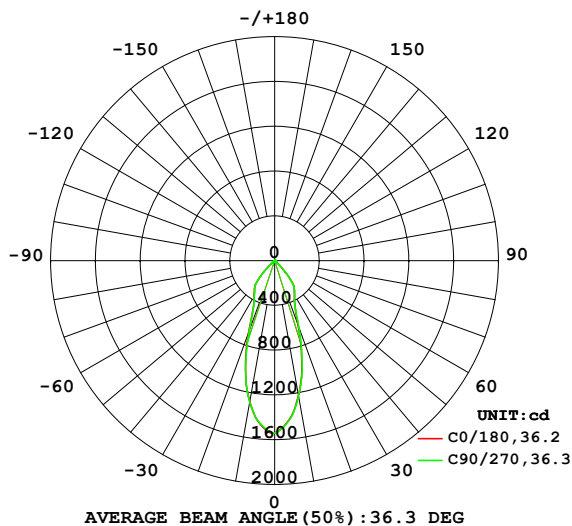


## LUMINAIRE PHOTOMETRIC TEST REPORT

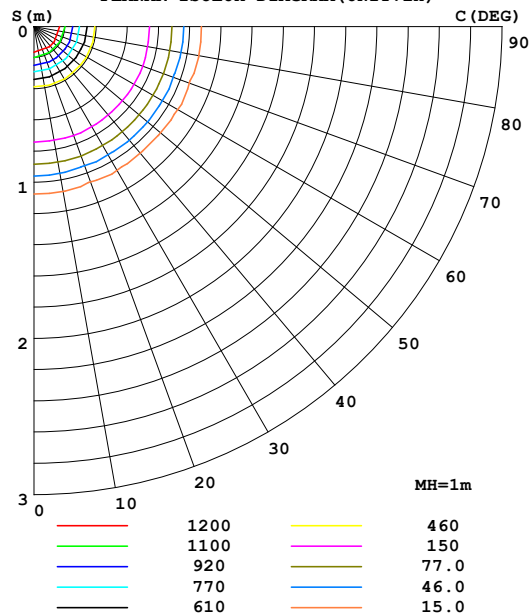
Test:U:240.4V I:0.0447A P:10.0W PF:0.9311 Freq:49.99Hz		
UTHDi:0.20% ITHDi:19.44% KDisp:0.9495 Lamp Flux:905.354x1 lm		
NAME: MD10-10-XX-02 3000K RA90 38D	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: Norming Lighting	SUR.:	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 90.52 lm/W			
MODEL		I <sub>max</sub> (cd)	1543	S/MH(C0/180)	0.61
NOMINAL POWER(W)	10	LOR(%)	100.0	S/MH(C90/270)	0.61
RATED VOLTAGE(V)	240	TOTAL FLUX(lm)	905.35	η UP,DN(C0-180)	0.0,49.0
NOMINAL FLUX(lm)	905.354	CIE CLASS	DIRECT	η UP,DN(C180-360)	0.0,51.0
LAMPS INSIDE	1	η up (%)	0.0	CIBSE SHR NOM	0.50
TEST VOLTAGE(V)	240.38	η down (%)	100.0	CIBSE SHR MAX	0.55

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	1230	1226	1231	1259	1283	1289	1284	1253	0- 10	132.5	132.5	14.6,14.6
20	615.6	619.7	631.6	663.7	678.8	674.7	663.7	632.4	10- 20	265.3	397.8	43.9,43.9
30	358.8	356.7	355.7	363.6	368.1	368.2	365.8	360.0	20- 30	209.5	607.3	67.1,67.1
40	221.4	218.9	224.1	241.7	250.4	252.5	248.4	233.2	30- 40	192.6	799.9	88.4,88.4
50	19.42	20.36	19.01	21.14	22.27	20.14	22.60	20.21	40- 50	80.94	880.9	97.3,97.3
60	8.609	8.980	9.133	9.464	9.464	9.232	9.016	8.728	50- 60	12.20	893.1	98.6,98.6
70	4.428	4.651	4.686	4.673	4.470	4.426	4.492	4.530	60- 70	6.067	899.1	99.3,99.3
80	3.461	3.774	3.965	3.990	3.952	3.611	2.867	2.947	70- 80	5.071	904.2	99.9,99.9
90	0.0112	0.0061	0.0155	0.0061	0.0103	0.0093	0.0151	0.0084	80- 90	1.154	905.4	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): 861.65 lm

%lum = 95.2%

%lamp = 95.2%

Conical surface Flux(130deg): 896.6 lm

%lum = 99.0%

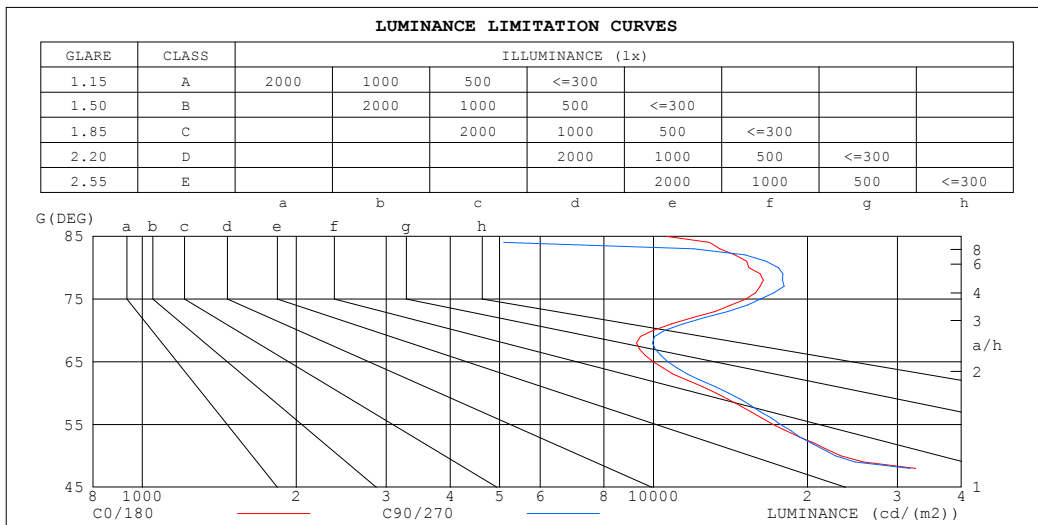
%lamp = 99.0%

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:0.0447A P:10.0W PF:0.9311 Freq:49.99Hz		
UTHDi:0.20% ITHDi:19.44% KDisp:0.9495 Lamp Flux:905.354x1 lm		
NAME: MD10-10-XX-02 3000K RA90 38D	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: Norming Lighting	SUR.:	Shielding Angle:



LUMINANCE cd/(m2)		
G (DEG)	C0/180	C90/270
85	10572	342
80	15362	17535
75	15172	16189
70	9978	10522
65	9991	10667
60	13270	14027
55	17139	17711
50	23285	22711
45	92303	94489

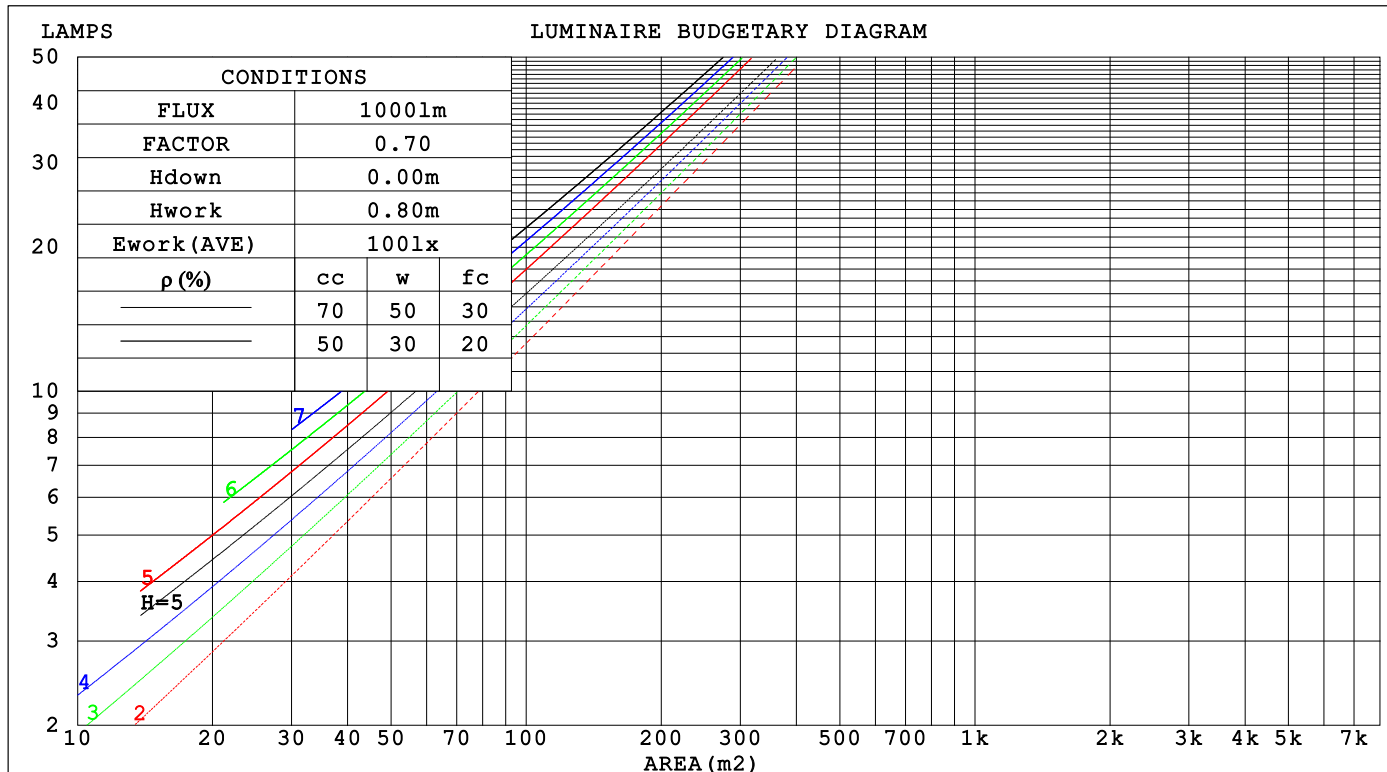
C Range: 0 - 360DEG  
C Interval: 45.0DEG  
Test Speed: HIGH  
Temperature: 25.3DEG  
Operators: DAMIN  
Test Date: 2023-09-14

$\gamma$  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:0.0447A P:10.0W PF:0.9311 Freq:49.99Hz		
UTHDi:0.20% ITHDi:19.44% KDisp:0.9495		Lamp Flux:905.354x1 lm
NAME: MD10-10-XX-02 3000K RA90 38D	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	1.08	1.06	1.08	1.06	1.04	1.04	1.03	1.01	1.01	.99	.98	.97	.96	.95	.93														
2.0	1.03	.99	.95	1.01	.97	.94	.98	.95	.92	.95	.92	.90	.92	.90	.88	.87														
3.0	.96	.91	.87	.94	.90	.86	.92	.88	.85	.89	.86	.83	.87	.85	.82	.81														
4.0	.90	.84	.80	.89	.83	.79	.86	.82	.78	.84	.81	.78	.83	.79	.77	.75														
5.0	.84	.78	.74	.83	.78	.74	.81	.77	.73	.80	.76	.72	.78	.75	.72	.70														
6.0	.79	.73	.69	.78	.73	.69	.77	.72	.68	.75	.71	.68	.74	.70	.67	.66														
7.0	.74	.69	.64	.74	.68	.64	.73	.67	.64	.71	.67	.63	.70	.66	.63	.62														
8.0	.70	.64	.60	.70	.64	.60	.69	.64	.60	.68	.63	.60	.67	.63	.60	.58														
9.0	.67	.61	.57	.66	.61	.57	.65	.60	.57	.64	.60	.56	.64	.59	.56	.55														
10.0	.63	.58	.54	.63	.57	.54	.62	.57	.54	.61	.57	.53	.61	.56	.53	.52														



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:0.0447A P:10.0W PF:0.9311 Freq:49.99Hz			UTHDi:0.20% ITHDi:19.44% KDisp:0.9495			Lamp Flux:905.354x1 lm		
NAME: MD10-10-XX-02 3000K RA90 38D			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	.181	.103	.033	.174	.099	.032	.161	.093	.030	.150	.086	.028	.139	.081	.026		
2.0	.173	.095	.029	.167	.092	.028	.156	.087	.027	.147	.082	.026	.138	.078	.025		
3.0	.164	.087	.026	.159	.085	.026	.150	.081	.025	.142	.078	.024	.134	.074	.023		
4.0	.156	.081	.024	.152	.079	.023	.144	.076	.023	.137	.073	.022	.130	.071	.021		
5.0	.148	.075	.022	.145	.074	.022	.138	.072	.021	.131	.069	.021	.125	.067	.020		
6.0	.141	.071	.020	.138	.070	.020	.132	.068	.020	.126	.066	.019	.121	.064	.019		
7.0	.134	.066	.019	.132	.066	.019	.126	.064	.018	.121	.062	.018	.117	.061	.018		
8.0	.128	.063	.018	.126	.062	.018	.121	.061	.017	.117	.059	.017	.112	.058	.017		
9.0	.123	.059	.017	.120	.059	.016	.116	.057	.016	.112	.056	.016	.108	.055	.016		
10.0	.117	.056	.016	.115	.056	.016	.112	.055	.015	.108	.054	.015	.105	.053	.015		

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	.147	.135	.124	.100	.093	.086	.058	.054	.050	.018	.017	.016		
2.0	.156	.132	.112	.134	.114	.097	.092	.079	.068	.053	.046	.040	.017	.015	.013		
3.0	.144	.114	.089	.124	.098	.077	.085	.068	.054	.049	.040	.032	.016	.013	.010		
4.0	.134	.099	.072	.115	.085	.063	.079	.060	.044	.046	.035	.026	.015	.011	.009		
5.0	.125	.087	.059	.107	.076	.052	.074	.053	.036	.043	.031	.022	.014	.010	.007		
6.0	.118	.078	.050	.101	.068	.043	.070	.047	.031	.040	.028	.018	.013	.009	.006		
7.0	.111	.070	.042	.096	.061	.037	.066	.043	.026	.038	.025	.015	.012	.008	.005		
8.0	.105	.064	.036	.091	.056	.031	.063	.039	.022	.036	.023	.013	.012	.008	.004		
9.0	.100	.059	.031	.086	.051	.027	.060	.036	.019	.035	.021	.012	.011	.007	.004		
10.0	.095	.055	.027	.082	.047	.024	.057	.033	.017	.033	.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:0.0447A P:10.0W PF:0.9311 Freq:49.99Hz UTHDi:0.20% ITHDi:19.44% KDisp:0.9495Lamp Flux:905.354x1 lm										
NAME: MD10-10-XX-02 3000K RA90 38D					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	24.0	24.9	24.2	25.1	25.3	24.0	25.0	24.2	25.1	25.3
3H	23.9	24.8	24.1	24.9	25.2	23.9	24.8	24.1	25.0	25.2
4H	23.9	24.7	24.1	24.9	25.1	23.9	24.7	24.2	24.9	25.2
6H	23.9	24.6	24.2	24.9	25.1	23.9	24.7	24.2	24.9	25.2
8H	23.9	24.6	24.2	24.9	25.1	23.9	24.7	24.2	24.9	25.2
12H	23.8	24.5	24.2	24.8	25.1	23.9	24.6	24.2	24.8	25.1
4H 2H	23.8	24.6	24.0	24.8	25.0	23.8	24.6	24.1	24.8	25.1
3H	23.7	24.4	24.0	24.7	24.9	23.7	24.4	24.0	24.7	25.0
4H	23.7	24.4	24.1	24.7	25.0	23.7	24.4	24.1	24.7	25.0
6H	23.8	24.3	24.1	24.7	25.0	23.8	24.4	24.2	24.7	25.1
8H	23.8	24.3	24.2	24.7	25.0	23.9	24.4	24.2	24.7	25.1
12H	23.8	24.3	24.2	24.6	25.0	23.8	24.3	24.2	24.7	25.1
8H 4H	23.6	24.2	24.0	24.5	24.9	23.7	24.2	24.1	24.6	24.9
6H	23.8	24.2	24.2	24.6	25.0	23.8	24.3	24.3	24.7	25.1
8H	23.8	24.2	24.3	24.6	25.1	23.9	24.3	24.3	24.7	25.1
12H	23.8	24.1	24.3	24.6	25.0	23.8	24.2	24.3	24.6	25.1
12H 4H	23.6	24.1	24.0	24.5	24.9	23.6	24.1	24.0	24.5	24.9
6H	23.7	24.1	24.2	24.5	25.0	23.8	24.2	24.3	24.6	25.0
8H	23.8	24.1	24.3	24.6	25.0	23.9	24.2	24.3	24.6	25.1
Variations with the observer position at spacings(CIE Pub.117):										
S = 1.0H	+ 2.4 / - 6.3					+ 2.3 / - 6.0				
1.5H	+ 4.7 / - 6.0					+ 4.6 / - 5.9				
2.0H	+ 5.5 / - 1.7					+ 5.5 / - 1.7				

CIE Pub.117, 905.4 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:0.0447A P:10.0W PF:0.9311 Freq:49.99Hz		
UTHDi:0.20% ITHDi:19.44% KDisp:0.9495 Lamp Flux:905.354x1 lm		
NAME: MD10-10-XX-02 3000K RA90 38D	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: Norming Lighting	SUR.:	Shielding Angle:

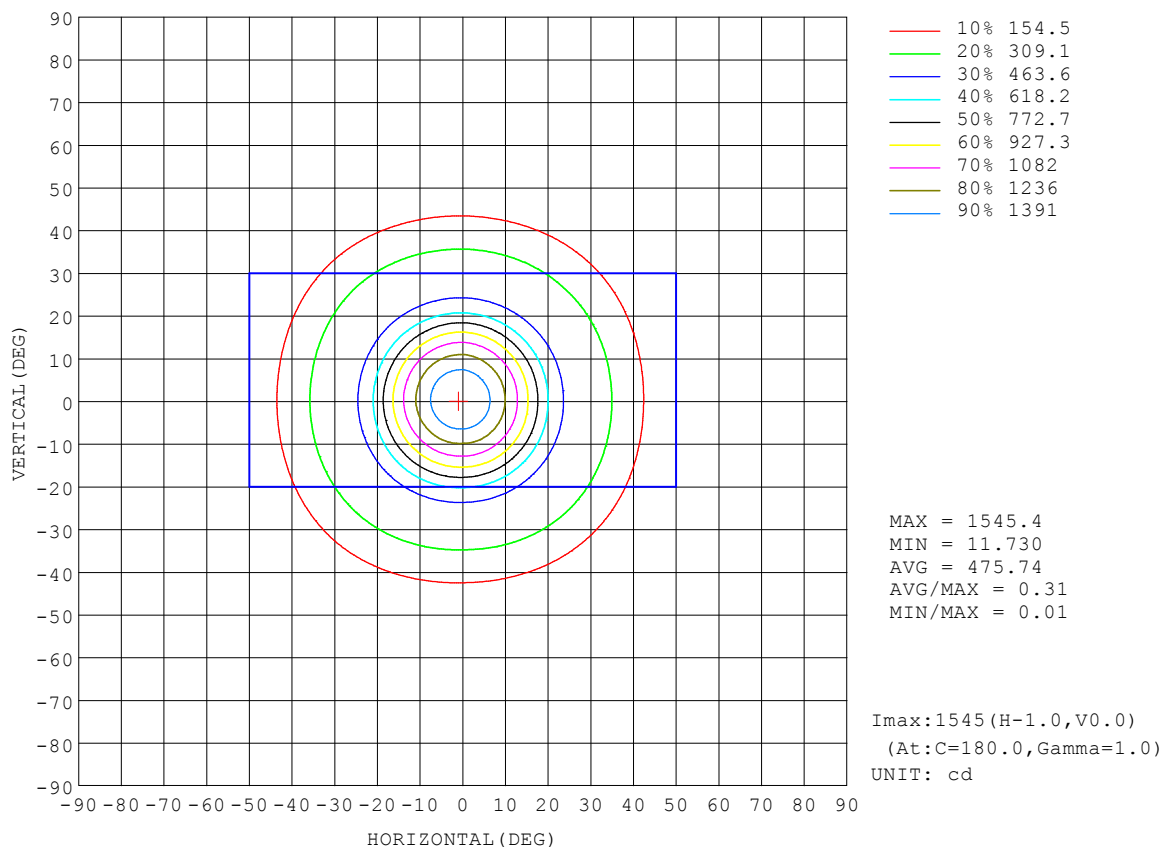
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS (PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	84	77	73	84	77	73	83	77	73	69
0.80	92	86	82	91	85	82	90	85	81	77
1.00	97	91	87	96	91	87	95	91	86	82
1.25	102	96	92	101	95	92	99	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	97	92
2.50	109	105	102	108	104	101	105	102	99	93
3.00	111	107	105	109	106	103	106	103	101	95
4.00	113	110	108	111	109	106	107	105	104	97
5.00	114	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:0.0447A P:10.0W PF:0.9311 Freq:49.99Hz		
UTHDi:0.20% ITHDi:19.44% KDisp:0.9495 Lamp Flux:905.354x1 lm		
NAME: MD10-10-XX-02 3000K RA90 38D	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: Norming Lighting	SUR.:	Shielding Angle:



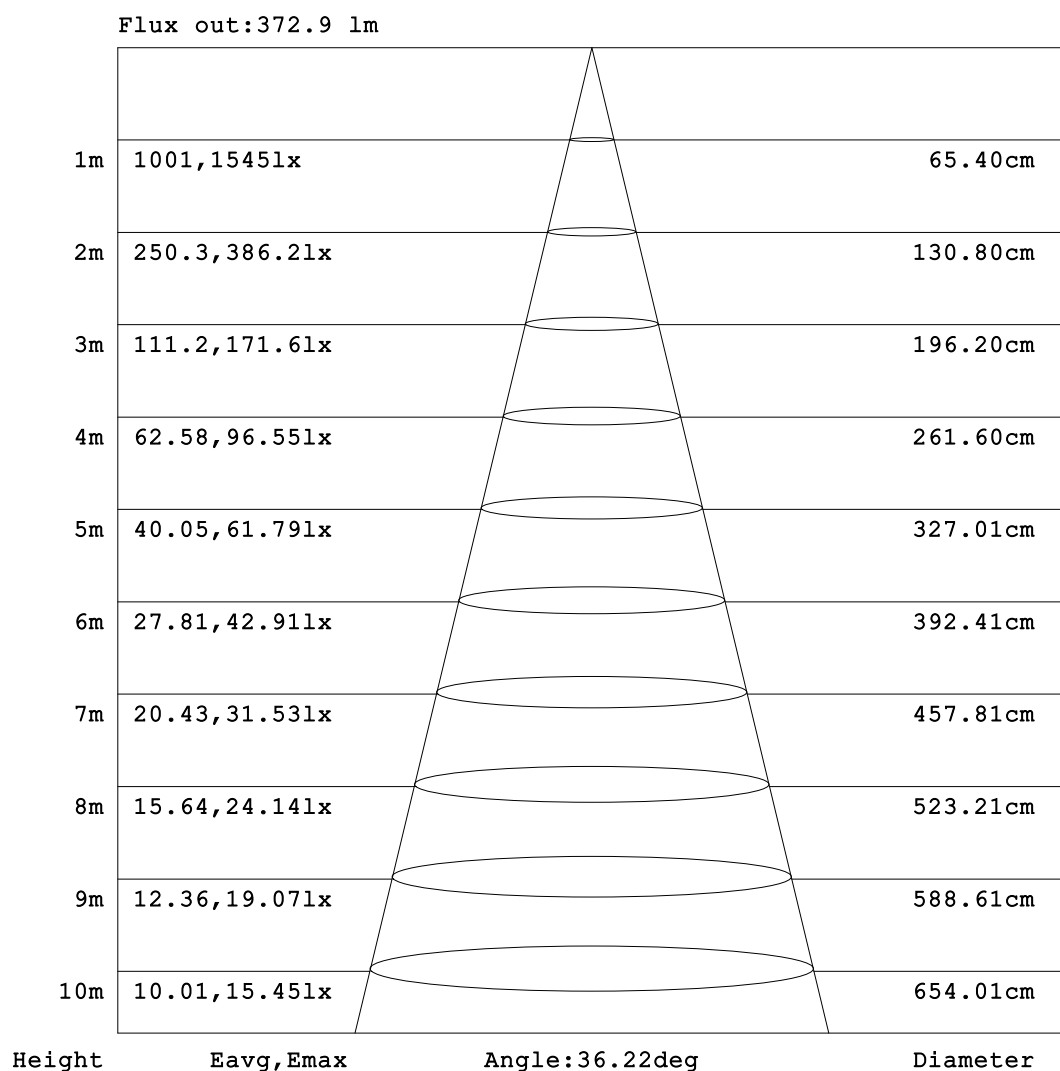
C Range: 0 - 360DEG  
C Interval: 45.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:DAMIN  
Test Date:2023-09-14

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:0.0447A P:10.0W PF:0.9311 Freq:49.99Hz		
UTHDi:0.20% ITHDi:19.44% KDisp:0.9495 Lamp Flux:905.354x1 lm		
NAME: MD10-10-XX-02 3000K RA90 38D	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: Norming Lighting	SUR.:	Shielding Angle:



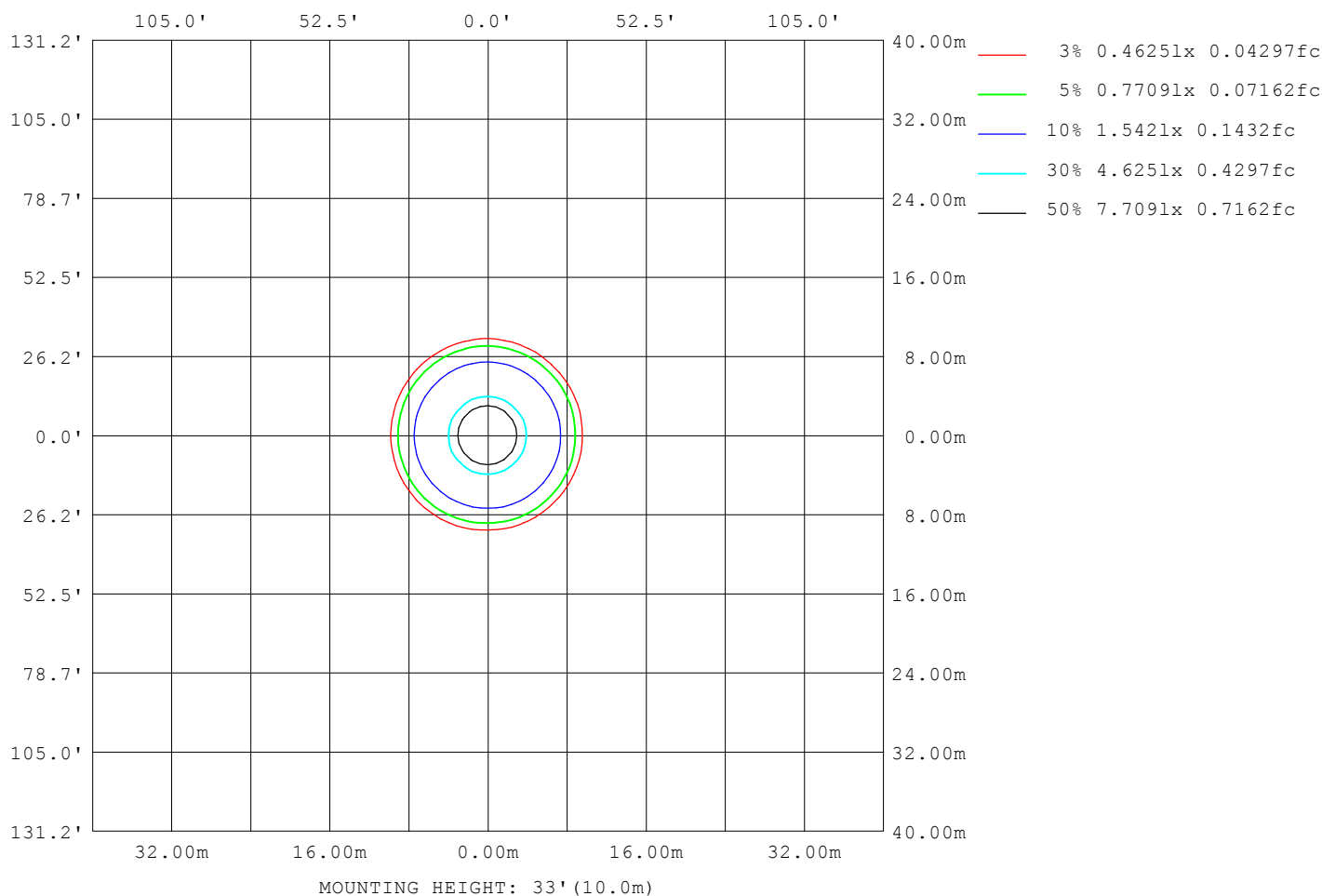
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

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:0.0447A P:10.0W PF:0.9311 Freq:49.99Hz		
UTHDi:0.20% ITHDi:19.44% KDisp:0.9495 Lamp Flux:905.354x1 lm		
NAME: MD10-10-XX-02 3000K RA90 38D	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:0.0447A P:10.0W PF:0.9311 Freq:49.99Hz		
UTHDi:0.20% ITHDi:19.44% KDisp:0.9495 Lamp Flux:905.354x1 lm		
NAME: MD10-10-XX-02 3000K RA90 38D	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: Norming Lighting	SUR.:	Shielding Angle:

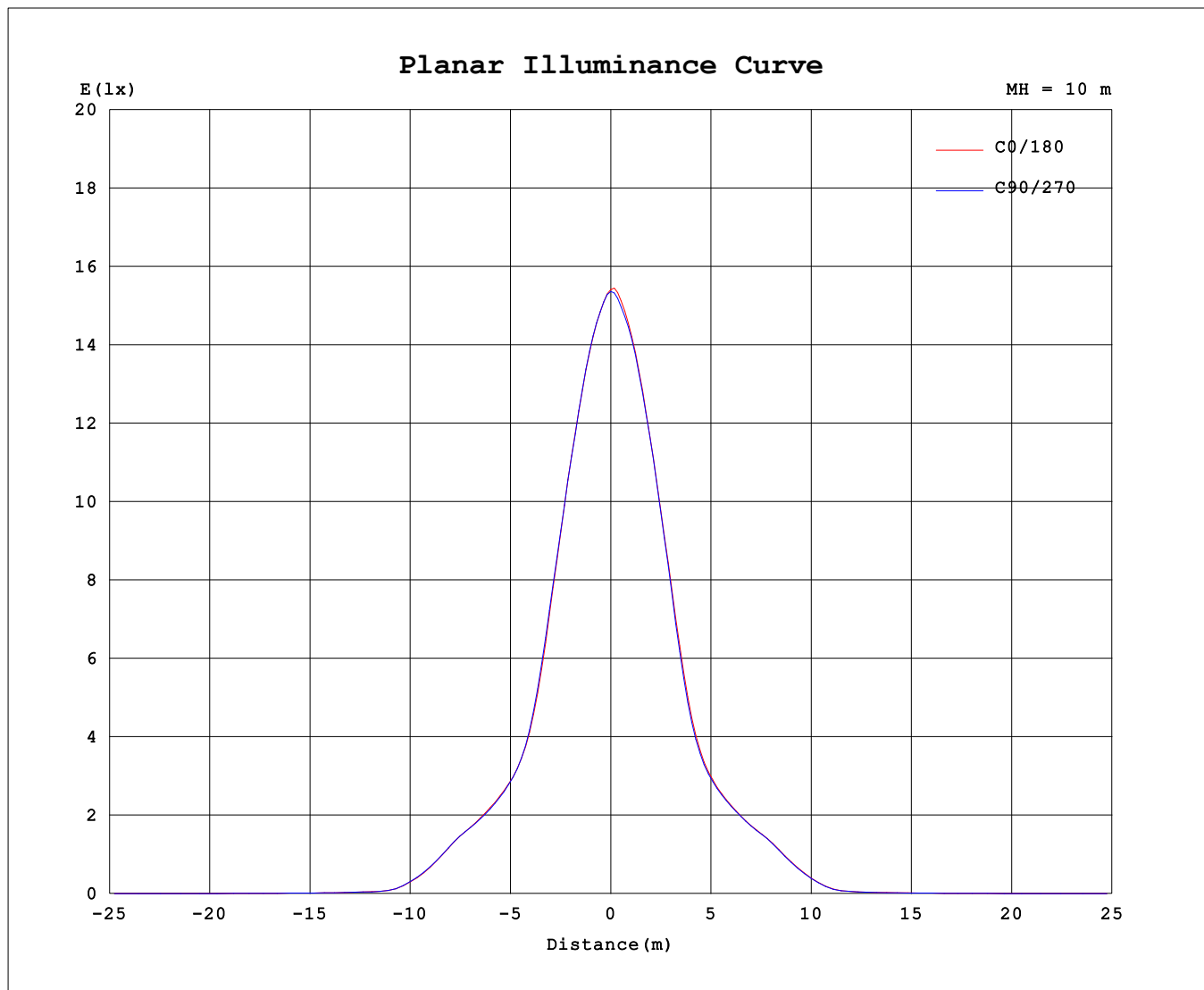
AvgL	cd/m2
L_0~180 (65) av	10496
L_0~180 (75) av	15397
L_0~180 (85) av	12221
L_90~270 (65) av	10723
L_90~270 (75) av	15518
L_90~270 (85) av	261
L_45 (65) av	10583
L_45 (75) av	15848
L_45 (85) av	1887

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:

```