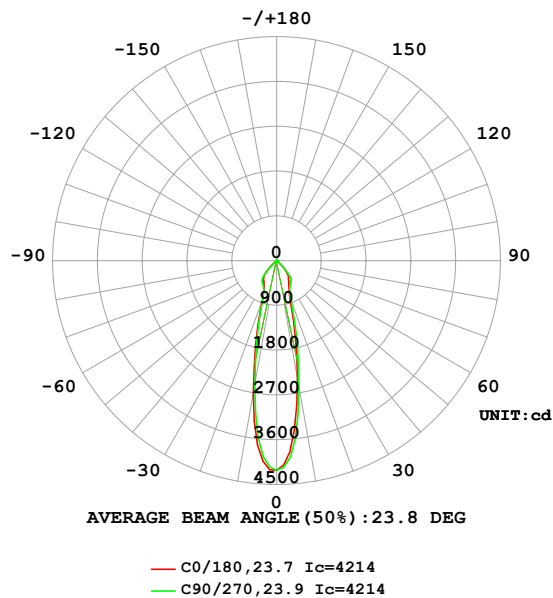


LUMINAIRE PHOTOMETRIC TEST REPORT

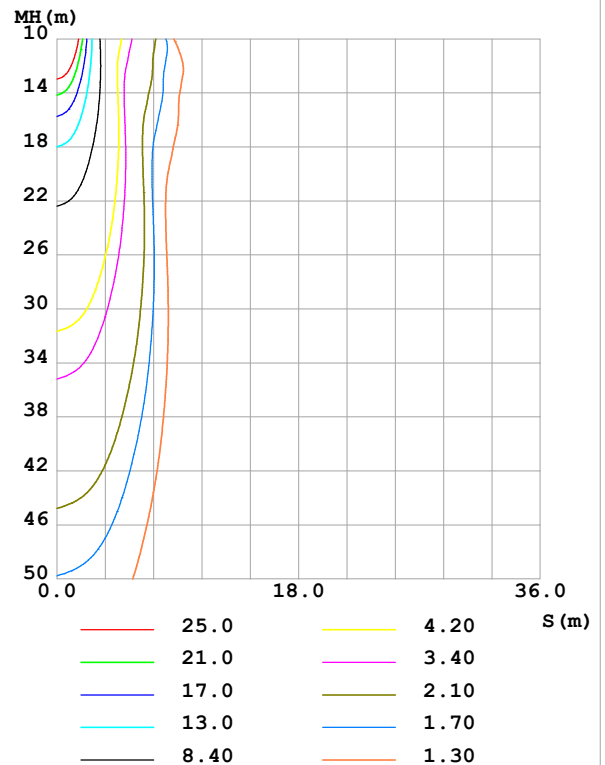
Test:U:230.40V I:0.0700A P:14.290W PF:0.8861 Freq:50.18Hz		
UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:1609.3x1 lm		
LumCAT: 2-3282-A	Test NO: 20260826-C016	Report NO: 20260826-B016
LED HOLDER: 92.70.481.00	DIM.: ϕ 55 H22	Lamp No.: 1
LampCAT: CITIZEN CLU028	MFR.: NATA	

DATA OF LAMP		PHOTOMETRIC DATA Eff: 104.69 lm/W			
MODEL		I _{max} (cd)	4220	S/MH(C0/180)	0.42
NOMINAL POWER(W)	10	LOR(%)	93.0	S/MH(C90/270)	0.40
RATED VOLTAGE(V)	230	TOTAL FLUX(lm)	1496.0	η UP,DN(C0-180)	0.0,46.6
NOMINAL FLUX(lm)	1609.3	CIE CLASS	DIRECT	η UP,DN(C180-360)	0.0,46.4
LAMPS INSIDE	1	η up (%)	0.0	CIBSE SHR NOM	0.00
TEST VOLTAGE(V)	34.9	η down (%)	93.0	CIBSE SHR MAX	1.00

LUMINOUS INTENSITY DISTRIBUTION DIAGRAM



C0 PLANE ISOLUX DIAGRAM (UNIT:lx)



C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: HIGH
Temperature:25.0℃
Operators:ZJW
Test Date:2026-08-26

γ Range: 0 - 90DEG
 γ Interval: 2.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.00.491
Humidity:60.0%
Test Distance:7.710m [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	2424	2488	2587	2773	2704	2683	2540	2350	0- 10	320.7	320.7	21.4,19.9
20	777.6	820.9	861.8	934.2	841.0	828.1	825.9	761.9	10- 20	418.7	739.5	49.4,46
30	493.1	551.7	553.2	564.6	526.5	538.1	558.8	531.7	20- 30	292.4	1032	69,64.1
40	338.7	404.3	424.8	451.3	396.9	445.1	422.4	397.0	30- 40	304.2	1336	89.3,83
50	28.98	21.72	22.30	31.09	32.59	27.62	19.26	19.37	40- 50	145.5	1481	99,92.1
60	4.860	4.168	3.918	3.905	5.194	4.052	3.510	3.462	50- 60	10.01	1491	99.7,92.7
70	1.973	2.004	1.556	1.542	2.193	1.621	1.457	1.366	60- 70	2.551	1494	99.9,92.8
80	0.9759	0.8806	0.7129	0.8634	1.437	0.6417	0.7553	0.5428	70- 80	1.339	1495	100,92.9
90	0.4084	0.1570	0.1504	0.1306	0.1909	0.0501	0.0568	0.1239	80- 90	0.5948	1496	100,93
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): 1459.2 lm

%lum = 97.5%

%lamp = 90.7%

Conical surface Flux(130deg): 1493.2 lm

%lum = 99.8%

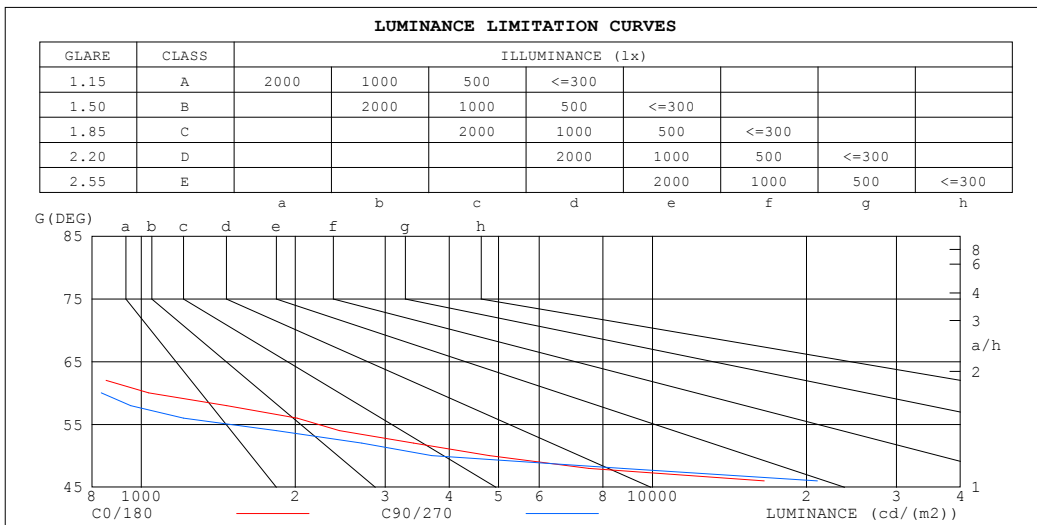
%lamp = 92.8%

C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: HIGH
Temperature:25.0℃
Operators:ZJW
Test Date:2026-08-26

γ Range: 0 - 90DEG
γ Interval: 2.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.00.491
Humidity:60.0%
Test Distance:7.710m [K=1.0000]
Remarks:

LUMINANCE LIMITATION CURVES

Test:U:230.40V I:0.0700A P:14.290W PF:0.8861 Freq:50.18Hz		
UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:1609.3x1 lm		
LumCAT: 2-3282-A	Test NO: 20260826-C016	Report NO: 20260826-B016
LED HOLDER: 92.70.481.00	DIM.: ϕ 55 H22	Lamp No.: 1
LampCAT: CITIZEN CLU028	MFR.: NATA	



LUMINANCE cd/(m2)		
G (DEG)	C0/180	C90/270
85	707	731
80	597	437
75	675	501
70	613	484
65	737	618
60	1033	834
55	2502	1882
50	4792	3694
45	29364	35689

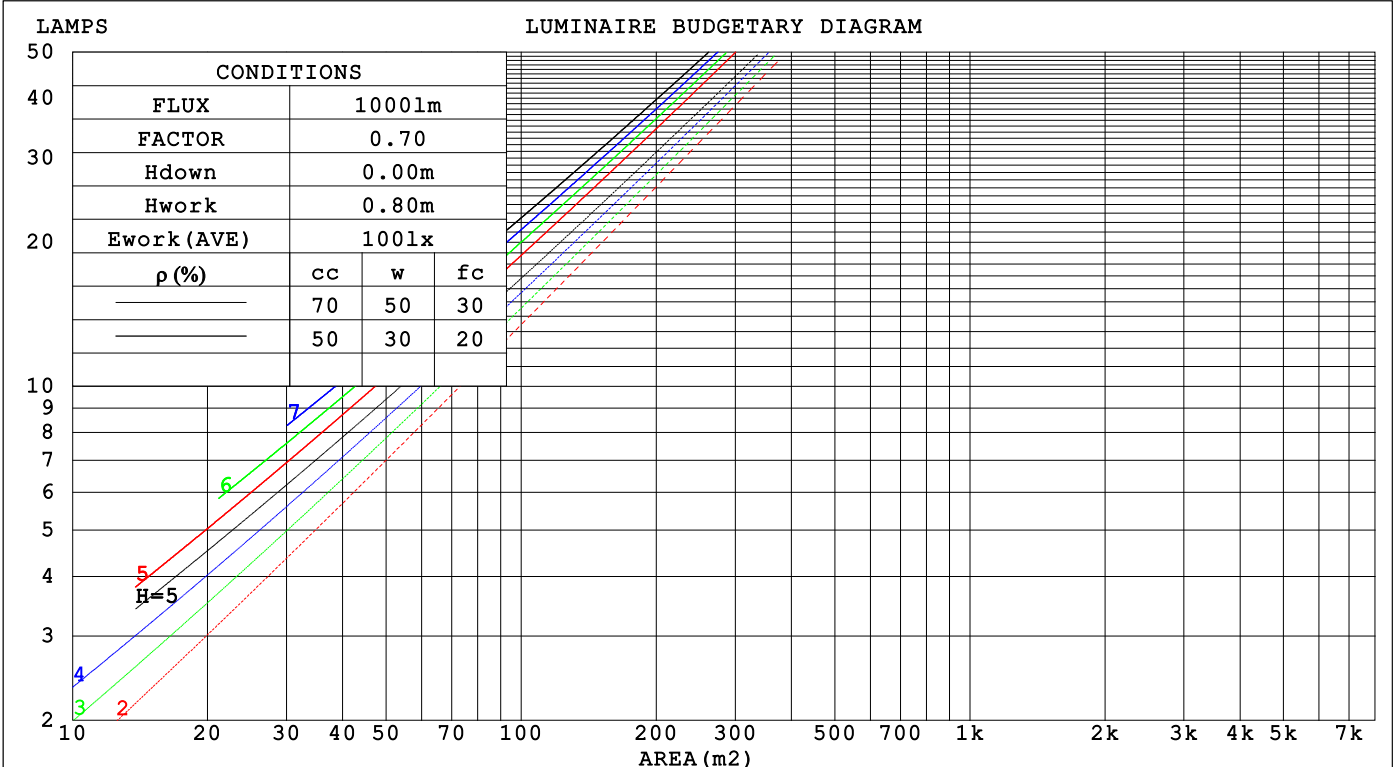
C Range: 0 - 360DEG
 C Interval: 45.0DEG
 Test Speed: HIGH
 Temperature:25.0°C
 Operators:ZJW
 Test Date:2026-08-26

γ Range: 0 - 90DEG
 γ Interval: 2.0DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.00.491
 Humidity:60.0%
 Test Distance:7.710m [K=1.0000]
 Remarks:

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

Test:U:230.40V I:0.0700A P:14.290W PF:0.8861 Freq:50.18Hz			UTHDi:0.00% ITHDi:0.00% KDisp:0			Lamp Flux:1609.3x1 lm		
LumCAT: 2-3282-A			Test NO: 20260826-C016			Report NO: 20260826-B016		
LED HOLDER: 92.70.481.00			DIM.: ø55 H22			Lamp No.: 1		
LampCAT: CITIZEN CLU028			MFR.: NATA					

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			Coefficients of Utilization(CU)												
0.0	1.11	1.11	1.11	1.08	1.08	1.08	1.03	1.03	1.03	.99	.99	.99	.95	.95	.95	.93
1.0	1.03	1.01	.99	1.01	.99	.98	.98	.96	.95	.94	.93	.92	.91	.90	.89	.88
2.0	.97	.93	.90	.95	.92	.89	.92	.89	.87	.89	.87	.85	.87	.85	.84	.82
3.0	.91	.86	.83	.89	.85	.82	.87	.84	.81	.85	.82	.79	.83	.80	.78	.77
4.0	.85	.80	.77	.84	.80	.76	.82	.78	.75	.80	.77	.74	.79	.76	.74	.72
5.0	.80	.75	.71	.79	.75	.71	.78	.74	.70	.76	.73	.70	.75	.72	.69	.68
6.0	.76	.71	.67	.75	.70	.67	.74	.69	.66	.72	.69	.66	.71	.68	.65	.64
7.0	.72	.67	.63	.71	.66	.63	.70	.66	.62	.69	.65	.62	.68	.65	.62	.61
8.0	.68	.63	.60	.68	.63	.59	.67	.62	.59	.66	.62	.59	.65	.61	.59	.57
9.0	.65	.60	.56	.65	.60	.56	.64	.59	.56	.63	.59	.56	.62	.59	.56	.55
10.0	.62	.57	.54	.62	.57	.54	.61	.57	.54	.60	.56	.53	.60	.56	.53	.52



C Range: 0 - 360DEG
 C Interval: 45.0DEG
 Test Speed: HIGH
 Temperature:25.0℃
 Operators:ZJW
 Test Date:2026-08-26

γ Range: 0 - 90DEG
 γ Interval: 2.0DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.00.491
 Humidity:60.0%
 Test Distance:7.710m [K=1.0000]
 Remarks:

WEC AND CCEC

Test:U:230.40V I:0.0700A P:14.290W PF:0.8861 Freq:50.18Hz		
UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:1609.3x1 lm		
LumCAT: 2-3282-A	Test NO: 20260826-C016	Report NO: 20260826-B016
LED HOLDER: 92.70.481.00	DIM.: φ55 H22	Lamp No.: 1
LampCAT: CITIZEN CLU028	MFR.: NATA	

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	.158	.090	.028	.151	.086	.027	.140	.080	.026	.129	.074	.024	.119	.069	.022	
2.0	.151	.083	.025	.146	.080	.025	.136	.075	.023	.127	.071	.022	.118	.067	.021	
3.0	.143	.076	.023	.139	.074	.022	.131	.071	.022	.123	.067	.021	.116	.064	.020	
4.0	.136	.071	.021	.132	.069	.020	.125	.066	.020	.119	.064	.019	.112	.061	.019	
5.0	.130	.066	.019	.126	.065	.019	.120	.063	.018	.114	.060	.018	.109	.058	.017	
6.0	.123	.062	.018	.121	.061	.018	.115	.059	.017	.110	.057	.017	.105	.055	.016	
7.0	.118	.058	.016	.115	.057	.016	.110	.056	.016	.106	.054	.016	.102	.053	.016	
8.0	.112	.055	.015	.110	.054	.015	.106	.053	.015	.102	.052	.015	.098	.050	.015	
9.0	.107	.052	.015	.105	.051	.014	.102	.050	.014	.098	.049	.014	.095	.048	.014	
10.0	.103	.049	.014	.101	.049	.014	.098	.048	.013	.094	.047	.013	.091	.046	.013	

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	.177	.177	.177	.151	.151	.151	.103	.103	.103	.059	.059	.059	.019	.019	.019	
1.0	.159	.146	.135	.136	.126	.116	.093	.086	.080	.053	.050	.047	.017	.016	.015	
2.0	.144	.123	.106	.123	.106	.091	.085	.073	.064	.049	.043	.037	.016	.014	.012	
3.0	.132	.106	.084	.113	.091	.073	.078	.063	.051	.045	.037	.030	.014	.012	.010	
4.0	.122	.092	.068	.105	.079	.059	.072	.055	.042	.042	.032	.025	.013	.011	.008	
5.0	.114	.081	.056	.098	.070	.049	.067	.049	.035	.039	.029	.021	.013	.009	.007	
6.0	.107	.072	.047	.092	.062	.041	.063	.044	.029	.037	.026	.017	.012	.008	.006	
7.0	.101	.065	.040	.086	.056	.035	.060	.039	.025	.035	.023	.015	.011	.008	.005	
8.0	.095	.059	.034	.082	.051	.030	.057	.036	.021	.033	.021	.013	.011	.007	.004	
9.0	.090	.054	.030	.078	.047	.026	.054	.033	.018	.031	.020	.011	.010	.006	.004	
10.0	.086	.050	.026	.074	.043	.023	.051	.031	.016	.030	.018	.010	.010	.006	.003	

C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: HIGH
Temperature:25.0℃
Operators:ZJW
Test Date:2026-08-26

γ Range: 0 - 90DEG
γ Interval: 2.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.00.491
Humidity:60.0%
Test Distance:7.710m [K=1.0000]
Remarks:

UGR(Unified Glare Rating) Table

Test:U:230.40V I:0.0700A P:14.290W PF:0.8861 Freq:50.18Hz UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:1609.3x1 lm										
LumCAT: 2-3282-A					Test NO: 20260826-C016			Report NO: 20260826-B016		
LED HOLDER: 92.70.481.00					DIM.: ϕ 55 H22			Lamp No.: 1		
LampCAT: CITIZEN CLU028					MFR.: NATA					
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	23.5	24.4	23.7	24.5	24.7	24.2	25.1	24.4	25.2	25.4
3H	23.3	24.1	23.6	24.3	24.5	24.0	24.8	24.2	25.0	25.2
4H	23.2	24.0	23.5	24.2	24.4	23.9	24.7	24.2	24.9	25.1
6H	23.1	23.9	23.4	24.1	24.4	23.8	24.5	24.1	24.8	25.0
8H	23.1	23.8	23.4	24.1	24.3	23.8	24.5	24.1	24.7	25.0
12H	23.1	23.7	23.4	24.0	24.3	23.7	24.4	24.0	24.7	24.9
4H 2H	23.2	24.0	23.5	24.2	24.4	23.9	24.7	24.2	24.9	25.1
3H	23.1	23.7	23.4	24.0	24.3	23.7	24.4	24.0	24.7	24.9
4H	23.0	23.6	23.3	23.9	24.2	23.6	24.2	24.0	24.5	24.9
6H	22.9	23.4	23.2	23.7	24.1	23.5	24.1	23.9	24.4	24.8
8H	22.8	23.3	23.2	23.7	24.0	23.5	24.0	23.9	24.3	24.7
12H	22.8	23.2	23.2	23.6	24.0	23.4	23.9	23.9	24.3	24.7
8H 4H	22.8	23.3	23.2	23.7	24.0	23.5	24.0	23.9	24.3	24.7
6H	22.7	23.1	23.1	23.5	23.9	23.4	23.8	23.8	24.2	24.6
8H	22.7	23.0	23.1	23.4	23.9	23.3	23.7	23.8	24.1	24.6
12H	22.6	22.9	23.1	23.4	23.8	23.3	23.6	23.8	24.0	24.5
12H 4H	22.8	23.2	23.2	23.6	24.0	23.4	23.9	23.8	24.3	24.7
6H	22.7	23.0	23.1	23.4	23.9	23.3	23.7	23.8	24.1	24.6
8H	22.6	22.9	23.1	23.4	23.8	23.3	23.6	23.8	24.0	24.5
Variations with the observer position at spacings(CIE Pub.117):										
S = 1.0H	+ 2.6 / -15.7					+ 2.7 / -18.3				
1.5H	+ 5.0 / -15.0					+ 5.0 / -17.1				
2.0H	+ 8.1 / -10.2					+ 8.8 / -12.0				

CIE Pub.117, 1609 lm Total Lamp Luminous Flux Corrected ($8\log(F/F_0) = 1.7$)
 Area: 0.0094 m²

C Range: 0 - 360DEG
 C Interval: 45.0DEG
 Test Speed: HIGH
 Temperature:25.0℃
 Operators:ZJW
 Test Date:2026-08-26

γ Range: 0 - 90DEG
 γ Interval: 2.0DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.00.491
 Humidity:60.0%
 Test Distance:7.710m [K=1.0000]
 Remarks:

UTILIZATION FACTORS TABLE

Test:U:230.40V I:0.0700A P:14.290W PF:0.8861 Freq:50.18Hz		
UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:1609.3x1 lm		
LumCAT: 2-3282-A	Test NO: 20260826-C016	Report NO: 20260826-B016
LED HOLDER: 92.70.481.00	DIM.: φ55 H22	Lamp No.: 1
LampCAT: CITIZEN CLU028	MFR.: NATA	

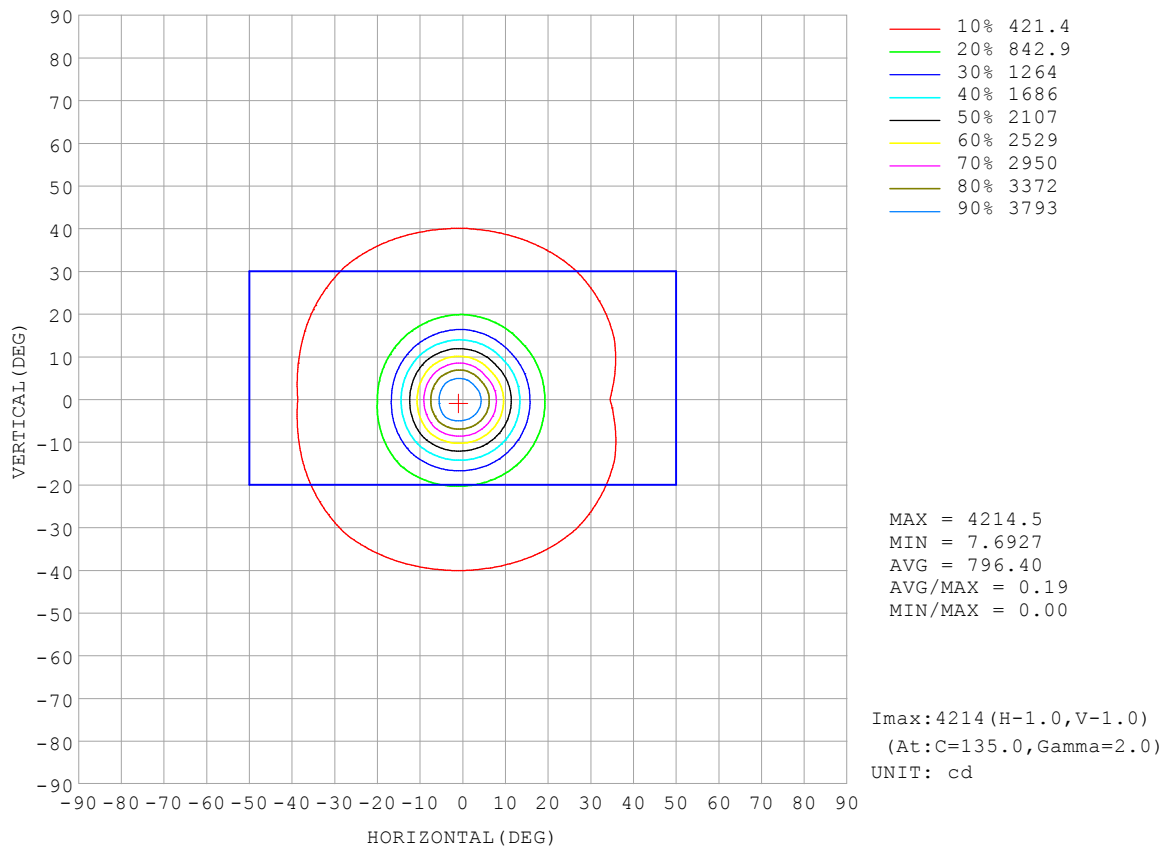
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS (PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	79	73	69	78	72	69	78	72	69	65
0.80	86	80	77	86	80	77	84	80	76	73
1.00	91	85	82	90	85	82	89	85	81	77
1.25	95	90	87	94	89	86	92	88	85	81
1.50	98	93	90	97	92	89	94	91	88	84
2.00	100	96	93	99	95	93	97	94	91	86
2.50	102	98	96	101	97	95	98	95	93	87
3.00	104	100	98	102	99	97	99	96	95	89
4.00	105	103	101	104	101	99	100	98	97	90
5.00	107	104	103	105	103	101	101	99	98	91
ROOM INDEX	UF (total)									Direct
According to DIN EN 13032-2 2004			Suspended					SHRNOM = 1.25		

C Range: 0 - 360DEG
 C Interval: 45.0DEG
 Test Speed: HIGH
 Temperature: 25.0°C
 Operators: ZJW
 Test Date: 2026-08-26

γ Range: 0 - 90DEG
 γ Interval: 2.0DEG
 Test System: EVERFINE GO-2000A_V1 SYSTEM V2.00.491
 Humidity: 60.0%
 Test Distance: 7.710m [K=1.0000]
 Remarks:

ISOCANDELA DIAGRAM

Test:U:230.40V I:0.0700A P:14.290W PF:0.8861 Freq:50.18Hz UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:1609.3x1 lm		
LumCAT: 2-3282-A	Test NO: 20260826-C016	Report NO: 20260826-B016
LED HOLDER: 92.70.481.00	DIM.: ϕ 55 H22	Lamp No.: 1
LampCAT: CITIZEN CLU028	MFR.: NATA	

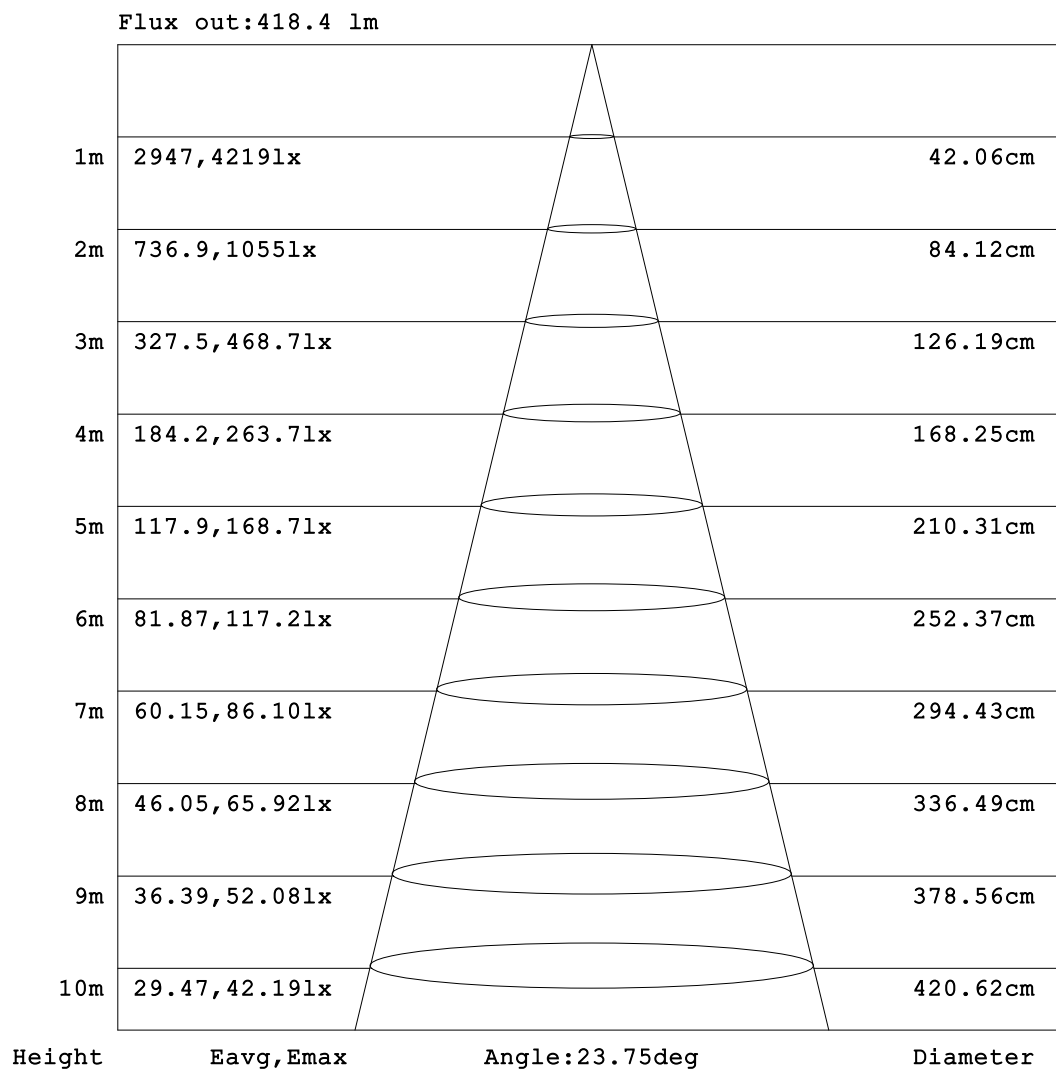


C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: HIGH
Temperature: 25.0°C
Operators: ZJW
Test Date: 2026-08-26

γ Range: 0 - 90DEG
 γ Interval: 2.0DEG
Test System: EVERFINE GO-2000A_V1 SYSTEM V2.00.491
Humidity: 60.0%
Test Distance: 7.710m [K=1.0000]
Remarks:

AAI Figure

Test:U:230.40V I:0.0700A P:14.290W PF:0.8861 Freq:50.18Hz UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:1609.3x1 lm		
LumCAT: 2-3282-A	Test NO: 20260826-C016	Report NO: 20260826-B016
LED HOLDER: 92.70.481.00	DIM.: ϕ 55 H22	Lamp No.: 1
LampCAT: CITIZEN CLU028	MFR.: NATA	



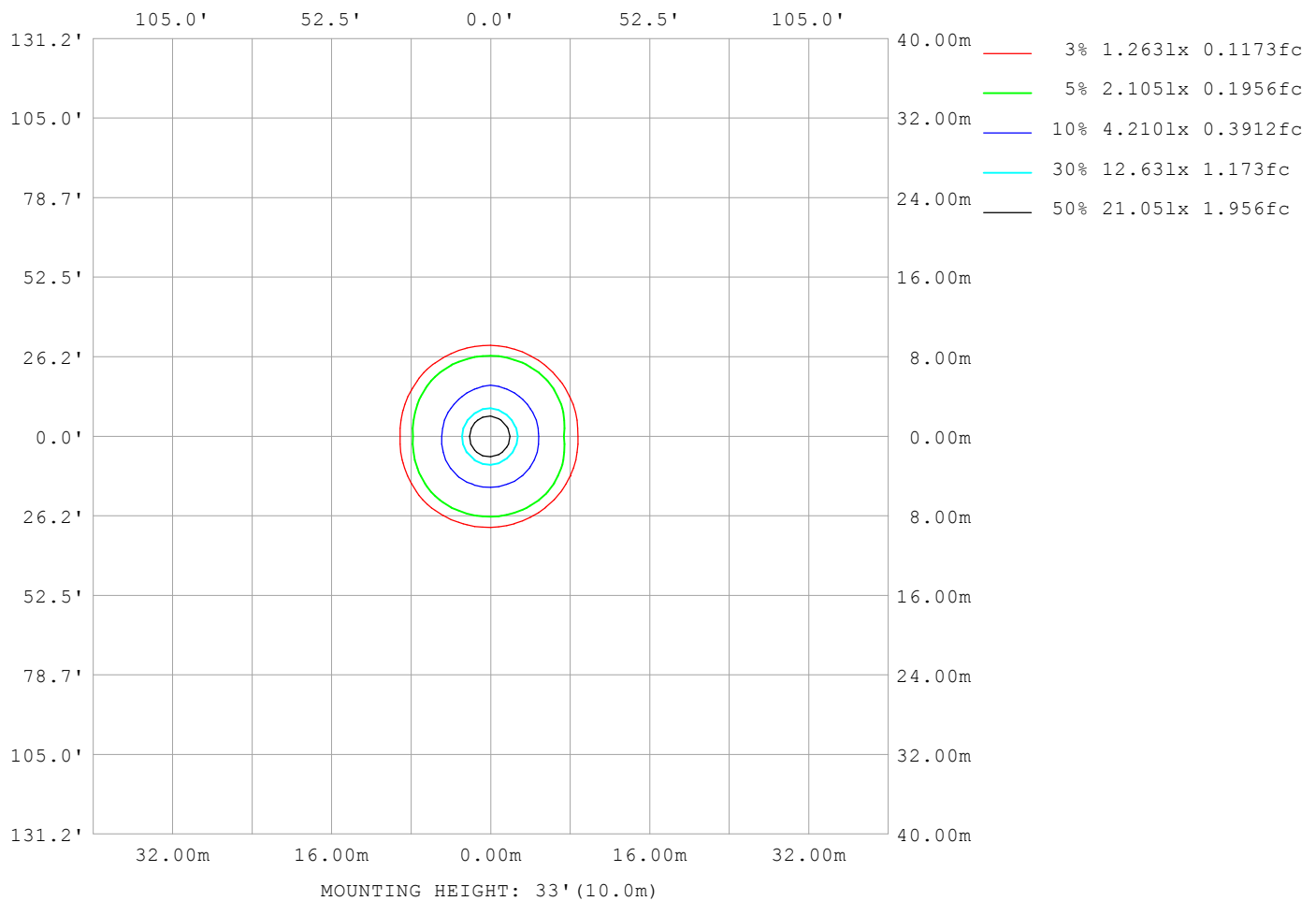
Note: The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: HIGH
Temperature: 25.0°C
Operators: ZJW
Test Date: 2026-08-26

γ Range: 0 - 90DEG
 γ Interval: 2.0DEG
Test System: EVERFINE GO-2000A_V1 SYSTEM V2.00.491
Humidity: 60.0%
Test Distance: 7.710m [K=1.0000]
Remarks:

ISOLUX DIAGRAM

Test:U:230.40V I:0.0700A P:14.290W PF:0.8861 Freq:50.18Hz UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:1609.3x1 lm		
LumCAT: 2-3282-A	Test NO: 20260826-C016	Report NO: 20260826-B016
LED HOLDER: 92.70.481.00	DIM.: $\phi 55$ H22	Lamp No.: 1
LampCAT: CITIZEN CLU028	MFR.: NATA	



C Range: 0 - 360DEG
 C Interval: 45.0DEG
 Test Speed: HIGH
 Temperature: 25.0°C
 Operators: ZJW
 Test Date: 2026-08-26

γ Range: 0 - 90DEG
 γ Interval: 2.0DEG
 Test System: EVERFINE GO-2000A_V1 SYSTEM V2.00.491
 Humidity: 60.0%
 Test Distance: 7.710m [K=1.0000]
 Remarks:

LED Avg.L Report

Test:U:230.40V I:0.0700A P:14.290W PF:0.8861 Freq:50.18Hz UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:1609.3x1 lm		
LumCAT: 2-3282-A	Test NO: 20260826-C016	Report NO: 20260826-B016
LED HOLDER: 92.70.481.00	DIM.: φ55 H22	Lamp No.: 1
LampCAT: CITIZEN CLU028	MFR.: NATA	

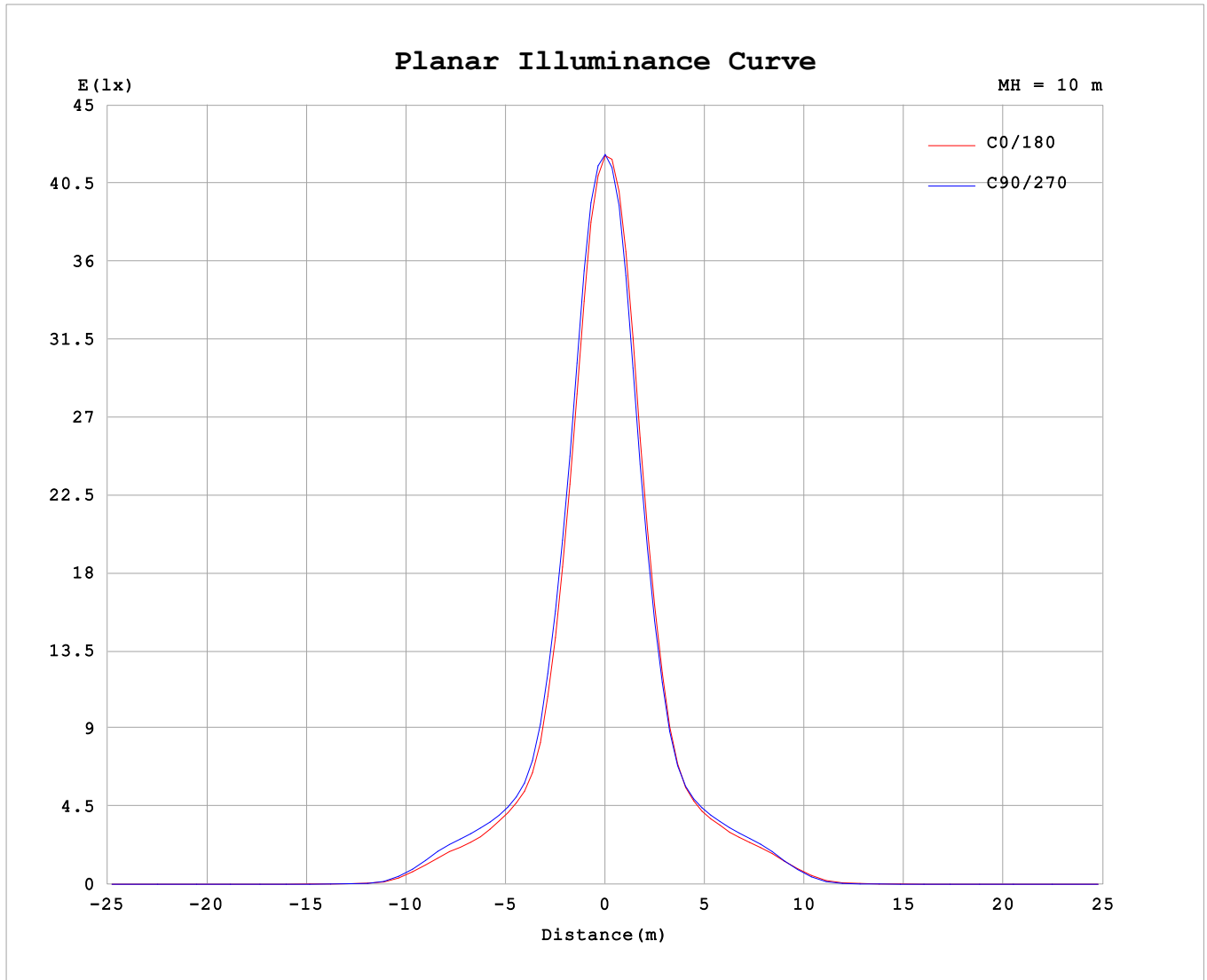
AvgL	cd/m2
L_0~180 (65) av	704
L_0~180 (75) av	709
L_0~180 (85) av	693
L_90~270 (65) av	551
L_90~270 (75) av	436
L_90~270 (85) av	766
L_45 (65) av	569
L_45 (75) av	466
L_45 (85) av	557

Standard: GB/T 29293-2012

C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: HIGH
Temperature:25.0℃
Operators:ZJW
Test Date:2026-08-26

γ Range: 0 - 90DEG
γ Interval: 2.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.00.491
Humidity:60.0%
Test Distance:7.710m [K=1.0000]
Remarks:

Planar Illuminance Curve



C Range: 0 - 360DEG
 C Interval: 45.0DEG
 Test Speed: HIGH
 Temperature: 25.0°C
 Operators: ZJW
 Test Date: 2026-08-26

γ Range: 0 - 90DEG
 γ Interval: 2.0DEG
 Test System: EVERFINE GO-2000A_V1 SYSTEM V2.00.491
 Humidity: 60.0%
 Test Distance: 7.710m [K=1.0000]
 Remarks:

LUMINOUS DISTRIBUTION INTENSITY DATA

Test:U:230.40V I:0.0700A P:14.290W PF:0.8861 Freq:50.18Hz UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:1609.3x1 lm		
LumCAT: 2-3282-A	Test NO: 20260826-C016	Report NO: 20260826-B016
LED HOLDER: 92.70.481.00	DIM.: ø55 H22	Lamp No.: 1
LampCAT: CITIZEN CLU028	MFR.: NATA	

Table--1

UNIT: cd

[illegible]

C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: HIGH
Temperature: 25.0°C
Operators: ZJW
Test Date: 2026-08-26

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γ Range: 0 - 90DEG
γ Interval: 2.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.00.491
Humidity:60.0%
Test Distance:7.710m [K=1.0000]
Remarks:

```