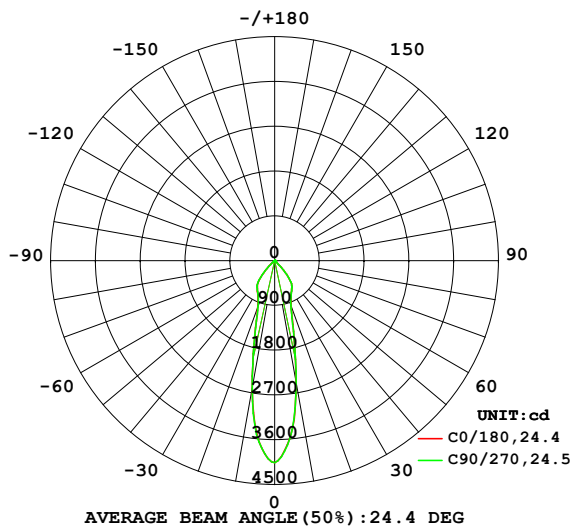


LUMINAIRE PHOTOMETRIC TEST REPORT

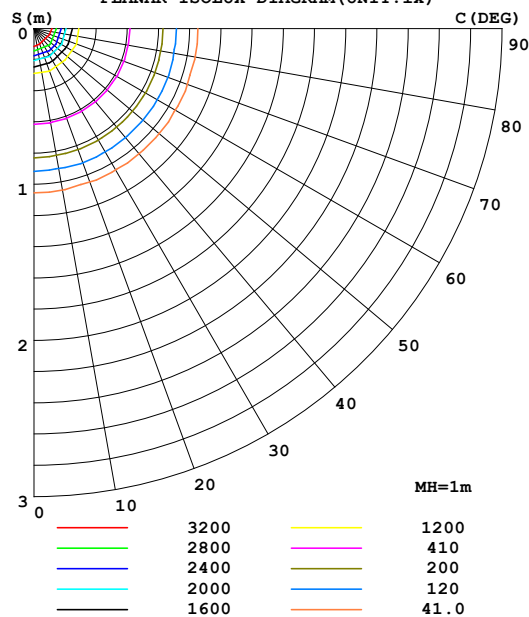
Test:U:240.4V I:0.0632A P:14.6W PF:0.9624 Freq:49.99Hz		
UTHDi:0.17% ITHDi:17.52% KDisp:0.9772 Lamp Flux:1661.8x1 lm		
NAME: FUSION-MD23-AHD-018-COB-02SC 3000K RA90 25D	15WTYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: Norming lighting	SUR.: 41mm	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA				Eff: 113.66 lm/W
MODEL		Imax (cd)	4058	S/MH(C0/180)	0.42	
NOMINAL POWER(W)	15	LOR(%)	100.0	S/MH(C90/270)	0.42	
RATED VOLTAGE(V)	240	TOTAL FLUX(lm)	1661.8	η UP,DN(C0-180)	0.0,49.3	
NOMINAL FLUX(lm)	1661.8	CIE CLASS	DIRECT	η UP,DN(C180-360)	0.0,50.7	
LAMPS INSIDE	1	η up (%)	0.0	CIBSE SHR NOM	0.50	
TEST VOLTAGE(V)	240.38	η down (%)	100.0	CIBSE SHR MAX	0.50	

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:2024-10-17

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	2499	2484	2503	2575	2607	2634	2612	2554	0- 10	311.4	311.4	18.7,18.7
20	967.7	966.2	959.3	982.5	1005	998.4	984.3	965.8	10- 20	428.9	740.2	44.5,44.5
30	687.7	685.0	688.0	695.5	699.1	699.2	694.9	689.8	20- 30	368.3	1109	66.7,66.7
40	415.9	413.4	414.2	429.0	435.4	448.0	447.5	433.1	30- 40	369.2	1478	88.9,88.9
50	33.58	32.87	34.33	34.89	35.52	38.29	37.74	36.35	40- 50	150.5	1628	98,98
60	9.553	9.178	9.264	9.309	9.677	10.06	10.11	9.724	50- 60	16.49	1645	99,99
70	6.405	6.154	6.051	6.033	6.341	6.379	6.631	6.431	60- 70	7.388	1652	99.4,99.4
80	6.566	6.401	6.046	5.972	5.826	6.338	6.857	7.012	70- 80	6.339	1658	99.8,99.8
90	0.0617	0.0498	0.0726	0.0534	0.0530	0.0517	0.0575	0.0492	80- 90	3.343	1662	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): 1590 lm

%lum = 95.7%

%lamp = 95.7%

Conical surface Flux(120deg): 1644.7 lm

%lum = 99.0%

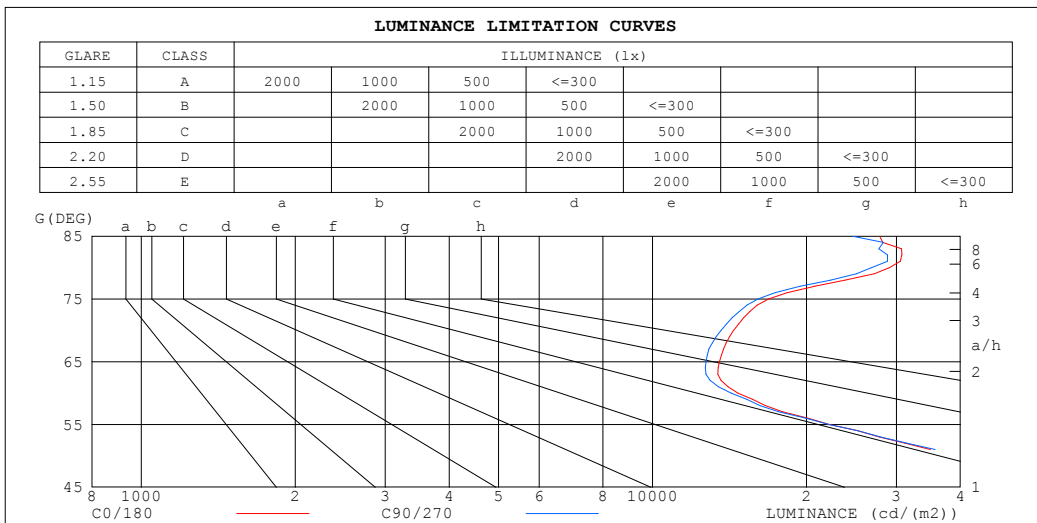
%lamp = 99.0%

C Range: 0 - 360DEG
 C Interval: 45.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2024-10-17

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:0.0632A P:14.6W PF:0.9624 Freq:49.99Hz			Lamp Flux:1661.8x1 lm		
UTHDi:0.17% ITHDi:17.52% KDisp:0.9772					
NAME: FUSION-MD23-AHD-018-COB-02SC 3000K RA90 25D 15WTYPE:			WEIGHT:		
SPEC.:			DIM.:		
MFR.: Norming lighting			SUR.: 41mm		
			Shielding Angle:		



LUMINANCE cd/(m2)		
G (DEG)	C0/180	C90/270
85	27819	24671
80	29084	26792
75	16848	16063
70	14404	13615
65	13520	12719
60	14696	14258
55	22182	22178
50	40184	41102
45	189791	185929

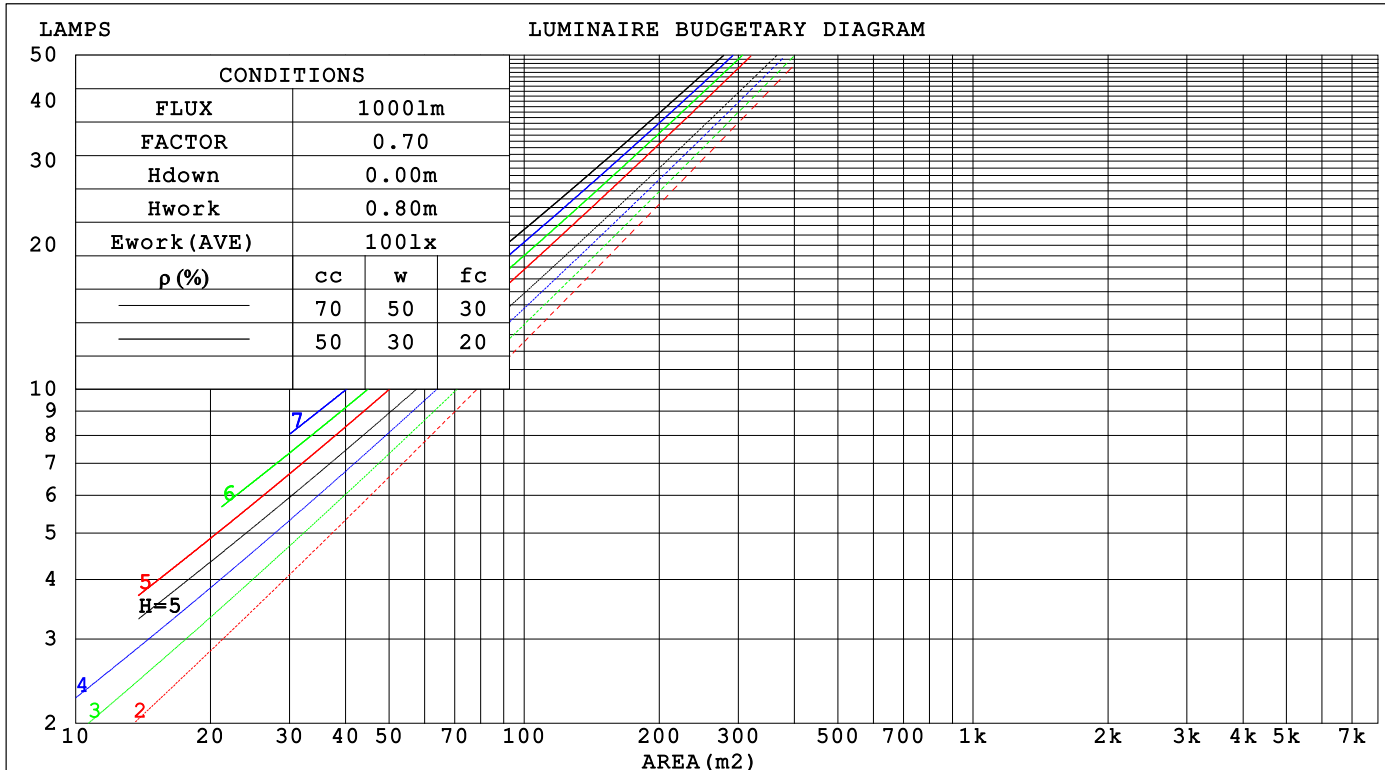
C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2024-10-17

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:0.0632A P:14.6W PF:0.9624 Freq:49.99Hz		
UTHDi:0.17% ITHDi:17.52% KDisp:0.9772		Lamp Flux:1661.8x1 lm
NAME: FUSION-MD23-AHD-018-COB-02SC 3000K RA90 25D	15WTYPE:	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:2024-10-17

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:0.0632A P:14.6W PF:0.9624 Freq:49.99Hz			UTHDi:0.17% ITHDi:17.52% KDisp:0.9772			Lamp Flux:1661.8x1 lm		
NAME: FUSION-MD23-AHD-018-COB-02SC 3000K RA90 25D			15WTYPE:			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	.178	.101	.032	.171	.097	.031	.158	.091	.029	.147	.085	.027	.136	.079	.025		
2.0	.169	.093	.028	.164	.090	.028	.153	.085	.026	.143	.080	.025	.134	.076	.024		
3.0	.161	.086	.026	.156	.083	.025	.147	.080	.024	.139	.076	.023	.131	.072	.022		
4.0	.153	.079	.023	.148	.078	.023	.141	.075	.022	.133	.072	.022	.127	.069	.021		
5.0	.145	.074	.021	.141	.073	.021	.135	.070	.021	.128	.068	.020	.122	.065	.020		
6.0	.138	.069	.020	.135	.068	.020	.129	.066	.019	.123	.064	.019	.118	.062	.018		
7.0	.132	.065	.018	.129	.064	.018	.124	.062	.018	.119	.061	.018	.114	.059	.017		
8.0	.126	.061	.017	.123	.061	.017	.118	.059	.017	.114	.058	.017	.110	.056	.016		
9.0	.120	.058	.016	.118	.057	.016	.114	.056	.016	.110	.055	.016	.106	.054	.016		
10.0	.115	.055	.015	.113	.055	.015	.109	.053	.015	.106	.052	.015	.102	.051	.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	.146	.135	.125	.100	.093	.086	.058	.054	.050	.018	.017	.016		
2.0	.156	.133	.113	.134	.114	.098	.092	.079	.068	.053	.046	.040	.017	.015	.013		
3.0	.143	.114	.090	.123	.098	.078	.084	.068	.055	.049	.040	.032	.016	.013	.011		
4.0	.133	.099	.073	.114	.085	.063	.079	.060	.044	.045	.035	.026	.015	.011	.009		
5.0	.124	.087	.060	.107	.075	.052	.073	.053	.037	.043	.031	.022	.014	.010	.007		
6.0	.117	.078	.050	.100	.067	.044	.069	.047	.031	.040	.028	.018	.013	.009	.006		
7.0	.110	.070	.042	.095	.061	.037	.065	.043	.026	.038	.025	.016	.012	.008	.005		
8.0	.104	.064	.036	.090	.055	.032	.062	.039	.022	.036	.023	.013	.012	.008	.004		
9.0	.099	.059	.032	.085	.051	.028	.059	.036	.020	.034	.021	.012	.011	.007	.004		
10.0	.094	.054	.028	.081	.047	.024	.056	.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:2024-10-17

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:0.0632A P:14.6W PF:0.9624 Freq:49.99Hz UTHDi:0.17% ITHDi:17.52% KDisp:0.9772Lamp Flux:1661.8x1 lm										
NAME: FUSION-MD23-AHD-018-COB-02SC 3000K RA90 25D 15WTYPE:						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	26.4	27.4	26.6	27.5	27.7	26.4	27.3	26.6	27.5	27.7
3H	26.3	27.1	26.5	27.3	27.5	26.3	27.1	26.5	27.3	27.5
4H	26.2	27.0	26.5	27.2	27.5	26.2	27.0	26.5	27.2	27.5
6H	26.2	26.9	26.5	27.2	27.4	26.2	26.9	26.5	27.2	27.4
8H	26.2	26.9	26.5	27.2	27.4	26.2	26.9	26.5	27.1	27.4
12H	26.2	26.9	26.5	27.1	27.4	26.1	26.8	26.5	27.1	27.4
4H 2H	26.2	27.0	26.4	27.2	27.4	26.2	27.0	26.4	27.2	27.4
3H	26.0	26.7	26.4	27.0	27.3	26.0	26.7	26.3	27.0	27.3
4H	26.0	26.6	26.3	26.9	27.2	26.0	26.6	26.3	26.9	27.2
6H	26.0	26.6	26.4	26.9	27.2	26.0	26.5	26.4	26.9	27.2
8H	26.0	26.6	26.4	26.9	27.3	26.0	26.5	26.4	26.9	27.2
12H	26.0	26.5	26.5	26.9	27.3	26.0	26.5	26.4	26.8	27.2
8H 4H	25.9	26.4	26.3	26.7	27.1	25.9	26.4	26.2	26.7	27.1
6H	25.9	26.4	26.4	26.8	27.2	25.9	26.3	26.3	26.7	27.1
8H	26.0	26.4	26.5	26.8	27.2	26.0	26.3	26.4	26.8	27.2
12H	26.1	26.4	26.5	26.8	27.3	26.0	26.3	26.5	26.8	27.2
12H 4H	25.8	26.3	26.2	26.7	27.1	25.8	26.3	26.2	26.7	27.1
6H	25.9	26.3	26.4	26.7	27.2	25.9	26.3	26.3	26.7	27.1
8H	26.0	26.3	26.5	26.8	27.2	26.0	26.3	26.4	26.7	27.2
Variations with the observer position at spacings(CIE Pub.117):										
S = 1.0H	+ 2.5 / - 7.6					+ 2.5 / - 7.8				
1.5H	+ 4.7 / - 7.6					+ 4.8 / - 7.8				
2.0H	+ 6.5 / - 2.8					+ 6.5 / - 2.9				

CIE Pub.117, 1662 lm Total Lamp Luminous Flux Corrected (8log(F/F0) = 1.8)
Area: 0.0013 m2

C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2024-10-17

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:0.0632A P:14.6W PF:0.9624 Freq:49.99Hz		
UTHDi:0.17% ITHDi:17.52% KDisp:0.9772		Lamp Flux:1661.8x1 lm
NAME: FUSION-MD23-AHD-018-COB-02SC 3000K RA90 25D	15WTYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: Norming lighting	SUR.: 41mm	Shielding Angle:

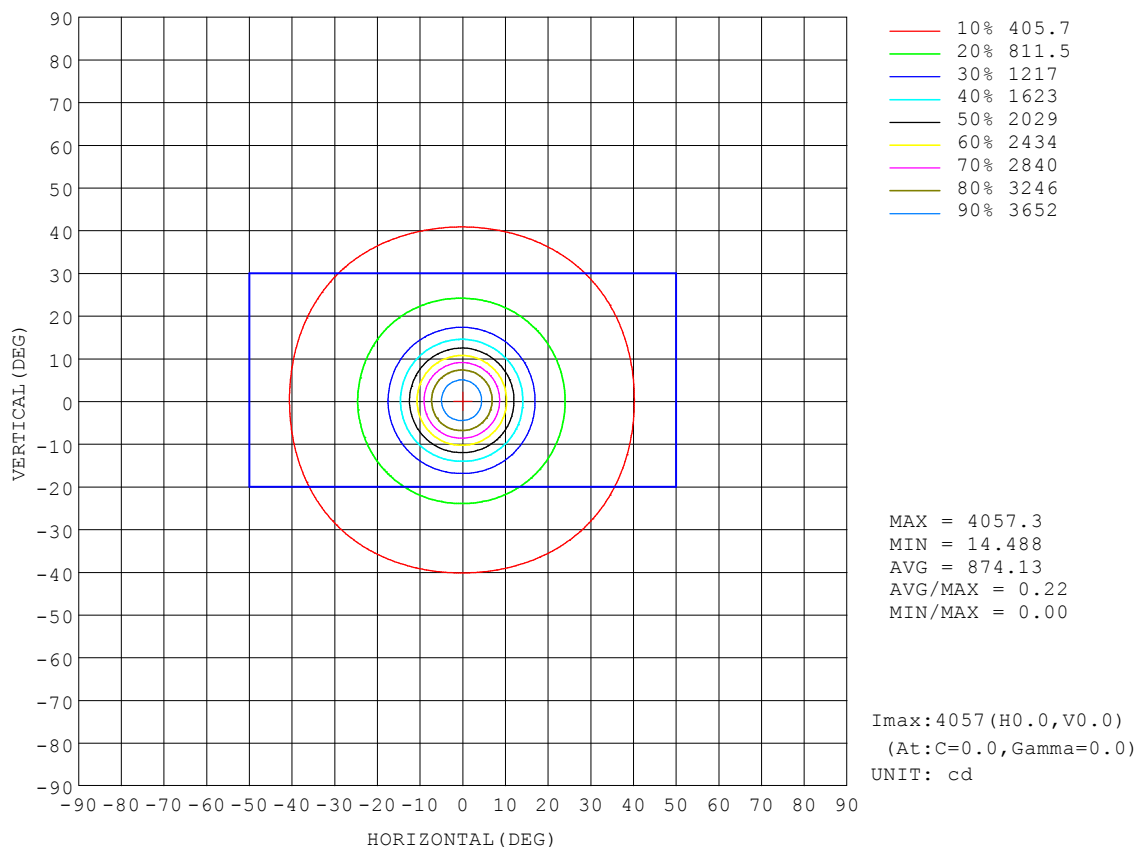
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS (PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	85	78	74	84	78	74	83	77	73	70
0.80	93	86	82	92	86	82	91	85	82	78
1.00	98	92	88	97	91	87	95	91	87	83
1.25	102	96	93	101	96	92	99	95	91	87
1.50	105	100	96	104	99	96	101	97	95	90
2.00	108	103	100	106	102	99	104	100	98	92
2.50	110	106	102	108	104	101	105	102	100	94
3.00	111	108	105	109	106	104	106	103	101	95
4.00	113	110	108	111	109	107	108	106	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:2024-10-17

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:0.0632A P:14.6W PF:0.9624 Freq:49.99Hz		
UTHDi:0.17% ITHDi:17.52% KDisp:0.9772		Lamp Flux:1661.8x1 lm
NAME: FUSION-MD23-AHD-018-COB-02SC 3000K RA90 25D	15WTYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: Norming lighting	SUR.: 41mm	Shielding Angle:

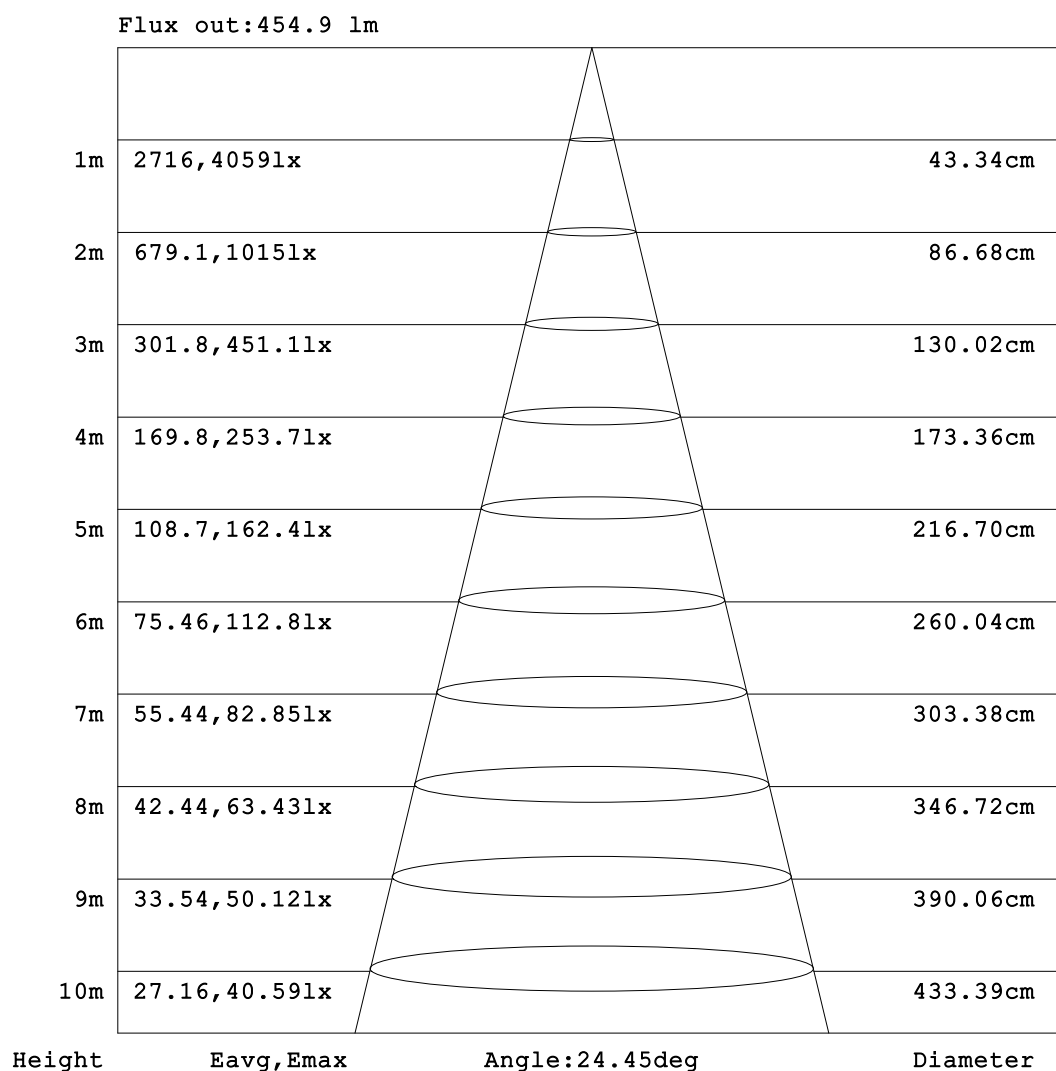


C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators: DAMIN
Test Date: 2024-10-17

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:0.0632A P:14.6W PF:0.9624 Freq:49.99Hz		
UTHDi:0.17% ITHDi:17.52% KDisp:0.9772		Lamp Flux:1661.8x1 lm
NAME: FUSION-MD23-AHD-018-COB-02SC 3000K RA90 25D	15W TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: Norming lighting	SUR.: 41mm	Shielding Angle:



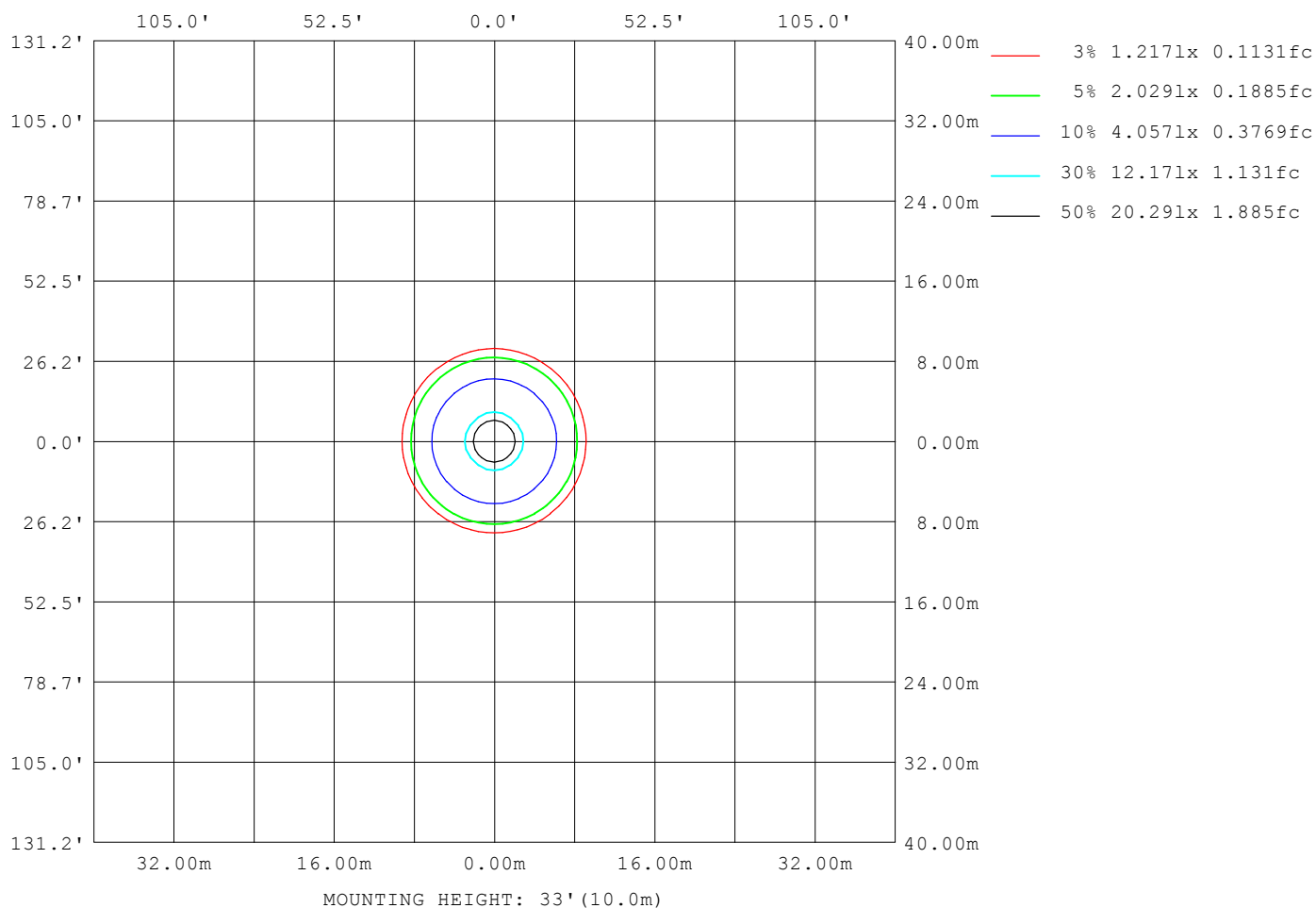
Note: The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators: DAMIN
Test Date: 2024-10-17

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:0.0632A P:14.6W PF:0.9624 Freq:49.99Hz		
UTHDi:0.17% ITHDi:17.52% KDisp:0.9772		Lamp Flux:1661.8x1 lm
NAME: FUSION-MD23-AHD-018-COB-02SC 3000K RA90 25D	15WTYPE:	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:2024-10-17

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:0.0632A P:14.6W PF:0.9624 Freq:49.99Hz		
UTHDi:0.17% ITHDi:17.52% KDisp:0.9772 Lamp Flux:1661.8x1 lm		
NAME: FUSION-MD23-AHD-018-COB-02SC 3000K RA90 25D	15WTYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: Norming lighting	SUR.: 41mm	Shielding Angle:

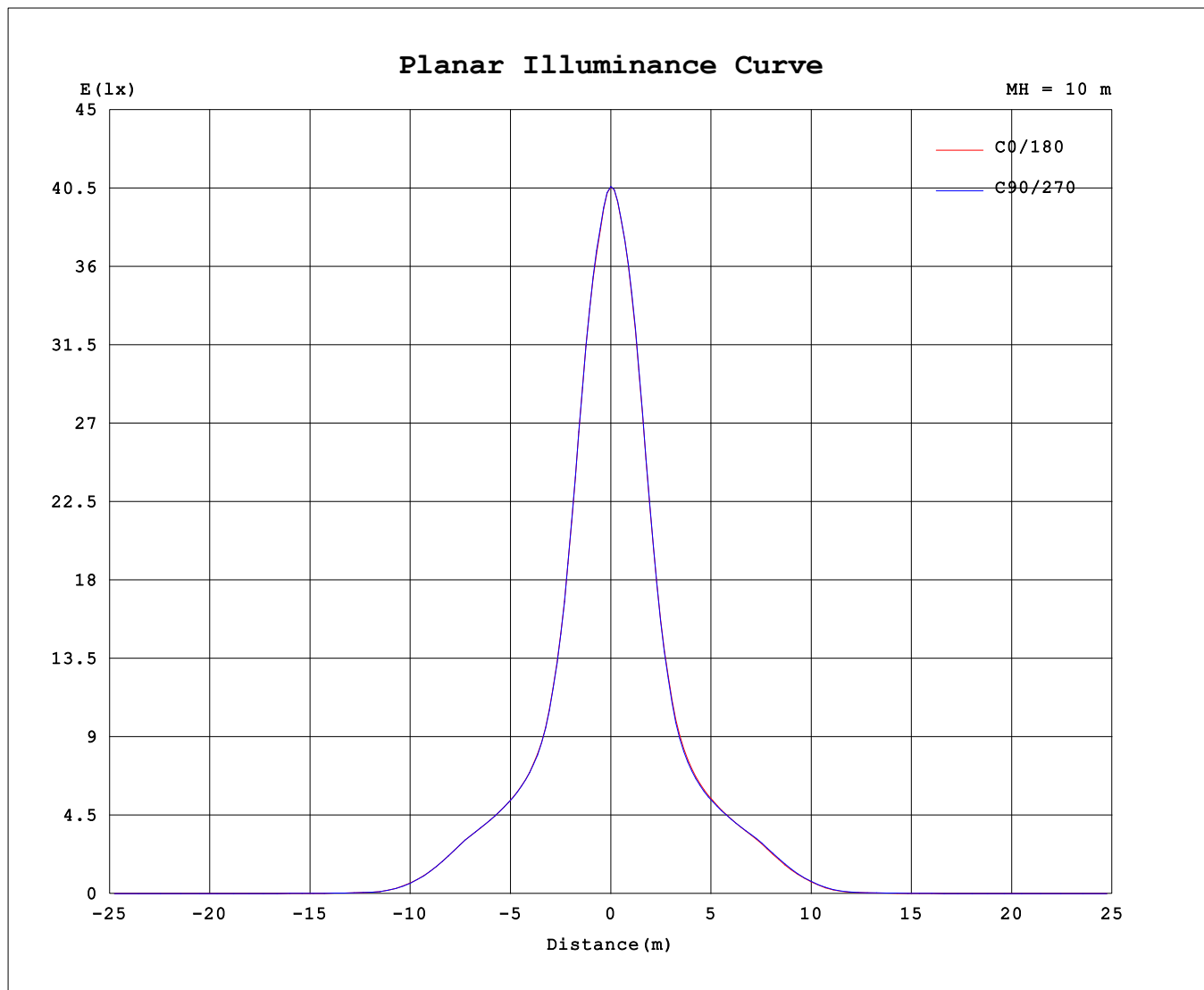
AvgL	cd/m2
L_0~180 (65) av	13359
L_0~180 (75) av	16593
L_0~180 (85) av	28127
L_90~270 (65) av	13382
L_90~270 (75) av	16867
L_90~270 (85) av	29573
L_45 (65) av	13098
L_45 (75) av	16795
L_45 (85) av	28968

Standard: GB/T 29293-2012

C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2024-10-17

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: 2024-10-17

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	4058	4058	4058	4058	4058	4058	4058	4058
3.0	3823	3826	3833	3868	3884	3893	3886	3851
6.0	3412	3401	3411	3475	3495	3523	3506	3462
9.0	2751	2728	2752	2829	2855	2879	2860	2806
12.0	2026	2028	2027	2090	2124	2143	2129	2069
15.0	1474	1472	1467	1514	1553	1553	1541	1495
18.0	1110	1109	1105	1131	1163	1160	1143	1115
21.0	921.4	915.5	913.9	928.3	947.4	947.0	928.3	918.9
24.0	811.2	808.2	808.8	816.8	829.0	824.2	814.7	807.7
27.0	742.0	739.0	741.1	747.0	754.7	751.4	745.6	740.7
30.0	687.7	685.0	688.0	695.5	699.1	699.2	694.9	689.8
33.0	638.5	634.7	640.0	648.5	648.4	652.4	649.8	645.4
36.0	580.0	574.8	580.4	591.5	591.3	599.6	600.0	592.8
39.0	464.1	460.5	462.5	478.3	482.1	494.2	494.3	481.4
42.0	316.0	314.3	313.1	325.7	334.9	347.3	346.7	331.8
45.0	174.5	175.0	170.8	181.4	191.8	198.5	200.3	187.9
48.0	69.88	67.72	66.00	68.92	74.46	83.75	80.03	77.57
51.0	28.60	27.18	29.22	29.52	29.63	31.80	31.07	30.15
54.0	19.22	18.01	19.21	19.35	19.86	20.58	20.15	19.85
57.0	12.71	12.15	12.49	12.67	13.19	13.67	13.63	13.09
60.0	9.553	9.178	9.264	9.309	9.677	10.06	10.11	9.724
63.0	7.918	7.572	7.508	7.449	7.796	7.915	8.343	7.928
66.0	7.207	6.897	6.758	6.688	7.052	7.155	7.413	7.193
69.0	6.595	6.338	6.207	6.178	6.511	6.558	6.789	6.612
72.0	6.056	5.823	5.747	5.754	6.005	6.087	6.323	6.088
75.0	5.669	5.656	5.402	5.402	5.496	5.741	5.948	5.805
78.0	6.429	6.534	6.026	5.824	5.560	6.050	6.500	6.807
81.0	6.212	5.948	5.858	5.705	5.512	6.067	6.621	6.837
84.0	3.831	3.671	3.843	3.634	3.878	4.470	4.643	4.599
87.0	0.9890	0.8943	0.8350	0.9012	1.150	1.448	1.581	1.163
90.0	0.0617	0.0498	0.0726	0.0534	0.0530	0.0517	0.0575	0.0492

C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2024-10-17

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: