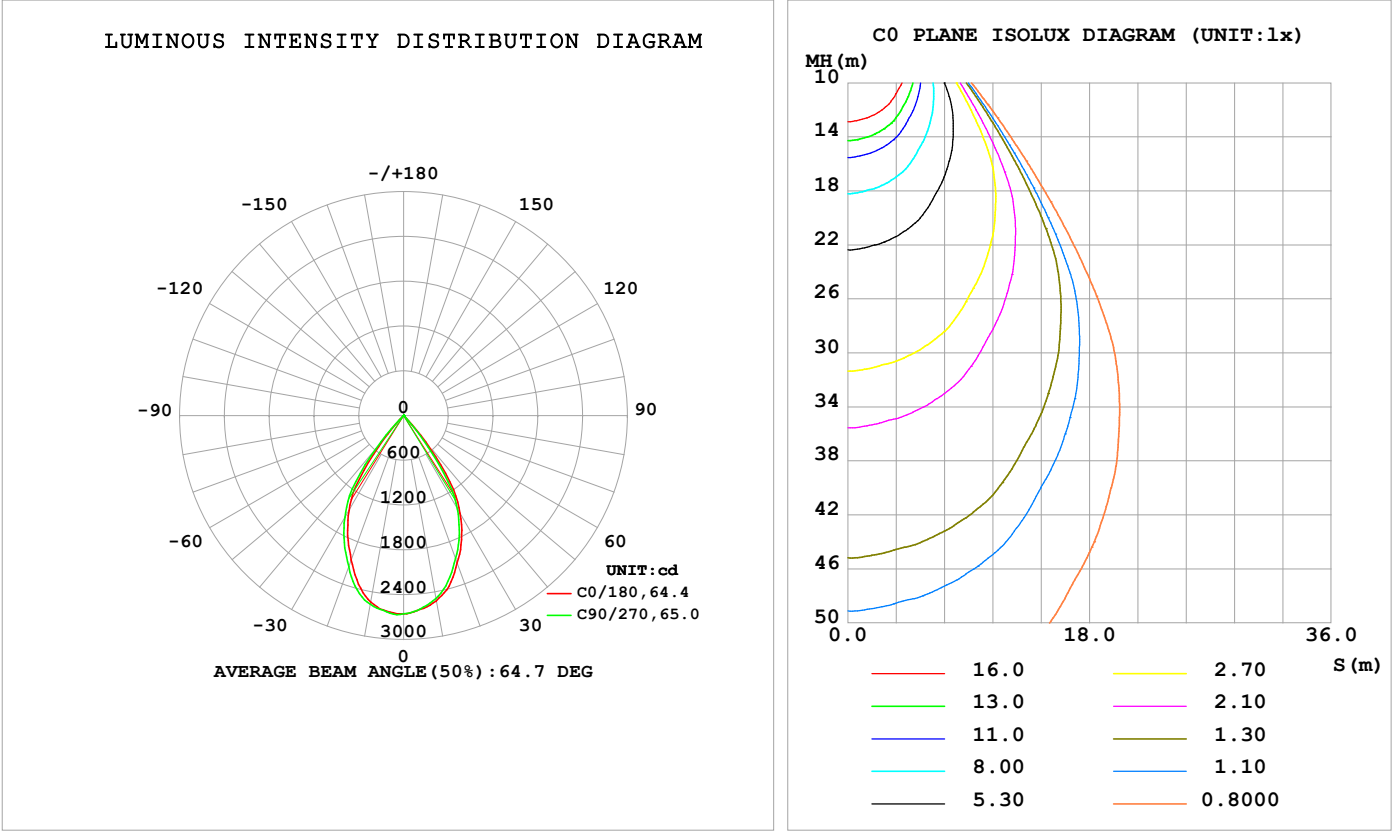


LUMINAIRE PHOTOMETRIC TEST REPORT

Test:U:32.78V I:0.496A P:16.27W PF:1.000 Freq:0Hz		
UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:2701.29x1 lm		
NAME: 4-2760-A-K0-T1-1		
SPEC.:		
MFR.: NATA		

DATA OF LAMP		PHOTOMETRIC DATA				Eff: 150.71 lm/W
MODEL	CMU 2239-500mA	Imax (cd)	2670	S/MH (C0/180)	0.93	
NOMINAL POWER(W)	24	LOR (%)	90.8	S/MH (C90/270)	0.98	
RATED VOLTAGE(V)	36	TOTAL FLUX(lm)	2452.5	η UP,DN (C0-180)	0.0,43.8	
NOMINAL FLUX(lm)	2701.29	CIE CLASS	DIRECT	η UP,DN (C180-360)	0.0,46.9	
LAMPS INSIDE	1	η up (%)	0.0	CIBSE SHR NOM	1.00	
TEST VOLTAGE (V)	32.9	η down (%)	90.8	CIBSE SHR MAX	1.00	



C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: HIGH
Temperature:28℃
Operators:Li
Test Date:2025-05-24

γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.00.485
Humidity:75%
Test Distance:8.458m [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	2520	2494	2490	2506	2538	2556	2567	2544	0- 10	247.1	247.1	10.1,9.15
20	2102	2064	2042	2031	2059	2105	2154	2141	10- 20	655.6	902.6	36.8,33.4
30	1514	1479	1448	1436	1465	1534	1571	1556	20- 30	828.1	1731	70.6,64.1
40	460.6	368.8	320.6	359.7	422.6	534.3	578.7	538.3	30- 40	631.9	2363	96.3,87.5
50	4.920	4.359	3.554	3.993	6.329	8.475	6.814	5.561	40- 50	85.08	2448	99.8,90.6
60	1.953	1.757	1.535	1.510	1.873	2.049	1.766	1.761	50- 60	2.634	2450	99.9,90.7
70	0.9535	0.8175	0.7445	0.7016	0.8652	0.9611	0.8296	0.8552	60- 70	1.244	2452	100,90.8
80	0.3876	0.2994	0.2960	0.2592	0.3104	0.3916	0.3205	0.3666	70- 80	0.5872	2452	100,90.8
90	0.1732	0.1728	0.2394	0.1933	0.1630	0.1626	0.1681	0.1730	80- 90	0.2392	2452	100,90.8
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): 2441.9 lm

%lum = 99.6%

%lamp = 90.4%

Conical surface Flux(130deg): 2451.1 lm

%lum = 99.9%

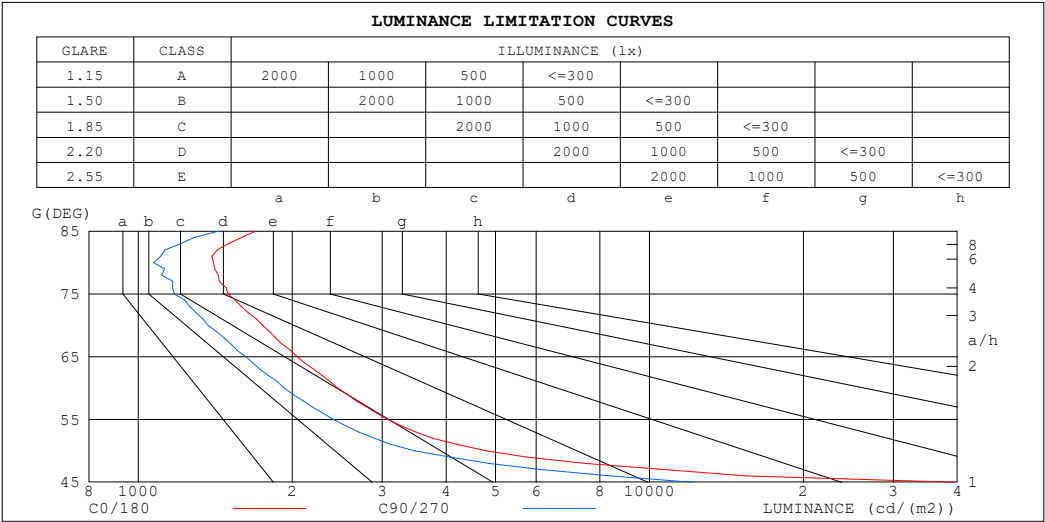
%lamp = 90.7%

C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: HIGH
Temperature:28℃
Operators:Li
Test Date:2025-05-24

γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.00.485
Humidity:75%
Test Distance:8.458m [K=1.0000]
Remarks:

LUMINANCE LIMITATION CURVES

Test:U:32.78V I:0.496A P:16.27W PF:1.000 Freq:0Hz		
UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:2701.29x1 lm		
NAME: 4-2760-A-K0-T1-1		
SPEC.:		
MFR.: NATA		



LUMINANCE cd/(m2)		
G (DEG)	C0/180	C90/270
85	1693	1434
80	1403	1071
75	1499	1177
70	1752	1368
65	2047	1623
60	2454	1929
55	3079	2408
50	4810	3475
45	39444	12112

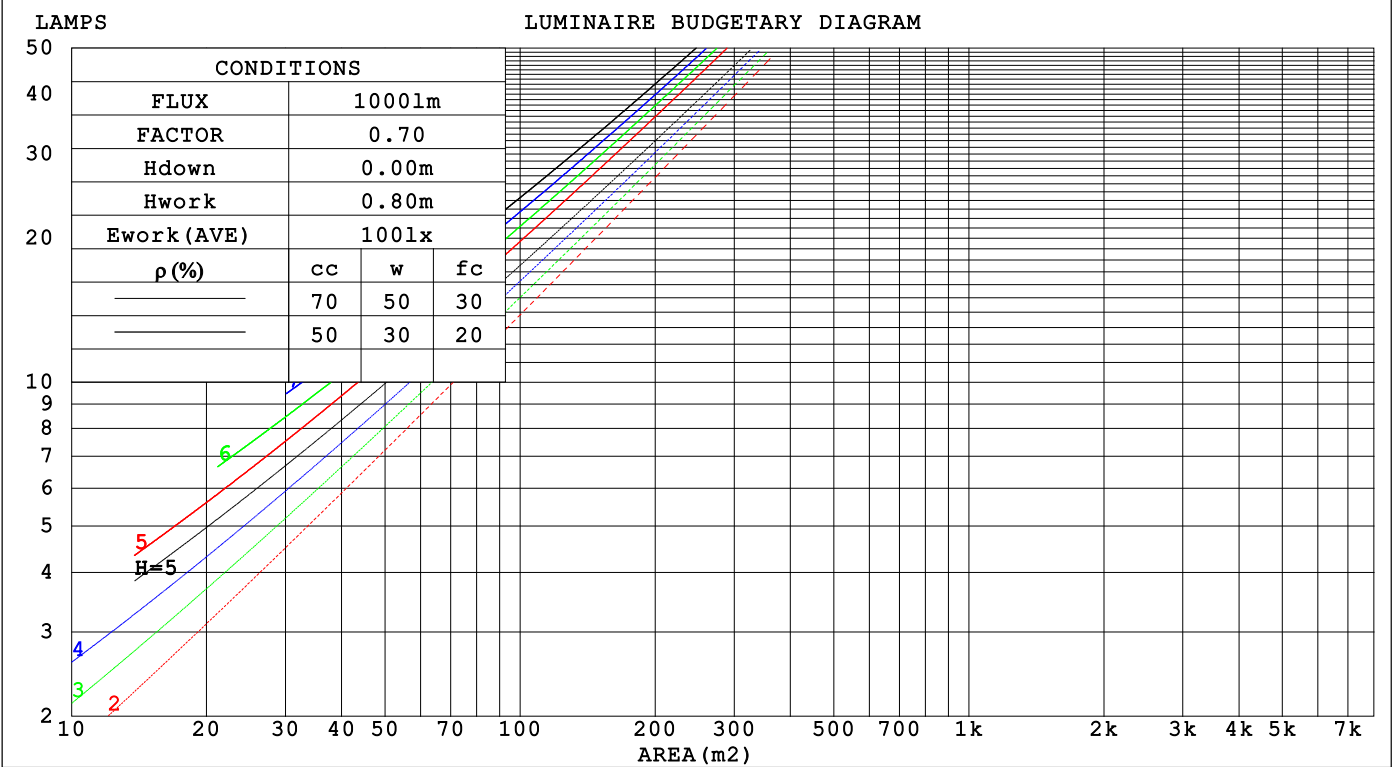
C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: HIGH
Temperature:28℃
Operators:Li
Test Date:2025-05-24

γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.00.485
Humidity:75%
Test Distance:8.458m [K=1.0000]
Remarks:

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

Test:U:32.78V I:0.496A P:16.27W PF:1.000 Freq:0Hz		
UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:2701.29x1 lm		
NAME: 4-2760-A-K0-T1-1		
SPEC.:		
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															



C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: HIGH
Temperature:28℃
Operators:Li
Test Date:2025-05-24

γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.00.485
Humidity:75%
Test Distance:8.458m [K=1.0000]
Remarks:

WEC AND CCEC

Test:U:32.78V I:0.496A P:16.27W PF:1.000 Freq:0Hz		
UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:2701.29x1 lm		
NAME: 4-2760-A-K0-T1-1		
SPEC.:		
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	.159	.091	.029	.153	.087	.028	.142	.081	.026	.131	.076	.024	.122	.071	.023	
2.0	.153	.084	.026	.148	.081	.025	.138	.077	.024	.129	.073	.023	.121	.068	.022	
3.0	.146	.078	.023	.142	.076	.023	.133	.072	.022	.126	.069	.021	.119	.066	.020	
4.0	.139	.072	.021	.136	.071	.021	.129	.068	.020	.122	.066	.020	.116	.063	.019	
5.0	.133	.068	.020	.130	.067	.019	.124	.065	.019	.118	.062	.019	.113	.060	.018	
6.0	.128	.064	.018	.125	.063	.018	.119	.061	.018	.114	.059	.017	.109	.058	.017	
7.0	.122	.060	.017	.120	.060	.017	.115	.058	.017	.110	.057	.016	.106	.055	.016	
8.0	.117	.057	.016	.115	.057	.016	.111	.055	.016	.107	.054	.016	.103	.053	.015	
9.0	.113	.054	.015	.111	.054	.015	.107	.053	.015	.103	.052	.015	.100	.051	.015	
10.0	.108	.052	.014	.106	.051	.014	.103	.050	.014	.100	.049	.014	.096	.049	.014	

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	.173	.173	.173	.148	.148	.148	.101	.101	.101	.058	.058	.058	.019	.019	.019	
1.0	.155	.143	.132	.133	.123	.113	.091	.084	.078	.052	.049	.046	.017	.016	.015	
2.0	.141	.120	.103	.121	.104	.089	.083	.072	.062	.048	.042	.036	.015	.013	.012	
3.0	.130	.103	.081	.112	.089	.071	.077	.062	.050	.044	.036	.029	.014	.012	.010	
4.0	.121	.090	.066	.104	.078	.057	.071	.054	.040	.041	.032	.024	.013	.010	.008	
5.0	.113	.079	.054	.097	.069	.047	.067	.048	.033	.039	.028	.020	.013	.009	.006	
6.0	.107	.071	.045	.092	.061	.039	.063	.043	.028	.037	.025	.017	.012	.008	.005	
7.0	.101	.064	.038	.087	.055	.033	.060	.039	.024	.035	.023	.014	.011	.008	.005	
8.0	.096	.058	.033	.083	.051	.028	.057	.036	.020	.033	.021	.012	.011	.007	.004	
9.0	.091	.054	.028	.079	.047	.025	.055	.033	.017	.032	.019	.010	.010	.006	.003	
10.0	.087	.050	.025	.075	.043	.022	.052	.030	.015	.030	.018	.009	.010	.006	.003	

C Range: 0 - 360DEG
 C Interval: 45.0DEG
 Test Speed: HIGH
 Temperature:28℃
 Operators:Li
 Test Date:2025-05-24

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000B_V1 SYSTEM V2.00.485
 Humidity:75%
 Test Distance:8.458m [K=1.0000]
 Remarks:

UGR(Unified Glare Rating) Table

Test:U:32.78V I:0.496A P:16.27W PF:1.000 Freq:0Hz UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:2701.29x1 lm										
NAME: 4-2760-A-K0-T1-1										
SPEC.:										
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	26.8	27.7	27.0	27.9	28.1	26.3	27.3	26.5	27.4	27.6
3H	26.6	27.5	26.9	27.7	27.9	26.1	27.0	26.4	27.2	27.4
4H	26.5	27.3	26.8	27.6	27.8	26.0	26.9	26.3	27.1	27.3
6H	26.4	27.2	26.7	27.4	27.7	26.0	26.7	26.3	27.0	27.2
8H	26.4	27.1	26.7	27.4	27.6	25.9	26.6	26.2	26.9	27.2
12H	26.3	27.1	26.7	27.3	27.6	25.9	26.6	26.2	26.8	27.1
4H 2H	26.5	27.3	26.8	27.6	27.8	26.0	26.9	26.3	27.1	27.3
3H	26.3	27.1	26.7	27.3	27.6	25.9	26.6	26.2	26.8	27.1
4H	26.3	26.9	26.6	27.2	27.5	25.8	26.4	26.1	26.7	27.0
6H	26.2	26.7	26.5	27.0	27.4	25.7	26.2	26.1	26.6	26.9
8H	26.1	26.6	26.5	27.0	27.3	25.6	26.1	26.0	26.5	26.9
12H	26.1	26.5	26.5	26.9	27.3	25.6	26.0	26.0	26.4	26.8
8H 4H	26.1	26.6	26.5	27.0	27.3	25.6	26.1	26.0	26.5	26.9
6H	26.0	26.4	26.4	26.8	27.2	25.5	25.9	26.0	26.3	26.8
8H	26.0	26.3	26.4	26.7	27.2	25.5	25.8	25.9	26.3	26.7
12H	25.9	26.2	26.4	26.7	27.1	25.4	25.7	25.9	26.2	26.6
12H 4H	26.1	26.5	26.5	26.9	27.3	25.6	26.0	26.0	26.4	26.8
6H	26.0	26.3	26.4	26.7	27.2	25.5	25.8	25.9	26.3	26.7
8H	25.9	26.2	26.4	26.7	27.1	25.4	25.7	25.9	26.2	26.6
Variations with the observer position at spacings(CIE Pub.117):										
S = 1.0H	+ 4.3 / -25.1					+ 4.1 / -24.9				
1.5H	+ 7.1 / -24.2					+ 7.0 / -23.7				
2.0H	+10.2 / - 6.0					+ 6.1 / - 2.9				

CIE Pub.117, 2701 lm Total Lamp Luminous Flux Corrected (8log(F/F0) = 3.5)
 Area: 0.00158963 m2

C Range: 0 - 360DEG
 C Interval: 45.0DEG
 Test Speed: HIGH
 Temperature:28℃
 Operators:Li
 Test Date:2025-05-24

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000B_V1 SYSTEM V2.00.485
 Humidity:75%
 Test Distance:8.458m [K=1.0000]
 Remarks:

UTILIZATION FACTORS TABLE

Test:U:32.78V I:0.496A P:16.27W PF:1.000 Freq:0Hz		
UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:2701.29x1 lm		
NAME: 4-2760-A-K0-T1-1		
SPEC.:		
MFR.: NATA		

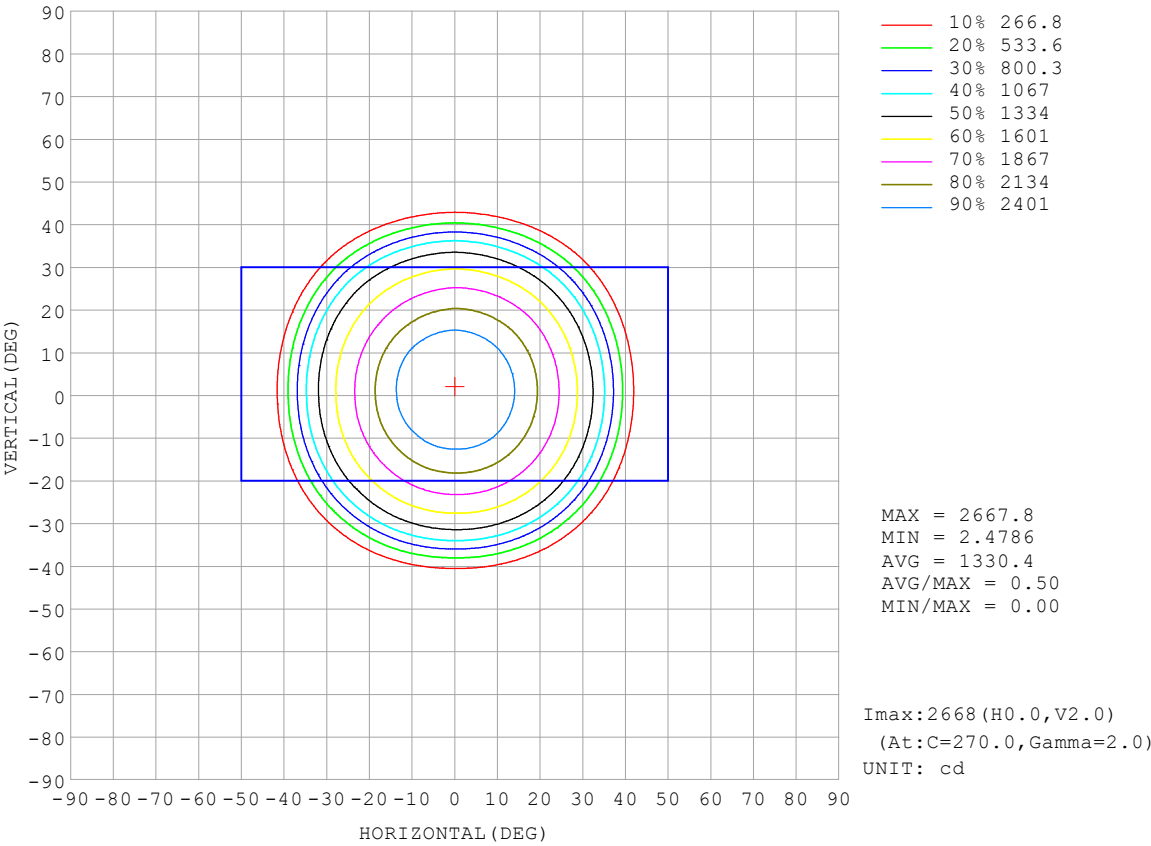
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS (PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	81	76	72	81	75	72	80	75	72	69
0.80	88	83	79	87	82	79	86	82	79	76
1.00	91	87	84	91	86	83	89	86	83	79
1.25	95	90	87	94	90	87	92	89	86	83
1.50	97	93	90	96	92	90	94	91	89	85
2.00	99	96	93	98	95	92	96	93	91	86
2.50	101	97	95	99	96	94	96	94	92	87
3.00	102	99	97	100	98	96	97	95	94	88
4.00	104	101	99	102	100	98	99	97	96	89
5.00	105	103	101	103	101	100	99	98	97	90
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: 28 °C
 Operators: Li
 Test Date: 2025-05-24

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System: EVERFINE GO-2000B_V1 SYSTEM V2.00.485
 Humidity: 75%
 Test Distance: 8.458m [K=1.0000]
 Remarks:

ISOCANDELA DIAGRAM

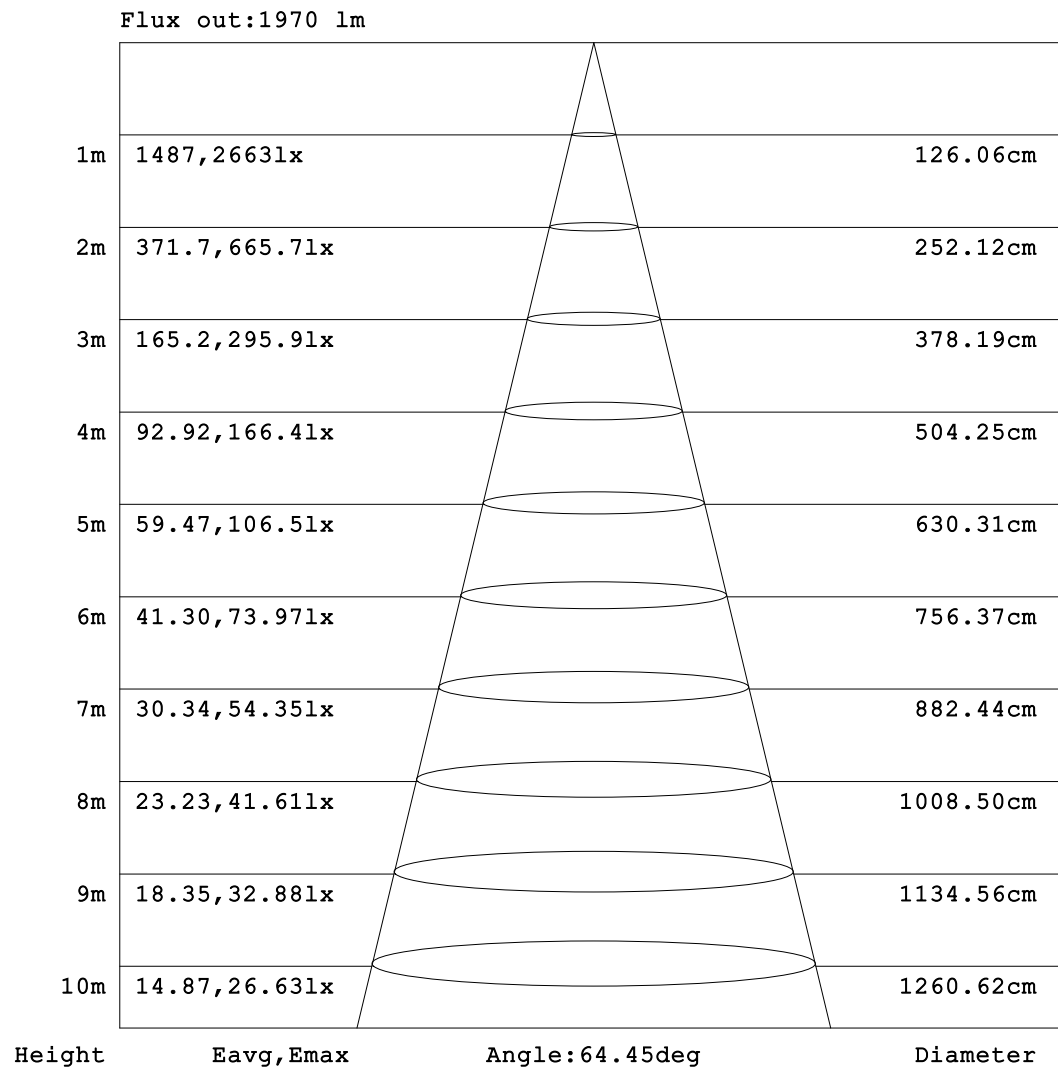
Test:U:32.78V I:0.496A P:16.27W PF:1.000 Freq:0Hz		
UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:2701.29x1 lm		
NAME: 4-2760-A-K0-T1-1		
SPEC.:		
MFR.: NATA		



C Range: 0 - 360DEG	γ Range: 0 - 90DEG
C Interval: 45.0DEG	γ Interval: 1.0DEG
Test Speed: HIGH	Test System:EVERFINE GO-2000B_V1 SYSTEM V2.00.485
Temperature:28℃	Humidity:75%
Operators:Li	Test Distance:8.458m [K=1.0000]
Test Date:2025-05-24	Remarks:

AAI Figure

Test:U:32.78V I:0.496A P:16.27W PF:1.000 Freq:0Hz		
UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:2701.29x1 lm		
NAME: 4-2760-A-K0-T1-1		
SPEC.:		
MFR.: NATA		



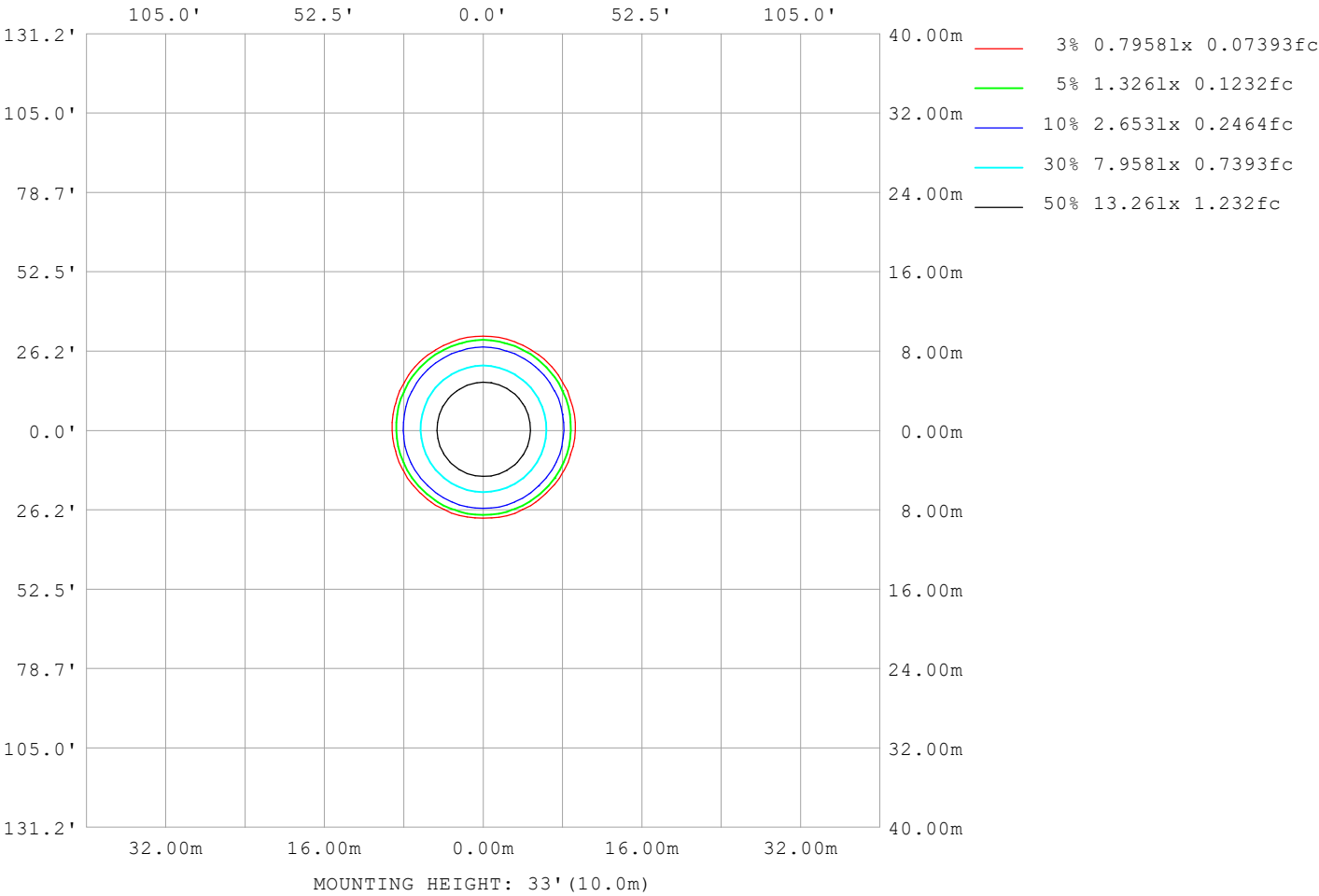
Note: The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
 C Interval: 45.0DEG
 Test Speed: HIGH
 Temperature: 28°C
 Operators: Li
 Test Date: 2025-05-24

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System: EVERFINE GO-2000B_V1 SYSTEM V2.00.485
 Humidity: 75%
 Test Distance: 8.458m [K=1.0000]
 Remarks:

ISOLUX DIAGRAM

Test:U:32.78V I:0.496A P:16.27W PF:1.000 Freq:0Hz		
UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:2701.29x1 lm		
NAME: 4-2760-A-K0-T1-1		
SPEC.:		
MFR.: NATA		



C Range: 0 - 360DEG	γ Range: 0 - 90DEG
C Interval: 45.0DEG	γ Interval: 1.0DEG
Test Speed: HIGH	Test System:EVERFINE GO-2000B_V1 SYSTEM V2.00.485
Temperature:28℃	Humidity:75%
Operators:Li	Test Distance:8.458m [K=1.0000]
Test Date:2025-05-24	Remarks:

LED Avg.L Report

Test:U:32.78V I:0.496A P:16.27W PF:1.000 Freq:0Hz		
UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:2701.29x1 lm		
NAME: 4-2760-A-K0-T1-1		
SPEC.:		
MFR.: NATA		

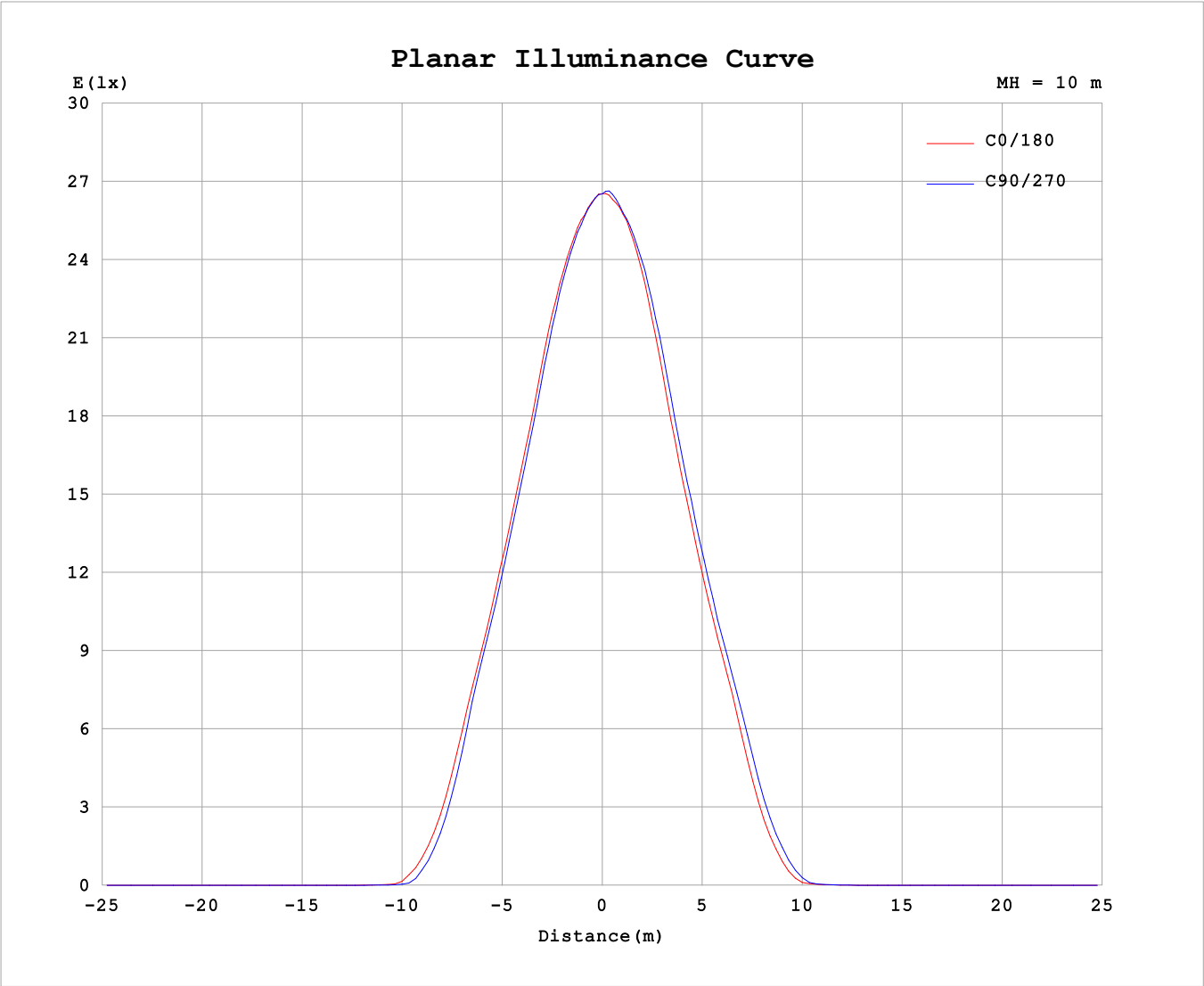
AvgL	cd/m2
L_0~180 (65) av	1987
L_0~180 (75) av	1406
L_0~180 (85) av	1490
L_90~270 (65) av	1718
L_90~270 (75) av	1232
L_90~270 (85) av	1361
L_45 (65) av	1830
L_45 (75) av	1310
L_45 (85) av	1485

Standard: GB/T 29293-2012

C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: HIGH
Temperature:28℃
Operators:Li
Test Date:2025-05-24

γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.00.485
Humidity:75%
Test Distance:8.458m [K=1.0000]
Remarks:

Planar Illuminance Curve



C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: HIGH
Temperature:28℃
Operators:Li
Test Date:2025-05-24

γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.00.485
Humidity:75%
Test Distance:8.458m [K=1.0000]
Remarks:

梁智坚 2025/05/26