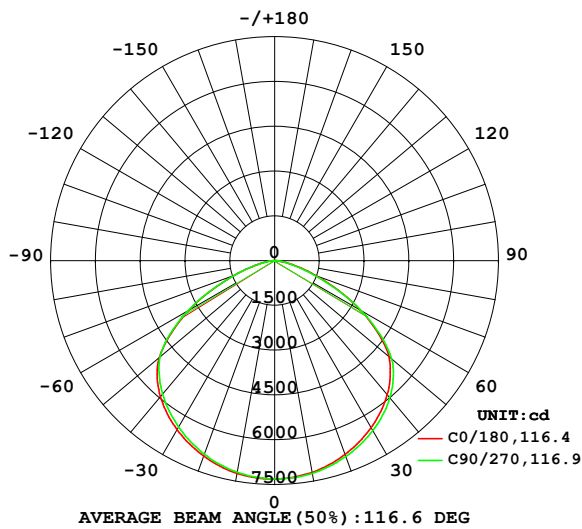


LUMINAIRE PHOTOMETRIC TEST REPORT

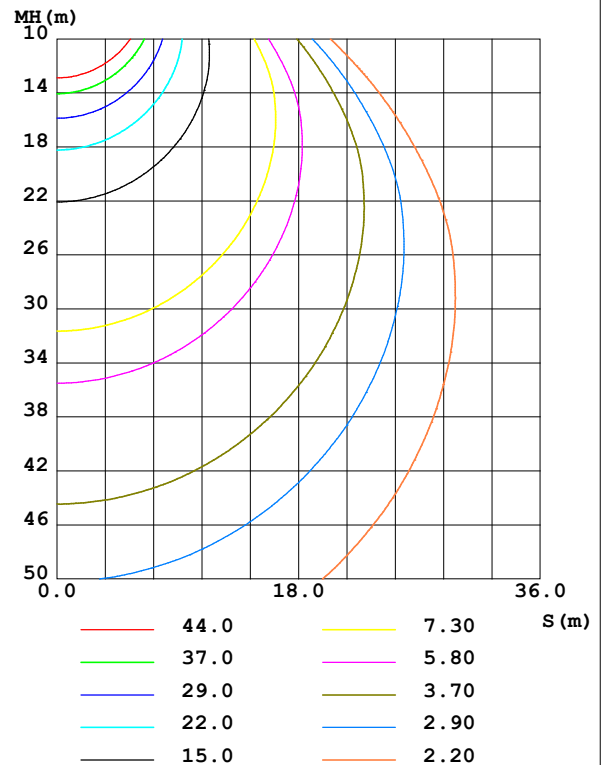
Test:U:230.18V I:0.6458A P:150W PF:0.9923 Freq:50.00Hz Lamp Flux:21056.7x1 lm		
NAME: 0017160051 4000K 150W 22500lm	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: TOSPO	SUR.:	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 150.00 lm/W			
MODEL		I _{max} (cd)	7315	S/MH(C0/180)	1.33
NOMINAL POWER(W)		LOR(%)	100.0	S/MH(C90/270)	1.31
RATED VOLTAGE(V)		TOTAL FLUX(lm)	22500	η UP,DN(C0-180)	0.0,50.1
NOMINAL FLUX(lm)	22500	CIE CLASS	DIRECT	η UP,DN(C180-360)	0.0,49.9
LAMPS INSIDE	1	η up (%)	0.0	CIBSE SHR NOM	1.50
TEST VOLTAGE(V)		η down (%)	100.0	CIBSE SHR MAX	1.50

LUMINOUS INTENSITY DISTRIBUTION DIAGRAM



C0 PLANE ISOLUX DIAGRAM (UNIT:lx)



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	7203	7237	7237	7196					0- 10	693.5	693.5	3.29,3.29
20	6907	6978	6963	6897					10- 20	2006	2699	12.8,12.8
30	6463	6576	6537	6436					20- 30	3109	5809	27.6,27.6
40	5865	6000	5955	5838					30- 40	3902	9711	46.1,46.1
50	4997	5106	5038	5013					40- 50	4264	13975	66.4,66.4
60	3327	3349	3304	3348					50- 60	3785	17760	84.3,84.3
70	1448	1388	1422	1408					60- 70	2306	20066	95.3,95.3
80	362.7	336.1	341.7	334.2					70- 80	860.9	20927	99.4,99.4
90	11.03	10.23	8.145	8.668					80- 90	129.4	21057	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): 11833 lm

%lum = 56.2%

%lamp = 56.2%

Conical surface Flux(120deg): 17760 lm

%lum = 84.3%

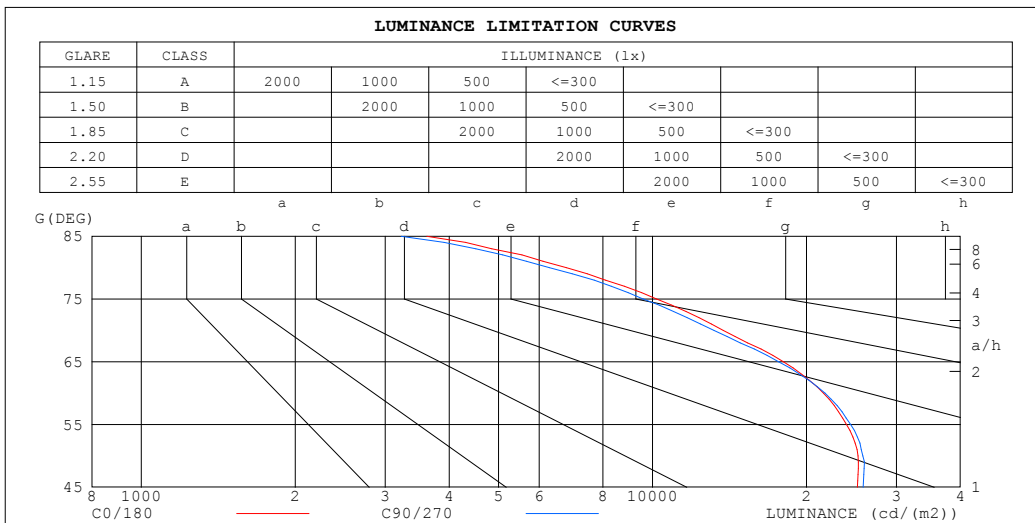
%lamp = 84.3%

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:230.18V I:0.6458A P:150W PF:0.9923 Freq:50.00Hz Lamp Flux:21056.7x1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: TOSPO	SUR.:	Shielding Angle:



LUMINANCE cd/(m2)		
G (DEG)	C0/180	C90/270
85	3617	3223
80	6782	6284
75	10194	9591
70	13748	13179
65	18030	17652
60	21603	21746
55	23950	24398
50	25239	25790
45	25166	25809

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:230.18V I:0.6458A P:150W PF:0.9923 Freq:50.00Hz Lamp Flux:21056.7x1 lm																	
NAME:						TYPE:						WEIGHT:					
SPEC.:						DIM.:						SERIAL No.:					
MFR.: TOSPO						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	.281	.160	.051	.274	.157	.050	.261	.150	.048	.249	.144	.046	.238	.138	.045															
2.0	.273	.150	.046	.267	.147	.045	.255	.142	.044	.245	.137	.043	.235	.133	.042															
3.0	.257	.137	.041	.252	.135	.041	.242	.131	.040	.232	.127	.039	.223	.124	.038															
4.0	.240	.125	.037	.235	.123	.036	.226	.120	.036	.218	.117	.035	.210	.114	.035															
5.0	.224	.114	.033	.220	.113	.033	.212	.110	.032	.204	.108	.032	.197	.105	.032															
6.0	.209	.105	.030	.205	.104	.030	.198	.102	.030	.191	.100	.029	.185	.098	.029															
7.0	.196	.097	.027	.192	.096	.027	.186	.094	.027	.180	.092	.027	.174	.090	.027															
8.0	.183	.090	.025	.180	.089	.025	.175	.087	.025	.169	.086	.025	.164	.084	.025															
9.0	.172	.083	.023	.170	.083	.023	.164	.081	.023	.159	.080	.023	.155	.079	.023															
10.0	.162	.078	.022	.160	.077	.022	.155	.076	.021	.151	.075	.021	.147	.074	.021															

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	.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	.060	.133	.087	.052	.091	.061	.036	.053	.036	.022	.017	.012	.007	
5.0	.148	.090	.048	.127	.078	.042	.087	.055	.030	.051	.032	.018	.016	.010	.006	
6.0	.141	.082	.040	.121	.071	.035	.083	.050	.025	.048	.029	.015	.016	.010	.005	
7.0	.134	.075	.034	.115	.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	.042	.023	.009	.014	.008	.003	
10.0	.117	.060	.023	.100	.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:230.18V I:0.6458A P:150W PF:0.9923 Freq:50.00Hz Lamp Flux:21056.7x1 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	24.0	25.5	24.3	25.7	25.9	24.1	25.6	24.3	25.8	26.0
3H	24.8	26.2	25.1	26.4	26.7	24.8	26.2	25.1	26.4	26.7
4H	25.0	26.3	25.3	26.6	26.8	25.0	26.3	25.3	26.5	26.8
6H	25.1	26.3	25.4	26.6	26.8	25.0	26.2	25.4	26.5	26.8
8H	25.1	26.2	25.4	26.5	26.8	25.0	26.2	25.3	26.5	26.7
12H	25.0	26.1	25.4	26.4	26.7	25.0	26.1	25.3	26.4	26.7
4H 2H	24.4	25.7	24.7	26.0	26.2	24.5	25.8	24.8	26.0	26.3
3H	25.4	26.5	25.7	26.8	27.1	25.3	26.5	25.7	26.8	27.1
4H	25.6	26.6	26.0	27.0	27.3	25.6	26.6	26.0	26.9	27.3
6H	25.7	26.6	26.1	27.0	27.3	25.7	26.6	26.1	26.9	27.3
8H	25.7	26.6	26.1	26.9	27.3	25.7	26.5	26.1	26.9	27.3
12H	25.7	26.5	26.1	26.9	27.3	25.7	26.4	26.1	26.8	27.2
8H 4H	25.7	26.5	26.1	26.9	27.2	25.6	26.5	26.0	26.8	27.2
6H	25.8	26.5	26.3	26.9	27.3	25.8	26.5	26.2	26.9	27.3
8H	25.9	26.5	26.3	26.9	27.3	25.8	26.4	26.3	26.8	27.3
12H	25.9	26.4	26.3	26.8	27.3	25.8	26.3	26.3	26.8	27.2
12H 4H	25.6	26.4	26.1	26.8	27.2	25.6	26.4	26.0	26.7	27.1
6H	25.8	26.4	26.3	26.8	27.3	25.8	26.4	26.2	26.8	27.2
8H	25.9	26.4	26.3	26.8	27.3	25.8	26.3	26.3	26.8	27.2
Variations with the observer position at spacings(CIE Pub.117):										
S = 1.0H	+ 0.3 / - 0.3					+ 0.3 / - 0.3				
1.5H	+ 0.4 / - 0.7					+ 0.4 / - 0.7				
2.0H	+ 0.6 / - 0.5					+ 0.6 / - 0.6				

CIE Pub.117, 21057 lm Total Lamp Luminous Flux Corrected ($8\log(F/F_0) = 10.6$)
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:230.18V I:0.6458A P:150W PF:0.9923 Freq:50.00Hz Lamp Flux:21056.7x1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: TOSPO	SUR.:	Shielding Angle:

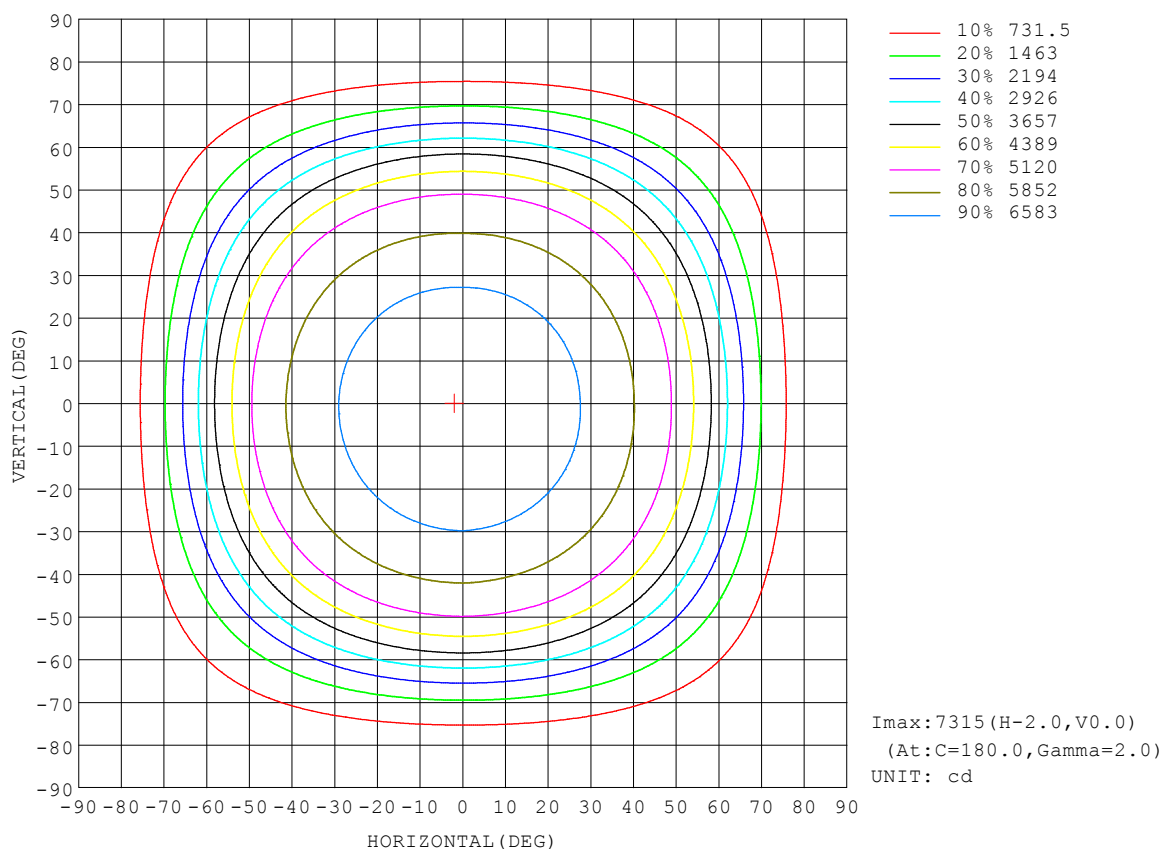
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS (PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	58	46	39	57	46	39	56	45	39	33
0.80	68	57	50	67	57	50	66	56	49	42
1.00	77	67	60	76	66	59	74	67	59	52
1.25	85	75	68	83	74	68	81	73	67	60
1.50	90	80	74	88	80	73	85	78	72	65
2.00	97	89	83	95	88	82	92	85	80	73
2.50	100	93	88	98	92	87	95	89	85	77
3.00	104	97	92	102	96	91	98	93	89	81
4.00	107	102	98	105	100	96	101	97	94	85
5.00	110	105	101	107	103	100	103	100	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:230.18V I:0.6458A P:150W PF:0.9923 Freq:50.00Hz Lamp Flux:21056.7x1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: TOSPO	SUR.:	Shielding Angle:

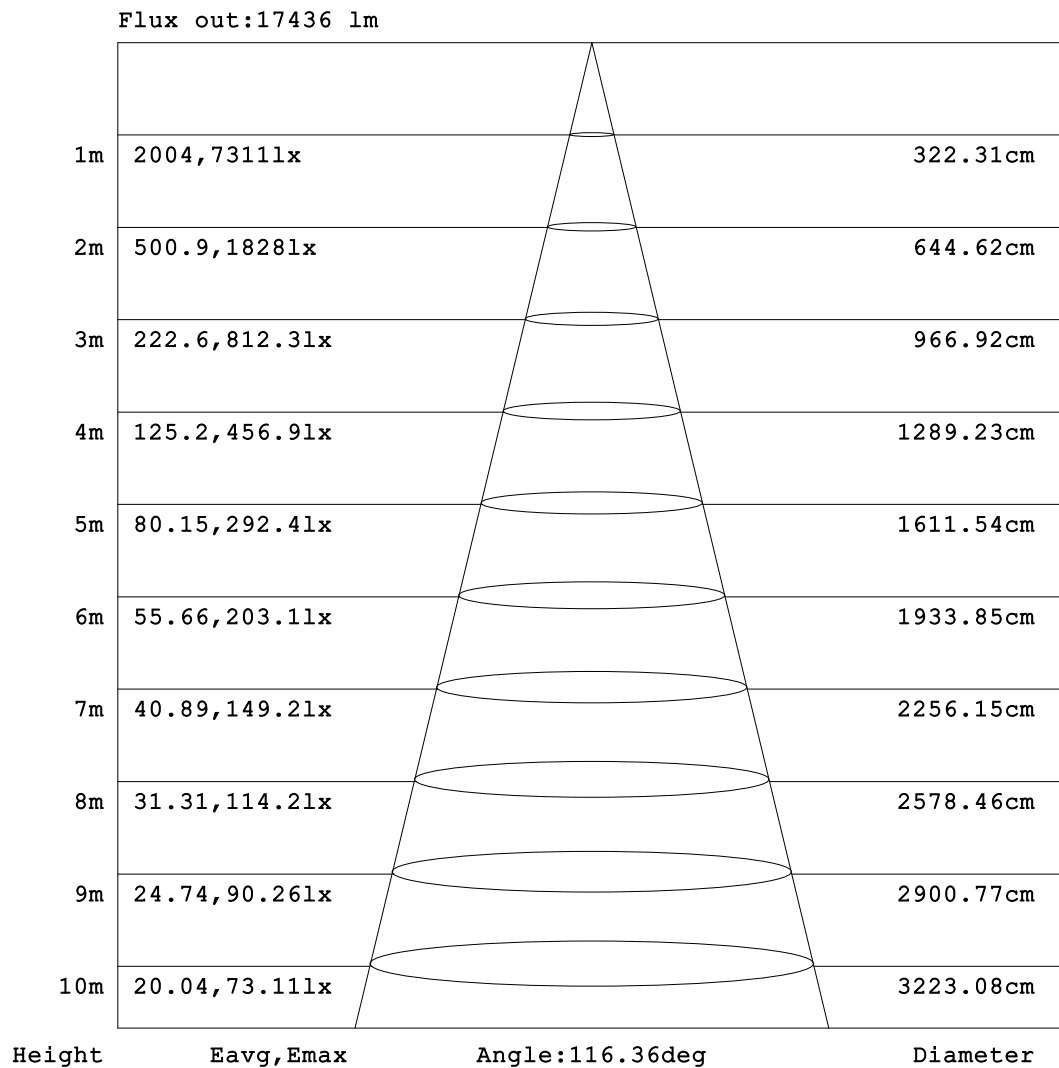


C Range: 0 - 360DEG
C Interval: 90.0DEG
Test Speed: HIGH
Temperature:25.3°C
Operators:Testing Room
Test Date:2025-03-19

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:230.18V I:0.6458A P:150W PF:0.9923 Freq:50.00Hz Lamp Flux:21056.7x1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: TOSPO	SUR.:	Shielding Angle:

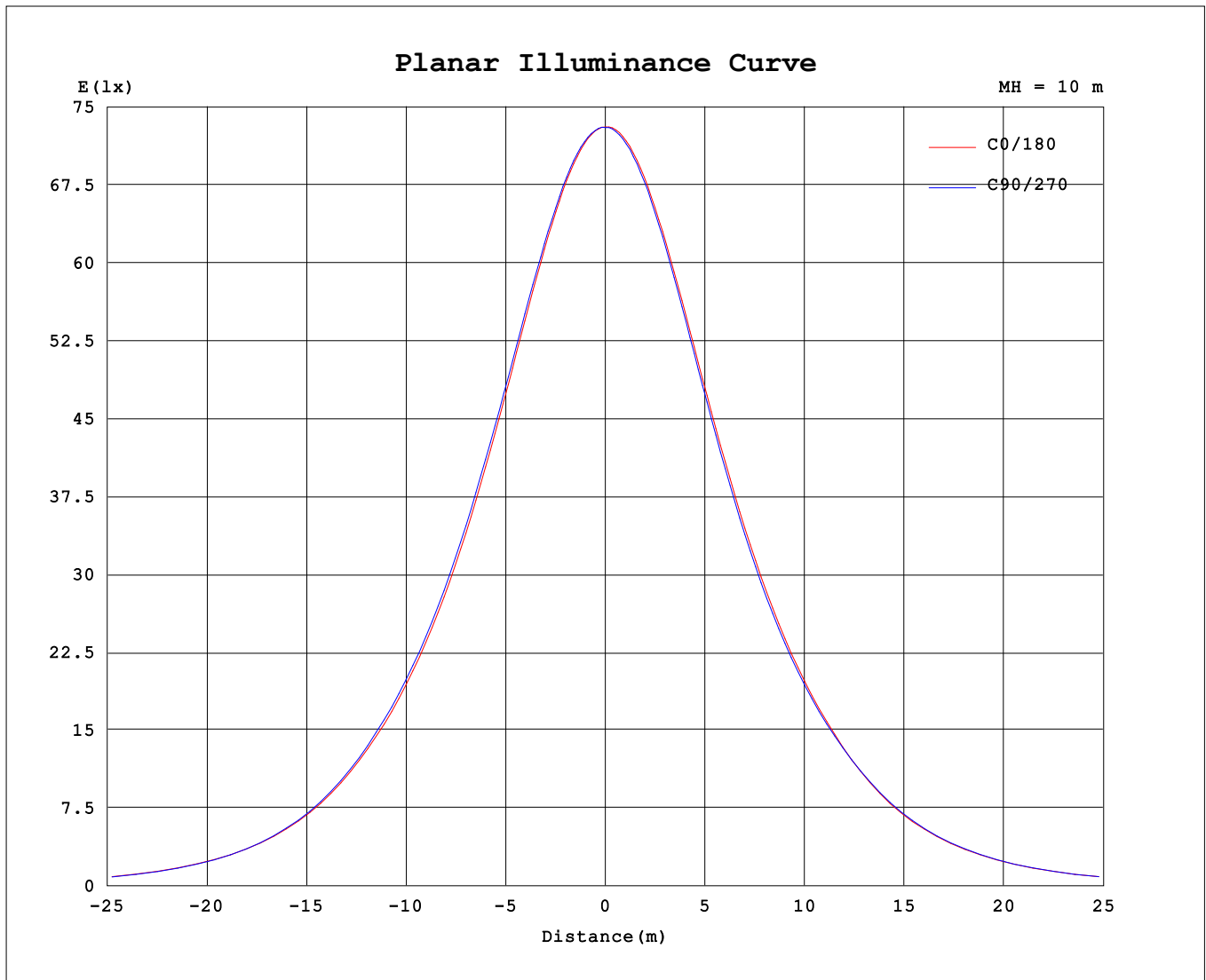


Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

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:

LUMINOUS DISTRIBUTION INTENSITY DATA

Test:U:230.18V I:0.6458A P:150W PF:0.9923 Freq:50.00Hz Lamp Flux:21056.7x1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: TOSPO	SUR.:	Shielding Angle:

Table--1

UNIT: cd

[illegible]

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

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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:

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