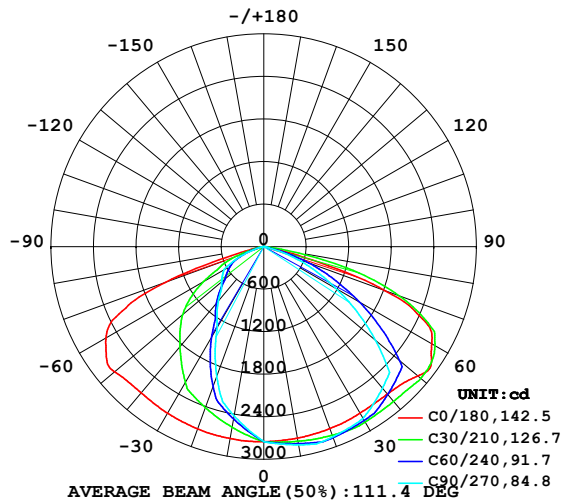


LUMINAIRE PHOTOMETRIC TEST REPORT

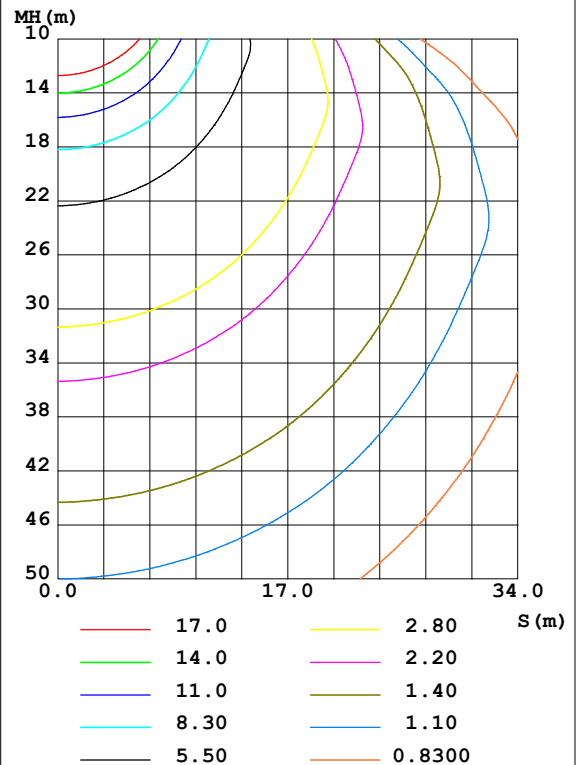
Test:U:120.90V I:0.6615A P:79.769W PF:0.9974 Freq:59.97Hz Lamp Flux:8414.6x1 lm		
NAME: GHSL-13-U	TYPE:Flood Light	WEIGHT:N/A
SPEC.:80W/1600K/T3	DIM.: 190*150mm	SERIAL No.:N/A
MFR.: Grin Industrial Co., Ltd.	SUR.:N/A	Shielding Angle:N/A

DATA OF LAMP		PHOTOMETRIC DATA Eff: 105.49 lm/W			
MODEL	GHSL-13-U	I _{max} (cd)	3091	S/MH(C0/180)	1.51
NOMINAL POWER(W)	80W	LOR(%)	100.0	S/MH(C90/270)	0.85
RATED VOLTAGE(V)	120	TOTAL FLUX(lm)	8414.6	η UP,DN(C0-180)	0.0,63.1
NOMINAL FLUX(lm)	8414.6	CIE CLASS	DIRECT	η UP,DN(C180-360)	0.0,36.9
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:2025-03-14

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	2741	2807	2837	2814	2747	2519	2423	2512	0- 10	257.5	257.5	3.06, 3.06
20	2730	2872	2853	2877	2734	2283	1943	2275	10- 20	742.1	999.6	11.9, 11.9
30	2713	2850	2800	2844	2713	1776	1310	1779	20- 30	1133	2133	25.3, 25.3
40	2714	2821	2606	2798	2692	1273	998.4	1274	30- 40	1410	3543	42.1, 42.1
50	2838	2690	2060	2633	2746	906.0	777.8	920.8	40- 50	1597	5140	61.1, 61.1
60	2736	2190	1162	2063	2571	551.9	648.4	580.4	50- 60	1592	6732	80, 80
70	1824	1276	445.6	1091	1482	283.6	249.7	315.9	60- 70	1247	7979	94.8, 94.8
80	74.50	42.00	0	35.11	53.87	16.49	0	15.50	70- 80	425.4	8404	99.9, 99.9
90	2.762	0	0	0	3.454	0	0	0	80- 90	10.37	8415	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): 4325.6 lm

%lum = 51.4%

%lamp = 51.4%

Conical surface Flux(120deg): 6732.2 lm

%lum = 80.0%

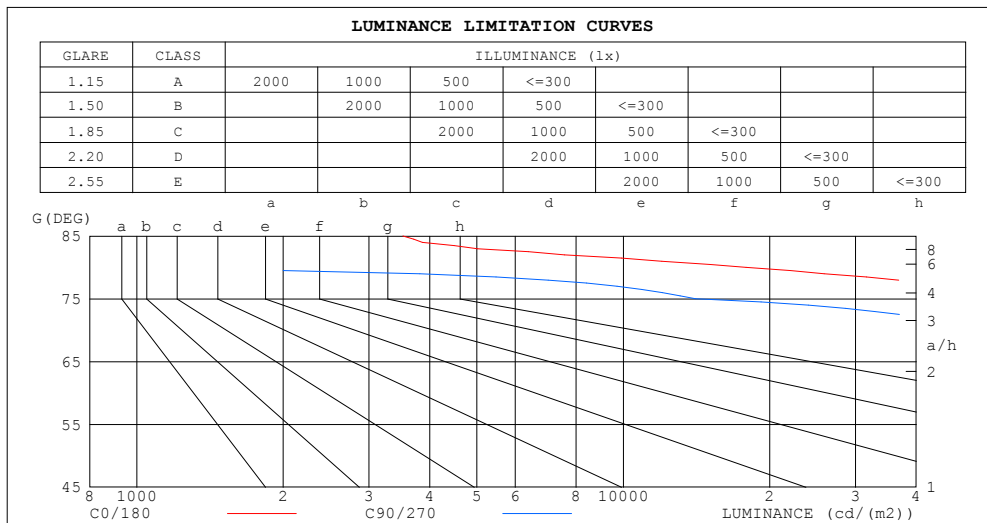
%lamp = 80.0%

$H(\beta)$ 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:0.6615A P:79.769W PF:0.9974 Freq:59.97Hz Lamp Flux:8414.6x1 lm		
NAME: GHSL-13-U	TYPE:Flood Light	WEIGHT:N/A
SPEC.:80W/1600K/T3	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	3521	0
80	17876	0
75	92891	14068
70	222173	54288
65	248195	79254
60	228024	96841
55	209608	117022
50	183977	133516
45	161841	147818

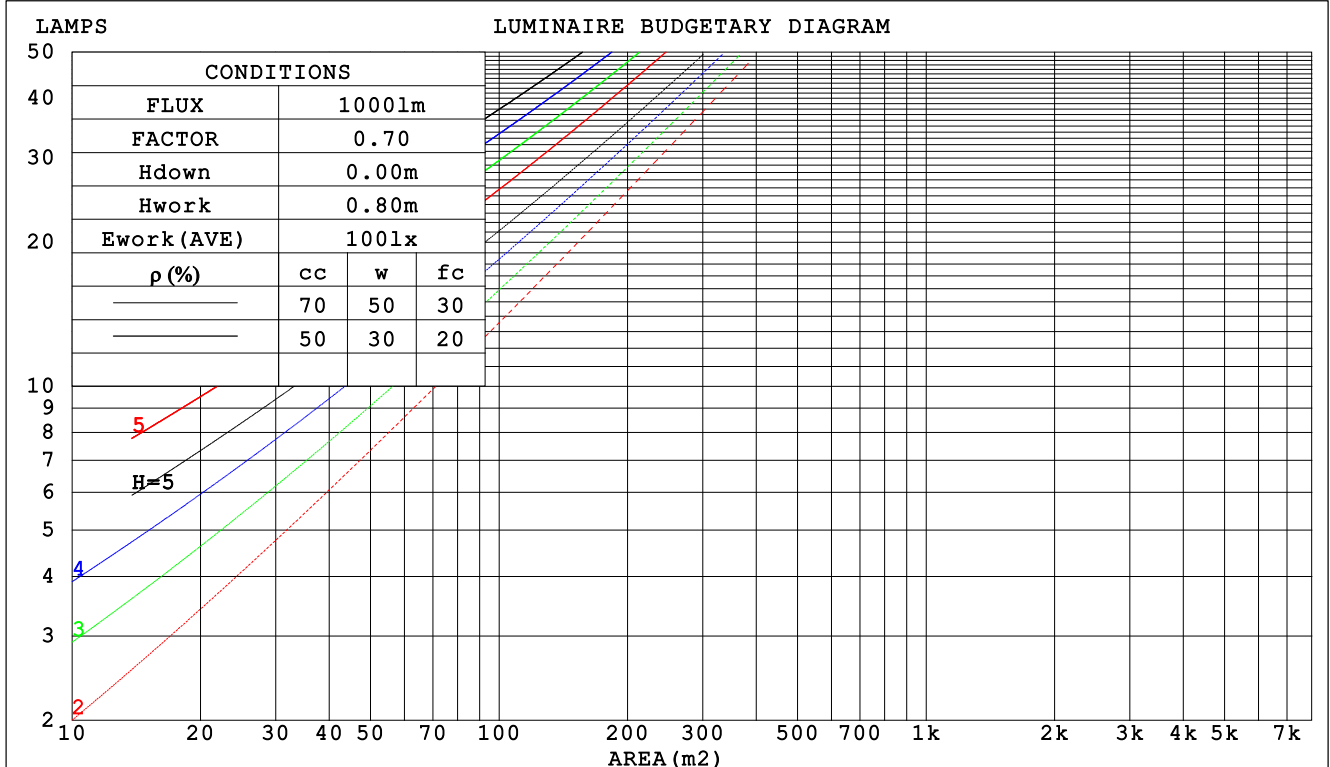
H(β) Range:-90 - 90DEG
H(β) Interval: 1.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:Gu
Test Date:2025-03-14

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:0.6615A P:79.769W PF:0.9974 Freq:59.97Hz Lamp Flux:8414.6x1 lm		
NAME: GHSL-13-U	TYPE:Flood Light	WEIGHT:N/A
SPEC.:80W/1600K/T3	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	1.05	1.01	.97	1.03	.99	.96	.98	.95	.92	.94	.92	.90	.91	.89	.87	.85
2.0	.91	.84	.79	.89	.83	.78	.86	.81	.76	.82	.78	.74	.79	.76	.73	.70
3.0	.80	.71	.65	.78	.70	.64	.75	.69	.63	.72	.67	.62	.70	.65	.61	.59
4.0	.70	.61	.55	.69	.61	.54	.66	.59	.53	.64	.58	.53	.62	.56	.52	.50
5.0	.62	.53	.46	.61	.53	.46	.59	.51	.46	.57	.50	.45	.55	.49	.45	.43
6.0	.56	.47	.40	.55	.46	.40	.53	.45	.40	.51	.45	.39	.50	.44	.39	.37
7.0	.50	.41	.35	.50	.41	.35	.48	.40	.35	.47	.40	.35	.45	.39	.34	.32
8.0	.46	.37	.31	.45	.37	.31	.44	.36	.31	.43	.36	.31	.41	.35	.31	.29
9.0	.42	.34	.28	.41	.33	.28	.40	.33	.28	.39	.32	.28	.38	.32	.27	.26
10.0	.39	.31	.25	.38	.30	.25	.37	.30	.25	.36	.30	.25	.35	.29	.25	.23



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:0.6615A P:79.769W PF:0.9974 Freq:59.97Hz Lamp Flux:8414.6x1 lm					
NAME: GHSL-13-U			TYPE:Flood Light		WEIGHT:N/A
SPEC.:80W/1600K/T3			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	.292	.166	.053	.285	.162	.052	.272	.156	.050	.260	.150	.048	.248	.144	.046		
2.0	.285	.156	.048	.279	.154	.047	.267	.149	.046	.256	.144	.045	.246	.139	.044		
3.0	.268	.143	.043	.263	.141	.042	.252	.137	.042	.243	.133	.041	.234	.130	.040		
4.0	.250	.130	.038	.245	.128	.038	.236	.125	.037	.227	.122	.037	.219	.119	.036		
5.0	.232	.118	.034	.228	.117	.034	.219	.114	.034	.212	.112	.033	.205	.109	.033		
6.0	.216	.108	.031	.212	.107	.031	.205	.105	.030	.198	.103	.030	.191	.101	.030		
7.0	.201	.099	.028	.198	.098	.028	.191	.097	.028	.185	.095	.028	.179	.093	.027		
8.0	.188	.092	.026	.185	.091	.026	.179	.089	.026	.173	.088	.025	.168	.086	.025		
9.0	.176	.085	.024	.173	.084	.024	.168	.083	.024	.163	.082	.023	.158	.080	.023		
10.0	.165	.079	.022	.163	.079	.022	.158	.078	.022	.154	.076	.022	.150	.075	.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	.179	.156	.136	.153	.134	.117	.105	.092	.081	.060	.053	.047	.019	.017	.015	
2.0	.171	.132	.099	.147	.114	.085	.101	.079	.060	.058	.046	.035	.019	.015	.011	
3.0	.164	.114	.075	.141	.099	.065	.097	.068	.045	.056	.040	.027	.018	.013	.009	
4.0	.157	.101	.058	.135	.087	.051	.093	.061	.036	.054	.036	.021	.017	.012	.007	
5.0	.150	.091	.047	.129	.078	.041	.089	.055	.029	.051	.032	.017	.017	.010	.006	
6.0	.143	.082	.039	.123	.071	.034	.085	.050	.024	.049	.029	.014	.016	.010	.005	
7.0	.136	.075	.033	.117	.065	.029	.081	.046	.020	.047	.027	.012	.015	.009	.004	
8.0	.130	.070	.028	.112	.060	.025	.077	.042	.018	.045	.025	.010	.015	.008	.003	
9.0	.124	.065	.025	.107	.056	.022	.074	.040	.015	.043	.023	.009	.014	.008	.003	
10.0	.118	.061	.022	.102	.053	.019	.071	.037	.014	.041	.022	.008	.013	.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:0.6615A P:79.769W PF:0.9974 Freq:59.97Hz Lamp Flux:8414.6x1 lm										
NAME: GHSL-13-U					TYPE:Flood Light			WEIGHT:N/A		
SPEC.:80W/1600K/T3					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	26.7	28.2	27.0	28.4	28.6	22.8	24.4	23.1	24.6	24.8
3H	29.1	30.5	29.4	30.7	31.0	23.3	24.8	23.6	25.0	25.2
4H	29.4	30.7	29.7	31.0	31.2	23.3	24.6	23.6	24.9	25.2
6H	29.3	30.6	29.6	30.8	31.1	23.2	24.5	23.5	24.7	25.0
8H	29.2	30.5	29.6	30.7	31.0	23.1	24.4	23.5	24.6	24.9
12H	29.2	30.4	29.5	30.7	31.0	23.1	24.3	23.4	24.5	24.9
4H 2H	27.1	28.5	27.4	28.7	29.0	24.2	25.6	24.5	25.8	26.1
3H	29.8	31.0	30.1	31.3	31.6	24.8	25.9	25.1	26.2	26.5
4H	30.3	31.3	30.7	31.7	32.0	24.7	25.8	25.1	26.1	26.5
6H	30.2	31.2	30.6	31.5	31.9	24.6	25.6	25.0	25.9	26.3
8H	30.2	31.1	30.6	31.4	31.8	24.6	25.5	25.0	25.8	26.2
12H	30.2	31.0	30.6	31.3	31.7	24.6	25.4	25.0	25.7	26.1
8H 4H	30.3	31.2	30.7	31.5	31.9	25.4	26.3	25.8	26.6	27.0
6H	30.3	31.0	30.8	31.4	31.9	25.3	26.0	25.8	26.4	26.9
8H	30.3	30.9	30.7	31.3	31.8	25.3	25.9	25.8	26.3	26.8
12H	30.3	30.8	30.7	31.2	31.7	25.3	25.8	25.7	26.2	26.7
12H 4H	30.2	31.0	30.7	31.4	31.8	25.4	26.2	25.8	26.6	27.0
6H	30.3	30.9	30.7	31.3	31.8	25.3	26.0	25.8	26.4	26.8
8H	30.3	30.8	30.7	31.2	31.7	25.3	25.8	25.8	26.3	26.8
Variations with the observer position at spacings:										
S = 1.0H	+ 0.1 / - 0.2					+ 0.3 / - 0.4				
1.5H	+ 0.4 / - 0.8					+ 0.5 / - 0.9				
2.0H	+ 0.5 / - 1.1					+ 0.5 / - 0.8				

CIE Pub.117, 8415 lm Total Lamp Luminous Flux Correct (8log(F/F0) = 7.4)
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:0.6615A P:79.769W PF:0.9974 Freq:59.97Hz Lamp Flux:8414.6x1 lm		
NAME: GHSL-13-U	TYPE:Flood Light	WEIGHT:N/A
SPEC.:80W/1600K/T3	DIM.: 190*150mm	SERIAL No.:N/A
MFR.: Grin Industrial Co., Ltd.	SUR.:N/A	Shielding Angle:N/A

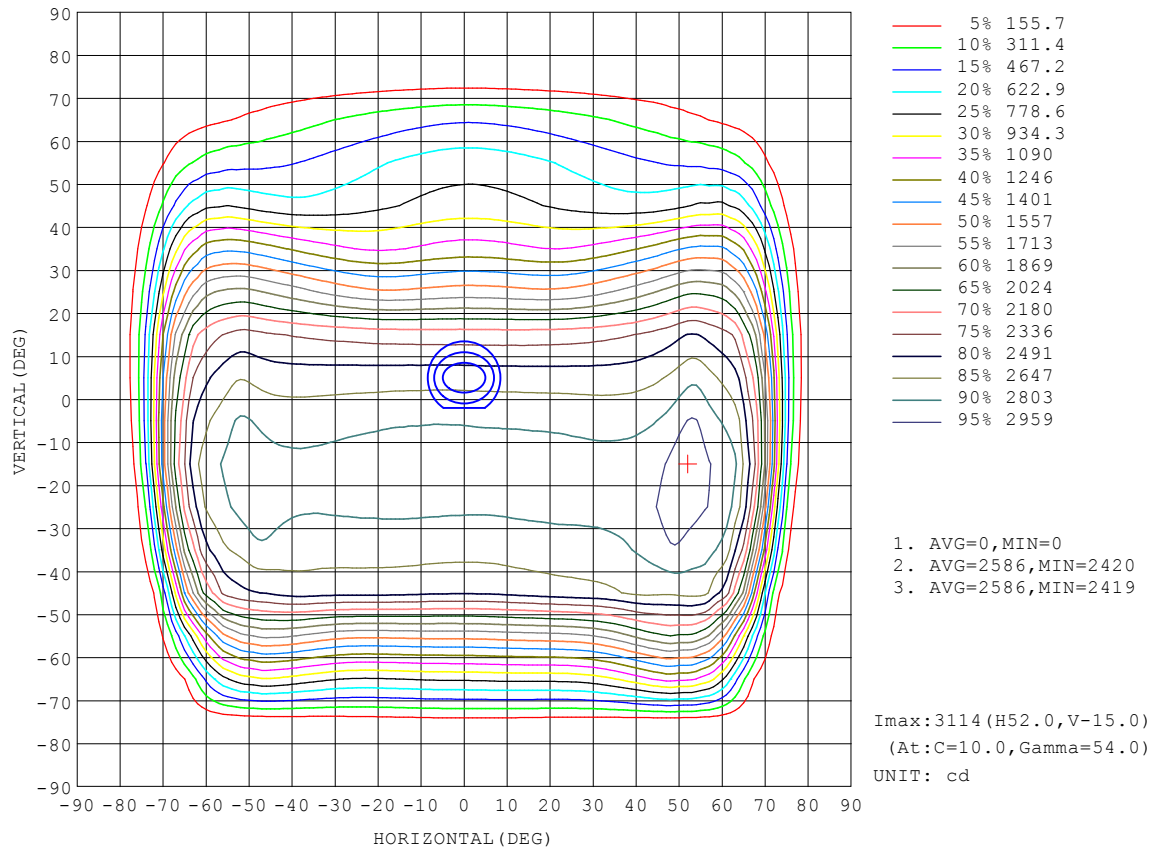
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS (PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	56	44	37	55	44	37	54	43	36	30
0.80	66	54	47	65	54	47	63	53	46	39
1.00	75	64	56	74	63	56	72	65	56	48
1.25	83	72	65	81	71	64	78	70	64	56
1.50	88	78	71	86	77	70	83	75	69	62
2.00	95	87	80	93	85	80	90	83	78	70
2.50	99	92	86	97	90	85	93	88	83	75
3.00	103	96	91	101	95	90	97	92	87	79
4.00	107	101	97	105	100	96	100	96	93	84
5.00	109	105	101	107	103	99	102	99	96	87
ROOM INDEX	UF (total)									Direct
According to DIN EN 13032-2 2004			Suspended					SHRNM = 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:0.6615A P:79.769W PF:0.9974 Freq:59.97Hz Lamp Flux:8414.6x1 lm		
NAME: GHSL-13-U	TYPE:Flood Light	WEIGHT:N/A
SPEC.:80W/1600K/T3	DIM.: 190*150mm	SERIAL No.:N/A
MFR.: Grin Industrial Co., Ltd.	SUR.:N/A	Shielding Angle:N/A

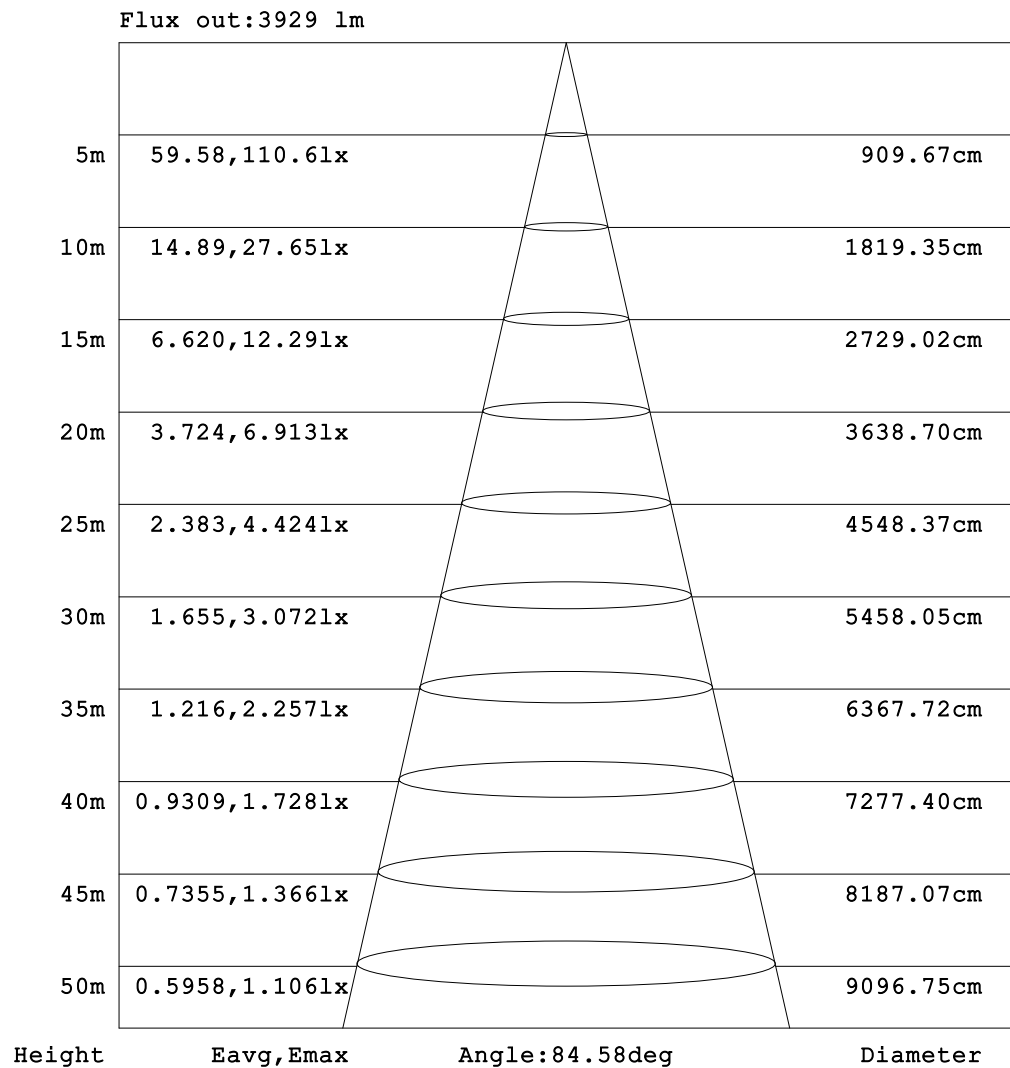


H(β) Range:-90 - 90DEG
H(β) Interval: 1.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:Gu
Test Date:2025-03-14

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:0.6615A P:79.769W PF:0.9974 Freq:59.97Hz Lamp Flux:8414.6x1 lm		
NAME: GHSL-13-U	TYPE:Flood Light	WEIGHT:N/A
SPEC.:80W/1600K/T3	DIM.: 190*150mm	SERIAL No.:N/A
MFR.: Grin Industrial Co., Ltd.	SUR.:N/A	Shielding Angle:N/A



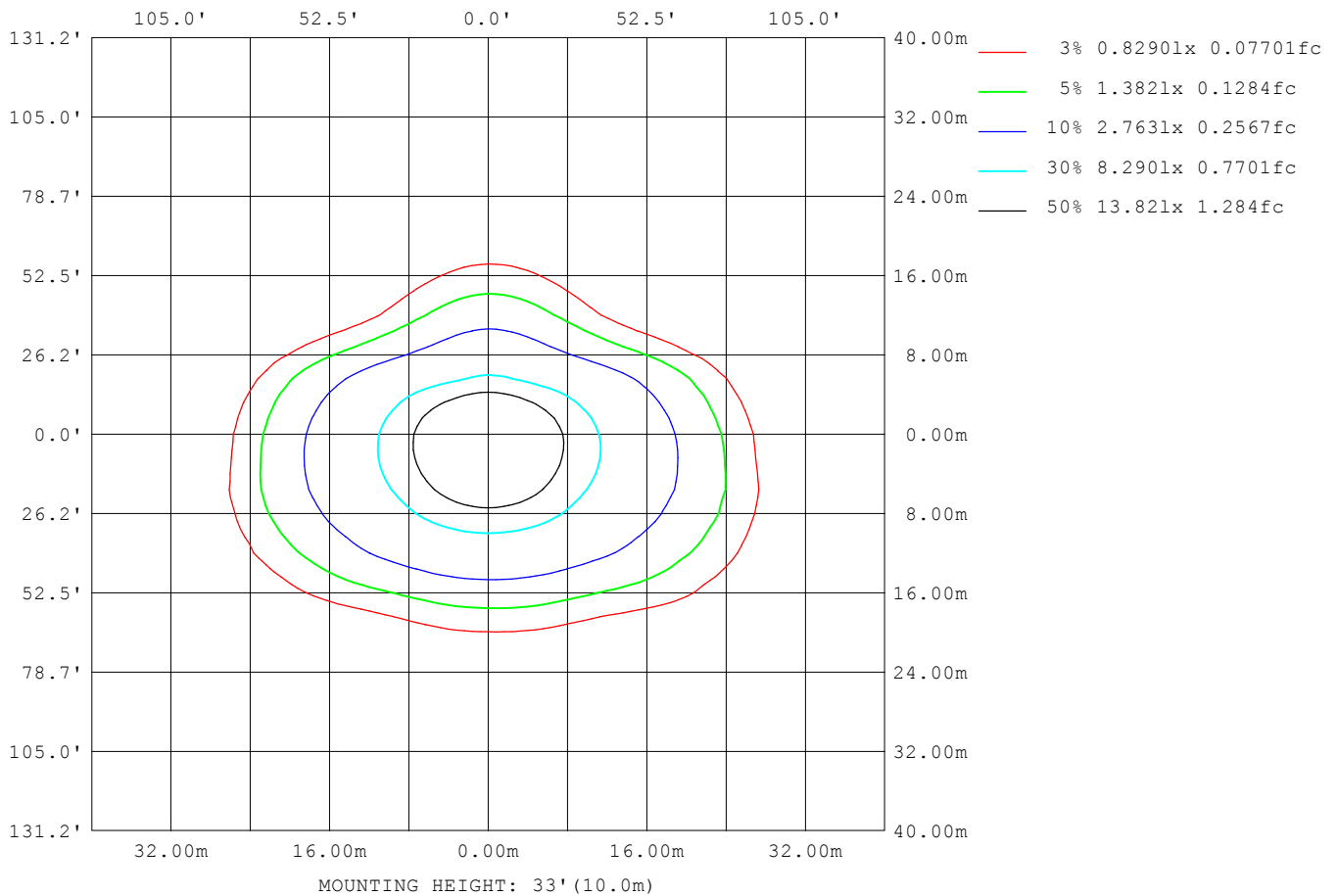
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

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:0.6615A P:79.769W PF:0.9974 Freq:59.97Hz Lamp Flux:8414.6x1 lm		
NAME: GHSL-13-U	TYPE:Flood Light	WEIGHT:N/A
SPEC.:80W/1600K/T3	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:0.6615A P:79.769W PF:0.9974 Freq:59.97Hz Lamp Flux:8414.6x1 lm		
NAME: GHSL-13-U	TYPE:Flood Light	WEIGHT:N/A
SPEC.:80W/1600K/T3	DIM.: 190*150mm	SERIAL No.:N/A
MFR.: Grin Industrial Co., Ltd.	SUR.:N/A	Shielding Angle:N/A

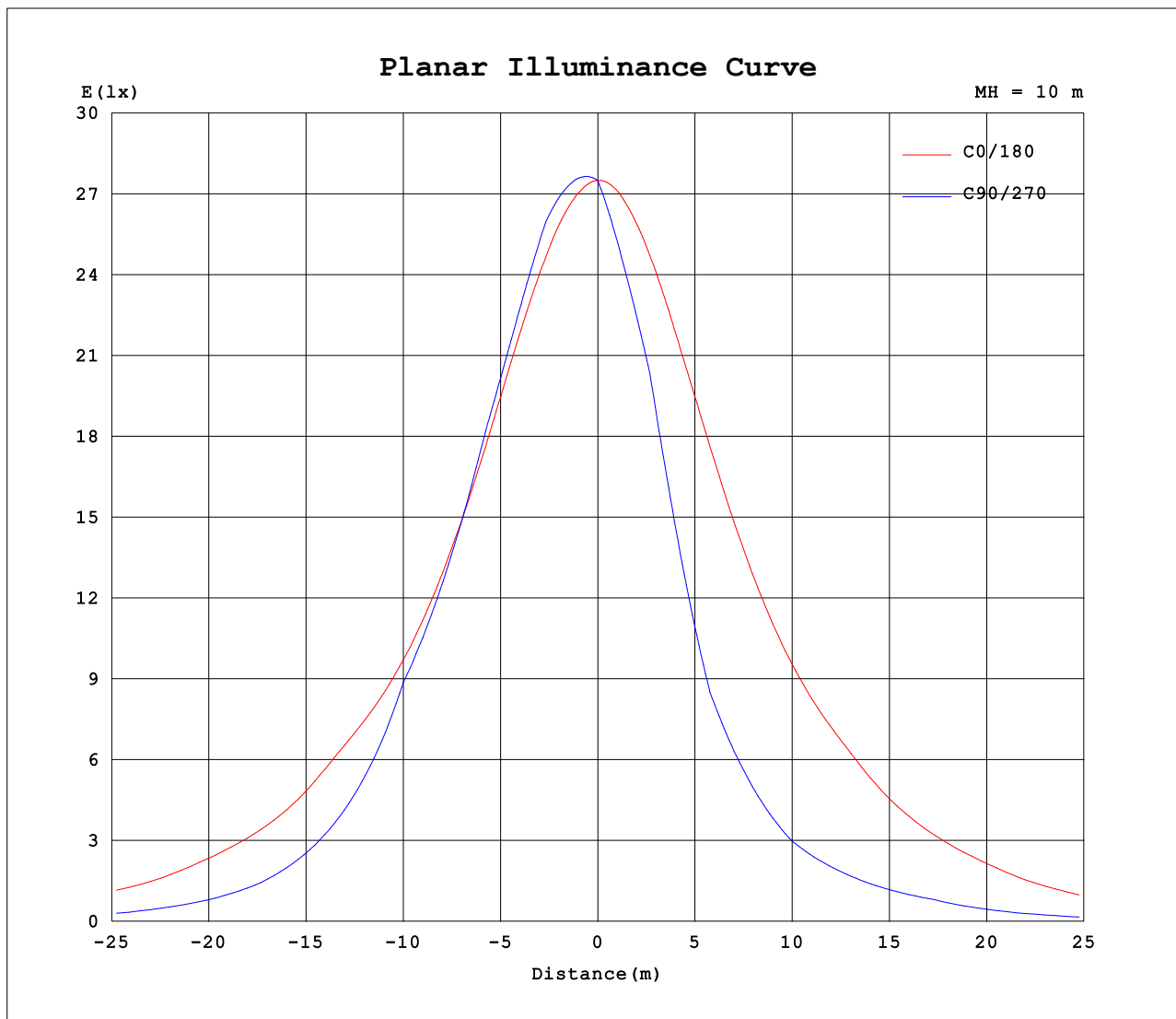
AvgL	cd/m2
L_0~180 (65) av	235098
L_0~180 (75) av	77895
L_0~180 (85) av	3679
L_90~270 (65) av	61762
L_90~270 (75) av	11088
L_90~270 (85) av	0
L_45 (65) av	104529
L_45 (75) av	59642
L_45 (85) av	0

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: