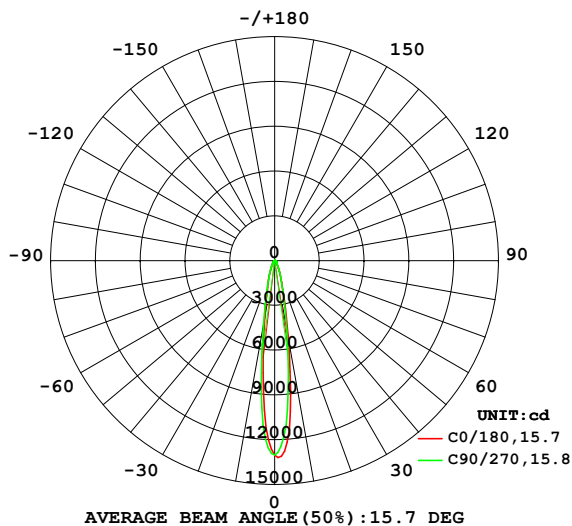


LUMINAIRE PHOTOMETRIC TEST REPORT

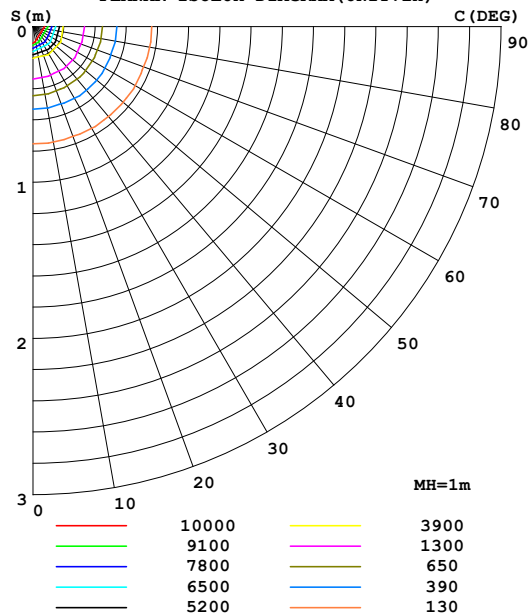
Test:U:240.5V I:0.0846A P:20.0W PF:0.9851 Freq:49.99Hz		
UTHDi:0.17% ITHDi:5.76% KDisp:0.9869 Lamp Flux:2074.91x1 lm		
NAME: FUSION GT-TR01-AHD-020-COB-01SC 2700K RA90 15D TYPE:		WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: Norming lighting	SUR.: 70mm	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 103.54 lm/W			
MODEL		Imax (cd)	13184	S/MH(C0/180)	0.24
NOMINAL POWER(W)	20	LOR(%)	100.0	S/MH(C90/270)	0.27
RATED VOLTAGE(V)	240	TOTAL FLUX(lm)	2074.9	η UP,DN(C0-180)	0.0,52.5
NOMINAL FLUX(lm)	2074.91	CIE CLASS	DIRECT	η UP,DN(C180-360)	0.0,47.5
LAMPS INSIDE	1	η up (%)	0.0	CIBSE SHR NOM	0.00
TEST VOLTAGE(V)	240.41	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: MEDIUM
Temperature:25.3DEG
Operators:DAMIN
Test Date:2024-11-06

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	532.0	515.5	475.3	425.3	390.2	403.3	433.0	485.7	0- 10	762.6	762.6	36.8,36.8
20	122.5	124.0	120.6	113.6	106.9	105.7	110.4	115.6	10- 20	615.1	1378	66.4,66.4
30	45.13	47.03	47.43	44.97	41.56	39.80	40.91	42.70	20- 30	327.5	1705	82.2,82.2
40	19.07	19.88	19.99	19.23	17.75	16.74	17.25	18.16	30- 40	179.5	1885	90.8,90.8
50	9.194	9.486	9.620	9.158	8.660	8.469	8.696	9.142	40- 50	99.70	1984	95.6,95.6
60	4.786	4.926	4.958	4.607	4.235	4.103	4.333	4.551	50- 60	58.72	2043	98.5,98.5
70	1.355	1.351	1.199	0.9399	0.7520	0.8051	1.043	1.234	60- 70	26.64	2070	99.8,99.8
80	0.2156	0.2044	0.1835	0.1557	0.1464	0.1504	0.1777	0.2019	70- 80	4.495	2074	100,100
90	0.0097	0.0055	0.0088	0.0057	0.0060	0.0056	0.0069	0.0056	80- 90	0.6743	2075	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): 1941.3 lm

%lum = 93.6%

%lamp = 93.6%

Conical surface Flux(120deg): 2043.1 lm

%lum = 98.5%

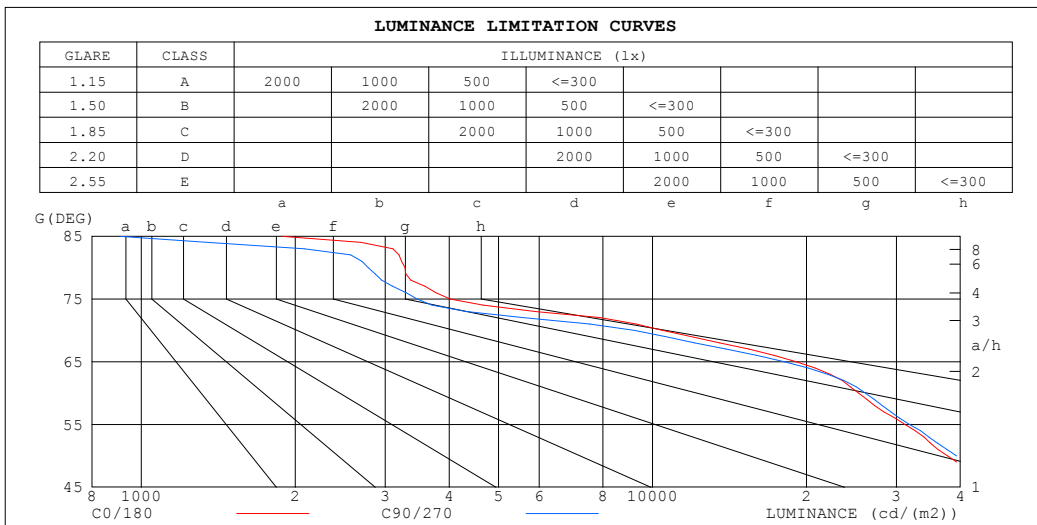
%lamp = 98.5%

C Range: 0 - 360DEG
 C Interval: 45.0DEG
 Test Speed: MEDIUM
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2024-11-06

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:240.5V I:0.0846A P:20.0W PF:0.9851 Freq:49.99Hz		
UTHDi:0.17% ITHDi:5.76% KDisp:0.9869 Lamp Flux:2074.91x1 lm		
NAME: FUSION GT-TR01-AHD-020-COB-01SC 2700K RA90 15D TYPE:	WEIGHT:	
SPEC.:	DIM.:	SERIAL No.:
MFR.: Norming lighting	SUR.: 70mm	Shielding Angle:



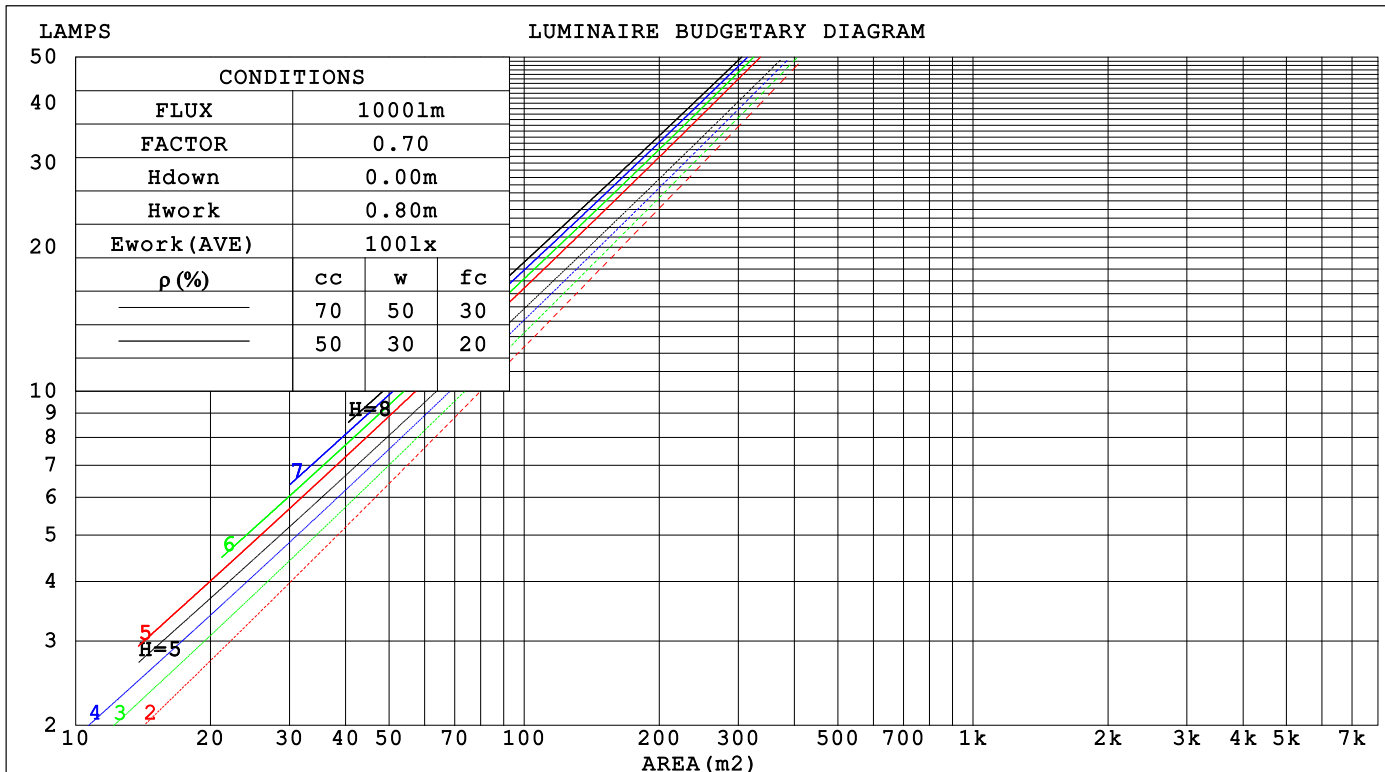
C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: MEDIUM
Temperature: 25.3DEG
Operators: DAMIN
Test Date: 2024-11-06

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:240.5V I:0.0846A P:20.0W PF:0.9851 Freq:49.99Hz		
UTHDi:0.17% ITHDi:5.76% KDisp:0.9869 Lamp Flux:2074.91x1 lm		
NAME: FUSION GT-TR01-AHD-020-COB-01SC 2700K RA90 15D TYPE:		WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: Norming lighting	SUR.: 70mm	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:2024-11-06

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:240.5V I:0.0846A P:20.0W PF:0.9851 Freq:49.99Hz		
UTHDi:0.17% ITHDi:5.76% KDisp:0.9869 Lamp Flux:2074.91x1 lm		
NAME: FUSION GT-TR01-AHD-020-COB-01SC 2700K RA90 15D TYPE:		WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: Norming lighting	SUR.: 70mm	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	.154	.087	.028	.147	.084	.027	.135	.077	.025	.123	.071	.023	.113	.065	.021		
2.0	.145	.079	.024	.139	.077	.024	.129	.072	.022	.119	.067	.021	.111	.063	.020		
3.0	.136	.072	.022	.131	.070	.021	.123	.066	.020	.115	.063	.019	.107	.059	.018		
4.0	.128	.066	.020	.124	.065	.019	.116	.062	.018	.110	.059	.018	.103	.056	.017		
5.0	.120	.061	.018	.117	.060	.017	.111	.058	.017	.105	.055	.016	.099	.053	.016		
6.0	.114	.057	.016	.111	.056	.016	.105	.054	.016	.100	.052	.015	.095	.050	.015		
7.0	.107	.053	.015	.105	.052	.015	.100	.051	.015	.096	.049	.014	.091	.047	.014		
8.0	.102	.050	.014	.100	.049	.014	.095	.048	.014	.092	.046	.013	.088	.045	.013		
9.0	.097	.047	.013	.095	.046	.013	.091	.045	.013	.088	.044	.013	.084	.043	.012		
10.0	.092	.044	.012	.091	.044	.012	.087	.043	.012	.084	.042	.012	.081	.041	.012		

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	.170	.158	.147	.145	.135	.126	.099	.093	.087	.057	.054	.051	.018	.017	.016		
2.0	.153	.133	.116	.131	.114	.100	.090	.079	.070	.052	.046	.041	.017	.015	.013		
3.0	.139	.113	.093	.119	.098	.081	.082	.068	.057	.047	.040	.033	.015	.013	.011		
4.0	.127	.098	.076	.109	.085	.066	.075	.059	.047	.043	.035	.028	.014	.011	.009		
5.0	.117	.086	.064	.100	.075	.055	.069	.052	.039	.040	.031	.023	.013	.010	.008		
6.0	.108	.076	.054	.093	.066	.047	.064	.046	.033	.037	.027	.020	.012	.009	.006		
7.0	.101	.068	.046	.087	.059	.040	.060	.042	.028	.035	.025	.017	.011	.008	.006		
8.0	.094	.062	.039	.081	.054	.034	.056	.038	.024	.033	.022	.015	.011	.007	.005		
9.0	.089	.056	.034	.076	.049	.030	.053	.034	.021	.031	.020	.013	.010	.007	.004		
10.0	.084	.052	.030	.072	.045	.026	.050	.031	.019	.029	.019	.011	.009	.006	.004		

C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: MEDIUM
Temperature:25.3DEG
Operators:DAMIN
Test Date:2024-11-06

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:240.5V I:0.0846A P:20.0W PF:0.9851 Freq:49.99Hz UTHDi:0.17% ITHDi:5.76% KDisp:0.9869Lamp Flux:2074.9lx1 lm										
NAME: FUSION GT-TR01-AHD-020-COB-01SC 2700K RA90 15D TYPE:						WEIGHT:				
SPEC.:						DIM.:		SERIAL No.:		
MFR.: Norming lighting						SUR.: 70mm		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	20.3	21.1	20.5	21.2	21.4	20.4	21.2	20.6	21.3	21.5
3H	20.5	21.2	20.8	21.4	21.6	20.6	21.3	20.8	21.5	21.7
4H	20.5	21.1	20.7	21.3	21.5	20.5	21.2	20.8	21.4	21.6
6H	20.4	21.0	20.7	21.2	21.5	20.4	21.1	20.7	21.3	21.5
8H	20.3	21.0	20.6	21.2	21.5	20.4	21.0	20.7	21.3	21.5
12H	20.3	20.9	20.6	21.1	21.4	20.4	20.9	20.7	21.2	21.5
4H 2H	20.5	21.1	20.7	21.3	21.5	20.6	21.2	20.8	21.4	21.7
3H	20.7	21.3	21.0	21.5	21.8	20.7	21.3	21.0	21.6	21.8
4H	20.6	21.1	21.0	21.4	21.7	20.7	21.2	21.0	21.5	21.8
6H	20.5	21.0	20.9	21.3	21.7	20.6	21.0	20.9	21.4	21.7
8H	20.5	20.9	20.9	21.3	21.6	20.5	21.0	20.9	21.3	21.7
12H	20.4	20.8	20.8	21.2	21.6	20.5	20.9	20.9	21.2	21.6
8H 4H	20.5	20.9	20.9	21.3	21.6	20.5	21.0	20.9	21.3	21.7
6H	20.4	20.8	20.8	21.2	21.6	20.4	20.8	20.9	21.2	21.6
8H	20.4	20.7	20.8	21.1	21.5	20.4	20.7	20.8	21.1	21.6
12H	20.3	20.6	20.8	21.0	21.5	20.3	20.6	20.8	21.1	21.5
12H 4H	20.4	20.8	20.8	21.2	21.6	20.5	20.9	20.9	21.3	21.6
6H	20.4	20.7	20.8	21.1	21.5	20.4	20.7	20.8	21.1	21.6
8H	20.3	20.6	20.8	21.0	21.5	20.3	20.6	20.8	21.1	21.5
Variations with the observer position at spacings(CIE Pub.117):										
S = 1.0H	+ 1.2 / - 1.9					+ 1.2 / - 1.9				
1.5H	+ 1.6 / - 1.0					+ 1.7 / - 1.0				
2.0H	+ 1.8 / - 1.4					+ 1.9 / - 1.6				

CIE Pub.117, 2075 lm Total Lamp Luminous Flux Corrected ($8\log(F/F_0) = 2.5$)
Area: 0.0038 m²

C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: MEDIUM
Temperature:25.3DEG
Operators:DAMIN
Test Date:2024-11-06

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:240.5V I:0.0846A P:20.0W PF:0.9851 Freq:49.99Hz		
UTHDi:0.17% ITHDi:5.76% KDisp:0.9869 Lamp Flux:2074.91x1 lm		
NAME: FUSION GT-TR01-AHD-020-COB-01SC 2700K RA90 15D TYPE:		WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: Norming lighting	SUR.: 70mm	Shielding Angle:

