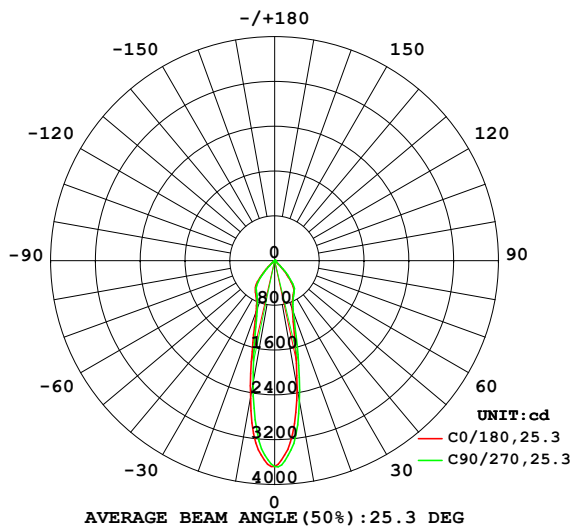


LUMINAIRE PHOTOMETRIC TEST REPORT

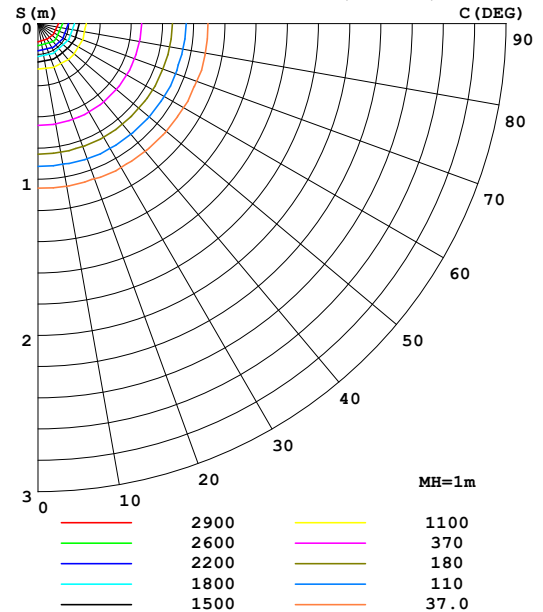
Test:U:240.4V I:0.0724A P:16.8W PF:0.9667 Freq:49.99Hz		
UTHDi:0.18% ITHDi:18.51% KDisp:0.9833 Lamp Flux:1600.23x1 lm		
NAME: MD18-18-XX-02 2700K RA90 25D	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: Norming lighting	SUR.: 41mm	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA				Eff: 95.04 lm/W
MODEL		I _{max} (cd)	3692	S/MH (C0/180)	0.44	
NOMINAL POWER(W)	18	LOR (%)	100.0	S/MH (C90/270)	0.40	
RATED VOLTAGE(V)	240	TOTAL FLUX(lm)	1600.2	η UP,DN (C0-180)	0.0,51.2	
NOMINAL FLUX(lm)	1600.23	CIE CLASS	DIRECT	η UP,DN (C180-360)	0.0,48.8	
LAMPS INSIDE	1	η up (%)	0.0	CIBSE SHR NOM	0.50	
TEST VOLTAGE(V)	240.4	η down (%)	100.0	CIBSE SHR MAX	0.50	

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: 2024-09-05

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	2307	2445	2563	2591	2497	2340	2232	2205	0- 10	287.0	287.0	17.9,17.9
20	933.8	962.9	983.0	999.9	974.0	944.8	914.6	901.6	10- 20	411.5	698.5	43.6,43.6
30	677.9	685.8	691.3	689.7	682.2	666.5	656.2	658.3	20- 30	358.0	1056	66,66
40	388.2	411.7	444.4	460.1	449.8	414.1	392.1	376.4	30- 40	359.8	1416	88.5,88.5
50	32.98	39.91	48.76	48.79	43.81	34.07	30.03	30.32	40- 50	151.6	1568	98,98
60	8.653	9.627	10.39	10.17	9.301	8.631	8.014	8.190	50- 60	16.43	1584	99,99
70	5.827	6.112	6.204	6.302	5.834	5.499	5.383	5.613	60- 70	6.913	1591	99.4,99.4
80	5.820	6.023	6.477	6.548	6.362	5.483	5.564	5.638	70- 80	5.914	1597	99.8,99.8
90	0.0558	0.0437	0.0614	0.0486	0.0497	0.0488	0.0653	0.0540	80- 90	3.160	1600	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): 1526.8 lm

