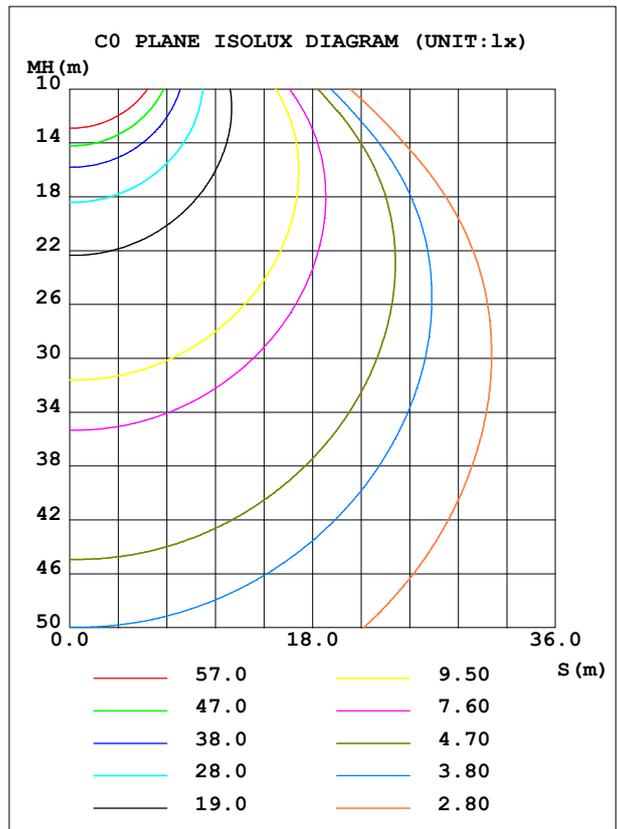
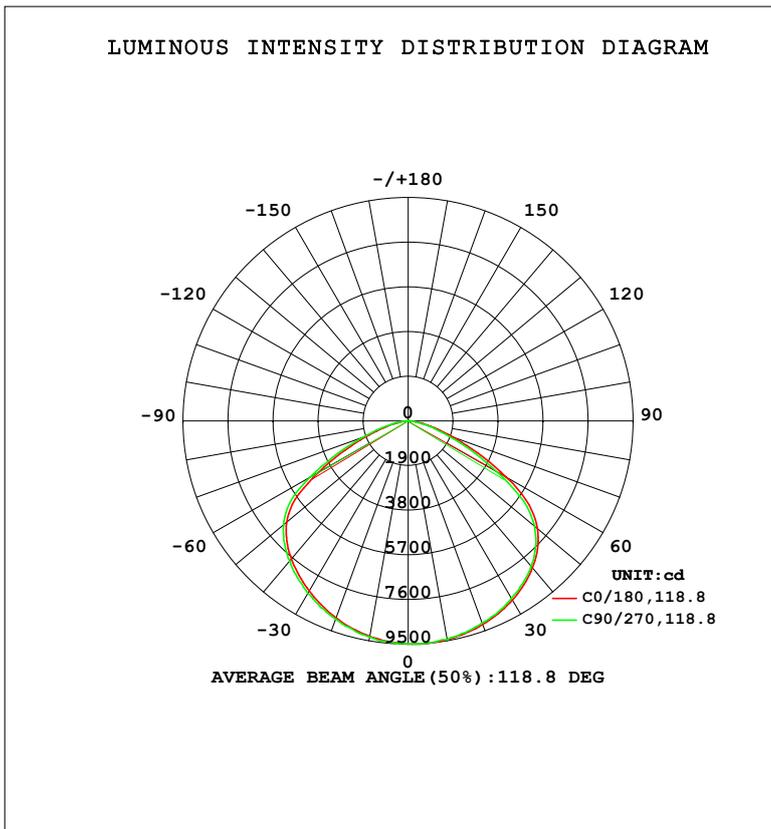


LUMINAIRE PHOTOMETRIC TEST REPORT

Test:U:230.16V I:0.8523A P:200W PF:0.9893 Freq:49.99Hz Lamp Flux:28237.9x1 lm		
NAME: 0017160052 5000K 200W 30000lm	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: TOSPO	SUR.:	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA			
MODEL		Imax (cd)	9500	S/MH (C0/180)	1.32
NOMINAL POWER (W)		LOR (%)	100.0	S/MH (C90/270)	1.33
RATED VOLTAGE (V)		TOTAL FLUX (lm)	30000	η UP, DN (C0-180)	0.0, 50.7
NOMINAL FLUX (lm)	30000	CIE CLASS	DIRECT	η UP, DN (C180-360)	0.0, 49.3
LAMPS INSIDE	1	η up (%)	0.0	CIBSE SHR NOM	1.50
TEST VOLTAGE (V)		η down (%)	100.0	CIBSE SHR MAX	1.55



C Range: 0 - 360DEG
 C Interval: 90.0DEG
 Test Speed: HIGH
 Temperature: 25.3°C
 Operators: Testing Room
 Test Date: 2025-03-19

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System: EVERFINE GO-2000H_V1 SYSTEM V2.00.471
 Humidity: 25%
 Test Distance: 11.050m [K=1.0000]
 Remarks:

ZONAL FLUX DIAGRAM

ZONAL FLUX DIAGRAM:

γ	C0	C90	C180	C270					γ	Φ zone	Φ total	%lum, lamp
10	9453	9455	9305	9340					0- 10	900.7	900.7	3.19,3.19
20	9214	9141	8913	8968					10- 20	2614	3515	12.4,12.4
30	8801	8716	8359	8477					20- 30	4084	7599	26.9,26.9
40	8167	8074	7670	7774					30- 40	5189	12788	45.3,45.3
50	7122	6963	6692	6873					40- 50	5771	18559	65.7,65.7
60	4778	4304	4371	4777					50- 60	5287	23846	84.4,84.4
70	2014	1706	1761	2018					60- 70	3080	26926	95.4,95.4
80	539.9	410.2	402.6	529.0					70- 80	1138	28063	99.4,99.4
90	18.01	13.69	11.50	14.10					80- 90	174.5	28238	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): 15644 lm

%lum = 55.4%

%lamp = 55.4%

Conical surface Flux(120deg): 23846 lm

%lum = 84.4%

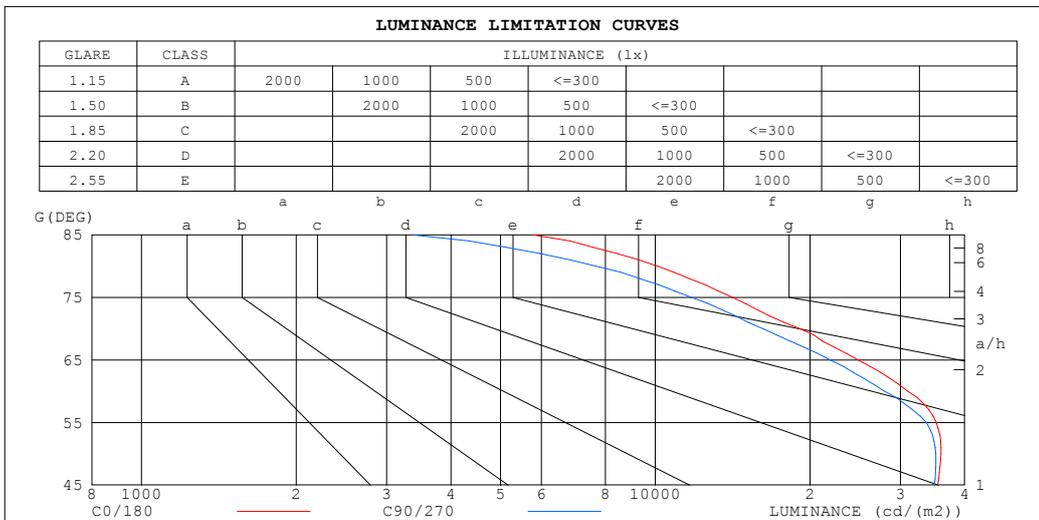
%lamp = 84.4%

C Range: 0 - 360DEG
 C Interval: 90.0DEG
 Test Speed: HIGH
 Temperature:25.3°C
 Operators:Testing Room
 Test Date:2025-03-19

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000H_V1 SYSTEM V2.00.471
 Humidity:25%
 Test Distance:11.050m [K=1.0000]
 Remarks:

LUMINANCE LIMITATION CURVES

Test:U:230.16V I:0.8523A P:200W PF:0.9893 Freq:49.99Hz Lamp Flux:28237.9x1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: TOSPO	SUR.:	Shielding Angle:



LUMINANCE cd/(m2)		
G (DEG)	C0/180	C90/270
85	5780	3367
80	10094	7669
75	14154	11760
70	19120	16200
65	24849	21910
60	31026	27950
55	35281	33701
50	35974	35168
45	35454	34937

C Range: 0 - 360DEG
 C Interval: 90.0DEG
 Test Speed: HIGH
 Temperature:25.3°C
 Operators:Testing Room
 Test Date:2025-03-19

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000H_V1 SYSTEM V2.00.471
 Humidity:25%
 Test Distance:11.050m [K=1.0000]
 Remarks:

WEC AND CCEC

Test:U:230.16V I:0.8523A P:200W PF:0.9893 Freq:49.99Hz								
Lamp Flux:28237.9x1 lm								
NAME:			TYPE:			WEIGHT:		
SPEC.:			DIM.:			SERIAL No.:		
MFR.: TOSPO			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						Wall Exitance Coefficients (WEC)									
0.0																
1.0	.282	.161	.051	.275	.157	.050	.262	.150	.048	.250	.144	.046	.239	.139	.045	
2.0	.274	.150	.046	.268	.148	.045	.256	.143	.044	.246	.138	.043	.236	.133	.042	
3.0	.258	.137	.041	.253	.135	.041	.243	.132	.040	.233	.128	.039	.224	.124	.038	
4.0	.241	.125	.037	.237	.124	.037	.228	.121	.036	.219	.118	.036	.211	.115	.035	
5.0	.225	.115	.033	.221	.113	.033	.213	.111	.033	.205	.108	.032	.198	.106	.032	
6.0	.210	.105	.030	.206	.104	.030	.199	.102	.030	.192	.100	.029	.186	.098	.029	
7.0	.197	.097	.028	.193	.096	.027	.187	.094	.027	.181	.093	.027	.175	.091	.027	
8.0	.184	.090	.025	.181	.089	.025	.175	.088	.025	.170	.086	.025	.165	.085	.025	
9.0	.173	.084	.023	.170	.083	.023	.165	.082	.023	.160	.080	.023	.156	.079	.023	
10.0	.163	.078	.022	.161	.078	.022	.156	.076	.022	.151	.075	.021	.147	.074	.021	

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						Ceiling Cavity Exitance Coefficients (CCEC)									
0.0	.190	.190	.190	.163	.163	.163	.111	.111	.111	.064	.064	.064	.020	.020	.020	
1.0	.178	.156	.137	.153	.134	.118	.104	.092	.081	.060	.053	.047	.019	.017	.015	
2.0	.170	.132	.100	.145	.114	.087	.100	.079	.060	.057	.046	.035	.018	.015	.012	
3.0	.162	.114	.076	.139	.099	.066	.095	.068	.046	.055	.040	.027	.018	.013	.009	
4.0	.155	.101	.059	.133	.087	.052	.091	.061	.036	.053	.036	.022	.017	.012	.007	
5.0	.148	.090	.048	.127	.078	.042	.087	.055	.029	.051	.032	.017	.016	.010	.006	
6.0	.141	.082	.040	.121	.071	.035	.084	.050	.024	.049	.029	.015	.016	.010	.005	
7.0	.135	.075	.034	.116	.065	.029	.080	.046	.021	.046	.027	.012	.015	.009	.004	
8.0	.128	.069	.029	.110	.060	.025	.076	.042	.018	.044	.025	.011	.014	.008	.004	
9.0	.122	.064	.025	.105	.056	.022	.073	.039	.016	.043	.023	.009	.014	.008	.003	
10.0	.117	.060	.022	.101	.052	.020	.070	.037	.014	.041	.022	.008	.013	.007	.003	

C Range: 0 - 360DEG
 C Interval: 90.0DEG
 Test Speed: HIGH
 Temperature:25.3°C
 Operators:Testing Room
 Test Date:2025-03-19

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000H_V1 SYSTEM V2.00.471
 Humidity:25%
 Test Distance:11.050m [K=1.0000]
 Remarks:

UGR(Unified Glare Rating) Table

Test:U:230.16V I:0.8523A P:200W PF:0.9893 Freq:49.99Hz										
Lamp Flux:28237.9x1 lm										
NAME:			TYPE:				WEIGHT:			
SPEC.:			DIM.:				SERIAL No.:			
MFR.: TOSPO			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	25.4	26.9	25.7	27.1	27.3	25.1	26.6	25.4	26.8	27.0
3H	26.1	27.5	26.4	27.8	28.0	25.8	27.2	26.1	27.4	27.6
4H	26.3	27.6	26.6	27.9	28.1	25.9	27.2	26.2	27.5	27.7
6H	26.4	27.6	26.7	27.9	28.1	25.9	27.1	26.3	27.4	27.7
8H	26.4	27.5	26.7	27.8	28.1	25.9	27.1	26.2	27.4	27.6
12H	26.3	27.5	26.7	27.8	28.1	25.9	27.0	26.2	27.3	27.6
4H 2H	25.7	27.1	26.1	27.3	27.6	25.5	26.8	25.9	27.1	27.3
3H	26.6	27.7	27.0	28.0	28.3	26.3	27.4	26.6	27.7	28.0
4H	26.9	27.9	27.2	28.2	28.5	26.5	27.5	26.9	27.8	28.2
6H	27.0	27.9	27.4	28.2	28.6	26.6	27.5	27.0	27.8	28.2
8H	27.0	27.8	27.4	28.2	28.6	26.6	27.4	27.0	27.8	28.1
12H	27.0	27.7	27.4	28.1	28.5	26.5	27.3	27.0	27.7	28.1
8H 4H	26.9	27.7	27.3	28.1	28.5	26.5	27.4	26.9	27.7	28.1
6H	27.1	27.8	27.5	28.2	28.6	26.7	27.4	27.1	27.8	28.2
8H	27.1	27.7	27.6	28.1	28.6	26.7	27.3	27.1	27.7	28.2
12H	27.1	27.6	27.6	28.1	28.6	26.7	27.2	27.1	27.6	28.1
12H 4H	26.8	27.6	27.3	28.0	28.4	26.5	27.3	26.9	27.7	28.1
6H	27.0	27.7	27.5	28.1	28.5	26.7	27.3	27.1	27.7	28.1
8H	27.1	27.6	27.6	28.1	28.5	26.7	27.2	27.2	27.6	28.1
Variations with the observer position at spacings(CIE Pub.117):										
S = 1.0H	+ 0.2 / - 0.3					+ 0.2 / - 0.3				
1.5H	+ 0.5 / - 0.7					+ 0.5 / - 0.8				
2.0H	+ 0.6 / - 0.7					+ 0.7 / - 0.8				

CIE Pub.117, 28238 lm Total Lamp Luminous Flux Corrected (8log(F/F0) = 11.6)
Area: 0.308 m2

C Range: 0 - 360DEG
C Interval: 90.0DEG
Test Speed: HIGH
Temperature:25.3°C
Operators:Testing Room
Test Date:2025-03-19

γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000H_V1 SYSTEM V2.00.471
Humidity:25%
Test Distance:11.050m [K=1.0000]
Remarks:

UTILIZATION FACTORS TABLE

Test:U:230.16V I:0.8523A P:200W PF:0.9893 Freq:49.99Hz Lamp Flux:28237.9x1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: TOSPO	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	57	45	38	56	45	38	55	45	38	32
0.80	68	56	49	67	56	49	65	55	48	42
1.00	77	66	59	76	66	59	74	67	58	51
1.25	85	74	68	83	74	67	80	72	66	59
1.50	90	80	73	88	79	73	85	78	72	65
2.00	97	89	82	95	87	82	91	85	80	73
2.50	100	93	87	98	92	86	95	89	85	77
3.00	104	97	92	101	96	91	97	93	89	81
4.00	107	102	98	105	100	96	101	97	94	85
5.00	110	105	101	107	103	100	103	99	97	88
ROOM INDEX	UF(total)									Direct
According to DIN EN 13032-2 2004			Suspended				SHRNOM = 1.25			

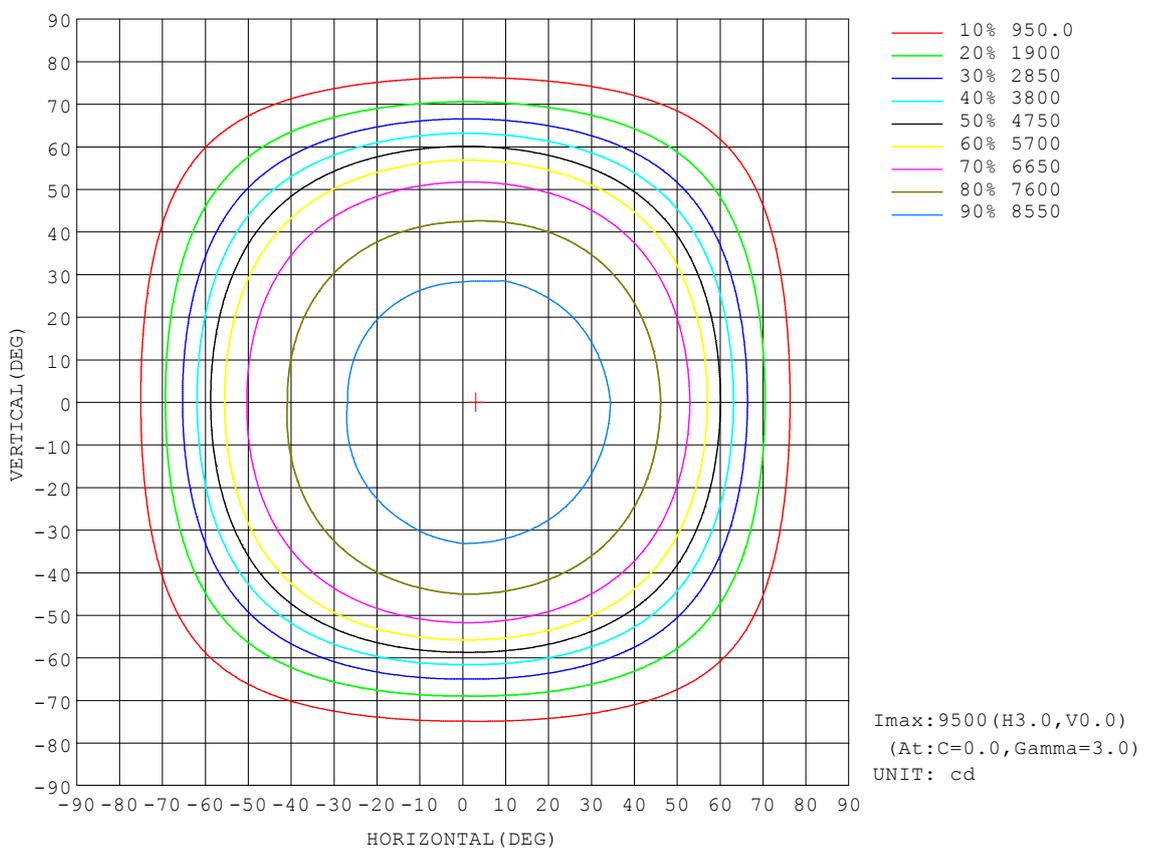
C Range: 0 - 360DEG
 C Interval: 90.0DEG
 Test Speed: HIGH
 Temperature:25.3°C
 Operators:Testing Room
 Test Date:2025-03-19

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000H_V1 SYSTEM V2.00.471
 Humidity:25%
 Test Distance:11.050m [K=1.0000]
 Remarks:



ISOCANDELA DIAGRAM

Test:U:230.16V I:0.8523A P:200W PF:0.9893 Freq:49.99Hz Lamp Flux:28237.9x1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: TOSPO	SUR.:	Shielding Angle:



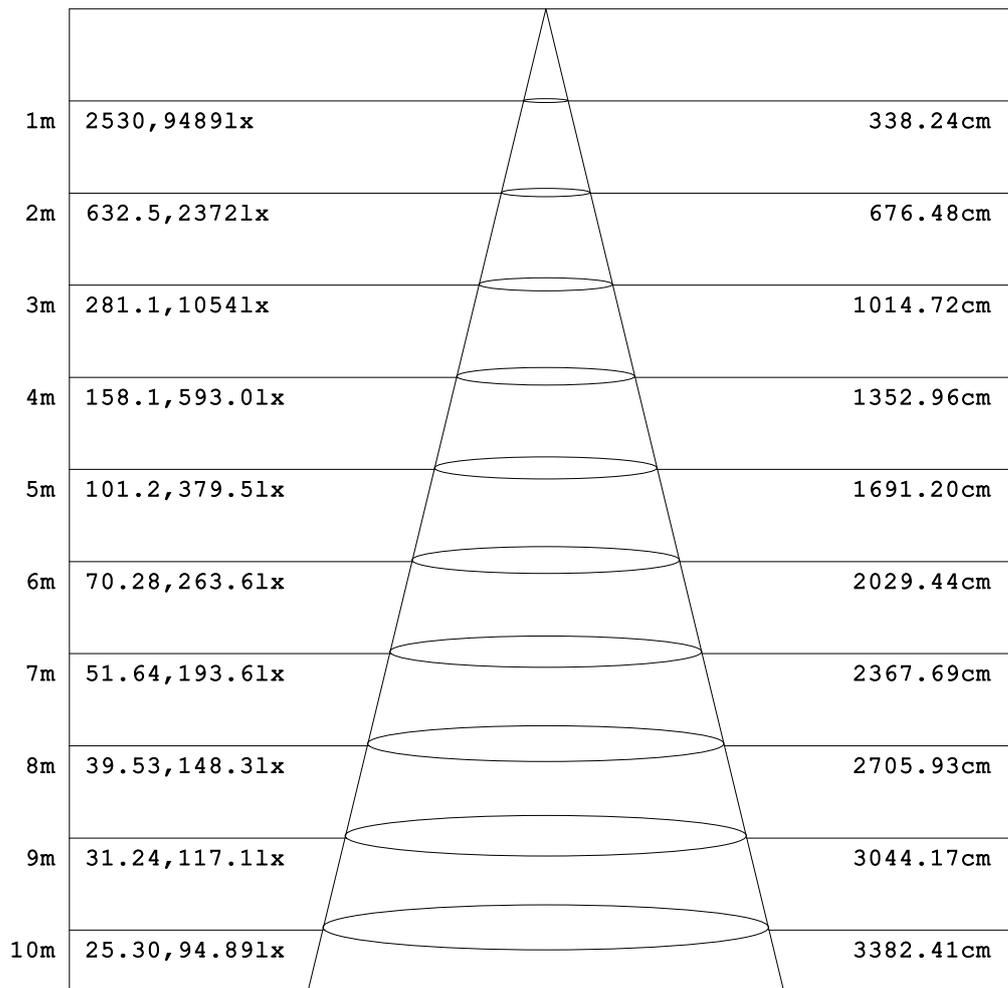
C Range: 0 - 360DEG
 C Interval: 90.0DEG
 Test Speed: HIGH
 Temperature:25.3°C
 Operators:Testing Room
 Test Date:2025-03-19

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000H_V1 SYSTEM V2.00.471
 Humidity:25%
 Test Distance:11.050m [K=1.0000]
 Remarks:

AAI Figure

Test:U:230.16V I:0.8523A P:200W PF:0.9893 Freq:49.99Hz Lamp Flux:28237.9x1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: TOSPO	SUR.:	Shielding Angle:

Flux out:23846 lm

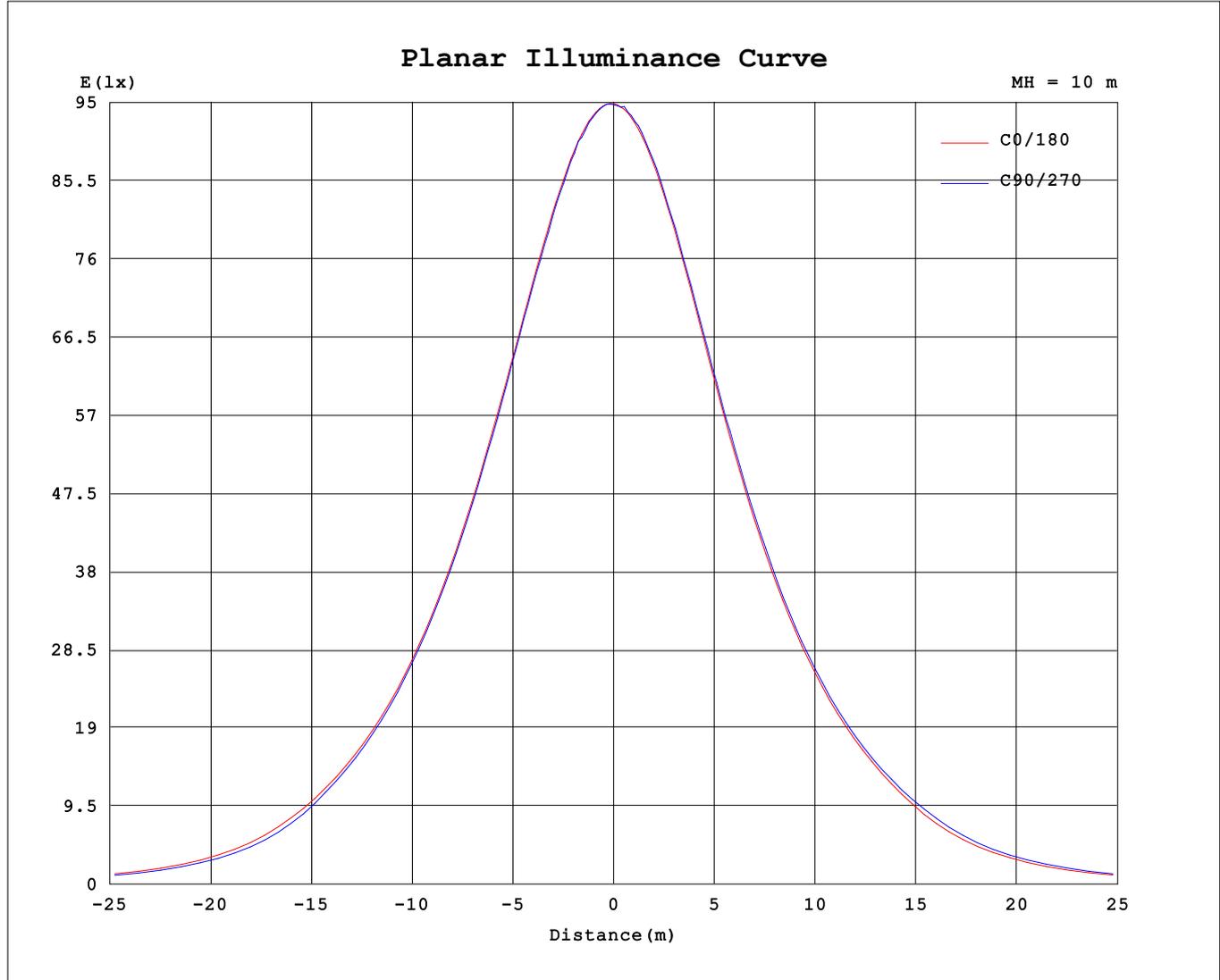


Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
C Interval: 90.0DEG
Test Speed: HIGH
Temperature:25.3°C
Operators:Testing Room
Test Date:2025-03-19

γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000H_V1 SYSTEM V2.00.471
Humidity:25%
Test Distance:11.050m [K=1.0000]
Remarks:

Planar Illuminance Curve



C Range: 0 - 360DEG
C Interval: 90.0DEG
Test Speed: HIGH
Temperature: 25.3°C
Operators: Testing Room
Test Date: 2025-03-19

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
Test System: EVERFINE GO-2000H_V1 SYSTEM V2.00.471
Humidity: 25%
Test Distance: 11.050m [K=1.0000]
Remarks:

