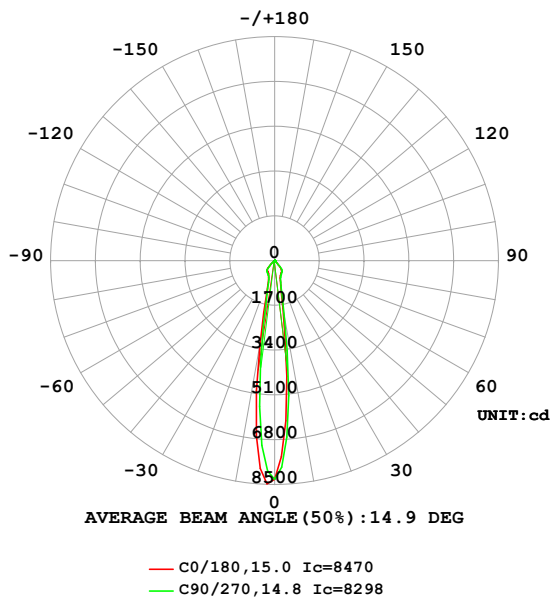


LUMINAIRE PHOTOMETRIC TEST REPORT

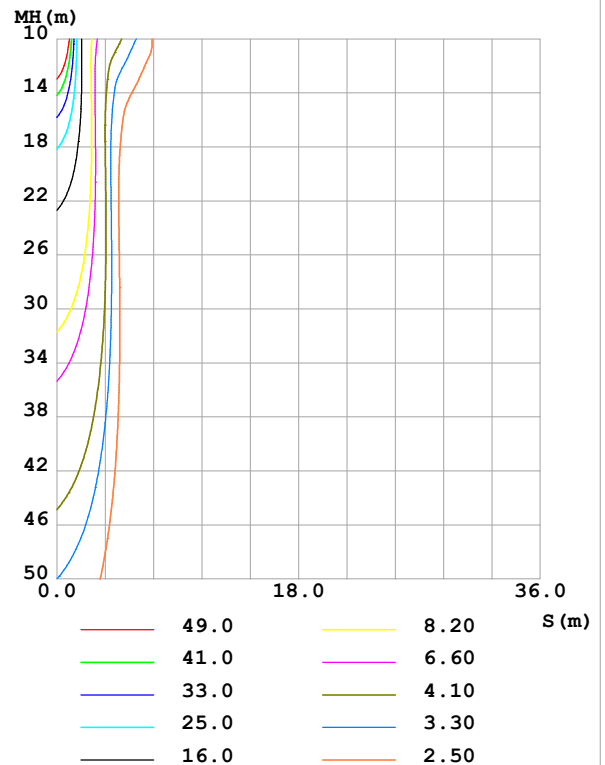
Test:U:230.30V I:0.0701A P:14.302W PF:0.8856 Freq:50.18Hz		
UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:1609.3x1 lm		
LumCAT: 2-3281-A	Test NO: 20260826-C014	Report NO: 20260826-B014
LED HOLDER: 92.70.481.00	DIM.: ϕ 55 H22	Lamp No.: 1
LampCAT: CITIZEN CLU028	MFR.: NATA	

DATA OF LAMP		PHOTOMETRIC DATA Eff: 105.39 lm/W			
MODEL		I _{max} (cd)	8470	S/MH(C0/180)	0.29
NOMINAL POWER(W)	10	LOR(%)	93.7	S/MH(C90/270)	0.26
RATED VOLTAGE(V)	230	TOTAL FLUX(lm)	1507.3	η UP,DN(C0-180)	0.0,44.7
NOMINAL FLUX(lm)	1609.3	CIE CLASS	DIRECT	η UP,DN(C180-360)	0.0,49.0
LAMPS INSIDE	1	η up (%)	0.0	CIBSE SHR NOM	0.00
TEST VOLTAGE(V)	34.9	η down (%)	93.7	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°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:

ZONAL FLUX DIAGRAM

ZONAL FLUX DIAGRAM:

γ	C0	C45	C90	C135	C180	C225	C270	C315	γ	Φ zone	Φ total	%lum, lamp
10	1837	1914	2162	2747	3272	3009	2472	2034	0- 10	465.3	465.3	30.9,28.9
20	643.6	667.4	677.1	695.4	678.0	672.0	660.9	625.9	10- 20	306.2	771.6	51.2,47.9
30	524.3	539.5	538.3	549.1	508.7	539.5	548.5	531.4	20- 30	270.7	1042	69.2,64.8
40	323.4	372.8	396.8	437.7	444.6	468.0	436.4	410.6	30- 40	306.7	1349	89.5,83.8
50	22.46	16.89	19.69	27.72	39.36	40.20	24.74	16.90	40- 50	144.6	1494	99.1,92.8
60	4.896	2.181	2.523	2.808	3.004	2.568	2.370	2.116	50- 60	10.41	1504	99.8,93.5
70	2.251	0.8221	0.8499	0.8988	1.403	0.8795	1.036	0.9059	60- 70	1.679	1506	99.9,93.6
80	1.193	0.5146	0.6064	0.6144	0.9548	0.4581	0.7328	0.5048	70- 80	0.9675	1507	100,93.6
90	0.6762	0.4479	0.3264	0.2038	0.2456	0.1003	0.1266	0.2907	80- 90	0.6523	1507	100,93.7
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): 1471.4 lm

%lum = 97.6%

%lamp = 91.4%

Conical surface Flux(130deg): 1505.2 lm

%lum = 99.9%

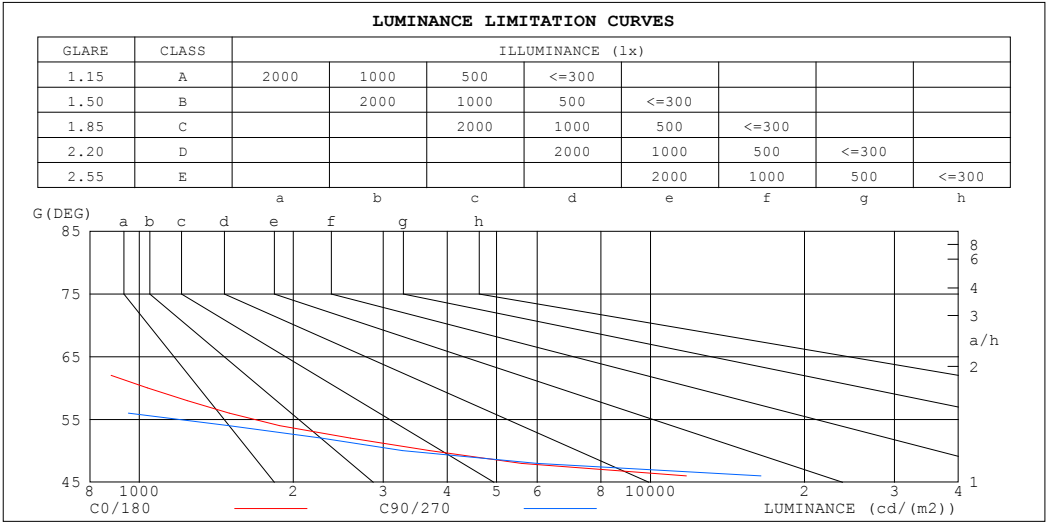
%lamp = 93.5%

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:230.30V I:0.0701A P:14.302W PF:0.8856 Freq:50.18Hz		
UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:1609.3x1 lm		
LumCAT: 2-3281-A	Test NO: 20260826-C014	Report NO: 20260826-B014
LED HOLDER: 92.70.481.00	DIM.: ϕ55 H22	Lamp No.: 1
LampCAT: CITIZEN CLU028	MFR.: NATA	



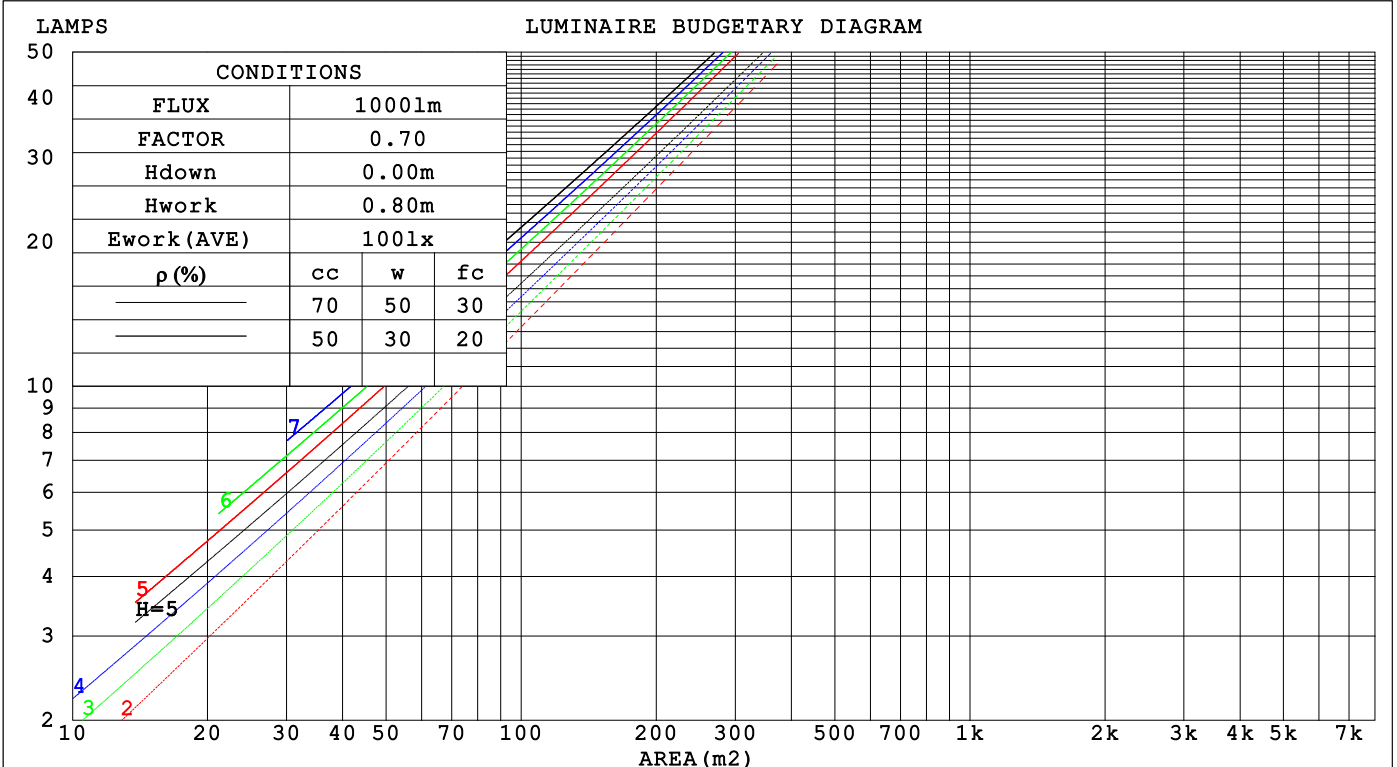
LUMINANCE cd/(m2)		
G (DEG)	C0/180	C90/270
85	1010	889
80	726	373
75	788	309
70	696	265
65	803	329
60	1036	539
55	1927	1531
50	3696	3272
45	21341	30665

C Range: 0 - 360DEG	γ Range: 0 - 90DEG
C Interval: 45.0DEG	γ Interval: 2.0DEG
Test Speed: HIGH	Test System:EVERFINE GO-2000A_V1 SYSTEM V2.00.491
Temperature:25.0℃	Humidity:60.0%
Operators:ZJW	Test Distance:7.710m [K=1.0000]
Test Date:2026-08-26	Remarks:

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

Test:U:230.30V I:0.0701A P:14.302W PF:0.8856 Freq:50.18Hz			UTHDi:0.00% ITHDi:0.00% KDisp:0			Lamp Flux:1609.3x1 lm		
LumCAT: 2-3281-A			Test NO: 20260826-C014			Report NO: 20260826-B014		
LED HOLDER: 92.70.481.00			DIM.: ø55 H22			Lamp No.: 1		
LampCAT: CITIZEN CLU028			MFR.: NATA					

pcc	80%			70%			50%			30%			10%			0
p _w	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
p _{fc}	20%			20%			20%			20%			20%			0
RCR	RCR:Room Cavity Ratio			Coefficients of Utilization(CU)												
0.0	1.12	1.12	1.12	1.09	1.09	1.09	1.04	1.04	1.04	.00	.00	.00	.96	.96	.96	.94
1.0	1.04	1.02	1.00	1.02	1.01	.99	.99	.97	.96	.95	.94	.93	.92	.91	.90	.89
2.0	.98	.95	.92	.96	.93	.91	.93	.91	.89	.91	.89	.87	.88	.86	.85	.83
3.0	.92	.88	.85	.91	.87	.84	.88	.85	.83	.86	.84	.81	.84	.82	.80	.79
4.0	.87	.82	.79	.86	.82	.78	.84	.80	.77	.82	.79	.76	.80	.78	.76	.74
5.0	.82	.77	.74	.81	.77	.73	.80	.76	.73	.78	.75	.72	.77	.74	.72	.70
6.0	.78	.73	.70	.77	.73	.69	.76	.72	.69	.75	.71	.68	.74	.70	.68	.67
7.0	.74	.69	.66	.74	.69	.66	.73	.68	.65	.72	.68	.65	.71	.67	.65	.64
8.0	.71	.66	.63	.71	.66	.63	.70	.65	.62	.69	.65	.62	.68	.64	.62	.61
9.0	.68	.63	.60	.68	.63	.60	.67	.63	.60	.66	.62	.59	.65	.62	.59	.58
10.0	.65	.61	.57	.65	.60	.57	.64	.60	.57	.64	.60	.57	.63	.59	.57	.56



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:230.30V I:0.0701A P:14.302W PF:0.8856 Freq:50.18Hz			UTHDi:0.00% ITHDi:0.00% KDisp:0			Lamp Flux:1609.3x1 lm		
LumCAT: 2-3281-A			Test NO: 20260826-C014			Report NO: 20260826-B014		
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															Wall Exitance Coefficients(WEC)														
0.0																														
1.0	.153	.087	.028	.147	.084	.027	.135	.078	.025	.124	.072	.023	.115	.066	.021															
2.0	.146	.080	.025	.141	.078	.024	.131	.073	.023	.122	.068	.021	.114	.064	.020															
3.0	.139	.074	.022	.134	.072	.022	.126	.068	.021	.118	.065	.020	.111	.062	.019															
4.0	.132	.068	.020	.128	.067	.020	.121	.064	.019	.114	.061	.018	.108	.059	.018															
5.0	.125	.064	.018	.122	.062	.018	.115	.060	.018	.110	.058	.017	.104	.056	.017															
6.0	.119	.060	.017	.116	.059	.017	.110	.057	.016	.105	.055	.016	.101	.053	.016															
7.0	.113	.056	.016	.110	.055	.016	.106	.053	.015	.101	.052	.015	.097	.050	.015															
8.0	.108	.053	.015	.105	.052	.015	.101	.051	.014	.097	.049	.014	.094	.048	.014															
9.0	.103	.050	.014	.101	.049	.014	.097	.048	.014	.094	.047	.013	.090	.046	.013															
10.0	.098	.047	.013	.096	.047	.013	.093	.046	.013	.090	.045	.013	.087	.044	.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	.178	.178	.178	.152	.152	.152	.104	.104	.104	.060	.060	.060	.019	.019	.019	
1.0	.159	.147	.137	.136	.127	.118	.093	.087	.081	.054	.050	.047	.017	.016	.015	
2.0	.144	.124	.107	.124	.107	.093	.085	.074	.065	.049	.043	.038	.016	.014	.012	
3.0	.132	.106	.086	.113	.092	.074	.078	.064	.052	.045	.037	.031	.014	.012	.010	
4.0	.122	.092	.070	.105	.080	.061	.072	.056	.043	.042	.033	.025	.013	.011	.008	
5.0	.113	.081	.058	.097	.070	.050	.067	.049	.035	.039	.029	.021	.012	.009	.007	
6.0	.106	.072	.048	.091	.063	.042	.063	.044	.030	.036	.026	.018	.012	.008	.006	
7.0	.099	.065	.041	.085	.056	.036	.059	.040	.025	.034	.023	.015	.011	.008	.005	
8.0	.093	.059	.035	.080	.051	.031	.056	.036	.022	.032	.021	.013	.010	.007	.004	
9.0	.088	.054	.031	.076	.047	.027	.053	.033	.019	.031	.019	.011	.010	.006	.004	
10.0	.084	.050	.027	.072	.043	.024	.050	.030	.017	.029	.018	.010	.009	.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:230.30V I:0.0701A P:14.302W PF:0.8856 Freq:50.18Hz UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:1609.3x1 lm										
LumCAT: 2-3281-A					Test NO: 20260826-C014			Report NO: 20260826-B014		
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	23.1	24.0	23.4	24.1	24.3	23.7	24.5	23.9	24.7	24.9
3H	23.0	23.8	23.2	24.0	24.2	23.5	24.3	23.8	24.5	24.7
4H	22.9	23.6	23.2	23.9	24.1	23.4	24.2	23.7	24.4	24.6
6H	22.8	23.5	23.1	23.7	24.0	23.4	24.0	23.6	24.3	24.5
8H	22.8	23.4	23.1	23.7	23.9	23.3	24.0	23.6	24.2	24.5
12H	22.7	23.4	23.0	23.6	23.9	23.3	23.9	23.6	24.2	24.4
4H 2H	22.9	23.6	23.2	23.8	24.1	23.4	24.2	23.7	24.4	24.6
3H	22.7	23.4	23.0	23.6	23.9	23.3	23.9	23.6	24.2	24.4
4H	22.6	23.2	23.0	23.5	23.8	23.2	23.8	23.5	24.0	24.4
6H	22.5	23.0	22.9	23.4	23.7	23.1	23.6	23.4	23.9	24.3
8H	22.5	23.0	22.9	23.3	23.7	23.0	23.5	23.4	23.8	24.2
12H	22.4	22.9	22.8	23.2	23.6	23.0	23.4	23.4	23.8	24.2
8H 4H	22.5	23.0	22.9	23.3	23.7	23.0	23.5	23.4	23.8	24.2
6H	22.4	22.8	22.8	23.2	23.6	22.9	23.3	23.3	23.7	24.1
8H	22.3	22.7	22.8	23.1	23.5	22.9	23.2	23.3	23.6	24.1
12H	22.3	22.6	22.7	23.0	23.5	22.8	23.1	23.3	23.5	24.0
12H 4H	22.4	22.9	22.8	23.2	23.6	23.0	23.4	23.4	23.8	24.2
6H	22.3	22.7	22.8	23.1	23.5	22.9	23.2	23.3	23.6	24.1
8H	22.3	22.6	22.7	23.0	23.5	22.8	23.1	23.3	23.5	24.0
Variations with the observer position at spacings(CIE Pub.117):										
S = 1.0H	+ 2.8 / -16.5					+ 2.8 / -20.7				
1.5H	+ 5.3 / -16.2					+ 5.2 / -19.3				
2.0H	+ 7.9 / - 8.9					+ 8.9 / -13.5				

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:230.30V I:0.0701A P:14.302W PF:0.8856 Freq:50.18Hz		
UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:1609.3x1 lm		
LumCAT: 2-3281-A	Test NO: 20260826-C014	Report NO: 20260826-B014
LED HOLDER: 92.70.481.00	DIM.: ø55 H22	Lamp No.: 1
LampCAT: CITIZEN CLU028	MFR.: NATA	

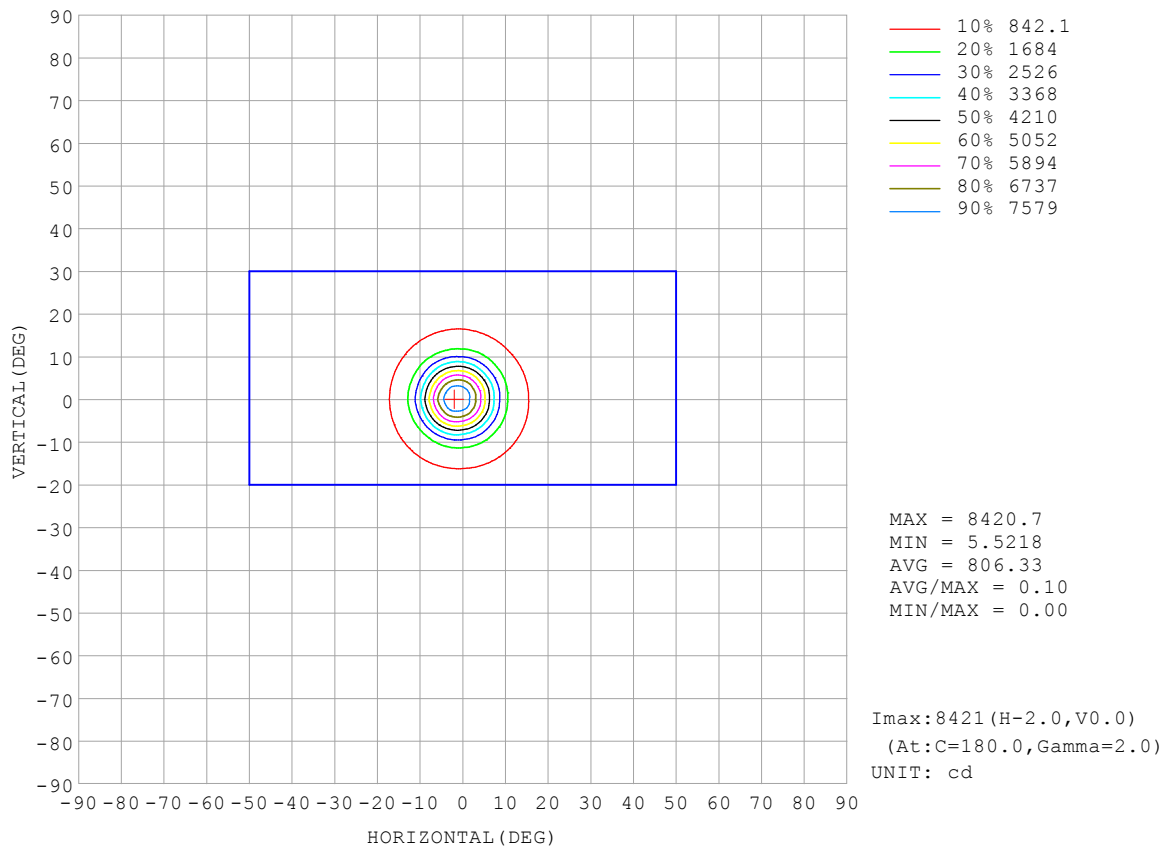
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS (PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	80	73	69	79	73	69	78	73	69	66
0.80	87	81	77	86	81	77	85	80	77	73
1.00	92	86	83	91	86	82	89	86	82	78
1.25	96	91	87	95	90	87	93	89	86	82
1.50	98	94	91	97	93	90	95	92	89	85
2.00	101	97	94	100	96	93	97	94	92	87
2.50	103	99	96	101	98	95	98	96	94	88
3.00	104	101	98	103	100	97	100	97	95	89
4.00	106	104	101	104	102	100	101	99	98	91
5.00	107	105	103	105	103	102	102	100	99	92
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:230.30V I:0.0701A P:14.302W PF:0.8856 Freq:50.18Hz UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:1609.3x1 lm		
LumCAT: 2-3281-A	Test NO: 20260826-C014	Report NO: 20260826-B014
LED HOLDER: 92.70.481.00	DIM.: ϕ 55 H22	Lamp No.: 1
LampCAT: CITIZEN CLU028	MFR.: NATA	

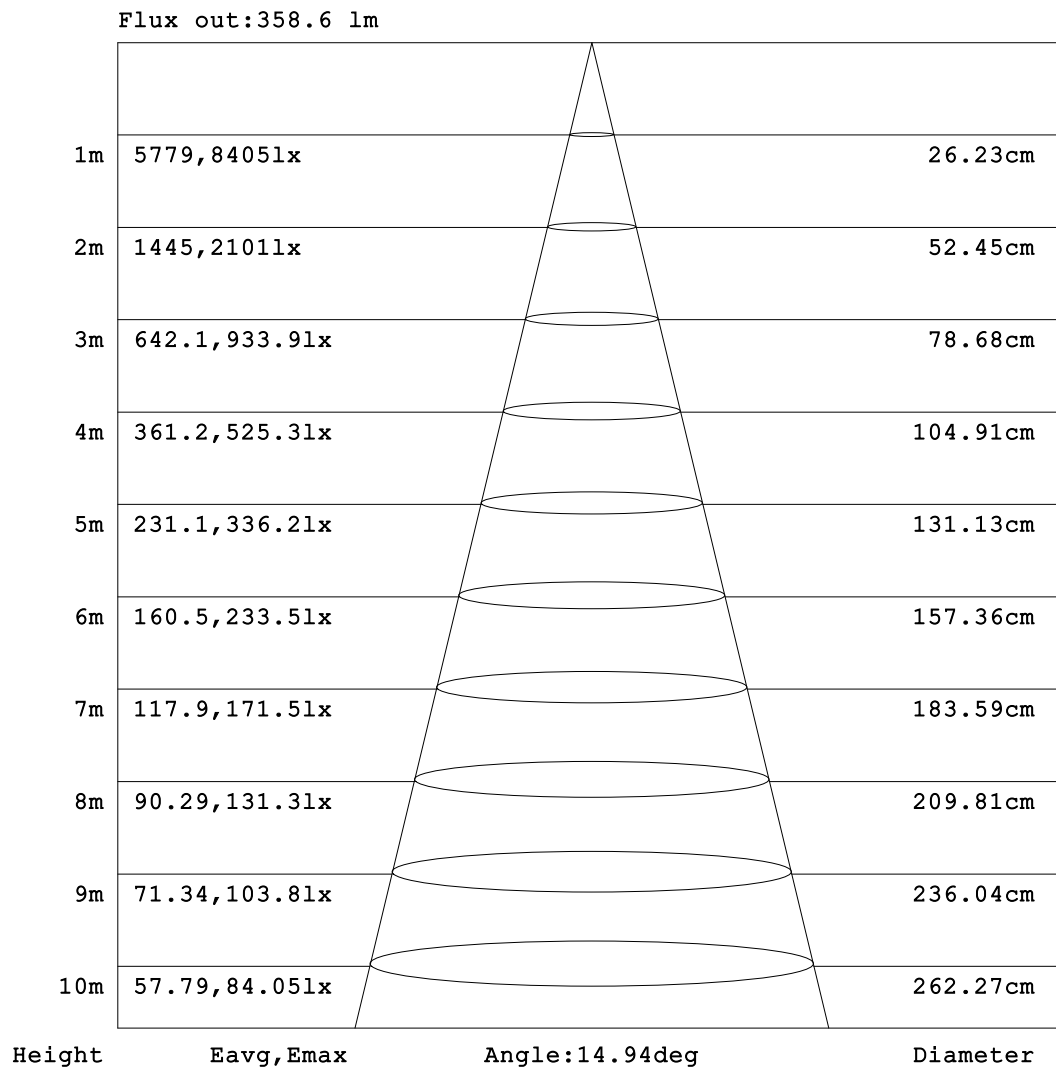


C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: HIGH
Temperature:25.0°C
Operators:ZJW
Test Date:2026-08-26

γ Range: 0 - 90DEG
 γ Interval: 2.0DEG
 γ 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:230.30V I:0.0701A P:14.302W PF:0.8856 Freq:50.18Hz UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:1609.3x1 lm		
LumCAT: 2-3281-A	Test NO: 20260826-C014	Report NO: 20260826-B014
LED HOLDER: 92.70.481.00	DIM.: ϕ 55 H22	Lamp No.: 1
LampCAT: CITIZEN CLU028	MFR.: NATA	



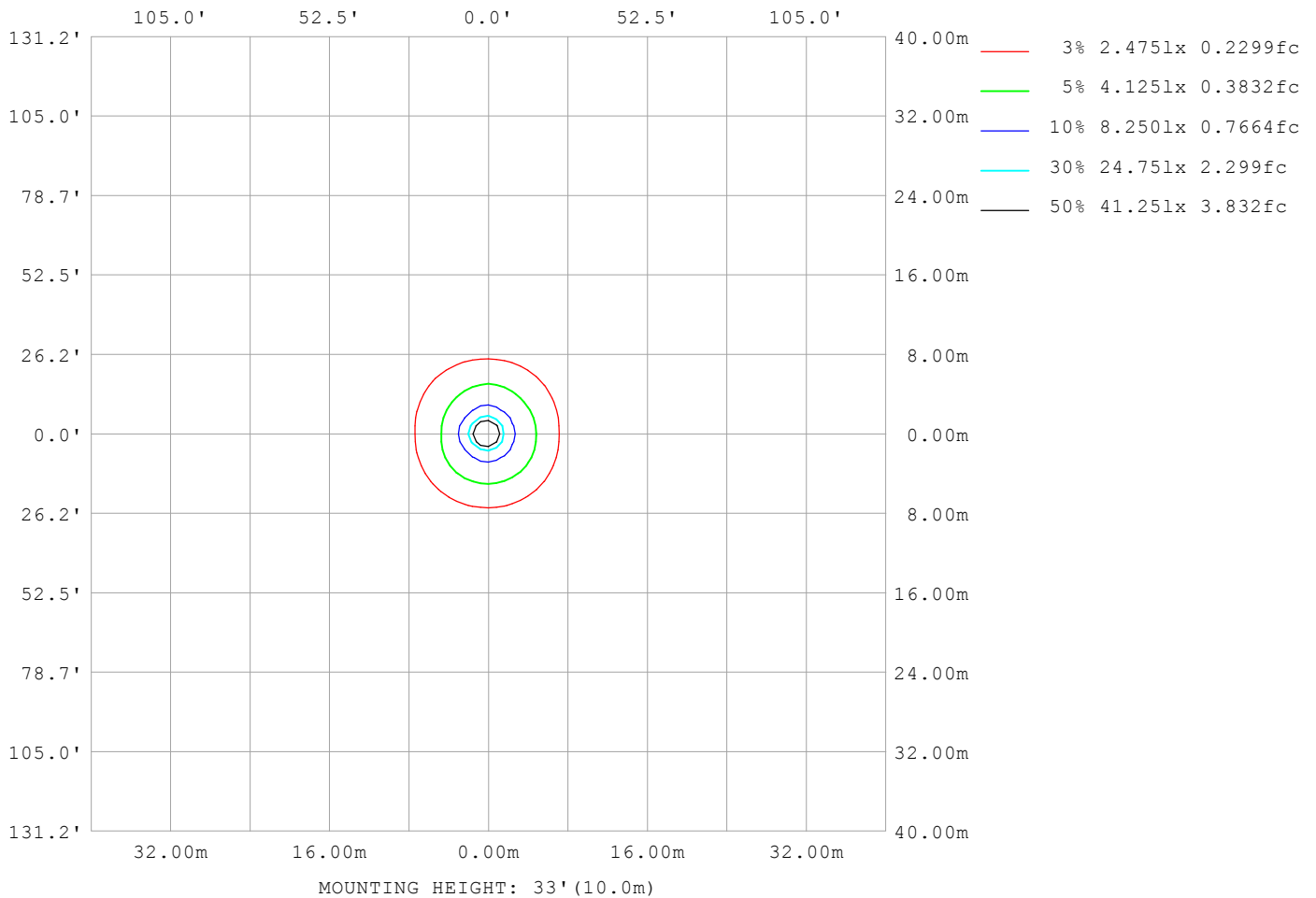
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: HIGH
Temperature:25.0℃
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:230.30V I:0.0701A P:14.302W PF:0.8856 Freq:50.18Hz UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:1609.3x1 lm		
LumCAT: 2-3281-A	Test NO: 20260826-C014	Report NO: 20260826-B014
LED HOLDER: 92.70.481.00	DIM.: ϕ55 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:230.30V I:0.0701A P:14.302W PF:0.8856 Freq:50.18Hz UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:1609.3x1 lm		
LumCAT: 2-3281-A	Test NO: 20260826-C014	Report NO: 20260826-B014
LED HOLDER: 92.70.481.00	DIM.: φ55 H22	Lamp No.: 1
LampCAT: CITIZEN CLU028	MFR.: NATA	

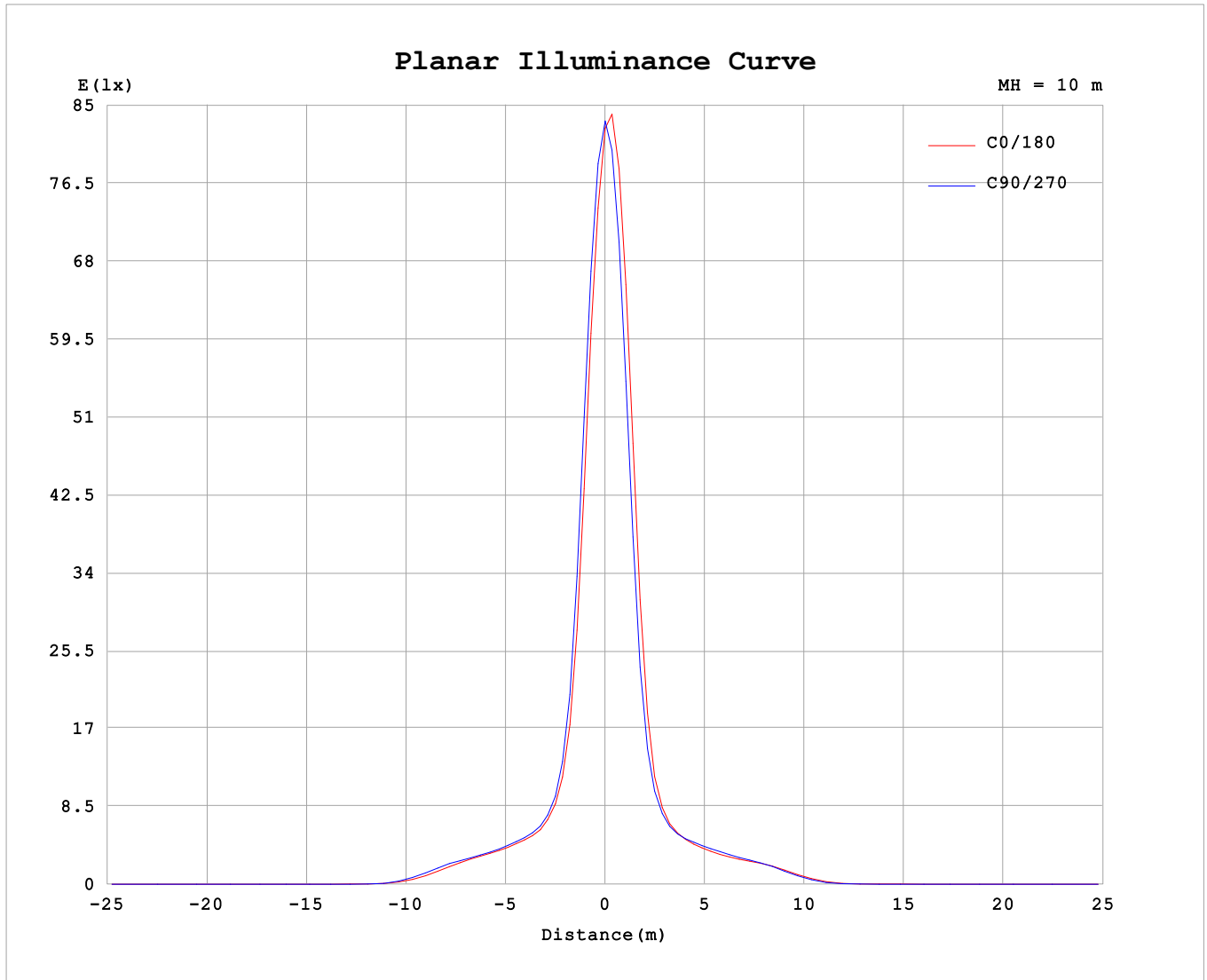
AvgL	cd/m2
L_0~180 (65) av	588
L_0~180 (75) av	653
L_0~180 (85) av	852
L_90~270 (65) av	319
L_90~270 (75) av	322
L_90~270 (85) av	924
L_45 (65) av	323
L_45 (75) av	272
L_45 (85) av	610

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:230.30V I:0.0701A P:14.302W PF:0.8856 Freq:50.18Hz UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:1609.3x1 lm		
LumCAT: 2-3281-A	Test NO: 20260826-C014	Report NO: 20260826-B014
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:

```