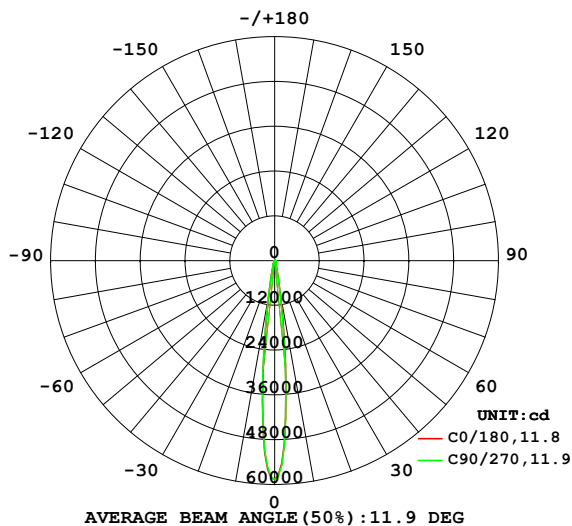


LUMINAIRE PHOTOMETRIC TEST REPORT

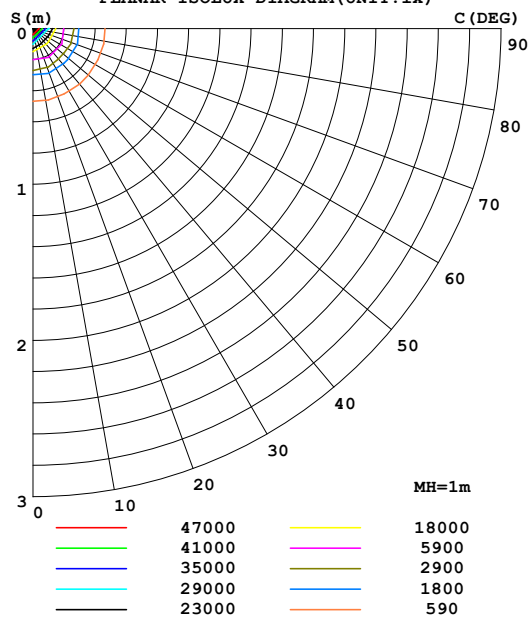
Test:U:240.4V I:0.1872A P:44.6W PF:0.9904 Freq:49.99Hz		
UTHDi:0.17% ITHDi:3.96% KDisp:0.9911 Lamp Flux:4177.96x1 lm		
NAME: FUSION GT-TR03-AHD-045-COB-01SC 2700K RA90 15D 450PE:		WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: Norming lighting	SUR.: 131mm	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA				Eff: 93.72 lm/W
MODEL		I _{max} (cd)	58712	S/MH(C0/180)	0.21	
NOMINAL POWER(W)	45	LOR(%)	100.0	S/MH(C90/270)	0.21	
RATED VOLTAGE(V)	240	TOTAL FLUX(lm)	4178.0	η UP,DN(C0-180)	0.0,48.2	
NOMINAL FLUX(lm)	4177.96	CIE CLASS	DIRECT	η UP,DN(C180-360)	0.0,51.8	
LAMPS INSIDE	1	η up (%)	0.0	CIBSE SHR NOM	0.00	
TEST VOLTAGE(V)	240.38	η down (%)	100.0	CIBSE SHR MAX	0.20	

LUMINOUS INTENSITY DISTRIBUTION DIAGRAM



PLANAR ISOLUX DIAGRAM(UNIT:lx)



C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: MEDIUM
Temperature:25.3DEG
Operators:DAMIN
Test Date:2024-10-28

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	928.3	922.6	818.0	735.9	894.2	958.9	1012	1025	0- 10	2501	2501	59.9,59.9
20	120.6	123.8	119.1	111.4	117.4	119.7	128.0	127.8	10- 20	846.7	3348	80.1,80.1
30	50.52	50.29	48.42	46.31	48.80	50.21	52.29	52.76	20- 30	356.5	3704	88.7,88.7
40	24.30	24.07	23.30	22.56	23.98	23.99	25.15	25.12	30- 40	218.6	3923	93.9,93.9
50	11.91	11.88	11.53	11.20	11.95	12.05	12.64	12.53	40- 50	133.8	4057	97.1,97.1
60	5.403	5.374	5.234	5.061	5.224	5.388	5.523	5.603	50- 60	74.63	4131	98.9,98.9
70	1.899	1.930	1.926	1.838	1.862	1.905	1.926	1.988	60- 70	35.46	4167	99.7,99.7
80	0.3138	0.3525	0.3378	0.3116	0.3145	0.2945	0.3054	0.3143	70- 80	9.976	4177	100,100
90	0.0229	0.0286	0.0277	0.0145	0.0154	0.0134	0.0168	0.0133	80- 90	1.316	4178	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:X10cd									UNIT:lm		

Conical surface Flux(90deg): 3998.4 lm

%lum = 95.7%

%lamp = 95.7%

Conical surface Flux(120deg): 4131.2 lm

%lum = 98.9%

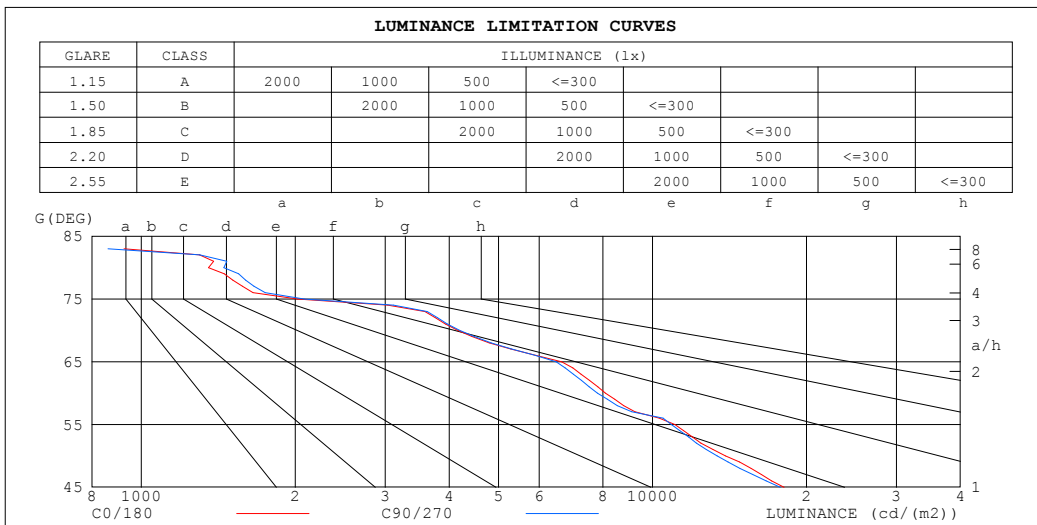
%lamp = 98.9%

C Range: 0 - 360DEG
 C Interval: 45.0DEG
 Test Speed: MEDIUM
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2024-10-28

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:0.1872A P:44.6W PF:0.9904 Freq:49.99Hz		
UTHDi:0.17% ITHDi:3.96% KDisp:0.9911 Lamp Flux:4177.96x1 lm		
NAME: FUSION GT-TR03-AHD-045-COB-01SC 2700K RA90 15D 450PE:	WEIGHT:	
SPEC.:	DIM.:	SERIAL No.:
MFR.: Norming lighting	SUR.: 131mm	Shielding Angle:



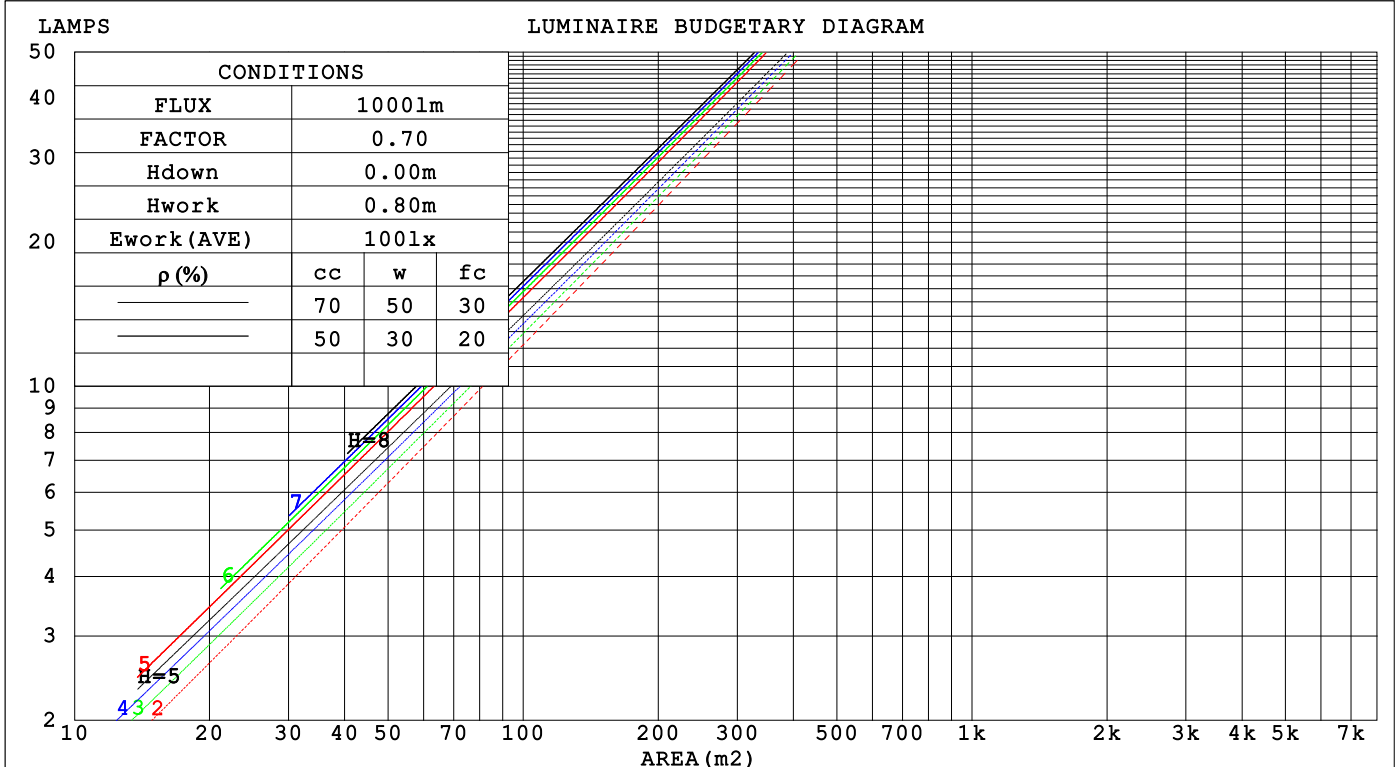
C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: MEDIUM
Temperature: 25.3DEG
Operators: DAMIN
Test Date: 2024-10-28

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:0.1872A P:44.6W PF:0.9904 Freq:49.99Hz		
UTHDi:0.17% ITHDi:3.96% KDisp:0.9911 Lamp Flux:4177.96x1 lm		
NAME: FUSION GT-TR03-AHD-045-COB-01SC 2700K RA90 15D 450PE:	WEIGHT:	
SPEC.:	DIM.:	SERIAL No.:
MFR.: Norming lighting	SUR.: 131mm	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: MEDIUM
Temperature:25.3DEG
Operators:DAMIN
Test Date:2024-10-28

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:0.1872A P:44.6W PF:0.9904 Freq:49.99Hz		
UTHDi:0.17% ITHDi:3.96% KDisp:0.9911 Lamp Flux:4177.96x1 lm		
NAME: FUSION GT-TR03-AHD-045-COB-01SC 2700K RA90 15D 450PE:		WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: Norming lighting	SUR.: 131mm	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	.131	.075	.024	.125	.071	.023	.112	.064	.021	.101	.058	.019	.090	.052	.017		
2.0	.121	.067	.020	.116	.064	.020	.106	.059	.018	.097	.054	.017	.088	.050	.016		
3.0	.112	.060	.018	.108	.058	.017	.099	.054	.016	.092	.050	.015	.084	.047	.014		
4.0	.104	.054	.016	.101	.053	.016	.093	.050	.015	.087	.047	.014	.081	.044	.013		
5.0	.097	.050	.014	.094	.048	.014	.088	.046	.013	.082	.043	.013	.077	.041	.012		
6.0	.091	.046	.013	.088	.045	.013	.083	.043	.012	.078	.041	.012	.074	.039	.012		
7.0	.085	.042	.012	.083	.041	.012	.079	.040	.011	.074	.038	.011	.071	.037	.011		
8.0	.080	.039	.011	.078	.039	.011	.075	.037	.011	.071	.036	.010	.068	.035	.010		
9.0	.076	.037	.010	.074	.036	.010	.071	.035	.010	.068	.034	.010	.065	.033	.010		
10.0	.072	.035	.010	.071	.034	.010	.068	.033	.009	.065	.032	.009	.062	.031	.009		

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	.168	.158	.148	.144	.135	.128	.098	.093	.088	.057	.054	.051	.018	.017	.017		
2.0	.150	.133	.119	.128	.114	.103	.088	.079	.072	.051	.046	.042	.016	.015	.014		
3.0	.134	.113	.097	.115	.098	.084	.079	.068	.059	.046	.040	.035	.015	.013	.011		
4.0	.121	.098	.080	.104	.084	.069	.071	.059	.049	.041	.034	.029	.013	.011	.010		
5.0	.110	.085	.067	.095	.074	.058	.065	.052	.041	.038	.030	.024	.012	.010	.008		
6.0	.101	.075	.057	.087	.065	.049	.060	.046	.035	.035	.027	.021	.011	.009	.007		
7.0	.093	.067	.049	.080	.058	.042	.055	.041	.030	.032	.024	.018	.010	.008	.006		
8.0	.086	.060	.042	.074	.052	.037	.051	.036	.026	.030	.021	.016	.010	.007	.005		
9.0	.079	.054	.037	.068	.047	.032	.047	.033	.023	.028	.019	.014	.009	.006	.004		
10.0	.074	.049	.032	.064	.043	.028	.044	.030	.020	.026	.018	.012	.008	.006	.004		

C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: MEDIUM
Temperature:25.3DEG
Operators:DAMIN
Test Date:2024-10-28

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:0.1872A P:44.6W PF:0.9904 Freq:49.99Hz UTHDi:0.17% ITHDi:3.96% KDisp:0.9911 Lamp Flux:4177.96x1 lm											
NAME: FUSION GT-TR03-AHD-045-COB-01SC 2700K RA90 15D 450PE:						WEIGHT:					
SPEC.:						DIM.:		SERIAL No.:			
MFR.: Norming lighting						SUR.: 131mm		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	14.9	15.5	15.1	15.6	15.8	14.7	15.3	14.9	15.4	15.6	
	3H	15.1	15.7	15.3	15.9	16.0	15.0	15.5	15.2	15.7	15.9
	4H	15.1	15.7	15.4	15.9	16.1	15.0	15.5	15.2	15.7	15.9
	6H	15.1	15.6	15.3	15.8	16.0	14.9	15.4	15.2	15.7	15.9
	8H	15.0	15.5	15.3	15.8	16.0	14.9	15.4	15.2	15.6	15.9
	12H	15.0	15.5	15.3	15.7	16.0	14.9	15.3	15.2	15.6	15.9
4H	2H	15.0	15.5	15.3	15.7	15.9	14.9	15.4	15.1	15.6	15.8
	3H	15.3	15.8	15.6	16.0	16.3	15.2	15.7	15.5	15.9	16.2
	4H	15.3	15.8	15.6	16.0	16.3	15.2	15.6	15.5	15.9	16.2
	6H	15.2	15.6	15.6	16.0	16.3	15.1	15.5	15.5	15.9	16.2
	8H	15.2	15.6	15.6	15.9	16.3	15.1	15.5	15.5	15.8	16.2
	12H	15.2	15.5	15.6	15.9	16.2	15.0	15.4	15.4	15.7	16.1
8H	4H	15.2	15.6	15.6	15.9	16.3	15.1	15.5	15.5	15.8	16.2
	6H	15.1	15.5	15.6	15.8	16.3	15.0	15.3	15.5	15.7	16.1
	8H	15.1	15.4	15.5	15.8	16.2	15.0	15.3	15.4	15.7	16.1
	12H	15.0	15.3	15.5	15.7	16.2	14.9	15.2	15.4	15.6	16.1
12H	4H	15.2	15.5	15.6	15.9	16.2	15.0	15.4	15.4	15.8	16.1
	6H	15.1	15.4	15.5	15.8	16.2	15.0	15.3	15.4	15.7	16.1
	8H	15.1	15.3	15.5	15.7	16.2	14.9	15.2	15.4	15.6	16.1
Variations with the observer position at spacings(CIE Pub.117):											
S = 1.0H	+ 1.2 / - 1.9					+ 1.2 / - 1.9					
1.5H	+ 1.4 / - 0.9					+ 1.3 / - 0.9					
2.0H	+ 2.2 / - 1.8					+ 2.2 / - 1.9					

CIE Pub.117, 4178 lm Total Lamp Luminous Flux Corrected (8log(F/F0) = 5.0)
Area: 0.0134 m2

C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: MEDIUM
Temperature:25.3DEG
Operators:DAMIN
Test Date:2024-10-28

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:0.1872A P:44.6W PF:0.9904 Freq:49.99Hz		
UTHDi:0.17% ITHDi:3.96% KDisp:0.9911 Lamp Flux:4177.96x1 lm		
NAME: FUSION GT-TR03-AHD-045-COB-01SC 2700K RA90 15D 450PE:		WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: Norming lighting	SUR.: 131mm	Shielding Angle:

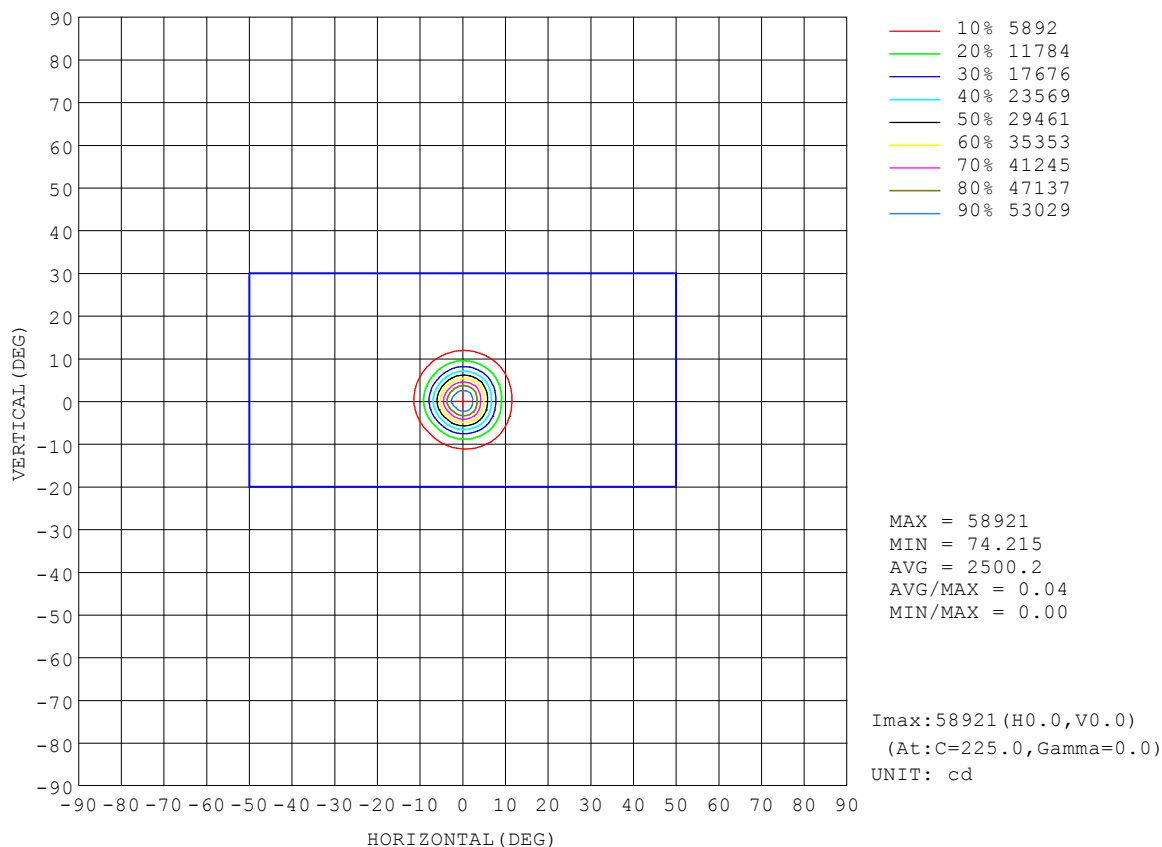
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS (PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	88	81	78	87	81	78	86	81	77	74
0.80	95	89	86	94	89	85	93	88	85	81
1.00	99	94	90	99	93	90	97	93	90	86
1.25	103	98	95	102	98	94	100	96	94	89
1.50	106	101	98	105	101	98	103	99	96	92
2.00	109	105	101	107	103	101	105	102	99	94
2.50	110	107	104	109	105	103	106	103	101	95
3.00	112	109	106	110	107	105	107	104	103	96
4.00	114	111	109	112	110	108	108	106	105	98
5.00	115	113	111	113	111	110	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: MEDIUM
 Temperature: 25.3DEG
 Operators: DAMIN
 Test Date: 2024-10-28

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:0.1872A P:44.6W PF:0.9904 Freq:49.99Hz		
UTHDi:0.17% ITHDi:3.96% KDisp:0.9911 Lamp Flux:4177.96x1 lm		
NAME: FUSION GT-TR03-AHD-045-COB-01SC 2700K RA90 15D 450PE:	WEIGHT:	
SPEC.:	DIM.:	SERIAL No.:
MFR.: Norming lighting	SUR.: 131mm	Shielding Angle:

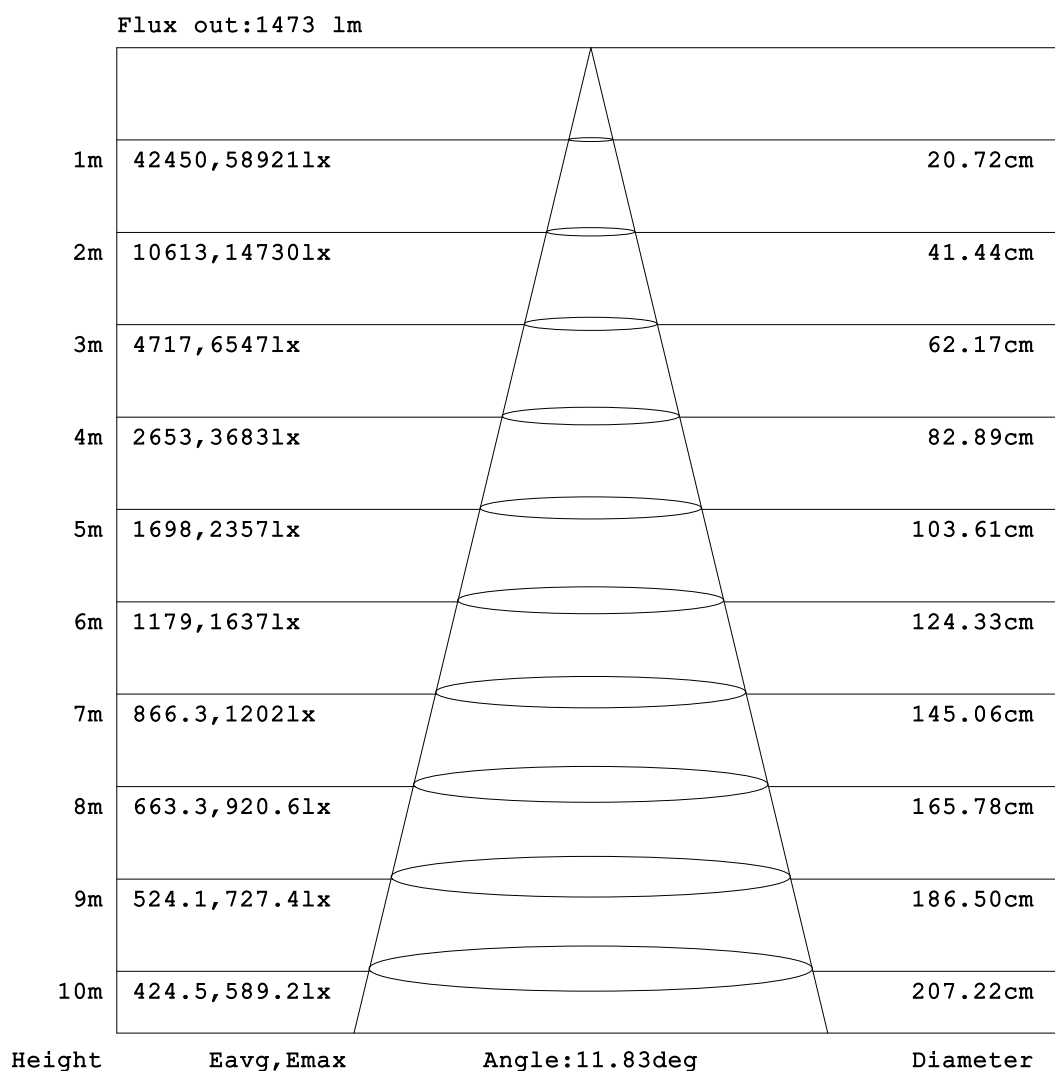


C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: MEDIUM
Temperature:25.3DEG
Operators:DAMIN
Test Date:2024-10-28

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:0.1872A P:44.6W PF:0.9904 Freq:49.99Hz		
UTHDi:0.17% ITHDi:3.96% KDisp:0.9911		Lamp Flux:4177.96x1 lm
NAME: FUSION GT-TR03-AHD-045-COB-01SC 2700K RA90 15D 450PE:	WEIGHT:	
SPEC.:	DIM.:	SERIAL No.:
MFR.: Norming lighting	SUR.: 131mm	Shielding Angle:



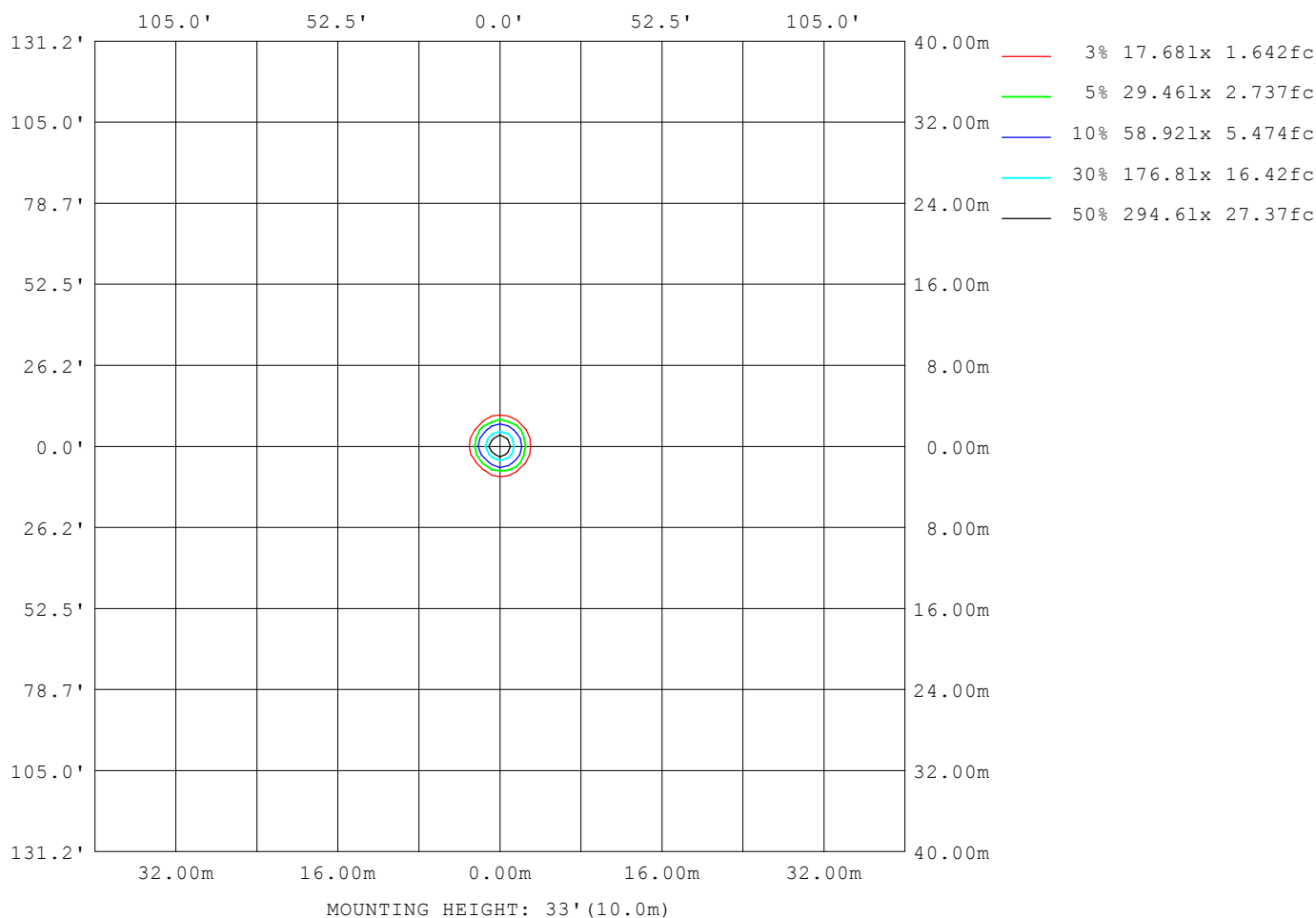
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: MEDIUM
Temperature:25.3DEG
Operators:DAMIN
Test Date:2024-10-28

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:0.1872A P:44.6W PF:0.9904 Freq:49.99Hz		
UTHDi:0.17% ITHDi:3.96% KDisp:0.9911		Lamp Flux:4177.96x1 lm
NAME: FUSION GT-TR03-AHD-045-COB-01SC 2700K RA90 15D 45°		WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: Norming lighting	SUR.: 131mm	Shielding Angle:



C Range: 0 - 360DEG
 C Interval: 45.0DEG
 Test Speed: MEDIUM
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2024-10-28

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:0.1872A P:44.6W PF:0.9904 Freq:49.99Hz		
UTHDi:0.17% ITHDi:3.96% KDisp:0.9911 Lamp Flux:4177.96x1 lm		
NAME: FUSION GT-TR03-AHD-045-COB-01SC 2700K RA90 15D 450PE:	WEIGHT:	
SPEC.:	DIM.:	SERIAL No.:
MFR.: Norming lighting	SUR.: 131mm	Shielding Angle:

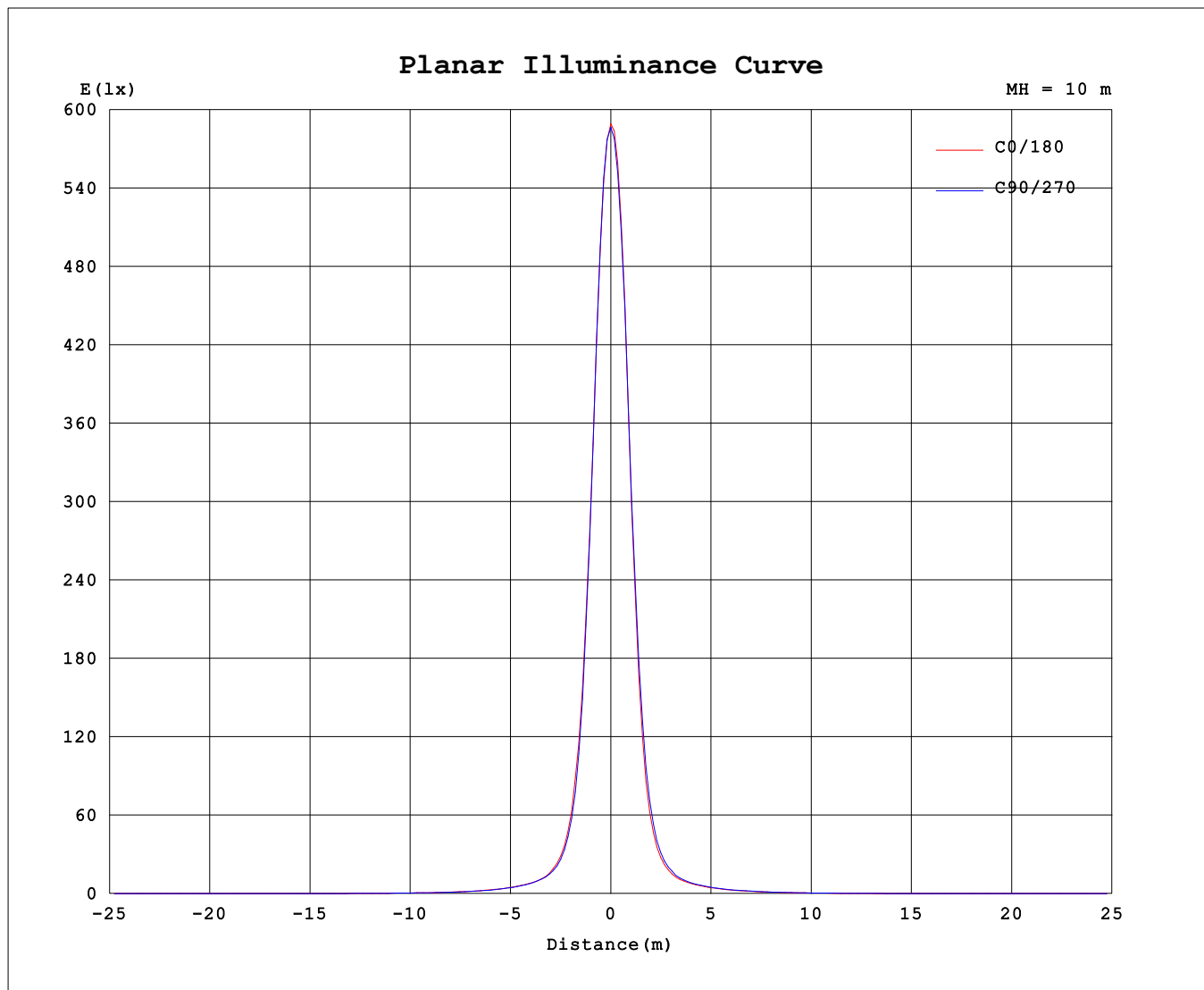
AvgL	cd/m2
L_0~180 (65) av	6527
L_0~180 (75) av	2071
L_0~180 (85) av	761
L_90~270 (65) av	6612
L_90~270 (75) av	2082
L_90~270 (85) av	770
L_45 (65) av	6591
L_45 (75) av	2103
L_45 (85) av	721

Standard: GB/T 29293-2012

C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: MEDIUM
Temperature:25.3DEG
Operators:DAMIN
Test Date:2024-10-28

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: MEDIUM
 Temperature: 25.3DEG
 Operators: DAMIN
 Test Date: 2024-10-28

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	58712	58712	58712	58712	58712	58712	58712	58712
3.0	49341	50596	49769	49053	51560	50256	51074	51743
6.0	27902	29153	27562	26515	29771	28819	30477	31358
9.0	11917	12565	11139	10230	12341	12312	13668	13836
12.0	5072	5222	4652	4164	4976	5209	5700	5796
15.0	2575	2638	2382	2166	2477	2589	2814	2834
18.0	1541	1582	1494	1385	1492	1533	1652	1658
21.0	1089	1114	1076	1011	1060	1078	1149	1148
24.0	836.3	842.2	814.4	774.4	809.5	822.2	867.1	873.0
27.0	650.2	650.7	627.8	601.1	630.8	642.0	674.1	680.4
30.0	505.2	502.9	484.2	463.1	488.0	502.1	522.9	527.6
33.0	404.6	398.8	384.8	370.0	391.4	401.5	417.2	419.9
36.0	326.0	324.2	312.2	299.3	317.0	323.5	335.8	338.6
39.0	260.0	258.5	250.6	241.7	255.8	257.2	269.8	269.5
42.0	211.8	209.9	203.3	197.7	209.5	210.1	220.1	219.3
45.0	170.8	171.9	168.6	164.2	171.4	171.2	179.3	178.4
48.0	139.3	137.2	133.0	129.7	139.0	140.6	146.3	145.3
51.0	110.3	110.9	107.5	104.5	110.5	111.7	116.8	116.0
54.0	90.30	91.14	89.11	85.59	89.73	91.44	94.73	94.60
57.0	67.19	68.57	66.45	63.52	65.54	67.01	69.69	71.11
60.0	54.03	53.74	52.34	50.61	52.24	53.88	55.23	56.03
63.0	43.94	43.44	42.65	41.21	42.29	43.94	44.52	45.31
66.0	32.14	33.05	32.19	30.66	31.75	32.06	33.02	34.76
69.0	21.21	21.42	21.51	20.49	20.84	21.32	21.40	22.35
72.0	15.49	15.60	15.72	15.05	15.23	15.54	15.45	16.05
75.0	6.995	7.705	7.225	6.544	7.372	6.810	7.217	8.116
78.0	4.191	4.587	4.457	4.197	4.227	3.984	4.077	4.180
81.0	2.893	3.268	3.082	2.785	2.876	2.721	2.732	2.721
84.0	1.083	1.242	1.086	0.9203	1.107	0.9783	1.110	1.092
87.0	0.5078	0.5394	0.4965	0.3379	0.4539	0.4083	0.5465	0.4820
90.0	0.2289	0.2856	0.2765	0.1449	0.1540	0.1341	0.1682	0.1329

C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: MEDIUM
Temperature:25.3DEG
Operators:DAMIN
Test Date:2024-10-28

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: