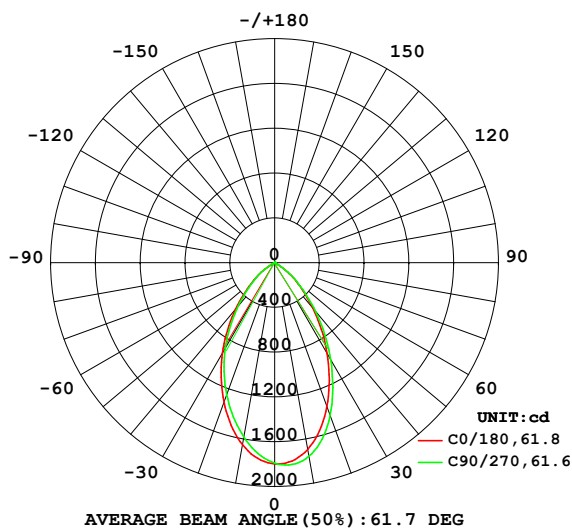


LUMINAIRE PHOTOMETRIC TEST REPORT

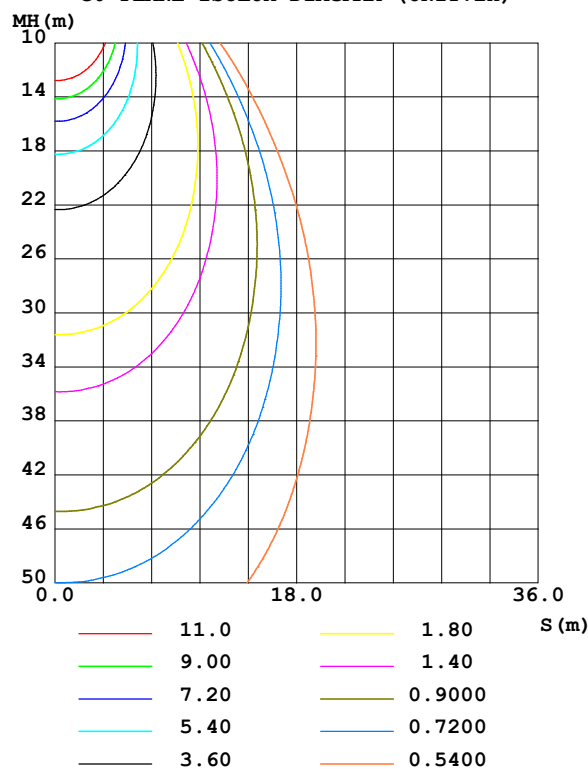
Test:U:230.03V I:0.0654A P:13.909W PF:0.9248 Freq:50.00Hz Lamp Flux:1887.39x1 lm		
SGS SKU: 0017440186	TYPE:	WEIGHT:
SPEC.:D230*69mm Downlight,White,220~240v,15w, 1800lm,120lm/w,3500K,CRI>80,IP44	DIM.:	SERIAL No.:
MFR.: TOSPO	SUR.:	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 135.69 lm/W			
MODEL		I _{max} (cd)	1811	S/MH(C0/180)	0.89
NOMINAL POWER(W)		LOR(%)	100.0	S/MH(C90/270)	0.85
RATED VOLTAGE(V)		TOTAL FLUX(lm)	1887.4	η UP,DN(C0-180)	0.0,51.5
NOMINAL FLUX(lm)	1887.39	CIE CLASS	DIRECT	η UP,DN(C180-360)	0.0,48.5
LAMPS INSIDE	1	η up (%)	0.0	CIBSE SHR NOM	0.75
TEST VOLTAGE(V)		η down (%)	100.0	CIBSE SHR MAX	0.95

LUMINOUS INTENSITY DISTRIBUTION DIAGRAM



C0 PLANE ISOLUX DIAGRAM (UNIT:lx)



C Range: 0 - 360DEG
C Interval: 90.0DEG
Test Speed: HIGH
Temperature:25.3℃
Operators:Testing Room
Test Date:2024-08-08

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	1696	1757	1653	1584					0- 10	165.4	165.4	8.32,8.32
20	1368	1451	1325	1254					10- 20	426.9	592.3	29.8,29.8
30	941.3	1004	932.6	882.3					20- 30	524.9	1117	56.2,56.2
40	534.7	571.9	542.6	508.5					30- 40	457.4	1575	79.2,79.2
50	235.3	242.9	238.8	231.6					40- 50	287.4	1862	93.7,93.7
60	27.60	29.49	28.82	33.21					50- 60	110.5	1973	99.3,99.3
70	3.287	3.233	3.710	3.995					60- 70	9.981	1983	99.8,99.8
80	2.278	2.261	2.633	2.832					70- 80	3.131	1986	99.9,99.9
90	0.1442	0.1442	0.1214	0.1366					80- 90	1.727	1987	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): 1741.2 lm

%lum = 87.6%

%lamp = 87.6%

Conical surface Flux(120deg): 1972.6 lm

%lum = 99.3%

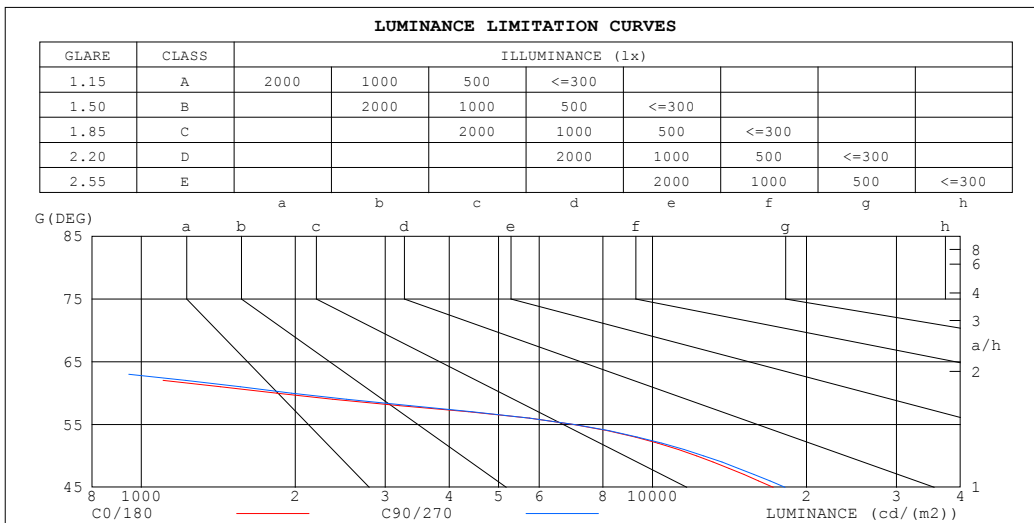
%lamp = 99.3%

C Range: 0 - 360DEG
 C Interval: 90.0DEG
 Test Speed: HIGH
 Temperature:25.3°C
 Operators:Testing Room
 Test Date:2024-08-08

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:230.03V I:0.0654A P:13.909W PF:0.9248 Freq:50.00Hz Lamp Flux: 1887.39x1 lm		
SGS SKU: 0017440186	TYPE:	WEIGHT:
SPEC.: D230*69mm Downlight,White,220~240v,15w,1800lm,120lm/w,3500K,CRI>80,IP44	DIM.:	SERIAL No.:
MFR.: TOSPO	SUR.:	Shielding Angle:



LUMINANCE cd/(m2)		
G (DEG)	C0/180	C90/270
85	680	717
80	437	434
75	346	339
70	320	315
65	374	506
60	1840	1966
55	7013	7045
50	12203	12597
45	17209	18171

C Range: 0 - 360DEG
 C Interval: 90.0DEG
 Test Speed: HIGH
 Temperature:25.3°C
 Operators:Testing Room
 Test Date:2024-08-08

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:230.03V I:0.0654A P:13.909W PF:0.9248 Freq:50.00Hz Lamp Flux:1887.39x1 lm		
SGS SKU: 0017440186	TYPE:	WEIGHT:
SPEC.:D230*69mm Downlight,White,220-240v,15w,1800lm,120lm/w,3500K,CRI>80,IP44	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	.197	.112	.036	.190	.109	.034	.178	.102	.033	.166	.096	.031	.155	.090	.029															
2.0	.191	.105	.032	.186	.102	.032	.175	.097	.030	.165	.093	.029	.156	.088	.028															
3.0	.184	.098	.029	.179	.096	.029	.169	.092	.028	.161	.088	.027	.153	.085	.026															
4.0	.175	.091	.027	.171	.089	.026	.163	.086	.026	.155	.083	.025	.148	.081	.025															
5.0	.167	.085	.025	.163	.084	.024	.156	.081	.024	.150	.079	.023	.143	.077	.023															
6.0	.159	.080	.023	.156	.079	.023	.150	.077	.022	.144	.075	.022	.138	.073	.022															
7.0	.152	.075	.021	.149	.074	.021	.143	.072	.021	.138	.071	.021	.133	.069	.020															
8.0	.145	.071	.020	.142	.070	.020	.137	.068	.020	.132	.067	.019	.128	.066	.019															
9.0	.138	.067	.019	.136	.066	.019	.131	.065	.018	.127	.064	.018	.123	.062	.018															
10.0	.132	.063	.018	.130	.063	.017	.126	.062	.017	.122	.060	.017	.118	.059	.017															

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	.173	.157	.143	.148	.135	.123	.101	.093	.085	.058	.054	.050	.019	.017	.016	
2.0	.159	.132	.110	.136	.114	.095	.093	.079	.066	.054	.046	.039	.017	.015	.013	
3.0	.148	.114	.087	.127	.098	.075	.087	.068	.053	.050	.040	.031	.016	.013	.010	
4.0	.139	.099	.069	.119	.086	.060	.082	.060	.042	.047	.035	.025	.015	.011	.008	
5.0	.131	.088	.057	.112	.076	.049	.077	.053	.035	.045	.031	.021	.014	.010	.007	
6.0	.124	.079	.047	.106	.068	.041	.073	.048	.029	.043	.028	.017	.014	.009	.006	
7.0	.118	.072	.040	.101	.062	.035	.070	.044	.024	.041	.026	.015	.013	.008	.005	
8.0	.112	.066	.034	.096	.057	.030	.067	.040	.021	.039	.024	.013	.013	.008	.004	
9.0	.107	.061	.029	.092	.053	.026	.064	.037	.018	.037	.022	.011	.012	.007	.004	
10.0	.102	.056	.026	.088	.049	.023	.061	.034	.016	.036	.020	.010	.012	.007	.003	

C Range: 0 - 360DEG

C Interval: 90.0DEG

Test Speed: HIGH

Temperature:25.3℃

Operators:Testing Room

Test Date:2024-08-08

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:230.03V I:0.0654A P:13.909W PF:0.9248 Freq:50.00Hz Lamp Flux:1887.39x1 lm										
SGS SKU: 0017440186					TYPE:			WEIGHT:		
SPEC.:D230*69mm Downlight,White,220-240v,15w,1800lm,120lm/w,3500K,CRI>80,IP44					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	18.7	19.8	18.9	19.9	20.1	18.9	20.0	19.1	20.1	20.3
3H	18.5	19.5	18.8	19.7	19.9	18.7	19.7	19.0	19.9	20.1
4H	18.4	19.3	18.7	19.6	19.8	18.6	19.5	18.9	19.8	20.0
6H	18.3	19.2	18.6	19.4	19.7	18.5	19.4	18.8	19.6	19.9
8H	18.3	19.1	18.6	19.4	19.6	18.5	19.3	18.8	19.6	19.8
12H	18.2	19.0	18.6	19.3	19.6	18.4	19.2	18.7	19.5	19.8
4H 2H	18.5	19.4	18.7	19.6	19.9	18.7	19.6	18.9	19.8	20.1
3H	18.3	19.1	18.6	19.4	19.6	18.5	19.3	18.8	19.6	19.8
4H	18.2	18.9	18.5	19.2	19.5	18.4	19.1	18.7	19.4	19.7
6H	18.1	18.7	18.5	19.1	19.4	18.3	18.9	18.7	19.3	19.6
8H	18.1	18.6	18.5	19.0	19.4	18.2	18.8	18.6	19.2	19.6
12H	18.0	18.5	18.4	18.9	19.3	18.2	18.7	18.6	19.1	19.5
8H 4H	18.0	18.6	18.4	19.0	19.4	18.2	18.8	18.6	19.2	19.6
6H	18.0	18.4	18.4	18.8	19.3	18.2	18.6	18.6	19.0	19.4
8H	17.9	18.3	18.4	18.8	19.2	18.1	18.5	18.6	18.9	19.4
12H	17.9	18.2	18.3	18.7	19.1	18.1	18.4	18.5	18.9	19.3
12H 4H	18.0	18.5	18.4	18.9	19.3	18.2	18.7	18.6	19.1	19.5
6H	17.9	18.3	18.4	18.8	19.2	18.1	18.5	18.6	18.9	19.4
8H	17.9	18.2	18.3	18.7	19.1	18.1	18.4	18.5	18.9	19.3
Variations with the observer position at spacings(CIE Pub.117):										
S = 1.0H	+ 2.3 / - 7.0					+ 2.3 / - 7.0				
1.5H	+ 2.1 / - 3.7					+ 2.3 / - 3.9				
2.0H	+ 4.6 / -13.4					+ 4.8 / -13.4				

CIE Pub.117, 1987 lm Total Lamp Luminous Flux Corrected ($8\log(F/F_0) = 2.4$)
Area: 0.03 m2

C Range: 0 - 360DEG
C Interval: 90.0DEG
Test Speed: HIGH
Temperature:25.3°C
Operators:Testing Room
Test Date:2024-08-08

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:230.03V I:0.0654A P:13.909W PF:0.9248 Freq:50.00Hz Lamp Flux:1887.39x1 lm		
SGS SKU: 0017440186	TYPE:	WEIGHT:
SPEC.:D230*69mm Downlight,White,220-240v,15w, 1800lm,120lm/w,3500K,CRI>80,IP44	DIM.:	SERIAL No.:
MFR.: TOSPO	SUR.:	Shielding Angle:

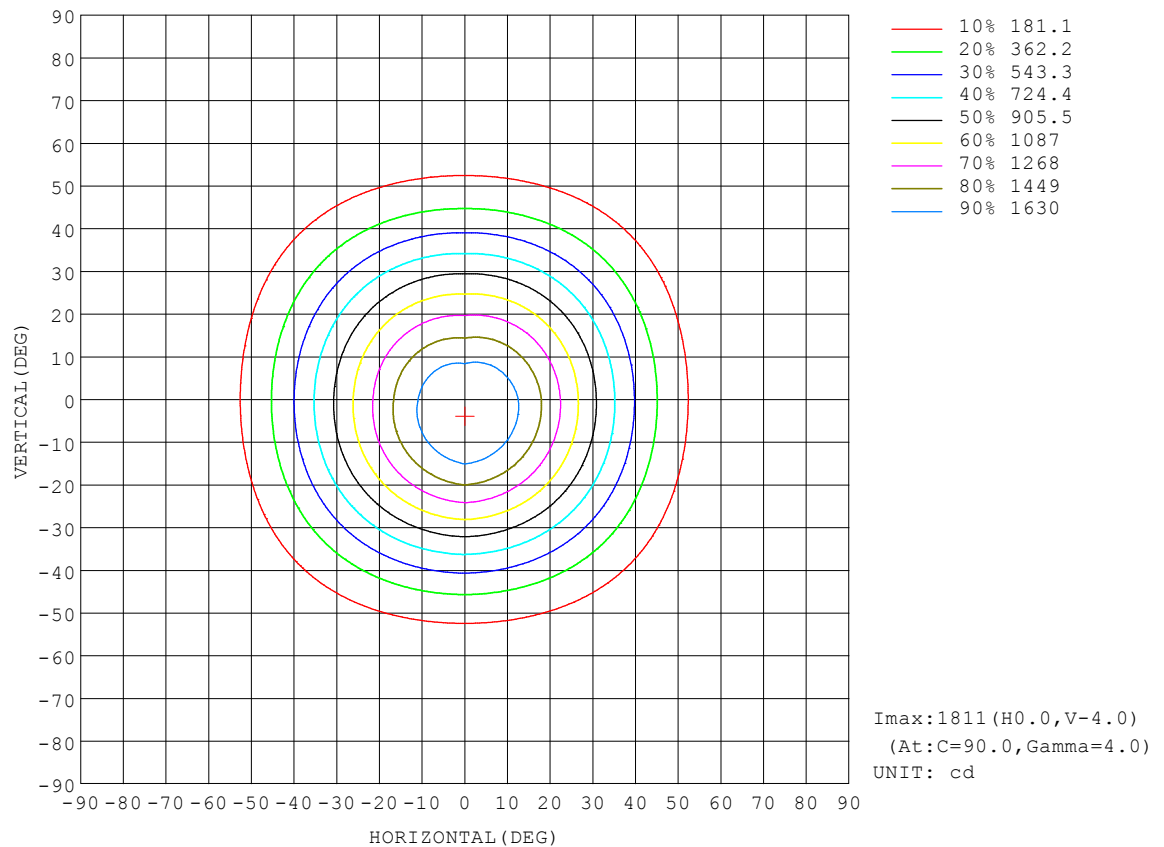
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS (PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	78	70	65	77	70	65	77	69	65	61
0.80	87	80	75	86	79	75	85	79	74	70
1.00	94	87	82	93	86	82	91	86	81	77
1.25	99	92	88	98	92	88	96	91	87	82
1.50	102	96	92	101	96	92	98	94	91	86
2.00	106	101	97	105	100	97	102	98	95	89
2.50	108	104	100	106	102	99	103	100	97	91
3.00	110	106	103	108	105	102	105	102	99	93
4.00	112	109	106	110	107	105	106	104	102	95
5.00	114	111	108	111	109	107	107	105	104	96
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:2024-08-08

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:230.03V I:0.0654A P:13.909W PF:0.9248 Freq:50.00Hz Lamp Flux:1887.39x1 lm		
SGS SKU: 0017440186	TYPE:	WEIGHT:
SPEC.:D230*69mm Downlight,White,220-240v,15w, 1800lm,120lm/w,3500K,CRI>80,IP44	DIM.:	SERIAL No.:
MFR.: TOSPO	SUR.:	Shielding Angle:

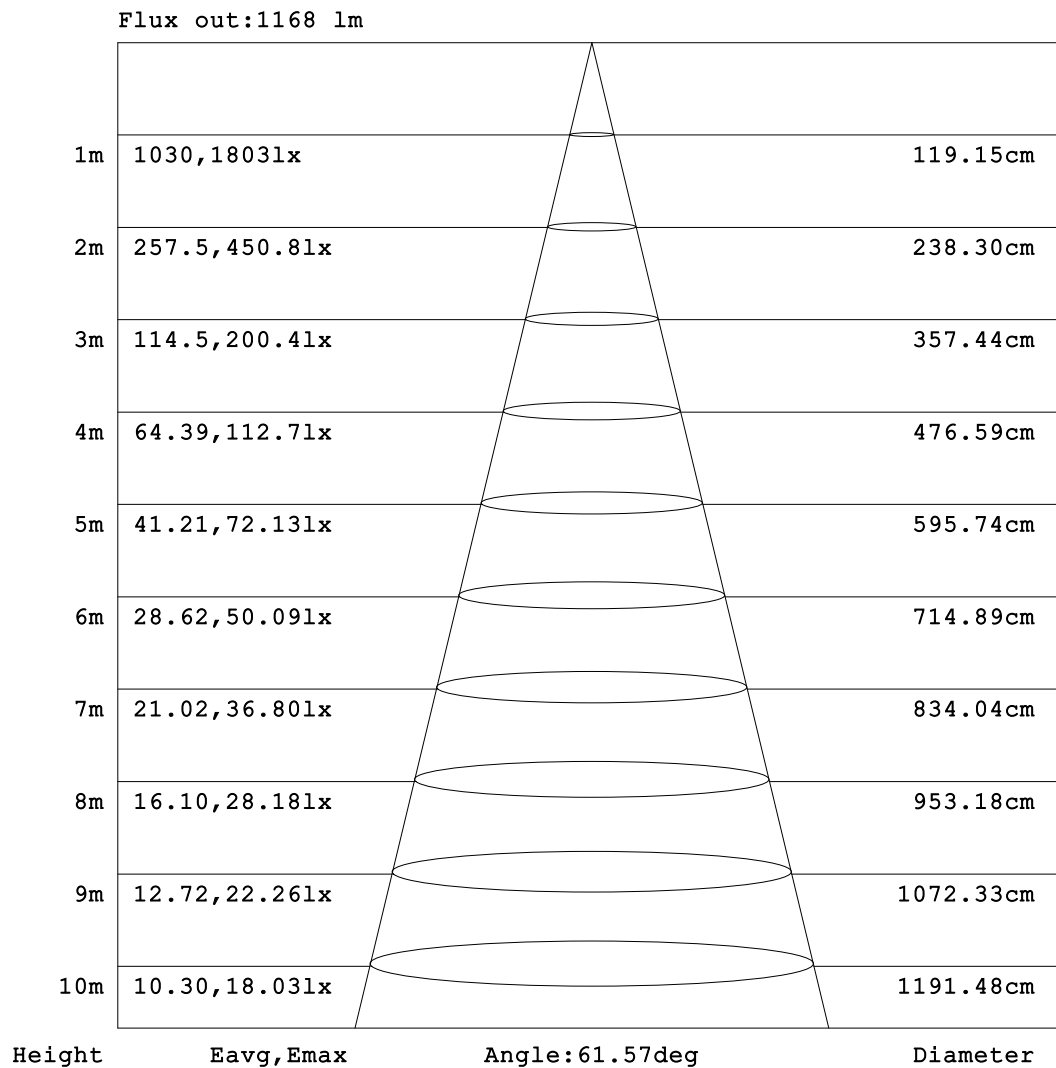


C Range: 0 - 360DEG
C Interval: 90.0DEG
Test Speed: HIGH
Temperature:25.3°C
Operators:Testing Room
Test Date:2024-08-08

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:230.03V I:0.0654A P:13.909W PF:0.9248 Freq:50.00Hz Lamp Flux:1887.39x1 lm		
SGS SKU: 0017440186	TYPE:	WEIGHT:
SPEC.:D230*69mm Downlight,White,220-240v,15w, 1800lm,120lm/w,3500K,CRI>80,IP44	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: 2024-08-08

γ Range: 0 - 90DEG

γ Interval: 1.0DEG

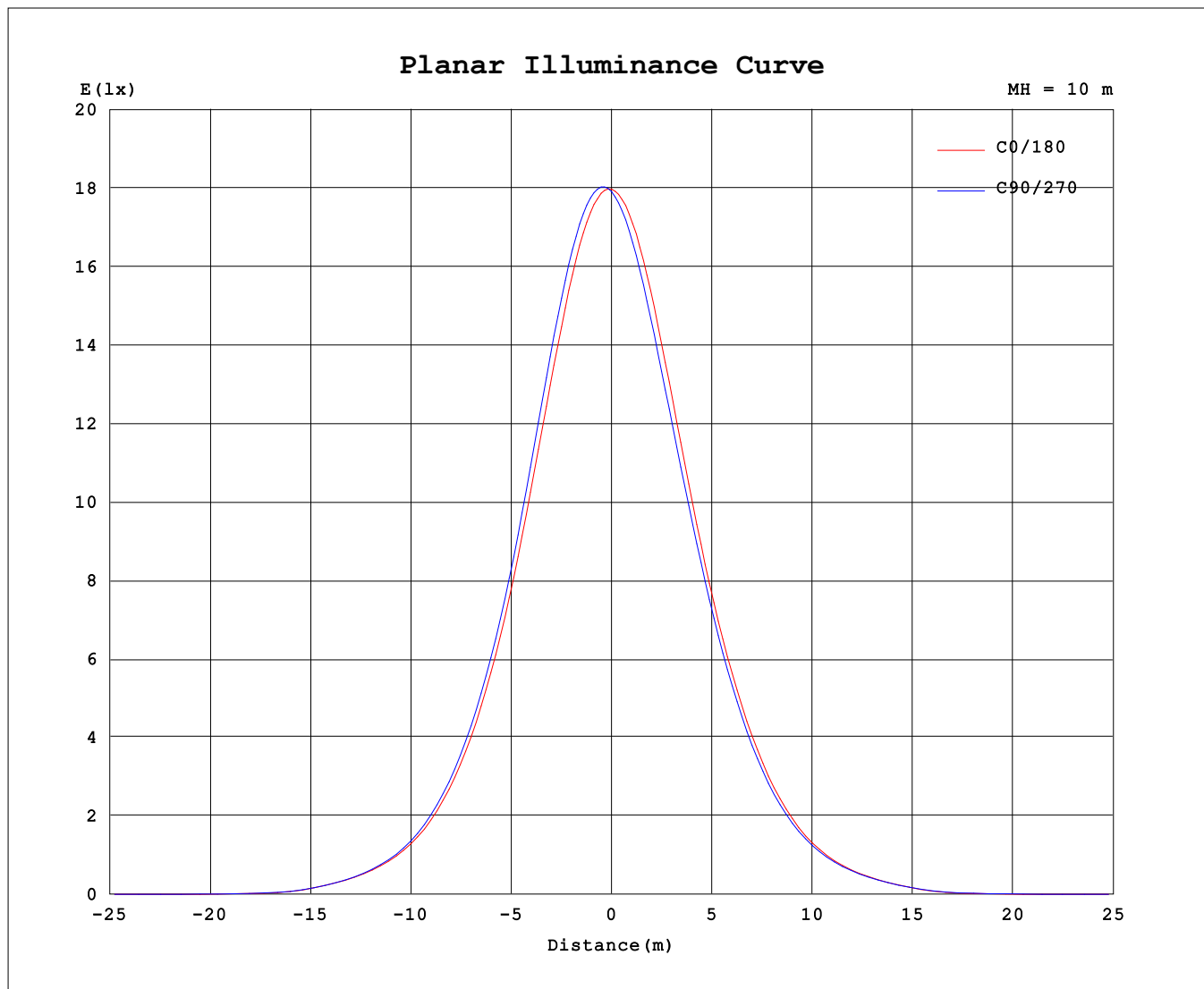
Test System: EVERFINE GO-2000H_V1 SYSTEM V2.00.471

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: 2024-08-08

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:230.03V I:0.0654A P:13.909W PF:0.9248 Freq:50.00Hz Lamp Flux:1887.39x1 lm		
SGS SKU: 0017440186	TYPE:	WEIGHT:
SPEC.:D230*69mm Downlight,White,220-240v,15w, 1800lm,120lm/w,3500K,CRI>80,IP44	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: 2024-08-08

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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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