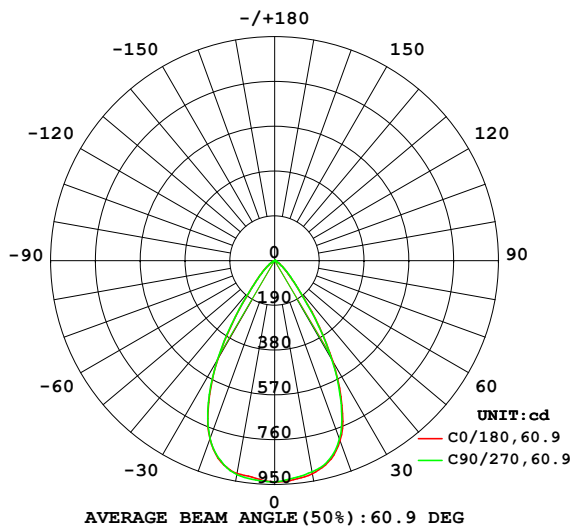


## LUMINAIRE PHOTOMETRIC TEST REPORT

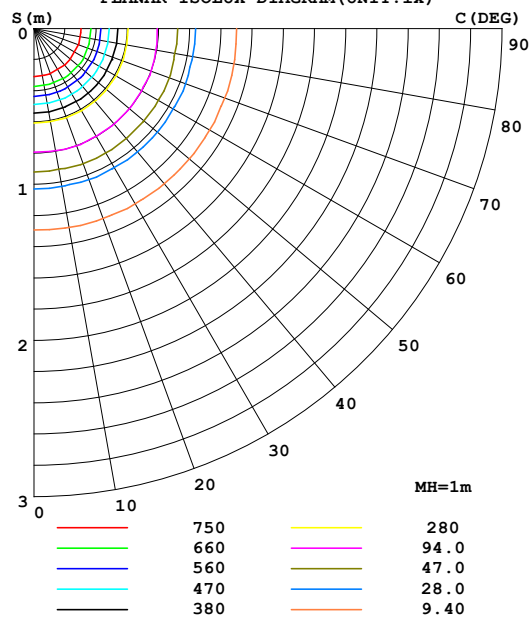
Test:U:240.4V I:0.0445A P:10.0W PF:0.9308 Freq:49.99Hz		
UTHDi:0.23% ITHDi:19.73% KDisp:0.9493 Lamp Flux:932.543x1 lm		
NAME: MD10-10-XX-01 4000K RA90 60D	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: Norming Lighting	SUR.:	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA				Eff: 93.58 lm/W
MODEL		I <sub>max</sub> (cd)	938.8	S/MH(C0/180)	0.90	
NOMINAL POWER(W)	10	LOR(%)	100.0	S/MH(C90/270)	0.90	
RATED VOLTAGE(V)	240	TOTAL FLUX(lm)	932.54	η UP,DN(C0-180)	0.0,50.3	
NOMINAL FLUX(lm)	932.543	CIE CLASS	DIRECT	η UP,DN(C180-360)	0.0,49.7	
LAMPS INSIDE	1	η up(%)	0.0	CIBSE SHR NOM	0.75	
TEST VOLTAGE(V)	240.33	η down(%)	100.0	CIBSE SHR MAX	0.95	

LUMINOUS INTENSITY DISTRIBUTION DIAGRAM



PLANAR ISOLUX DIAGRAM(UNIT:lx)



C Range: 0 - 360DEG  
C Interval: 45.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:DAMIN  
Test Date:2023-09-14

γ Range: 0 - 90DEG  
γ Interval: 1.0DEG  
Test System:EVERFINE GO-SPEX500\_V1 SYSTEM V2.00.453  
Humidity:65.0%  
Test Distance:3.090m [K=1.0000]  
Remarks:

## ZONAL FLUX DIAGRAM

## ZONAL FLUX DIAGRAM:

$\gamma$	C0	C45	C90	C135	C180	C225	C270	C315	$\gamma$	$\Phi$ zone	$\Phi$ total	%lum, lamp
10	918.8	914.5	909.6	910.8	917.3	920.8	922.1	920.0	0- 10	88.37	88.37	9.48,9.48
20	811.8	813.6	805.2	799.3	804.3	803.5	802.9	806.7	10- 20	246.2	334.6	35.9,35.9
30	494.7	498.0	488.5	479.9	482.1	477.5	486.2	489.6	20- 30	301.4	636.0	68.2,68.2
40	155.5	159.8	155.1	154.9	149.9	150.1	153.4	153.5	30- 40	186.7	822.7	88.2,88.2
50	51.54	53.26	53.66	53.04	50.36	50.73	51.01	51.11	40- 50	71.01	893.8	95.8,95.8
60	16.41	16.99	17.33	17.20	16.28	16.44	16.49	16.16	50- 60	27.89	921.6	98.8,98.8
70	3.387	3.476	3.707	3.737	3.700	3.636	3.547	3.356	60- 70	8.862	930.5	99.8,99.8
80	0.6820	0.7146	0.7613	0.7681	0.8029	0.6526	0.5271	0.5517	70- 80	1.790	932.3	100,100
90	0.0080	0.0010	0.0064	0	0.0006	0	0.0032	0	80- 90	0.2462	932.5	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): 866.15 lm

%lum = 92.9%

%lamp = 92.9%

Conical surface Flux(130deg): 927.6 lm

%lum = 99.5%

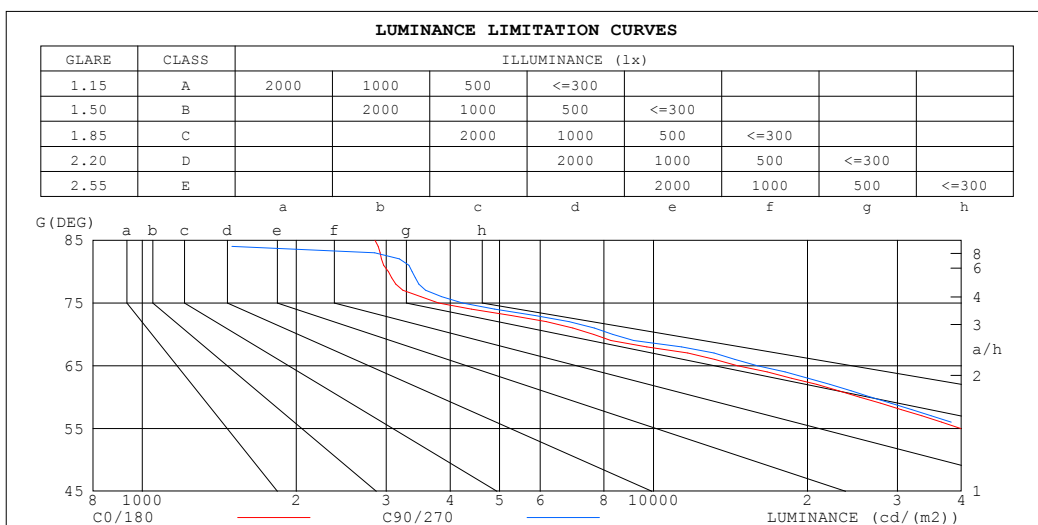
%lamp = 99.5%

C Range: 0 - 360DEG  
 C Interval: 45.0DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:DAMIN  
 Test Date:2023-09-14

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 1.0DEG  
 Test System:EVERFINE GO-SPEX500\_V1 SYSTEM V2.00.453  
 Humidity:65.0%  
 Test Distance:3.090m [K=1.0000]  
 Remarks:

## LUMINANCE LIMITATION CURVES

Test:U:240.4V I:0.0445A P:10.0W PF:0.9308 Freq:49.99Hz		
UTHDi:0.23% ITHDi:19.73% KDisp:0.9493 Lamp Flux:932.543x1 lm		
NAME: MD10-10-XX-01 4000K RA90 60D	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: Norming Lighting	SUR.:	Shielding Angle:



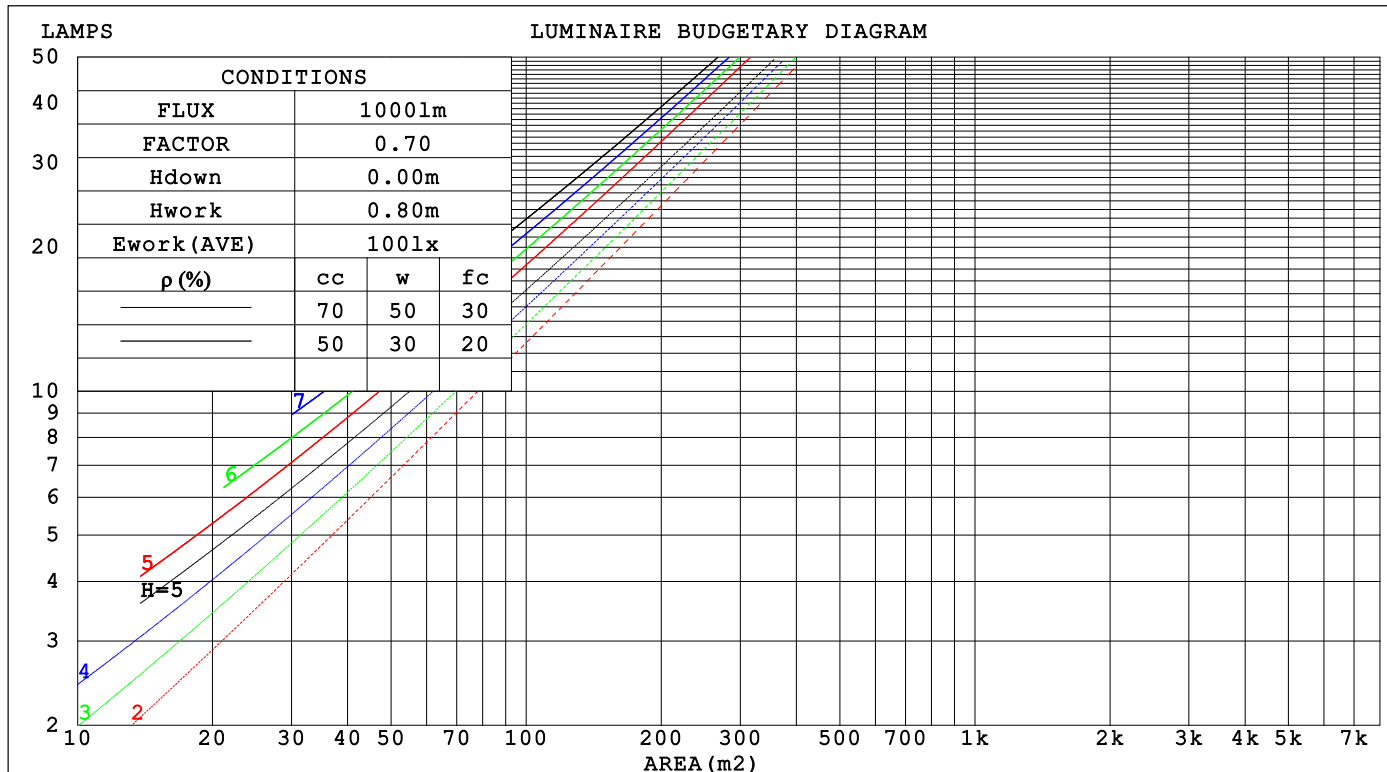
C Range: 0 - 360DEG  
C Interval: 45.0DEG  
Test Speed: HIGH  
Temperature: 25.3DEG  
Operators: DAMIN  
Test Date: 2023-09-14

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 1.0DEG  
Test System: EVERFINE GO-SPEX500\_V1 SYSTEM V2.00.453  
Humidity: 65.0%  
Test Distance: 3.090m [K=1.0000]  
Remarks:

## CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

Test:U:240.4V I:0.0445A P:10.0W PF:0.9308 Freq:49.99Hz		
UTHDi:0.23% ITHDi:19.73% KDisp:0.9493 Lamp Flux:932.543x1 lm		
NAME: MD10-10-XX-01 4000K RA90 60D	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: Norming Lighting	SUR.:	Shielding Angle:

pcc	80%			70%			50%			30%			10%			0
p <sub>w</sub>	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
p <sub>fc</sub>	20%			20%			20%			20%			20%			0
RCR	RCR:Room Cavity Ratio															



C Range: 0 - 360DEG  
C Interval: 45.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:DAMIN  
Test Date:2023-09-14

γ Range: 0 - 90DEG  
γ Interval: 1.0DEG  
Test System:EVERFINE GO-SPEX500\_V1 SYSTEM V2.00.453  
Humidity:65.0%  
Test Distance:3.090m [K=1.0000]  
Remarks:

### WEC AND CCEC

Test:U:240.4V I:0.0445A P:10.0W PF:0.9308 Freq:49.99Hz			UTHDi:0.23% ITHDi:19.73% KDisp:0.9493			Lamp Flux:932.543x1 lm		
NAME: MD10-10-XX-01 4000K RA90 60D			TYPE:			WEIGHT:		
SPEC.:			DIM.:			SERIAL No.:		
MFR.: Norming Lighting			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	.185	.105	.033	.178	.102	.032	.166	.095	.030	.154	.089	.028	.143	.083	.027		
2.0	.178	.098	.030	.172	.095	.029	.162	.090	.028	.152	.085	.027	.143	.081	.025		
3.0	.170	.091	.027	.165	.088	.027	.156	.085	.026	.148	.081	.025	.140	.077	.024		
4.0	.162	.084	.025	.158	.083	.024	.150	.080	.024	.143	.077	.023	.136	.074	.022		
5.0	.154	.079	.023	.151	.077	.023	.144	.075	.022	.137	.072	.022	.131	.070	.021		
6.0	.147	.074	.021	.144	.073	.021	.138	.071	.021	.132	.069	.020	.127	.067	.020		
7.0	.140	.069	.020	.138	.069	.020	.132	.067	.019	.127	.065	.019	.122	.064	.019		
8.0	.134	.066	.018	.132	.065	.018	.127	.063	.018	.122	.062	.018	.118	.061	.018		
9.0	.128	.062	.017	.126	.061	.017	.122	.060	.017	.118	.059	.017	.114	.058	.017		
10.0	.123	.059	.016	.121	.058	.016	.117	.057	.016	.113	.056	.016	.110	.055	.016		

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	.172	.157	.144	.147	.135	.124	.100	.093	.086	.058	.054	.050	.019	.017	.016		
2.0	.157	.132	.112	.135	.114	.097	.092	.079	.067	.053	.046	.040	.017	.015	.013		
3.0	.145	.114	.088	.125	.098	.077	.085	.068	.054	.049	.040	.032	.016	.013	.010		
4.0	.135	.099	.071	.116	.086	.062	.080	.060	.044	.046	.035	.026	.015	.011	.008		
5.0	.127	.088	.058	.109	.076	.051	.075	.053	.036	.044	.031	.021	.014	.010	.007		
6.0	.120	.078	.049	.103	.068	.042	.071	.048	.030	.041	.028	.018	.013	.009	.006		
7.0	.113	.071	.041	.098	.061	.036	.067	.043	.025	.039	.025	.015	.013	.008	.005		
8.0	.108	.065	.035	.093	.056	.031	.064	.039	.022	.037	.023	.013	.012	.008	.004		
9.0	.103	.060	.031	.088	.052	.027	.061	.036	.019	.036	.021	.011	.012	.007	.004		
10.0	.098	.055	.027	.085	.048	.023	.059	.034	.017	.034	.020	.010	.011	.007	.003		

C Range: 0 - 360DEG  
C Interval: 45.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:DAMIN  
Test Date:2023-09-14

γ Range: 0 - 90DEG  
γ Interval: 1.0DEG  
Test System:EVERFINE GO-SPEX500\_V1 SYSTEM V2.00.453  
Humidity:65.0%  
Test Distance:3.090m [K=1.0000]  
Remarks:

### UGR(Unified Glare Rating) Table

Test:U:240.4V I:0.0445A P:10.0W PF:0.9308 Freq:49.99Hz										
UTHDi:0.23% ITHDi:19.73% KDisp:0.9493						Lamp Flux:932.543x1 lm				
NAME: MD10-10-XX-01 4000K RA90 60D						TYPE:			WEIGHT:	
SPEC.:						DIM.:			SERIAL No.:	
MFR.: Norming Lighting						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	24.3	25.3	24.5	25.5	25.6	24.3	25.3	24.5	25.5	25.6
3H	24.2	25.1	24.4	25.3	25.5	24.2	25.1	24.4	25.3	25.5
4H	24.1	25.0	24.4	25.2	25.4	24.1	25.0	24.4	25.2	25.4
6H	24.0	24.8	24.3	25.1	25.3	24.0	24.8	24.3	25.1	25.3
8H	24.0	24.7	24.3	25.0	25.3	24.0	24.7	24.3	25.0	25.3
12H	23.9	24.7	24.2	24.9	25.2	23.9	24.7	24.2	24.9	25.2
4H 2H	24.1	25.0	24.4	25.2	25.4	24.1	25.0	24.4	25.2	25.4
3H	24.0	24.8	24.3	25.0	25.3	24.0	24.8	24.3	25.0	25.3
4H	23.9	24.6	24.3	24.9	25.2	23.9	24.6	24.3	24.9	25.2
6H	23.8	24.4	24.2	24.8	25.1	23.8	24.4	24.2	24.8	25.1
8H	23.8	24.3	24.2	24.7	25.1	23.8	24.3	24.2	24.7	25.1
12H	23.7	24.2	24.1	24.6	25.0	23.7	24.2	24.2	24.6	25.0
8H 4H	23.8	24.3	24.2	24.7	25.1	23.8	24.3	24.2	24.7	25.1
6H	23.7	24.1	24.1	24.5	24.9	23.7	24.1	24.1	24.5	25.0
8H	23.6	24.0	24.1	24.5	24.9	23.7	24.0	24.1	24.5	24.9
12H	23.6	23.9	24.1	24.4	24.8	23.6	23.9	24.1	24.4	24.8
12H 4H	23.7	24.2	24.1	24.6	25.0	23.7	24.2	24.2	24.6	25.0
6H	23.6	24.0	24.1	24.5	24.9	23.6	24.0	24.1	24.5	24.9
8H	23.6	23.9	24.1	24.4	24.8	23.6	23.9	24.1	24.4	24.8
Variations with the observer position at spacings(CIE Pub.117):										
S = 1.0H	+ 2.7 / - 5.5					+ 2.6 / - 5.3				
1.5H	+ 4.0 / - 3.8					+ 3.8 / - 3.7				
2.0H	+ 4.1 / - 4.9					+ 4.1 / - 4.9				

CIE Pub.117, 932.5 lm Total Lamp Luminous Flux Corrected (8log(F/F0) = -0.2)  
Area: 0.0013 m2

C Range: 0 - 360DEG  
C Interval: 45.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:DAMIN  
Test Date:2023-09-14

γ Range: 0 - 90DEG  
γ Interval: 1.0DEG  
Test System:EVERFINE GO-SPEX500\_V1 SYSTEM V2.00.453  
Humidity:65.0%  
Test Distance:3.090m [K=1.0000]  
Remarks:

### UTILIZATION FACTORS TABLE

Test:U:240.4V I:0.0445A P:10.0W PF:0.9308 Freq:49.99Hz		
UTHDi:0.23% ITHDi:19.73% KDisp:0.9493 Lamp Flux:932.543x1 lm		
NAME: MD10-10-XX-01 4000K RA90 60D	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: Norming Lighting	SUR.:	Shielding Angle:

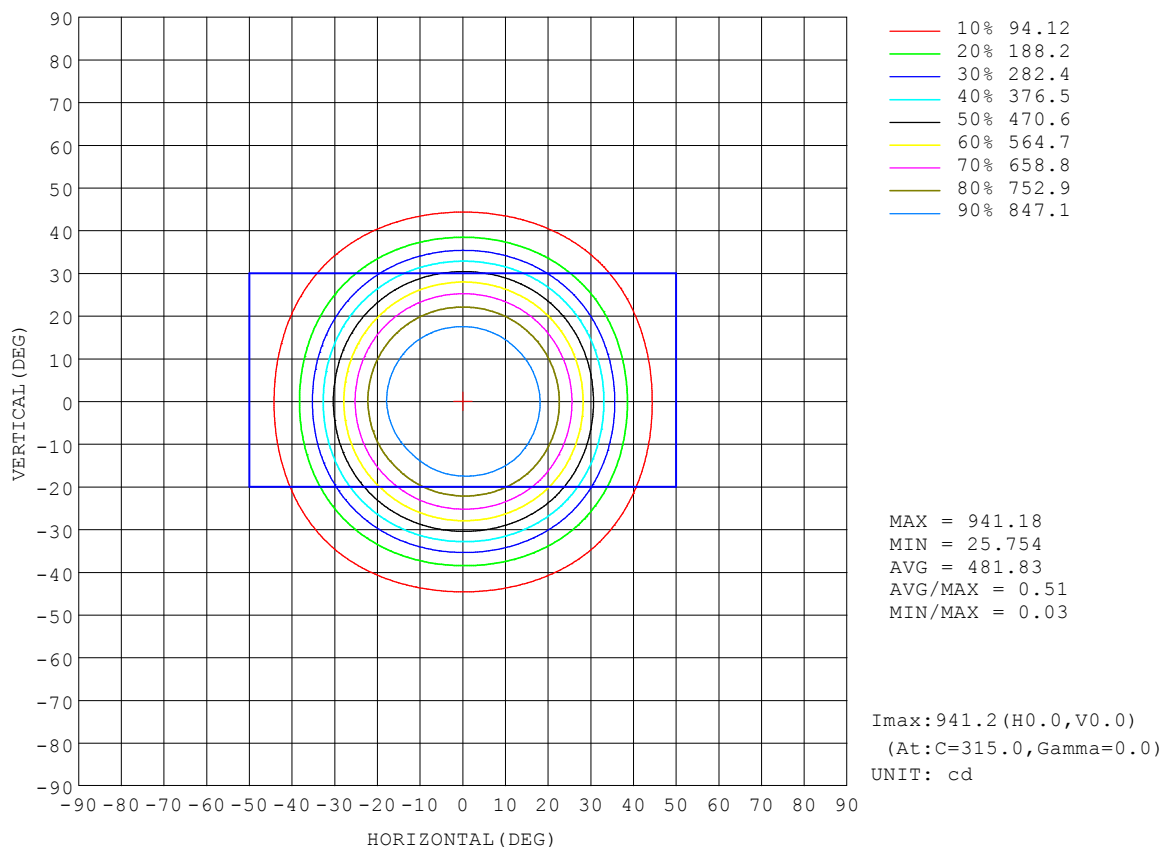
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS (PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	84	77	73	83	77	73	83	77	73	69
0.80	92	86	81	91	85	81	90	85	81	77
1.00	97	91	87	96	91	87	95	91	86	82
1.25	102	96	92	100	95	92	98	94	91	87
1.50	105	99	96	103	99	95	101	97	94	90
2.00	108	103	100	106	102	99	103	100	98	92
2.50	109	105	102	108	104	101	105	102	99	93
3.00	111	108	105	109	106	104	106	103	101	95
4.00	113	110	108	111	109	107	108	106	104	97
5.00	115	112	110	112	110	108	108	107	105	98
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: 25.3DEG  
Operators: DAMIN  
Test Date: 2023-09-14

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 1.0DEG  
Test System: EVERFINE GO-SPEX500\_V1 SYSTEM V2.00.453  
Humidity: 65.0%  
Test Distance: 3.090m [K=1.0000]  
Remarks:

# ISOCANDELA DIAGRAM

Test:U:240.4V I:0.0445A P:10.0W PF:0.9308 Freq:49.99Hz		
UTHDi:0.23% ITHDi:19.73% KDisp:0.9493 Lamp Flux:932.543x1 lm		
NAME: MD10-10-XX-01 4000K RA90 60D	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: Norming Lighting	SUR.:	Shielding Angle:



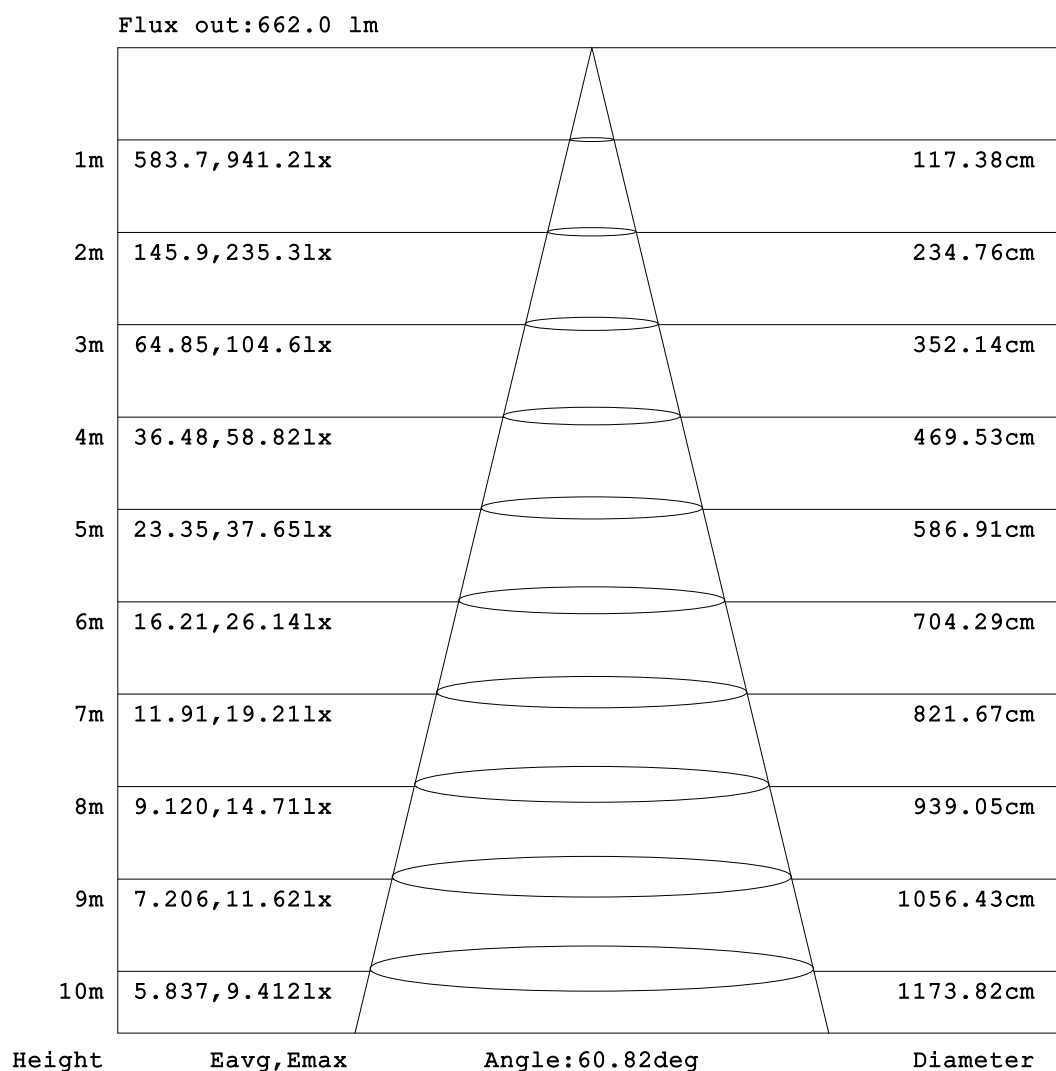
C Range: 0 - 360DEG  
C Interval: 45.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:DAMIN  
Test Date:2023-09-14

γ Range: 0 - 90DEG  
γ Interval: 1.0DEG  
Test System:EVERFINE GO-SPEX500\_V1 SYSTEM V2.00.453  
Humidity:65.0%  
Test Distance:3.090m [K=1.0000]  
Remarks:



AAI Figure

Test:U:240.4V I:0.0445A P:10.0W PF:0.9308 Freq:49.99Hz		
UTHDi:0.23% ITHDi:19.73% KDisp:0.9493 Lamp Flux:932.543x1 lm		
NAME: MD10-10-XX-01 4000K RA90 60D	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: Norming Lighting	SUR.:	Shielding Angle:



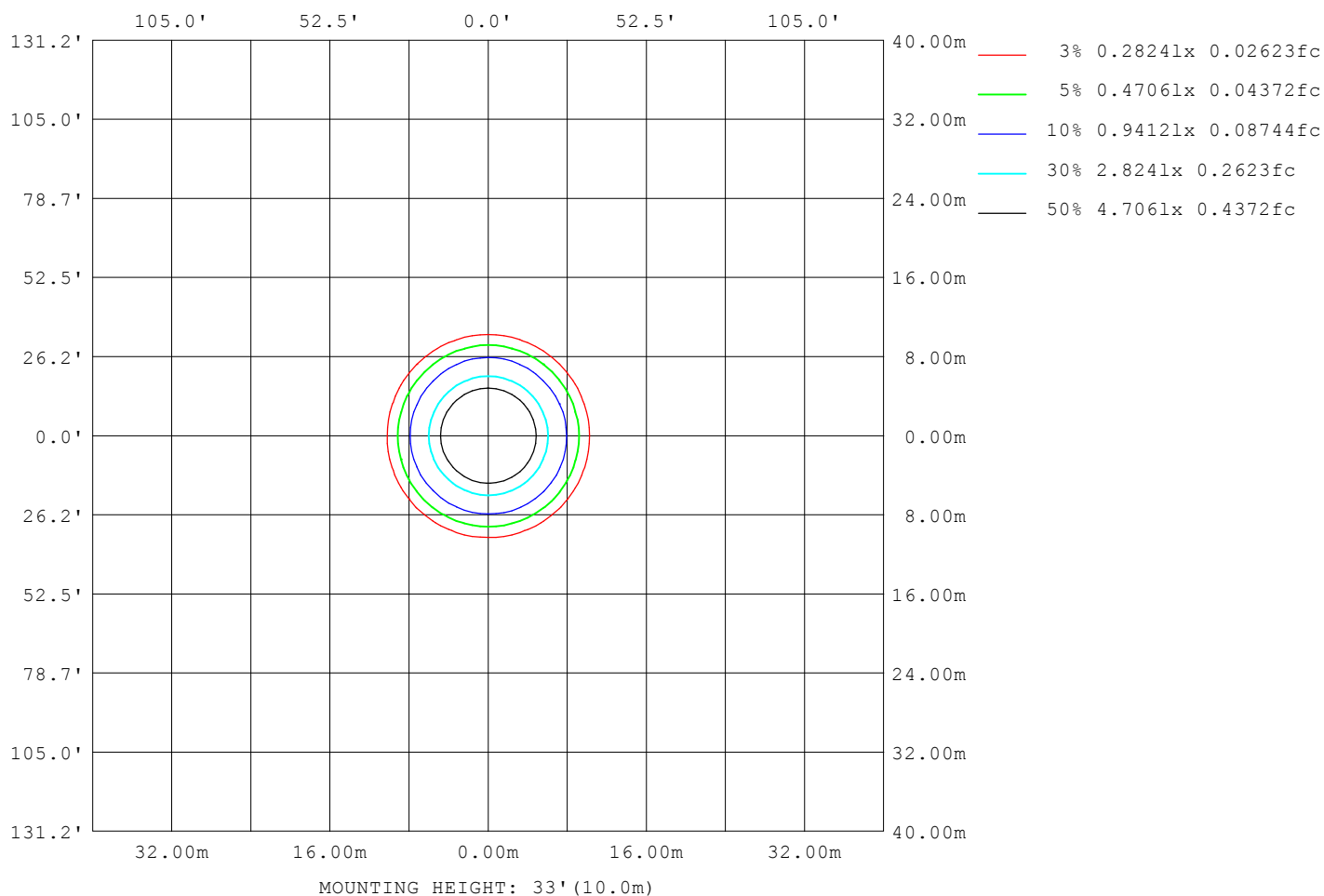
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG  
C Interval: 45.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:DAMIN  
Test Date:2023-09-14

γ Range: 0 - 90DEG  
γ Interval: 1.0DEG  
Test System:EVERFINE GO-SPEX500\_V1 SYSTEM V2.00.453  
Humidity:65.0%  
Test Distance:3.090m [K=1.0000]  
Remarks:

ISOLUX DIAGRAM

Test:U:240.4V I:0.0445A P:10.0W PF:0.9308 Freq:49.99Hz		
UTHDi:0.23% ITHDi:19.73% KDisp:0.9493 Lamp Flux:932.543x1 lm		
NAME: MD10-10-XX-01 4000K RA90 60D	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: Norming Lighting	SUR.:	Shielding Angle:



C Range: 0 - 360DEG  
 C Interval: 45.0DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:DAMIN  
 Test Date:2023-09-14

γ Range: 0 - 90DEG  
 γ Interval: 1.0DEG  
 Test System:EVERFINE GO-SPEX500\_V1 SYSTEM V2.00.453  
 Humidity:65.0%  
 Test Distance:3.090m [K=1.0000]  
 Remarks:

## LED Avg.L Report

Test:U:240.4V I:0.0445A P:10.0W PF:0.9308 Freq:49.99Hz UTHDi:0.23% ITHDi:19.73% KDisp:0.9493 Lamp Flux:932.543x1 lm		
NAME: MD10-10-XX-01 4000K RA90 60D	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: Norming Lighting	SUR.:	Shielding Angle:

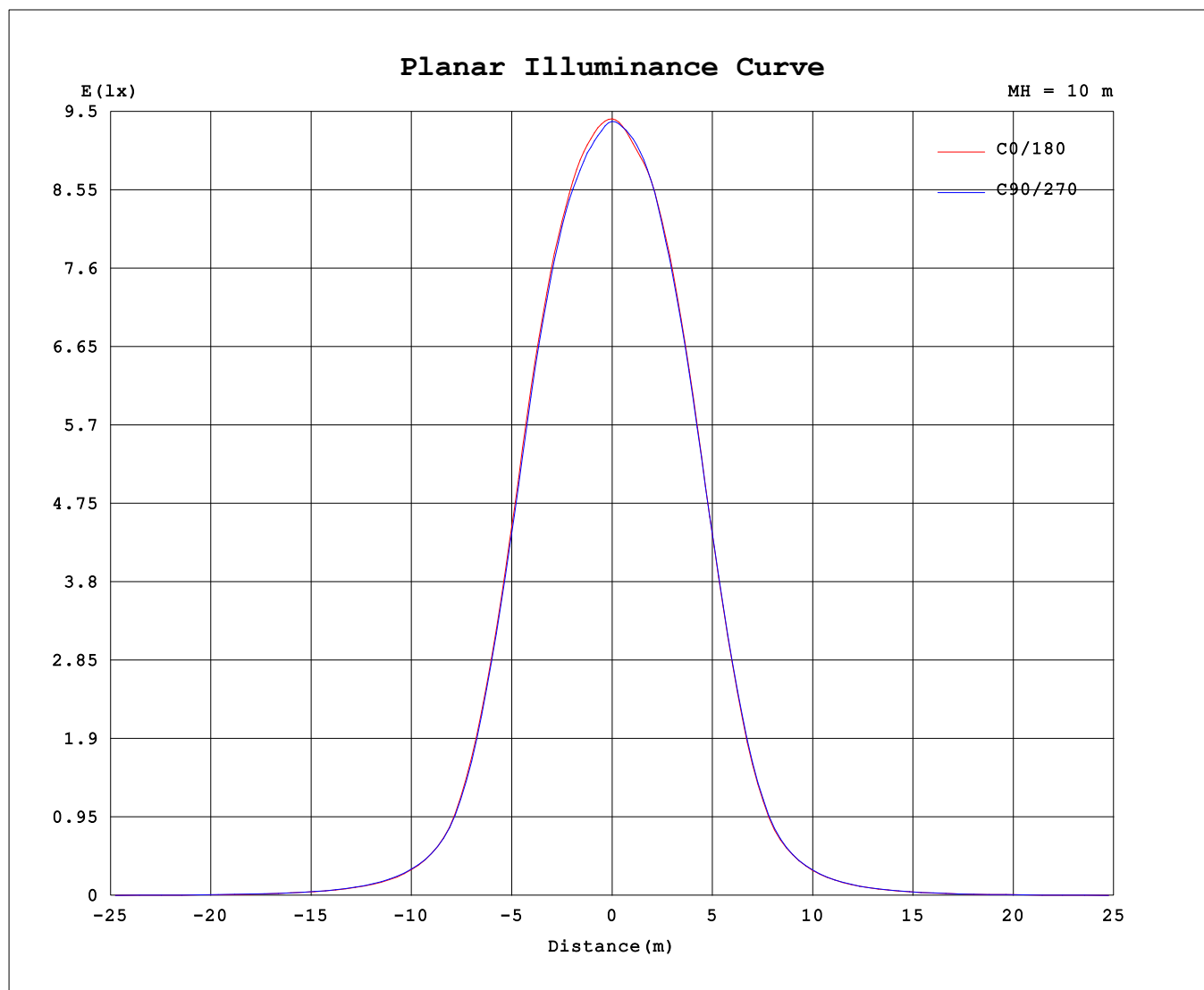
AvgL	cd/m2
L_0~180 (65) av	14828
L_0~180 (75) av	4169
L_0~180 (85) av	3105
L_90~270 (65) av	15591
L_90~270 (75) av	3895
L_90~270 (85) av	86
L_45 (65) av	15185
L_45 (75) av	4185
L_45 (85) av	554

Standard: GB/T 29293-2012

C Range: 0 - 360DEG  
C Interval: 45.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:DAMIN  
Test Date:2023-09-14

γ Range: 0 - 90DEG  
γ Interval: 1.0DEG  
Test System:EVERFINE GO-SPEX500\_V1 SYSTEM V2.00.453  
Humidity:65.0%  
Test Distance:3.090m [K=1.0000]  
Remarks:

## Planar Illuminance Curve



C Range: 0 - 360DEG  
C Interval: 45.0DEG  
Test Speed: HIGH  
Temperature: 25.3DEG  
Operators: DAMIN  
Test Date: 2023-09-14

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 1.0DEG  
Test System: EVERFINE GO-SPEX500\_V1 SYSTEM V2.00.453  
Humidity: 65.0%  
Test Distance: 3.090m [K=1.0000]  
Remarks:

```

γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-SPEX500_V1 SYSTEM V2.00.453
Humidity:65.0%
Test Distance:3.090m [K=1.0000]
Remarks:

```