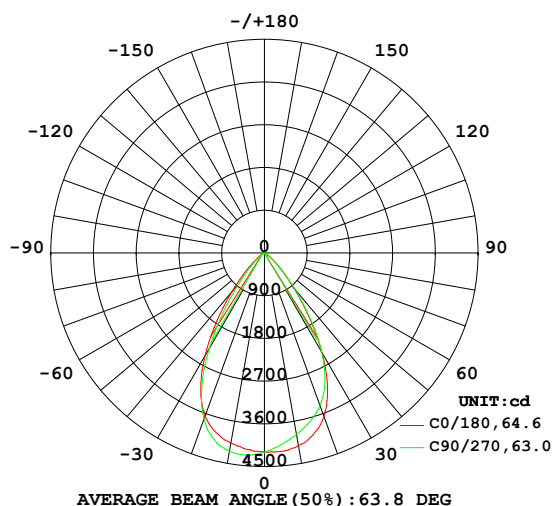


LUMINAIRE PHOTOMETRIC TEST REPORT

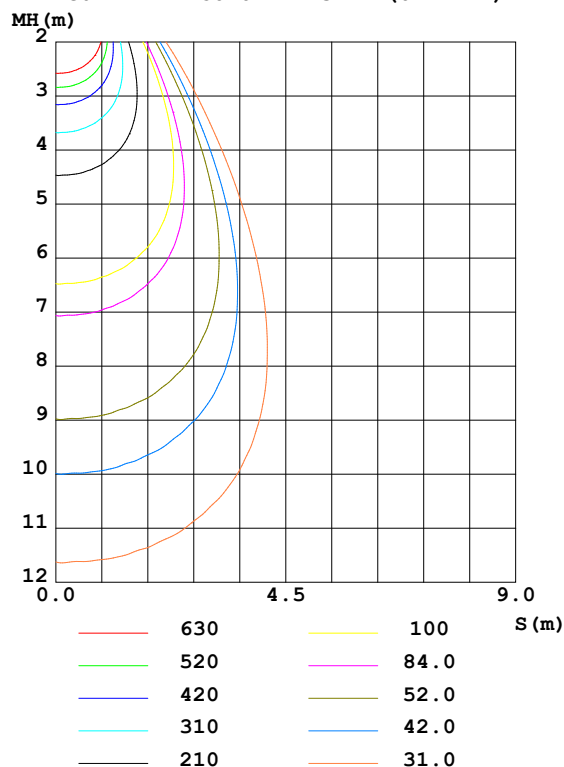
Test:U:231.3V I:0.2236A P:49.89W PF:0.9650 Freq:49.37Hz Lamp Flux:4488.82x1 lm		
NAME: 81801LED	TYPE:	WEIGHT:
SPEC.:P-81801LED-50W3064-CI125036R90-FGB320	DIM.:	SERIAL No.:
MFR.: CETTIGA	SUR.:	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 89.97 lm/W			
MODEL	CLU048 1212	I _{max} (cd)	4279	S/MH (C0/180)	0.96
NOMINAL POWER (W)	50W	LOR (%)	100.0	S/MH (C90/270)	0.93
RATED VOLTAGE (V)	220.0	TOTAL FLUX (lm)	4488.8	η UP, DN (C0-180)	0.2, 49.6
NOMINAL FLUX (lm)	4488.82	CIE CLASS	DIRECT	η UP, DN (C180-360)	0.1, 50.1
LAMPS INSIDE	1	η up (%)	0.3	CIBSE SHR NOM	0.75
TEST VOLTAGE (V)	220.2	η down (%)	99.7	CIBSE SHR MAX	0.95

LUMINOUS INTENSITY DISTRIBUTION DIAGRAM



C0 PLANE ISOLUX DIAGRAM (UNIT:lx)



C Range: 0 - 360DEG
C Interval: 90.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators: Xie Bi
Test Date: 2022-06-20

γ Range: 0 - 180DEG
γ Interval: 1.0DEG
Test System: EVERFINE GO-2000B_V1 SYSTEM V2.0.362
Humidity: 65.0%
Test Distance: 6.810m [K=1.0000]
Remarks:

ZONAL FLUX DIAGRAM

ZONAL FLUX DIAGRAM:

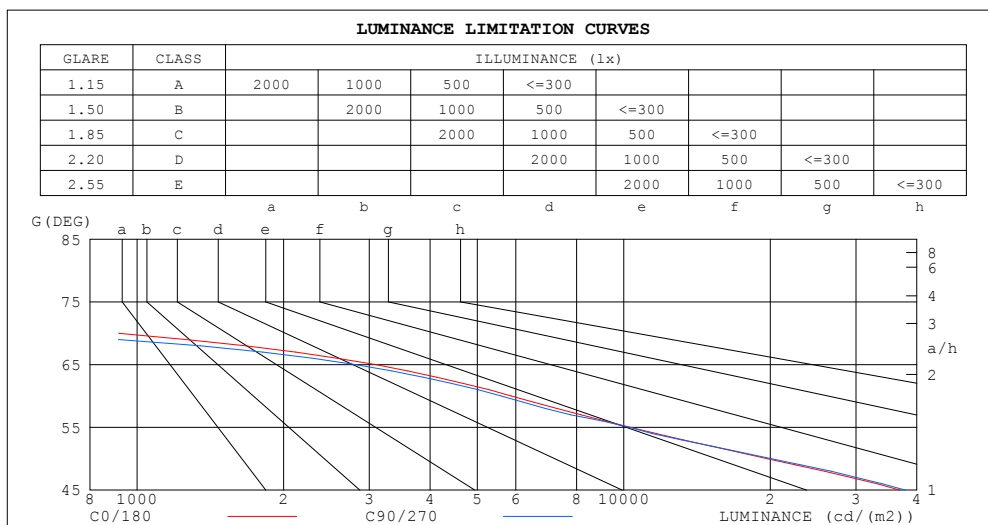
γ	C0	C90	C180	C270					γ	Φ zone	Φ total	%lum, lamp
10	4123	3882	4066	4238					0- 10	395.0	395.0	8.8,8.8
20	3667	3420	3657	3716					10- 20	1096	1491	33.2,33.2
30	2424	2412	2501	2324					20- 30	1409	2900	64.6,64.6
40	953.9	993.6	1063	826.4					30- 40	1019	3918	87.3,87.3
50	253.6	258.5	287.2	202.9					40- 50	417.3	4336	96.6,96.6
60	58.67	55.96	67.57	42.38					50- 60	112.6	4448	99.1,99.1
70	6.271	4.022	6.534	3.173					60- 70	25.71	4474	99.7,99.7
80	0.0593	0.0715	0.1430	0.1273					70- 80	1.190	4475	99.7,99.7
90	0.0209	0.0105	0.0732	0.0594					80- 90	0.0747	4475	99.7,99.7
100	0.0401	0.0314	0.0907	0.0732					90-100	0.0490	4475	99.7,99.7
110	0.2142	0.1517	0.1692	0.1516					100-110	0.1085	4476	99.7,99.7
120	0.8646	0.6596	0.4677	0.4621					110-120	0.3432	4476	99.7,99.7
130	2.457	2.095	1.369	1.398					120-130	1.012	4477	99.7,99.7
140	4.808	4.546	3.116	3.116					130-140	2.158	4479	99.8,99.8
150	7.035	7.132	5.138	4.962					140-150	3.120	4482	99.9,99.9
160	8.752	9.015	6.981	6.688					150-160	3.205	4485	99.9,99.9
170	10.14	10.44	9.100	9.131					160-170	2.466	4488	100,100
180	10.67	10.76	10.65	10.77					170-180	0.9668	4489	100,100
DEG	LUMINOUS INTENSITY:cd									UNIT:lm		

C Range: 0 - 360DEG
 C Interval: 90.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:Xie Bi
 Test Date:2022-06-20

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.362
 Humidity:65.0%
 Test Distance:6.810m [K=1.0000]
 Remarks:

LUMINANCE LIMITATION CURVES

Test:U:231.3V I:0.2236A P:49.89W PF:0.9650 Freq:49.37Hz Lamp Flux:4488.82x1 lm		
NAME: 81801LED	TYPE:	WEIGHT:
SPEC.:P-81801LED-50W3064-CI125036R90-FGB320	DIM.:	SERIAL No.:
MFR.: CETTIGA	SUR.:	Shielding Angle:



LUMINANCE cd/(m2)		
G (DEG)	C0/180	C90/270
85	22	24
80	17	21
75	17	23
70	917	588
65	3093	2808
60	5867	5596
55	10317	10277
50	19726	20111
45	36914	37875

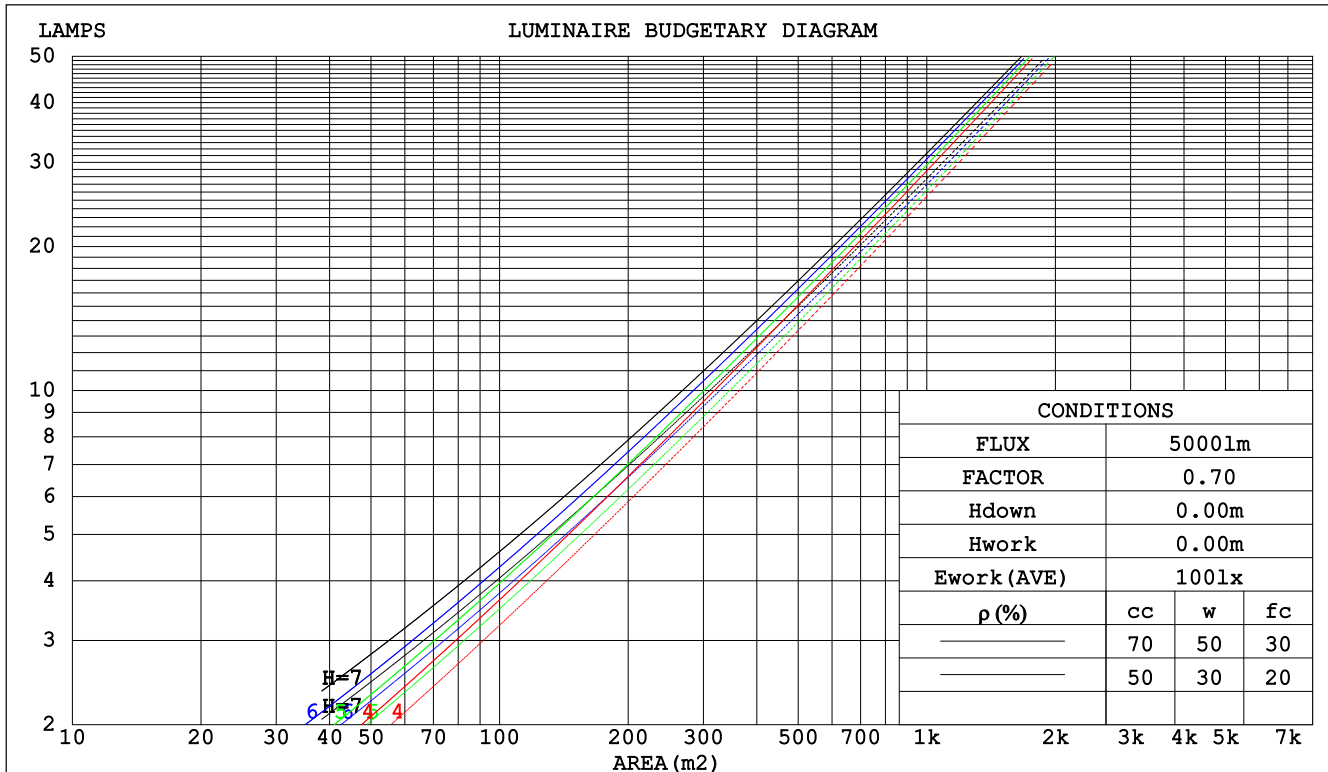
C Range: 0 - 360DEG
C Interval: 90.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:Xie Bi
Test Date:2022-06-20

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.362
Humidity:65.0%
Test Distance:6.810m [K=1.0000]
Remarks:

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

Test:U:231.3V I:0.2236A P:49.89W PF:0.9650 Freq:49.37Hz Lamp Flux:4488.82x1 lm		
NAME: 81801LED	TYPE:	WEIGHT:
SPEC.:P-81801LED-50W3064-CI125036R90-FGB320	DIM.:	SERIAL No.:
MFR.: CETTIGA	SUR.:	Shielding Angle:

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	.00
1.0	1.10	1.08	1.05	1.08	1.06	1.04	1.04	1.02	1.00	1.00	.99	.97	.97	.96	.94	.93
2.0	1.02	.98	.94	1.00	.96	.93	.97	.94	.91	.94	.91	.89	.91	.89	.87	.85
3.0	.95	.89	.85	.93	.88	.84	.90	.86	.83	.88	.85	.82	.86	.83	.80	.79
4.0	.88	.82	.78	.87	.81	.77	.84	.80	.76	.82	.78	.75	.80	.77	.74	.73
5.0	.82	.76	.71	.81	.75	.71	.79	.74	.70	.77	.73	.69	.76	.72	.69	.67
6.0	.76	.70	.65	.75	.70	.65	.74	.69	.65	.72	.68	.64	.71	.67	.64	.62
7.0	.71	.65	.61	.71	.65	.60	.69	.64	.60	.68	.63	.60	.67	.63	.59	.58
8.0	.67	.61	.56	.66	.60	.56	.65	.60	.56	.64	.59	.56	.63	.59	.55	.54
9.0	.63	.57	.52	.62	.56	.52	.61	.56	.52	.60	.55	.52	.59	.55	.52	.50
10.0	.59	.53	.49	.59	.53	.49	.58	.52	.49	.57	.52	.49	.56	.52	.48	.47



C Range: 0 - 360DEG
 C Interval: 90.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:Xie Bi
 Test Date:2022-06-20

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.362
 Humidity:65.0%
 Test Distance:6.810m [K=1.0000]
 Remarks:

WEC AND CCEC

Test:U:231.3V I:0.2236A P:49.89W PF:0.9650 Freq:49.37Hz Lamp Flux:4488.82x1 lm		
NAME: 81801LED	TYPE:	WEIGHT:
SPEC.:P-81801LED-50W3064-CI125036R90-FGB320	DIM.:	SERIAL No.:
MFR.: CETTIGA	SUR.:	Shielding Angle:

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	.186	.106	.033	.179	.102	.032	.166	.095	.030	.155	.089	.029	.144	.083	.027		
2.0	.180	.098	.030	.174	.096	.030	.163	.091	.028	.153	.086	.027	.144	.081	.026		
3.0	.172	.092	.027	.167	.089	.027	.158	.085	.026	.149	.082	.025	.141	.078	.024		
4.0	.164	.085	.025	.160	.084	.025	.152	.081	.024	.144	.078	.023	.137	.075	.023		
5.0	.157	.080	.023	.153	.079	.023	.146	.076	.022	.139	.073	.022	.133	.071	.021		
6.0	.150	.075	.021	.146	.074	.021	.140	.072	.021	.134	.070	.020	.129	.068	.020		
7.0	.143	.071	.020	.140	.070	.020	.134	.068	.020	.129	.066	.019	.124	.065	.019		
8.0	.137	.067	.019	.134	.066	.019	.129	.064	.018	.124	.063	.018	.120	.062	.018		
9.0	.131	.063	.018	.128	.063	.018	.124	.061	.017	.120	.060	.017	.116	.059	.017		
10.0	.125	.060	.017	.123	.060	.017	.119	.058	.016	.115	.057	.016	.112	.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	.193	.193	.193	.165	.165	.165	.112	.112	.112	.065	.065	.065	.021	.021	.021	
1.0	.174	.160	.146	.149	.137	.126	.102	.094	.087	.059	.055	.051	.019	.018	.016	
2.0	.160	.135	.114	.137	.116	.098	.094	.080	.069	.054	.047	.040	.017	.015	.013	
3.0	.148	.116	.090	.127	.100	.078	.087	.069	.055	.050	.041	.032	.016	.013	.011	
4.0	.138	.101	.073	.119	.088	.064	.082	.061	.045	.047	.036	.027	.015	.012	.009	
5.0	.130	.090	.060	.112	.078	.053	.077	.054	.037	.045	.032	.022	.014	.010	.007	
6.0	.123	.081	.051	.106	.070	.044	.073	.049	.031	.042	.029	.019	.014	.009	.006	
7.0	.117	.073	.043	.100	.064	.038	.069	.045	.027	.040	.026	.016	.013	.009	.005	
8.0	.111	.067	.037	.096	.058	.033	.066	.041	.023	.039	.024	.014	.012	.008	.005	
9.0	.106	.062	.033	.091	.054	.028	.063	.038	.020	.037	.022	.012	.012	.007	.004	
10.0	.102	.058	.029	.088	.050	.025	.061	.035	.018	.035	.021	.011	.011	.007	.004	

C Range: 0 - 360DEG
C Interval: 90.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:Xie Bi
Test Date:2022-06-20

γ Range: 0 - 180DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.362
Humidity:65.0%
Test Distance:6.810m [K=1.0000]
Remarks:

UGR(Unified Glare Rating) Table

Test:U:231.3V I:0.2236A P:49.89W PF:0.9650 Freq:49.37Hz Lamp Flux:4488.82x1 lm											
NAME: 81801LED					TYPE:			WEIGHT:			
SPEC.:P-81801LED-50W3064-CI125036R90-FGB320					DIM.:			SERIAL No.:			
MFR.: CETTIGA					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		15.7	16.7	15.9	16.9	17.1	15.8	16.8	16.0	17.0	17.1
	3H	15.5	16.4	15.8	16.7	16.9	15.6	16.5	15.9	16.7	16.9
	4H	15.4	16.3	15.7	16.5	16.8	15.5	16.4	15.8	16.6	16.8
	6H	15.3	16.2	15.6	16.4	16.7	15.4	16.2	15.7	16.5	16.7
	8H	15.3	16.1	15.6	16.3	16.6	15.4	16.2	15.7	16.4	16.7
	12H	15.2	16.0	15.6	16.3	16.6	15.3	16.1	15.6	16.3	16.6
4H	2H	15.5	16.3	15.7	16.6	16.8	15.5	16.4	15.8	16.6	16.9
	3H	15.3	16.0	15.6	16.3	16.6	15.4	16.1	15.7	16.4	16.7
	4H	15.2	15.9	15.5	16.2	16.5	15.3	15.9	15.6	16.2	16.6
	6H	15.1	15.7	15.5	16.0	16.4	15.2	15.8	15.6	16.1	16.5
	8H	15.0	15.6	15.4	16.0	16.3	15.1	15.7	15.5	16.0	16.4
	12H	15.0	15.5	15.4	15.9	16.3	15.1	15.6	15.5	15.9	16.3
8H	4H	15.0	15.6	15.4	16.0	16.3	15.1	15.7	15.5	16.0	16.4
	6H	14.9	15.4	15.4	15.8	16.2	15.0	15.5	15.5	15.9	16.3
	8H	14.9	15.3	15.3	15.7	16.2	15.0	15.4	15.4	15.8	16.2
	12H	14.8	15.2	15.3	15.6	16.1	14.9	15.3	15.4	15.7	16.2
12H	4H	15.0	15.5	15.4	15.9	16.3	15.1	15.6	15.5	15.9	16.3
	6H	14.9	15.3	15.3	15.7	16.2	15.0	15.4	15.4	15.8	16.2
	8H	14.8	15.2	15.3	15.6	16.1	14.9	15.3	15.4	15.7	16.2
Variations with the observer position at spacings:											
S = 1.0H	+ 2.7 / - 8.7					+ 2.8 / - 9.2					
1.5H	+ 4.2 / - 6.5					+ 4.3 / - 6.6					
2.0H	+ 5.6 / - 7.8					+ 5.8 / - 8.0					

CIE Pub.117, 4489 lm Total Lamp Luminous Flux Correct (8log(F/F0) = 5.2)

C Range: 0 - 360DEG
C Interval: 90.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:Xie Bi
Test Date:2022-06-20

γ Range: 0 - 180DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.362
Humidity:65.0%
Test Distance:6.810m [K=1.0000]
Remarks:

UTILIZATION FACTORS TABLE

Test:U:231.3V I:0.2236A P:49.89W PF:0.9650 Freq:49.37Hz Lamp Flux:4488.82x1 lm		
NAME: 81801LED	TYPE:	WEIGHT:
SPEC.:P-81801LED-50W3064-CI125036R90-FGB320	DIM.:	SERIAL No.:
MFR.: CETTIGA	SUR.:	Shielding Angle:

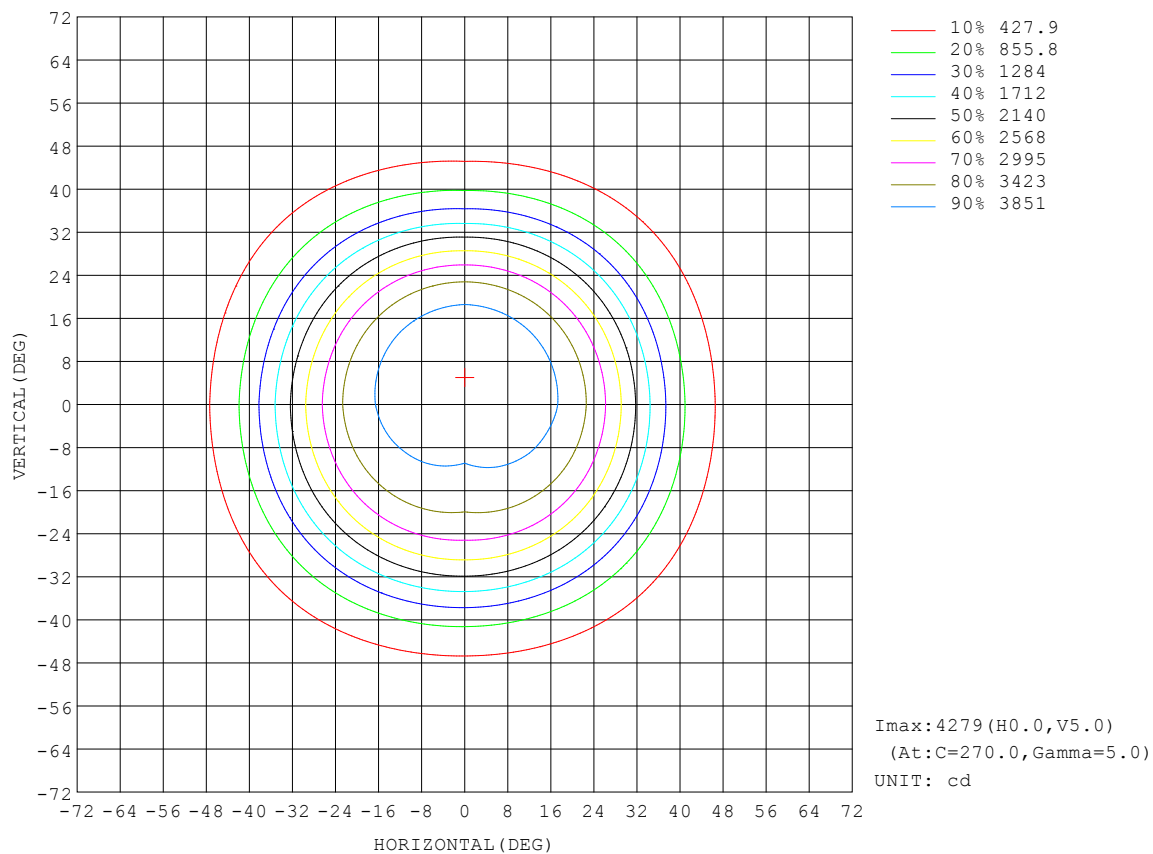
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS (PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	83	76	72	83	76	72	82	76	72	68
0.80	92	85	81	91	85	81	90	84	80	76
1.00	97	91	87	96	90	86	94	90	86	82
1.25	101	96	92	100	95	92	98	94	91	86
1.50	104	99	96	103	98	95	101	97	94	89
2.00	108	103	100	106	102	99	103	100	97	92
2.50	109	105	102	108	104	101	104	102	99	93
3.00	111	107	104	109	106	103	106	103	101	95
4.00	113	110	108	111	108	106	107	105	104	96
5.00	114	112	110	112	110	108	108	107	105	97
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:Xie Bi
Test Date:2022-06-20

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.362
Humidity:65.0%
Test Distance:6.810m [K=1.0000]
Remarks:

ISOCANDELA DIAGRAM

Test:U:231.3V I:0.2236A P:49.89W PF:0.9650 Freq:49.37Hz Lamp Flux:4488.82x1 lm		
NAME: 81801LED	TYPE:	WEIGHT:
SPEC.:P-81801LED-50W3064-CI125036R90-FGB320	DIM.:	SERIAL No.:
MFR.: CETTIGA	SUR.:	Shielding Angle:



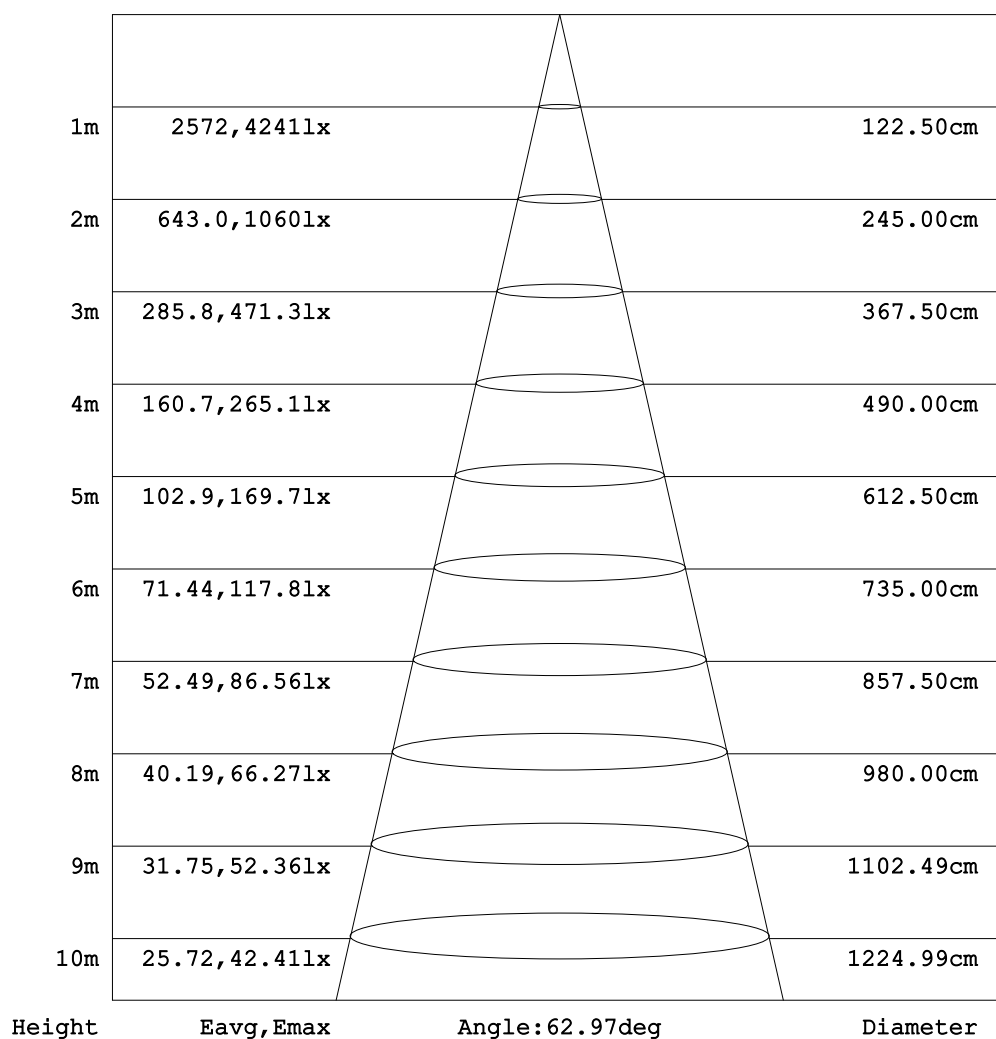
C Range: 0 - 360DEG
C Interval: 90.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators: Xie Bi
Test Date: 2022-06-20

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
Test System: EVERFINE GO-2000B_V1 SYSTEM V2.0.362
Humidity: 65.0%
Test Distance: 6.810m [K=1.0000]
Remarks:

AAI Figure

Test:U:231.3V I:0.2236A P:49.89W PF:0.9650 Freq:49.37Hz Lamp Flux:4488.82x1 lm		
NAME: 81801LED	TYPE:	WEIGHT:
SPEC.:P-81801LED-50W3064-CI125036R90-FGB320	DIM.:	SERIAL No.:
MFR.: CETTIGA	SUR.:	Shielding Angle:

Flux out:3155 lm



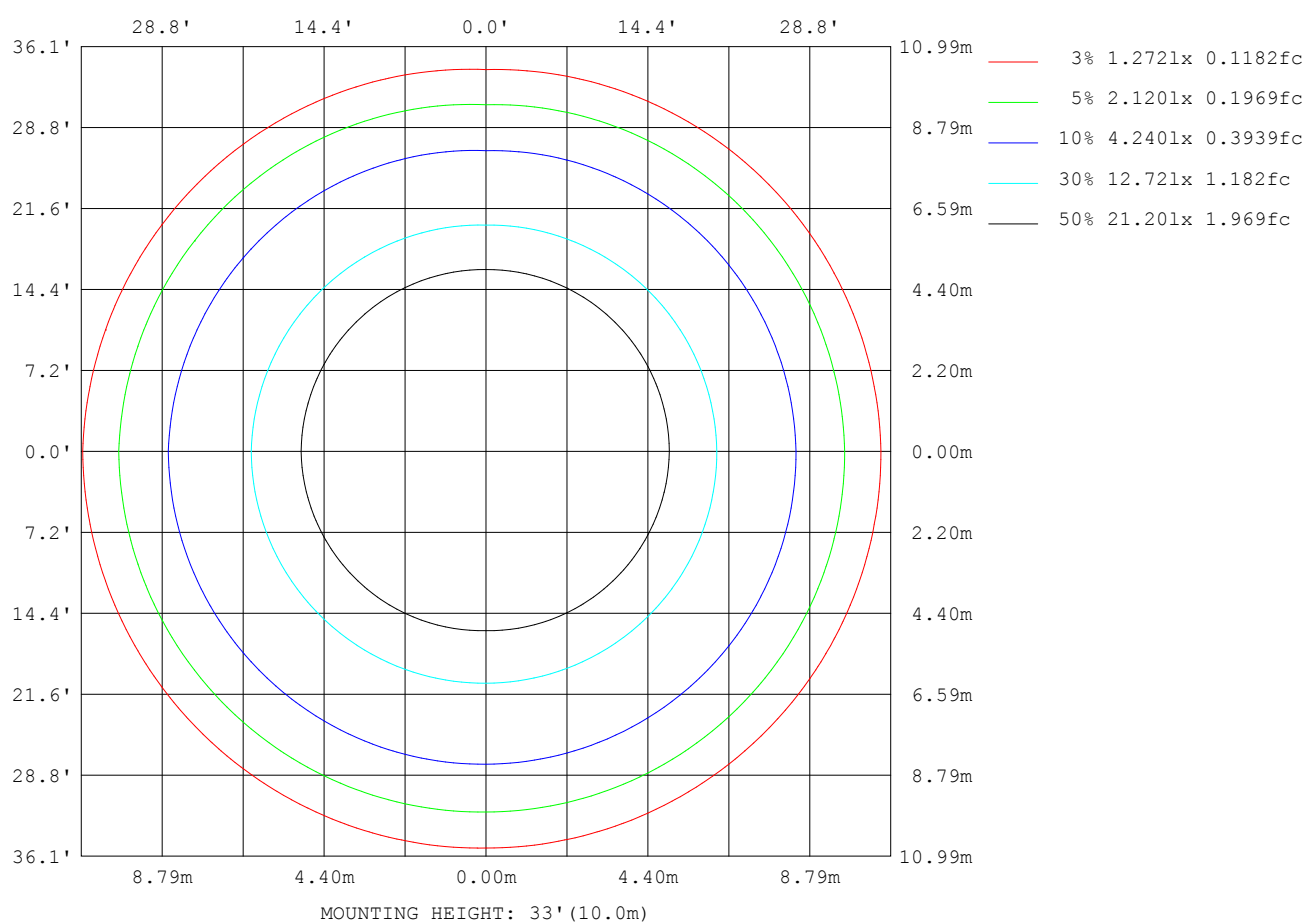
Note: The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
 C Interval: 90.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators: Xie Bi
 Test Date: 2022-06-20

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System: EVERFINE GO-2000B_V1 SYSTEM V2.0.362
 Humidity: 65.0%
 Test Distance: 6.810m [K=1.0000]
 Remarks:

ISOLUX DIAGRAM

Test:U:231.3V I:0.2236A P:49.89W PF:0.9650 Freq:49.37Hz Lamp Flux:4488.82x1 lm		
NAME: 81801LED	TYPE:	WEIGHT:
SPEC.:P-81801LED-50W3064-CI125036R90-FGB320	DIM.:	SERIAL No.:
MFR.: CETTIGA	SUR.:	Shielding Angle:



C Range: 0 - 360DEG
C Interval: 90.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:Xie Bi
Test Date:2022-06-20

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.362
Humidity:65.0%
Test Distance:6.810m [K=1.0000]
Remarks:

LED Avg.L Report

Test:U:231.3V I:0.2236A P:49.89W PF:0.9650 Freq:49.37Hz Lamp Flux:4488.82x1 lm		
NAME: 81801LED	TYPE:	WEIGHT:
SPEC.:P-81801LED-50W3064-CI125036R90-FGB320	DIM.:	SERIAL No.:
MFR.: CETTIGA	SUR.:	Shielding Angle:

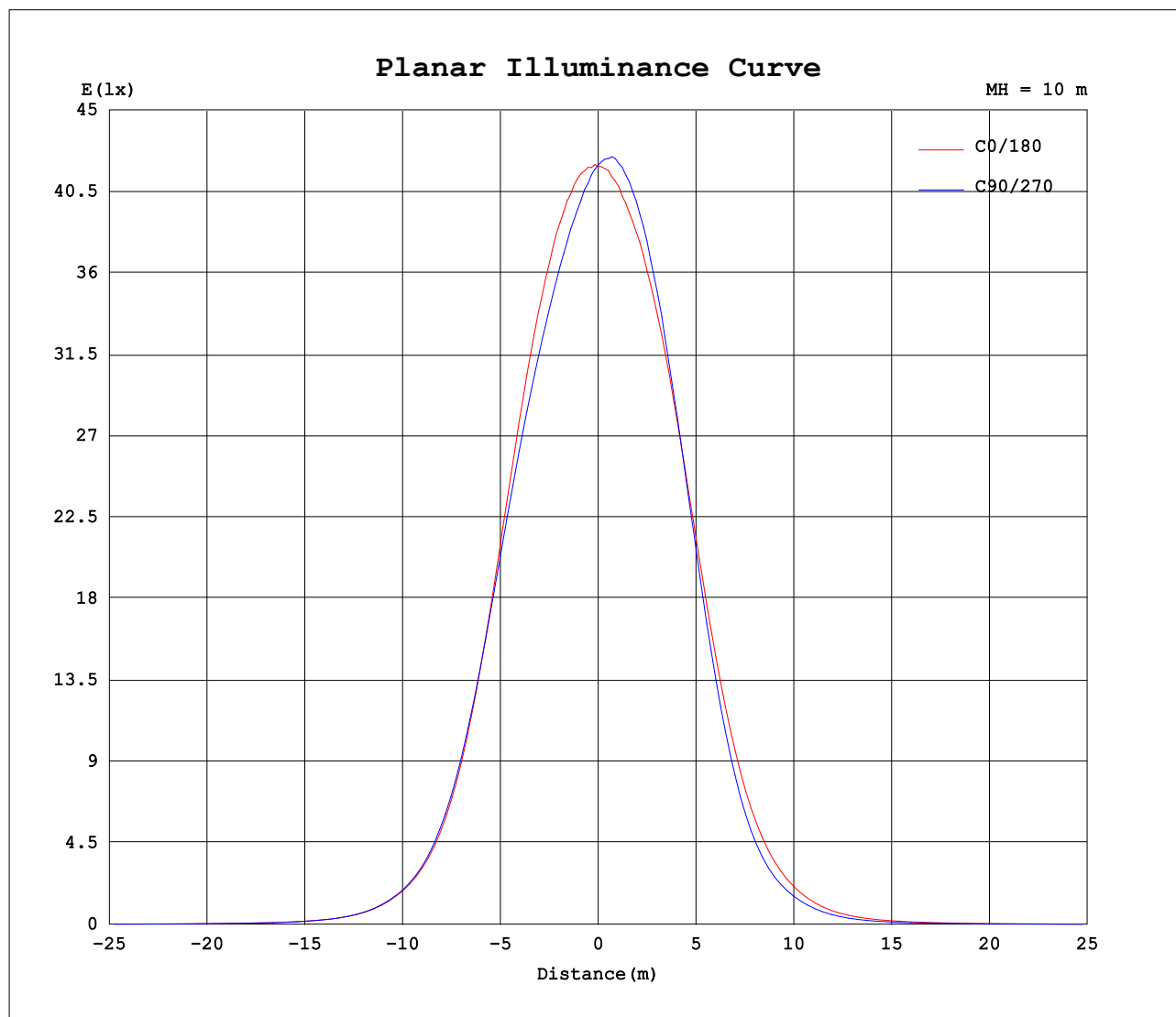
AvgL	cd/m2
L_0~180 (65) av	3326
L_0~180 (75) av	26
L_0~180 (85) av	41
L_90~270 (65) av	2389
L_90~270 (75) av	28
L_90~270 (85) av	37
L_45 (65) av	2755
L_45 (75) av	28
L_45 (85) av	39

Standard: GB/T 29293-2012

C Range: 0 - 360DEG
C Interval: 90.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:Xie Bi
Test Date:2022-06-20

γ Range: 0 - 180DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.362
Humidity:65.0%
Test Distance:6.810m [K=1.0000]
Remarks:

Planar Illuminance Curve



C Range: 0 - 360DEG
C Interval: 90.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators: Xie Bi
Test Date: 2022-06-20

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
Test System: EVERFINE GO-2000B_V1 SYSTEM V2.0.362
Humidity: 65.0%
Test Distance: 6.810m [K=1.0000]
Remarks:

LUMINOUS DISTRIBUTION INTENSITY DATA

Test:U:231.3V I:0.2236A P:49.89W PF:0.9650 Freq:49.37Hz Lamp Flux:4488.82x1 lm		
NAME: 81801LED	TYPE:	WEIGHT:
SPEC.:P-81801LED-50W3064-CI125036R90-FGB320	DIM.:	SERIAL No.:
MFR.: CETTIGA	SUR.:	Shielding Angle:

Table--1

UNIT: cd

C (DEG) γ (DEG)	0	90	180	270															
0	4188	4196	4188	4196															
5	4197	4049	4153	4279															
10	4123	3882	4066	4238															
15	3967	3681	3921	4073															
20	3667	3420	3657	3716															
25	3147	3017	3170	3121															
30	2424	2412	2501	2324															
35	1626	1675	1745	1493															
40	954	994	1063	826															
45	522	536	590	436															
50	254	259	287	203															
55	118	118	135	87.7															
60	58.7	56.0	67.6	42.4															
65	26.1	23.7	30.1	16.7															
70	6.27	4.02	6.53	3.17															
75	0.09	0.12	0.18	0.17															
80	0.06	0.07	0.14	0.13															
85	0.04	0.04	0.10	0.09															
90	0.02	0.01	0.07	0.06															
95	0.02	0.02	0.08	0.06															
100	0.04	0.03	0.09	0.07															
105	0.10	0.07	0.12	0.10															
110	0.21	0.15	0.17	0.15															
115	0.45	0.33	0.27	0.26															
120	0.86	0.66	0.47	0.46															
125	1.53	1.23	0.81	0.82															
130	2.46	2.09	1.37	1.40															
135	3.59	3.23	2.16	2.19															
140	4.81	4.55	3.12	3.12															
145	6.00	5.89	4.15	4.07															
150	7.03	7.13	5.14	4.96															
155	7.92	8.18	6.04	5.81															
160	8.75	9.02	6.98	6.69															
165	9.51	9.79	8.04	7.85															
170	10.1	10.4	9.10	9.13															
175	10.5	10.7	10.0	10.1															
180	10.7	10.8	10.7	10.8															

C Range: 0 - 360DEG
 C Interval: 90.0DEG
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γ Range: 0 - 180DEG
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 Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.362
 Humidity:65.0%
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 Remarks: