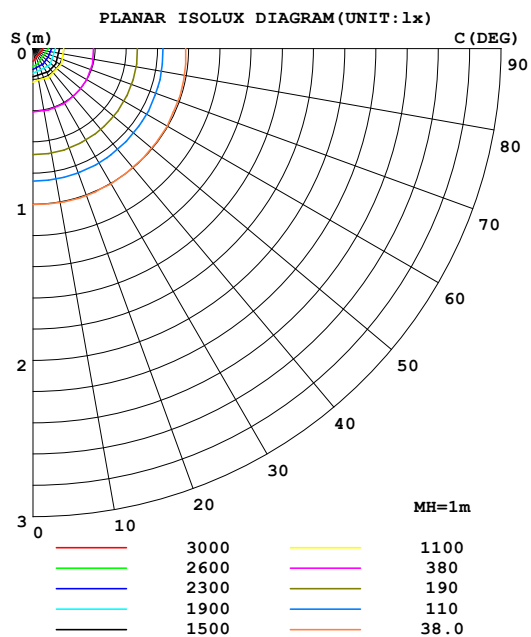
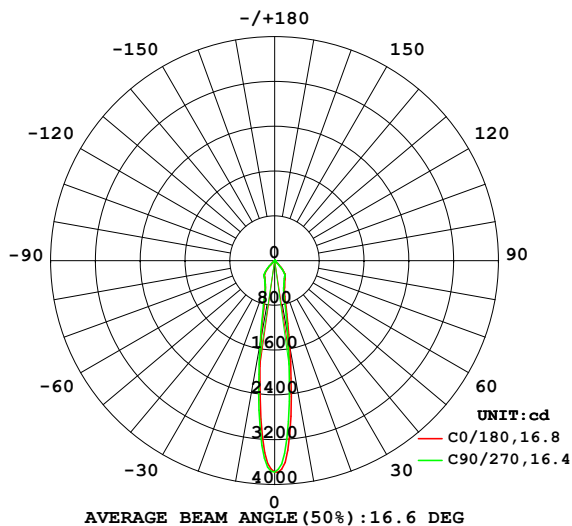


## LUMINAIRE PHOTOMETRIC TEST REPORT

Test:U:240.4V I:0.0446A P:10.0W PF:0.9313 Freq:49.99Hz		
UTHDi:0.23% ITHDi:19.41% KDisp:0.9499 Lamp Flux:933.786x1 lm		
NAME: MD10-10-XX-02 4000K RA90 15D	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: Norming Lighting	SUR.:	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA				Eff: 93.50 lm/W
MODEL		I <sub>max</sub> (cd)	3792	S/MH (C0/180)	0.28	
NOMINAL POWER(W)	10	LOR (%)	100.0	S/MH (C90/270)	0.30	
RATED VOLTAGE(V)	240	TOTAL FLUX(lm)	933.79	η UP,DN (C0-180)	0.0,49.7	
NOMINAL FLUX(lm)	933.786	CIE CLASS	DIRECT	η UP,DN (C180-360)	0.0,50.3	
LAMPS INSIDE	1	η up (%)	0.0	CIBSE SHR NOM	0.00	
TEST VOLTAGE(V)	240.34	η down (%)	100.0	CIBSE SHR MAX	0.30	

LUMINOUS INTENSITY DISTRIBUTION DIAGRAM



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	1568	1530	1366	1321	1406	1388	1511	1598	0- 10	229.9	229.9	24.6,24.6
20	518.5	508.3	487.1	482.6	488.3	479.5	500.6	514.3	10- 20	213.6	443.5	47.5,47.5
30	367.6	366.1	356.2	353.2	361.8	363.2	366.2	369.5	20- 30	193.3	636.7	68.2,68.2
40	257.3	252.5	236.9	231.4	238.2	241.9	264.2	268.3	30- 40	199.9	836.7	89.6,89.6
50	16.68	15.68	14.12	14.32	14.63	14.50	16.54	18.20	40- 50	81.88	918.5	98.4,98.4
60	4.578	4.648	4.696	4.499	4.385	4.671	4.954	4.869	50- 60	6.889	925.4	99.1,99.1
70	3.546	3.517	3.590	3.431	3.281	3.556	3.686	3.709	60- 70	3.974	929.4	99.5,99.5
80	2.881	2.849	2.587	2.537	2.513	2.472	2.367	2.567	70- 80	3.305	932.7	99.9,99.9
90	0.0177	0.0071	0.0190	0.0074	0.0109	0.0106	0.0125	0.0064	80- 90	1.072	933.8	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): 900.35 lm

%lum = 96.4%

%lamp = 96.4%

Conical surface Flux(130deg): 927.51 lm

%lum = 99.3%

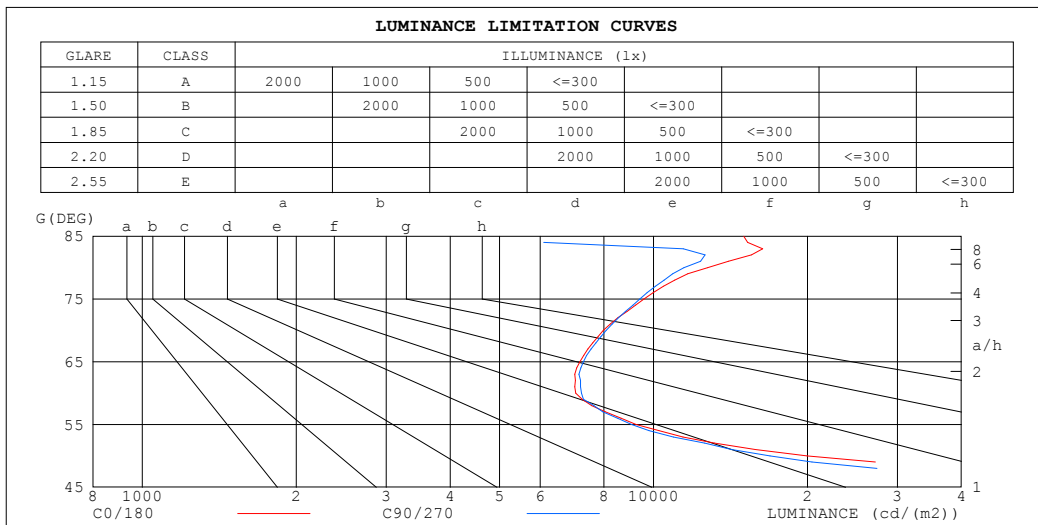
%lamp = 99.3%

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:0.9313 Freq:49.99Hz		
UTHDi:0.23% ITHDi:19.41% KDisp:0.9499 Lamp Flux:933.786x1 lm		
NAME: MD10-10-XX-02 4000K RA90 15D	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: Norming Lighting	SUR.:	Shielding Angle:



LUMINANCE cd/(m2)		
G (DEG)	C0/180	C90/270
85	15018	423
80	12763	11469
75	9578	9398
70	7976	8080
65	7175	7288
60	7044	7230
55	9256	9067
50	19970	16904
45	115138	90881

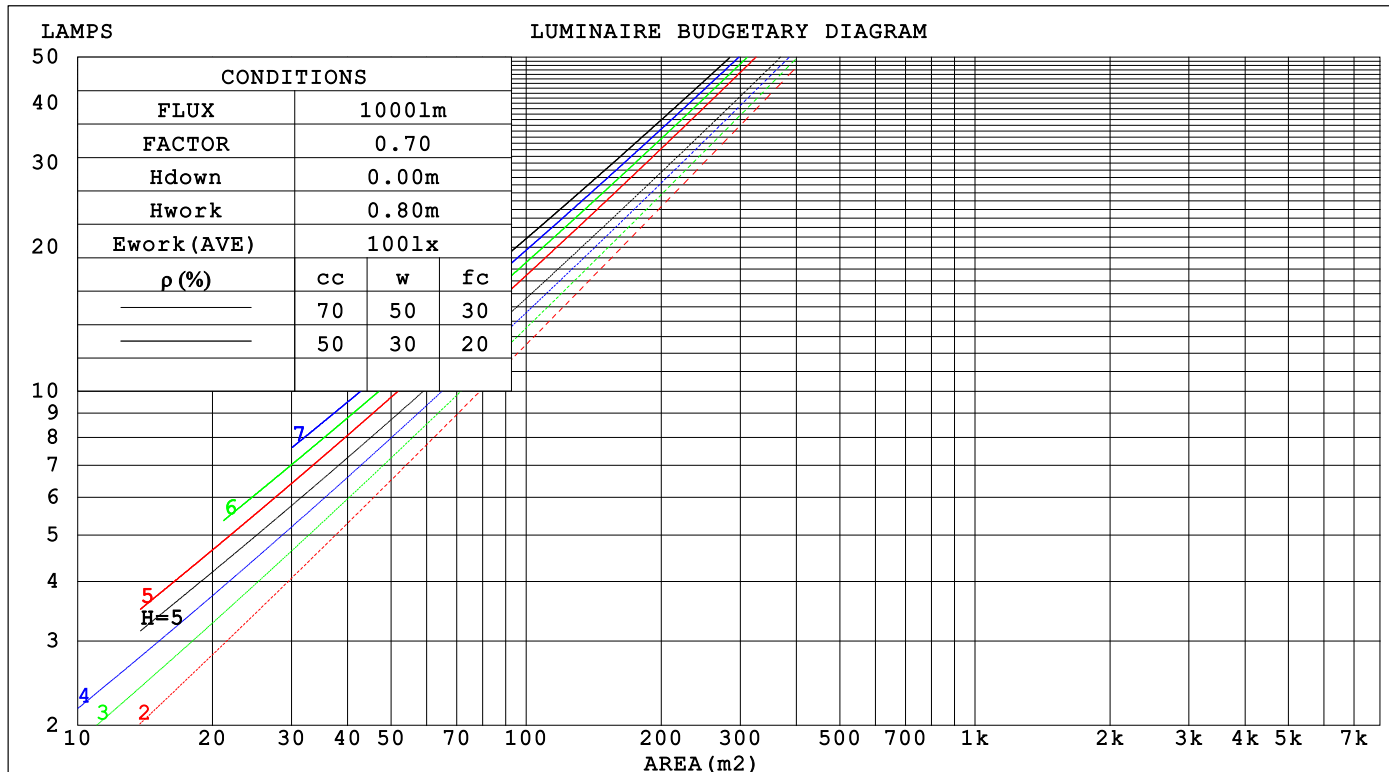
C Range: 0 - 360DEG  
C Interval: 45.0DEG  
Test Speed: HIGH  
Temperature: 25.3DEG  
Operators: DAMIN  
Test Date: 2023-09-14

$\gamma$  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:0.9313 Freq:49.99Hz		
UTHDi:0.23% ITHDi:19.41% KDisp:0.9499		Lamp Flux:933.786x1 lm
NAME: MD10-10-XX-02 4000K RA90 15D	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															



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:0.9313 Freq:49.99Hz			UTHDi:0.23% ITHDi:19.41% KDisp:0.9499			Lamp Flux:933.786x1 lm		
NAME: MD10-10-XX-02 4000K RA90 15D			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	.171	.097	.031	.165	.094	.030	.152	.087	.028	.140	.081	.026	.130	.075	.024		
2.0	.163	.089	.027	.158	.087	.027	.147	.082	.025	.137	.077	.024	.128	.073	.023		
3.0	.155	.082	.025	.150	.080	.024	.141	.076	.023	.133	.073	.022	.125	.069	.021		
4.0	.147	.076	.022	.143	.075	.022	.135	.072	.021	.128	.069	.021	.121	.066	.020		
5.0	.139	.071	.021	.136	.070	.020	.129	.067	.020	.123	.065	.019	.117	.063	.019		
6.0	.133	.066	.019	.129	.065	.019	.124	.063	.018	.118	.061	.018	.113	.060	.018		
7.0	.126	.062	.018	.124	.062	.018	.118	.060	.017	.114	.058	.017	.109	.057	.017		
8.0	.120	.059	.017	.118	.058	.016	.113	.057	.016	.109	.055	.016	.105	.054	.016		
9.0	.115	.056	.016	.113	.055	.015	.109	.054	.015	.105	.053	.015	.101	.051	.015		
10.0	.110	.053	.015	.108	.052	.015	.104	.051	.014	.101	.050	.014	.098	.049	.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	.114	.133	.114	.098	.091	.079	.068	.052	.046	.040	.017	.015	.013		
3.0	.142	.114	.091	.122	.098	.079	.084	.068	.055	.048	.040	.032	.016	.013	.011		
4.0	.132	.099	.074	.113	.085	.064	.078	.059	.045	.045	.035	.027	.014	.011	.009		
5.0	.123	.087	.061	.105	.075	.053	.073	.053	.037	.042	.031	.022	.014	.010	.007		
6.0	.115	.078	.051	.099	.067	.044	.068	.047	.031	.039	.028	.019	.013	.009	.006		
7.0	.108	.070	.043	.093	.061	.038	.064	.042	.027	.037	.025	.016	.012	.008	.005		
8.0	.102	.063	.037	.088	.055	.032	.061	.039	.023	.035	.023	.014	.011	.007	.005		
9.0	.097	.058	.032	.083	.050	.028	.058	.035	.020	.034	.021	.012	.011	.007	.004		
10.0	.092	.054	.028	.079	.047	.025	.055	.033	.018	.032	.019	.010	.010	.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:0.9313 Freq:49.99Hz UTHDi:0.23% ITHDi:19.41% KDisp:0.9499Lamp Flux:933.786x1 lm										
NAME: MD10-10-XX-02 4000K RA90 15D						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	24.6	25.5	24.8	25.6	25.8	24.3	25.2	24.5	25.4	25.5
3H	24.5	25.3	24.7	25.5	25.7	24.2	25.0	24.4	25.2	25.4
4H	24.4	25.2	24.7	25.4	25.6	24.1	24.9	24.4	25.1	25.3
6H	24.3	25.1	24.6	25.3	25.6	24.1	24.8	24.3	25.0	25.3
8H	24.3	25.0	24.6	25.3	25.5	24.0	24.7	24.3	25.0	25.3
12H	24.3	25.0	24.6	25.3	25.5	24.0	24.7	24.3	24.9	25.2
4H 2H	24.4	25.1	24.6	25.3	25.6	24.1	24.8	24.3	25.1	25.3
3H	24.2	24.9	24.5	25.2	25.4	23.9	24.6	24.2	24.9	25.1
4H	24.2	24.8	24.5	25.1	25.4	23.9	24.5	24.2	24.8	25.1
6H	24.1	24.7	24.5	25.0	25.3	23.8	24.4	24.2	24.7	25.1
8H	24.1	24.6	24.5	25.0	25.4	23.8	24.3	24.2	24.7	25.1
12H	24.1	24.6	24.6	25.0	25.4	23.8	24.3	24.2	24.6	25.0
8H 4H	24.0	24.5	24.4	24.9	25.3	23.8	24.3	24.1	24.6	25.0
6H	24.0	24.4	24.5	24.8	25.3	23.8	24.2	24.2	24.6	25.0
8H	24.1	24.4	24.5	24.9	25.3	23.8	24.1	24.2	24.6	25.0
12H	24.1	24.4	24.6	24.9	25.3	23.7	24.1	24.2	24.5	25.0
12H 4H	24.0	24.4	24.4	24.8	25.2	23.7	24.2	24.1	24.5	24.9
6H	24.0	24.4	24.5	24.8	25.2	23.7	24.1	24.2	24.5	24.9
8H	24.1	24.4	24.5	24.8	25.3	23.8	24.1	24.2	24.5	25.0
Variations with the observer position at spacings(CIE Pub.117):										
S = 1.0H	+ 2.5 / - 8.7					+ 2.5 / - 8.8				
1.5H	+ 4.6 / - 8.8					+ 4.8 / - 8.7				
2.0H	+ 7.2 / - 3.5					+ 6.6 / - 2.9				

CIE Pub.117, 933.8 lm Total Lamp Luminous Flux Corrected ( $8\log(F/F_0) = -0.2$ )  
Area: 0.0013 m<sup>2</sup>

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:

### UTILIZATION FACTORS TABLE

Test:U:240.4V I:0.0446A P:10.0W PF:0.9313 Freq:49.99Hz		
UTHDi:0.23% ITHDi:19.41% KDisp:0.9499 Lamp Flux:933.786x1 lm		
NAME: MD10-10-XX-02 4000K RA90 15D	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: Norming Lighting	SUR.:	Shielding Angle:

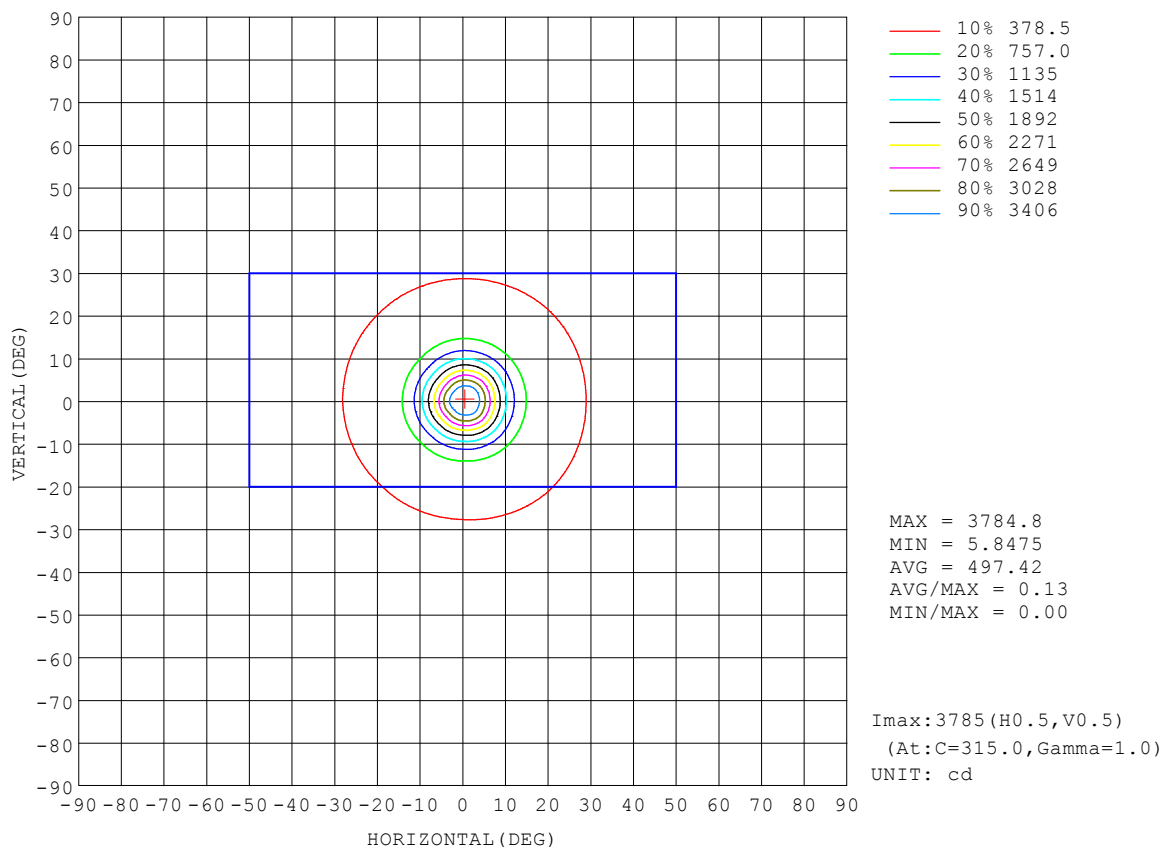
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS (PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	85	78	74	85	78	74	84	78	74	70
0.80	93	87	83	92	86	83	91	86	82	78
1.00	98	92	88	97	91	88	95	91	87	83
1.25	102	97	93	101	96	93	99	95	92	88
1.50	105	100	97	104	99	96	102	98	95	90
2.00	108	104	100	107	103	100	104	101	98	93
2.50	110	106	103	108	104	102	105	102	100	94
3.00	111	108	105	110	106	104	106	104	102	95
4.00	113	110	108	111	109	107	108	106	104	97
5.00	115	112	110	113	110	109	109	107	106	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:0.9313 Freq:49.99Hz		
UTHDi:0.23% ITHDi:19.41% KDisp:0.9499 Lamp Flux:933.786x1 lm		
NAME: MD10-10-XX-02 4000K RA90 15D	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: Norming Lighting	SUR.:	Shielding Angle:



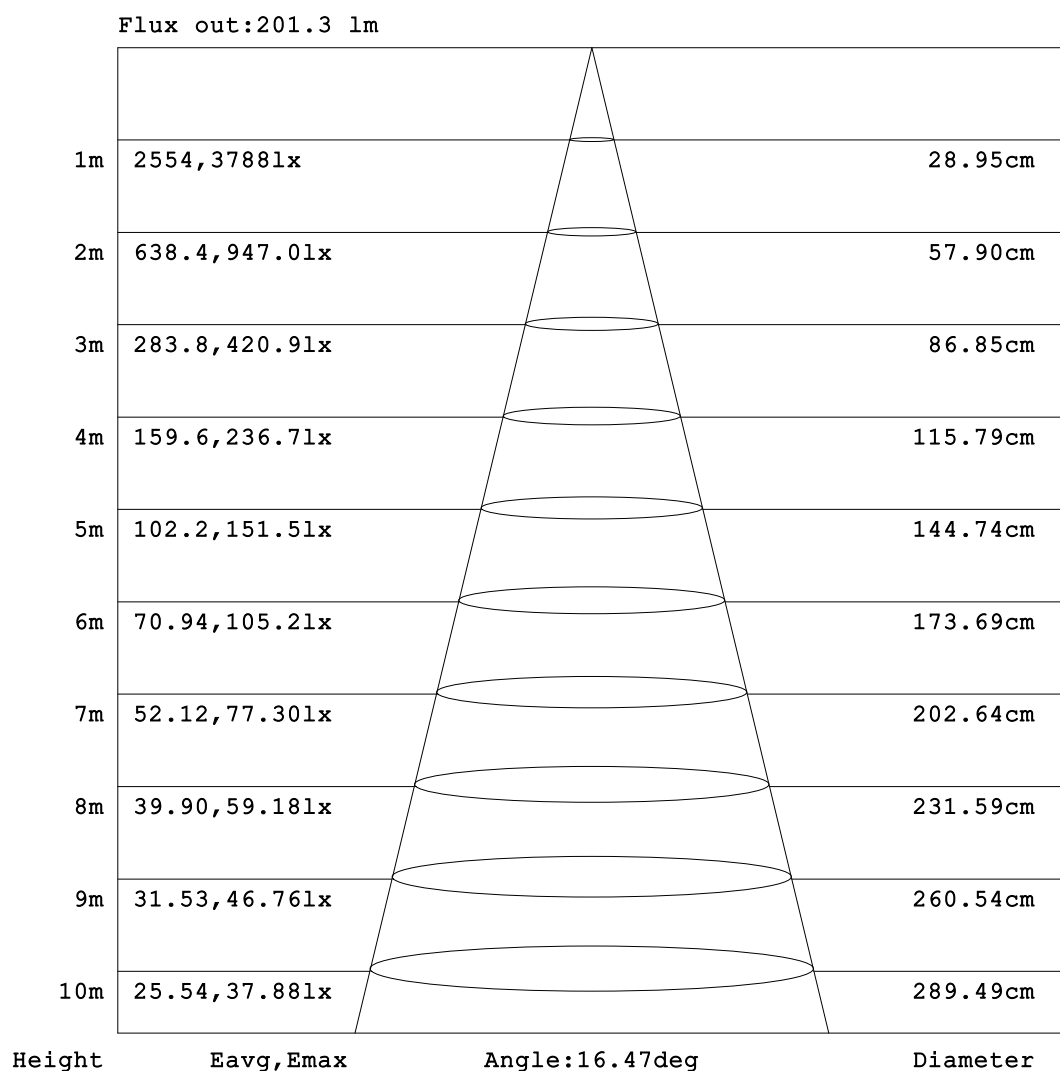
C Range: 0 - 360DEG  
C Interval: 45.0DEG  
Test Speed: HIGH  
Temperature: 25.3DEG  
Operators: DAMIN  
Test Date: 2023-09-14

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:0.9313 Freq:49.99Hz		
UTHDi:0.23% ITHDi:19.41% KDisp:0.9499 Lamp Flux:933.786x1 lm		
NAME: MD10-10-XX-02 4000K RA90 15D	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: Norming Lighting	SUR.:	Shielding Angle:



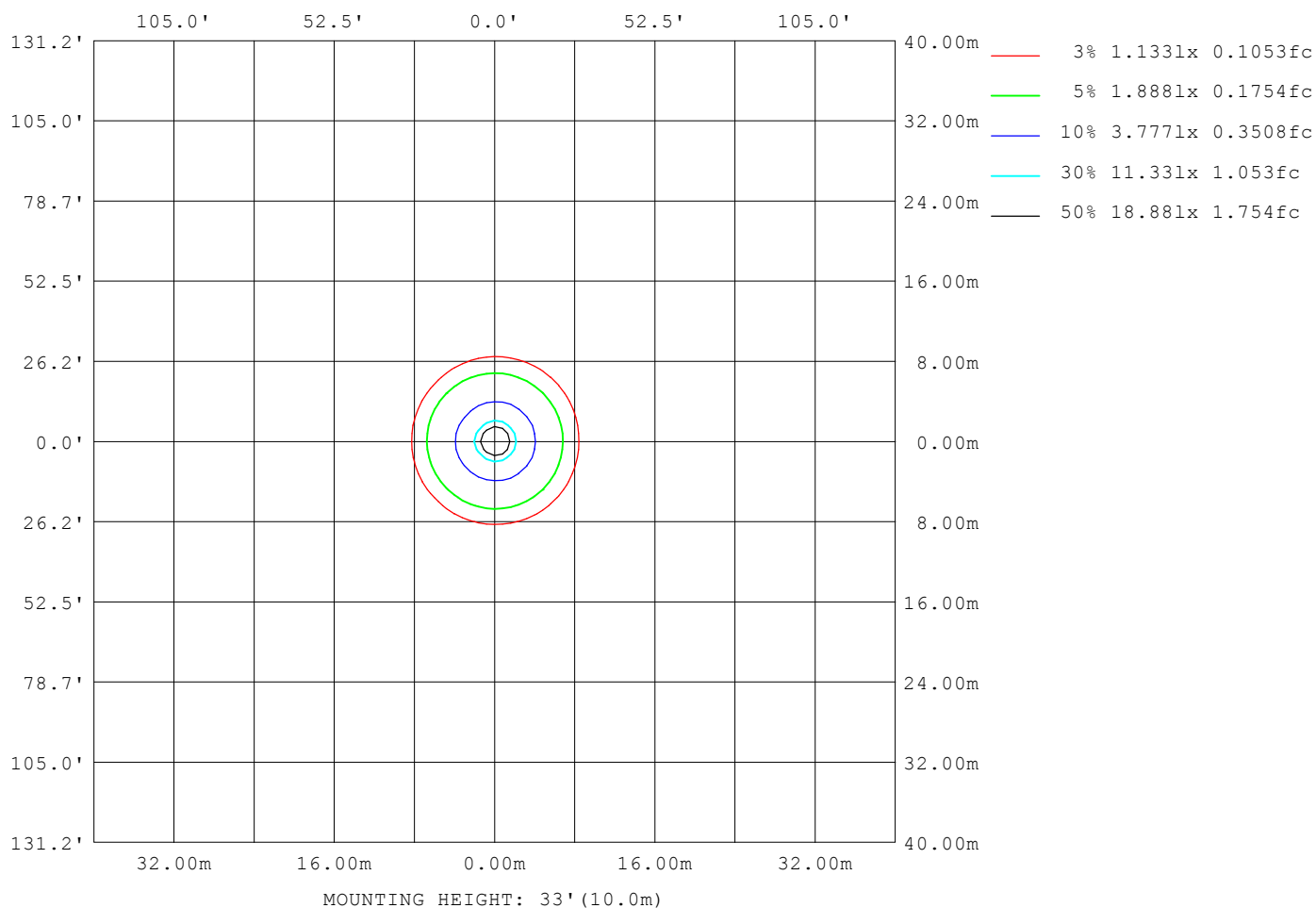
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

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:0.9313 Freq:49.99Hz		
UTHDi:0.23% ITHDi:19.41% KDisp:0.9499 Lamp Flux:933.786x1 lm		
NAME: MD10-10-XX-02 4000K RA90 15D	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:0.9313 Freq:49.99Hz		
UTHDi:0.23% ITHDi:19.41% KDisp:0.9499 Lamp Flux:933.786x1 lm		
NAME: MD10-10-XX-02 4000K RA90 15D	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: Norming Lighting	SUR.:	Shielding Angle:

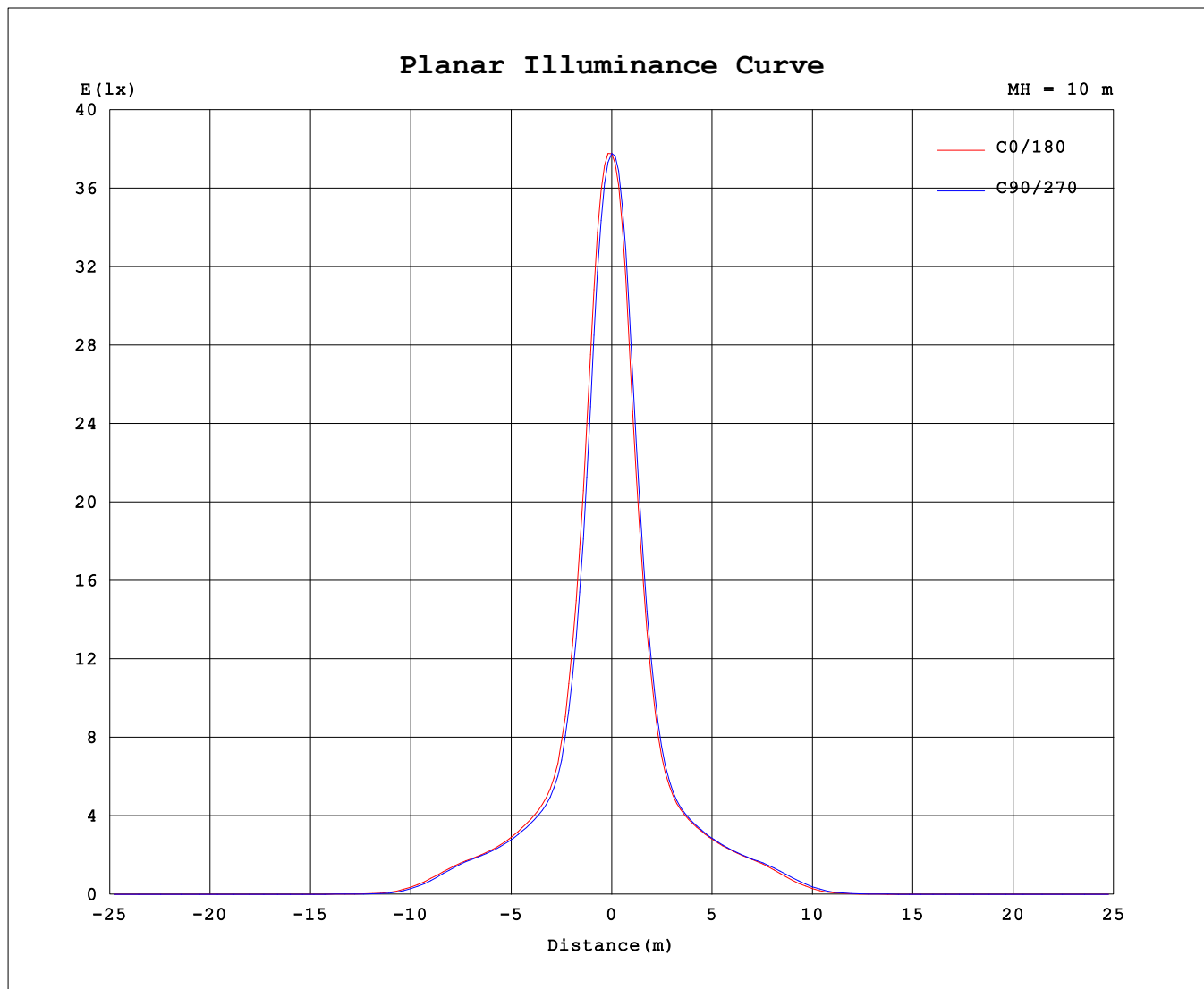
AvgL	cd/m2
L_0~180 (65) av	6947
L_0~180 (75) av	9226
L_0~180 (85) av	14701
L_90~270 (65) av	7472
L_90~270 (75) av	9436
L_90~270 (85) av	311
L_45 (65) av	7200
L_45 (75) av	9460
L_45 (85) av	2411

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:

```