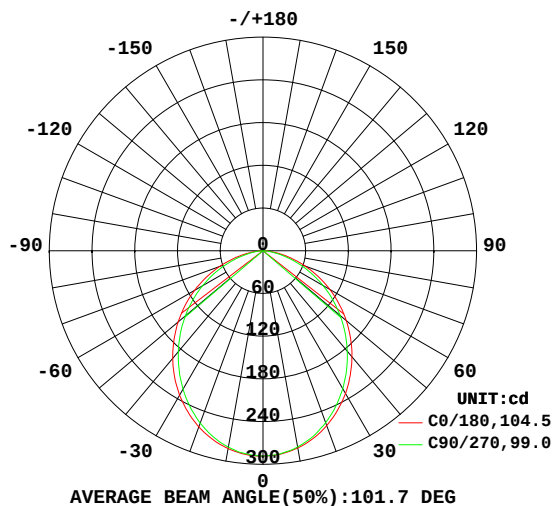


LUMINAIRE PHOTOMETRIC TEST REPORT

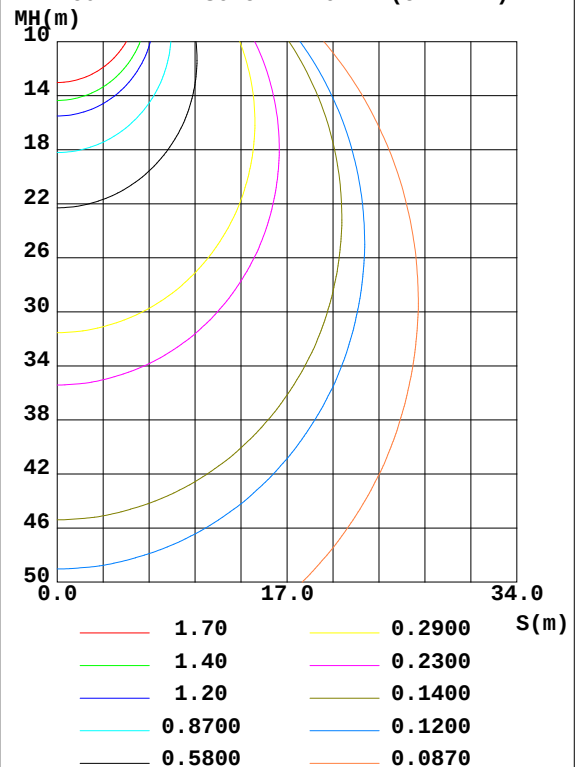
Test:U:230.54V I:0.1694A P:16.881W PF:0.4323 Freq:49.99Hz Lamp Flux:718.678x1 lm		
NAME: MTHS601211-BK3K12S	TYPE:	WEIGHT:
SPEC.: black RA90	DIM.:	SERIAL No.:
MFR.:	SUR.: 332*26mm	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 42.57 lm/W			
MODEL	3000K	I _{max} (cd)	289.3	S/MH(C0/180)	1.21
NOMINAL POWER(W)	12	LOR(%)	100.0	S/MH(C90/270)	1.17
RATED VOLTAGE(V)	220-240	TOTAL FLUX(lm)	718.68	η UP, DN(C0-180)	0.0,49.9
NOMINAL FLUX(lm)	718.678	CIE CLASS	DIRECT	η UP, DN(C180-360)	0.0,50.1
LAMPS INSIDE	1	η up(%)	0.0	CIBSE SHR NOM	1.25
TEST VOLTAGE(V)	220	η down(%)	100.0	CIBSE SHR MAX	1.35

LUMINOUS INTENSITY DISTRIBUTION DIAGRAM



C0 PLANE ISOLUX DIAGRAM (UNIT:lx)



C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature:25DEG
Operators:
Test Date:2024-02-01

γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System:EVERFINE G0-2000A_V1 SYSTEM V2.00.428
Humidity:65.0%
Test Distance:7.450m [K=1.0000]
Remarks:

ZONAL FLUX DIAGRAM

ZONAL FLUX DIAGRAM:

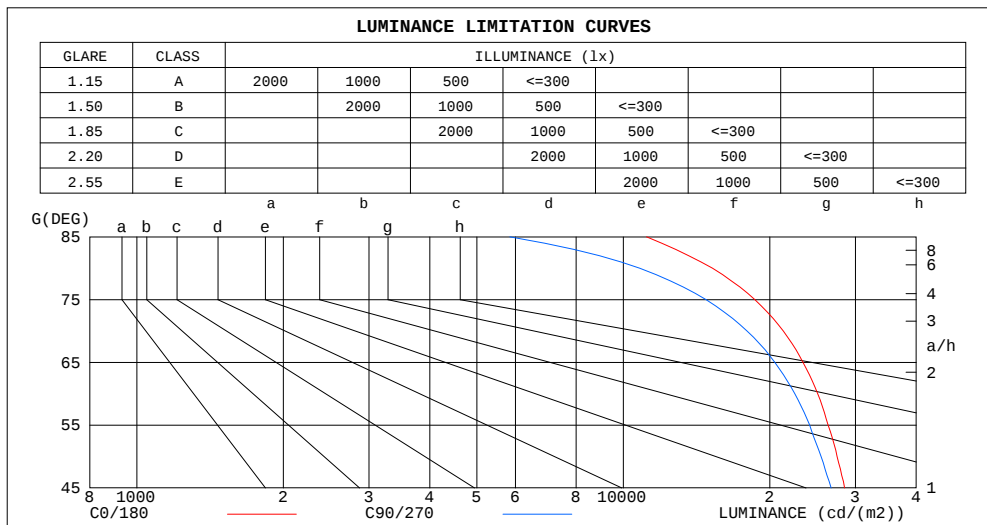
γ	C0	C45	C90	C135	C180	C225	C270	C315	γ	Φ zone	Φ total	%lum, lamp
10	281.3	280.0	279.8	281.7	282.1	279.9	280.0	281.3	0- 10	27.16	27.16	3.78, 3.78
20	261.5	259.0	257.0	260.4	263.5	259.2	257.7	260.1	10- 20	76.61	103.8	14.4, 14.4
30	231.9	227.3	223.9	228.9	234.5	228.0	224.7	229.1	20- 30	112.9	216.6	30.1, 30.1
40	194.4	188.8	184.2	190.2	197.2	189.6	185.2	190.5	30- 40	131.2	347.8	48.4, 48.4
50	152.6	146.2	141.4	147.6	155.5	147.4	142.3	148.0	40- 50	130.5	478.3	66.5, 66.5
60	108.3	101.8	97.21	102.9	110.7	102.8	97.82	103.2	50- 60	112.2	590.4	82.2, 82.2
70	62.92	57.37	52.99	58.24	64.86	58.29	53.56	58.50	60- 70	79.66	670.1	93.2, 93.2
80	22.86	19.31	16.20	19.57	23.87	19.79	16.49	19.97	70- 80	40.18	710.3	98.8, 98.8
90	0.5752	0.9111	0.5752	0.9304	0.6408	0.7219	0.3667	0.8647	80- 90	8.397	718.7	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		

C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: HIGH
 Temperature: 25DEG
 Operators:
 Test Date: 2024-02-01

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System: EVERFINE G0-2000A_V1 SYSTEM V2.00.428
 Humidity: 65.0%
 Test Distance: 7.450m [K=1.0000]
 Remarks:

LUMINANCE LIMITATION CURVES

Test:U:230.54V I:0.1694A P:16.881W PF:0.4323 Freq:49.99Hz Lamp Flux:718.678x1 lm		
NAME: MTHS601211-BK3K12S	TYPE:	WEIGHT:
SPEC.: black RA90	DIM.:	SERIAL No.:
MFR.:	SUR.: 332*26mm	Shielding Angle:



LUMINANCE cd/(m2)		
G(DEG)	C0/180	C90/270
85	11164	5843
80	15248	10807
75	18635	14790
70	21312	17947
65	23407	20476
60	25096	22523
55	26364	24151
50	27504	25485
45	28501	26734

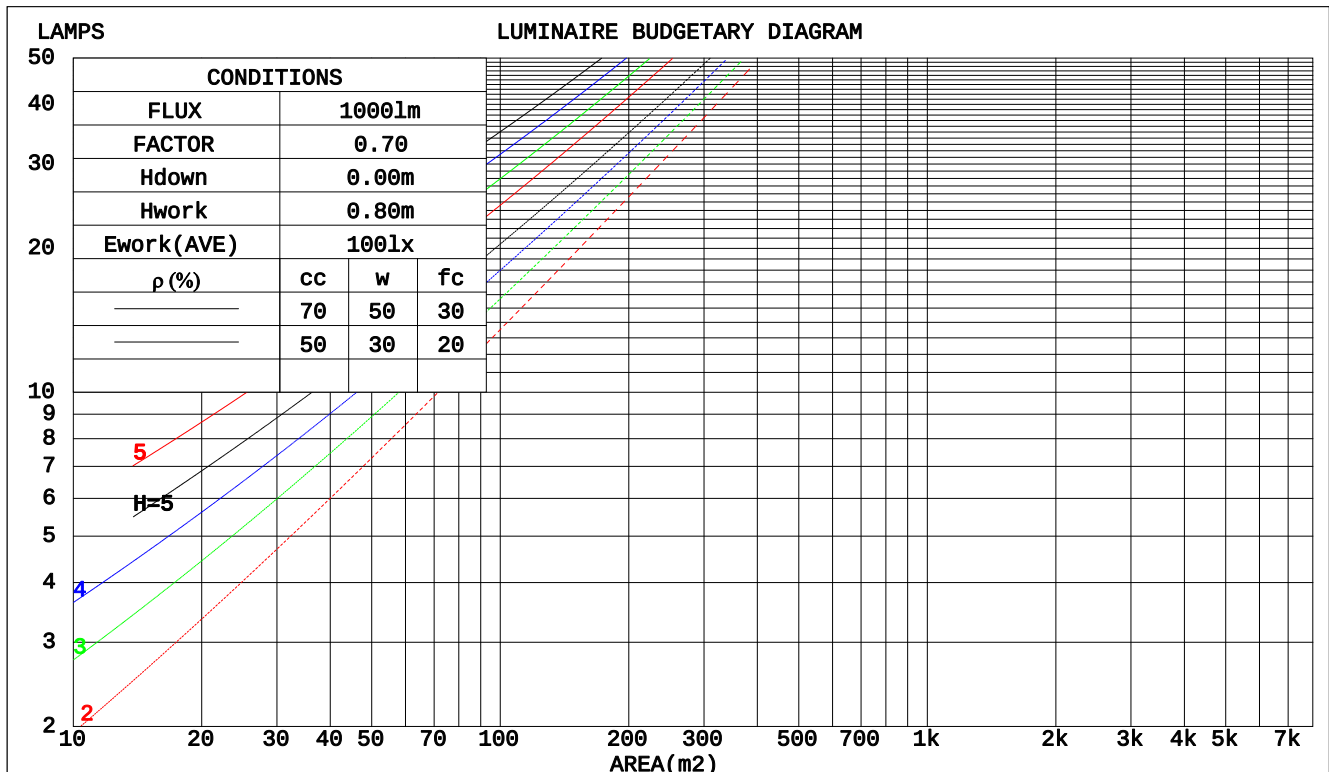
C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature: 25DEG
Operators:
Test Date: 2024-02-01

γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System: EVERFINE G0-2000A_V1 SYSTEM V2.00.428
Humidity: 65.0%
Test Distance: 7.450m [K=1.0000]
Remarks:

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

Test:U:230.54V I:0.1694A P:16.881W PF:0.4323 Freq:49.99Hz Lamp Flux:718.678x1 lm		
NAME: MTHS601211-BK3K12S	TYPE:	WEIGHT:
SPEC.: black RA90	DIM.:	SERIAL No.:
MFR.:	SUR.: 332*26mm	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						Coefficients of Utilization(CU)									
0.0	1.19	1.19	1.19	1.16	1.16	1.16	1.11	1.11	1.11	1.06	1.06	1.06	1.02	1.02	1.02	.00
1.0	1.05	1.01	.97	1.03	.99	.96	.98	.95	.93	.95	.92	.90	.91	.89	.87	.85
2.0	.92	.86	.80	.90	.84	.79	.87	.82	.77	.83	.79	.75	.80	.77	.74	.72
3.0	.81	.73	.67	.80	.72	.66	.77	.70	.65	.74	.69	.64	.71	.67	.63	.61
4.0	.72	.64	.57	.71	.63	.57	.68	.62	.56	.66	.60	.55	.64	.59	.55	.52
5.0	.65	.56	.50	.64	.55	.49	.62	.54	.49	.60	.53	.48	.58	.52	.48	.46
6.0	.58	.50	.43	.58	.49	.43	.56	.48	.43	.54	.48	.43	.52	.47	.42	.40
7.0	.53	.45	.39	.52	.44	.38	.51	.43	.38	.49	.43	.38	.48	.42	.38	.36
8.0	.49	.40	.34	.48	.40	.34	.47	.39	.34	.45	.39	.34	.44	.38	.34	.32
9.0	.45	.37	.31	.44	.36	.31	.43	.36	.31	.42	.35	.31	.41	.35	.31	.29
10.0	.41	.33	.28	.41	.33	.28	.40	.33	.28	.39	.32	.28	.38	.32	.28	.26



C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature: 25DEG
Operators:
Test Date: 2024-02-01

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
Test System: EVERFINE G0-2000A_V1 SYSTEM V2.00.428
Humidity: 65.0%
Test Distance: 7.450m [K=1.0000]
Remarks:

WEC AND CCEC

Test:U:230.54V I:0.1694A P:16.881W PF:0.4323 Freq:49.99Hz Lamp Flux:718.678x1 lm					
NAME: MTHS601211-BK3K12S			TYPE:		WEIGHT:
SPEC.: black RA90			DIM.:		SERIAL No.:
MFR.:			SUR.: 332*26mm		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	.290	.165	.052	.283	.161	.051	.270	.155	.049	.258	.149	.048	.246	.143	.046		
2.0	.277	.152	.046	.270	.149	.046	.259	.144	.045	.248	.139	.044	.238	.135	.042		
3.0	.258	.137	.041	.253	.135	.041	.242	.131	.040	.233	.128	.039	.224	.124	.038		
4.0	.240	.125	.037	.235	.123	.036	.226	.120	.036	.217	.117	.035	.210	.114	.035		
5.0	.223	.113	.033	.218	.112	.033	.210	.110	.032	.203	.107	.032	.196	.105	.031		
6.0	.207	.104	.030	.203	.103	.030	.196	.101	.029	.190	.099	.029	.183	.097	.029		
7.0	.193	.096	.027	.190	.095	.027	.184	.093	.027	.178	.091	.027	.172	.089	.026		
8.0	.181	.089	.025	.178	.088	.025	.172	.086	.025	.167	.085	.024	.162	.083	.024		
9.0	.170	.082	.023	.167	.082	.023	.162	.080	.023	.157	.079	.023	.153	.078	.022		
10.0	.160	.077	.021	.158	.076	.021	.153	.075	.021	.149	.074	.021	.145	.073	.021		

ρcc	80%			70%			50%			30%			10%			0
ρw	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
ρfc	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	.179	.156	.136	.153	.134	.117	.105	.092	.081	.060	.053	.047	.019	.017	.015	
2.0	.170	.132	.100	.146	.114	.086	.100	.079	.060	.058	.046	.035	.018	.015	.011	
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	.037	.053	.036	.022	.017	.012	.007	
5.0	.147	.090	.048	.126	.078	.042	.087	.055	.030	.050	.032	.018	.016	.010	.006	
6.0	.140	.082	.040	.120	.071	.035	.083	.050	.025	.048	.029	.015	.016	.010	.005	
7.0	.133	.075	.034	.115	.065	.030	.079	.046	.021	.046	.027	.012	.015	.009	.004	
8.0	.127	.069	.029	.109	.060	.026	.076	.042	.018	.044	.025	.011	.014	.008	.004	
9.0	.121	.064	.026	.104	.056	.022	.072	.039	.016	.042	.023	.009	.014	.008	.003	
10.0	.116	.060	.023	.100	.052	.020	.069	.037	.014	.040	.022	.008	.013	.007	.003	

C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature:25DEG
Operators:
Test Date:2024-02-01

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
Test System:EVERFINE G0-2000A_V1 SYSTEM V2.00.428
Humidity:65.0%
Test Distance:7.450m [K=1.0000]
Remarks:

UGR(Unified Glare Rating) Table

Test:U:230.54V I:0.1694A P:16.881W PF:0.4323 Freq:49.99Hz Lamp Flux:718.678x1 lm										
NAME: MTHS601211-BK3K12S					TYPE:			WEIGHT:		
SPEC.: black RA90					DIM.:			SERIAL No.:		
MFR.:					SUR.: 332*26mm			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	25.3	26.8	25.6	27.0	27.2	24.9	26.3	25.1	26.5	26.7
3H	26.6	28.0	26.9	28.2	28.4	26.0	27.4	26.3	27.6	27.9
4H	27.1	28.4	27.4	28.6	28.9	26.4	27.7	26.7	28.0	28.2
6H	27.4	28.6	27.7	28.9	29.2	26.6	27.8	26.9	28.1	28.4
8H	27.5	28.6	27.8	28.9	29.2	26.6	27.8	27.0	28.1	28.4
12H	27.5	28.6	27.8	28.9	29.2	26.6	27.7	27.0	28.0	28.3
4H 2H	25.8	27.1	26.1	27.3	27.6	25.4	26.7	25.7	27.0	27.2
3H	27.3	28.4	27.6	28.7	29.0	26.8	27.9	27.1	28.2	28.5
4H	27.9	28.9	28.2	29.2	29.5	27.3	28.3	27.6	28.6	28.9
6H	28.3	29.2	28.7	29.5	29.9	27.5	28.4	27.9	28.8	29.1
8H	28.4	29.2	28.8	29.6	30.0	27.6	28.4	28.0	28.8	29.2
12H	28.4	29.2	28.9	29.6	30.0	27.6	28.3	28.0	28.7	29.1
8H 4H	28.0	28.9	28.4	29.2	29.6	27.5	28.3	27.9	28.7	29.0
6H	28.5	29.2	29.0	29.6	30.1	27.8	28.5	28.3	28.9	29.4
8H	28.7	29.3	29.2	29.7	30.2	27.9	28.5	28.4	29.0	29.4
12H	28.8	29.3	29.3	29.8	30.3	28.0	28.5	28.4	28.9	29.4
12H 4H	28.0	28.8	28.4	29.2	29.6	27.5	28.2	27.9	28.6	29.0
6H	28.5	29.2	29.0	29.6	30.0	27.9	28.5	28.3	28.9	29.3
8H	28.7	29.3	29.2	29.7	30.2	28.0	28.5	28.4	28.9	29.4
Variations with the observer position at spacings(CIE Pub.117):										
S = 1.0H	+ 0.2 / - 0.2					+ 0.2 / - 0.3				
1.5H	+ 0.2 / - 0.3					+ 0.2 / - 0.4				
2.0H	+ 0.3 / - 0.3					+ 0.3 / - 0.4				

CIE Pub.117, 718.7 lm Total Lamp Luminous Flux Correct (8log(F/F0) = -1.1)
Area: 0.008632 m2

C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature:25DEG
Operators:
Test Date:2024-02-01

γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System:EVERFINE G0-2000A_V1 SYSTEM V2.00.428
Humidity:65.0%
Test Distance:7.450m [K=1.0000]
Remarks:

UTILIZATION FACTORS TABLE

Test:U:230.54V I:0.1694A P:16.881W PF:0.4323 Freq:49.99Hz Lamp Flux:718.678x1 lm		
NAME: MTHS601211-BK3K12S	TYPE:	WEIGHT:
SPEC.: black RA90	DIM.:	SERIAL No.:
MFR.:	SUR.: 332*26mm	Shielding Angle:

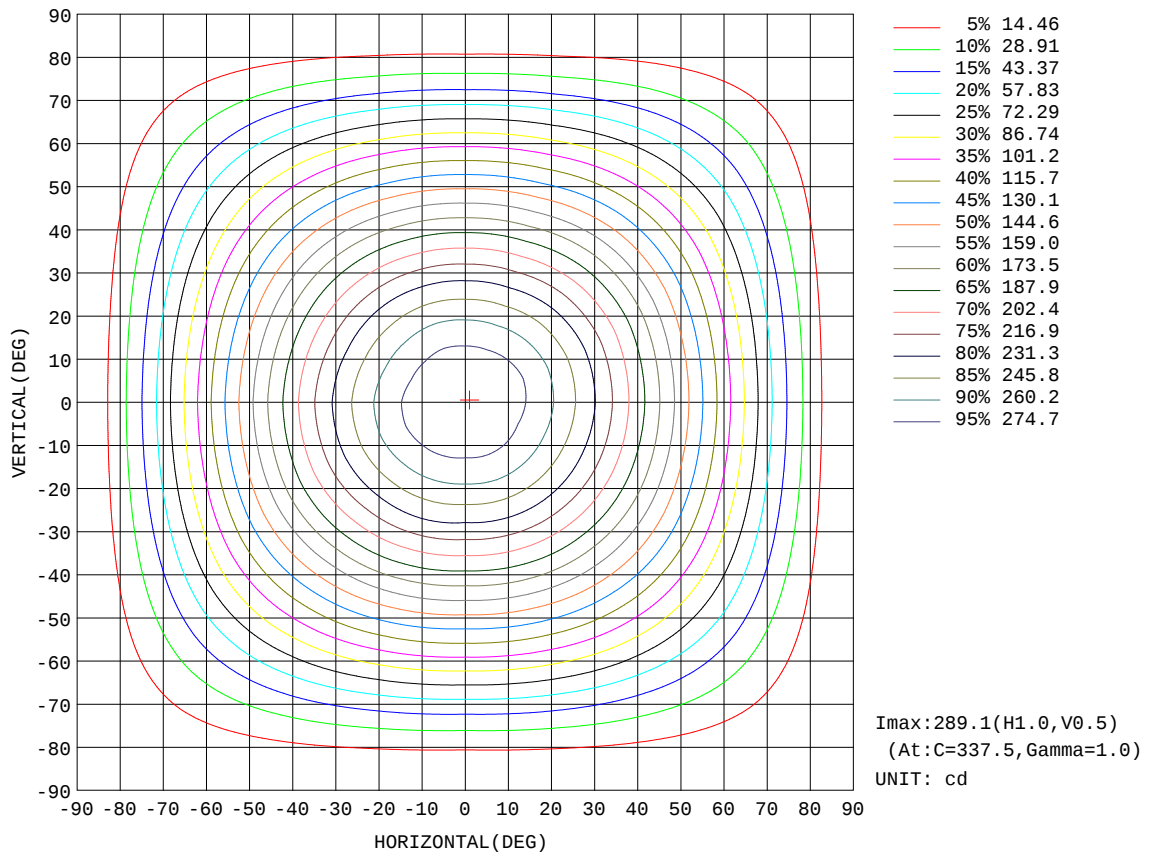
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS(PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	60	48	42	59	48	42	58	48	41	35
0.80	70	59	51	69	58	51	67	57	51	44
1.00	78	67	60	77	67	60	75	68	60	53
1.25	85	75	68	84	74	68	81	73	67	60
1.50	90	81	74	88	80	73	85	78	72	65
2.00	97	88	82	95	87	82	91	85	80	73
2.50	100	93	87	98	92	86	94	89	84	76
3.00	103	97	92	101	95	91	97	93	89	80
4.00	107	102	98	105	100	96	101	97	93	85
5.00	109	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: 22.5DEG
 Test Speed: HIGH
 Temperature: 25DEG
 Operators:
 Test Date: 2024-02-01

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System: EVERFINE G0-2000A_V1 SYSTEM V2.00.428
 Humidity: 65.0%
 Test Distance: 7.450m [K=1.0000]
 Remarks:

ISOCANDELA DIAGRAM

Test:U:230.54V I:0.1694A P:16.881W PF:0.4323 Freq:49.99Hz Lamp Flux:718.678x1 lm		
NAME: MTHS601211-BK3K12S	TYPE:	WEIGHT:
SPEC.: black RA90	DIM.:	SERIAL No.:
MFR.:	SUR.: 332*26mm	Shielding Angle:

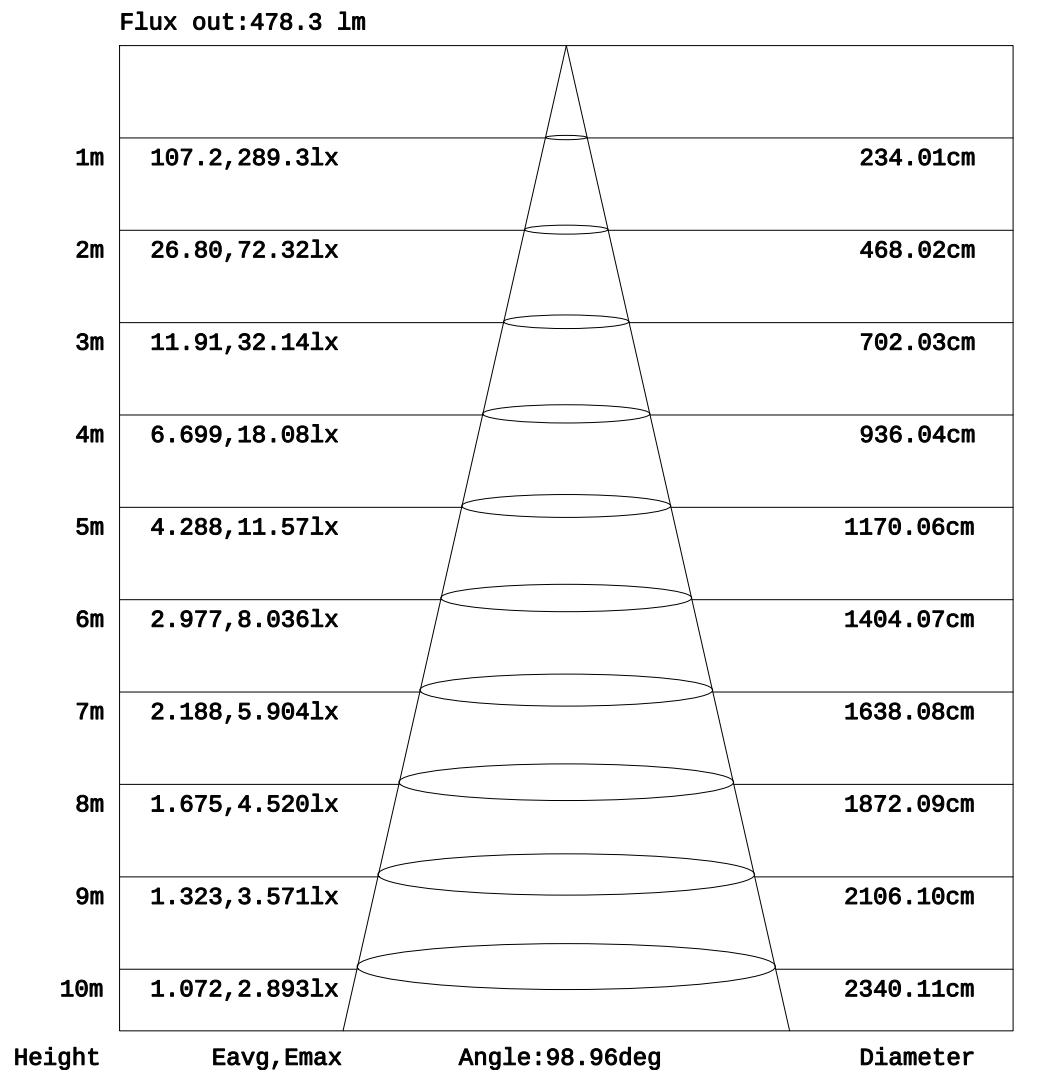


C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature:25DEG
Operators:
Test Date:2024-02-01

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
Test System:EVERFINE G0-2000A_V1 SYSTEM V2.00.428
Humidity:65.0%
Test Distance:7.450m [K=1.0000]
Remarks:

AAI Figure

Test:U:230.54V I:0.1694A P:16.881W PF:0.4323 Freq:49.99Hz Lamp Flux:718.678x1 lm		
NAME: MTHS601211-BK3K12S	TYPE:	WEIGHT:
SPEC.: black RA90	DIM.:	SERIAL No.:
MFR.:	SUR.: 332*26mm	Shielding Angle:



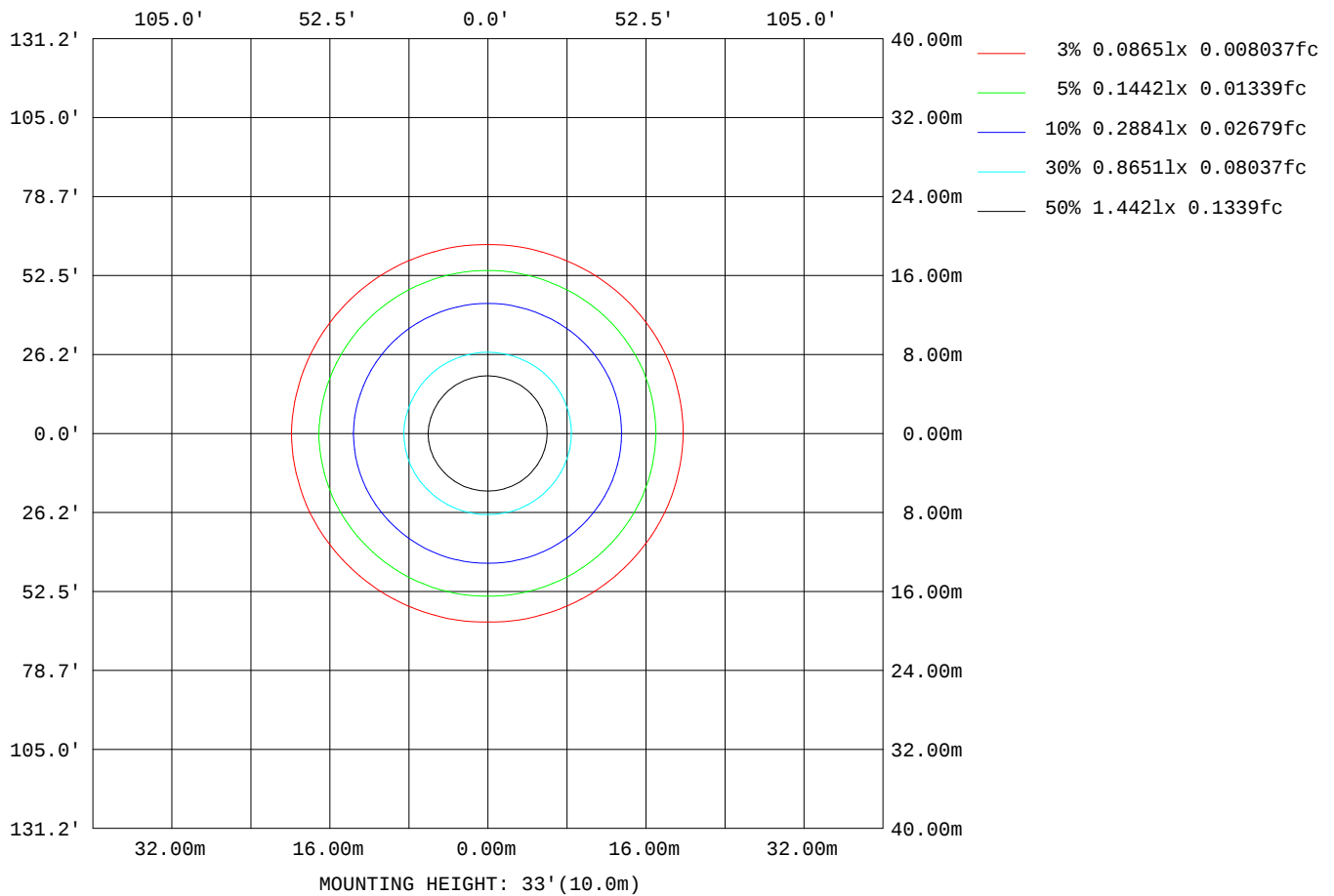
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature:25DEG
Operators:
Test Date:2024-02-01

γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System:EVERFINE G0-2000A_V1 SYSTEM V2.00.428
Humidity:65.0%
Test Distance:7.450m [K=1.0000]
Remarks:

ISOLUX DIAGRAM

Test:U:230.54V I:0.1694A P:16.881W PF:0.4323 Freq:49.99Hz Lamp Flux:718.678x1 lm		
NAME: MTHS601211-BK3K12S	TYPE:	WEIGHT:
SPEC.: black RA90	DIM.:	SERIAL No.:
MFR.:	SUR.: 332*26mm	Shielding Angle:



C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature: 25DEG
Operators:
Test Date: 2024-02-01

γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System: EVERFINE G0-2000A_V1 SYSTEM V2.00.428
Humidity: 65.0%
Test Distance: 7.450m [K=1.0000]
Remarks:

LED Avg.L Report

Test:U:230.54V I:0.1694A P:16.881W PF:0.4323 Freq:49.99Hz Lamp Flux:718.678x1 lm		
NAME: MTHS601211-BK3K12S	TYPE:	WEIGHT:
SPEC.: black RA90	DIM.:	SERIAL No.:
MFR.:	SUR.: 332*26mm	Shielding Angle:

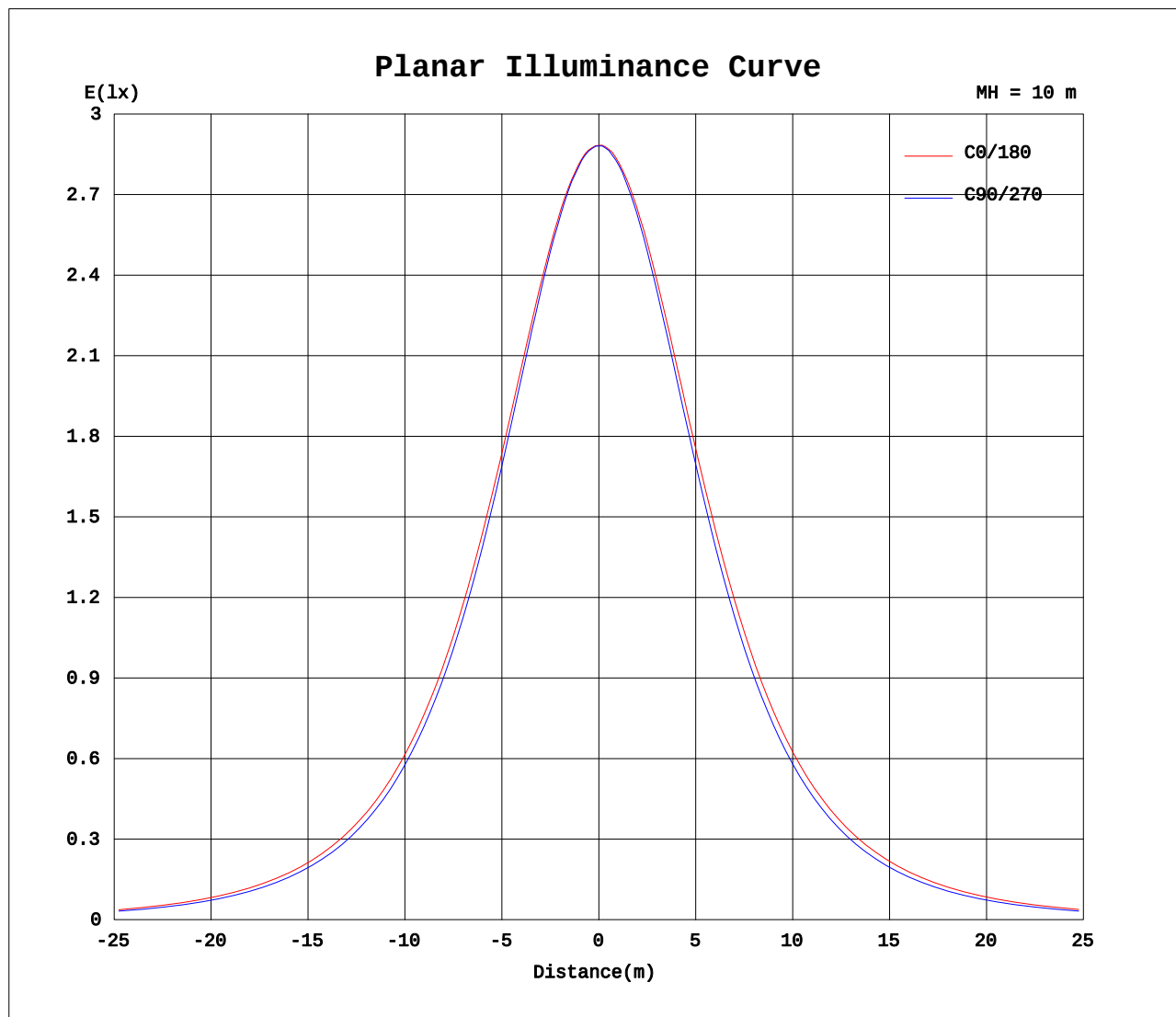
AvgL	cd/m2
L_0~180(65)av	23719
L_0~180(75)av	18977
L_0~180(85)av	11394
L_90~270(65)av	20581
L_90~270(75)av	14890
L_90~270(85)av	5831
L_45(65)av	21969
L_45(75)av	16807
L_45(85)av	8444

Standard: GB/T 29293-2012

C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature:25DEG
Operators:
Test Date:2024-02-01

γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System:EVERFINE G0-2000A_V1 SYSTEM V2.00.428
Humidity:65.0%
Test Distance:7.450m [K=1.0000]
Remarks:

Planar Illuminance Curve



C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: HIGH
 Temperature: 25DEG
 Operators:
 Test Date: 2024-02-01

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System: EVERFINE G0-2000A_V1 SYSTEM V2.00.428
 Humidity: 65.0%
 Test Distance: 7.450m [K=1.0000]
 Remarks:

```

Range: 0 - 90DEG
Interval: 1.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.00.428
Humidity:65.0%
Test Distance:7.450m [K=1.0000]
Remarks:

```