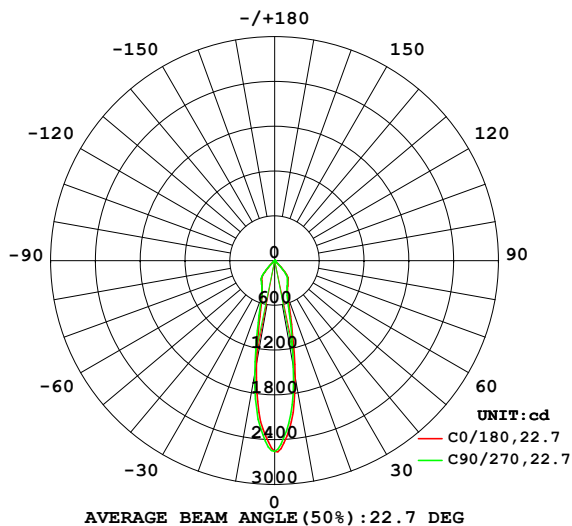


## LUMINAIRE PHOTOMETRIC TEST REPORT

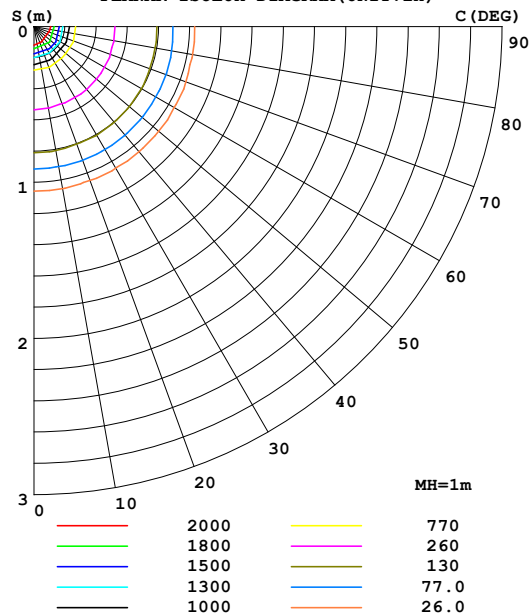
Test:U:240.4V I:0.0446A P:10.0W PF:0.9318 Freq:49.99Hz		
UTHDi:0.16% ITHDi:19.78% KDisp:0.9522 Lamp Flux:907.088x1 lm		
NAME: MD10-10-XX-02 3000K RA90 25D	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: Norming Lighting	SUR.:	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA				Eff: 90.74 lm/W
MODEL		I <sub>max</sub> (cd)	2560	S/MH(C0/180)		0.37
NOMINAL POWER(W)	10	LOR(%)	100.0	S/MH(C90/270)		0.40
RATED VOLTAGE(V)	240	TOTAL FLUX(lm)	907.09	η UP,DN(C0-180)		0.0,49.9
NOMINAL FLUX(lm)	907.088	CIE CLASS	DIRECT	η UP,DN(C180-360)		0.0,50.1
LAMPS INSIDE	1	η up (%)	0.0	CIBSE SHR NOM		0.00
TEST VOLTAGE(V)	240.41	η down (%)	100.0	CIBSE SHR MAX		0.30

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	1582	1545	1449	1418	1414	1460	1550	1587	0- 10	188.9	188.9	20.8,20.8
20	529.4	521.9	500.8	494.7	494.5	505.1	521.9	527.9	10- 20	237.3	426.1	47,47
30	354.5	349.9	346.3	344.2	345.3	347.4	354.2	357.2	20- 30	189.4	615.6	67.9,67.9
40	255.6	247.3	231.7	228.9	227.1	237.0	251.5	256.9	30- 40	191.8	807.3	89,89
50	21.39	22.20	16.54	16.09	16.17	17.02	21.39	21.31	40- 50	82.81	890.2	98.1,98.1
60	5.445	5.179	4.729	4.614	4.675	4.931	5.269	5.534	50- 60	9.040	899.2	99.1,99.1
70	3.468	3.150	2.987	2.882	3.083	3.509	3.592	3.540	60- 70	3.834	903.0	99.6,99.6
80	2.823	2.632	2.257	2.548	2.698	3.036	2.507	2.777	70- 80	3.067	906.1	99.9,99.9
90	0.0093	0.0029	0.0093	0.0019	0.0080	0	0.0080	0.0032	80- 90	0.9888	907.1	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): 870.74 lm

%lum = 96.0%

%lamp = 96.0%

Conical surface Flux(130deg): 901.26 lm

%lum = 99.4%

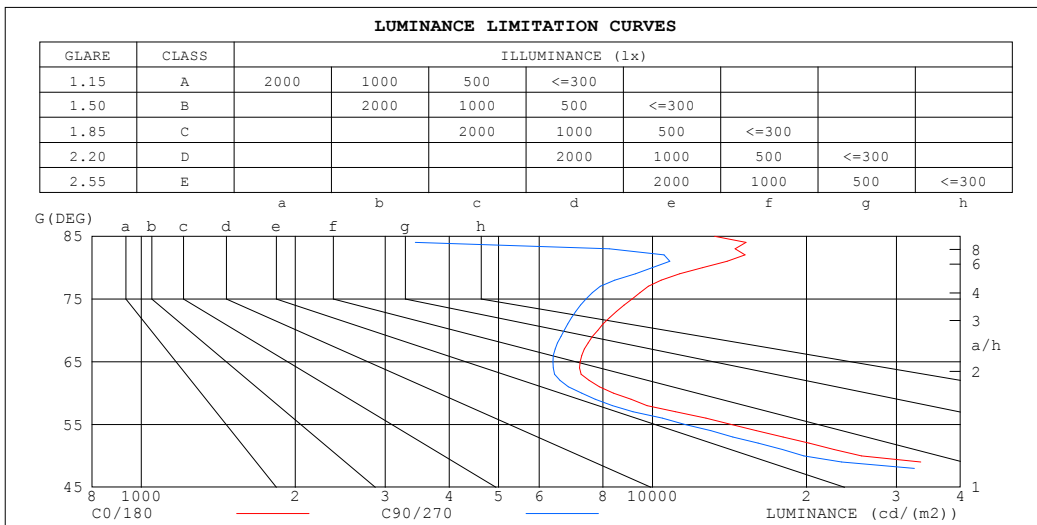
%lamp = 99.4%

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:0.0446A P:10.0W PF:0.9318 Freq:49.99Hz		
UTHDi:0.16% ITHDi:19.78% KDisp:0.9522 Lamp Flux:907.088x1 lm		
NAME: MD10-10-XX-02 3000K RA90 25D	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: Norming Lighting	SUR.:	Shielding Angle:



LUMINANCE cd/(m2)		
G (DEG)	C0/180	C90/270
85	13234	358
80	12526	9991
75	9112	7404
70	7812	6714
65	7213	6388
60	8390	7270
55	14284	11589
50	25643	19783
45	125532	101364

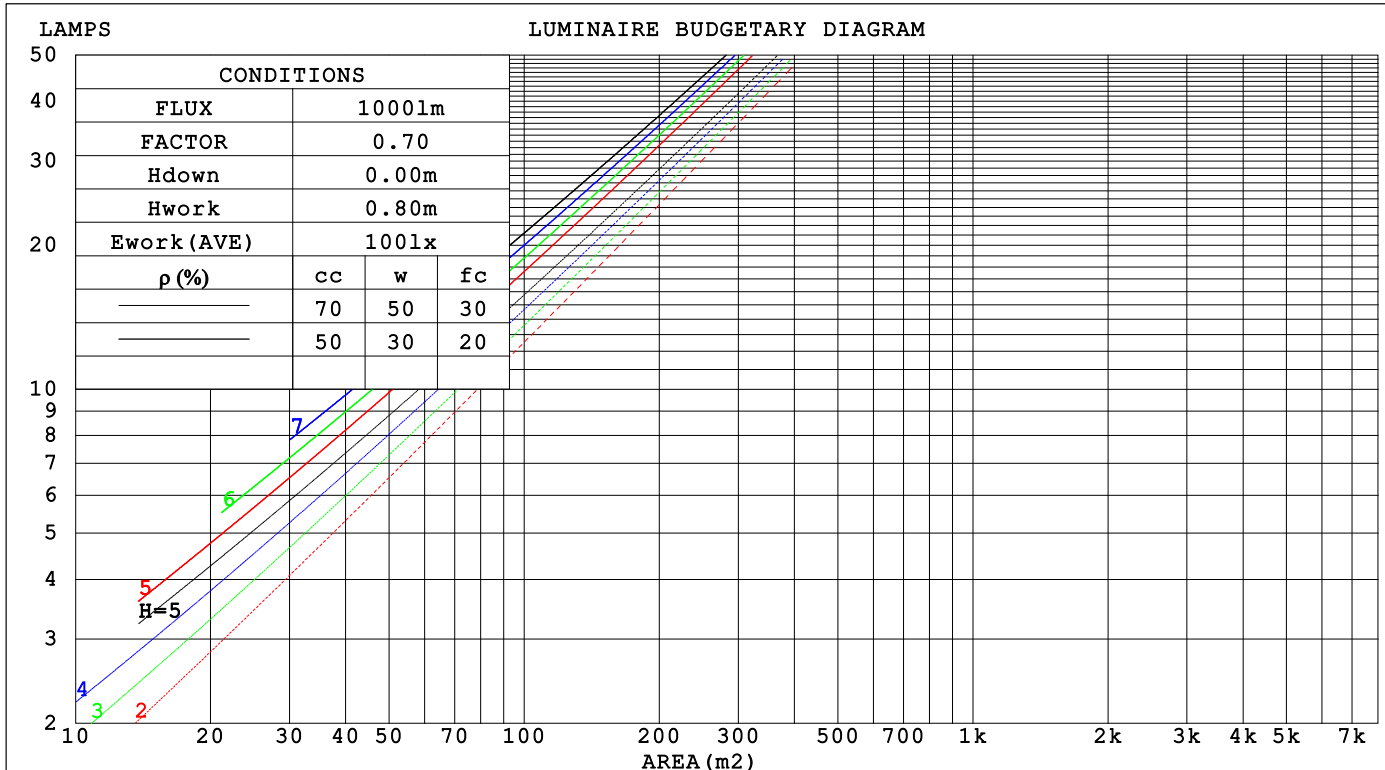
C Range: 0 - 360DEG  
C Interval: 45.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:DAMIN  
Test Date:2023-09-14

$\gamma$  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:0.0446A P:10.0W PF:0.9318 Freq:49.99Hz		
UTHDi:0.16% ITHDi:19.78% KDisp:0.9522		Lamp Flux:907.088x1 lm
NAME: MD10-10-XX-02 3000K RA90 25D	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			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	1.00
1.0	1.11	1.09	1.06	1.09	1.07	1.05	1.05	1.03	1.01	1.01	.00	.98	.98	.97	.96	.94
2.0	1.04	.00	.96	1.02	.98	.95	.99	.96	.93	.96	.93	.91	.93	.91	.89	.88
3.0	.97	.92	.88	.96	.91	.88	.93	.89	.86	.91	.87	.85	.88	.86	.84	.82
4.0	.91	.86	.82	.90	.85	.81	.88	.83	.80	.86	.82	.79	.84	.81	.78	.77
5.0	.86	.80	.76	.85	.79	.76	.83	.78	.75	.81	.77	.74	.80	.76	.74	.72
6.0	.81	.75	.71	.80	.75	.71	.79	.74	.70	.77	.73	.70	.76	.72	.69	.68
7.0	.76	.71	.67	.76	.70	.67	.75	.70	.66	.73	.69	.66	.72	.68	.66	.64
8.0	.73	.67	.63	.72	.67	.63	.71	.66	.63	.70	.66	.62	.69	.65	.62	.61
9.0	.69	.63	.60	.69	.63	.60	.68	.63	.59	.67	.62	.59	.66	.62	.59	.58
10.0	.66	.60	.57	.65	.60	.57	.65	.60	.57	.64	.59	.56	.63	.59	.56	.55



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:0.0446A P:10.0W PF:0.9318 Freq:49.99Hz		
UTHDi:0.16% ITHDi:19.78% KDisp:0.9522		Lamp Flux:907.088x1 lm
NAME: MD10-10-XX-02 3000K RA90 25D	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	.174	.099	.031	.167	.095	.030	.155	.089	.028	.143	.083	.026	.132	.077	.025		
2.0	.166	.091	.028	.160	.088	.027	.150	.083	.026	.140	.079	.025	.131	.074	.023		
3.0	.158	.084	.025	.153	.082	.025	.144	.078	.024	.136	.074	.023	.128	.071	.022		
4.0	.150	.078	.023	.146	.076	.023	.138	.073	.022	.131	.070	.021	.124	.067	.021		
5.0	.142	.072	.021	.139	.071	.021	.132	.069	.020	.126	.066	.020	.120	.064	.019		
6.0	.135	.068	.019	.132	.067	.019	.126	.065	.019	.121	.063	.018	.116	.061	.018		
7.0	.129	.064	.018	.126	.063	.018	.121	.061	.018	.116	.060	.017	.111	.058	.017		
8.0	.123	.060	.017	.121	.059	.017	.116	.058	.017	.112	.057	.016	.107	.055	.016		
9.0	.118	.057	.016	.115	.056	.016	.111	.055	.016	.107	.054	.015	.104	.053	.015		
10.0	.112	.054	.015	.111	.053	.015	.107	.052	.015	.103	.051	.015	.100	.050	.014		

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	.171	.157	.145	.146	.135	.125	.100	.093	.086	.058	.054	.050	.018	.017	.016		
2.0	.155	.133	.113	.133	.114	.098	.091	.079	.068	.053	.046	.040	.017	.015	.013		
3.0	.143	.114	.090	.122	.098	.078	.084	.068	.055	.049	.040	.032	.016	.013	.011		
4.0	.132	.099	.073	.114	.085	.064	.078	.059	.045	.045	.035	.026	.015	.011	.009		
5.0	.123	.087	.060	.106	.075	.052	.073	.053	.037	.042	.031	.022	.014	.010	.007		
6.0	.116	.078	.050	.099	.067	.044	.069	.047	.031	.040	.028	.018	.013	.009	.006		
7.0	.109	.070	.043	.094	.061	.037	.065	.043	.026	.038	.025	.016	.012	.008	.005		
8.0	.103	.064	.037	.089	.055	.032	.061	.039	.023	.036	.023	.014	.012	.008	.004		
9.0	.098	.058	.032	.084	.051	.028	.058	.036	.020	.034	.021	.012	.011	.007	.004		
10.0	.093	.054	.028	.080	.047	.024	.056	.033	.017	.032	.020	.010	.011	.006	.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:0.0446A P:10.0W PF:0.9318 Freq:49.99Hz												
UTHDi:0.16% ITHDi:19.78% KDisp:0.9522						Lamp Flux:907.088x1 lm						
NAME: MD10-10-XX-02 3000K RA90 25D						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		2H	24.6	25.6	24.9	25.7	25.9	24.3	25.2	24.5	25.4	25.5
		3H	24.5	25.3	24.8	25.5	25.7	24.2	25.0	24.4	25.2	25.4
		4H	24.4	25.2	24.7	25.4	25.7	24.1	24.9	24.4	25.1	25.3
		6H	24.4	25.1	24.7	25.4	25.6	24.0	24.8	24.3	25.0	25.3
		8H	24.4	25.1	24.7	25.3	25.6	24.0	24.7	24.3	25.0	25.2
		12H	24.3	25.0	24.7	25.3	25.6	24.0	24.6	24.3	24.9	25.2
4H		2H	24.4	25.2	24.7	25.4	25.6	24.1	24.9	24.3	25.1	25.3
		3H	24.3	24.9	24.6	25.2	25.5	23.9	24.6	24.2	24.9	25.1
		4H	24.2	24.8	24.5	25.1	25.4	23.8	24.5	24.2	24.8	25.1
		6H	24.2	24.7	24.5	25.0	25.4	23.8	24.4	24.2	24.7	25.0
		8H	24.2	24.7	24.6	25.0	25.4	23.8	24.3	24.2	24.6	25.0
		12H	24.2	24.6	24.6	25.0	25.4	23.7	24.2	24.2	24.6	25.0
8H		4H	24.1	24.6	24.5	24.9	25.3	23.7	24.2	24.1	24.6	24.9
		6H	24.1	24.5	24.5	24.9	25.3	23.7	24.1	24.1	24.5	24.9
		8H	24.1	24.5	24.5	24.9	25.3	23.7	24.1	24.2	24.5	24.9
		12H	24.1	24.4	24.6	24.9	25.3	23.7	24.0	24.1	24.4	24.9
12H		4H	24.0	24.5	24.4	24.9	25.2	23.7	24.1	24.1	24.5	24.9
		6H	24.0	24.4	24.5	24.8	25.3	23.7	24.0	24.1	24.5	24.9
		8H	24.1	24.4	24.5	24.8	25.3	23.7	24.0	24.1	24.4	24.9
Variations with the observer position at spacings(CIE Pub.117):												
S = 1.0H		+ 2.5 / - 8.9					+ 2.5 / - 9.5					
1.5H		+ 4.5 / - 8.8					+ 4.6 / - 9.1					
2.0H		+ 7.3 / - 4.3					+ 7.1 / - 4.1					

CIE Pub.117, 907.1 lm Total Lamp Luminous Flux Corrected (8log(F/F0) = -0.3)  
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:0.0446A P:10.0W PF:0.9318 Freq:49.99Hz		
UTHDi:0.16% ITHDi:19.78% KDisp:0.9522 Lamp Flux:907.088x1 lm		
NAME: MD10-10-XX-02 3000K RA90 25D	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: Norming Lighting	SUR.:	Shielding Angle:

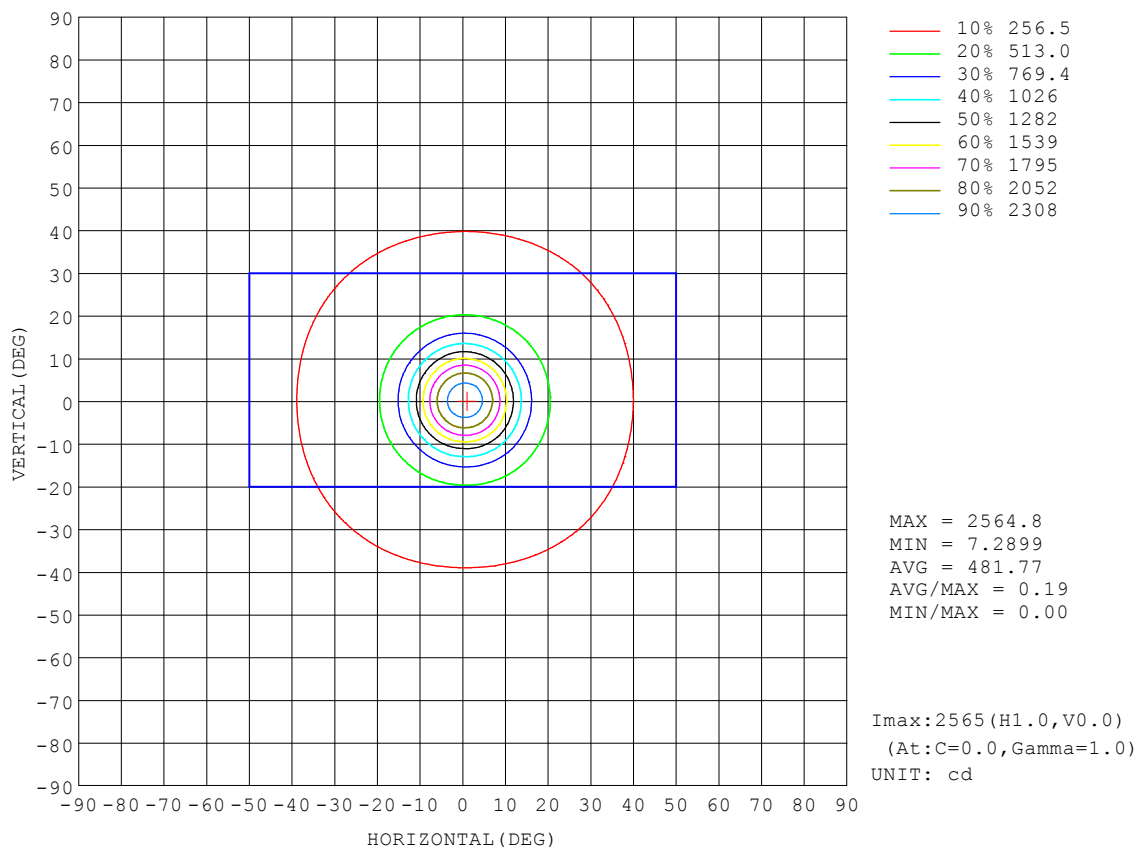
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS (PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	85	78	74	84	78	74	83	77	74	70
0.80	93	86	82	92	86	82	91	85	82	78
1.00	98	92	88	97	91	87	95	91	87	83
1.25	102	96	93	101	96	92	99	95	92	87
1.50	105	100	96	104	99	96	101	98	95	90
2.00	108	103	100	106	102	99	104	100	98	93
2.50	110	106	102	108	104	102	105	102	100	94
3.00	111	108	105	109	106	104	106	104	102	95
4.00	113	110	108	111	109	107	108	106	104	97
5.00	115	112	110	112	110	109	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:0.0446A P:10.0W PF:0.9318 Freq:49.99Hz		
UTHDi:0.16% ITHDi:19.78% KDisp:0.9522 Lamp Flux:907.088x1 lm		
NAME: MD10-10-XX-02 3000K RA90 25D	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: Norming Lighting	SUR.:	Shielding Angle:



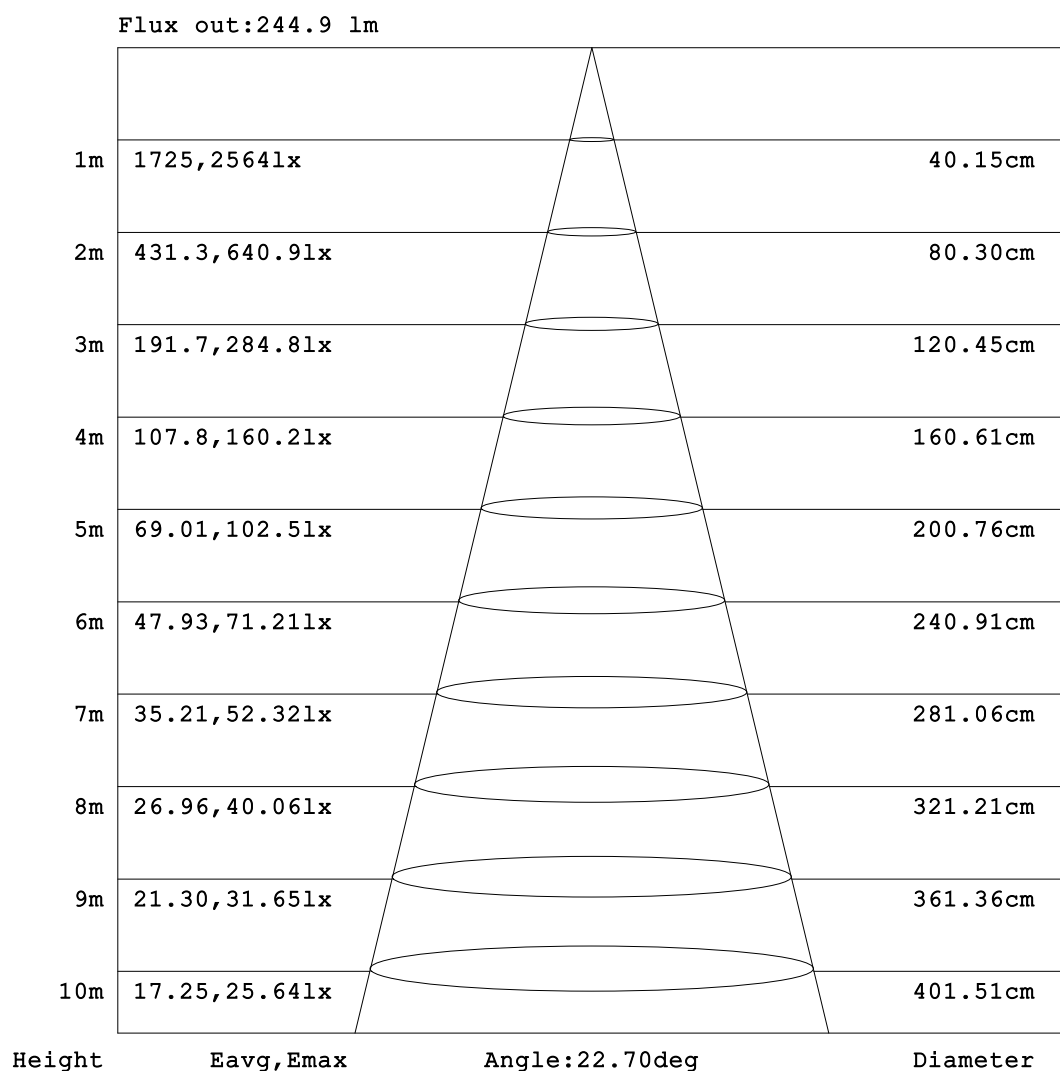
C Range: 0 - 360DEG  
C Interval: 45.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:DAMIN  
Test Date:2023-09-14

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:0.0446A P:10.0W PF:0.9318 Freq:49.99Hz		
UTHDi:0.16% ITHDi:19.78% KDisp:0.9522 Lamp Flux:907.088x1 lm		
NAME: MD10-10-XX-02 3000K RA90 25D	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: Norming Lighting	SUR.:	Shielding Angle:



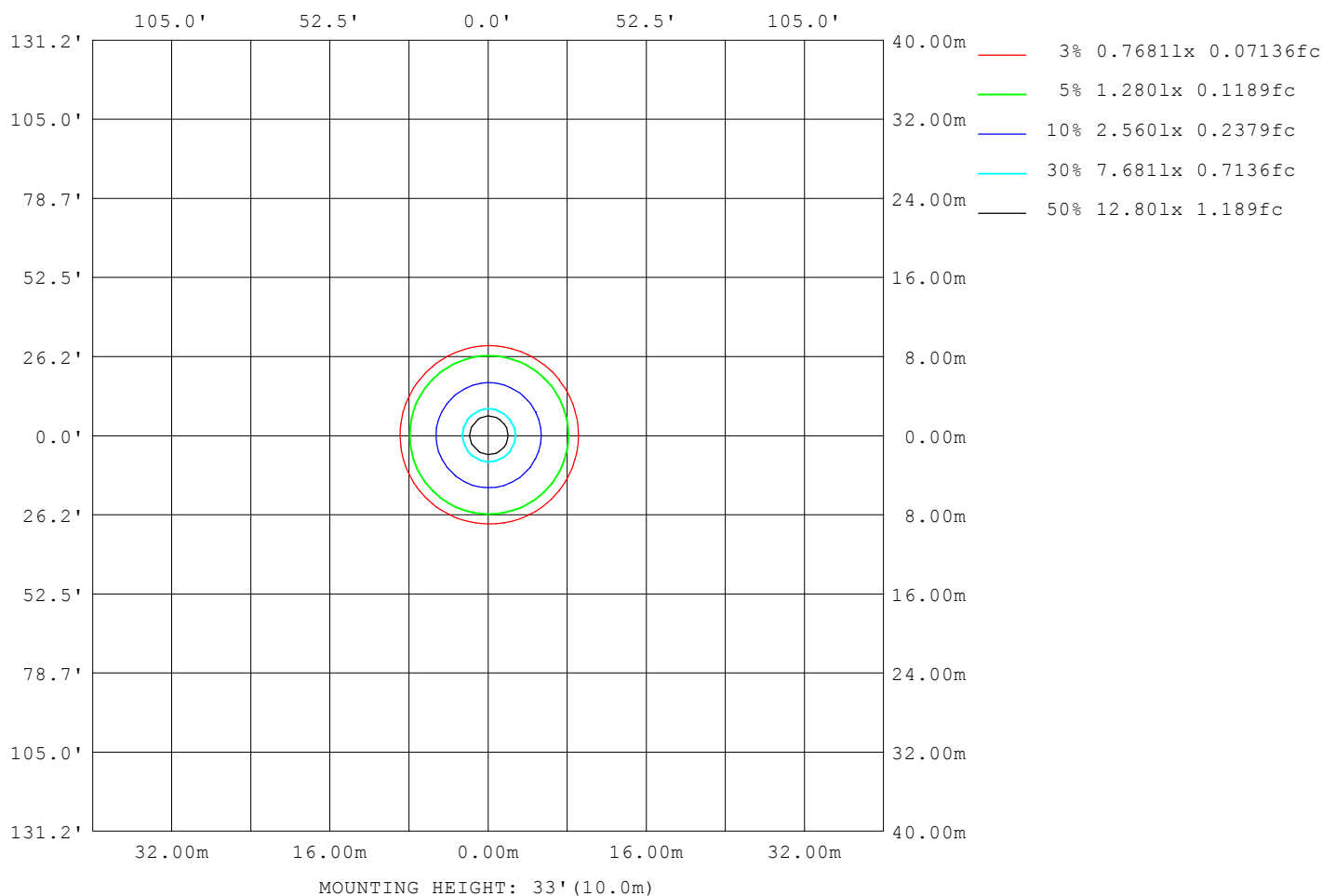
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

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:0.0446A P:10.0W PF:0.9318 Freq:49.99Hz		
UTHDi:0.16% ITHDi:19.78% KDisp:0.9522 Lamp Flux:907.088x1 lm		
NAME: MD10-10-XX-02 3000K RA90 25D	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:0.0446A P:10.0W PF:0.9318 Freq:49.99Hz		
UTHDi:0.16% ITHDi:19.78% KDisp:0.9522 Lamp Flux:907.088x1 lm		
NAME: MD10-10-XX-02 3000K RA90 25D	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: Norming Lighting	SUR.:	Shielding Angle:

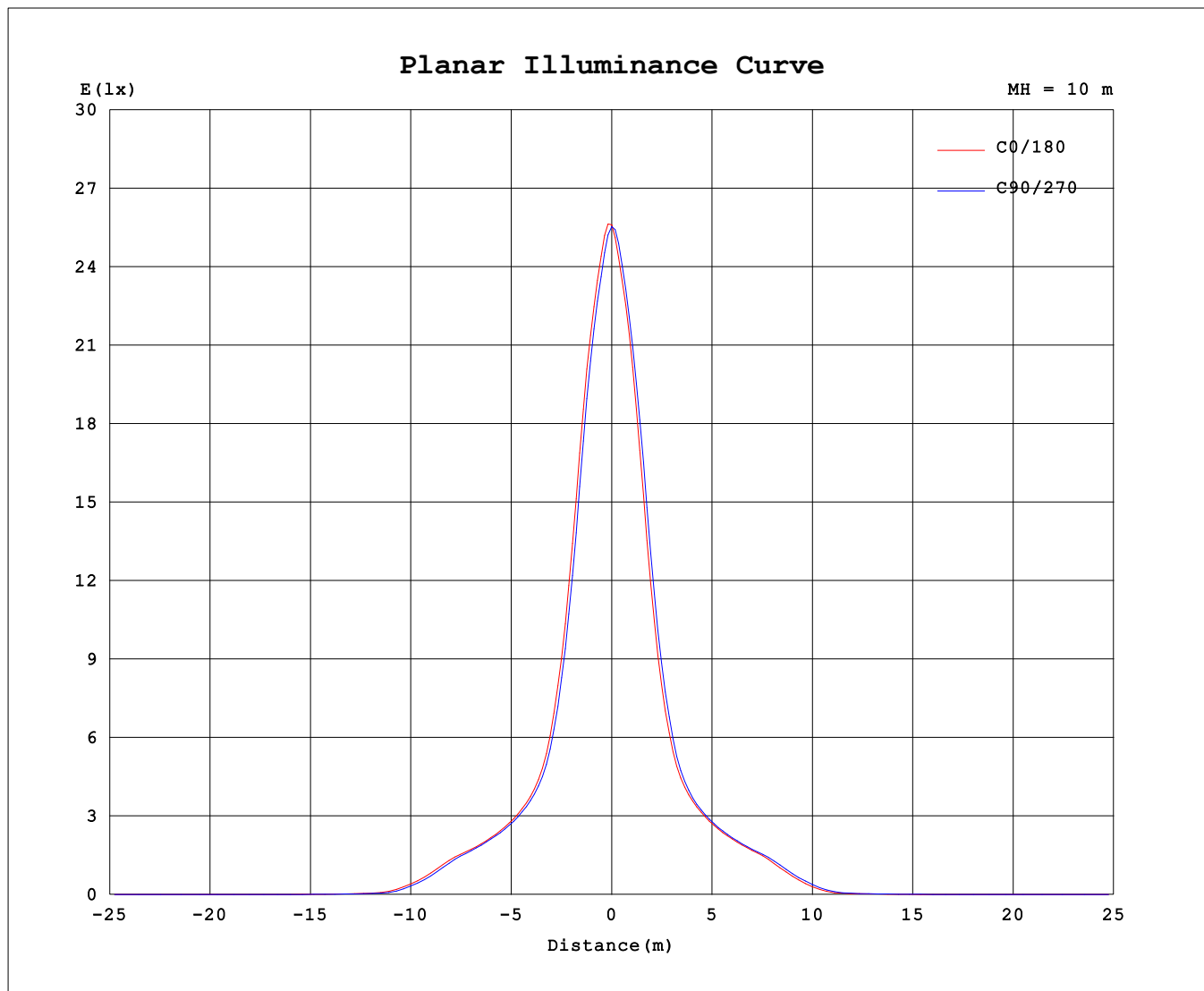
AvgL	cd/m2
L_0~180 (65) av	6826
L_0~180 (75) av	8588
L_0~180 (85) av	11954
L_90~270 (65) av	6821
L_90~270 (75) av	8401
L_90~270 (85) av	236
L_45 (65) av	6836
L_45 (75) av	8525
L_45 (85) av	1424

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:

```