%lum = 95.4%

%lamp = 95.4%

Conical surface Flux(120deg): 1584.2 lm

%lum = 99.0%

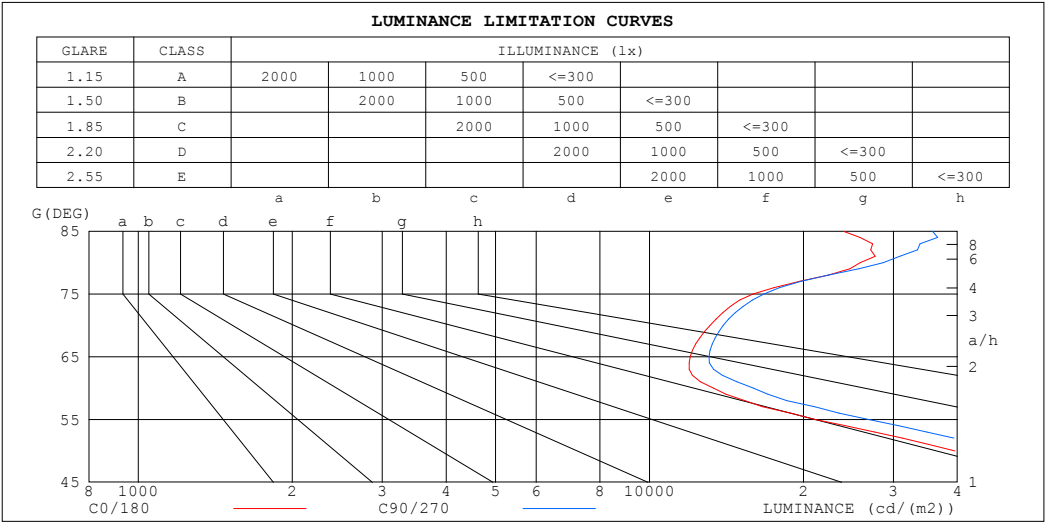
%lamp = 99.0%

C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2024-09-05

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:0.0724A P:16.8W PF:0.9667 Freq:49.99Hz		
UTHDi:0.18% ITHDi:18.51% KDisp:0.9833 Lamp Flux:1600.23x1 lm		
NAME: MD18-18-XX-02 2700K RA90 25D	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: Norming lighting	SUR.: 41mm	Shielding Angle:



LUMINANCE cd/(m2)		
G (DEG)	C0/180	C90/270
85	23948	35780
80	25832	28658
75	15921	16720
70	13131	13939
65	12014	13081
60	13340	15966
55	21090	26861
50	39547	58286
45	174950	234374

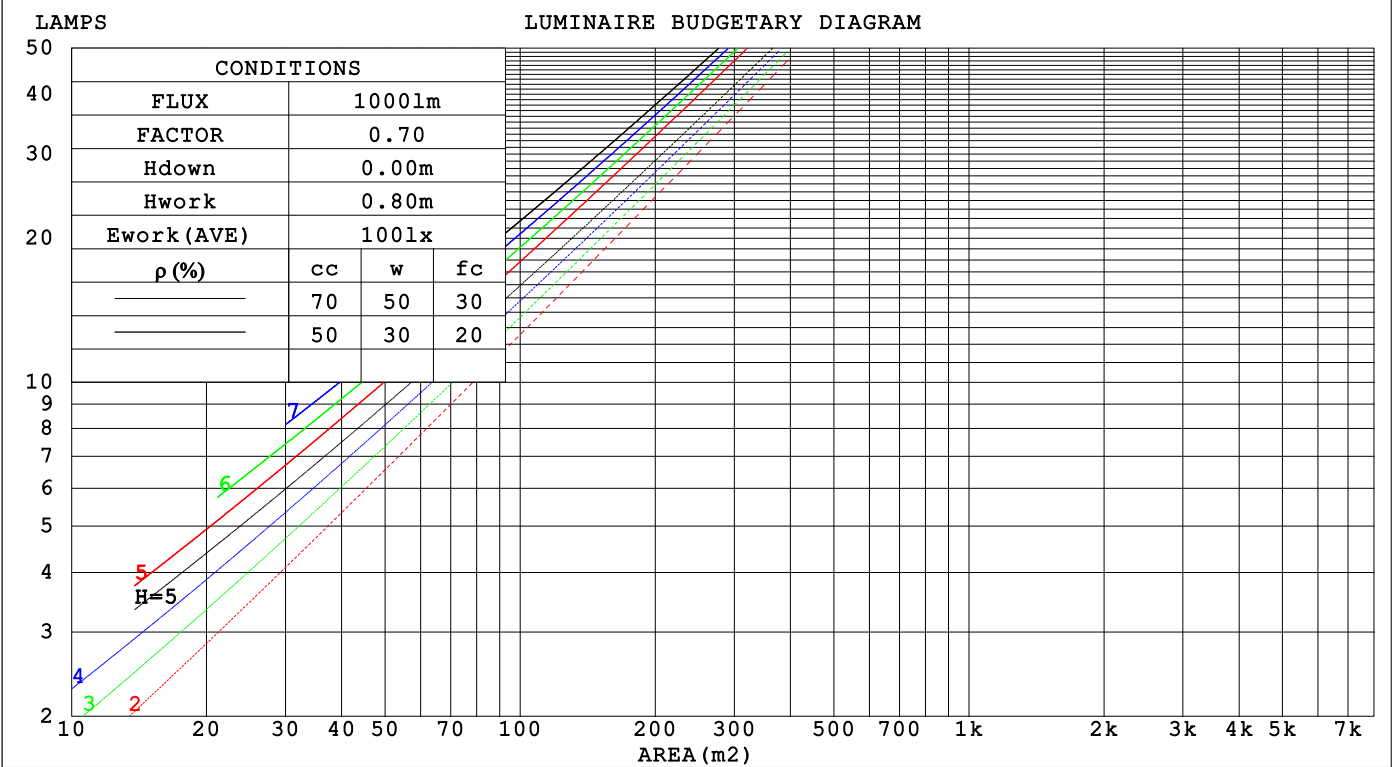
C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2024-09-05

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:0.0724A P:16.8W PF:0.9667 Freq:49.99Hz		
UTHDi:0.18% ITHDi:18.51% KDisp:0.9833		
Lamp Flux:1600.23x1 lm		
NAME: MD18-18-XX-02 2700K RA90 25D	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: Norming lighting	SUR.: 41mm	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:2024-09-05

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:0.0724A P:16.8W PF:0.9667 Freq:49.99Hz			UTHDi:0.18% ITHDi:18.51% KDisp:0.9833			Lamp Flux:1600.23x1 lm		
NAME: MD18-18-XX-02 2700K RA90 25D			TYPE:			WEIGHT:		
SPEC.:			DIM.:			SERIAL No.:		
MFR.: Norming lighting			SUR.: 41mm			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	.179	.102	.032	.172	.098	.031	.159	.091	.029	.148	.085	.027	.137	.079	.026															
2.0	.170	.093	.029	.165	.091	.028	.154	.086	.027	.144	.081	.025	.135	.077	.024															
3.0	.162	.086	.026	.157	.084	.025	.148	.080	.024	.140	.077	.023	.132	.073	.023															
4.0	.154	.080	.024	.150	.078	.023	.142	.075	.022	.135	.072	.022	.128	.070	.021															
5.0	.146	.075	.022	.143	.073	.021	.136	.071	.021	.130	.068	.020	.124	.066	.020															
6.0	.139	.070	.020	.136	.069	.020	.130	.067	.019	.125	.065	.019	.119	.063	.019															
7.0	.133	.066	.019	.130	.065	.018	.125	.063	.018	.120	.061	.018	.115	.060	.018															
8.0	.127	.062	.017	.124	.061	.017	.120	.060	.017	.115	.058	.017	.111	.057	.017															
9.0	.121	.059	.016	.119	.058	.016	.115	.057	.016	.111	.056	.016	.107	.054	.016															
10.0	.116	.056	.015	.114	.055	.015	.110	.054	.015	.107	.053	.015	.103	.052	.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	.125	.100	.093	.086	.058	.054	.050	.018	.017	.016	
2.0	.156	.132	.113	.134	.114	.097	.092	.079	.068	.053	.046	.040	.017	.015	.013	
3.0	.144	.114	.090	.123	.098	.078	.085	.068	.054	.049	.040	.032	.016	.013	.011	
4.0	.133	.099	.073	.114	.085	.063	.079	.060	.044	.046	.035	.026	.015	.011	.009	
5.0	.125	.087	.060	.107	.075	.052	.074	.053	.037	.043	.031	.022	.014	.010	.007	
6.0	.117	.078	.050	.101	.067	.043	.069	.047	.031	.040	.028	.018	.013	.009	.006	
7.0	.110	.070	.042	.095	.061	.037	.066	.043	.026	.038	.025	.016	.012	.008	.005	
8.0	.105	.064	.036	.090	.056	.032	.062	.039	.022	.036	.023	.013	.012	.008	.004	
9.0	.099	.059	.031	.086	.051	.027	.059	.036	.019	.035	.021	.012	.011	.007	.004	
10.0	.095	.054	.028	.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:2024-09-05

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:0.0724A P:16.8W PF:0.9667 Freq:49.99Hz										
UTHDi:0.18% ITHDi:18.51% KDisp:0.9833					Lamp Flux:1600.23x1 lm					
NAME: MD18-18-XX-02 2700K RA90 25D					TYPE:			WEIGHT:		
SPEC.:					DIM.:			SERIAL No.:		
MFR.: Norming lighting					SUR.: 41mm			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	26.5	27.4	26.7	27.6	27.7	26.9	27.8	27.1	28.0	28.2
3H	26.3	27.2	26.6	27.4	27.6	26.7	27.6	27.0	27.8	28.0
4H	26.2	27.1	26.5	27.3	27.5	26.7	27.5	26.9	27.7	27.9
6H	26.2	27.0	26.5	27.2	27.5	26.6	27.4	26.9	27.6	27.9
8H	26.2	26.9	26.5	27.2	27.5	26.6	27.4	26.9	27.6	27.9
12H	26.2	26.9	26.5	27.2	27.4	26.6	27.3	27.0	27.6	27.9
4H 2H	26.2	27.0	26.5	27.3	27.5	26.6	27.5	26.9	27.7	27.9
3H	26.1	26.8	26.4	27.0	27.3	26.5	27.2	26.8	27.5	27.7
4H	26.0	26.7	26.4	27.0	27.3	26.4	27.1	26.8	27.4	27.7
6H	26.0	26.6	26.4	26.9	27.3	26.4	27.0	26.8	27.3	27.7
8H	26.0	26.6	26.4	26.9	27.3	26.5	27.0	26.9	27.3	27.7
12H	26.0	26.5	26.4	26.9	27.3	26.5	27.0	26.9	27.3	27.7
8H 4H	25.9	26.4	26.3	26.8	27.1	26.3	26.8	26.7	27.2	27.6
6H	25.9	26.4	26.4	26.8	27.2	26.4	26.8	26.8	27.2	27.6
8H	26.0	26.4	26.4	26.8	27.2	26.4	26.8	26.9	27.2	27.7
12H	26.0	26.4	26.5	26.8	27.3	26.5	26.8	27.0	27.3	27.7
12H 4H	25.9	26.3	26.3	26.7	27.1	26.3	26.8	26.7	27.1	27.5
6H	25.9	26.3	26.4	26.7	27.2	26.3	26.7	26.8	27.1	27.6
8H	26.0	26.3	26.5	26.8	27.2	26.4	26.7	26.9	27.2	27.6
Variations with the observer position at spacings(CIE Pub.117):										
S = 1.0H	+ 2.4 / - 7.9					+ 2.6 / - 7.8				
1.5H	+ 4.7 / - 7.7					+ 4.6 / - 8.0				
2.0H	+ 6.2 / - 3.0					+ 6.9 / - 3.8				

CIE Pub.117, 1600 lm Total Lamp Luminous Flux Corrected ($8\log(F/F_0) = 1.6$)
Area: 0.0013 m²

C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2024-09-05

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:0.0724A P:16.8W PF:0.9667 Freq:49.99Hz		
UTHDi:0.18% ITHDi:18.51% KDisp:0.9833 Lamp Flux:1600.23x1 lm		
NAME: MD18-18-XX-02 2700K RA90 25D	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: Norming lighting	SUR.: 41mm	Shielding Angle:

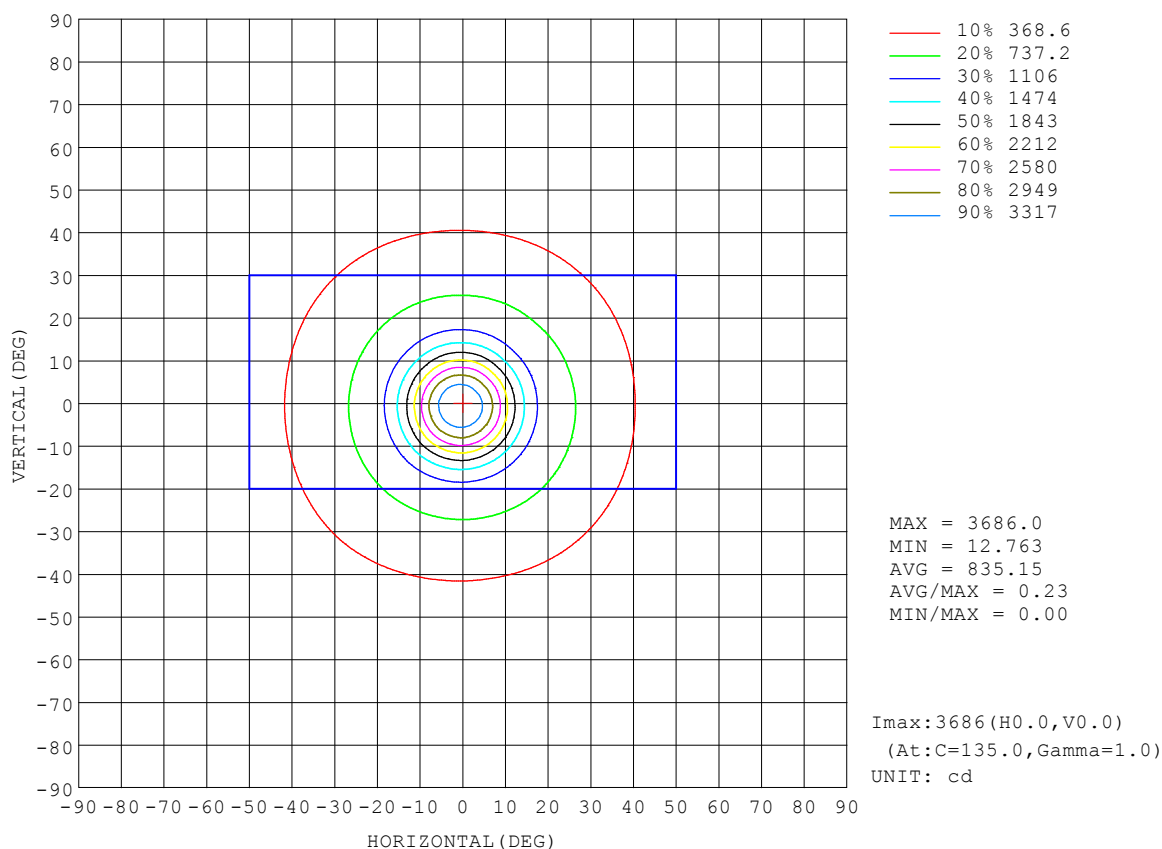
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS (PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	84	77	73	84	77	73	83	77	73	69
0.80	92	86	82	92	86	82	90	85	81	77
1.00	97	91	87	97	91	87	95	91	87	82
1.25	102	96	92	101	96	92	99	94	91	87
1.50	105	100	96	103	99	96	101	97	94	90
2.00	108	103	100	106	102	99	104	100	98	92
2.50	110	105	102	108	104	101	105	102	99	93
3.00	111	108	105	109	106	104	106	103	101	95
4.00	113	110	108	111	109	106	108	105	104	97
5.00	115	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: 2024-09-05

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:0.0724A P:16.8W PF:0.9667 Freq:49.99Hz		
UTHDi:0.18% ITHDi:18.51% KDisp:0.9833 Lamp Flux:1600.23x1 lm		
NAME: MD18-18-XX-02 2700K RA90 25D	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: Norming lighting	SUR.: 41mm	Shielding Angle:

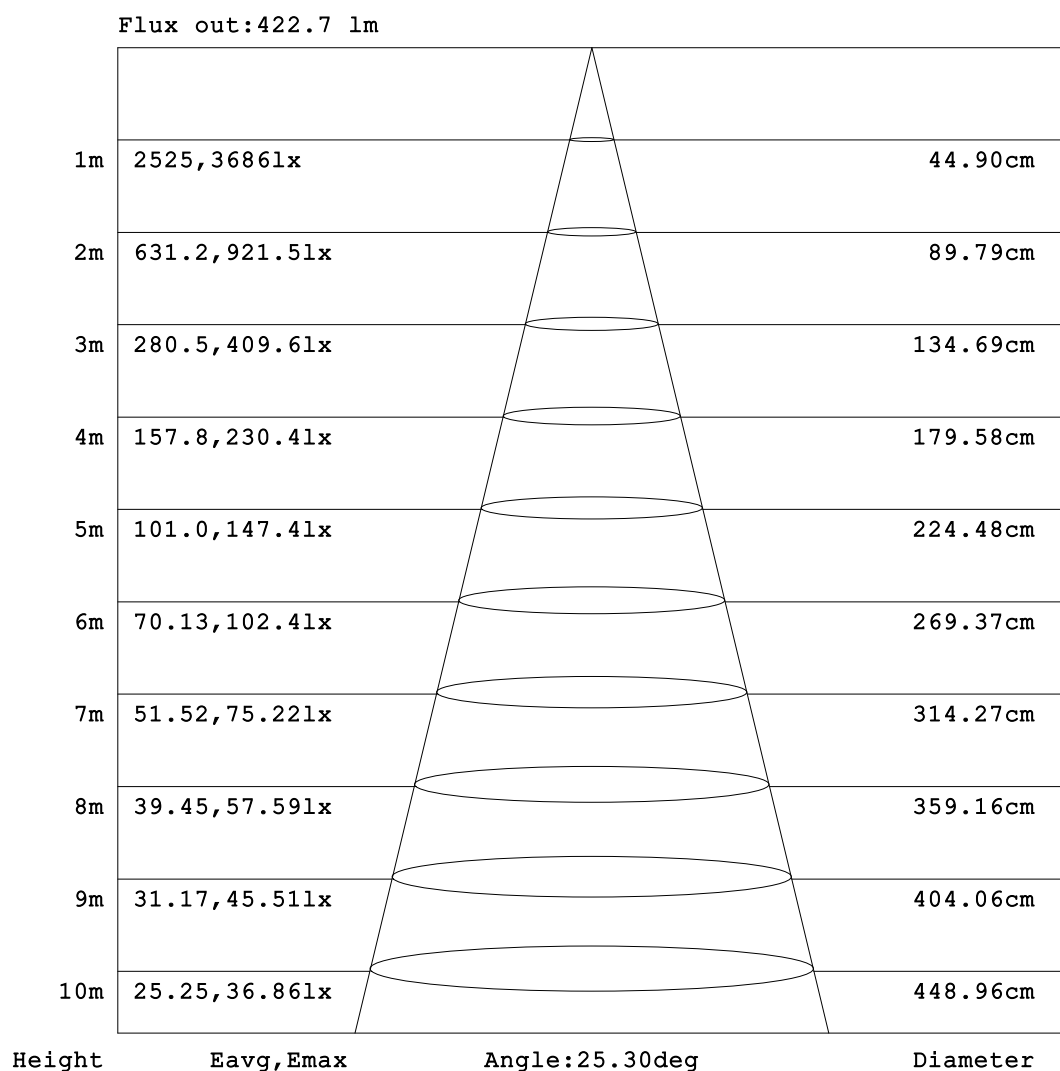


C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2024-09-05

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:0.0724A P:16.8W PF:0.9667 Freq:49.99Hz		
UTHDi:0.18% ITHDi:18.51% KDisp:0.9833 Lamp Flux:1600.23x1 lm		
NAME: MD18-18-XX-02 2700K RA90 25D	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: Norming lighting	SUR.: 41mm	Shielding Angle:



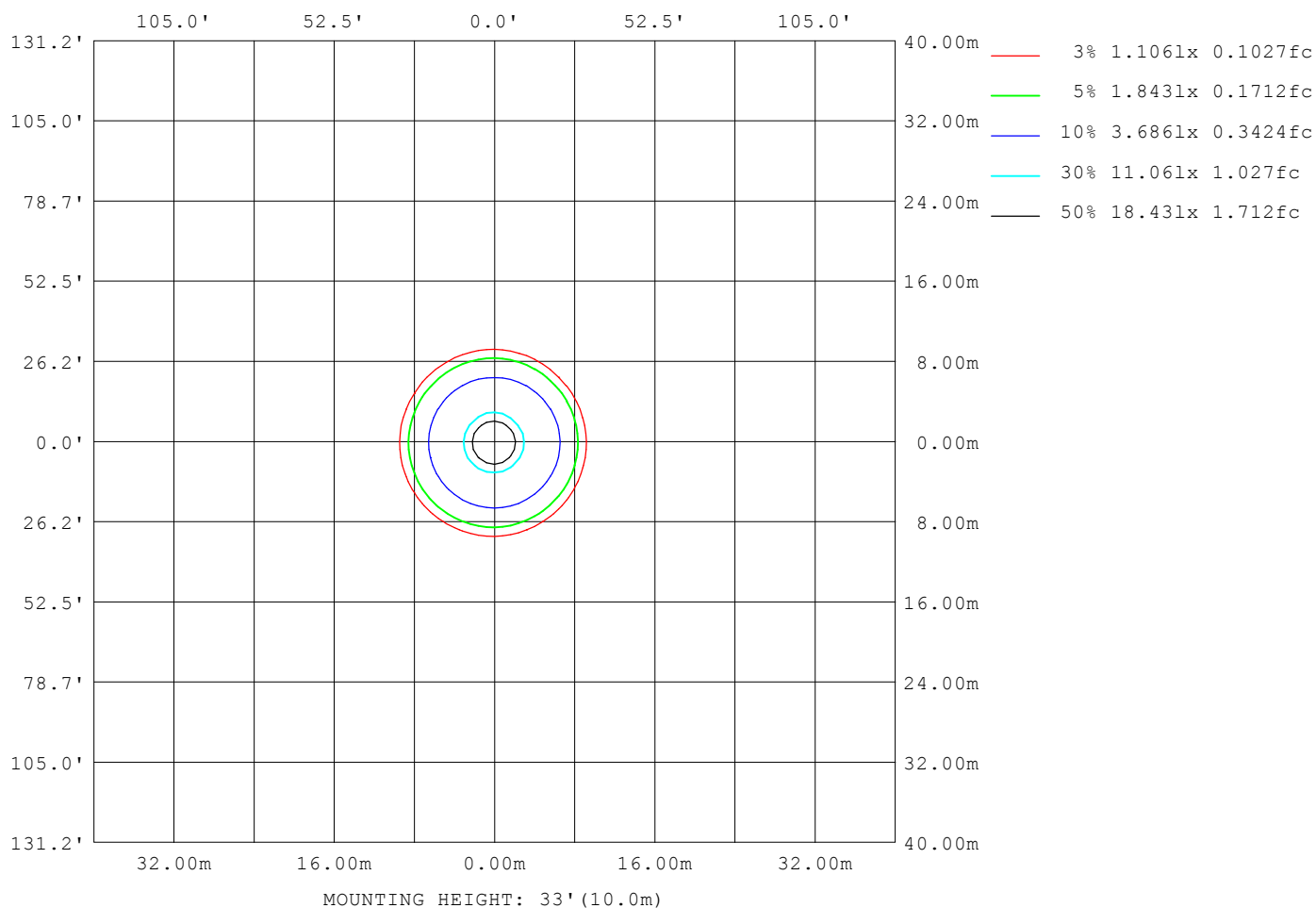
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2024-09-05

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:0.0724A P:16.8W PF:0.9667 Freq:49.99Hz		
UTHDi:0.18% ITHDi:18.51% KDisp:0.9833 Lamp Flux:1600.23x1 lm		
NAME: MD18-18-XX-02 2700K RA90 25D	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: Norming lighting	SUR.: 41mm	Shielding Angle:



C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators: DAMIN
Test Date: 2024-09-05

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:0.0724A P:16.8W PF:0.9667 Freq:49.99Hz UTHDi:0.18% ITHDi:18.51% KDisp:0.9833 Lamp Flux:1600.23x1 lm		
NAME: MD18-18-XX-02 2700K RA90 25D	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: Norming lighting	SUR.: 41mm	Shielding Angle:

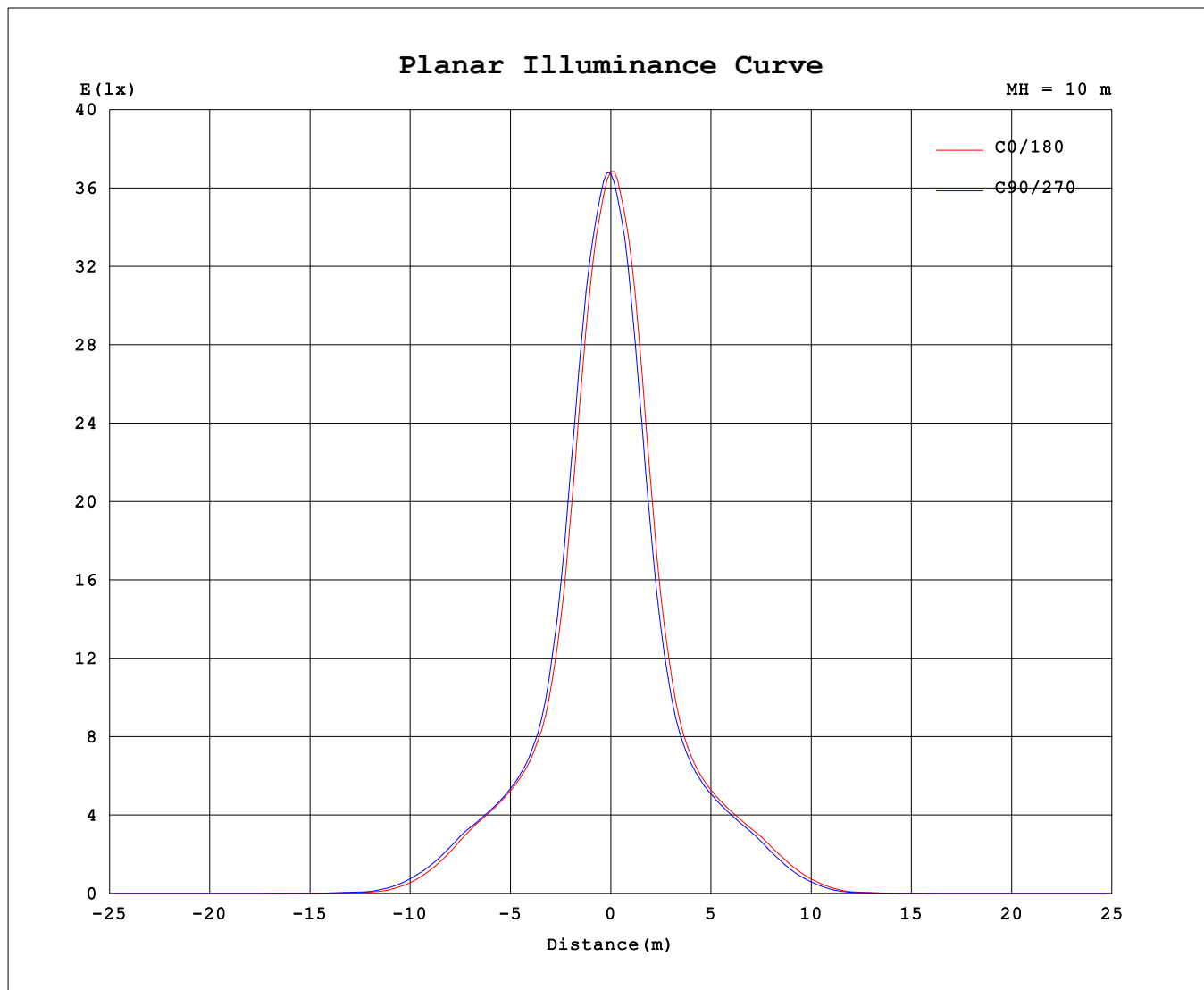
AvgL	cd/m2
L_0~180 (65) av	12189
L_0~180 (75) av	15565
L_0~180 (85) av	26575
L_90~270 (65) av	12259
L_90~270 (75) av	15874
L_90~270 (85) av	26866
L_45 (65) av	12466
L_45 (75) av	15490
L_45 (85) av	26509

Standard: GB/T 29293-2012

C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2024-09-05

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: 2024-09-05

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:

```

Photometric Data Table [cd]

G/C	0.0	45.0	90.0	135.0	180.0	225.0	270.0	315.0
0.0	3679	3679	3679	3679	3679	3679	3679	3679
3.0	3476	3528	3577	3595	3566	3520	3474	3444
6.0	3111	3199	3283	3306	3272	3162	3060	3037
9.0	2529	2654	2771	2805	2718	2562	2451	2428
12.0	1881	2021	2133	2158	2067	1916	1829	1787
15.0	1384	1475	1551	1587	1517	1421	1360	1322
18.0	1056	1110	1153	1177	1137	1081	1042	1021
21.0	883.0	910.3	932.5	938.0	916.9	887.6	867.1	858.1
24.0	786.8	803.7	813.7	813.7	800.1	779.1	767.2	764.2
27.0	725.6	736.6	742.5	741.1	730.5	714.8	704.7	704.4
30.0	677.9	685.8	691.3	689.7	682.2	666.5	656.2	658.3
33.0	632.7	639.0	646.7	644.9	637.3	620.6	609.2	613.9
36.0	562.3	576.6	599.3	599.5	587.8	566.0	551.1	544.9
39.0	436.0	456.9	488.8	503.6	492.4	458.5	436.6	423.3
42.0	292.0	319.4	350.9	365.3	354.8	322.5	298.3	279.4
45.0	160.5	190.0	215.7	224.3	214.1	185.8	170.0	148.5
48.0	61.56	82.38	99.37	103.1	96.29	80.34	67.71	56.53
51.0	28.75	33.22	36.56	34.67	31.15	26.74	23.96	25.54
54.0	18.41	21.43	23.45	21.04	19.89	17.50	15.55	16.45
57.0	11.75	13.60	14.92	14.26	13.08	11.54	10.42	10.89
60.0	8.653	9.627	10.39	10.17	9.301	8.631	8.014	8.190
63.0	7.044	7.523	7.882	8.158	7.386	7.036	6.713	6.848
66.0	6.403	6.777	6.952	7.161	6.587	6.306	6.083	6.216
69.0	5.953	6.267	6.380	6.463	6.013	5.679	5.556	5.756
72.0	5.577	5.814	5.914	6.012	5.484	5.157	5.089	5.348
75.0	5.346	5.388	5.632	5.622	5.128	4.755	5.050	5.083
78.0	6.027	5.717	6.050	6.028	5.905	5.371	5.865	5.775
81.0	5.609	5.570	6.287	6.529	6.116	5.108	4.925	5.094
84.0	3.498	4.100	4.983	4.967	4.233	2.933	2.776	3.007
87.0	0.8260	1.388	2.164	2.289	1.350	0.6164	0.4043	0.3459
90.0	0.0558	0.0437	0.0614	0.0486	0.0497	0.0488	0.0653	0.0540

C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2024-09-05

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: