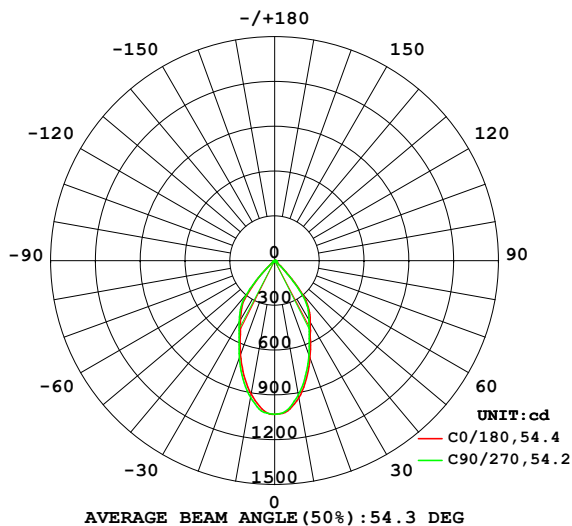


LUMINAIRE PHOTOMETRIC TEST REPORT

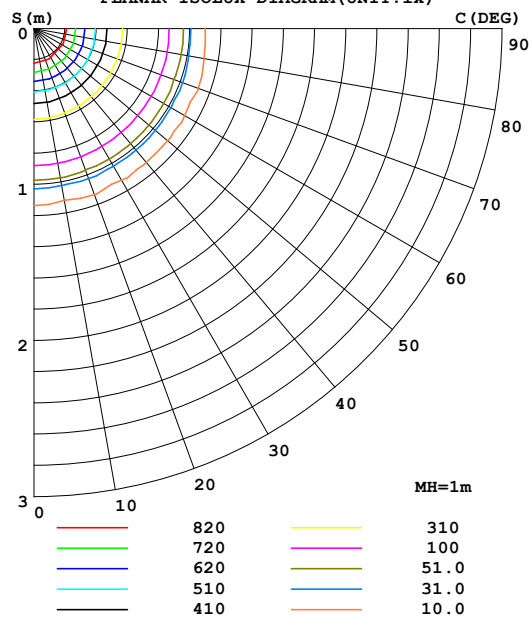
Test:U:240.4V I:0.0444A P:9.9W PF:0.9307 Freq:49.99Hz		
UTHDi:0.16% ITHDi:19.54% KDisp:0.9508 Lamp Flux:937.83x1 lm		
NAME: MD10-10-XX-02 4000K RA90 60D	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: Norming Lighting	SUR.:	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA				Eff: 94.31 lm/W
MODEL		I _{max} (cd)	1030	S/MH(C0/180)	0.78	
NOMINAL POWER(W)	10	LOR(%)	100.0	S/MH(C90/270)	0.80	
RATED VOLTAGE(V)	240	TOTAL FLUX(lm)	937.83	η UP,DN(C0-180)	0.0,49.7	
NOMINAL FLUX(lm)	937.83	CIE CLASS	DIRECT	η UP,DN(C180-360)	0.0,50.3	
LAMPS INSIDE	1	η up(%)	0.0	CIBSE SHR NOM	0.75	
TEST VOLTAGE(V)	240.34	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:

γ	C0	C45	C90	C135	C180	C225	C270	C315	γ	Φ zone	Φ total	%lum, lamp
10	933.6	924.8	913.2	908.2	909.1	913.9	929.7	936.5	0- 10	93.15	93.15	9.93,9.93
20	693.5	686.1	674.0	671.0	670.7	678.4	693.3	700.3	10- 20	225.4	318.5	34,34
30	479.7	470.3	462.2	460.4	460.3	462.3	475.9	481.0	20- 30	258.1	576.6	61.5,61.5
40	277.8	267.5	258.8	260.3	266.6	276.2	288.9	285.7	30- 40	240.9	817.5	87.2,87.2
50	20.76	20.96	19.40	19.58	19.87	18.65	22.51	20.57	40- 50	88.22	905.7	96.6,96.6
60	13.36	13.37	13.27	13.21	13.19	13.32	13.39	13.37	50- 60	13.95	919.7	98.1,98.1
70	8.559	8.715	8.523	8.144	8.006	8.234	8.566	8.660	60- 70	10.91	930.6	99.2,99.2
80	3.842	3.845	3.670	3.273	3.133	2.832	2.512	3.170	70- 80	6.079	936.7	99.9,99.9
90	0.0208	0.0103	0.0161	0.0126	0.0218	0.0164	0.0193	0.0132	80- 90	1.154	937.8	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): 885.87 lm

%lum = 94.5%

%lamp = 94.5%

Conical surface Flux(130deg): 925.63 lm

%lum = 98.7%

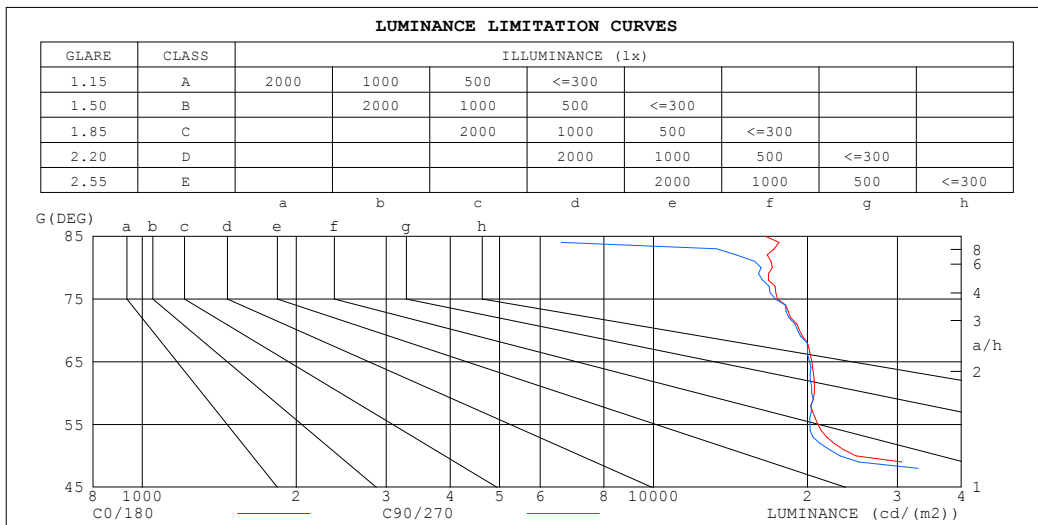
%lamp = 98.7%

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:

LUMINANCE LIMITATION CURVES

Test:U:240.4V I:0.0444A P:9.9W PF:0.9307 Freq:49.99Hz		
UTHDi:0.16% ITHDi:19.54% KDisp:0.9508 Lamp Flux:937.83x1 lm		
NAME: MD10-10-XX-02 4000K RA90 60D	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: Norming Lighting	SUR.:	Shielding Angle:



LUMINANCE cd/(m2)		
G (DEG)	C0/180	C90/270
85	16562	571
80	17071	16237
75	17474	17315
70	19309	19144
65	20426	20223
60	20616	20383
55	20986	20225
50	24917	23191
45	116945	99618

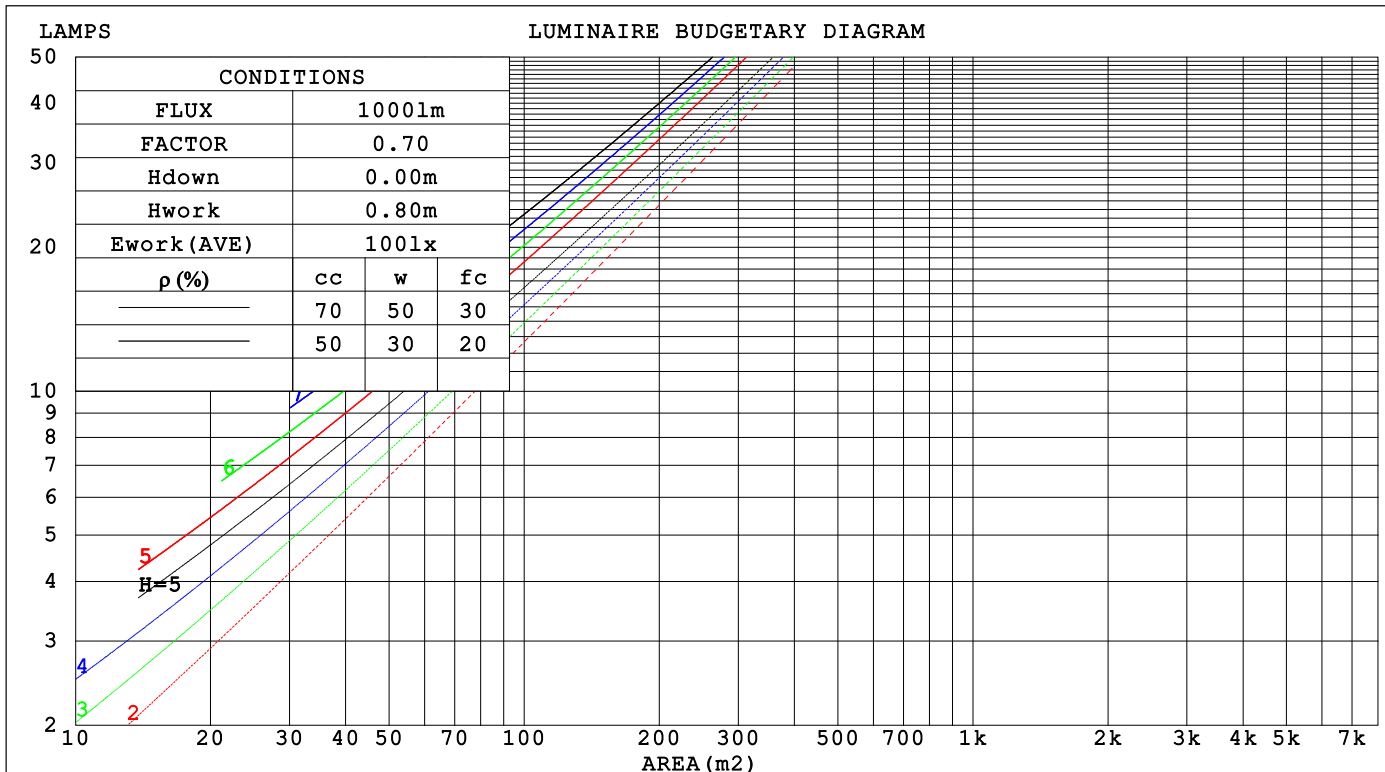
C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2023-09-14

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:

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

Test:U:240.4V I:0.0444A P:9.9W PF:0.9307 Freq:49.99Hz		
UTHDi:0.16% ITHDi:19.54% KDisp:0.9508 Lamp Flux:937.83x1 lm		
NAME: MD10-10-XX-02 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															



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:0.0444A P:9.9W PF:0.9307 Freq:49.99Hz		
UTHDi:0.16% ITHDi:19.54% KDisp:0.9508 Lamp Flux:937.83x1 lm		
NAME: MD10-10-XX-02 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	.191	.109	.034	.184	.105	.033	.171	.098	.031	.160	.092	.030	.149	.086	.028		
2.0	.183	.101	.031	.178	.098	.030	.167	.093	.029	.157	.088	.028	.148	.084	.026		
3.0	.175	.093	.028	.170	.091	.027	.161	.087	.026	.152	.083	.026	.144	.080	.025		
4.0	.166	.086	.025	.162	.085	.025	.154	.082	.024	.147	.079	.024	.140	.076	.023		
5.0	.158	.081	.023	.155	.079	.023	.148	.077	.023	.141	.074	.022	.135	.072	.022		
6.0	.151	.076	.022	.148	.075	.021	.141	.072	.021	.136	.070	.021	.130	.069	.020		
7.0	.144	.071	.020	.141	.070	.020	.135	.068	.020	.130	.067	.019	.126	.065	.019		
8.0	.137	.067	.019	.135	.066	.019	.130	.065	.019	.125	.063	.018	.121	.062	.018		
9.0	.131	.064	.018	.129	.063	.018	.125	.062	.017	.121	.060	.017	.117	.059	.017		
10.0	.126	.060	.017	.124	.060	.017	.120	.059	.017	.116	.058	.016	.112	.057	.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	.101	.093	.086	.058	.054	.050	.019	.017	.016		
2.0	.158	.132	.111	.135	.114	.096	.093	.079	.067	.053	.046	.039	.017	.015	.013		
3.0	.146	.114	.088	.125	.098	.076	.086	.068	.053	.050	.040	.031	.016	.013	.010		
4.0	.136	.099	.071	.117	.086	.061	.081	.060	.043	.047	.035	.026	.015	.011	.008		
5.0	.128	.088	.058	.110	.076	.050	.076	.053	.036	.044	.031	.021	.014	.010	.007		
6.0	.121	.079	.048	.104	.068	.042	.072	.048	.030	.042	.028	.018	.013	.009	.006		
7.0	.115	.071	.041	.099	.062	.035	.068	.043	.025	.040	.025	.015	.013	.008	.005		
8.0	.109	.065	.035	.094	.056	.030	.065	.040	.022	.038	.023	.013	.012	.008	.004		
9.0	.104	.060	.030	.090	.052	.026	.062	.037	.019	.036	.022	.011	.012	.007	.004		
10.0	.099	.056	.027	.086	.048	.023	.059	.034	.016	.035	.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:0.0444A P:9.9W PF:0.9307 Freq:49.99Hz UTHDi:0.16% ITHDi:19.54% KDisp:0.9508Lamp Flux:937.83x1 lm										
NAME: MD10-10-XX-02 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	25.6	26.6	25.8	26.8	26.9	25.3	26.3	25.5	26.5	26.7
3H	25.5	26.4	25.8	26.6	26.9	25.3	26.2	25.5	26.4	26.6
4H	25.5	26.4	25.8	26.6	26.8	25.2	26.1	25.5	26.4	26.6
6H	25.5	26.3	25.8	26.5	26.8	25.2	26.0	25.5	26.3	26.5
8H	25.4	26.2	25.7	26.5	26.8	25.2	26.0	25.5	26.3	26.5
12H	25.4	26.2	25.7	26.5	26.7	25.2	25.9	25.5	26.2	26.5
4H 2H	25.3	26.2	25.6	26.5	26.7	25.1	26.0	25.4	26.2	26.4
3H	25.3	26.1	25.7	26.4	26.7	25.1	25.9	25.4	26.1	26.4
4H	25.4	26.0	25.7	26.3	26.7	25.1	25.8	25.5	26.1	26.4
6H	25.4	26.0	25.7	26.3	26.7	25.1	25.8	25.5	26.1	26.4
8H	25.4	25.9	25.8	26.3	26.7	25.1	25.7	25.5	26.1	26.4
12H	25.4	25.9	25.8	26.3	26.6	25.1	25.6	25.5	26.0	26.4
8H 4H	25.3	25.8	25.7	26.2	26.6	25.1	25.6	25.4	26.0	26.3
6H	25.3	25.8	25.8	26.2	26.6	25.1	25.6	25.5	26.0	26.4
8H	25.3	25.8	25.8	26.2	26.6	25.1	25.5	25.6	26.0	26.4
12H	25.4	25.7	25.8	26.2	26.6	25.1	25.4	25.6	25.9	26.3
12H 4H	25.2	25.7	25.6	26.1	26.5	25.0	25.5	25.4	25.9	26.3
6H	25.3	25.7	25.7	26.1	26.6	25.1	25.5	25.5	25.9	26.3
8H	25.3	25.7	25.8	26.1	26.6	25.1	25.5	25.6	25.9	26.4
Variations with the observer position at spacings(CIE Pub.117):										
S = 1.0H	+ 2.5 / - 6.2					+ 2.4 / - 6.1				
1.5H	+ 4.8 / - 6.3					+ 4.8 / - 6.1				
2.0H	+ 5.6 / - 1.7					+ 5.0 / - 1.3				

CIE Pub.117, 937.8 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:0.0444A P:9.9W PF:0.9307 Freq:49.99Hz		
UTHDi:0.16% ITHDi:19.54% KDisp:0.9508 Lamp Flux:937.83x1 lm		
NAME: MD10-10-XX-02 4000K RA90 60D	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: Norming Lighting	SUR.:	Shielding Angle:

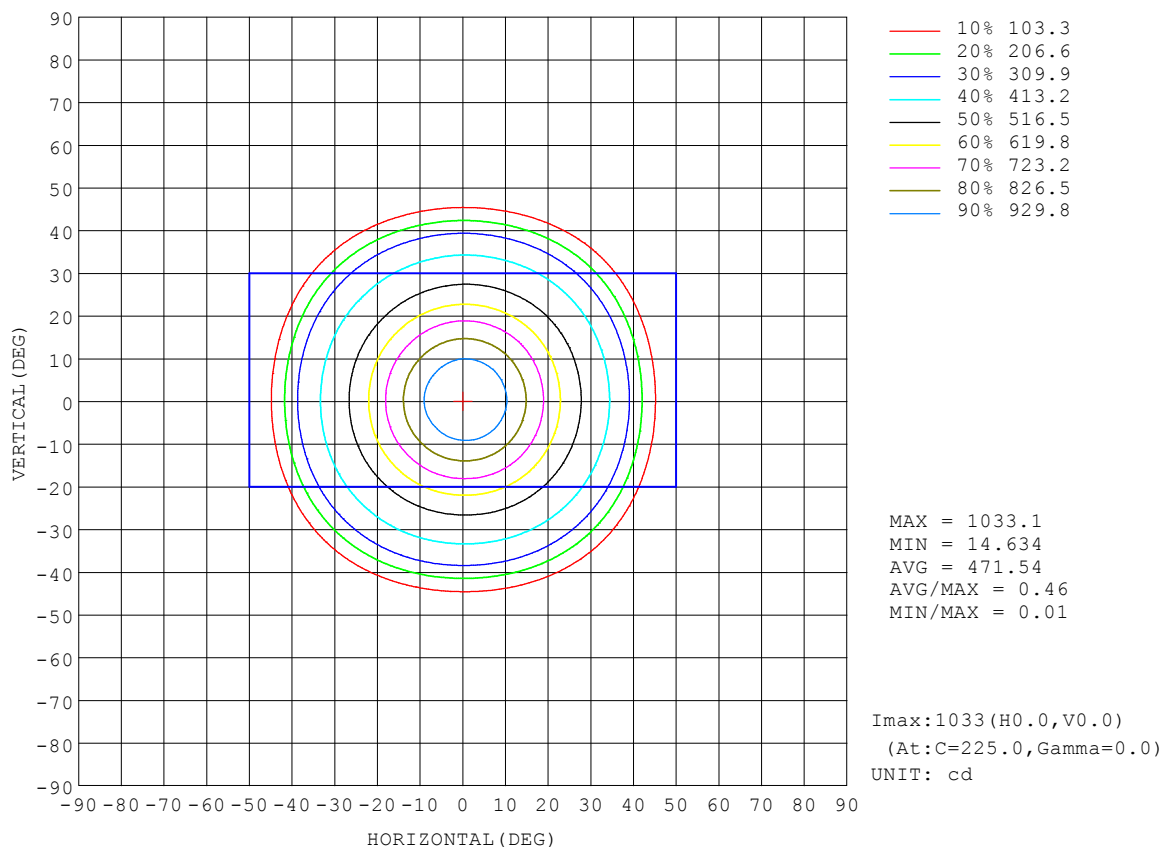
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS (PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	84	77	72	83	76	72	82	76	72	68
0.80	92	85	81	91	85	81	90	84	80	76
1.00	97	91	86	96	90	86	94	90	86	81
1.25	101	95	92	100	95	91	98	94	90	86
1.50	104	99	95	103	98	95	101	97	94	89
2.00	107	103	99	106	102	98	103	100	97	92
2.50	109	105	102	108	104	101	104	101	99	93
3.00	111	107	104	109	106	103	106	103	101	94
4.00	113	110	108	111	108	106	107	105	103	96
5.00	114	112	110	112	110	108	108	107	105	97
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

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:

ISOCANDELA DIAGRAM

Test:U:240.4V I:0.0444A P:9.9W PF:0.9307 Freq:49.99Hz		
UTHDi:0.16% ITHDi:19.54% KDisp:0.9508 Lamp Flux:937.83x1 lm		
NAME: MD10-10-XX-02 4000K RA90 60D	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: Norming Lighting	SUR.:	Shielding Angle:

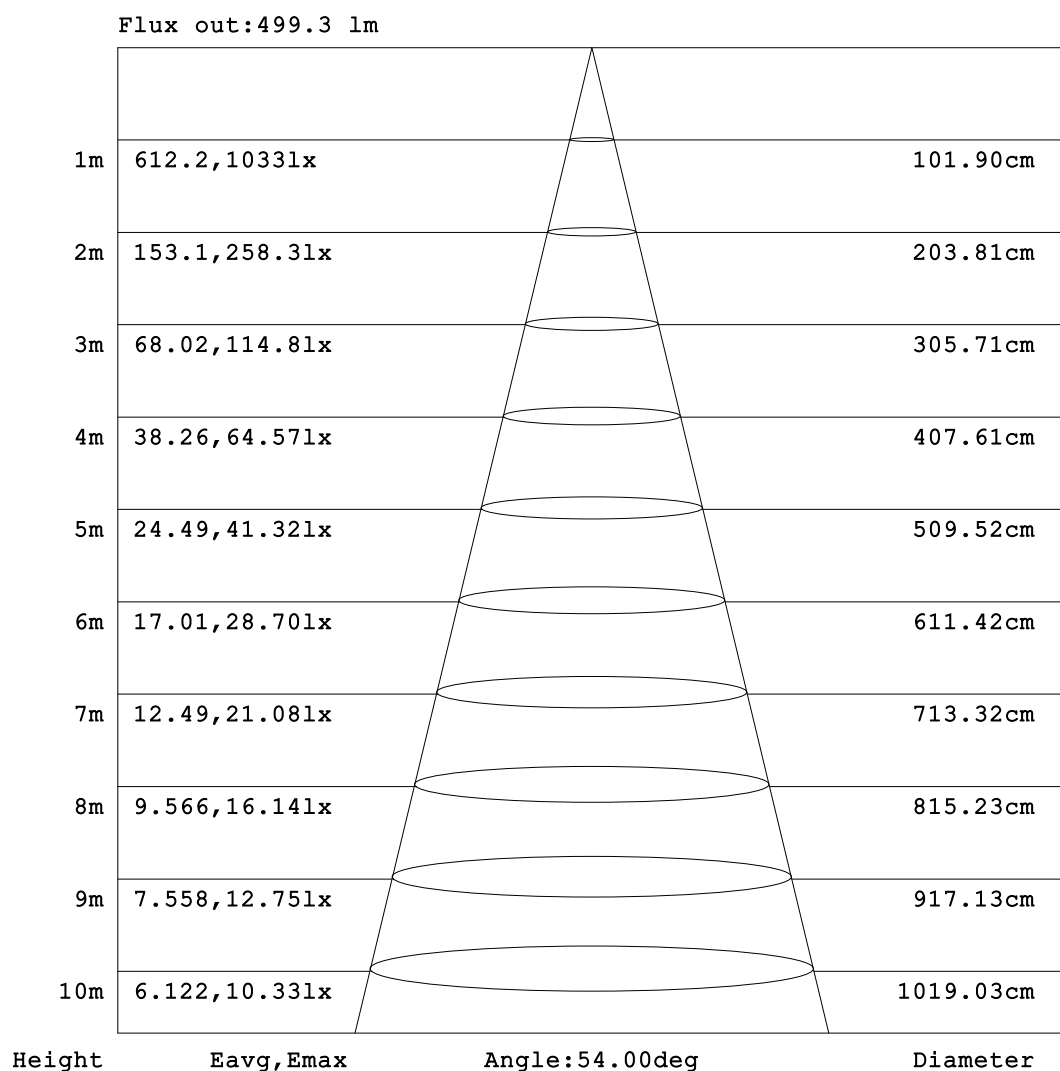


C Range: 0 - 360DEG
 C Interval: 45.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2023-09-14

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:0.0444A P:9.9W PF:0.9307 Freq:49.99Hz		
UTHDi:0.16% ITHDi:19.54% KDisp:0.9508 Lamp Flux:937.83x1 lm		
NAME: MD10-10-XX-02 4000K RA90 60D	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: Norming Lighting	SUR.:	Shielding Angle:



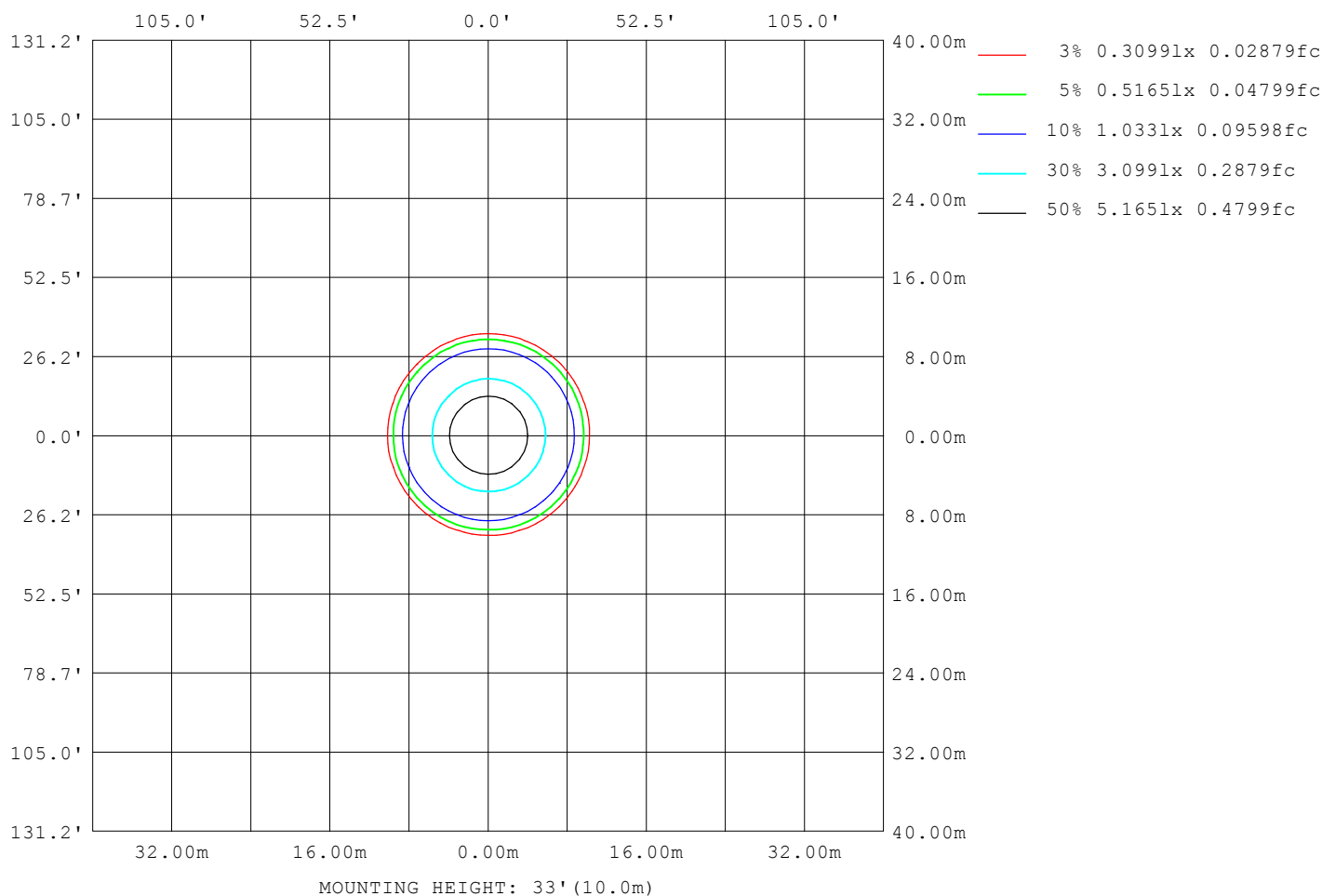
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

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:0.0444A P:9.9W PF:0.9307 Freq:49.99Hz		
UTHDi:0.16% ITHDi:19.54% KDisp:0.9508 Lamp Flux:937.83x1 lm		
NAME: MD10-10-XX-02 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:0.0444A P:9.9W PF:0.9307 Freq:49.99Hz		
UTHDi:0.16% ITHDi:19.54% KDisp:0.9508 Lamp Flux:937.83x1 lm		
NAME: MD10-10-XX-02 4000K RA90 60D	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: Norming Lighting	SUR.:	Shielding Angle:

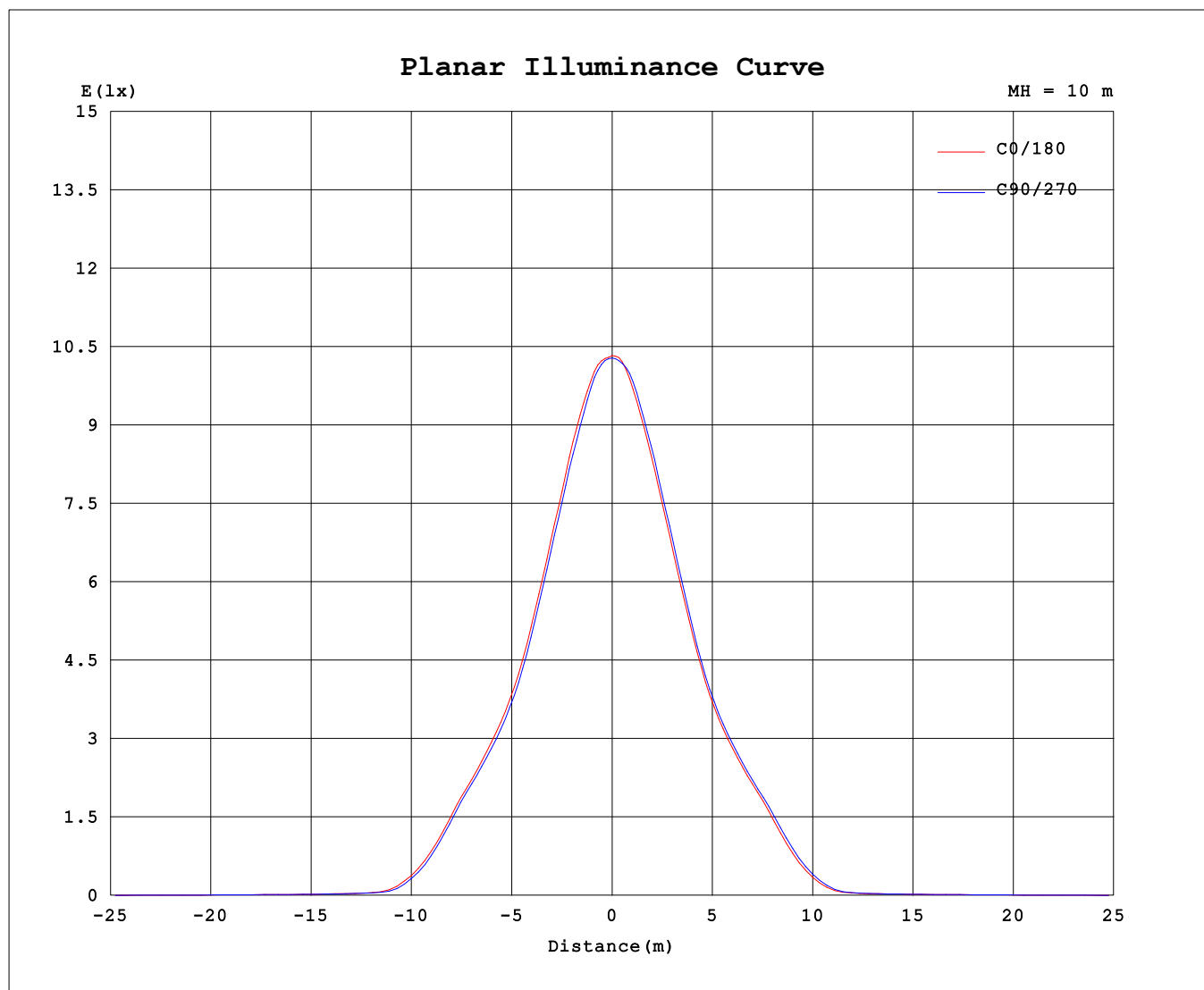
AvgL	cd/m2
L_0~180 (65) av	19998
L_0~180 (75) av	16749
L_0~180 (85) av	14216
L_90~270 (65) av	20429
L_90~270 (75) av	16926
L_90~270 (85) av	392
L_45 (65) av	20329
L_45 (75) av	17011
L_45 (85) av	2634

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

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:

```

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:

```