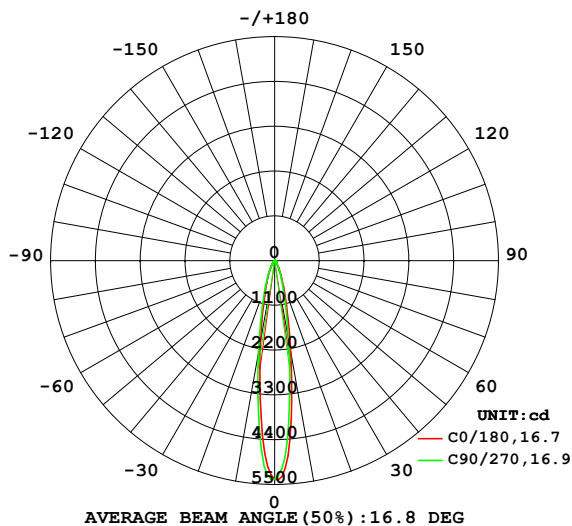


LUMINAIRE PHOTOMETRIC TEST REPORT

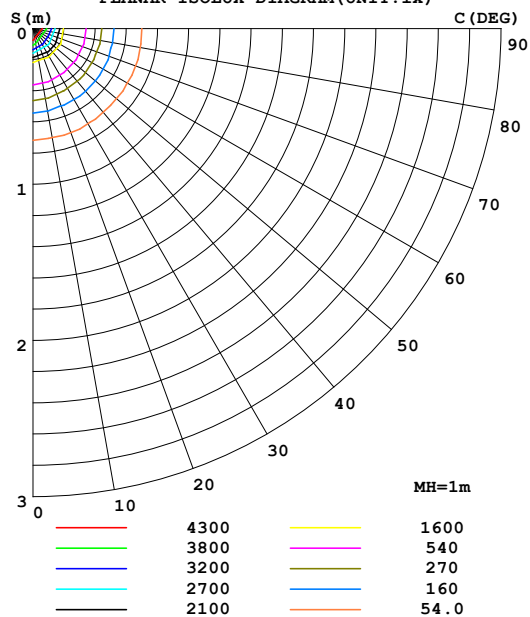
Test:U:240.4V I:0.0445A P:10.0W PF:0.9303 Freq:49.99Hz		
UTHDi:0.18% ITHDi:20.06% KDisp:0.9481 Lamp Flux:922.613x1 lm		
NAME: MD10-10-XX-03 4000K RA90 15D	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: Norming Lighting	SUR.:	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA				Eff: 92.64 lm/W
MODEL		I _{max} (cd)	5400	S/MH(C0/180)	0.27	
NOMINAL POWER(W)	10	LOR(%)	100.0	S/MH(C90/270)	0.31	
RATED VOLTAGE(V)	240	TOTAL FLUX(lm)	922.61	η UP,DN(C0-180)	0.0,48.0	
NOMINAL FLUX(lm)	922.613	CIE CLASS	DIRECT	η UP,DN(C180-360)	0.0,52.0	
LAMPS INSIDE	1	η up(%)	0.0	CIBSE SHR NOM	0.00	
TEST VOLTAGE(V)	240.36	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:

γ	C0	C45	C90	C135	C180	C225	C270	C315	γ	Φ zone	Φ total	%lum, lamp
10	2288	2137	1981	1965	2031	2159	2329	2375	0- 10	325.9	325.9	35.3,35.3
20	596.9	548.4	516.7	525.2	569.2	610.0	650.4	634.2	10- 20	310.2	636.1	68.9,68.9
30	189.4	173.4	168.6	174.3	192.5	204.2	219.5	203.7	20- 30	156.0	792.1	85.9,85.9
40	60.02	56.60	56.07	56.63	60.79	66.75	72.42	67.26	30- 40	70.26	862.4	93.5,93.5
50	23.48	22.93	23.07	22.50	23.00	26.42	28.81	27.01	40- 50	30.31	892.7	96.8,96.8
60	11.80	11.55	11.58	11.47	11.55	13.35	14.39	13.45	50- 60	15.72	908.4	98.5,98.5
70	6.204	6.095	6.056	6.109	6.282	6.896	7.259	6.918	60- 70	8.983	917.4	99.4,99.4
80	2.373	2.282	2.206	2.442	2.582	2.130	1.408	1.860	70- 80	4.655	922.1	99.9,99.9
90	0.0218	0.0116	0.0283	0.0080	0.0154	0.0093	0.0145	0.0084	80- 90	0.5556	922.6	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): 880.33 lm

%lum = 95.4%

%lamp = 95.4%

Conical surface Flux(130deg): 913.54 lm

%lum = 99.0%

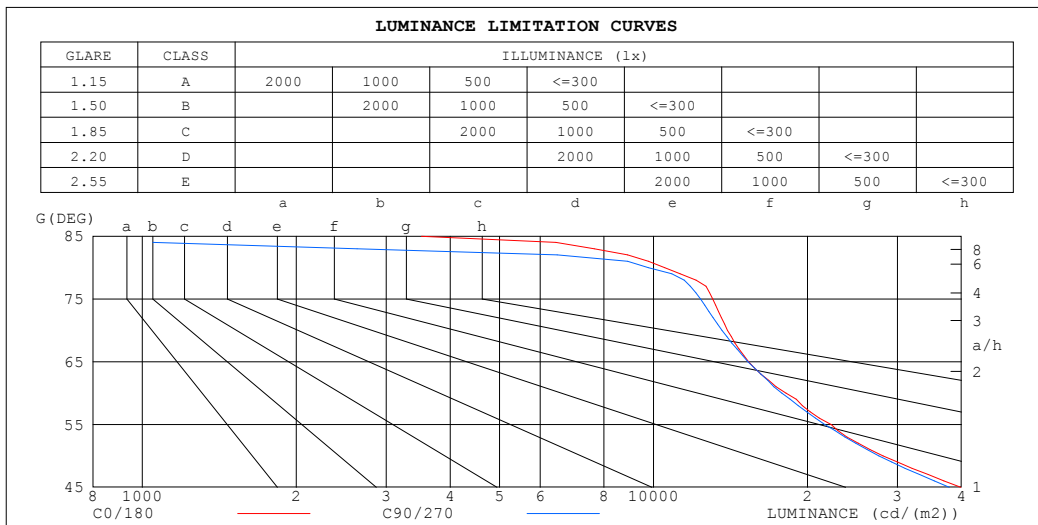
%lamp = 99.0%

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

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:0.0445A P:10.0W PF:0.9303 Freq:49.99Hz		
UTHDi:0.18% ITHDi:20.06% KDisp:0.9481 Lamp Flux:922.613x1 lm		
NAME: MD10-10-XX-03 4000K RA90 15D	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: Norming Lighting	SUR.:	Shielding Angle:



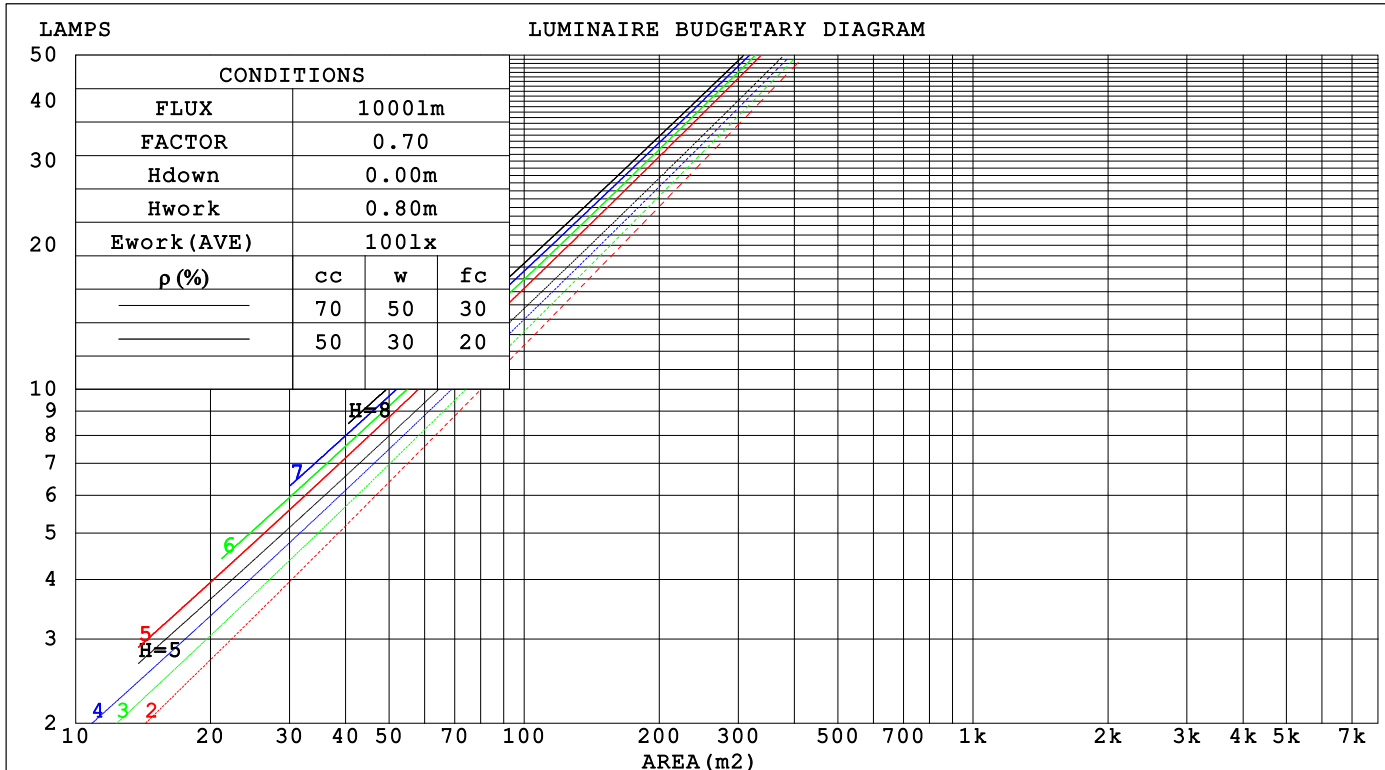
C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators: DAMIN
Test Date: 2023-09-14

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:

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

Test:U:240.4V I:0.0445A P:10.0W PF:0.9303 Freq:49.99Hz		
UTHDi:0.18% ITHDi:20.06% KDisp:0.9481 Lamp Flux:922.613x1 lm		
NAME: MD10-10-XX-03 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															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	1.12	1.10	1.08	1.10	1.08	1.06	1.06	1.05	1.03	1.02	1.01	1.00	.99	.98	.97	.96														
2.0	1.06	1.03	.00	1.04	1.01	.99	1.01	.99	.97	.98	.96	.95	.96	.94	.93	.91														
3.0	1.01	.97	.94	.99	.96	.93	.97	.94	.91	.95	.92	.90	.92	.90	.89	.87														
4.0	.96	.92	.88	.95	.91	.88	.93	.90	.87	.91	.88	.86	.89	.87	.85	.84														
5.0	.92	.88	.84	.91	.87	.84	.90	.86	.83	.88	.85	.82	.87	.84	.82	.80														
6.0	.89	.84	.81	.88	.83	.80	.86	.83	.80	.85	.82	.79	.84	.81	.79	.78														
7.0	.85	.81	.77	.85	.80	.77	.84	.80	.77	.82	.79	.76	.81	.78	.76	.75														
8.0	.82	.78	.75	.82	.77	.74	.81	.77	.74	.80	.76	.74	.79	.76	.74	.73														
9.0	.80	.75	.72	.79	.75	.72	.78	.75	.72	.78	.74	.72	.77	.74	.71	.70														
10.0	.77	.73	.70	.77	.73	.70	.76	.72	.70	.75	.72	.69	.75	.72	.69	.68														



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:0.9303 Freq:49.99Hz		
UTHDi:0.18% ITHDi:20.06% KDisp:0.9481		Lamp Flux:922.613x1 lm
NAME: MD10-10-XX-03 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	.151	.086	.027	.145	.083	.026	.132	.076	.024	.121	.070	.022	.110	.064	.021		
2.0	.142	.078	.024	.136	.075	.023	.126	.070	.022	.116	.065	.020	.108	.061	.019		
3.0	.133	.071	.021	.128	.069	.021	.119	.065	.020	.111	.061	.019	.104	.057	.018		
4.0	.124	.065	.019	.120	.063	.019	.113	.060	.018	.106	.057	.017	.100	.054	.017		
5.0	.117	.060	.017	.114	.058	.017	.107	.056	.016	.101	.053	.016	.096	.051	.015		
6.0	.110	.055	.016	.108	.054	.016	.102	.052	.015	.097	.050	.015	.092	.049	.014		
7.0	.105	.052	.015	.102	.051	.014	.097	.049	.014	.093	.048	.014	.089	.046	.014		
8.0	.099	.049	.014	.097	.048	.014	.093	.046	.013	.089	.045	.013	.085	.044	.013		
9.0	.095	.046	.013	.093	.045	.013	.089	.044	.012	.086	.043	.012	.082	.042	.012		
10.0	.090	.043	.012	.089	.043	.012	.085	.042	.012	.082	.041	.012	.079	.040	.011		

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	.169	.158	.147	.145	.135	.126	.099	.093	.087	.057	.054	.051	.018	.017	.016		
2.0	.152	.133	.116	.130	.114	.100	.089	.079	.070	.052	.046	.041	.017	.015	.013		
3.0	.138	.113	.094	.118	.098	.081	.081	.068	.057	.047	.040	.034	.015	.013	.011		
4.0	.126	.098	.077	.108	.085	.067	.074	.059	.047	.043	.035	.028	.014	.011	.009		
5.0	.116	.086	.064	.100	.074	.056	.069	.052	.039	.040	.031	.023	.013	.010	.008		
6.0	.107	.076	.054	.092	.066	.047	.064	.046	.033	.037	.027	.020	.012	.009	.007		
7.0	.100	.068	.046	.086	.059	.040	.059	.041	.028	.034	.024	.017	.011	.008	.006		
8.0	.093	.062	.040	.080	.053	.035	.056	.037	.025	.032	.022	.015	.010	.007	.005		
9.0	.088	.056	.035	.076	.049	.030	.052	.034	.021	.030	.020	.013	.010	.007	.004		
10.0	.083	.051	.030	.071	.045	.026	.049	.031	.019	.029	.019	.011	.009	.006	.004		

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:0.9303 Freq:49.99Hz										
UTHDi:0.18% ITHDi:20.06% KDisp:0.9481					Lamp Flux:922.613x1 lm					
NAME: MD10-10-XX-03 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	18.1	18.8	18.3	19.0	19.1	17.9	18.6	18.1	18.7	18.9
3H	18.5	19.2	18.7	19.4	19.6	18.3	19.0	18.5	19.1	19.3
4H	18.7	19.3	18.9	19.5	19.8	18.5	19.1	18.7	19.3	19.5
6H	18.8	19.4	19.1	19.7	19.9	18.6	19.2	18.9	19.4	19.7
8H	18.8	19.4	19.1	19.7	19.9	18.6	19.2	18.9	19.4	19.7
12H	18.8	19.4	19.1	19.6	19.9	18.5	19.1	18.8	19.4	19.6
4H 2H	18.2	18.8	18.5	19.0	19.3	18.0	18.6	18.2	18.8	19.0
3H	18.7	19.3	19.0	19.6	19.8	18.5	19.1	18.8	19.4	19.6
4H	19.0	19.5	19.4	19.8	20.1	18.8	19.3	19.1	19.6	19.9
6H	19.2	19.7	19.6	20.0	20.4	19.0	19.5	19.4	19.8	20.1
8H	19.3	19.7	19.6	20.0	20.4	19.0	19.5	19.4	19.8	20.2
12H	19.2	19.6	19.6	20.0	20.4	19.0	19.4	19.4	19.7	20.1
8H 4H	19.1	19.5	19.4	19.8	20.2	18.9	19.3	19.3	19.6	20.0
6H	19.3	19.7	19.8	20.1	20.5	19.1	19.5	19.6	19.9	20.3
8H	19.4	19.7	19.8	20.1	20.6	19.2	19.5	19.6	19.9	20.3
12H	19.4	19.6	19.8	20.1	20.6	19.1	19.4	19.6	19.8	20.3
12H 4H	19.0	19.4	19.4	19.8	20.2	18.8	19.2	19.2	19.6	20.0
6H	19.3	19.6	19.8	20.1	20.5	19.1	19.4	19.6	19.9	20.3
8H	19.4	19.7	19.9	20.1	20.6	19.1	19.4	19.6	19.9	20.3
Variations with the observer position at spacings(CIE Pub.117):										
S = 1.0H	+ 1.2 / - 1.4					+ 1.1 / - 1.3				
1.5H	+ 2.2 / - 1.1					+ 1.9 / - 1.0				
2.0H	+ 1.8 / - 1.0					+ 1.7 / - 1.0				

CIE Pub.117, 922.6 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:0.0445A P:10.0W PF:0.9303 Freq:49.99Hz		
UTHDi:0.18% ITHDi:20.06% KDisp:0.9481 Lamp Flux:922.613x1 lm		
NAME: MD10-10-XX-03 4000K RA90 15D	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: Norming Lighting	SUR.:	Shielding Angle:

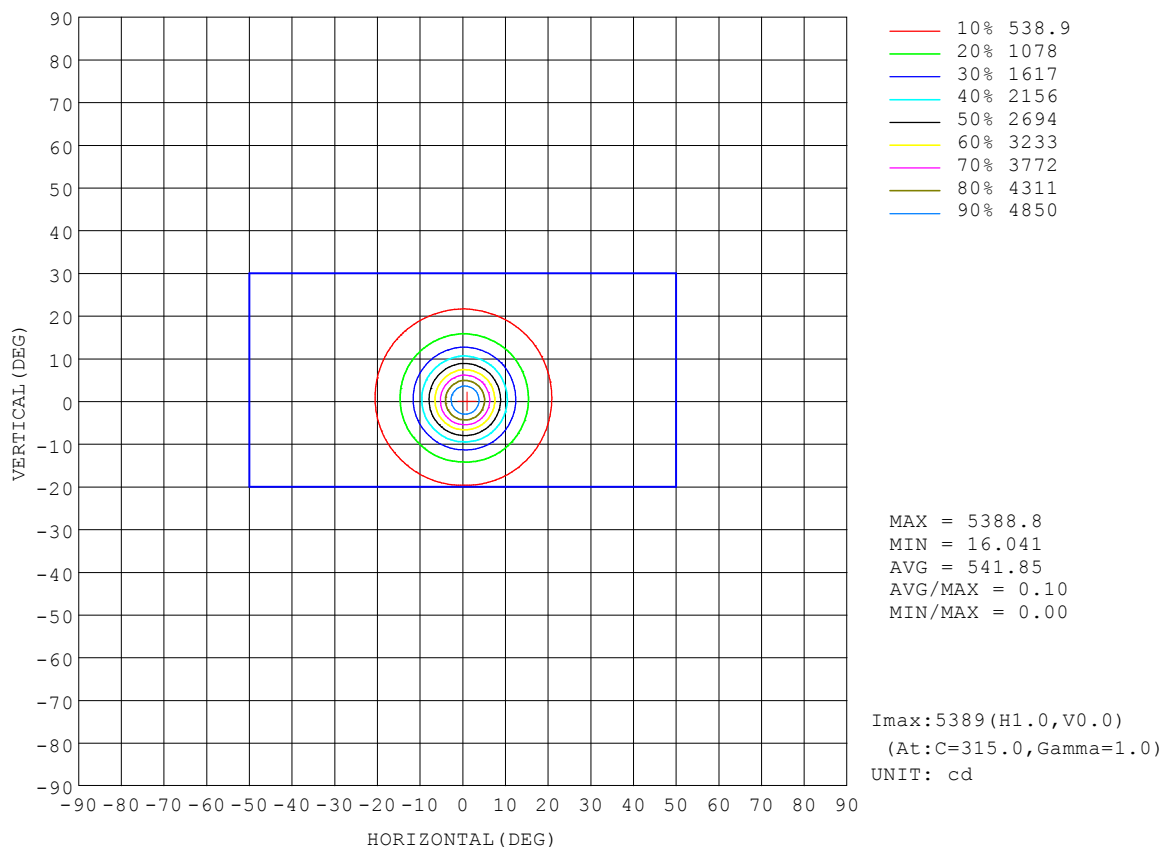
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS (PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	88	81	77	87	81	77	86	81	77	74
0.80	95	89	85	94	89	85	93	88	85	81
1.00	99	94	90	98	93	90	97	93	89	85
1.25	103	98	94	102	97	94	100	96	93	89
1.50	106	101	98	105	100	97	102	99	96	92
2.00	108	104	101	107	103	100	104	101	99	94
2.50	110	106	103	109	105	102	105	103	101	95
3.00	112	108	106	110	107	104	107	104	102	96
4.00	114	111	109	112	109	107	108	106	105	98
5.00	115	113	111	113	111	109	109	108	106	99
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:0.0445A P:10.0W PF:0.9303 Freq:49.99Hz		
UTHDi:0.18% ITHDi:20.06% KDisp:0.9481 Lamp Flux:922.613x1 lm		
NAME: MD10-10-XX-03 4000K RA90 15D	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: Norming Lighting	SUR.:	Shielding Angle:

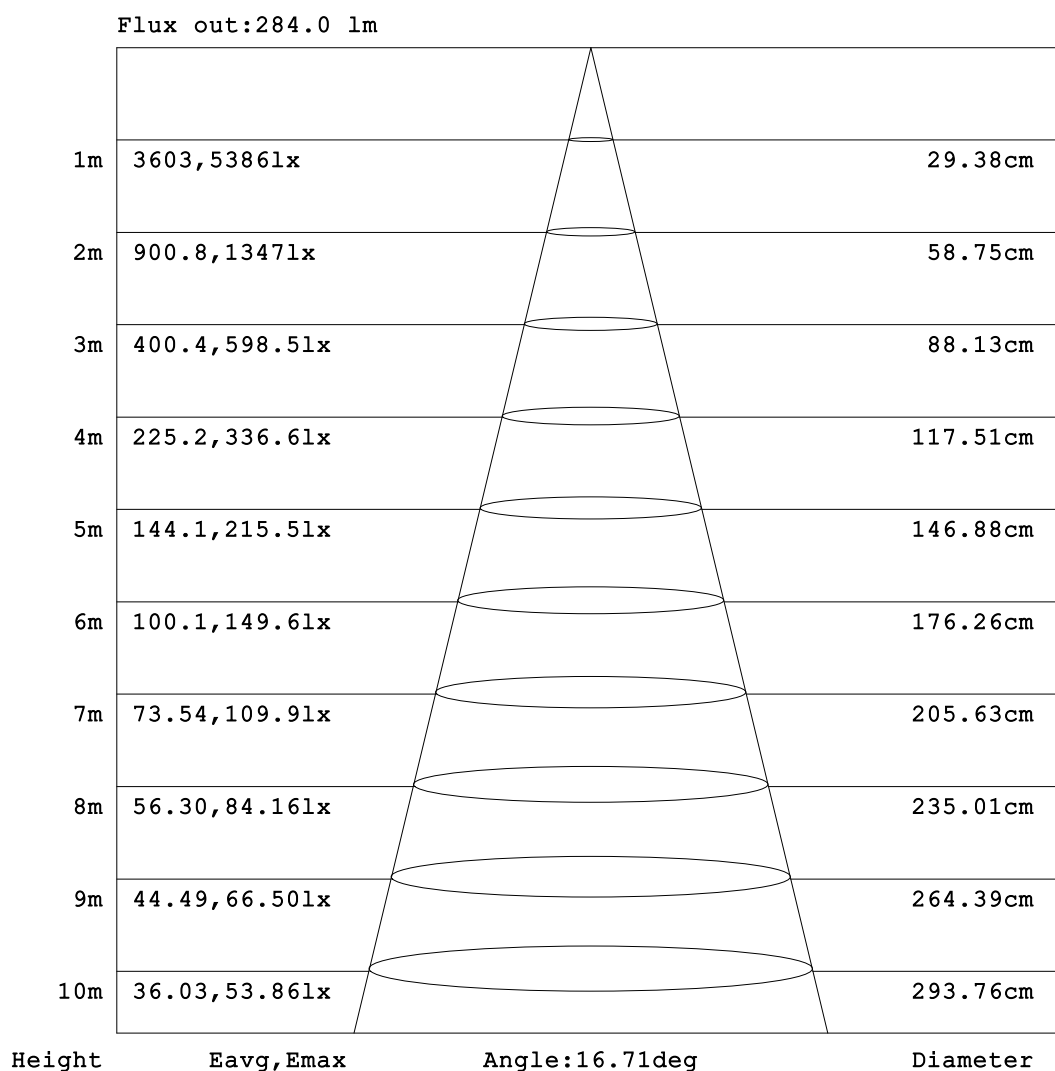


C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2023-09-14

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:0.0445A P:10.0W PF:0.9303 Freq:49.99Hz		
UTHDi:0.18% ITHDi:20.06% KDisp:0.9481		Lamp Flux:922.613x1 lm
NAME: MD10-10-XX-03 4000K RA90 15D	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: Norming Lighting	SUR.:	Shielding Angle:



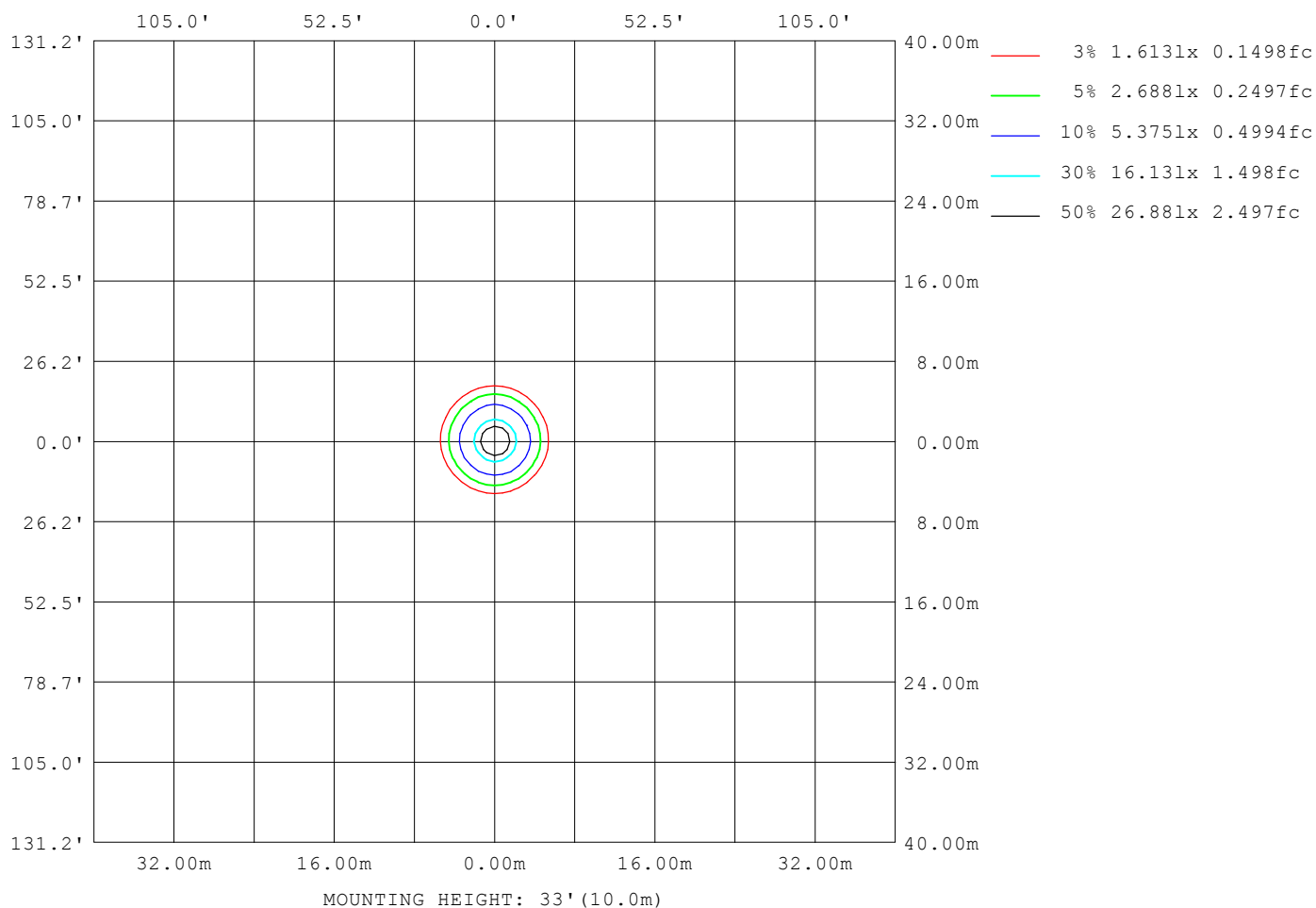
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

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:0.0445A P:10.0W PF:0.9303 Freq:49.99Hz		
UTHDi:0.18% ITHDi:20.06% KDisp:0.9481 Lamp Flux:922.613x1 lm		
NAME: MD10-10-XX-03 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:0.0445A P:10.0W PF:0.9303 Freq:49.99Hz UTHDi:0.18% ITHDi:20.06% KDisp:0.9481 Lamp Flux:922.613x1 lm		
NAME: MD10-10-XX-03 4000K RA90 15D	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: Norming Lighting	SUR.:	Shielding Angle:

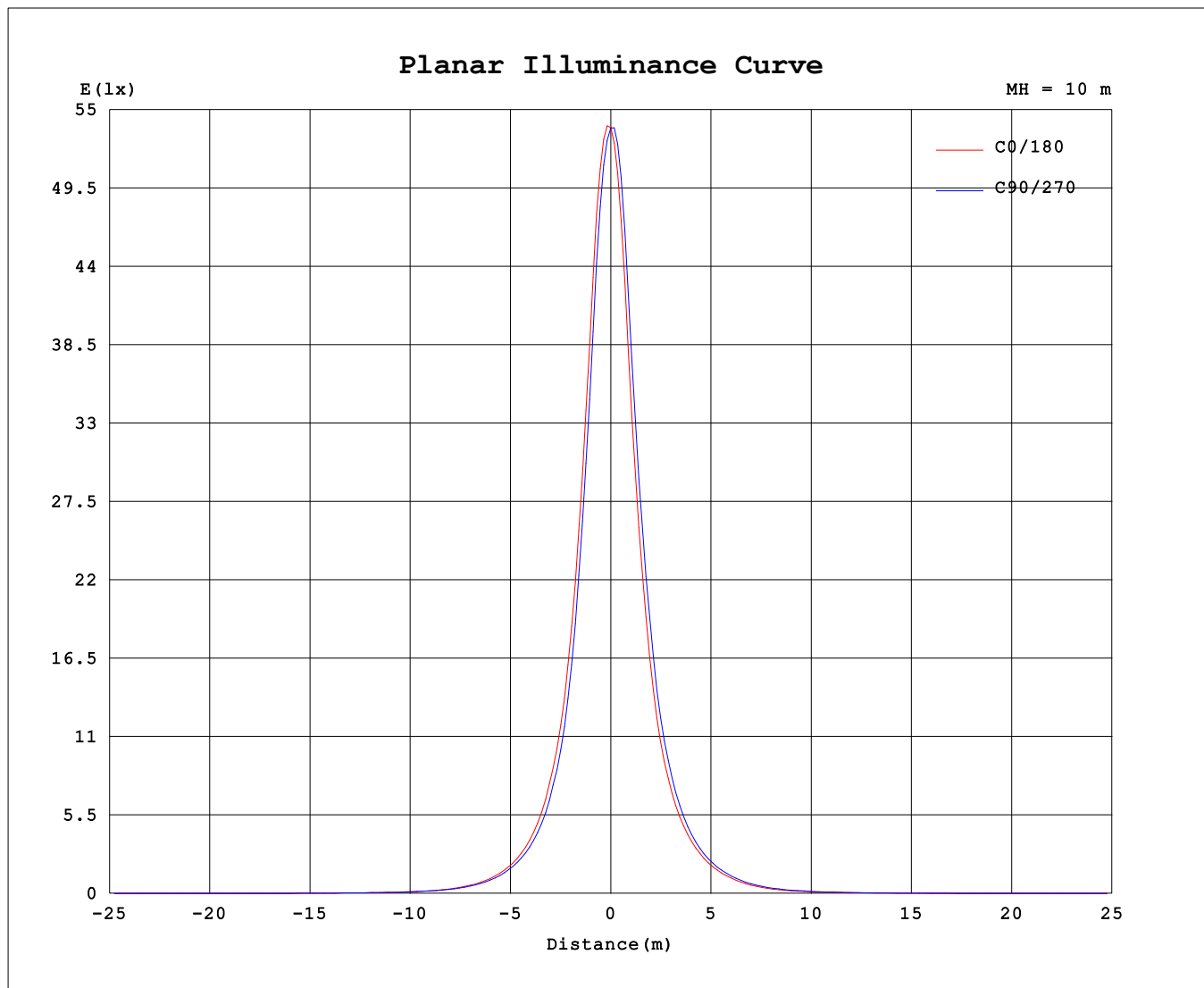
AvgL	cd/m2
L_0~180 (65) av	15468
L_0~180 (75) av	12981
L_0~180 (85) av	4264
L_90~270 (65) av	16786
L_90~270 (75) av	13501
L_90~270 (85) av	275
L_45 (65) av	16309
L_45 (75) av	13368
L_45 (85) av	376

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:

Test:U:240.4V I:0.0445A P:10.0W PF:0.9303 Freq:49.99Hz UTHDi:0.18% ITHDi:20.06% KDisp:0.9481 Lamp Flux:922.613x1 lm		
NAME: MD10-10-XX-03 4000K RA90 15D	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: Norming Lighting	SUR.:	Shielding Angle:

UNIT: cd

[illegible]

```

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:

```