.4				
2.0H	+ 0.4 / - 0.4					+ 0.9 / - 1.2				

CIE Pub.117, 7929 lm Total Lamp Luminous Flux Correct (8log(F/F0) = 7.2)
Area: 0.024 m2

H(β) Range:-90 - 90DEG
H(β) Interval: 1.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:Gu
Test Date:2025-03-14

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:120.90V I:0.6610A P:79.710W PF:0.9974 Freq:59.98Hz Lamp Flux:7928.9x1 lm		
NAME: GHSL-13-U	TYPE:Flood Light	WEIGHT:N/A
SPEC.:80W/1600K/T4	DIM.: 190*150mm	SERIAL No.:N/A
MFR.: Grin Industrial Co., Ltd.	SUR.:N/A	Shielding Angle:N/A

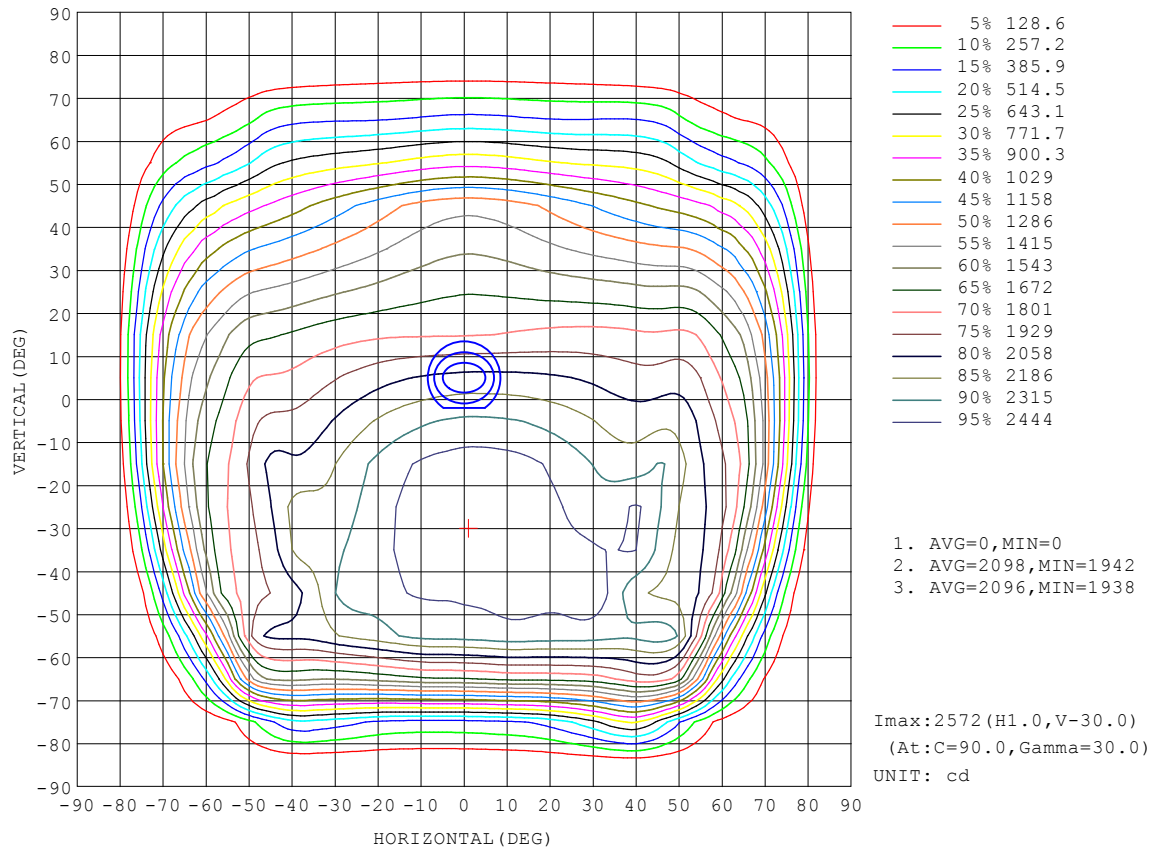
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS (PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	54	42	34	53	41	34	52	41	34	27
0.80	64	52	44	63	51	44	61	51	43	36
1.00	73	61	53	72	61	53	69	62	53	45
1.25	81	69	62	79	69	61	76	67	61	53
1.50	86	76	68	84	75	68	81	73	67	59
2.00	94	85	78	92	83	77	88	81	76	67
2.50	98	90	84	96	88	83	92	86	81	72
3.00	102	95	89	99	93	88	95	90	86	77
4.00	106	100	95	104	98	94	99	95	91	83
5.00	109	104	100	106	102	98	102	98	95	86
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:2025-03-14

$V(B)$ 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:120.90V I:0.6610A P:79.710W PF:0.9974 Freq:59.98Hz Lamp Flux:7928.9x1 lm		
NAME: GHSL-13-U	TYPE:Flood Light	WEIGHT:N/A
SPEC.:80W/1600K/T4	DIM.: 190*150mm	SERIAL No.:N/A
MFR.: Grin Industrial Co., Ltd.	SUR.:N/A	Shielding Angle:N/A

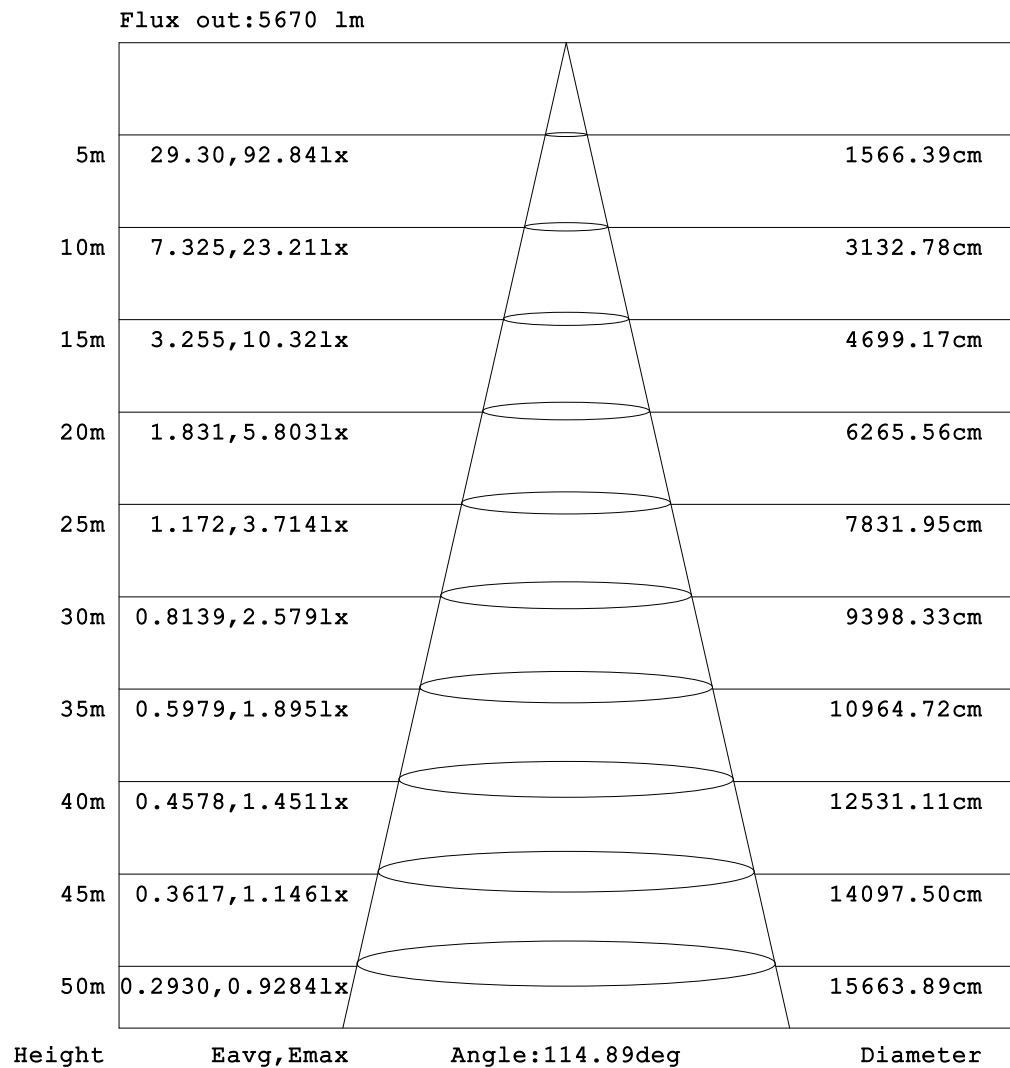


H(β) Range:-90 - 90DEG
H(β) Interval: 1.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:Gu
Test Date:2025-03-14

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:120.90V I:0.6610A P:79.710W PF:0.9974 Freq:59.98Hz Lamp Flux:7928.9x1 lm		
NAME: GHSL-13-U	TYPE:Flood Light	WEIGHT:N/A
SPEC.:80W/1600K/T4	DIM.: 190*150mm	SERIAL No.:N/A
MFR.: Grin Industrial Co., Ltd.	SUR.:N/A	Shielding Angle:N/A



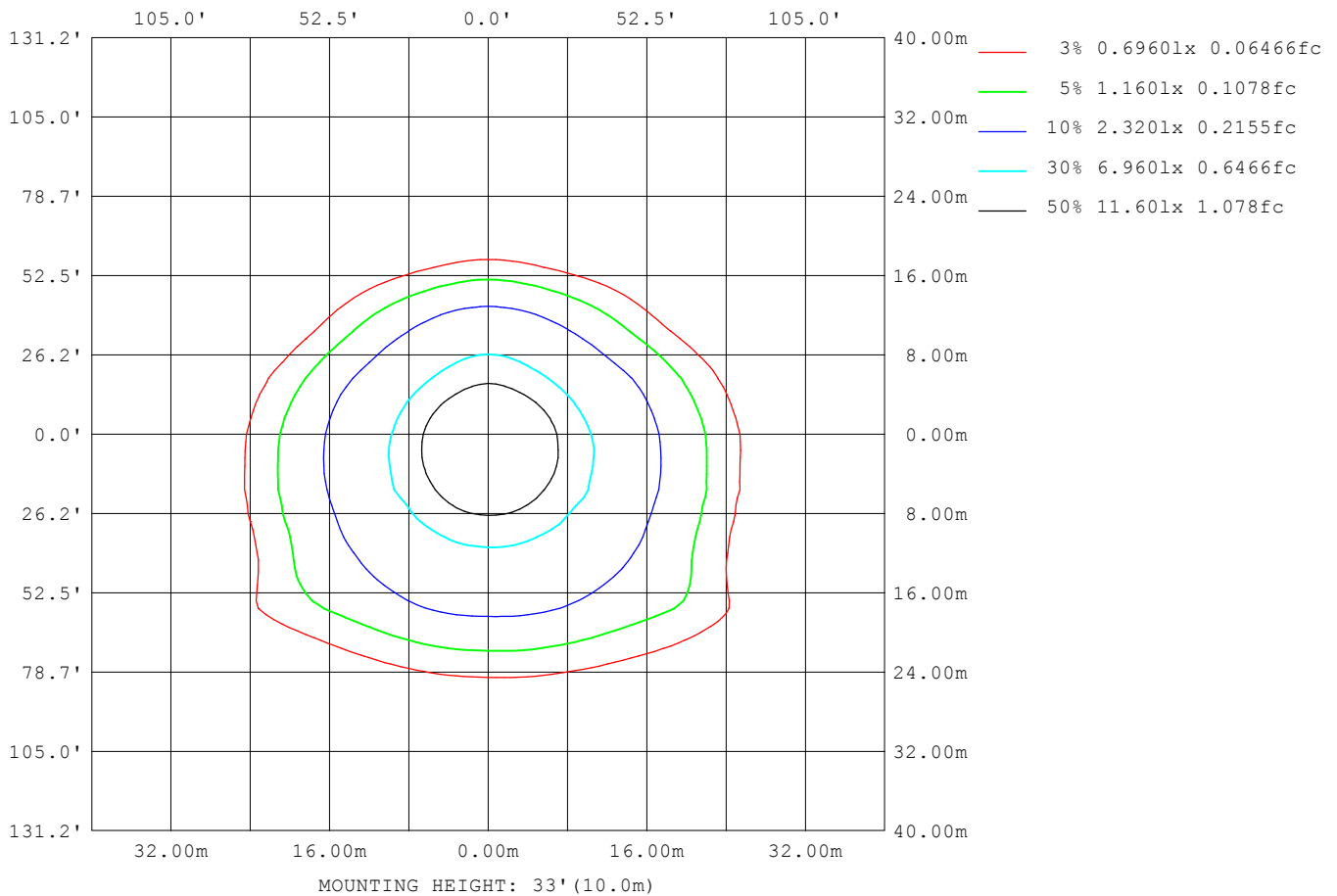
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

H(β) Range:-90 - 90DEG
H(β) Interval: 1.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:Gu
Test Date:2025-03-14

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:120.90V I:0.6610A P:79.710W PF:0.9974 Freq:59.98Hz Lamp Flux:7928.9x1 lm		
NAME: GHSL-13-U	TYPE:Flood Light	WEIGHT:N/A
SPEC.:80W/1600K/T4	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:2025-03-14

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:120.90V I:0.6610A P:79.710W PF:0.9974 Freq:59.98Hz Lamp Flux:7928.9x1 lm		
NAME: GHSL-13-U	TYPE:Flood Light	WEIGHT:N/A
SPEC.:80W/1600K/T4	DIM.: 190*150mm	SERIAL No.:N/A
MFR.: Grin Industrial Co., Ltd.	SUR.:N/A	Shielding Angle:N/A

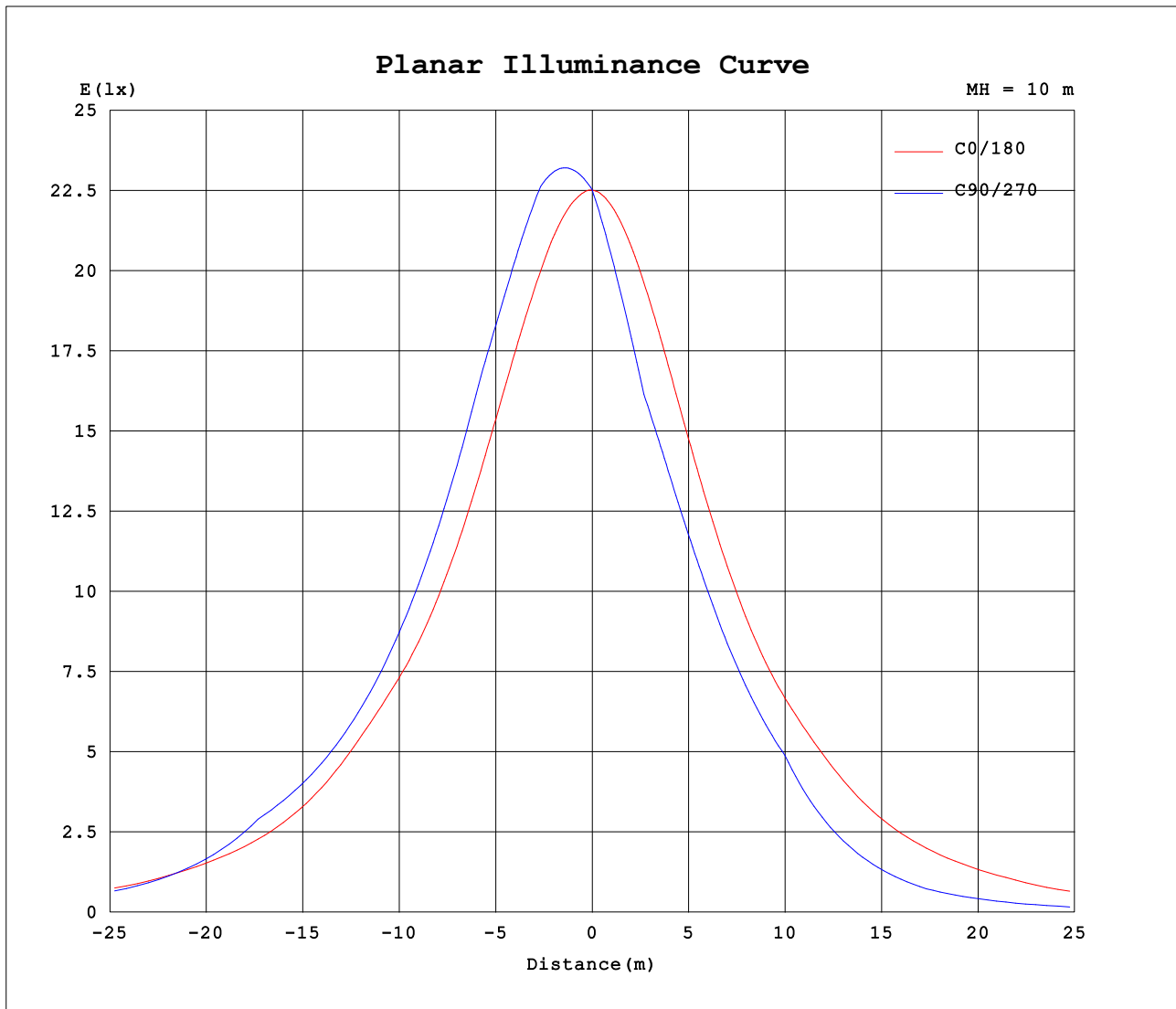
AvgL	cd/m2
L_0~180 (65) av	152428
L_0~180 (75) av	115261
L_0~180 (85) av	4650
L_90~270 (65) av	102932
L_90~270 (75) av	35155
L_90~270 (85) av	0
L_45 (65) av	141920
L_45 (75) av	117002
L_45 (85) av	0

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:2025-03-14

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:2025-03-14

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:
```