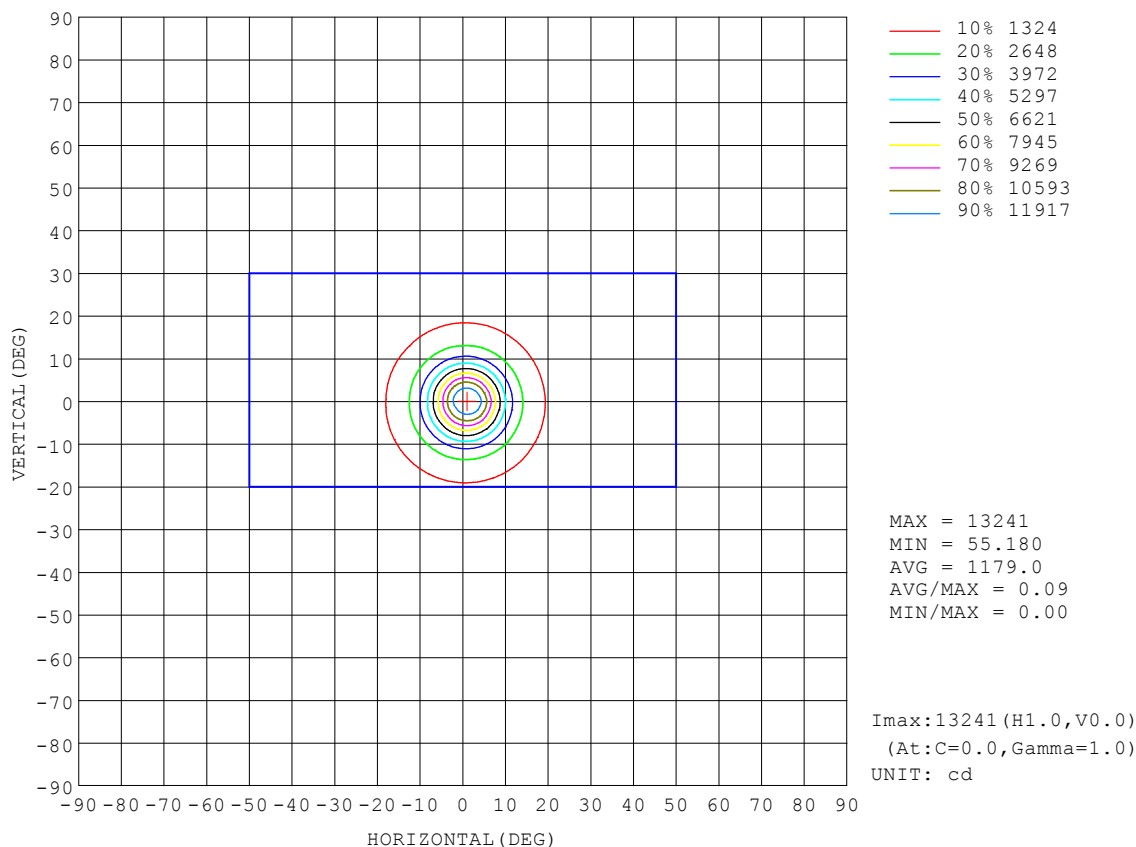
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS (PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	86	79	75	85	79	75	84	79	75	71
0.80	93	87	83	93	87	83	91	86	83	79
1.00	98	92	88	97	92	88	96	92	88	84
1.25	102	97	93	101	96	93	99	95	92	88
1.50	105	100	97	104	99	96	102	98	95	91
2.00	108	104	100	107	103	100	104	101	98	93
2.50	110	106	103	108	105	102	105	102	100	94
3.00	111	108	105	110	106	104	106	104	102	95
4.00	114	111	108	111	109	107	108	106	104	97
5.00	115	112	111	113	111	109	109	107	106	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: MEDIUM
Temperature:25.3DEG
Operators:DAMIN
Test Date:2024-11-06

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:240.5V I:0.0846A P:20.0W PF:0.9851 Freq:49.99Hz UTHDi:0.17% ITHDi:5.76% KDisp:0.9869 Lamp Flux:2074.91x1 lm		
NAME: FUSION GT-TR01-AHD-020-COB-01SC 2700K RA90 15D TYPE:	WEIGHT:	
SPEC.:	DIM.:	SERIAL No.:
MFR.: Norming lighting	SUR.: 70mm	Shielding Angle:

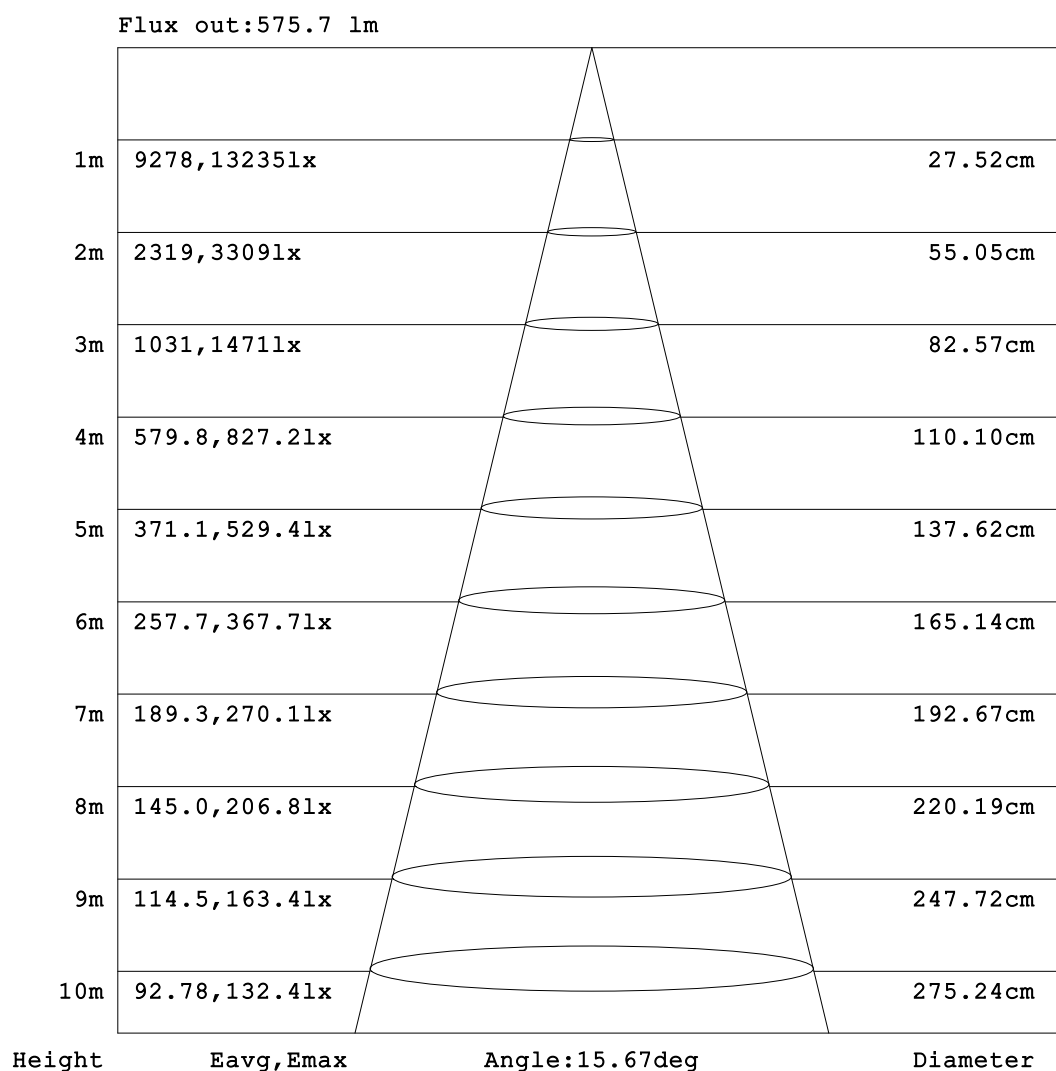


C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: MEDIUM
Temperature:25.3DEG
Operators:DAMIN
Test Date:2024-11-06

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:240.5V I:0.0846A P:20.0W PF:0.9851 Freq:49.99Hz		
UTHDi:0.17% ITHDi:5.76% KDisp:0.9869		Lamp Flux:2074.91x1 lm
NAME: FUSION GT-TR01-AHD-020-COB-01SC 2700K RA90 15D TYPE:	WEIGHT:	
SPEC.:	DIM.:	SERIAL No.:
MFR.: Norming lighting	SUR.: 70mm	Shielding Angle:



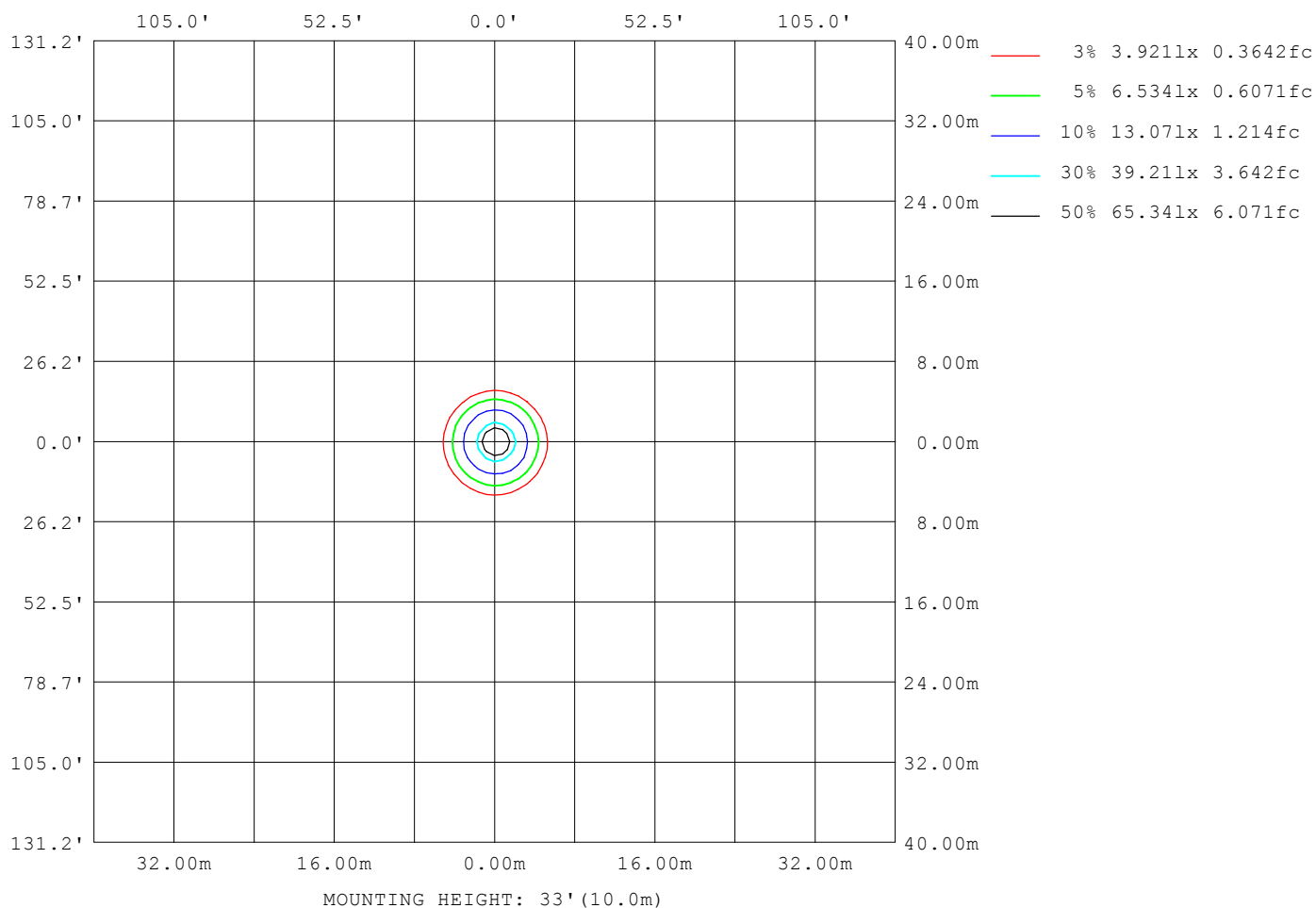
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: MEDIUM
Temperature:25.3DEG
Operators:DAMIN
Test Date:2024-11-06

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:240.5V I:0.0846A P:20.0W PF:0.9851 Freq:49.99Hz		
UTHDi:0.17% ITHDi:5.76% KDisp:0.9869		Lamp Flux:2074.91x1 lm
NAME: FUSION GT-TR01-AHD-020-COB-01SC 2700K RA90 15D TYPE:		WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: Norming lighting	SUR.: 70mm	Shielding Angle:



C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: MEDIUM
Temperature:25.3DEG
Operators:DAMIN
Test Date:2024-11-06

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:240.5V I:0.0846A P:20.0W PF:0.9851 Freq:49.99Hz		
UTHDi:0.17% ITHDi:5.76% KDisp:0.9869 Lamp Flux:2074.91x1 lm		
NAME: FUSION GT-TR01-AHD-020-COB-01SC 2700K RA90 15D TYPE:	WEIGHT:	
SPEC.:	DIM.:	SERIAL No.:
MFR.: Norming lighting	SUR.: 70mm	Shielding Angle:

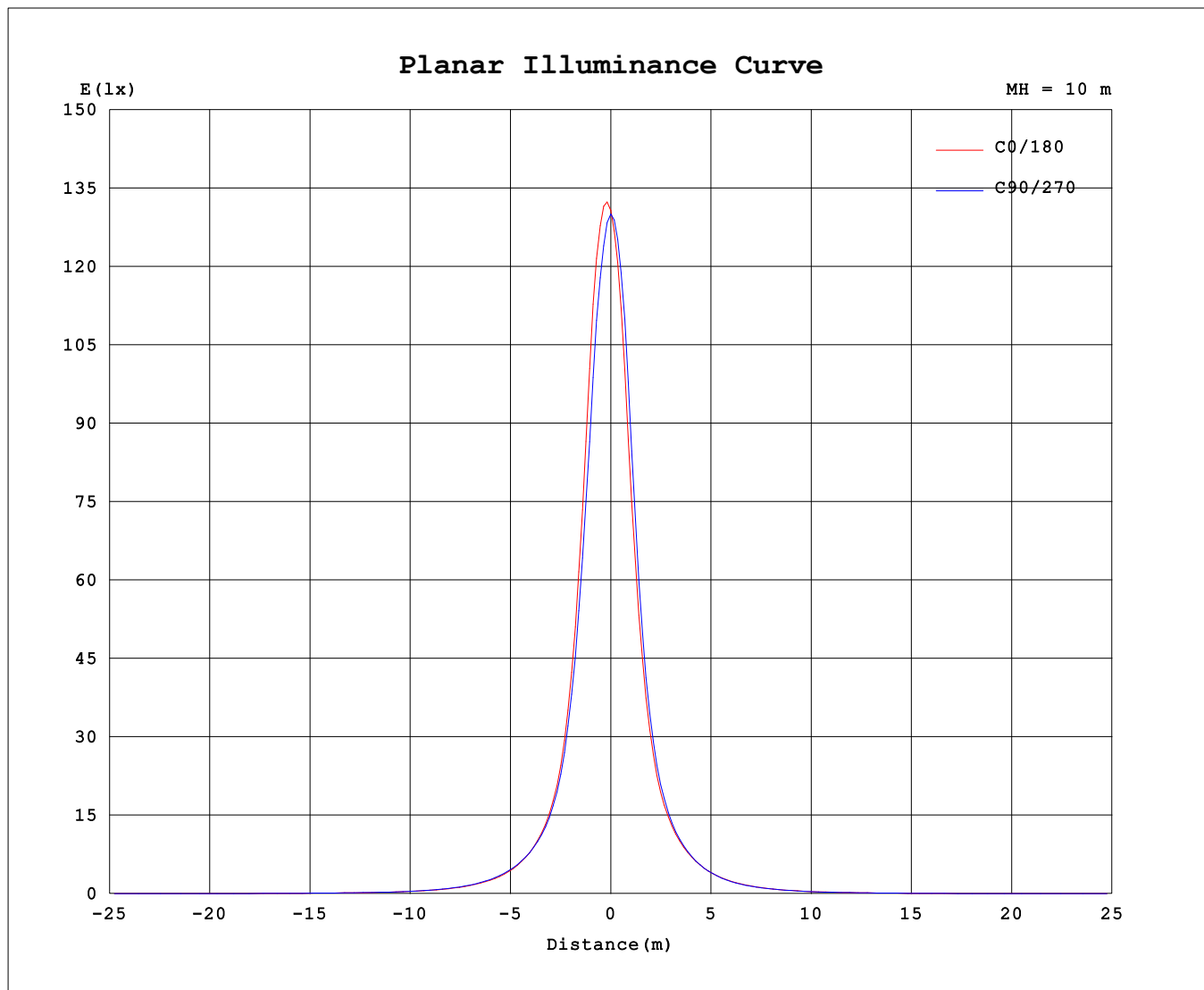
AvgL	cd/m2
L_0~180 (65) av	16213
L_0~180 (75) av	3391
L_0~180 (85) av	1277
L_90~270 (65) av	16738
L_90~270 (75) av	3336
L_90~270 (85) av	924
L_45 (65) av	16327
L_45 (75) av	3350
L_45 (85) av	971

Standard: GB/T 29293-2012

C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: MEDIUM
Temperature:25.3DEG
Operators:DAMIN
Test Date:2024-11-06

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: 2024-11-06

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	13012	13012	13012	13012	13012	13012	13012	13012
3.0	12778	12395	11844	11425	11200	11433	11941	12493
6.0	10175	9744	8799	8001	7572	7858	8614	9539
9.0	6364	6131	5624	5007	4623	4774	5170	5834
12.0	3735	3716	3432	3076	2826	2913	3107	3417
15.0	2291	2310	2164	2014	1864	1881	2023	2140
18.0	1540	1555	1491	1397	1319	1311	1379	1456
21.0	1097	1115	1091	1031	966.9	959.2	991.4	1037
24.0	802.4	827.0	820.2	775.3	722.1	705.6	729.1	762.6
27.0	597.2	620.6	621.3	588.1	545.4	527.0	542.7	567.0
30.0	451.3	470.3	474.3	449.7	415.6	398.0	409.1	427.0
33.0	345.2	359.2	363.6	345.8	318.7	303.3	311.6	326.1
36.0	265.9	276.3	279.6	266.7	245.9	233.2	239.3	251.9
39.0	206.8	216.0	216.9	208.5	192.4	181.5	186.9	196.6
42.0	162.9	169.4	170.4	164.0	151.8	143.5	147.7	155.7
45.0	129.9	135.0	135.7	130.5	121.4	114.8	118.4	124.6
48.0	104.7	108.8	109.5	105.2	98.32	94.87	96.17	100.7
51.0	86.14	88.90	90.13	85.57	80.65	79.52	82.77	87.52
54.0	72.51	74.24	74.70	69.83	64.85	62.49	65.25	70.74
57.0	58.31	59.99	60.57	56.90	53.00	51.14	53.03	55.58
60.0	47.86	49.26	49.58	46.07	42.35	41.03	43.33	45.51
63.0	38.21	39.23	38.01	33.37	29.94	29.28	32.45	35.47
66.0	26.63	27.04	24.73	20.55	17.95	18.09	21.03	23.91
69.0	16.10	16.06	14.41	11.97	10.31	10.59	12.59	14.55
72.0	9.245	8.753	6.562	4.886	4.062	4.296	5.578	7.597
75.0	3.934	3.780	3.409	2.987	2.737	2.787	3.153	3.624
78.0	2.646	2.554	2.335	2.020	1.912	1.947	2.208	2.471
81.0	1.910	1.794	1.606	1.320	1.209	1.269	1.550	1.778
84.0	1.064	0.8791	0.5363	0.2749	0.2826	0.2838	0.5061	0.8239
87.0	0.2565	0.1901	0.1822	0.1115	0.1154	0.1076	0.1904	0.1987
90.0	0.0972	0.0554	0.0881	0.0575	0.0605	0.0564	0.0688	0.0559

C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: MEDIUM
Temperature:25.3DEG
Operators:DAMIN
Test Date:2024-11-06

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: